

FCC PART 15E TEST REPORT FOR CERTIFICATION  
On Behalf of

Hui Zhou Gaoshengda Technology Co., Ltd

WIFI+BT Module

Model Number: WKCT27M2501

FCC ID: 2AC23-WKCT27

Applicant :	Hui Zhou Gaoshengda Technology Co.,LTD
Address:	NO.75 Zhongkai Development Area, Huizhou, Guangdong, China
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
	Tel: 86-769-83081888-808

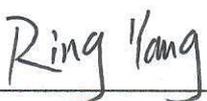
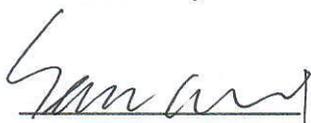
Report Number:	ESTE-R2201202
Date of Test:	Dec. 17, 2021~Jan. 18, 2022
Date of Report:	Jan. 24, 2022

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## EST Technology Co., Ltd.

<b>Applicant:</b>	Hui Zhou Gaoshengda Technology Co.,LTD		
<b>Address:</b>	NO.75 Zhongkai Development Area, Huizhou, Guangdong, China		
<b>Manufacturer:</b>	Hui Zhou Gaoshengda Technology Co.,LTD		
<b>Address:</b>	NO.75 Zhongkai Development Area, Huizhou, Guangdong, China		
<b>Factory:</b>	Hui Zhou Gaoshengda Technology Co.,LTD		
<b>Address:</b>	NO.75 Zhongkai Development Area, Huizhou, Guangdong, China		
<b>E.U.T:</b>	WIFI+BT Module		
<b>Model Number:</b>	WKCT27M2501		
<b>Power Supply:</b>	DC 3.3V From PC		
<b>Trade Name:</b>	GSD	<b>Serial No.:</b>	-----
<b>Date of Receipt:</b>	Dec. 17, 2021	<b>Date of Test:</b>	Dec. 17, 2021~Jan. 18, 2022
<b>Test Specification:</b>	FCC Part 15 Subpart E 15.407 ANSI C63.10:2013 FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 FCC KDB 662911 D01 Multiple Transmitter Output v02r01		
<b>Test Result:</b>	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart E requirements.  This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.		
		<b>Date:</b> Jan. 24, 2022	
<b>Prepared by:</b>	<b>Reviewed by:</b>	<b>Approved by:</b>	
 Ring Yang / Assistant	 Seven Wang / Engineer	 Iceman Hu / Manager	
<b>Other Aspects:</b>	None.		
Abbreviations: OK/P=passed    fail/F=failed    n.a/N=not applicable    E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.			

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

FCC ID	:	2AC23-WKCT27
Product Name	:	WIFI+BT Module
Model Number	:	WKCT27M2501
Software Version	:	V01
Hardware Version	:	V01
Operation frequency	:	U-NII-1: 5150 MHz~5250 MHz U-NII-2A: 5250 MHz~5350 MHz U-NII-2C: 5470 MHz~5725 MHz U-NII-3: 5725 MHz~5850 MHz
Number of channel	:	U-NII-1: IEEE 802.11a / n HT20 / ac VHT20: 4 Channels; IEEE 802.11n HT40 / ac VHT40: 2 Channels; IEEE 802.11ac VHT80: 1 Channel. U-NII-2A: IEEE 802.11a / n HT20 / ac VHT20: 4 Channels; IEEE 802.11n HT40 / ac VHT40: 2 Channels; IEEE 802.11ac VHT80: 1 Channel. U-NII-2C: IEEE 802.11a / n HT20 / ac VHT20: 11 Channels; IEEE 802.11n HT40 / ac VHT40: 5 Channels; IEEE 802.11ac VHT80: 2 Channel. U-NII-3: IEEE 802.11a / n HT20 / ac VHT20: 5 Channels; IEEE 802.11n HT40 / ac VHT40: 2 Channels; IEEE 802.11ac VHT80: 1 Channel.
Modulation	:	OFDM(QPSK, BPSK, 16-QAM, 64-QAM,256-QAM)
Transmit Data Rate	:	IEEE 802.11a: 54, 48, 36, 24, 18, 12, 9, 6Mbps; IEEE 802.11n: up to 300Mbps; IEEE 802.11ac: up to 866.6Mbps;
Channels Spacing	:	IEEE 802.11a: 20MHz; IEEE 802.11n HT20: 20MHz; IEEE 802.11n HT40: 40MHz; IEEE 802.11ac VHT20: 20MHz; IEEE 802.11ac VHT40: 40MHz; IEEE 802.11ac VHT80: 80MHz;

Transmit Power	:	U-NII-1	IEEE 802.11a: 12.975dBm IEEE 802.11n HT20: 11.086dBm IEEE 802.11n HT40: 12.092dBm IEEE 802.11ac VHT20: 11.636dBm IEEE 802.11ac VHT40: 12.163dBm IEEE 802.11ac VHT80: 12.912dBm
		U-NII-2A	IEEE 802.11a: 13.398dBm IEEE 802.11n HT20: 12.747dBm IEEE 802.11n HT40: 12.364dBm IEEE 802.11ac VHT20: 12.234dBm IEEE 802.11ac VHT40: 12.379dBm IEEE 802.11ac VHT80: 13.237dBm
		U-NII-2C	IEEE 802.11a: 14.710dBm IEEE 802.11n HT20: 13.517dBm IEEE 802.11n HT40: 13.605dBm IEEE 802.11ac VHT20: 13.487dBm IEEE 802.11ac VHT40: 13.602dBm IEEE 802.11ac VHT80: 14.201dBm
		U-NII-3	IEEE 802.11a: 13.221dBm IEEE 802.11n HT20: 12.530dBm IEEE 802.11n HT40: 14.043dBm IEEE 802.11ac VHT20: 12.489dBm IEEE 802.11ac VHT40: 14.109dBm IEEE 802.11ac VHT80: 14.898dBm
Sample Type	:	Prototype production	

Note:

For a more detailed features description, please refer to the manufacturer’s specifications or the user’s manual.

1.2. The antenna information for EUT

Ant No.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	-	PCB	-	4.8
2	-	-	PCB	-	4.8

Remark:

- (1) The EUT can work as CDD mode in IEEE 802.11n and IEEE 802.11ac, and can operate with one spatial stream.
- (2) According to ANSI C63.10:2013 14.4.3.2.5 a):  
 Directional gain=4.8dBi+10×log(2/1)dB=7.81dBi>6dBi  
 So, the output power limit and power spectral density should be reduced.  
 For output Power:  
 U-NII-1 Limit is 23.98dBm-(7.81dBi-6dBi)=22.17dBm  
 U-NII-2A&U-NII-2C Limit is 23.98dBm-(7.81dBi-6dBi)=22.17dBm  
 U-NII-3 Limit is 30dBm-(7.81dBi-6dBi)=28.19dBm  
 For power spectral density:  
 U-NII-1 Limit is 11dBm/MHz-(7.81dBi-6dBi)=9.19dBm/MHz  
 U-NII-2A&U-NII-2C Limit is 11dBm/MHz-(7.81dBi-6dBi)=9.19dBm/MHz  
 U-NII-3 Limit is 30dBm/500KHz-(7.81dBi-6dBi)=28.19dBm/500KHz
- (3) After pre-test all antenna configurations, the worst case configuration as list below.
- (4) This information is provided by the applicant.

TX Mode \ ANT No.	SISO Configuration	MIMO Configuration
IEEE 802.11a	ANT 1 and Ant 2	/
IEEE 802.11n HT20	/	ANT1+ANT2
IEEE 802.11n HT40	/	ANT1+ANT2
IEEE 802.11ac VHT20	/	ANT1+ANT2
IEEE 802.11ac VHT40	/	ANT1+ANT2
IEEE 802.11ac VHT80	/	ANT1+ANT2

1.3. Information of RF Cable

Cable Loss(dB)	Provided by
1.0	Hui Zhou Gaoshengda Technology Co.,LTD
Note: 1.The customer declared the loss value of the RF Cable, and the test results of this report only apply to the sample as received. 2. This information is provided by the applicant.	

## 2. SUMMARY OF TEST

### 2.1. Summary of test result

Report Section	Description of Test Item	FCC Standard Section	Results
3	6dB Bandwidth & 26dB Bandwidth & 99% Occupied Bandwidth	15.407(a) 15.407(e)	PASS
4	Maximum Conducted Output Power	15.407(a)	PASS
5	Peak Power Spectral Density	15.407(a)	PASS
6	Unwanted Emissions and Band Edge	15.205 15.209 15.407(b)	PASS
7	Frequency Stability	15.407(g)	PASS
8	AC Power Line Conducted Emissions	15.207 15.407(b)(9)	PASS
9	Antenna Requirement	15.203	PASS

Note:

(1) "N/A" denotes test is not applicable in this test report

## 2.2. Test Facilities

EMC Lab : Certificated by CNAS, CHINA  
Registration No.: L5288  
This Certificate is valid until: November 12, 2023

Certificated by FCC, USA  
Designation Number: CN1215  
This Certificate is valid until: January 31, 2022

Certificated by A2LA, USA  
Registration No.: 4366.01  
This Certificate is valid until: January 31, 2022

Certificated by Industry Canada  
CAB identifier No.: CN0035  
This Certificate is valid until: January 31, 2022

Certificated by VCCI, Japan  
Registration No.:C-14103; T-20073; R-13663;  
R-20103; G-20097  
Date of registration: Apr. 20, 2020  
This Certificate is valid until: Apr. 19, 2023

Certificated by TUV Rheinland, Germany  
Registration No.: UA 50413872 0001  
Date of registration: July 31, 2018

Certificated by Intertek  
Registration No.: 2011-RTL-L2-64  
Date of registration: November 08, 2018

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

2.3. Measurement uncertainty for EST Technology Co., Ltd.

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.54dB
Uncertainty for Radiation Emission test (30MHz-1GHz)	3.62
Uncertainty for Radiation Emission test (1GHz to 18GHz)	4.86
Uncertainty for spurious emissions test (18GHz to 40GHz)	4.67
Uncertainty for radio frequency	7×10-8
Uncertainty for conducted RF Power	1.08dB
Uncertainty for Power density test	0.26dB
Temperature	±0.6°C
Humidity	±4.0 %
Volatage DC	±1.0%
Volatage (AC, <10KHz)	±1.5%

Note:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2.4. Assistant equipment used for test

Item	Equipment	Brand	Model Name/Type No.	FCC ID	Series No.
A	Notebook	-	Thinkpad X280	-	-

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	-

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 (or 1.5) meter high above ground.



DC 3.3V From PC

(EUT: WIFI+BT Module)

## 2.6. Test Mode

Pre-scan has been combined all possible modulations and data rates to determine the worst case test mode, the worst case test mode was selected for the final test as listed below.

Test Item	Test Mode	Channel	Modulation	Data rate
6dB Bandwidth	IEEE 802.11a	149/157/165	OFDM	6Mbps
	IEEE 802.11n HT20	149/157/165	OFDM	MCS0
	IEEE 802.11n HT40	151/159	OFDM	MCS0
	IEEE 802.11ac VHT20	149/157/165	OFDM	MCS0
	IEEE 802.11ac VHT40	151/159	OFDM	MCS0
	IEEE 802.11ac VHT80	155	OFDM	MCS0
26dB Bandwidth	IEEE 802.11a	36/40/48/52/60/64/100/116/140	OFDM	6Mbps
	IEEE 802.11n HT20	36/40/48/52/60/64/100/116/140	OFDM	MCS0
	IEEE 802.11n HT40	38/46/54/62/102/114/134	OFDM	MCS0
	IEEE 802.11ac VHT20	36/40/48/52/60/64/100/116/140	OFDM	MCS0
	IEEE 802.11ac VHT40	38/46/54/62/102/114/134	OFDM	MCS0
	IEEE 802.11ac VHT80	42/58/106/122	OFDM	MCS0
99% Occupied Bandwidth	IEEE 802.11a	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	6Mbps
	IEEE 802.11n HT20	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	MCS0
	IEEE 802.11n HT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT20	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	MCS0
	IEEE 802.11ac VHT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT80	42/58/106/122/155	OFDM	MCS0
Maximum Conducted Output Power	IEEE 802.11a	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	6Mbps
	IEEE 802.11n HT20	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	MCS0
	IEEE 802.11n HT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT20	36/40/48/52/60/64/100/116/140/ 149/157/165	OFDM	MCS0
	IEEE 802.11ac VHT40	38/46/54/62/102/114/134/151/ 159	OFDM	MCS0
	IEEE 802.11ac VHT80	42/58/106/122/155	OFDM	MCS0

Peak Power Spectral Density	IEEE 802.11a	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	6Mbps
	IEEE 802.11n HT20	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	MCS0
	IEEE 802.11n HT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT20	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	MCS0
	IEEE 802.11ac VHT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT80	42/58/106/122/155	OFDM	MCS0
Unwanted Emissions and Band Edge(Above 1GHz)	IEEE 802.11a	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	6Mbps
	IEEE 802.11n HT20	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	MCS0
	IEEE 802.11n HT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT20	36/40/48/52/60/64/100/116/140/149/157/165	OFDM	MCS0
	IEEE 802.11ac VHT40	38/46/54/62/102/114/134/151/159	OFDM	MCS0
	IEEE 802.11ac VHT80	42/58/106/122/155	OFDM	MCS0
Unwanted Emissions Below 1GHz	IEEE 802.11a	100	OFDM	6Mbps
Frequency Stability	Unmodulation	36/64/100/149	N/A	N/A
AC Power Line Conducted Emissions	IEEE 802.11a	100	OFDM	6Mbps

Note:

1. In radiated measurement, the EUT had been pre-scan on the positioned of each 3 axis(X,Y,Z), the worst case was found when positioned on **X-plane**.

2.7. Channel List

Band	Mode	Channel	Frequency (MHz)
U-NII-1	IEEE 802.11a & n HT20 & ac VHT20	36	5180
		40	5200
		44	5220
		48	5240
	IEEE 802.11n HT40 & ac VHT40	38	5190
		46	5230
IEEE 802.11ac VHT80	42	5210	
U-NII-2A	IEEE 802.11a & n HT20 & ac VHT20	52	5260
		56	5280
		60	5300
		64	5320
	IEEE 802.11n HT40 & ac VHT40	54	5270
		62	5310
IEEE 802.11ac VHT80	58	5290	
U-NII-2C	IEEE 802.11a & n HT20 & ac VHT20	100	5500
		104	5520
		108	5540
		112	5560
		116	5580
		120	5600
		124	5620
		128	5640
		132	5660
		136	5680
	IEEE 802.11n HT40 & ac VHT40	140	5700
		102	5510
		110	5550
		118	5590
		126	5630
	IEEE 802.11ac VHT80	134	5670
		106	5530
		122	5610
U-NII-3	IEEE 802.11a & n HT20 & ac VHT20	149	5745
		153	5765
		157	5785
		161	5805
		165	5825
	IEEE 802.11n HT40 & ac VHT40	151	5755
		159	5795
	IEEE 802.11ac VHT80	155	5775

2.8. Power Setting of Test Software

Software Name	QATool_Dbg.exe		
U-NII-1			
Frequency(MHz)	5180	5200	5240
IEEE 802.11a Setting	18	18	18
IEEE 802.11n HT20 Setting	17	17	17
IEEE 802.11ac VHT20 Setting	17	17	17
Frequency(MHz)	5190	5230	
IEEE 802.11n HT40 Setting	19	19	
IEEE 802.11ac VHT40 Setting	19	19	
Frequency(MHz)	5210		
IEEE 802.11ac VHT80 Setting	19		
U-NII-2A			
Frequency(MHz)	5260	5300	5320
IEEE 802.11a Setting	19	19	19
IEEE 802.11n HT20 Setting	19	19	19
IEEE 802.11ac VHT20 Setting	19	19	19
Frequency(MHz)	5270	5310	
IEEE 802.11n HT40 Setting	19	19	
IEEE 802.11ac VHT40 Setting	19	19	
Frequency(MHz)	5290		
IEEE 802.11ac VHT80 Setting	19		
U-NII-2C			
Frequency(MHz)	5500	5580	5700
IEEE 802.11a Setting	19	19	19
IEEE 802.11n HT20 Setting	19	19	19
IEEE 802.11ac VHT20 Setting	19	19	19
Frequency(MHz)	5510	5590	5670
IEEE 802.11n HT40 Setting	19	19	19
IEEE 802.11ac VHT40 Setting	19	19	19
Frequency(MHz)	5530	5610	
IEEE 802.11ac VHT80 Setting	19	19	
U-NII-3			
Frequency(MHz)	5745	5785	5825
IEEE 802.11a Setting	19	19	19
IEEE 802.11n HT20 Setting	19	19	19
IEEE 802.11ac VHT20 Setting	19	19	19
Frequency(MHz)	5755	5795	
IEEE 802.11n HT40 Setting	19	19	
IEEE 802.11ac VHT40 Setting	19	19	
Frequency(MHz)	5775		
IEEE 802.11ac VHT80 Setting	19		

Note: This information is provided by the applicant.

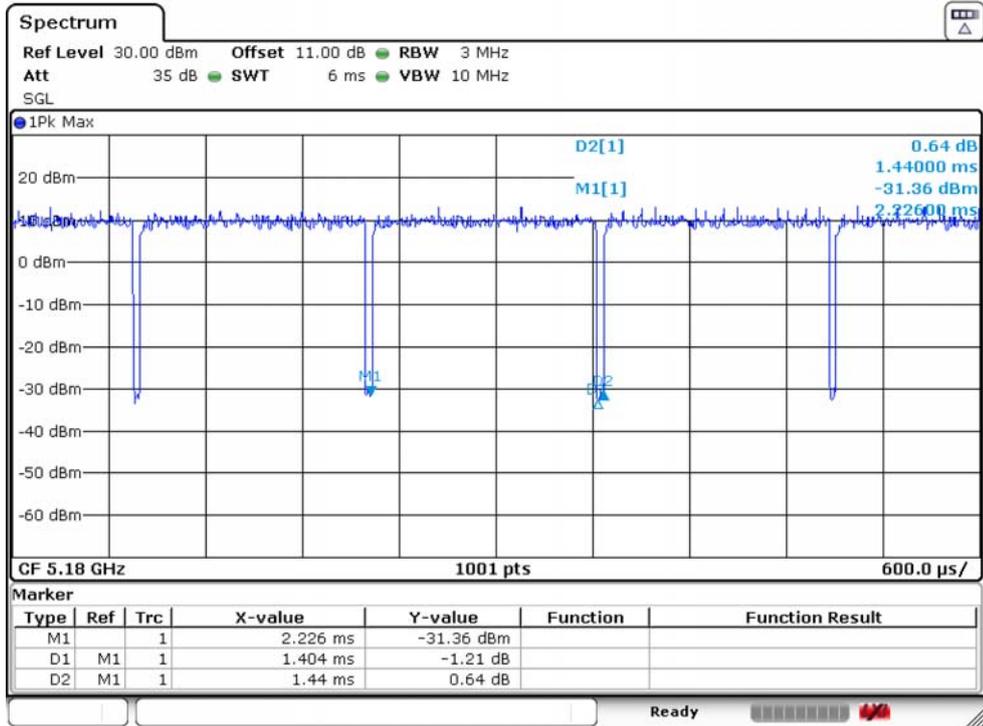
## 2.9. Duty Cycle of Test Signal

Temperature	25.4℃	Relative Humidity		56%	Test Voltage		DC 3.3V
Mode	Frequency (MHz)	On time (ms)	Total Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T (Hz)	VBW Setting (dB)
IEEE 802.11a	5180	1.40400	1.44000	97.50	0.11	712	712
IEEE 802.11n HT20	5180	1.31400	1.35000	97.33	0.12	761	761
IEEE 802.11ac VHT20	5180	1.32600	1.35600	97.79	0.10	754	754
IEEE 802.11n HT40	5190	0.66600	0.69600	95.69	0.19	1502	1502
IEEE 802.11ac VHT40	5190	0.66000	0.69600	94.83	0.23	1515	1515
IEEE 802.11ac VHT80	5210	0.33600	0.36600	91.80	0.37	2976	2976

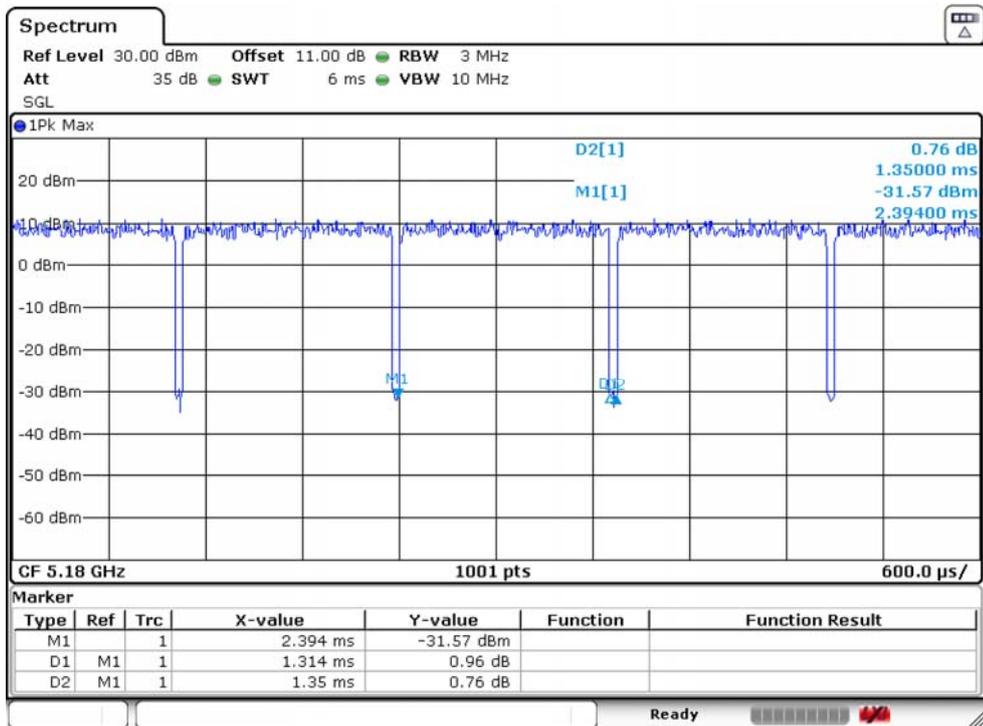
Note:

1. Duty Cycle=On Time/Total Time×100%.
2. Duty Factor=10×Log(1/Duty Cycle).
3. If duty cycle <98 %, the conducted average output power and average power spectral density should be add duty factor.
4. If duty cycle ≥98 %,the EUT is consider to be transmitting continuously,the conducted average output power and average power spectral density no need to add duty factor.
5. The on-time time is transmission duration(T).
6. The VBW Setting is use for RMS measurement in unwanted emissions and band edge(Above 1GHz ) test.

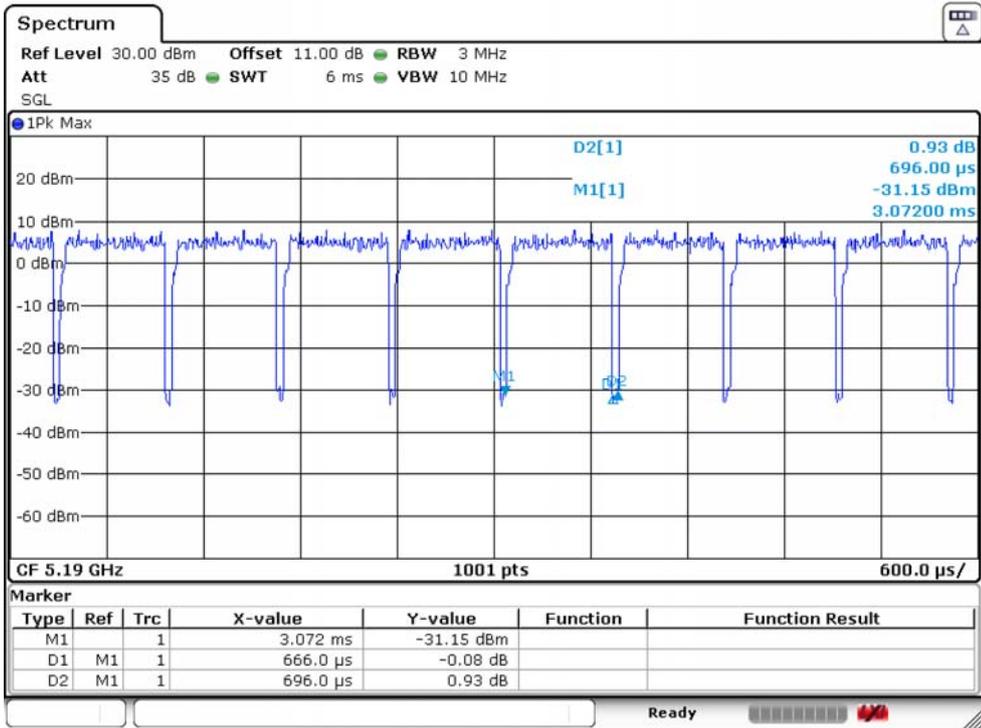
### IEEE 802.11a 5180MHz



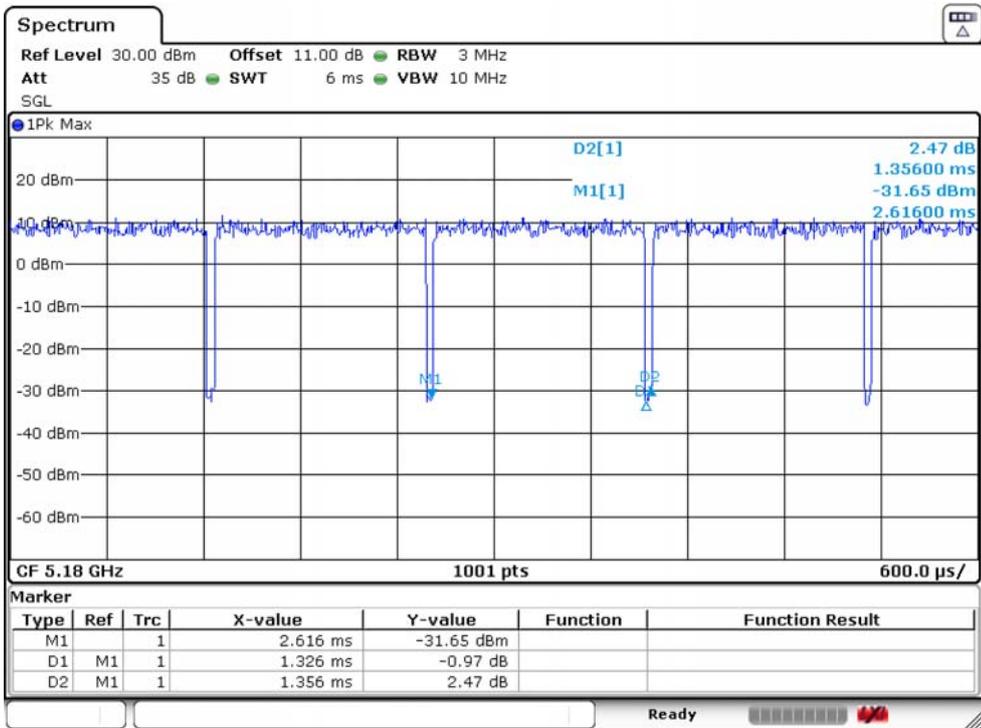
### IEEE 802.11n HT20 5180MHz



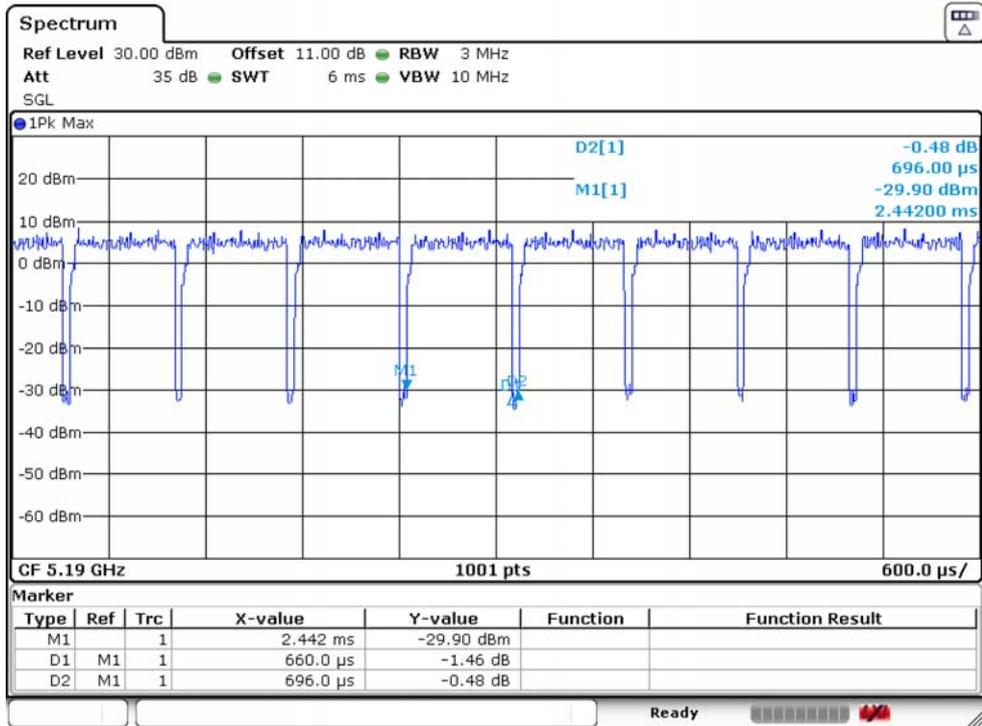
### IEEE 802.11n HT40 5190MHz



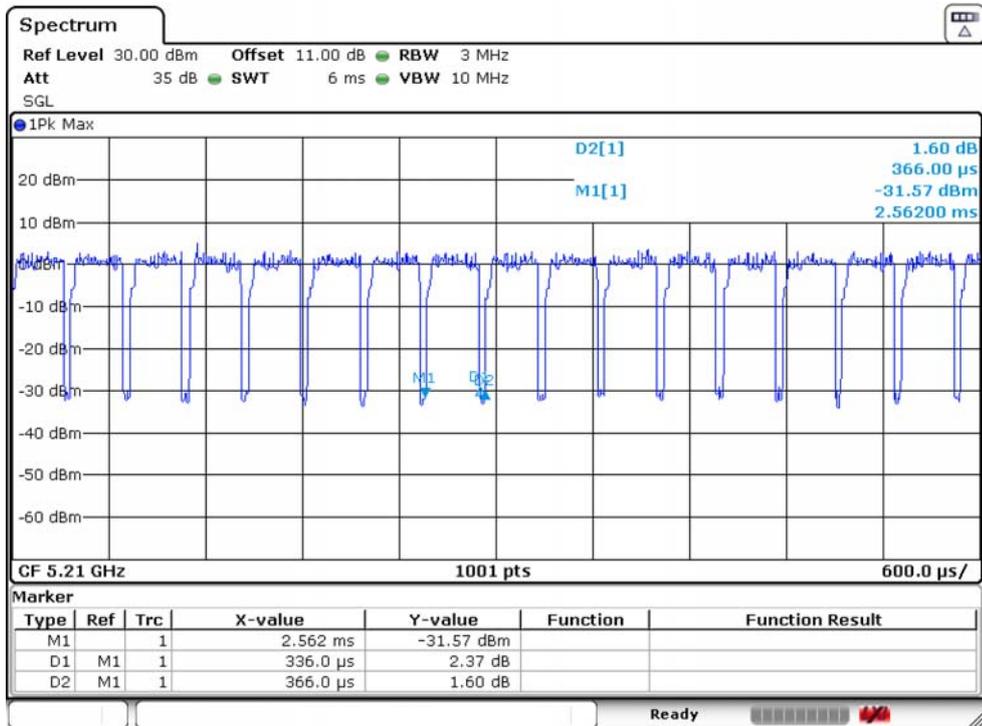
### IEEE 802.11ac VHT20 5180MHz



### IEEE 802.11ac VHT40 5190MHz



### IEEE 802.11ac VHT80 5210MHz



## 2.10. Test Equipment List

For AC power conducted emissions test						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	EST-E001	LISAI	June 13,21	1 Year
Artificial Mains Network	Rohde & Schwarz	ENV216	EST-E002	LISAI	June 13,21	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	EST-E078	LISAI	June 13,21	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

For radiated emissions test(9KHz-30MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	EST-E047	LISAI	June 13,21	1 Year
Active Loop Antenna	SCHWARZECK	FMZB 1519B	EST-E054	LISAI	June 13,21	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A
9kHz-30MHz Cable	N/A	EST-001	N/A	N/A	N/A	N/A

For radiated emissions test(30MHz-1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	EST-E047	LISAI	June 13,21	1 Year
Bilog Antenna	Teseq	CBL 6111D	EST-E034	LISAI	June 13,21	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A
30-1000MHz Cable	N/A	EST-002	N/A	N/A	N/A	N/A

For radiated emissions test(Above 1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Horn Antenna	SCHWARZECK	BBHA 9120 D	EST-E031	LISAI	June 13,21	1 Year
Signal Amplifier	SCHWARZECK	BBV9718	EST-E032	LISAI	June 13,21	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSV40	EST-E069	LISAI	July 19,21	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A
Above 1GHz Cable	N/A	EST-003	N/A	N/A	N/A	N/A

For connect EUT antenna terminal test						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
TS 8997	Rohde &Schwarz	/	/	/	/	/
Open Switch and Control Unit	Rohde &Schwarz	OSP-B157WB	EST-E036	LISAI	June 13,21	1 Year
Signal and Spectrum Analyzer	Rohde &Schwarz	FSV	EST-E037	LISAI	June 13,21	1 Year
Signal Generator	Rohde &Schwarz	SMB100A	EST-E038	LISAI	June 13,21	1 Year
Vector Signal Generator	Rohde &Schwarz	SMBV100A	EST-E039	LISAI	June 13,21	1 Year
Test Software	Rohde &Schwarz	WMS32	V10.50.00	N/A	N/A	N/A
Temperature controller	Terchy	MHQ	EST-E101	LISAI	June 13,21	1 Year

### 3. 6dB BANDWIDTH & 26dB BANDWIDTH & 99% OCCUPIED BANDWIDTH

#### 3.1. Limit

Band	Frequency (MHz)	Test Item	Limit
U-NII-1	5150-5250	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2A	5250-5350	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2C	5470-5725	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-3	5725-5850	6dB Bandwidth&99% Occupied Bandwidth	6dB Bandwidth $\geq$ 500KHz

#### 3.2. Test Setup



#### 3.3. Spectrum Analyzer Setting

6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100KHz
VBW	300KHz
Span	40MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

26dB Bandwidth	
Spectrum Parameters	Setting
RBW	approximately 1% of the emission bandwidth
VBW	>RBW
Span	40MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

99% Occupied Bandwidth	
Spectrum Parameters	Setting
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Span	between 1.5 times and 5.0 times the OBW
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

### 3.4. Test Procedure

#### **For 26dB Bandwidth Measurement :**

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 3.3.
- c. Set the EUT transmit continuously with maximum output power.
- d. Allow trace to stabilize, measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- e. Repeat above procedures until all modes and channels were measured.
- f. Record the results in the test report.

#### **For 6dB Bandwidth Measurement :**

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 3.3.
- c. Set the EUT transmit continuously with maximum output power.
- d. Allow trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
- e. Repeat above procedures until all modes and channels were measured.
- f. Record the results in the test report.

#### **For 99% Occupied Bandwidth Measurement :**

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 3.3.
- c. Set the EUT transmit continuously with maximum output power.
- d. Allow trace to stabilize, use the 99% power bandwidth function to measure bandwidth.
- e. Repeat above procedures until all modes and channels were measured.
- f. Record the results in the test report.

3.5. Test Result

Temperature	25.4℃	Relative Humidity	56%	Test Voltage	DC 3.3V	
26dB Bandwidth&99% Occupied Bandwidth						
AND	Test Mode	Fre (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Calculate Power Limit (W)	Calculate Power Limit (dBm)
U-NII-1	IEEE 802.11a	5180	20.203	16.583	0.2500	23.98
		5200	20.492	16.703	0.2500	23.98
		5240	20.145	16.504	0.2500	23.98
	IEEE 802.11n HT20	5180	20.260	17.543	0.2500	23.98
		5200	20.260	17.622	0.2500	23.98
		5240	20.087	17.543	0.2500	23.98
	IEEE 802.11ac VHT20	5180	20.434	17.543	0.2500	23.98
		5200	20.376	17.622	0.2500	23.98
		5240	20.029	17.582	0.2500	23.98
	IEEE 802.11n HT40	5190	40.410	36.524	0.2500	23.98
		5230	40.410	36.603	0.2500	23.98
	IEEE 802.11ac VHT40	5190	40.060	36.524	0.2500	23.98
5230		40.170	36.603	0.2500	23.98	
IEEE 802.11ac VHT80	5210	80.810	75.285	0.2500	23.98	
U-NII-2A	IEEE 802.11a	5260	20.318	16.504	0.2500	23.98
		5300	20.029	16.504	0.2500	23.98
		5320	19.971	16.504	0.2500	23.98
	IEEE 802.11n HT20	5260	20.376	17.622	0.2500	23.98
		5300	20.087	17.662	0.2500	23.98
		5320	20.434	17.582	0.2500	23.98
	IEEE 802.11ac VHT20	5260	20.203	17.543	0.2500	23.98
		5300	20.029	17.582	0.2500	23.98
		5320	19.971	17.582	0.2500	23.98
	IEEE 802.11n HT40	5270	40.640	36.524	0.2500	23.98
		5310	40.870	36.444	0.2500	23.98
	IEEE 802.11ac VHT40	5270	40.170	36.524	0.2500	23.98
		5310	40.290	36.444	0.2500	23.98
	IEEE 802.11ac VHT80	5290	80.850	75.285	0.2500	23.98

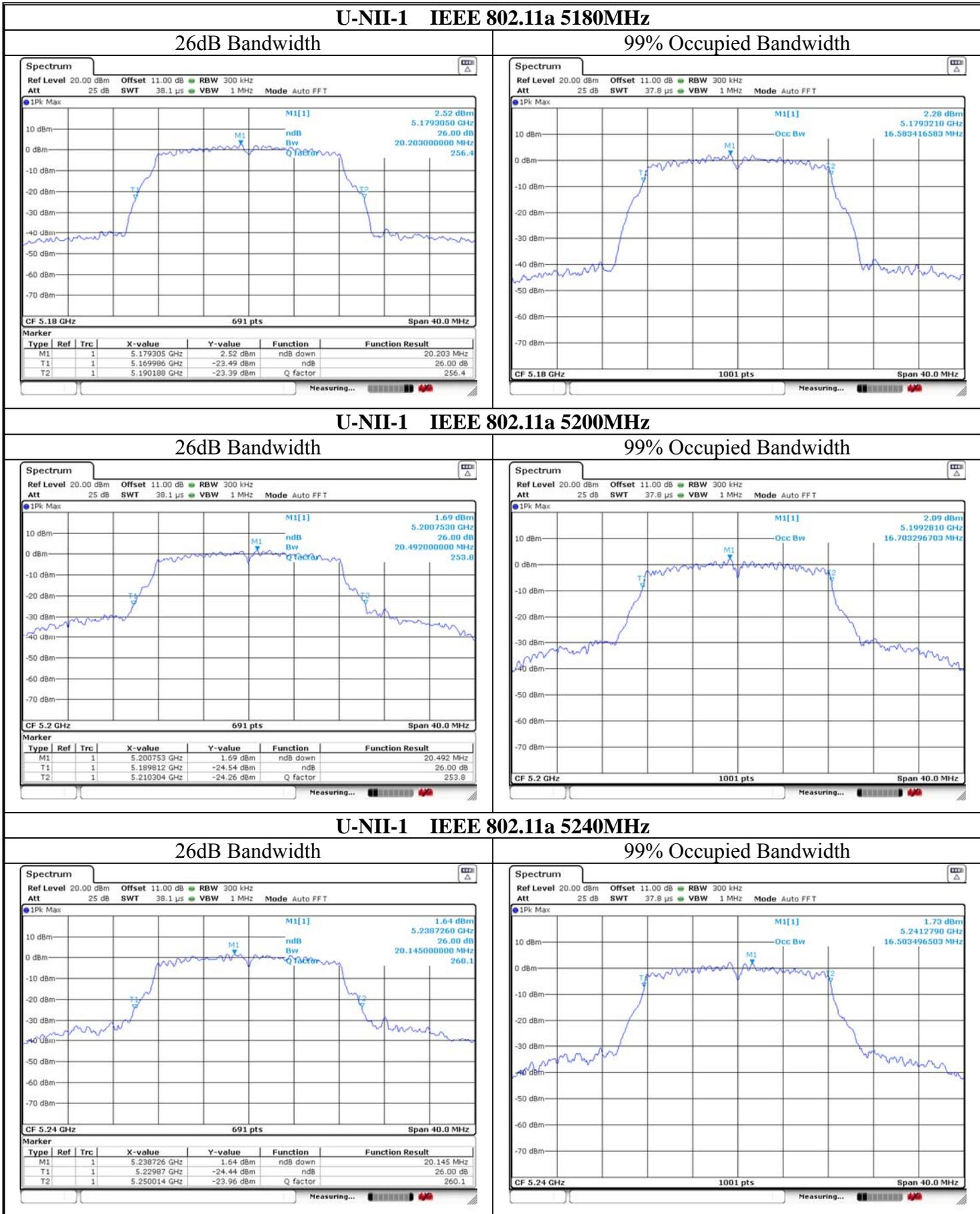
Temperature	24.7°C	Relative Humidity	53%	Test Voltage	120V/60 Hz	
26dB Bandwidth&99% Occupied Bandwidth						
AND	Test Mode	Fre (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Calculate Power Limit (W)	Calculate Power Limit (dBm)
U-NII-2C	IEEE 802.11a	5500	20.145	16.504	0.2500	23.98
		5580	20.029	16.464	0.2500	23.98
		5700	20.145	16.464	0.2500	23.98
	IEEE 802.11n HT20	5500	20.029	17.582	0.2500	23.98
		5580	20.203	17.582	0.2500	23.98
		5700	20.376	17.582	0.2500	23.98
	IEEE 802.11ac VHT20	5500	20.260	17.582	0.2500	23.98
		5580	20.145	17.543	0.2500	23.98
		5700	20.145	17.622	0.2500	23.98
	IEEE 802.11n HT40	5510	40.640	36.444	0.2500	23.98
		5590	40.520	36.603	0.2500	23.98
		5670	40.640	36.444	0.2500	23.98
	IEEE 802.11ac VHT40	5510	40.060	36.364	0.2500	23.98
		5590	40.290	36.524	0.2500	23.98
		5670	40.290	36.237	0.2500	23.98
	IEEE 802.11ac VHT80	5530	80.580	75.285	0.2500	23.98
		5610	80.580	75.285	0.2500	23.98

Temperature	25.4℃	Relative Humidity	56%	Test Voltage	DC 3.3V	
6dB Bandwidth&99% Occupied Bandwidth						
BAND	Test Mode	Fre (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB BW Min Limit (MHz)	Result
U-NII-3	IEEE 802.11a	5745	15.105	16.4635	0.5	PASS
		5785	16.266	16.5035	0.5	PASS
		5825	15.105	16.5434	0.5	PASS
	IEEE 802.11n HT20	5745	16.264	17.5824	0.5	PASS
		5785	16.304	17.5824	0.5	PASS
		5825	16.264	17.5824	0.5	PASS
	IEEE 802.11ac VHT20	5745	16.224	17.5425	0.5	PASS
		5785	16.304	17.5425	0.5	PASS
		5825	16.344	17.5425	0.5	PASS
	IEEE 802.11n HT40	5755	35.165	36.4436	0.5	PASS
		5795	35.165	36.4436	0.5	PASS
	IEEE 802.11ac VHT40	5755	35.085	36.5235	0.5	PASS
		5795	35.165	36.4436	0.5	PASS
	IEEE 802.11ac VHT80	5775	75.280	75.2847	0.5	PASS

Note :

For Band U-NII-2A and U-NII-2C, the maximum conducted output power limit is 250mw or  $11+10 \times \text{Log B}$ , which is lesser, where B is the 26dB Bandwidth in MHz. So in this section, the maximum conducted output power limit can calculate with 26dB Bandwidth.

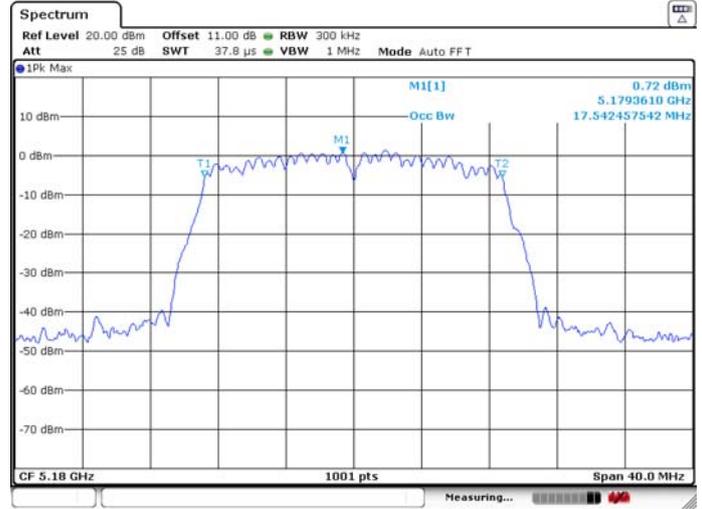
### 3.6. Test Result



### U-NII-1 IEEE 802.11n HT20 5180MHz

**26dB Bandwidth**

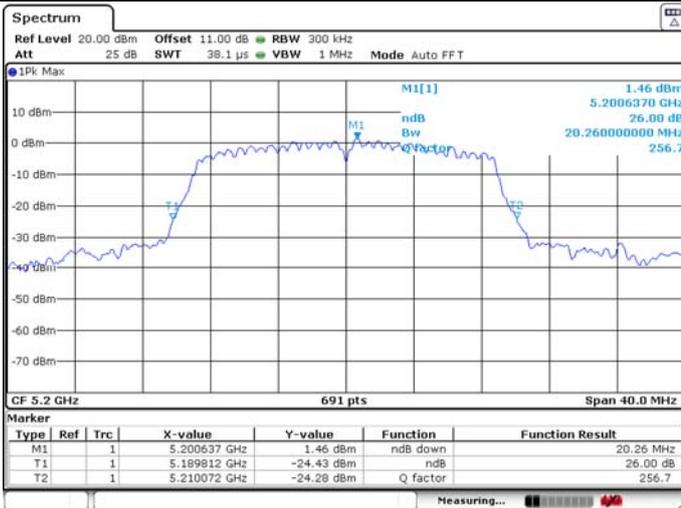
**99% Occupied Bandwidth**



### U-NII-1 IEEE 802.11n HT20 5200MHz

**26dB Bandwidth**

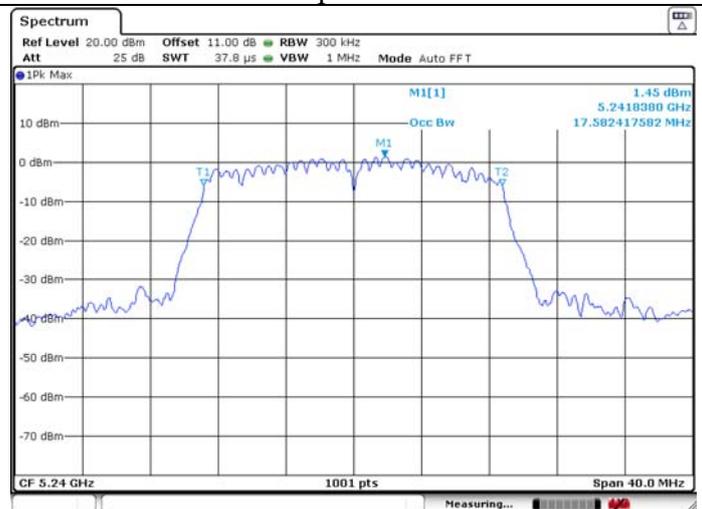
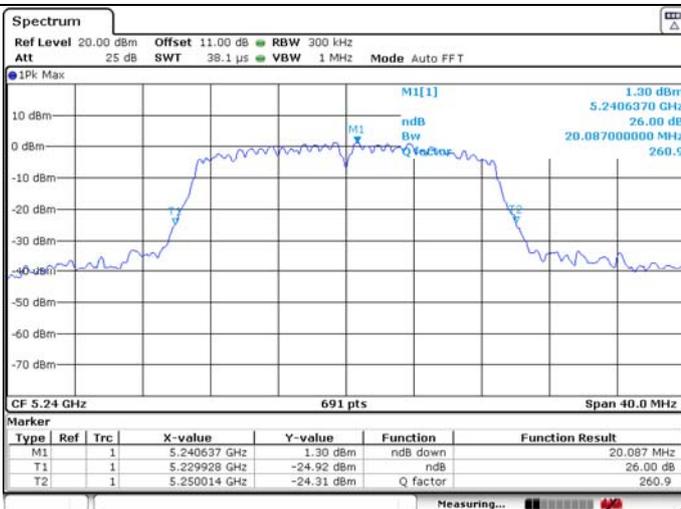
**99% Occupied Bandwidth**



### U-NII-1 IEEE 802.11n HT20 5240MHz

**26dB Bandwidth**

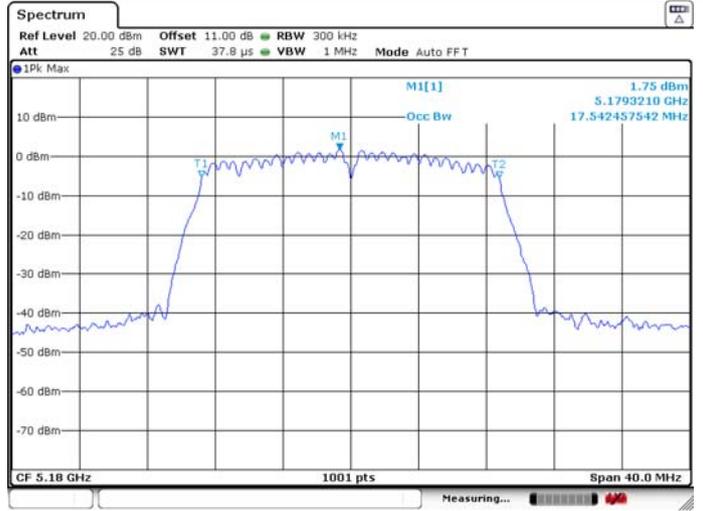
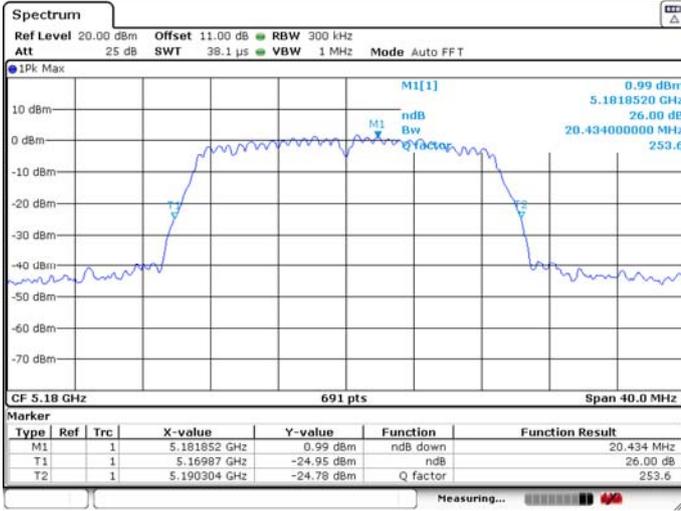
**99% Occupied Bandwidth**



**U-NII-1 IEEE 802.11ac VHT20 5180MHz**

26dB Bandwidth

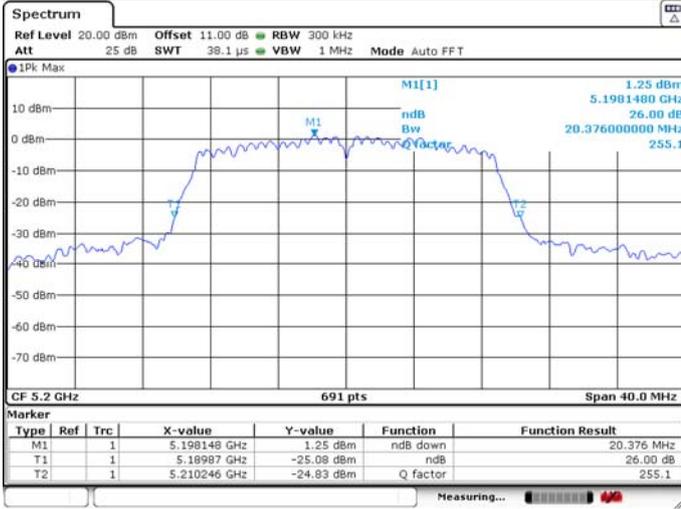
99% Occupied Bandwidth



**U-NII-1 IEEE 802.11ac VHT20 5200MHz**

26dB Bandwidth

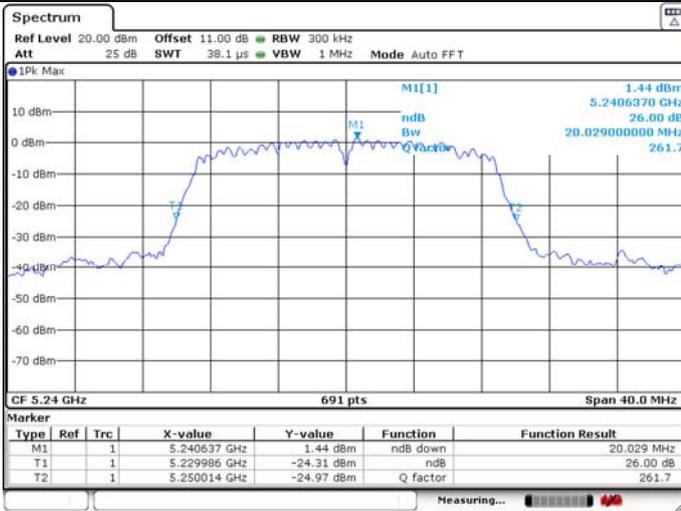
99% Occupied Bandwidth



**U-NII-1 IEEE 802.11ac VHT20 5240MHz**

26dB Bandwidth

99% Occupied Bandwidth



**U-NII-1 IEEE 802.11n HT40 5190MHz**

26dB Bandwidth

99% Occupied Bandwidth



**U-NII-1 IEEE 802.11n HT40 5230MHz**

26dB Bandwidth

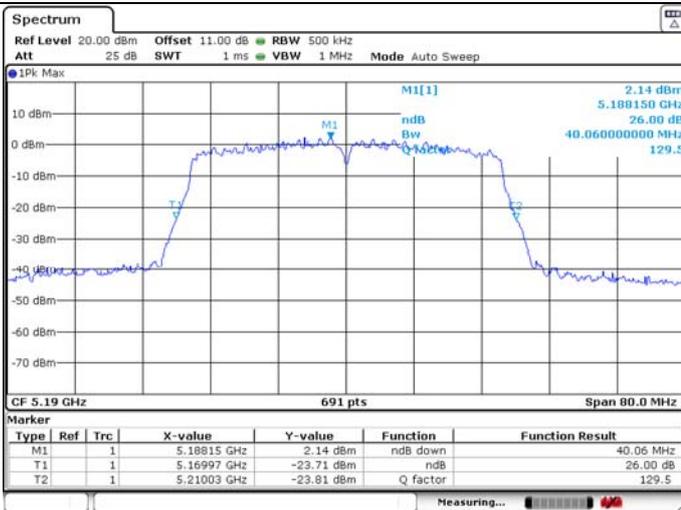
99% Occupied Bandwidth



**U-NII-1 IEEE 802.11ac VHT40 5190MHz**

26dB Bandwidth

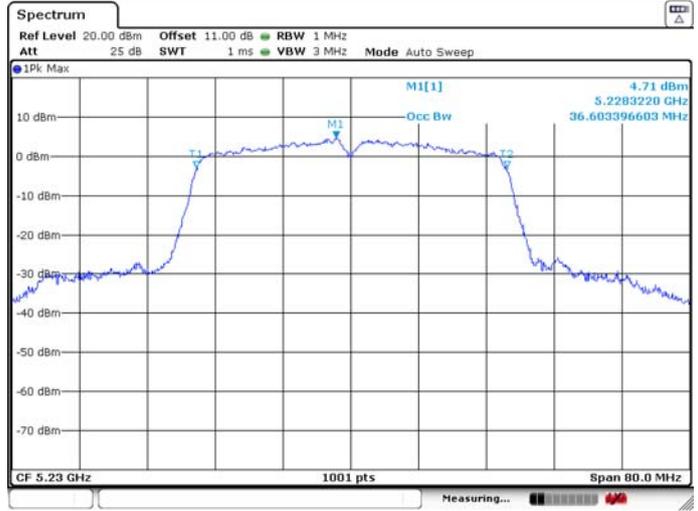
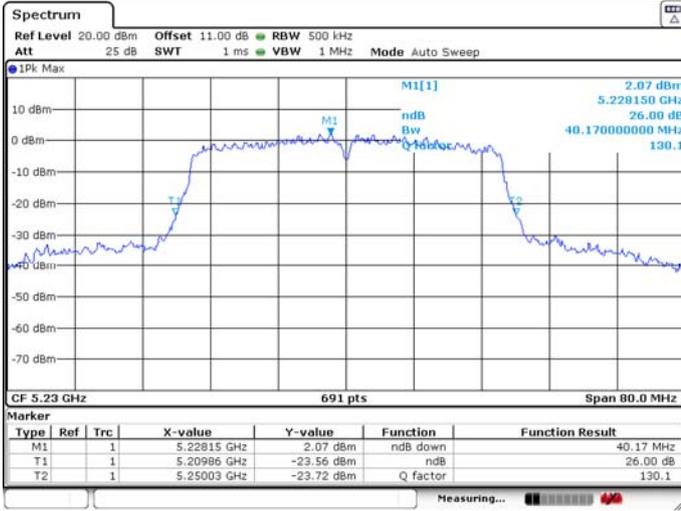
99% Occupied Bandwidth



**U-NII-1 IEEE 802.11ac VHT40 5230MHz**

26dB Bandwidth

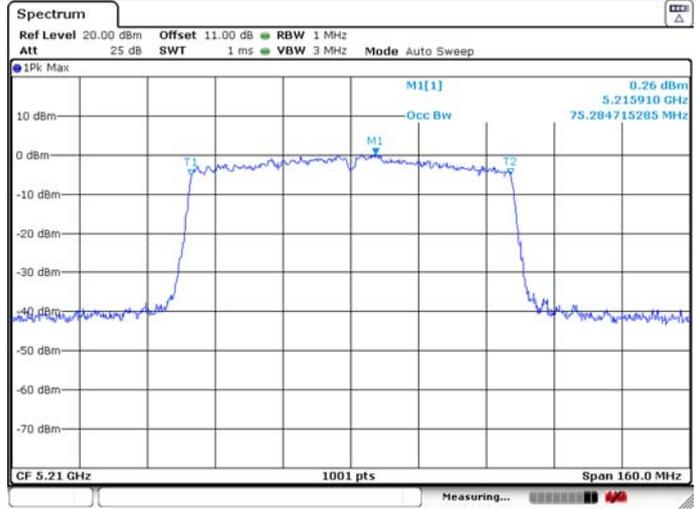
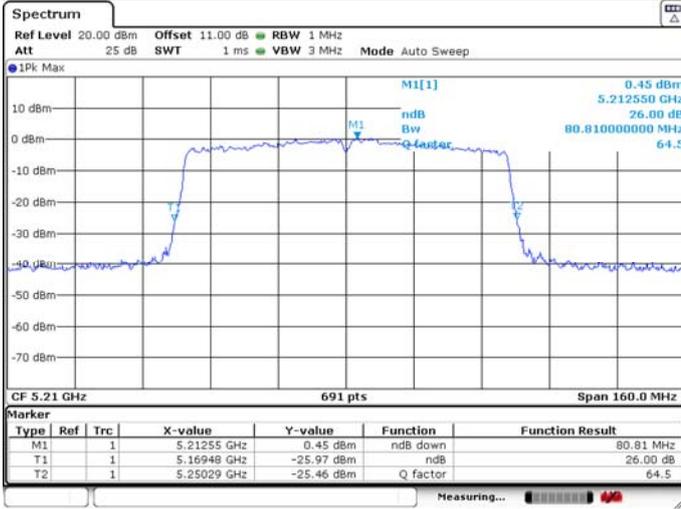
99% Occupied Bandwidth



**U-NII-1 IEEE 802.11ac VHT80 5210MHz**

26dB Bandwidth

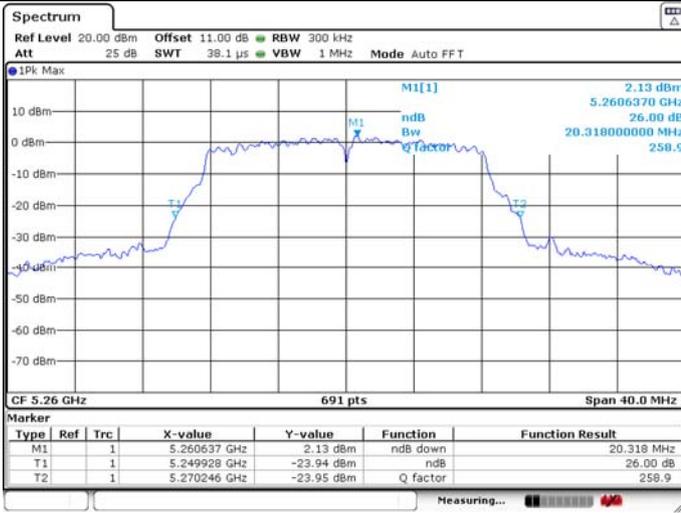
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11a 5260MHz**

26dB Bandwidth

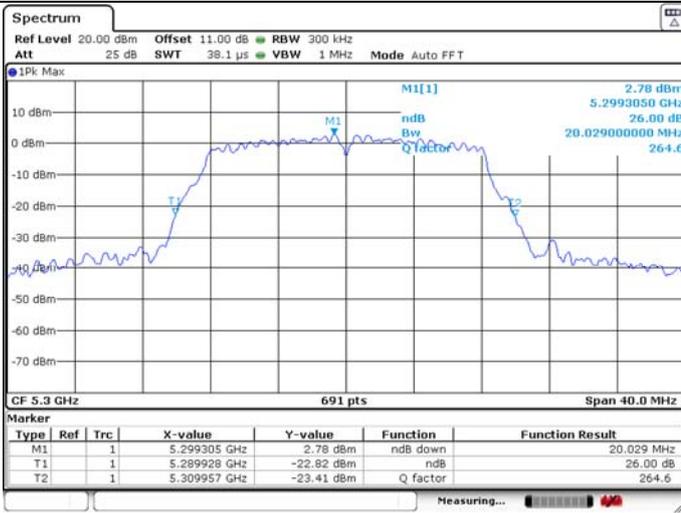
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11a 5300MHz**

26dB Bandwidth

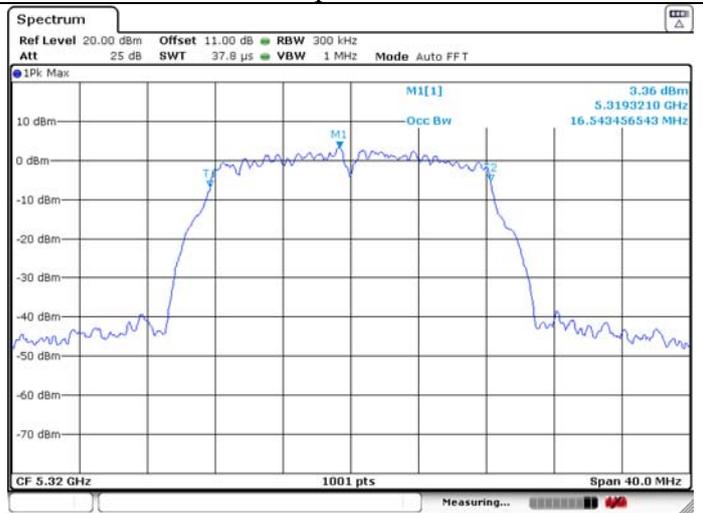
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11a 5320MHz**

26dB Bandwidth

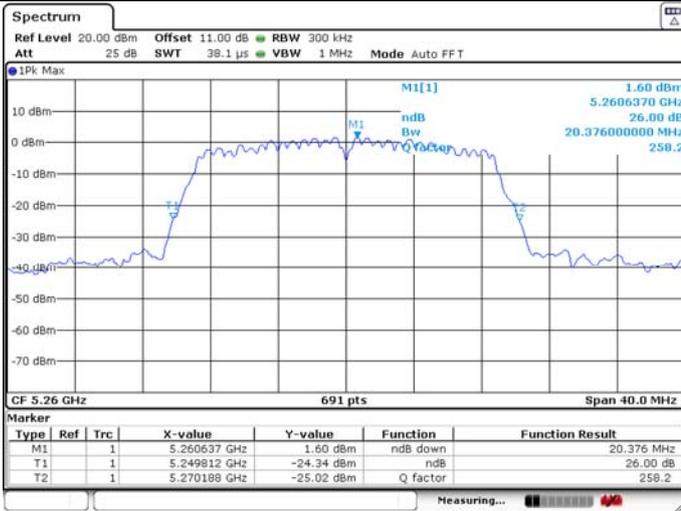
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11n HT20 5260MHz**

26dB Bandwidth

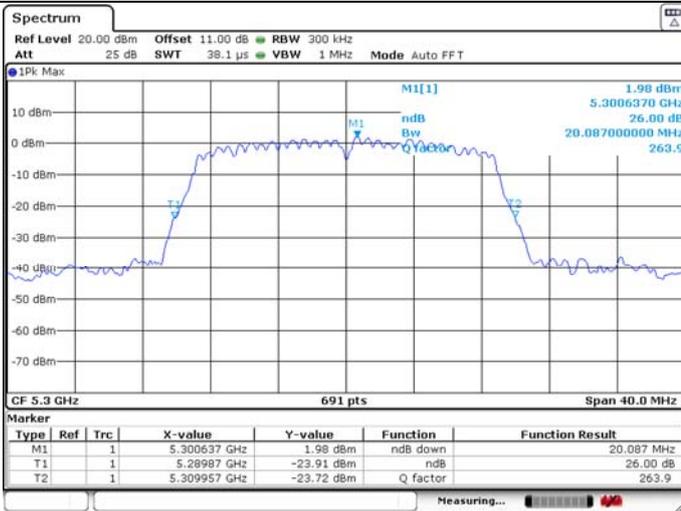
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11n HT20 5300MHz**

26dB Bandwidth

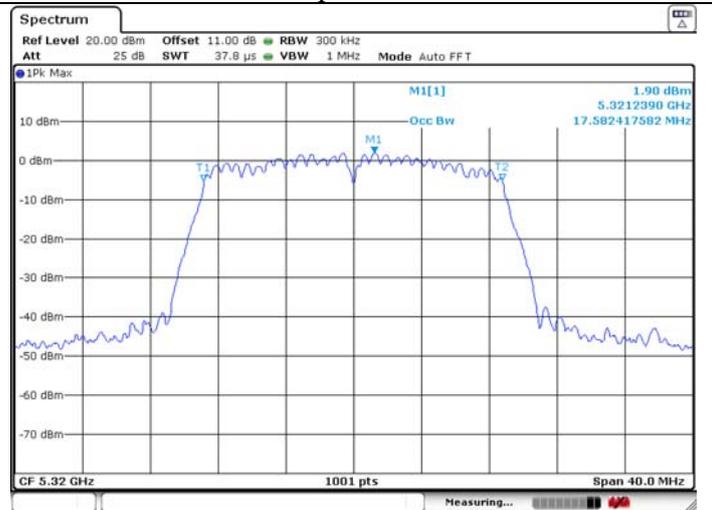
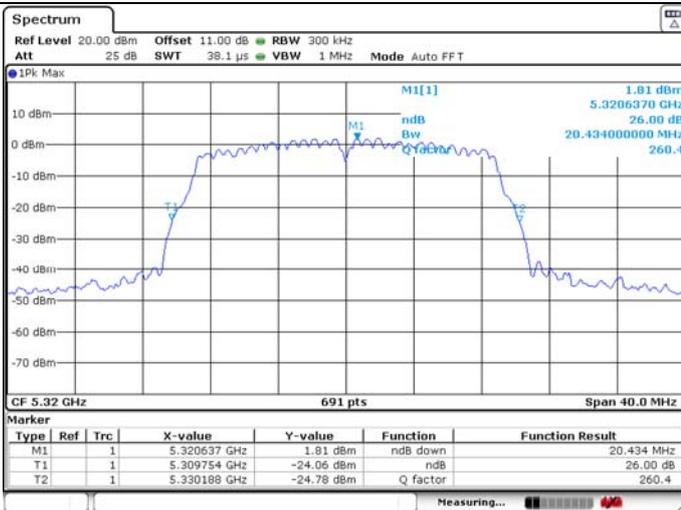
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11n HT20 5320MHz**

26dB Bandwidth

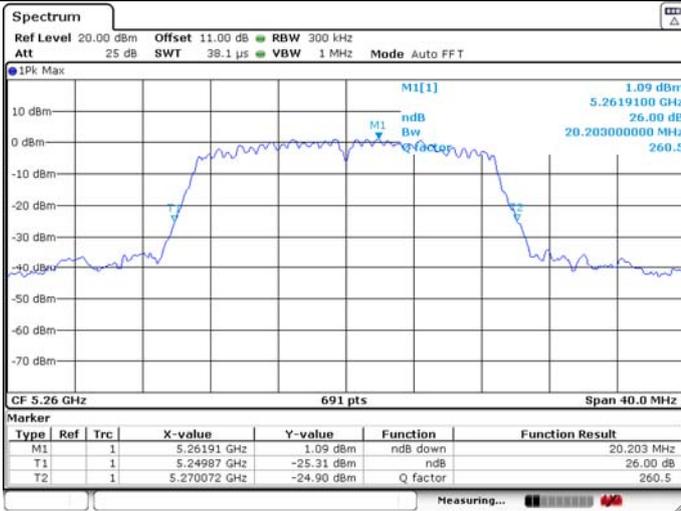
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11ac VHT20 5260MHz**

26dB Bandwidth

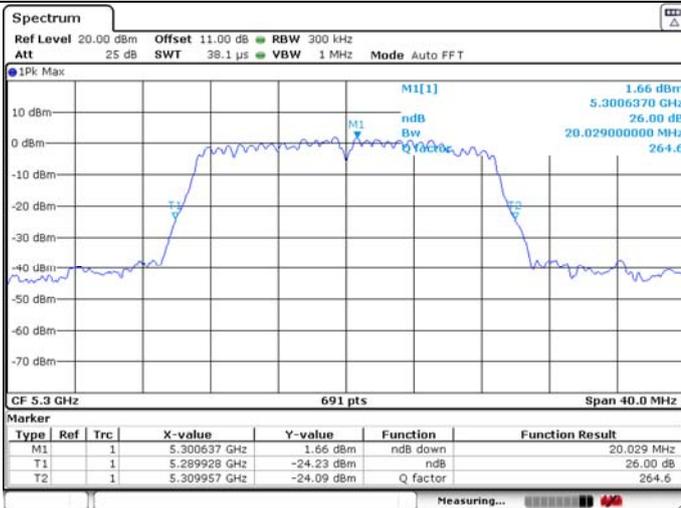
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11ac VHT20 5300MHz**

26dB Bandwidth

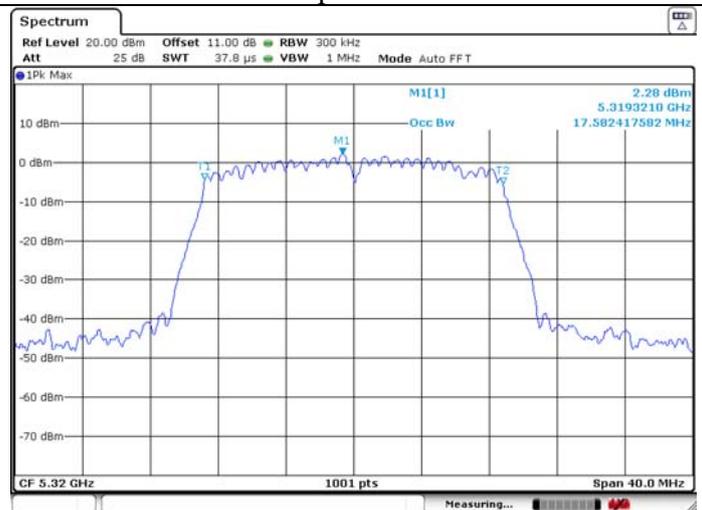
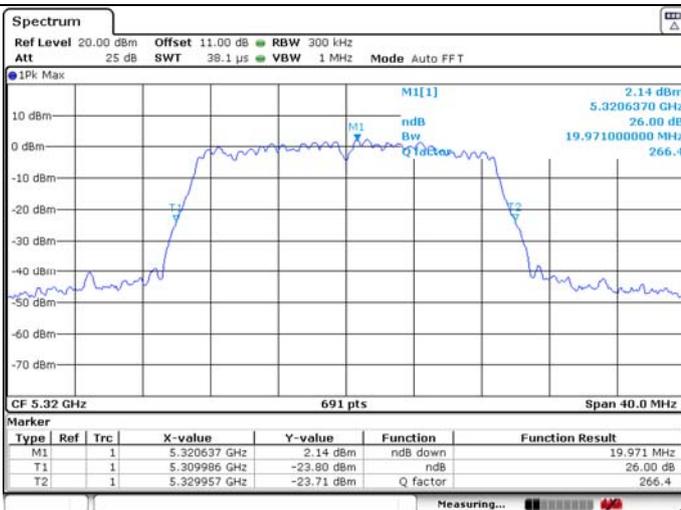
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11ac VHT20 5320MHz**

26dB Bandwidth

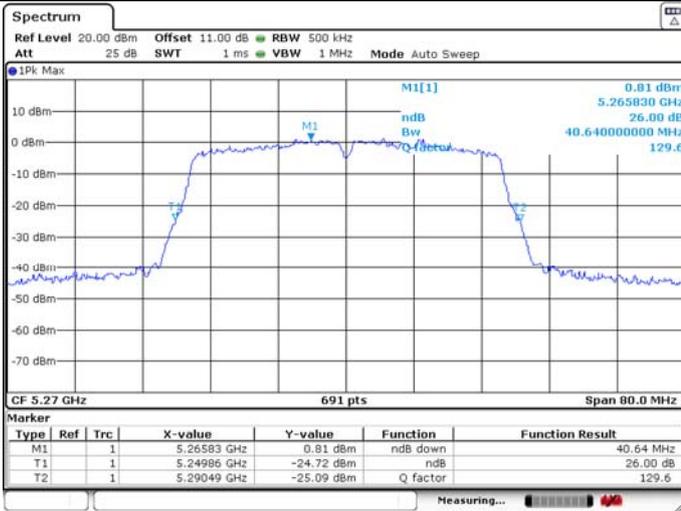
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11n HT40 5270MHz**

26dB Bandwidth

99% Occupied Bandwidth



**U-NII-2A IEEE 802.11n HT40 5310MHz**

26dB Bandwidth

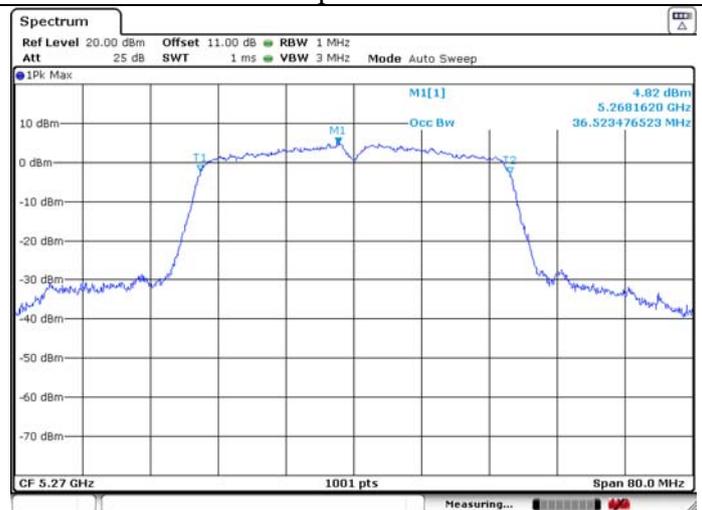
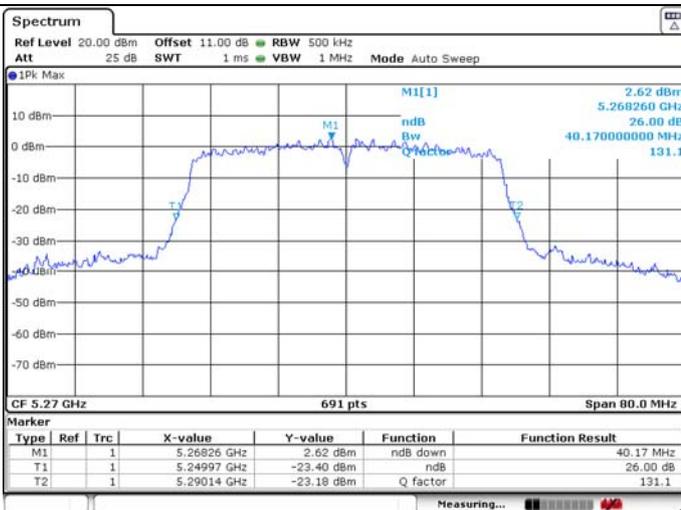
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11ac VHT40 5270MHz**

26dB Bandwidth

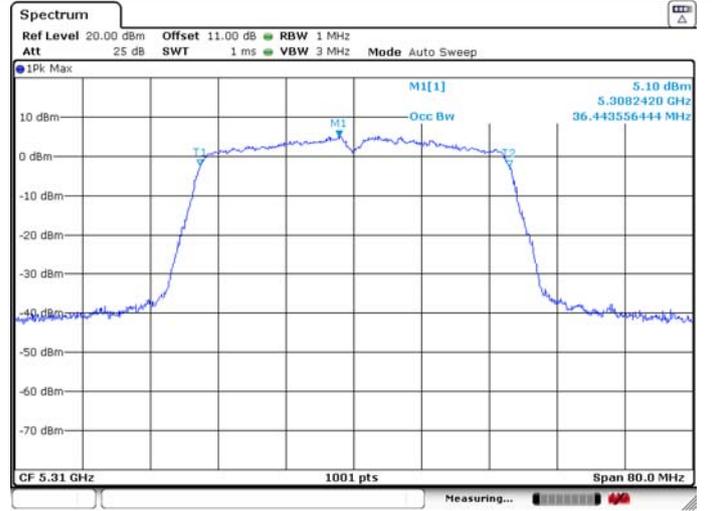
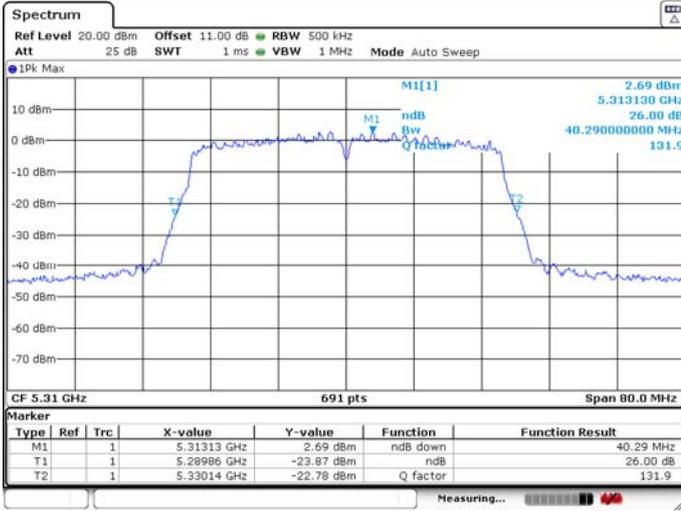
99% Occupied Bandwidth



**U-NII-2A IEEE 802.11ac VHT40 5310MHz**

**26dB Bandwidth**

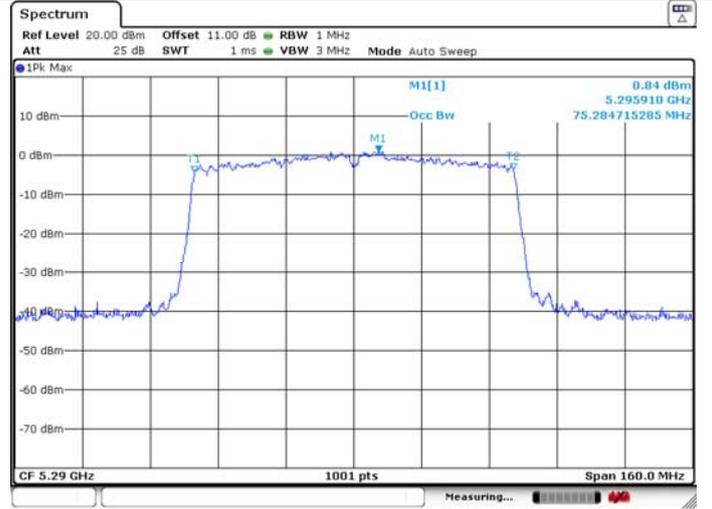
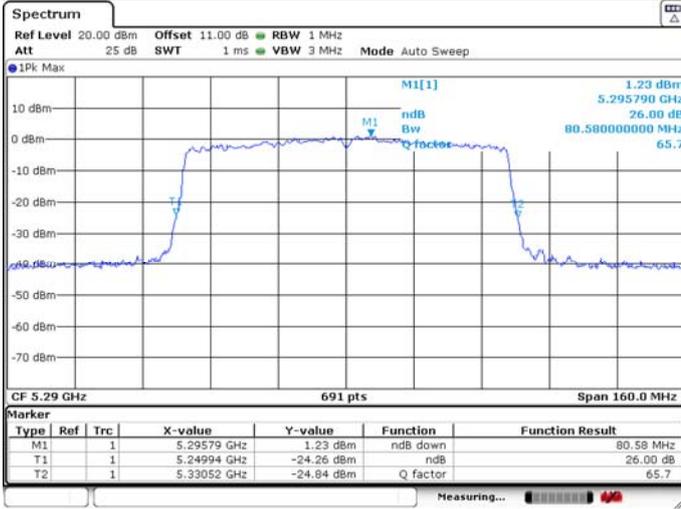
**99% Occupied Bandwidth**



**U-NII-2A IEEE 802.11ac VHT80 5290MHz**

**26dB Bandwidth**

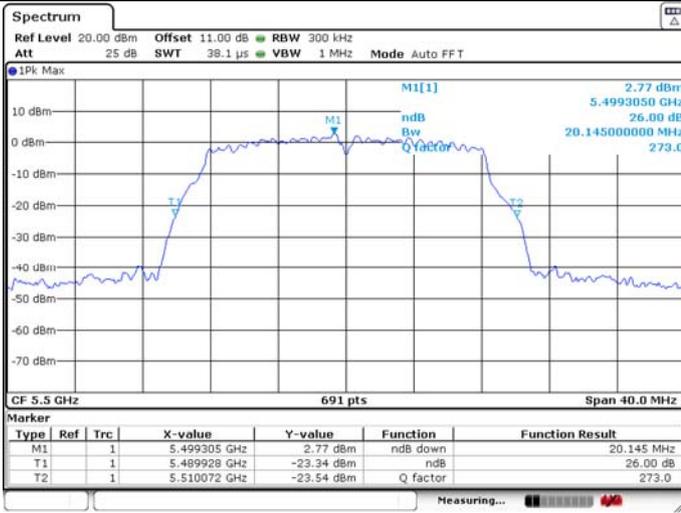
**99% Occupied Bandwidth**



**U-NII-2C IEEE 802.11a 5500MHz**

26dB Bandwidth

99% Occupied Bandwidth



**U-NII-2C IEEE 802.11a 5580MHz**

26dB Bandwidth

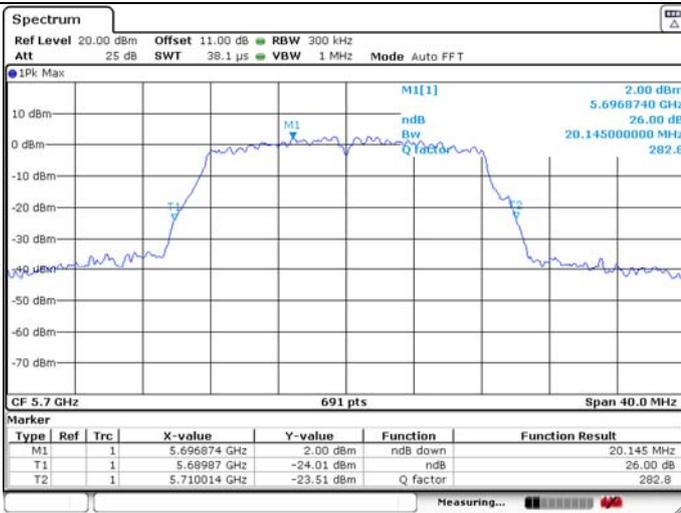
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11a 5700MHz**

26dB Bandwidth

99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT20 5500MHz**

26dB Bandwidth

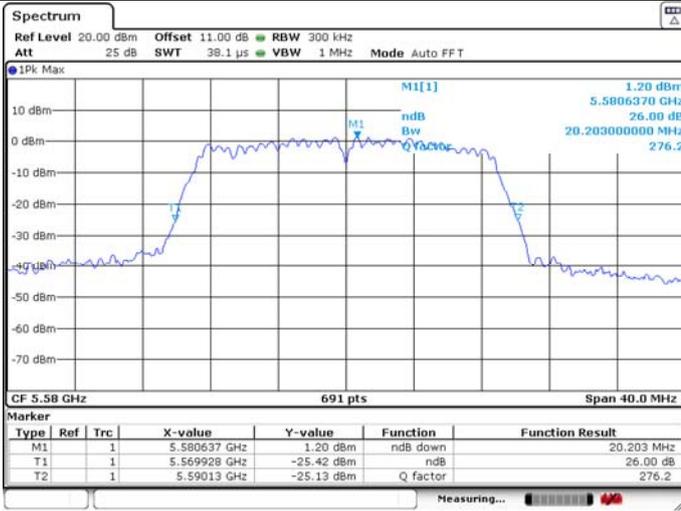
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT20 5580MHz**

26dB Bandwidth

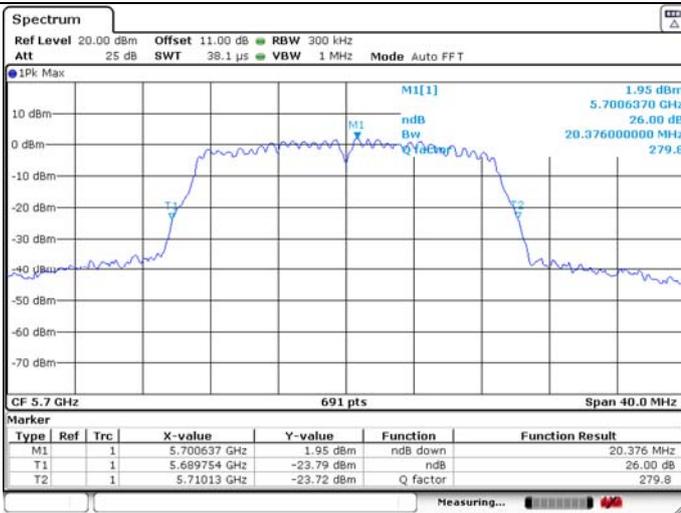
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT20 5700MHz**

26dB Bandwidth

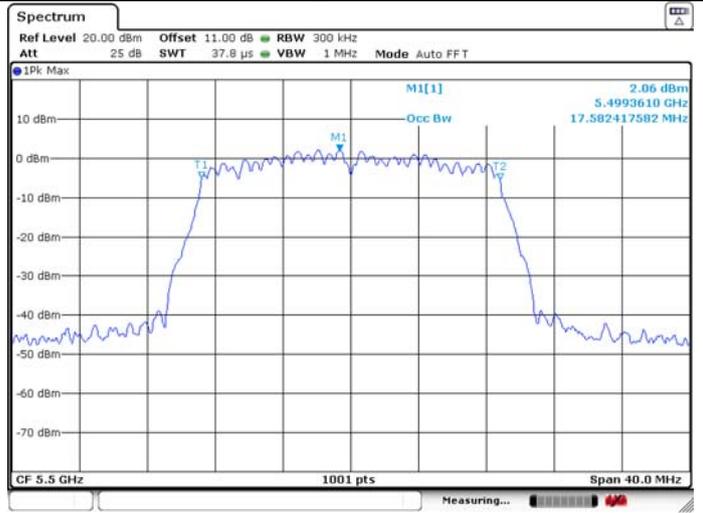
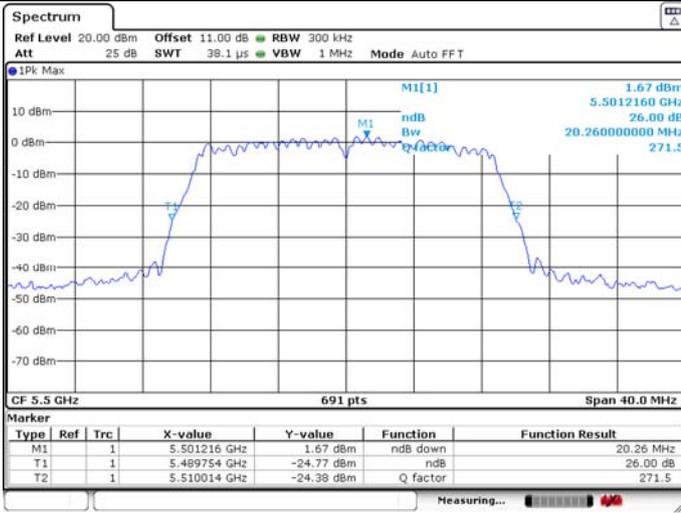
99% Occupied Bandwidth



### U-NII-2C IEEE 802.11ac VHT20 5500MHz

26dB Bandwidth

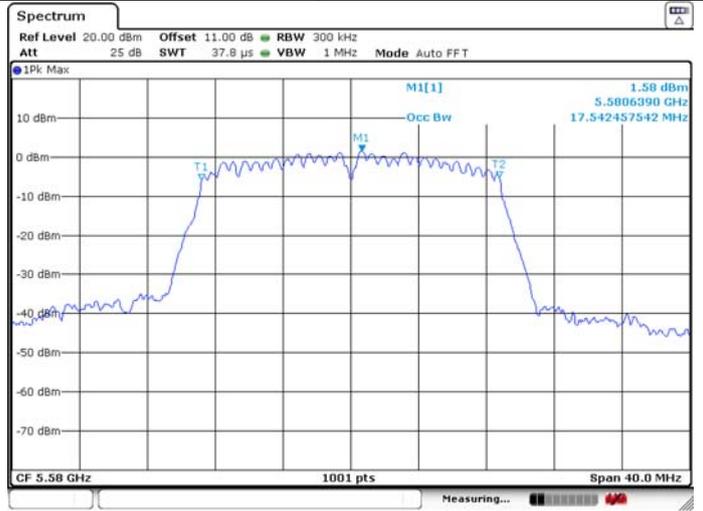
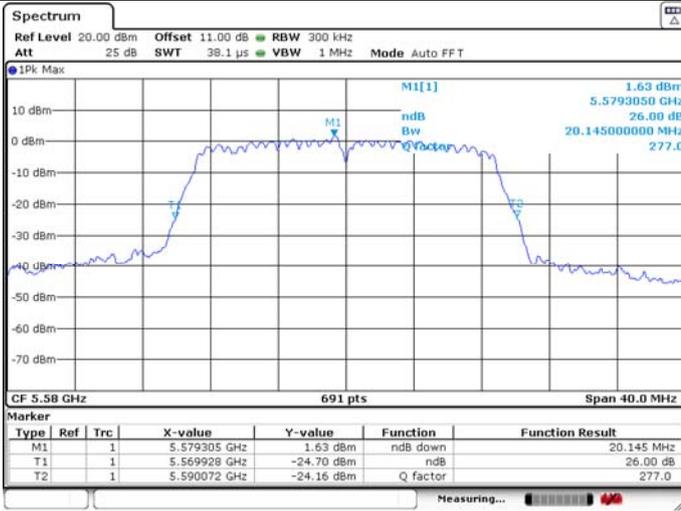
99% Occupied Bandwidth



### U-NII-2C IEEE 802.11ac VHT20 5580MHz

26dB Bandwidth

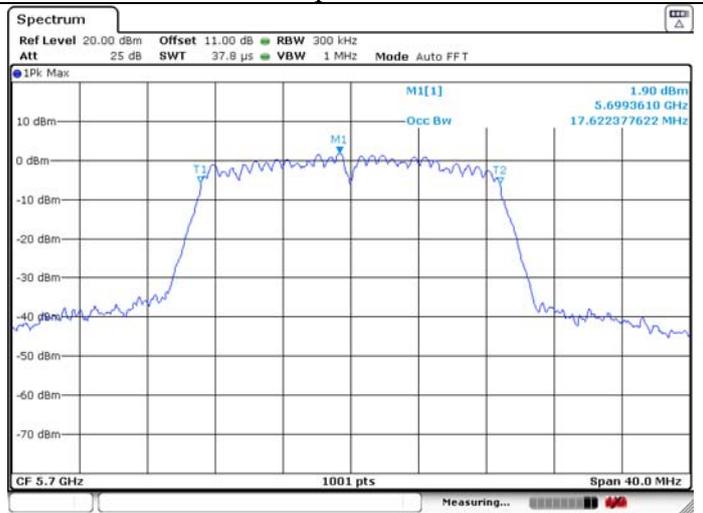
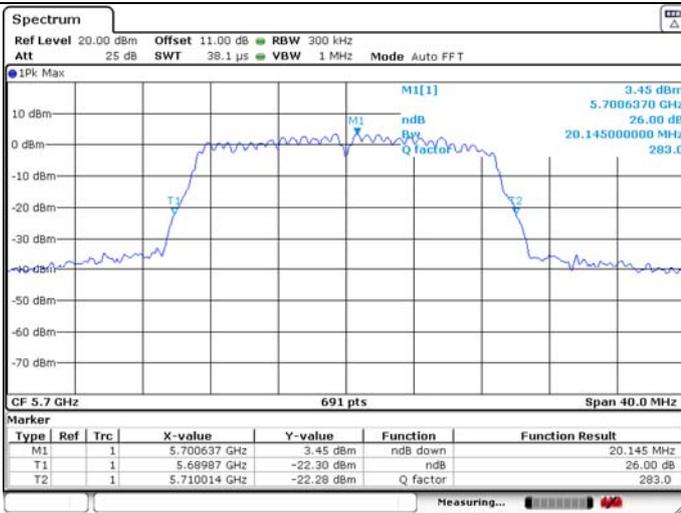
99% Occupied Bandwidth



### U-NII-2C IEEE 802.11ac VHT20 5700MHz

26dB Bandwidth

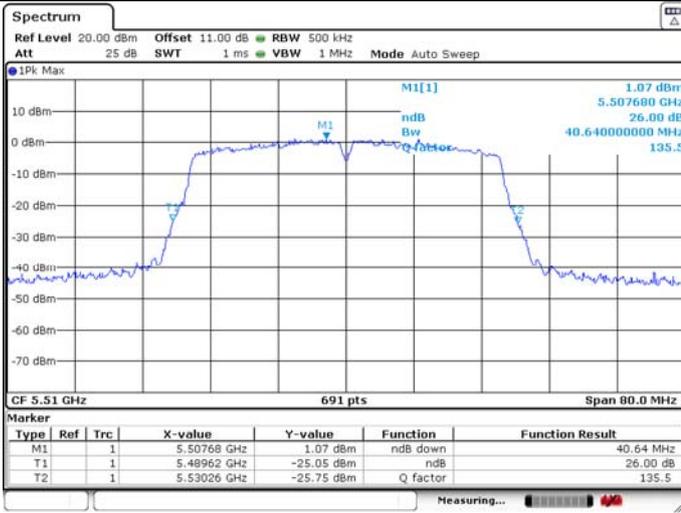
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT40 5510MHz**

26dB Bandwidth

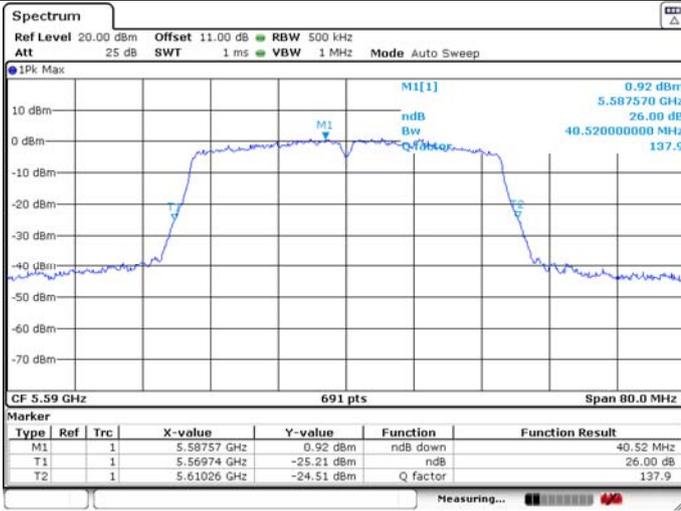
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT40 5590MHz**

26dB Bandwidth

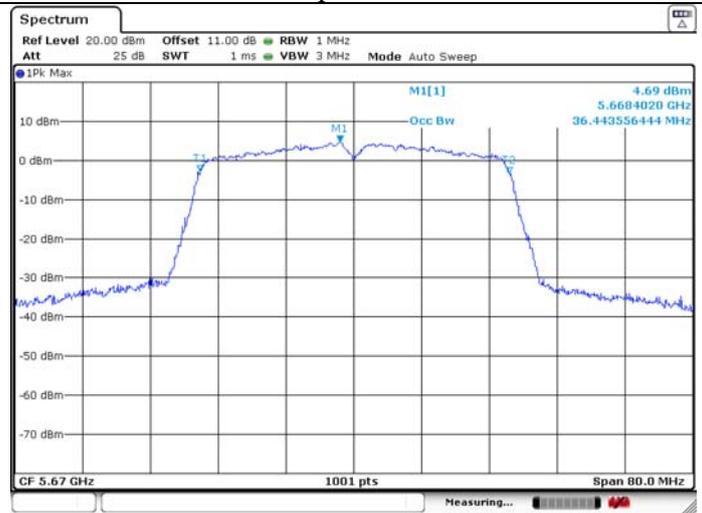
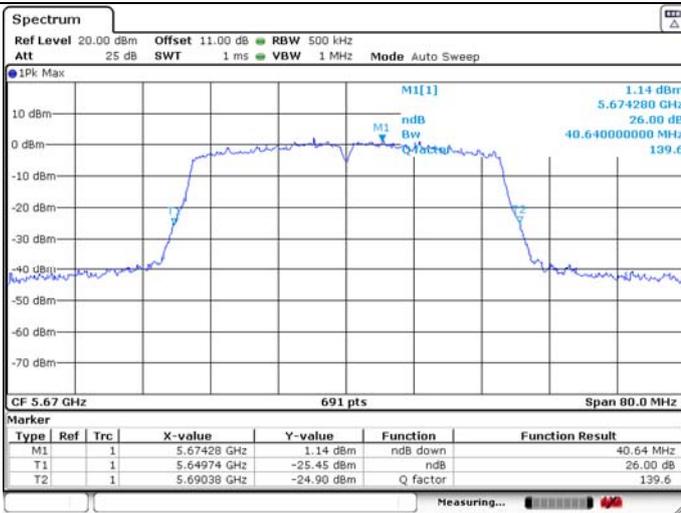
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11n HT40 5670MHz**

26dB Bandwidth

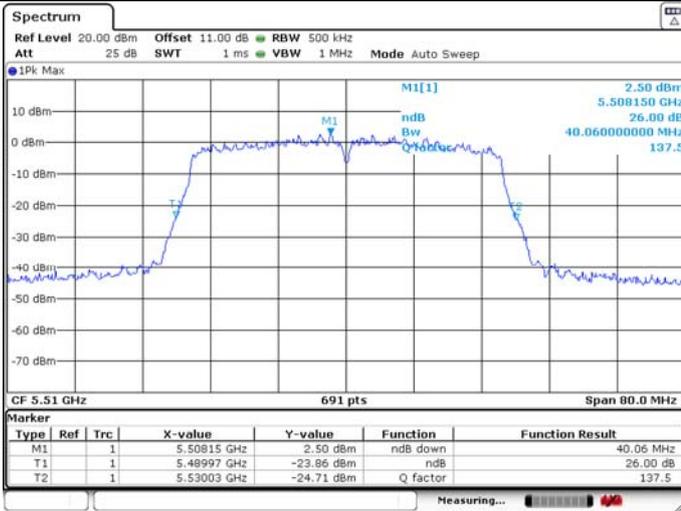
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11ac VHT40 5510MHz**

26dB Bandwidth

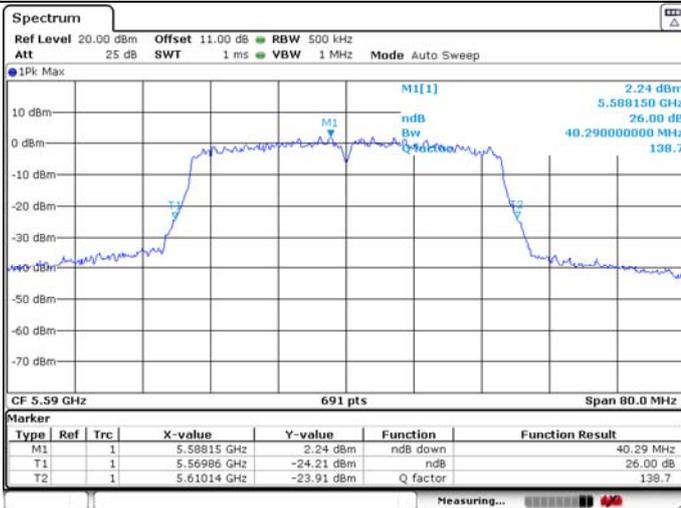
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11ac VHT40 5590MHz**

26dB Bandwidth

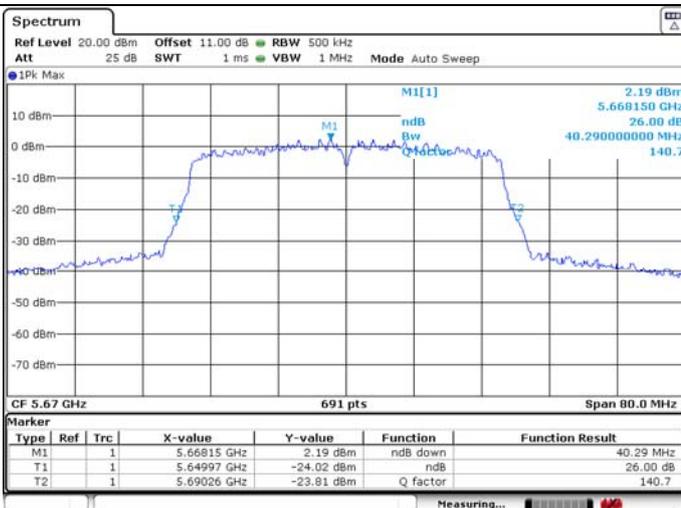
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11ac VHT40 5670MHz**

26dB Bandwidth

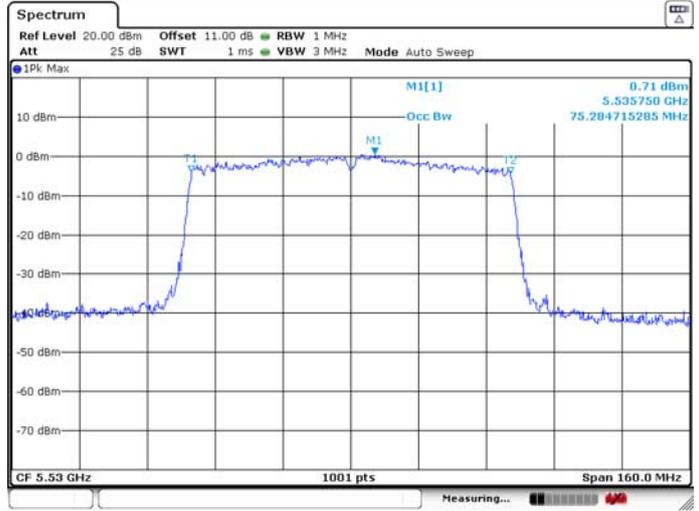
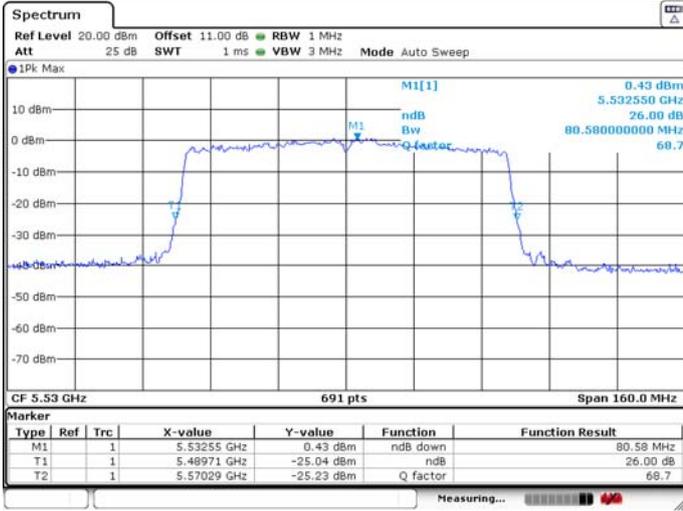
99% Occupied Bandwidth



**U-NII-2C IEEE 802.11ac VHT80 5530MHz**

**26dB Bandwidth**

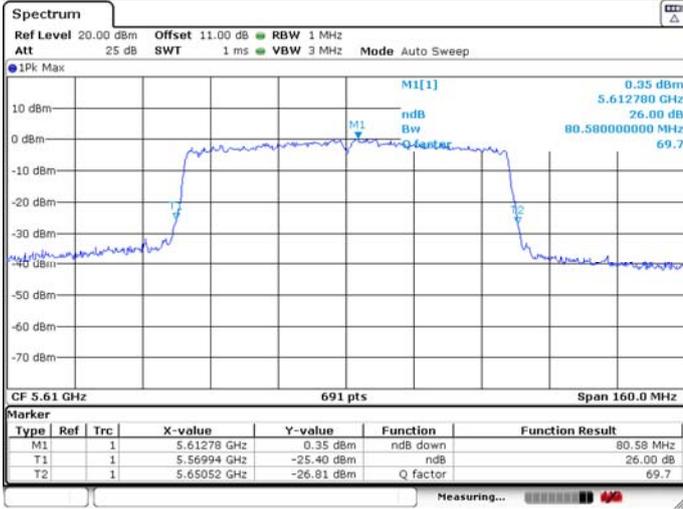
**99% Occupied Bandwidth**



**U-NII-2C IEEE 802.11ac VHT80 5610MHz**

**26dB Bandwidth**

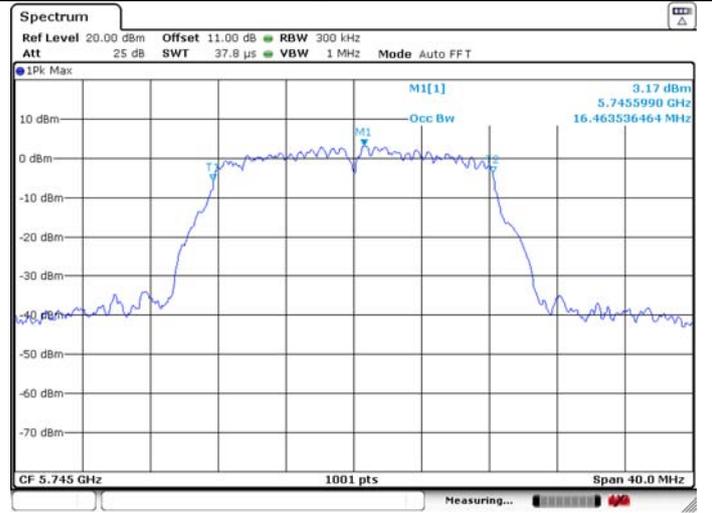
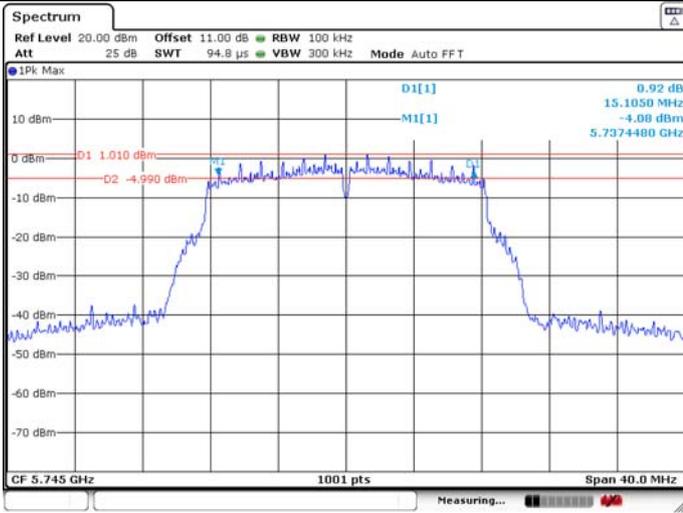
**99% Occupied Bandwidth**



**U-NII-3 IEEE 802.11a 5745MHz**

6dB Bandwidth

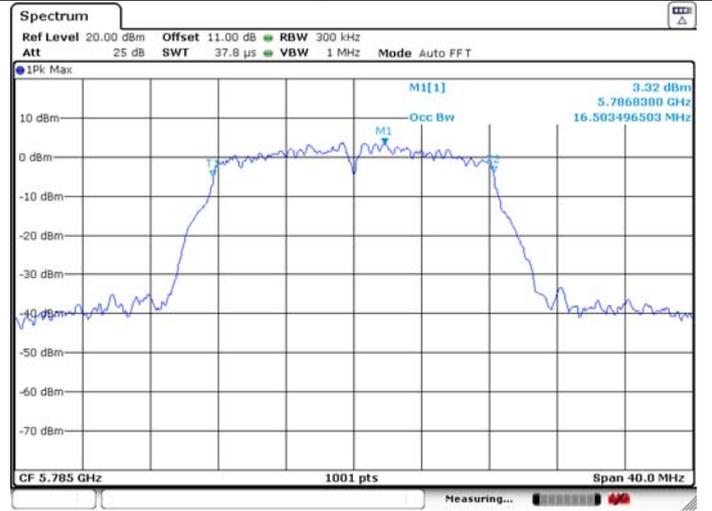
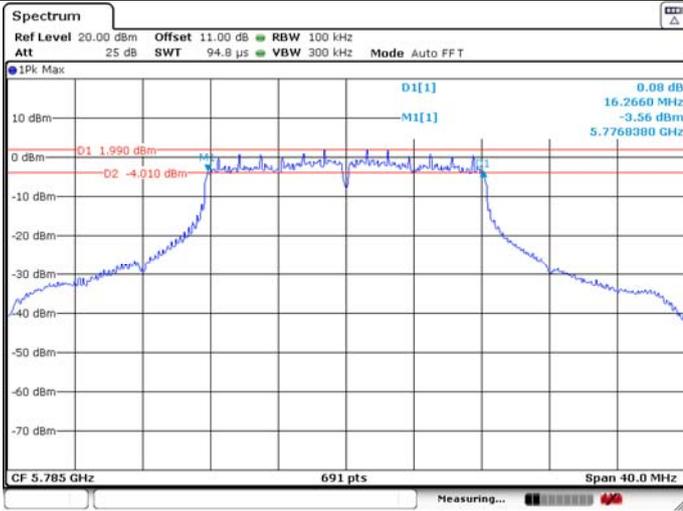
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11a 5785MHz**

6dB Bandwidth

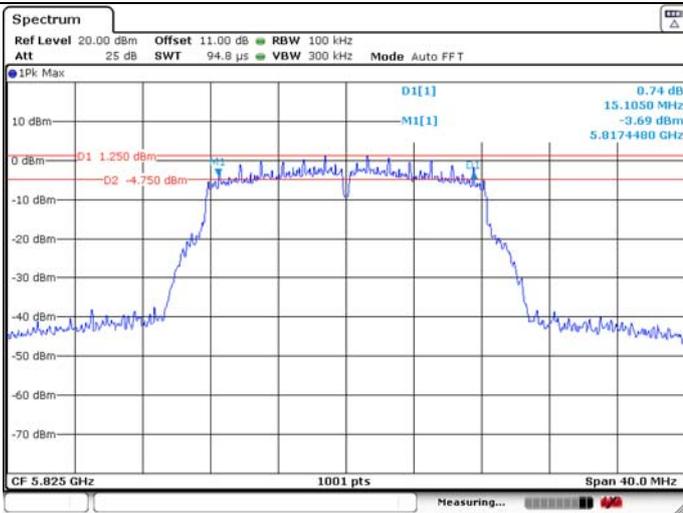
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11a 5825MHz**

6dB Bandwidth

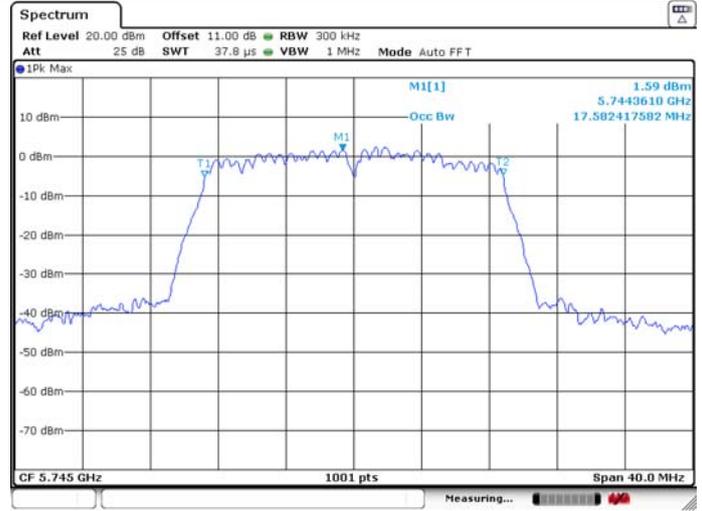
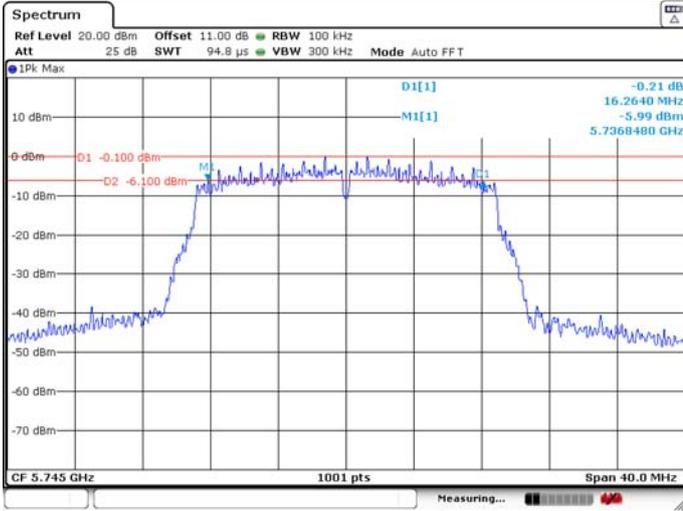
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11n HT20 5745MHz**

6dB Bandwidth

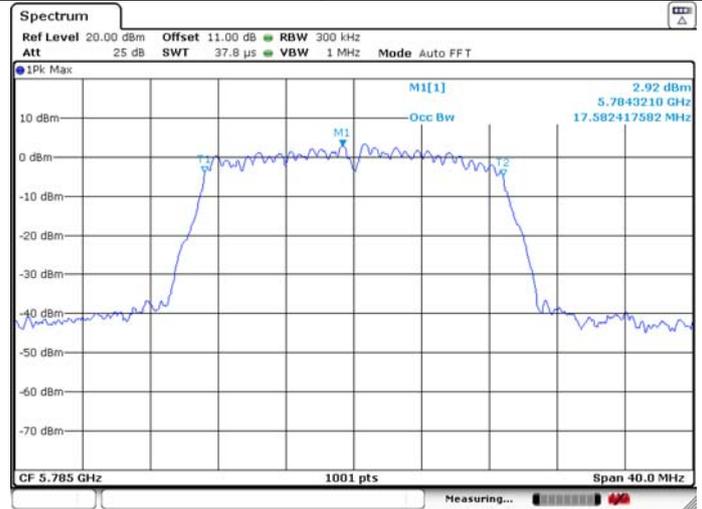
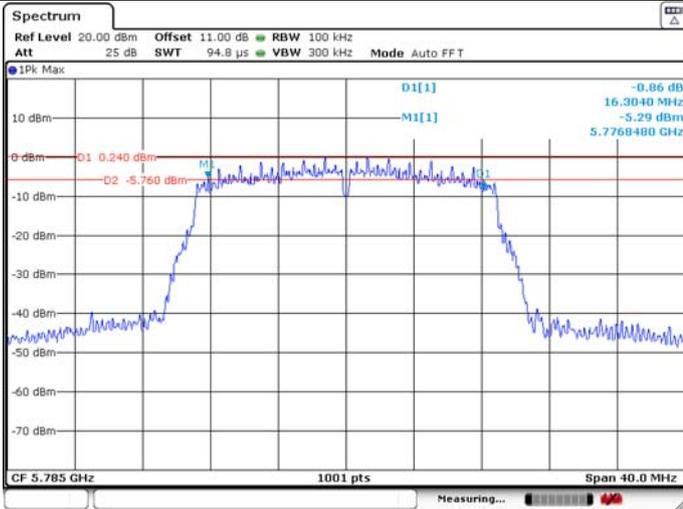
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11n HT20 5785MHz**

6dB Bandwidth

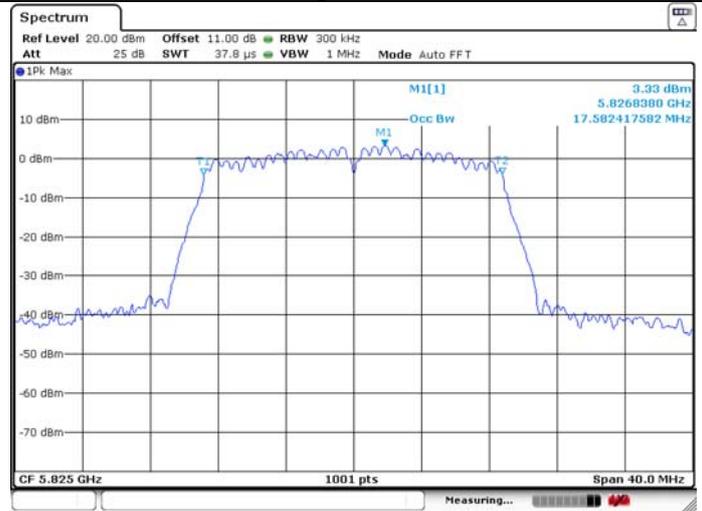
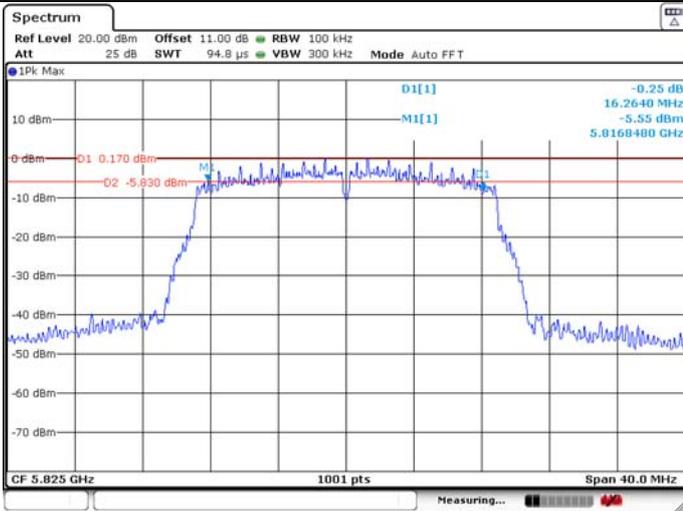
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11n HT20 5825MHz**

6dB Bandwidth

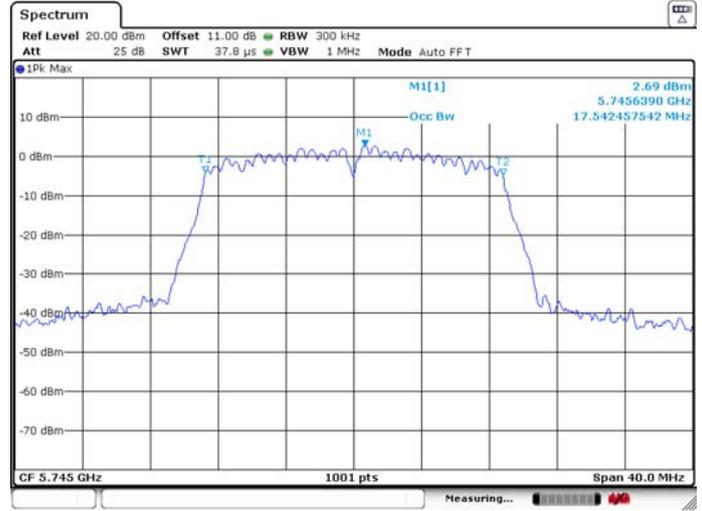
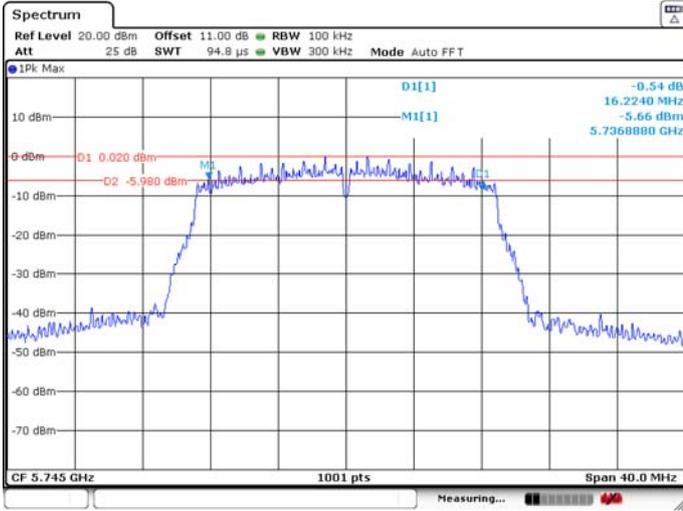
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT20 5745MHz**

6dB Bandwidth

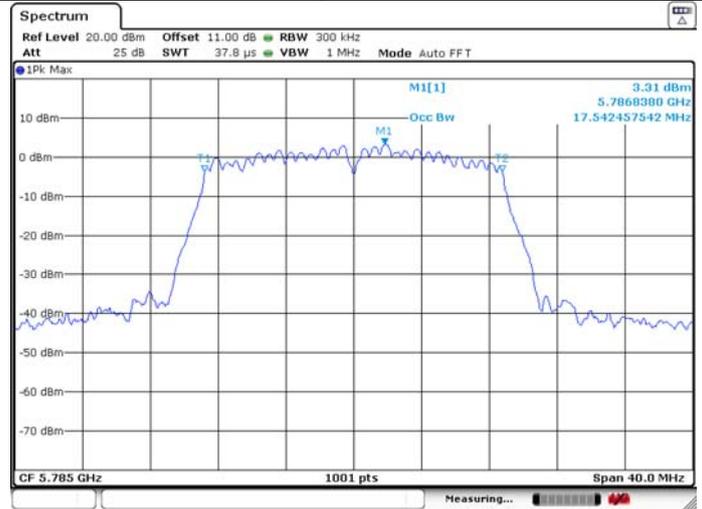
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT20 5785MHz**

6dB Bandwidth

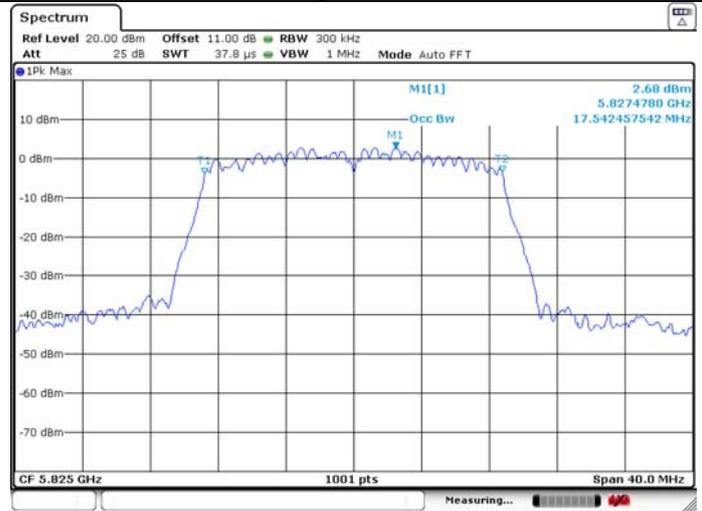
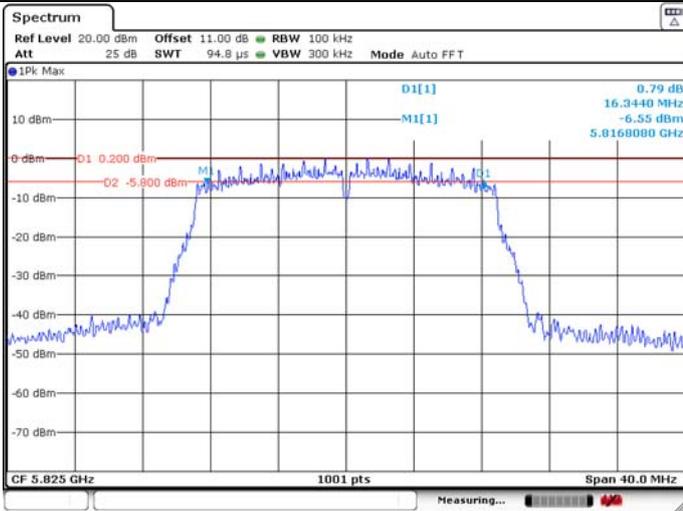
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT20 5825MHz**

6dB Bandwidth

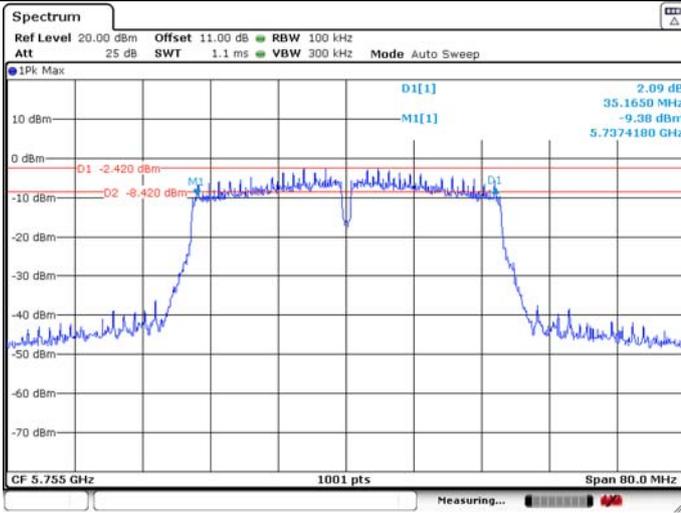
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11n HT40 5755MHz**

6dB Bandwidth

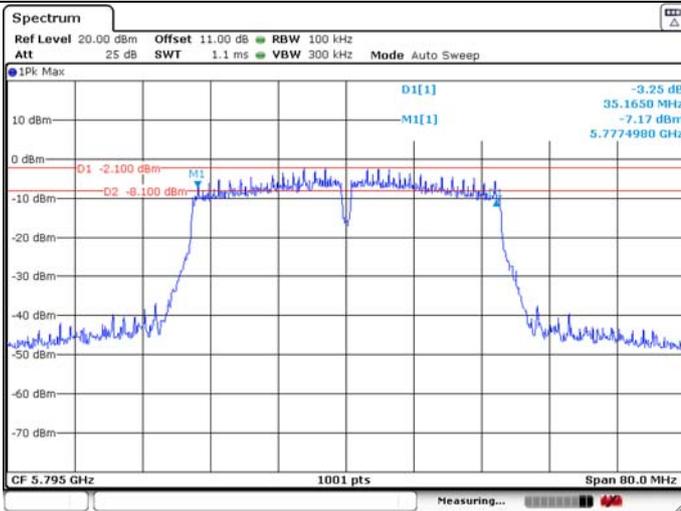
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11n HT40 5795MHz**

6dB Bandwidth

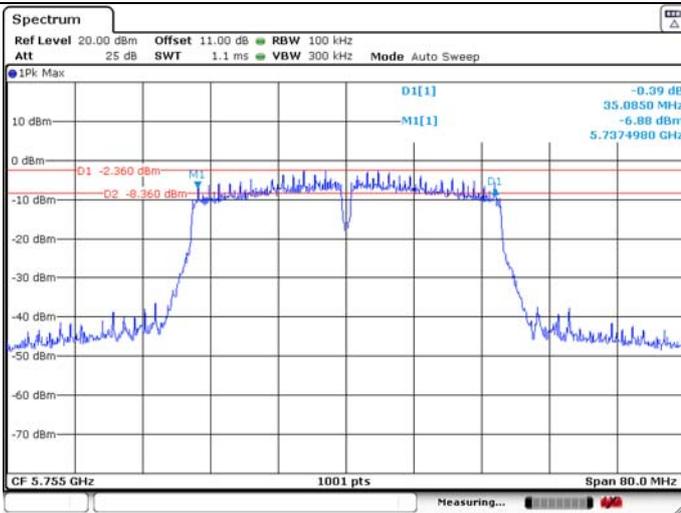
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT40 5755MHz**

6dB Bandwidth

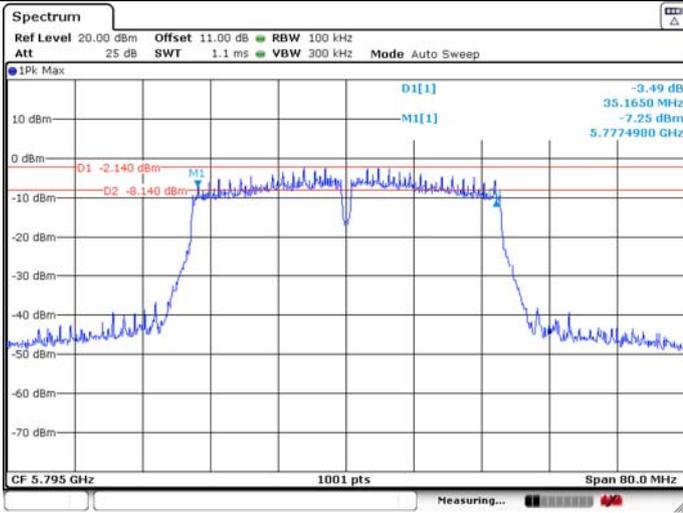
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT40 5795MHz**

6dB Bandwidth

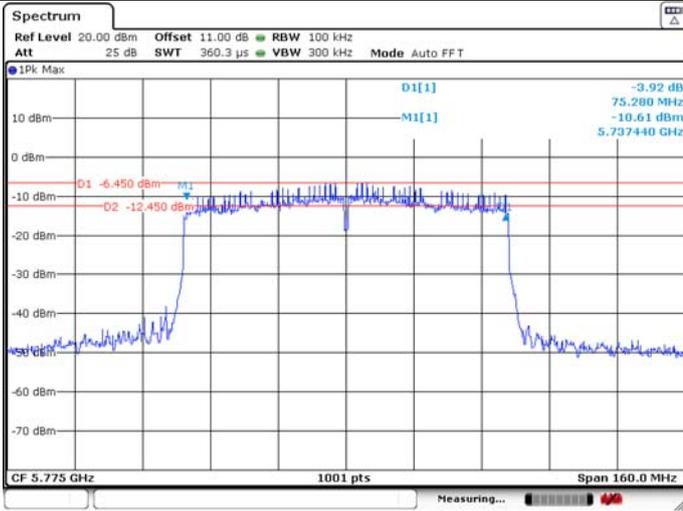
99% Occupied Bandwidth



**U-NII-3 IEEE 802.11ac VHT80 5775MHz**

6dB Bandwidth

99% Occupied Bandwidth



## 4. MAXIMUM CONDUCTED OUTPUT POWER

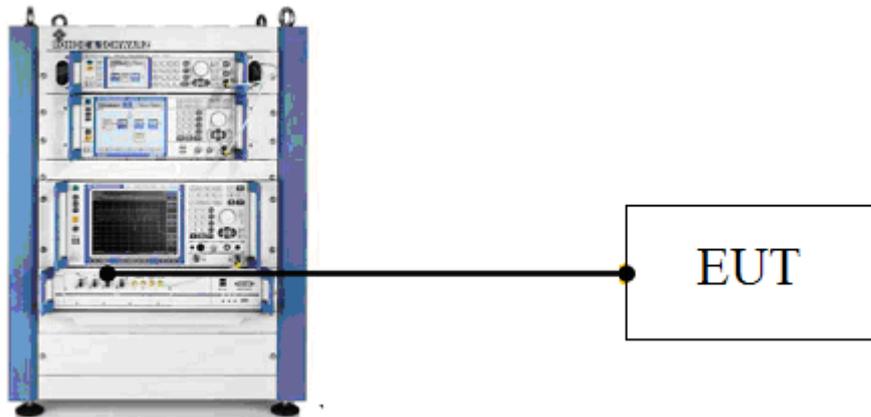
### 4.1. Limit

Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	1W(30dBm) (Max. e.i.r.p $\leq$ 125mW at any elevation angle above 30 degrees as measured from the horizon)
	Indoor Access Point	1W(30dBm)
	Fixed point-to-point Access Point	1W(30dBm)
	Mobile and Portable Client Device	250mW(23.98dBm)
U-NII-2A	All Device	250mW(23.98dBm) or 11dBm+10 log B, Which is lesser. (B is 26dB Bandwidth in MHz)
U-NII-2C	All Device	250mW(23.98dBm) or 11dBm+10 log B, Which is lesser. (B is 26dB Bandwidth in MHz)
U-NII-3	All Device	1W(30dBm)

Note:

For the Band U-NII-2A and U-NII-2C, the maximum conducted output power limit calculate result refer to section 3.5.

### 4.2. Test Setup



### 4.3. Test Procedure

- a. Connect EUT antenna terminal to the OSP-B157WB with RF cable.
- b. Set the EUT transmit continuously with maximum output power.
- c. Through the test software in TS8897 to control a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
- d. Repeat above procedures until all modes and channels were measured.
- e. Record the results in the test report.

## 4.4. Test Result

Temperature	25.4°C	Relative Humidity			56%	Test Voltage	DC 3.3V	
BAND	Test Mode	Fre (MHz)	Conducted AVG Output Power (dBm)		Total Conducted Output Power (W)	Total Conducted Output Power (dBm)	Limit (dBm)	Result
			Ant 1	Ant 2				
U-NII-1	IEEE 802.11a	5180	12.121	12.539	/	/	23.98	PASS
		5200	12.222	12.748	/	/	23.98	PASS
		5240	11.846	12.975	/	/	23.98	PASS
	IEEE 802.11n HT20	5180	10.483	10.726	0.02300	13.62	22.17	PASS
		5200	10.609	10.895	0.02379	13.76	22.17	PASS
		5240	10.853	11.086	0.02501	13.98	22.17	PASS
	IEEE 802.11ac VHT20	5180	10.573	11.335	0.02501	13.98	22.17	PASS
		5200	10.685	11.406	0.02553	14.07	22.17	PASS
		5240	10.903	11.636	0.02689	14.30	22.17	PASS
	IEEE 802.11n HT40	5190	11.847	11.277	0.02872	14.58	22.17	PASS
		5230	12.092	11.611	0.03068	14.87	22.17	PASS
	IEEE 802.11ac VHT40	5190	11.841	11.361	0.02896	14.62	22.17	PASS
		5230	12.163	11.541	0.03071	14.87	22.17	PASS
	IEEE 802.11ac VHT80	5210	12.476	12.912	0.03724	15.71	22.17	PASS
	U-NII-2A	IEEE 802.11a	5260	12.441	13.201	/	/	23.98
5300			12.492	13.388	/	/	23.98	PASS
5320			12.465	13.398	/	/	23.98	PASS
IEEE 802.11n HT20		5260	10.915	12.021	0.02827	14.51	22.17	PASS
		5300	12.747	12.102	0.03505	15.45	22.17	PASS
		5320	12.722	12.248	0.03550	15.50	22.17	PASS
IEEE 802.11ac VHT20		5260	11.443	12.053	0.02998	14.77	22.17	PASS
		5300	11.430	12.234	0.03063	14.86	22.17	PASS
		5320	11.529	12.167	0.03069	14.87	22.17	PASS
IEEE 802.11n HT40		5270	12.293	11.758	0.03195	15.04	22.17	PASS
		5310	12.364	11.848	0.03254	15.12	22.17	PASS
IEEE 802.11ac VHT40		5270	12.219	11.801	0.03181	15.03	22.17	PASS
		5310	12.379	11.895	0.03276	15.15	22.17	PASS
IEEE 802.11ac VHT80		5290	12.878	13.237	0.04047	16.07	22.17	PASS

BAND	Test Mode	Fre (MHz)	Conducted AVG Output Power (dBm)		Total Conducted Output Power (W)	Total Conducted Output Power (dBm)	Limit (dBm)	Result
			Ant 1	Ant 2				
U-NII-2C	IEEE 802.11a	5500	12.882	13.845	/	/	23.98	PASS
		5580	13.151	14.219	/	/	23.98	PASS
		5700	13.767	14.710	/	/	23.98	PASS
	IEEE 802.11n HT20	5500	13.156	12.598	0.03887	15.90	22.17	PASS
		5580	13.517	12.884	0.04190	16.22	22.17	PASS
		5700	11.098	12.093	0.02907	14.63	22.17	PASS
	IEEE 802.11ac VHT20	5500	11.860	12.629	0.03367	15.27	22.17	PASS
		5580	12.226	12.925	0.03631	15.60	22.17	PASS
		5700	12.802	13.487	0.04138	16.17	22.17	PASS
	IEEE 802.11n HT40	5510	12.900	12.381	0.03680	15.66	22.17	PASS
		5590	13.173	12.686	0.03932	15.95	22.17	PASS
		5670	13.605	13.079	0.04325	16.36	22.17	PASS
	IEEE 802.11ac VHT40	5510	12.817	12.344	0.03628	15.60	22.17	PASS
		5590	13.227	12.678	0.03955	15.97	22.17	PASS
		5670	13.602	13.155	0.04360	16.39	22.17	PASS
IEEE 802.11ac VHT80	5530	13.436	13.843	0.04629	16.65	22.17	PASS	
	5610	13.789	14.201	0.05024	17.01	22.17	PASS	
U-NII-3	IEEE 802.11a	5745	11.490	13.160	/	/	30.00	PASS
		5785	11.536	13.221	/	/	30.00	PASS
		5825	11.551	13.209	/	/	30.00	PASS
	IEEE 802.11n HT20	5745	11.254	12.288	0.03028	14.81	28.19	PASS
		5785	11.345	12.422	0.03110	14.93	28.19	PASS
		5825	11.429	12.530	0.03180	15.02	28.19	PASS
	IEEE 802.11ac VHT20	5745	10.553	12.355	0.02856	14.56	28.19	PASS
		5785	10.563	12.339	0.02852	14.55	28.19	PASS
		5825	10.699	12.489	0.02948	14.70	28.19	PASS
	IEEE 802.11n HT40	5755	14.012	13.432	0.04723	16.74	28.19	PASS
		5795	14.043	13.581	0.04818	16.83	28.19	PASS
	IEEE 802.11ac VHT40	5755	13.962	13.523	0.04741	16.76	28.19	PASS
		5795	14.109	13.593	0.04863	16.87	28.19	PASS
	IEEE 802.11ac VHT80	5775	14.470	14.898	0.05888	17.70	28.19	PASS

## 5. PEAK POWER SPECTRAL DENSITY

### 5.1. Limit

Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	17dBm/MHz
	Indoor Access Point	17dBm/MHz
	Fixed point-to-point Access Point	17dBm/MHz
	Mobile and Portable Client Device	11dBm/MHz
U-NII-2A	All Device	11dBm/MHz
U-NII-2C	All Device	11dBm/MHz
U-NII-3	All Device	30dBm/500KHz

### 5.2. Test Setup



### 5.3. Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	1MHz(For U-NII-1&U-NII-2A&U-NII-2C) 500KHz(For U-NII-3)
VBW	3MHz(For U-NII-1&U-NII-2A&U-NII-2C) 2MHz(For U-NII-3)
Span	encompass the entire 26 dB EBW or 99% OBW of the signal
Sweep Time	Auto
Number of Sweep Point	$\geq 2 \times \text{SPAN}/\text{RBW}$
Detector	RMS(power averaging)
Trace Average	$\geq 100$ traces

### 5.4. Test Procedure

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 5.3.
- c. Set the EUT transmit continuously with maximum output power.
- d. Allow trace to stabilize, use the marker-to-peak function to set the marker to the average of the emission.
- e. If the duty cycle of test signal  $< 98\%$ , the result = max measured value +  $10 \times \log(1/\text{duty cycle})$ ;  
If the duty cycle of test signal  $\geq 98\%$ , the result = max measured value.
- f. Repeat above procedures until all modes and channels were measured.
- g. Record the results in the test report.

5.5. Test Result

Temperature		25.4°C	Relative Humidity		56%	Test Voltage	DC 3.3V	
BAND	Test Mode	Fre (MHz)	Power Density (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
			Ant 1	Ant 2				
U-NII-1	IEEE 802.11a	5180	2.66	3.18	0.11	/	11.0	PASS
		5200	2.79	2.98	0.11	/	11.0	PASS
		5240	2.92	3.22	0.11	/	11.0	PASS
	IEEE 802.11n HT20	5180	0.50	0.71	0.12	3.73	9.19	PASS
		5200	0.31	0.47	0.12	3.52	9.19	PASS
		5240	0.74	0.73	0.12	3.86	9.19	PASS
	IEEE 802.11ac VHT20	5180	0.40	0.72	0.10	3.67	9.19	PASS
		5200	0.28	0.58	0.10	3.54	9.19	PASS
		5240	0.63	0.71	0.10	3.78	9.19	PASS
	IEEE 802.11n HT40	5190	-0.43	0.26	0.19	3.13	9.19	PASS
		5230	-0.17	0.63	0.19	3.45	9.19	PASS
	IEEE 802.11ac VHT40	5190	-0.40	0.29	0.23	3.20	9.19	PASS
		5230	-0.34	0.68	0.23	3.44	9.19	PASS
	IEEE 802.11ac VHT80	5210	-4.31	-3.42	0.37	-0.46	9.19	PASS
	U-NII-2A	IEEE 802.11a	5260	4.20	4.70	0.11	/	11.0
5300			4.46	5.23	0.11	/	11.0	PASS
5320			4.99	5.70	0.11	/	11.0	PASS
IEEE 802.11n HT20		5260	2.97	3.77	0.12	6.52	9.19	PASS
		5300	3.28	4.29	0.12	6.94	9.19	PASS
		5320	3.75	4.73	0.12	7.40	9.19	PASS
IEEE 802.11ac VHT20		5260	2.83	3.52	0.10	6.30	9.19	PASS
		5300	3.30	4.06	0.10	6.80	9.19	PASS
		5320	3.68	4.76	0.10	7.36	9.19	PASS
IEEE 802.11n HT40		5270	0.34	0.92	0.19	3.84	9.19	PASS
		5310	0.80	1.35	0.19	4.29	9.19	PASS
IEEE 802.11ac VHT40		5270	0.37	1.02	0.23	3.95	9.19	PASS
		5310	0.96	1.58	0.23	4.52	9.19	PASS
IEEE 802.11ac VHT80		5290	-3.38	-2.86	0.37	0.27	9.19	PASS

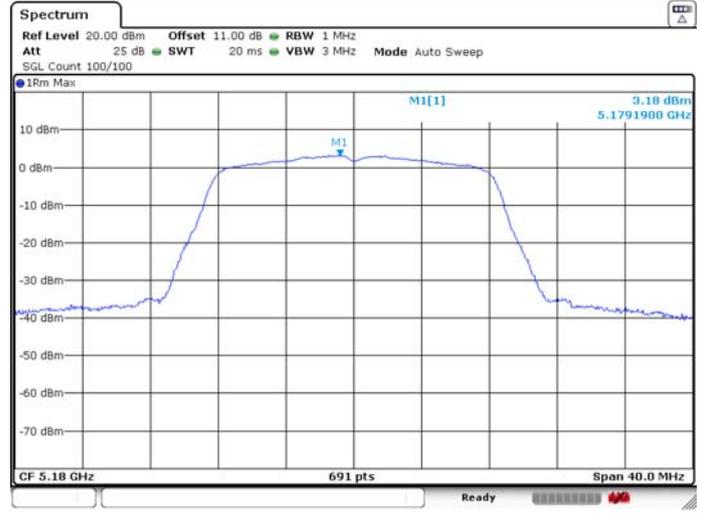
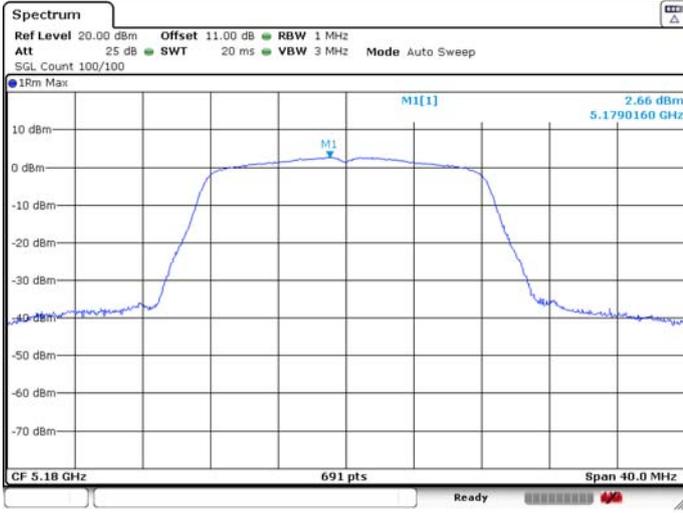
BAND	Test Mode	Fre (MHz)	Power Density (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
			Ant 1	Ant 2				
U-NII-2C	IEEE 802.11a	5500	4.40	5.59	0.11	/	11.0	PASS
		5580	3.13	4.81	0.11	/	11.0	PASS
		5700	3.53	5.14	0.11	/	11.0	PASS
	IEEE 802.11n HT20	5500	3.05	4.73	0.12	7.10	9.19	PASS
		5580	1.91	3.82	0.12	6.10	9.19	PASS
		5700	2.48	4.40	0.12	6.67	9.19	PASS
	IEEE 802.11ac VHT20	5500	3.03	1.67	0.10	5.51	9.19	PASS
		5580	1.76	3.67	0.10	5.93	9.19	PASS
		5700	2.37	4.16	0.10	6.46	9.19	PASS
	IEEE 802.11n HT40	5510	0.23	1.44	0.19	4.08	9.19	PASS
		5590	-0.66	0.84	0.19	3.36	9.19	PASS
		5670	-0.52	1.09	0.19	3.56	9.19	PASS
	IEEE 802.11ac VHT40	5510	0.41	1.39	0.23	4.17	9.19	PASS
		5590	-0.69	0.86	0.23	3.39	9.19	PASS
		5670	-0.47	1.18	0.23	3.67	9.19	PASS
	IEEE 802.11ac VHT80	5530	-4.33	-2.83	0.37	-0.13	9.19	PASS
		5610	-5.03	-3.34	0.37	-0.72	9.19	PASS

BAND	Test Mode	Fre (MHz)	Power Density (dBm/500KHz)		Duty Factor (dB)	Total Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Result
			Ant 1	Ant 2				
U-NII-3	IEEE 802.11a	5745	1.83	3.74	0.11	/	30.0	PASS
		5785	2.51	3.72	0.11	/	30.0	PASS
		5825	2.18	3.87	0.11	/	30.0	PASS
	IEEE 802.11n HT20	5745	1.35	2.83	0.12	5.28	28.19	PASS
		5785	1.63	3.47	0.12	5.77	28.19	PASS
		5825	1.84	3.30	0.12	5.76	28.19	PASS
	IEEE 802.11ac VHT20	5745	1.14	2.54	0.10	5.00	28.19	PASS
		5785	1.75	2.79	0.10	5.41	28.19	PASS
		5825	1.68	3.17	0.10	5.60	28.19	PASS
	IEEE 802.11n HT40	5755	-1.28	-3.45	0.19	0.97	28.19	PASS
		5795	-1.06	0.35	0.19	2.90	28.19	PASS
	IEEE 802.11ac VHT40	5755	-1.44	-0.38	0.23	2.36	28.19	PASS
		5795	-1.21	0.12	0.23	2.75	28.19	PASS
	IEEE 802.11ac VHT80	5775	-5.36	-3.74	0.37	-1.09	28.19	PASS

**U-NII-1 IEEE 802.11a 5180MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11a 5200MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11a 5240MHz**

**ANT 1**

**ANT 2**



### U-NII-1 IEEE 802.11n HT20 5180MHz

#### ANT 1

#### ANT 2



**U-NII-1 IEEE 802.11n HT20 5200MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11n HT20 5240MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11ac VHT20 5180MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11ac VHT20 5200MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11ac VHT20 5240MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11n HT40 5190MHz**

**ANT 1**

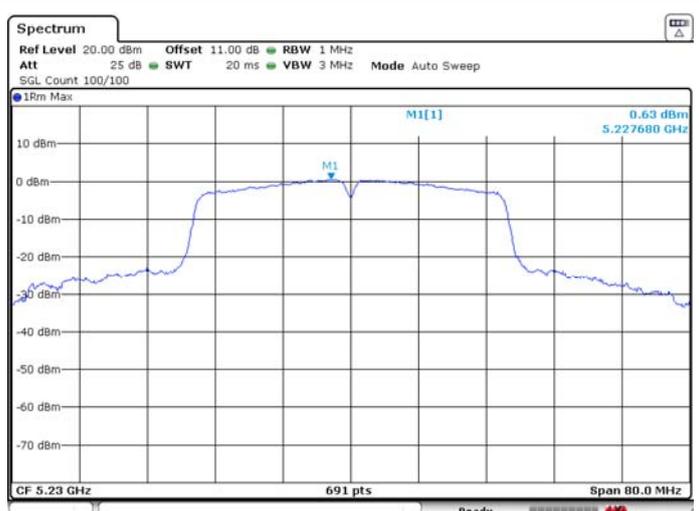
**ANT 2**



**U-NII-1 IEEE 802.11n HT40 5230MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11ac VHT40 5190MHz**

**ANT 1**

**ANT 2**



**U-NII-1 IEEE 802.11ac VHT40 5230MHz**

**ANT 1**

**ANT 2**



### U-NII-1 IEEE 802.11ac VHT80 5210MHz

#### ANT 1

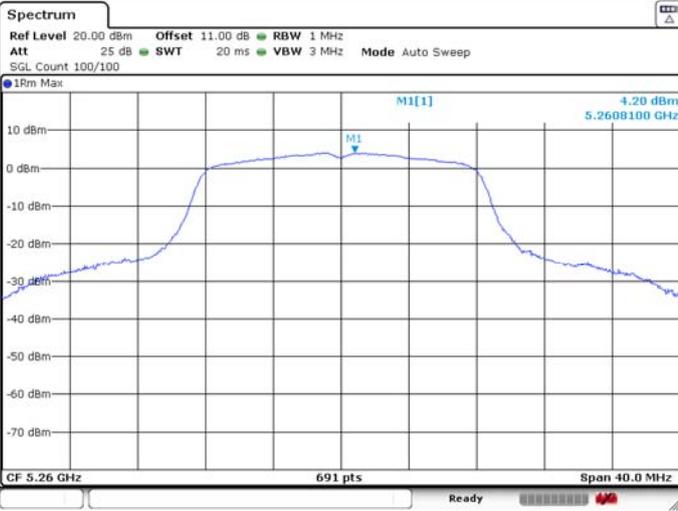
#### ANT 2



**U-NII-2A IEEE 802.11a 5260MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11a 5300MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11a 5320MHz**

**ANT 1**

**ANT 2**



### U-NII-2A IEEE 802.11n HT20 5260MHz

#### ANT 1

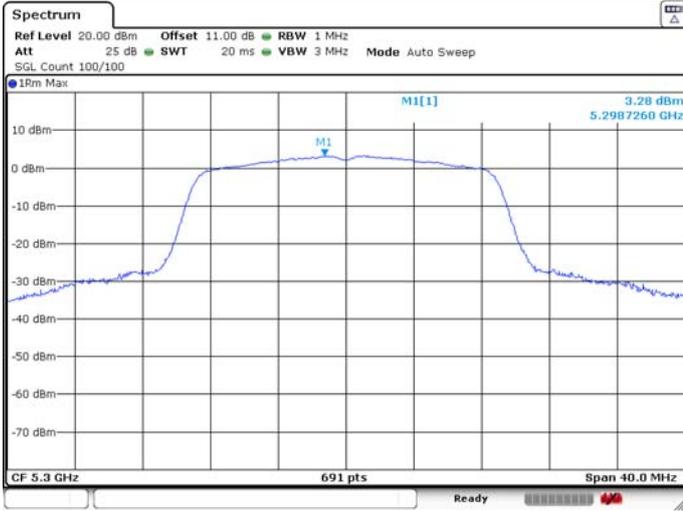
#### ANT 2



**U-NII-2A IEEE 802.11n HT20 5300MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11n HT20 5320MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11ac VHT20 5260MHz**

**ANT 1**

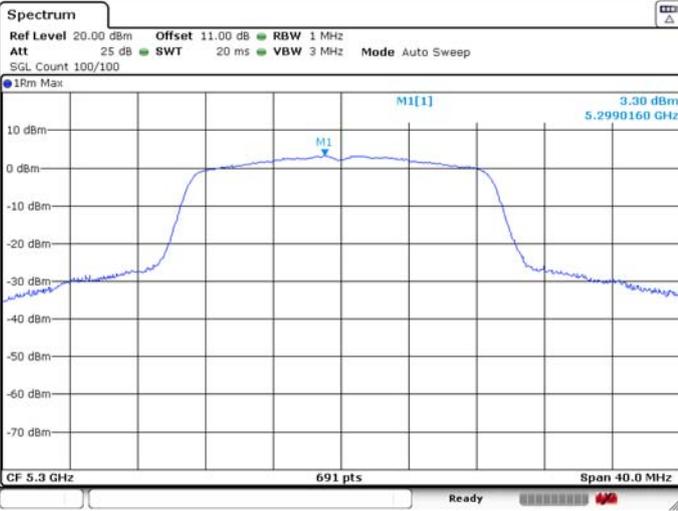
**ANT 2**



**U-NII-2A IEEE 802.11ac VHT20 5300MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11ac VHT20 5320MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11n HT40 5270MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11n HT40 5310MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11ac VHT40 5270MHz**

**ANT 1**

**ANT 2**



**U-NII-2A IEEE 802.11ac VHT40 5310MHz**

**ANT 1**

**ANT 2**



### U-NII-2A IEEE 802.11ac VHT80 5290MHz

#### ANT 1

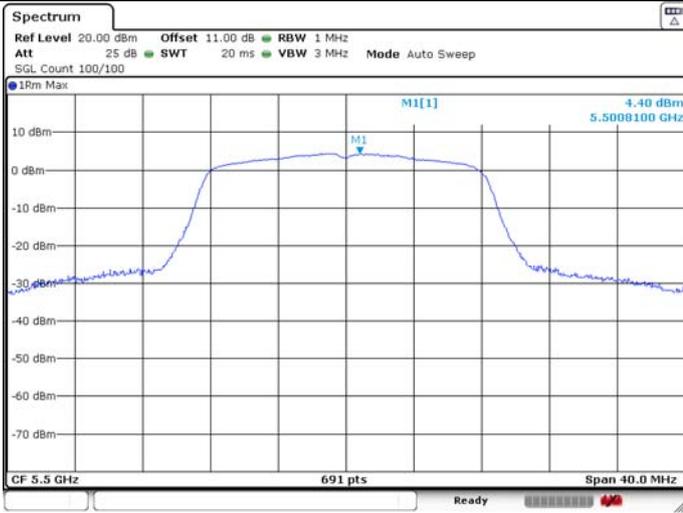
#### ANT 2



**U-NII-2C 802.11a IEEE 5500MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11a 5580MHz**

**ANT 1**

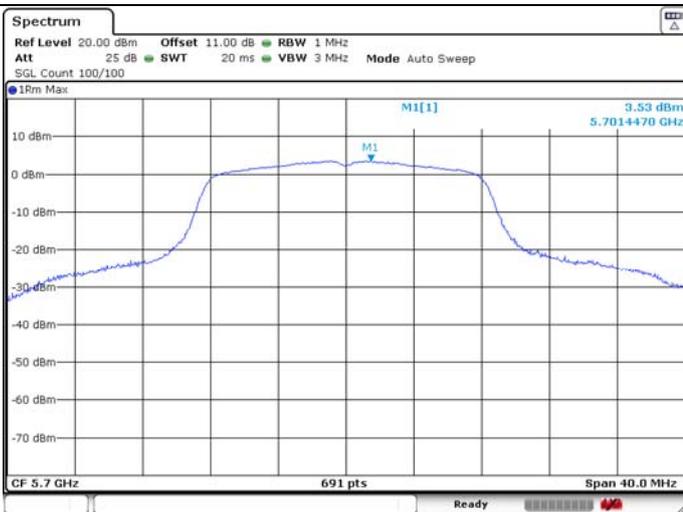
**ANT 2**



**U-NII-2C IEEE 802.11a 5700MHz**

**ANT 1**

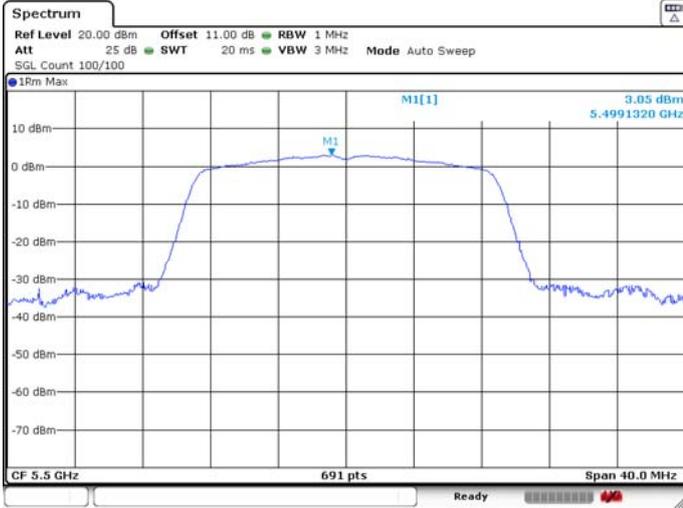
**ANT 2**



**U-NII-2C IEEE 802.11n HT20 5500MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11n HT20 5580MHz**

**ANT 1**

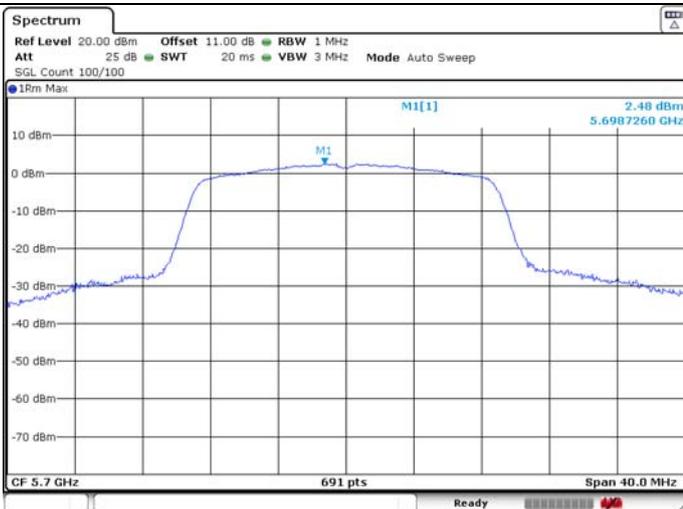
**ANT 2**



**U-NII-2C IEEE 802.11n HT20 5700MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11ac VHT20 5500MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11ac VHT20 5580MHz**

**ANT 1**

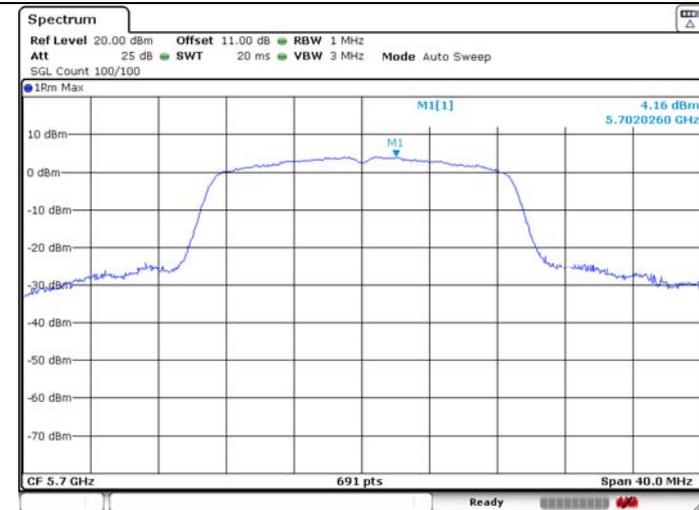
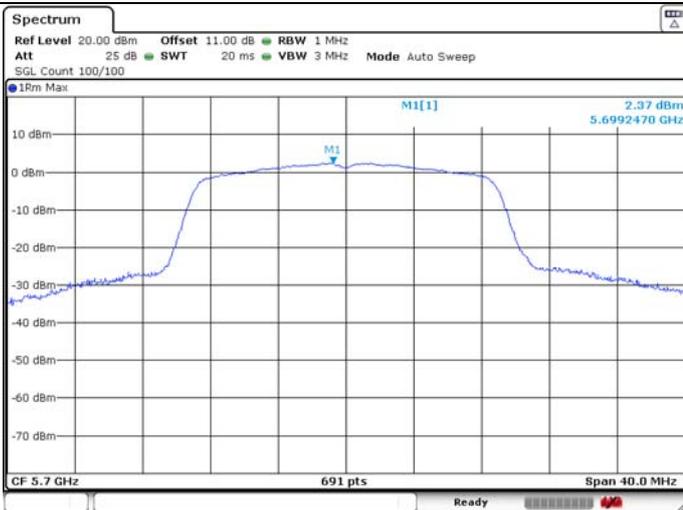
**ANT 2**



**U-NII-2C IEEE 802.11ac VHT20 5700MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11n HT40 5510MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11n HT40 5590MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11n HT40 5670MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11ac VHT40 5510MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11ac VHT40 5590MHz**

**ANT 1**

**ANT 2**



**U-NII-2C IEEE 802.11ac VHT40 5670MHz**

**ANT 1**

**ANT 2**



### U-NII-2C IEEE 802.11ac VHT80 5530MHz

ANT 1

ANT 2



### U-NII-2C IEEE 802.11ac VHT80 5610MHz

ANT 1

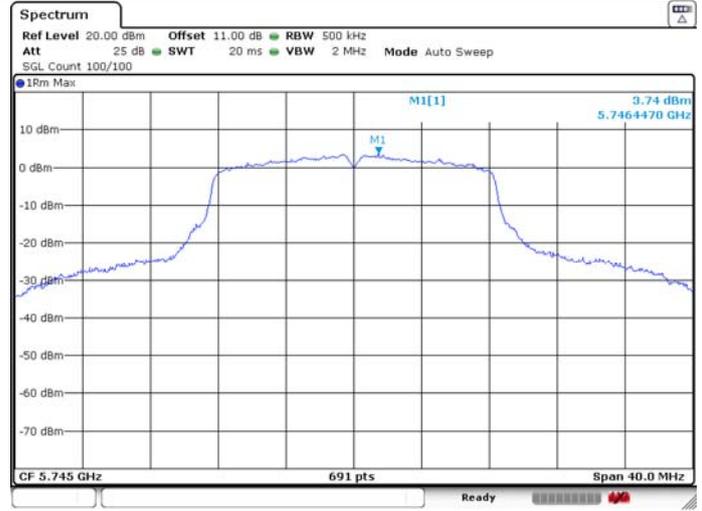
ANT 2



**U-NII-3 IEEE 802.11a 5745MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11a 5785MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11a 5825MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11n HT20 5745MHz**

**ANT 1**

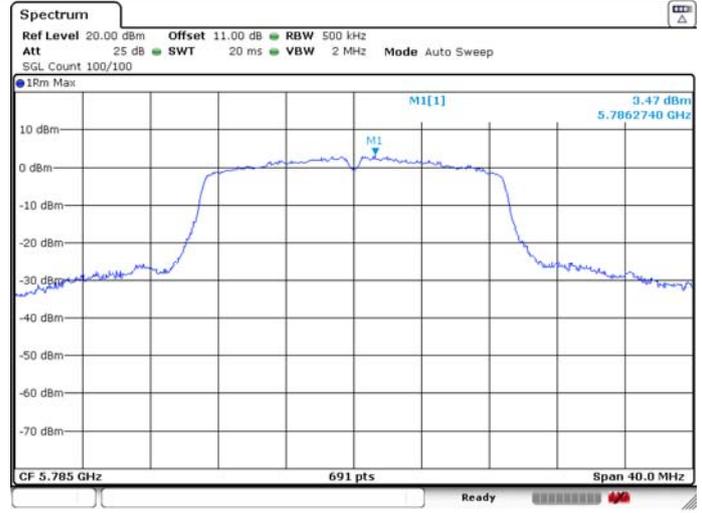
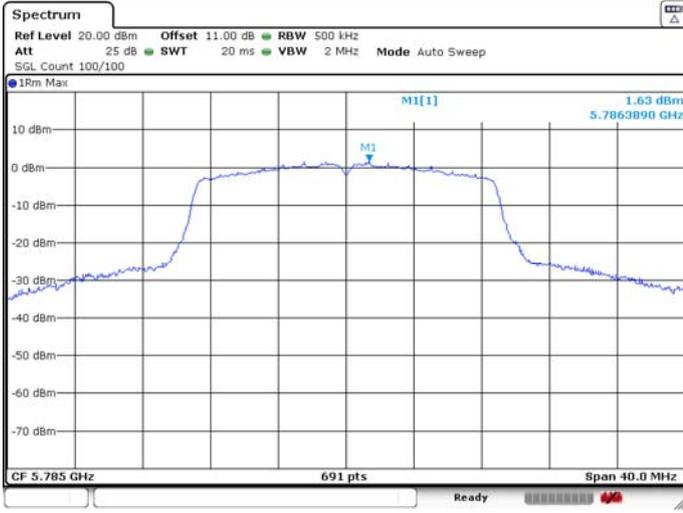
**ANT 2**



**U-NII-3 IEEE 802.11n HT20 5785MHz**

**ANT 1**

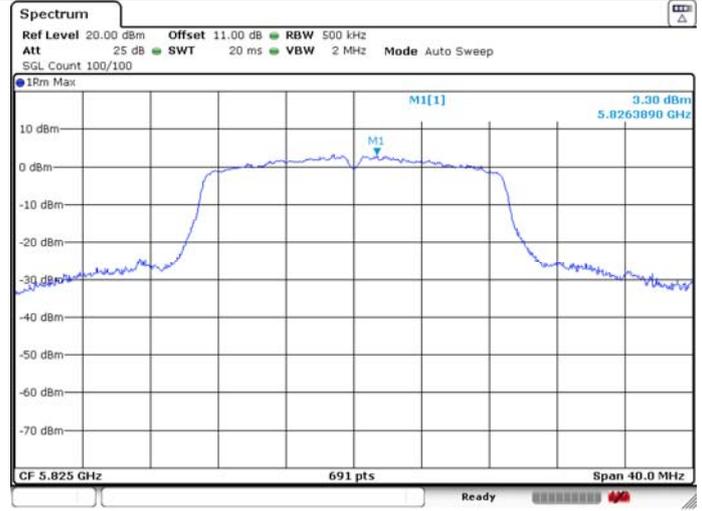
**ANT 2**



**U-NII-3 IEEE 802.11n HT20 5825MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11ac VHT20 5745MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11ac VHT20 5785MHz**

**ANT 1**

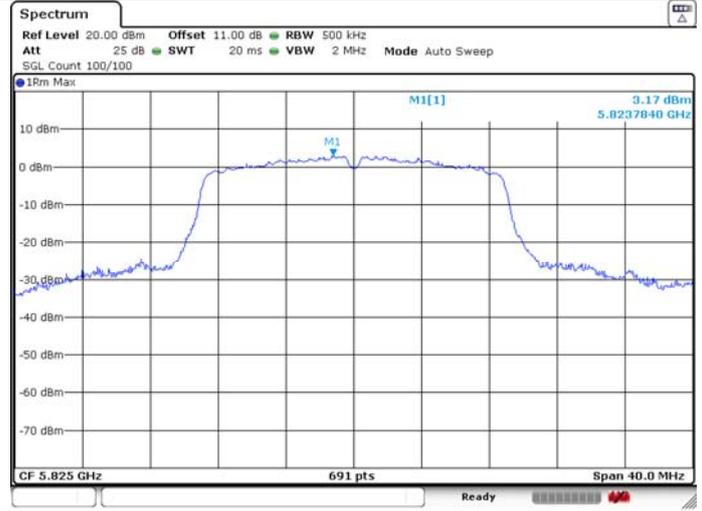
**ANT 2**



**U-NII-3 IEEE 802.11ac VHT20 5825MHz**

**ANT 1**

**ANT 2**



**U-NII-3 IEEE 802.11n HT40 5755MHz**

**ANT 1**

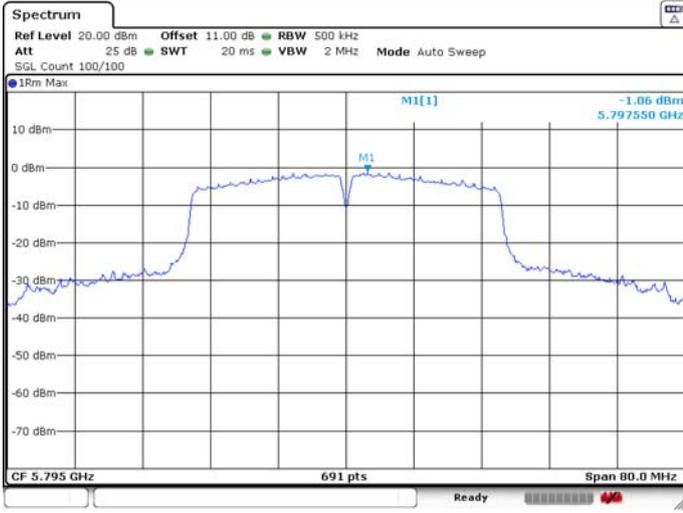
**ANT 2**



**U-NII-3 IEEE 802.11n HT40 5795MHz**

**ANT 1**

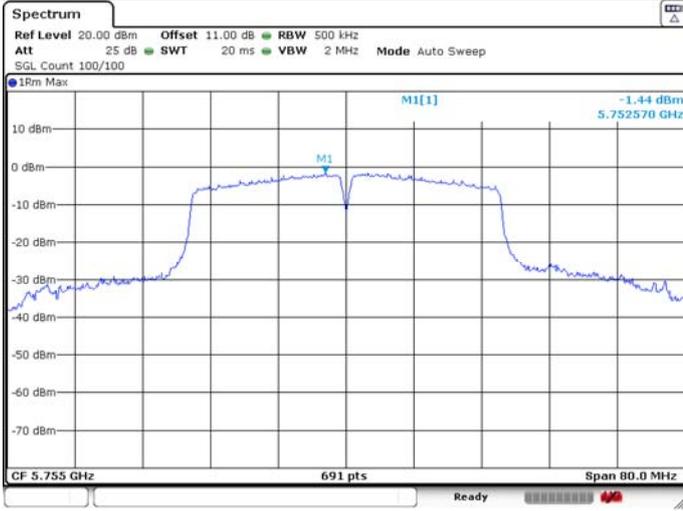
**ANT 2**



**U-NII-3 IEEE 802.11ac VHT40 5755MHz**

**ANT 1**

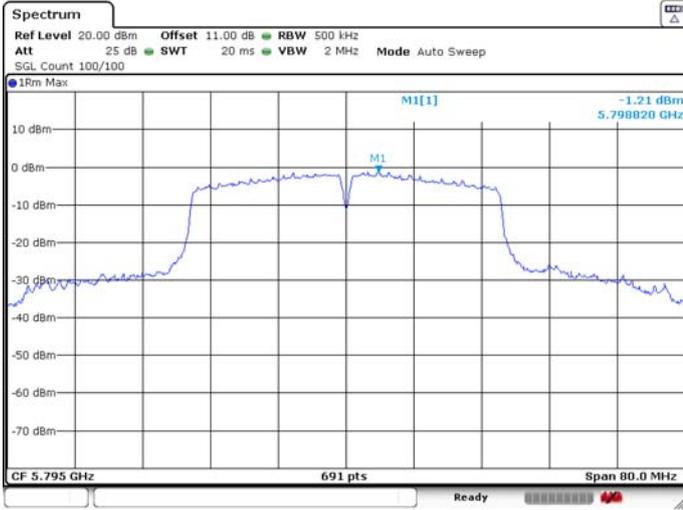
**ANT 2**



**U-NII-3 IEEE 802.11ac VHT40 5795MHz**

**ANT 1**

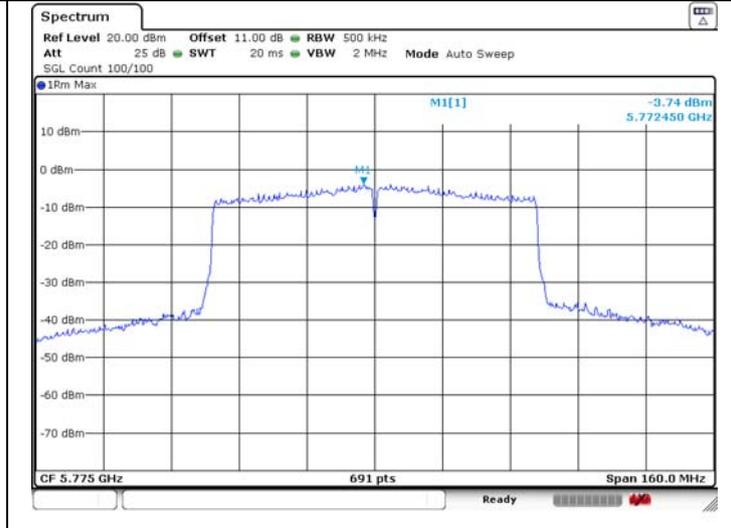
**ANT 2**



### U-NII-3 IEEE 802.11ac VHT80 5775MHz

#### ANT 1

#### ANT 2



## 6. UNWANTED EMISSIONS AND BAND EDGE

### 6.1. Limit

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The unwanted emissions which fall in Restricted bands shall not exceed the field strength levels specified in the following table:

15.209 Radiated emission limits

Frequency (MHz)	Field Strength(μV/m)	Distance(m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

15.205 Restricted frequency band

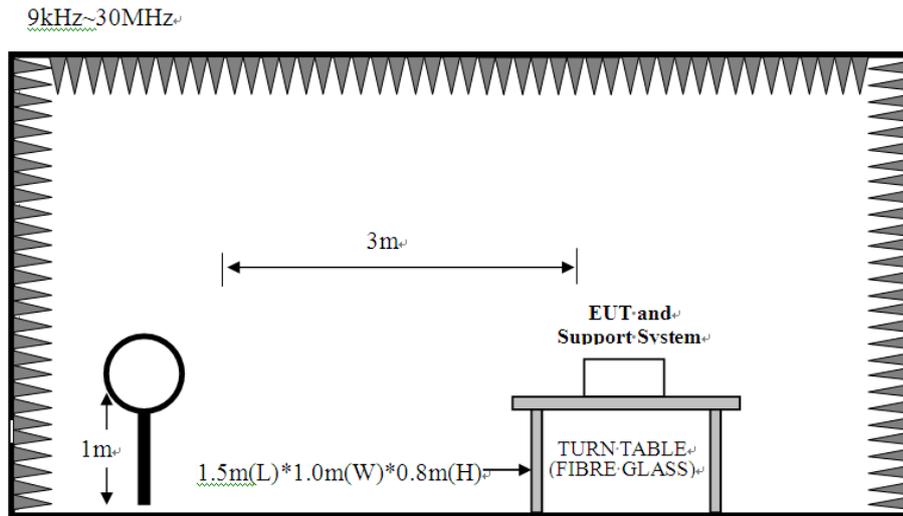
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

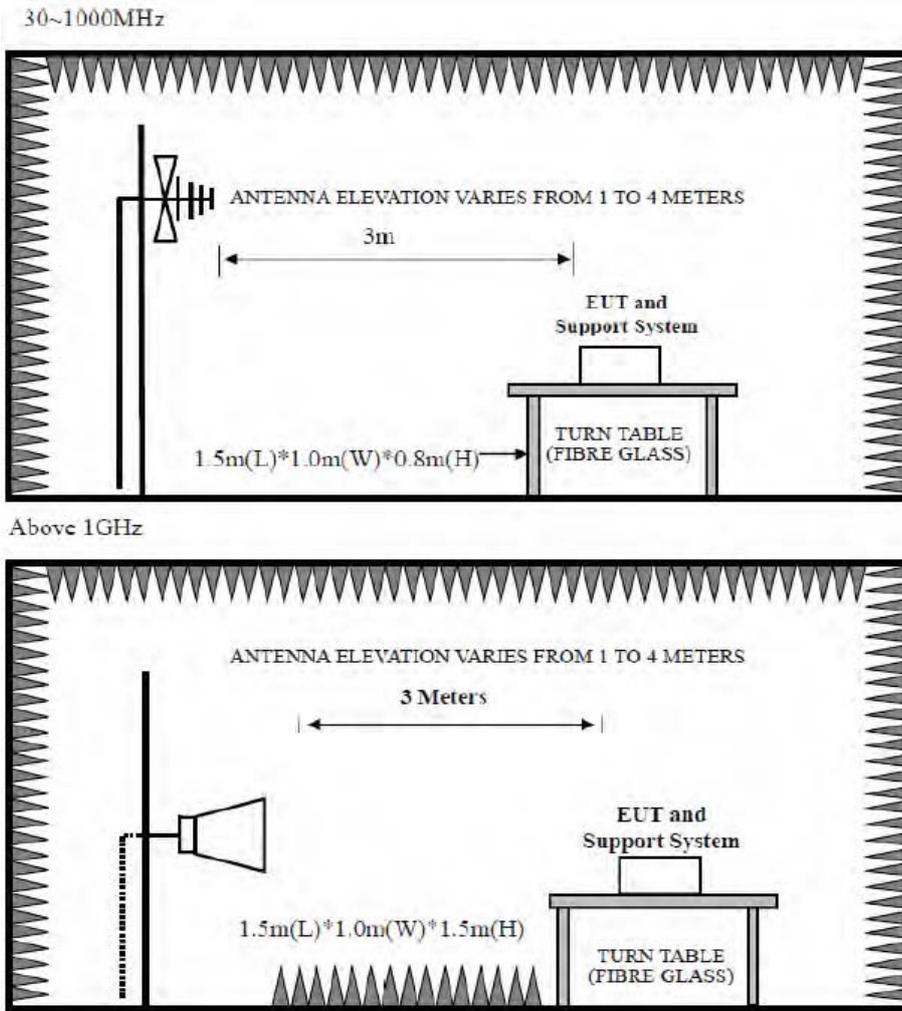
Note:

1.  $\text{dB}\mu\text{V}/\text{m} = 20 \text{Log}(\mu\text{V}/\text{m})$
2. Above 1GHz the formula is used to convert the EIRP to field strength  

$$E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{m}]) + 104.77,$$
 where E is field strength and d is distance at which the field strength limit is specified in the applicable requirements.  
 for example, 3m field strength  $(\text{dB}\mu\text{V}/\text{m}) = \text{EIRP} - 20 \log(3) + 104.77 = \text{EIRP} + 95.2$

## 6.2. Test Setup





### 6.3. Spectrum Analyzer Setting

For 9KHz-150KHz

Spectrum Parameters	Setting
RBW	300Hz(for Peak&AVG)/CISPR 200Hz(for QP)
VBW	300Hz(for Peak&AVG)/CISPR 200Hz(for QP)
Start frequency	9KHz
Stop frequency	150KHz
Sweep Time	Auto
Detector	PEAK/QP/AVG
Trace Mode	Max Hold

Note : For 9KHz-90KHz&110KHz-150KHz,the detector is average,other frequency is CISPR QP detector.

For 150KHz-30MHz

Spectrum Parameters	Setting
RBW	9KHz
VBW	9KHz
Start frequency	150KHz
Stop frequency	30MHz
Sweep Time	Auto
Detector	QP
Trace Mode	Max Hold

Note : For 150KHz-490KHz,the detector is average,other frequency is CISPR QP detector.

For 30MHz-1GHz

Spectrum Parameters	Setting
RBW	120KHz
VBW	300KHz
Start frequency	30MHz
Stop frequency	1GHz
Sweep Time	Auto
Detector	QP
Trace Mode	Max Hold

For Above 1GHz

Spectrum Parameters	Setting	
RBW	1MHz	
VBW	PEAK Measurement	AVG Measurement
	3MHz	Duty cycle $\geq 98\%$ , VBW=10Hz Duty cycle $< 98\%$ , VBW $\geq 1/T$ Video bandwidth mode=RMS (power averaging)
Start frequency	1GHz	
Stop frequency	40GHz	
Sweep Time	Auto	
Detector	PEAK	
Trace Mode	Max Hold	

Note : T is the on-time time of the duty cycle,when EUT transmit continuously with maximum output power,unit is seconds. reference section 2.7 for the on-time time.

### 6.4. Test Procedure

- a. EUT was placed on a turn table, which is 0.8 meter high above ground for below 1GHz test, and which is 1.5 meter high above ground for above 1GHz test.
- b. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower.
- c. Set the EUT transmit continuously with maximum output power.
- d. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
- e. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.
- f. Spectrum analyzer setting parameters in accordance with section 6.3.
- g. Repeat above procedures until all channels were measured.
- h. Record the results in the test report.
- i. IEEE 802.11a, IEEE 802.11n HT20, IEEE 802.11n HT40, IEEE 802.11ac VHT20, IEEE 802.11ac VHT40, IEEE 802.11ac VHT80 all have been tested, only worst case IEEE 802.11n HT20 is recorded.

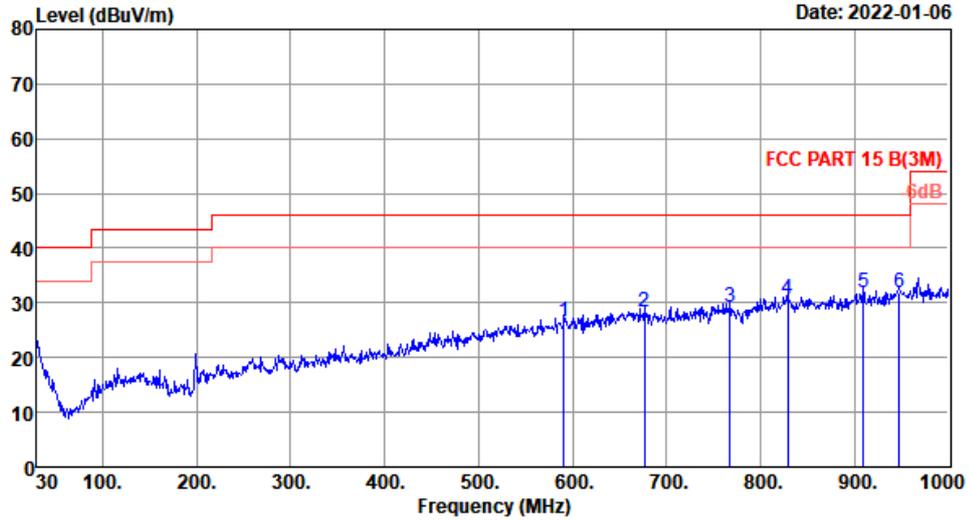
### 6.5. Test Result

## Radiated Emissions Below 1GHz

EST Technology

Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878

Data: 39 File: \\EMC-966-3\test data\2022\RF\Gao Sheng Dai\WKCT27M2501.EM6 (46) Date: 2022-01-06



Site no. : 3# 966 Chamber Data no. : 39  
 Dis. / Ant. : 3m 31218 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa  
 Engineer : Carlos  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

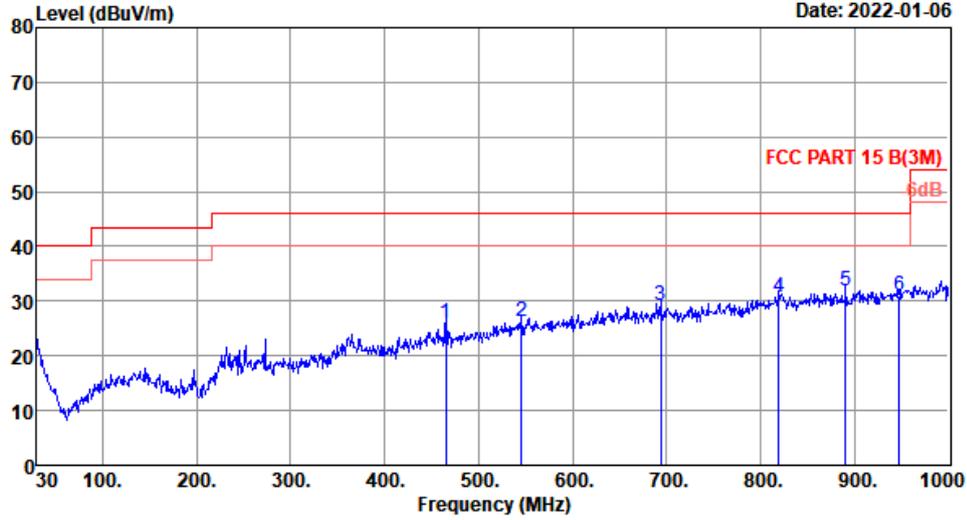
	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	590.66	20.11	2.52	3.99	26.62	46.00	19.38	QP
2	676.99	21.50	2.78	3.96	28.24	46.00	17.76	QP
3	767.20	22.47	3.04	3.60	29.11	46.00	16.89	QP
4	829.28	23.59	3.18	3.82	30.59	46.00	15.41	QP
5	909.79	24.50	3.34	4.06	31.90	46.00	14.10	QP
6	947.62	24.56	3.89	3.50	31.95	46.00	14.05	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

EST Technology

Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878

Data: 40 File: \\EMC-966-3\test data\2022\RF\Gao Sheng Dai\WKCT27M2501.EM6 (46) Date: 2022-01-06



Site no. : 3# 966 Chamber Data no. : 40  
 Dis. / Ant. : 3m 31218 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa  
 Engineer : Carlos  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	465.53	17.81	2.25	5.96	26.02	46.00	19.98	QP
2	546.04	19.66	2.46	4.08	26.20	46.00	19.80	QP
3	693.48	21.44	2.70	5.03	29.17	46.00	16.83	QP
4	819.58	23.50	3.15	4.16	30.81	46.00	15.19	QP
5	890.39	23.50	3.30	4.94	31.74	46.00	14.26	QP
6	947.62	24.56	3.89	2.64	31.09	46.00	14.91	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

Note:

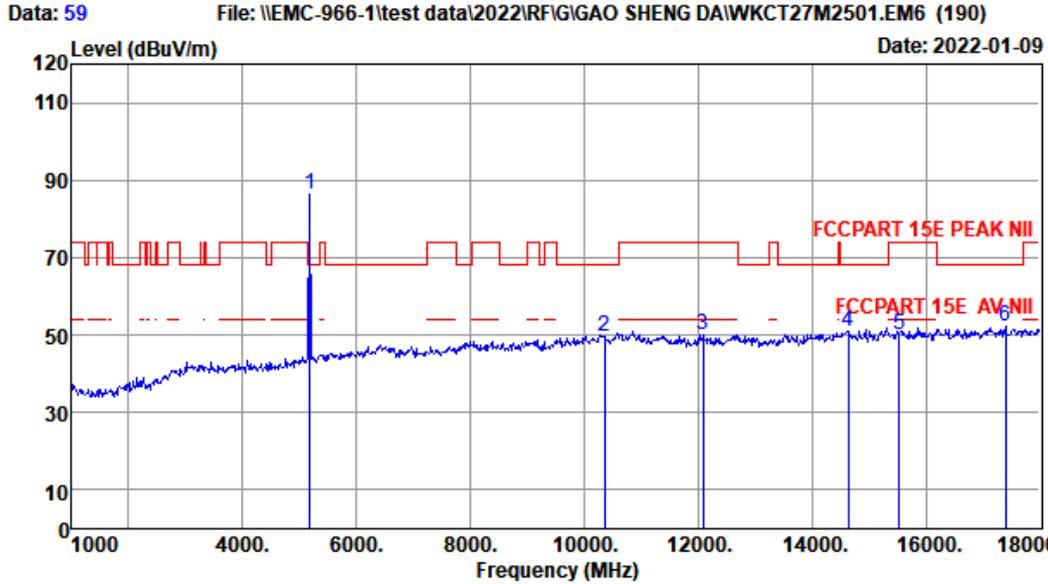
1. The amplitude of 9KHz to 30MHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
2. All channels had been pre-test, only the worst case was reported.



### Radiated Emissions Above 1G

EST Technology

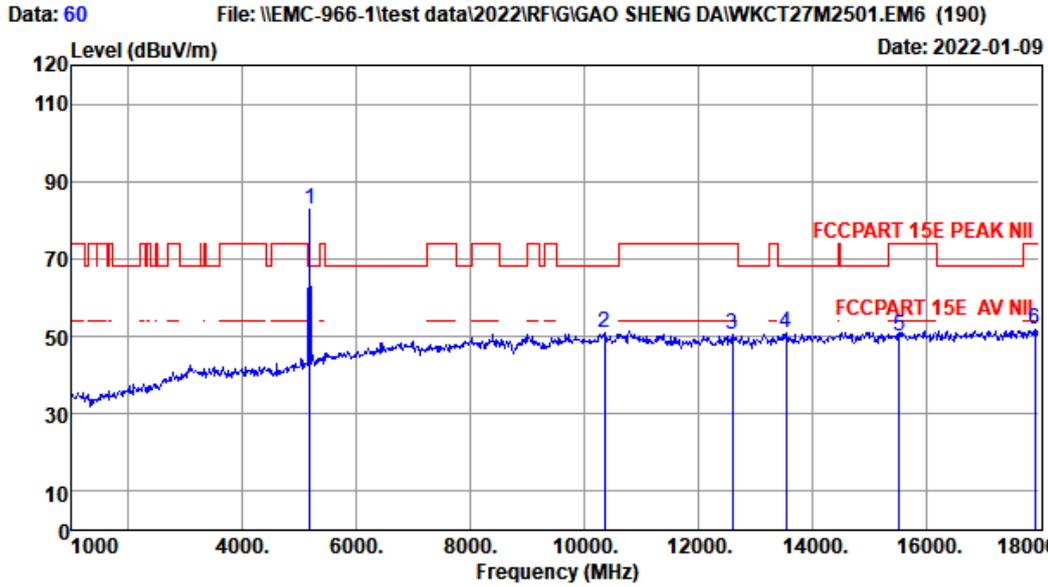
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel:+86-769-83081888  
Fax:+86-769-83081878



Site no. : 1# 966 Chamber Data no. : 59  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5180MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5180.00	32.20	3.52	34.63	85.07	86.16	68.20	-17.96	Peak
2	10360.00	39.27	5.99	34.31	38.70	49.65	68.20	18.55	Peak
3	12084.00	39.86	5.95	34.77	39.03	50.07	74.00	23.93	Peak
4	14634.00	40.97	6.88	34.49	37.73	51.09	68.20	17.11	Peak
5	15540.00	40.31	6.46	34.39	37.86	50.24	74.00	23.76	Peak
6	17405.00	44.15	7.82	34.36	34.45	52.06	68.20	16.14	Peak

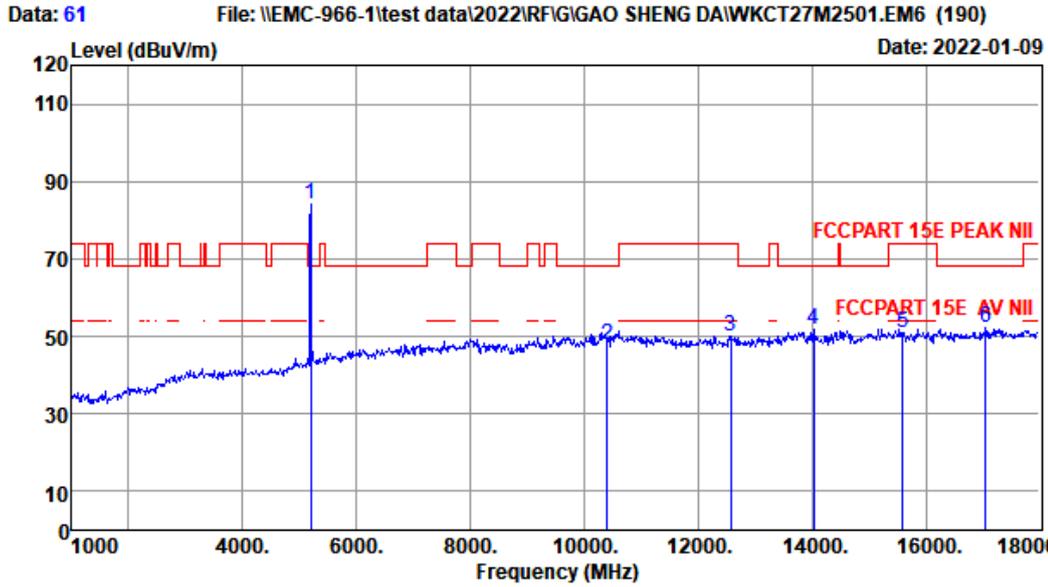
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 60  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5180MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5180.00	32.20	3.52	34.63	81.88	82.97	68.20	-14.77	Peak
2	10360.00	39.27	5.99	34.31	39.79	50.74	68.20	17.46	Peak
3	12611.00	39.59	6.22	34.56	39.45	50.70	74.00	23.30	Peak
4	13546.00	40.32	6.35	34.35	38.60	50.92	68.20	17.28	Peak
5	15540.00	40.31	6.46	34.39	37.80	50.18	74.00	23.82	Peak
6	17915.00	48.22	8.18	34.31	29.77	51.86	74.00	22.14	Peak

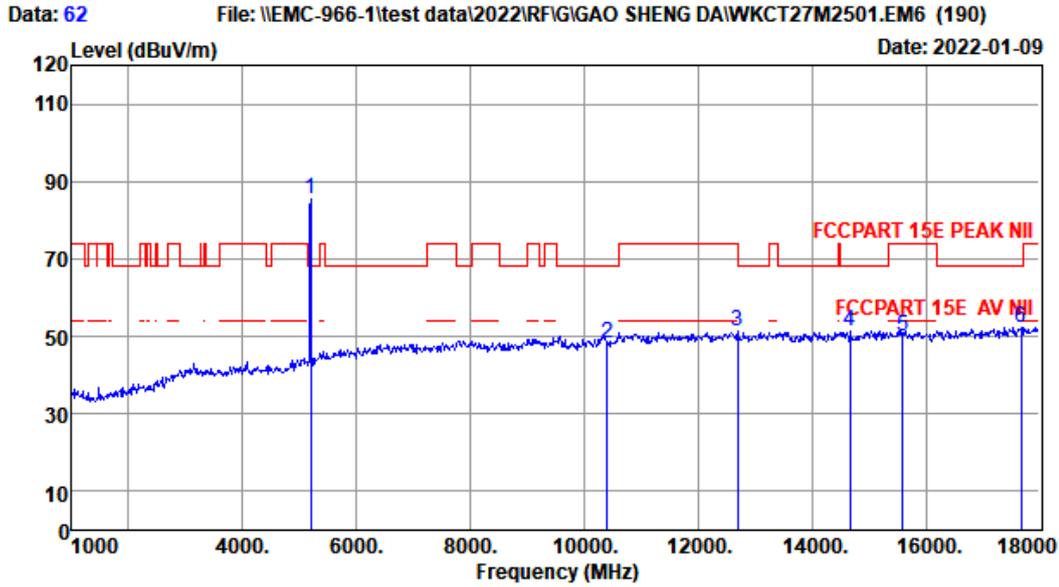
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 61  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5200MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5200.00	32.24	3.53	34.62	82.87	84.02	68.20	-15.82	Peak
2	10400.00	39.31	5.99	34.32	36.69	47.67	68.20	20.53	Peak
3	12577.00	39.61	6.22	34.57	38.99	50.25	74.00	23.75	Peak
4	14039.00	41.09	6.56	34.31	38.53	51.87	68.20	16.33	Peak
5	15600.00	40.24	6.53	34.36	38.44	50.85	74.00	23.15	Peak
6	17048.00	41.31	7.47	34.39	37.91	52.30	68.20	15.90	Peak

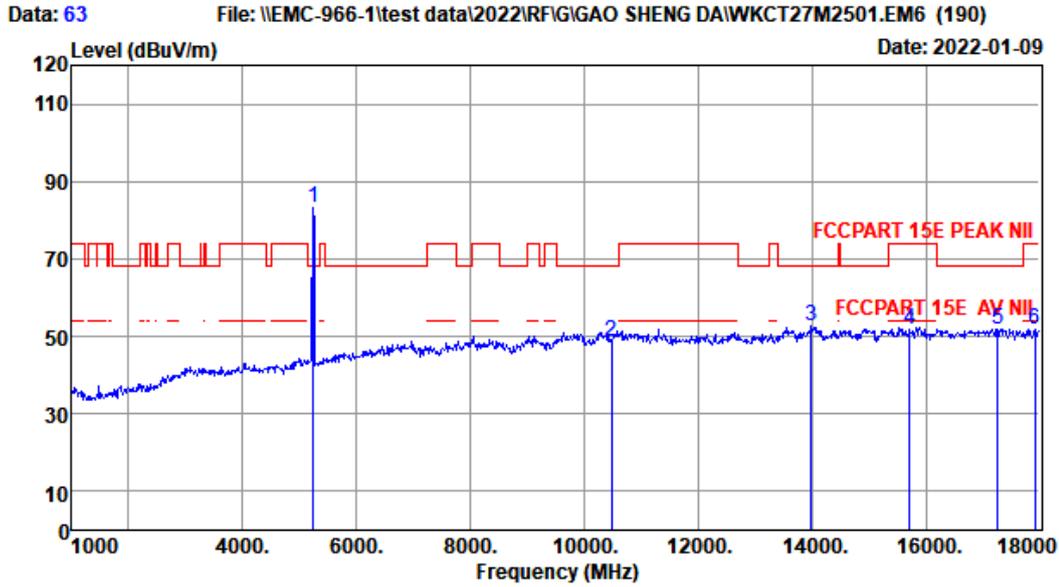
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 62  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5200MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5200.00	32.24	3.53	34.62	84.17	85.32	68.20	-17.12	Peak
2	10400.00	39.31	5.99	34.32	37.27	48.25	68.20	19.95	Peak
3	12696.00	39.55	6.23	34.52	39.92	51.18	74.00	22.82	Peak
4	14668.00	40.97	6.87	34.50	38.04	51.38	68.20	16.82	Peak
5	15600.00	40.24	6.53	34.36	37.79	50.20	74.00	23.80	Peak
6	17677.00	46.32	8.03	34.33	32.31	52.33	68.20	15.87	Peak

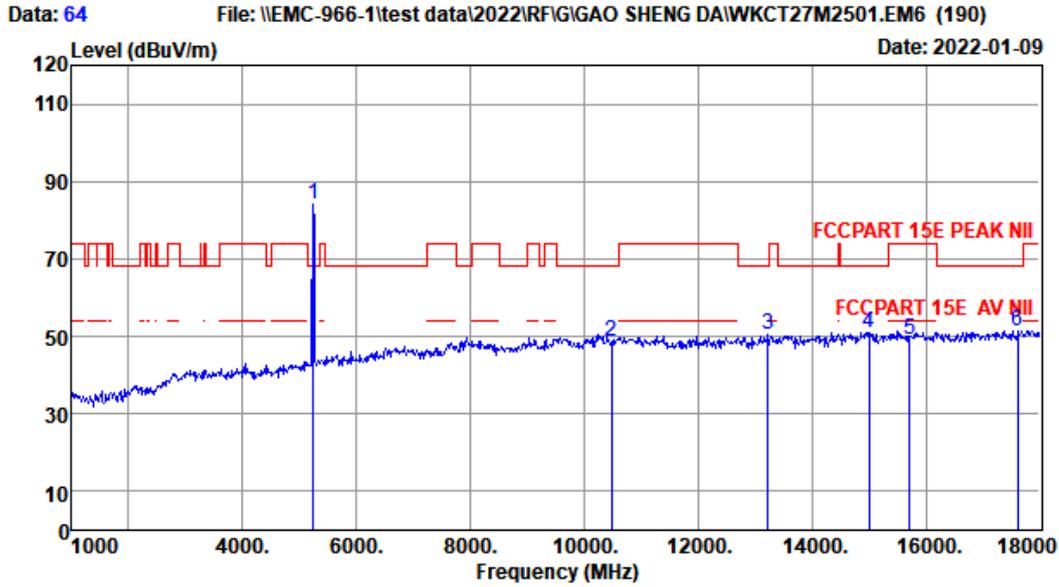
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 63  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5240MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5240.00	32.31	3.55	34.61	82.04	83.29	68.20	-15.09	Peak
2	10480.00	39.39	6.02	34.35	37.82	48.88	68.20	19.32	Peak
3	13988.00	41.07	6.52	34.30	39.21	52.50	68.20	15.70	Peak
4	15720.00	40.10	6.65	34.31	39.46	51.90	74.00	22.10	Peak
5	17269.00	43.07	7.69	34.37	35.59	51.98	68.20	16.22	Peak
6	17915.00	48.22	8.18	34.31	29.87	51.96	74.00	22.04	Peak

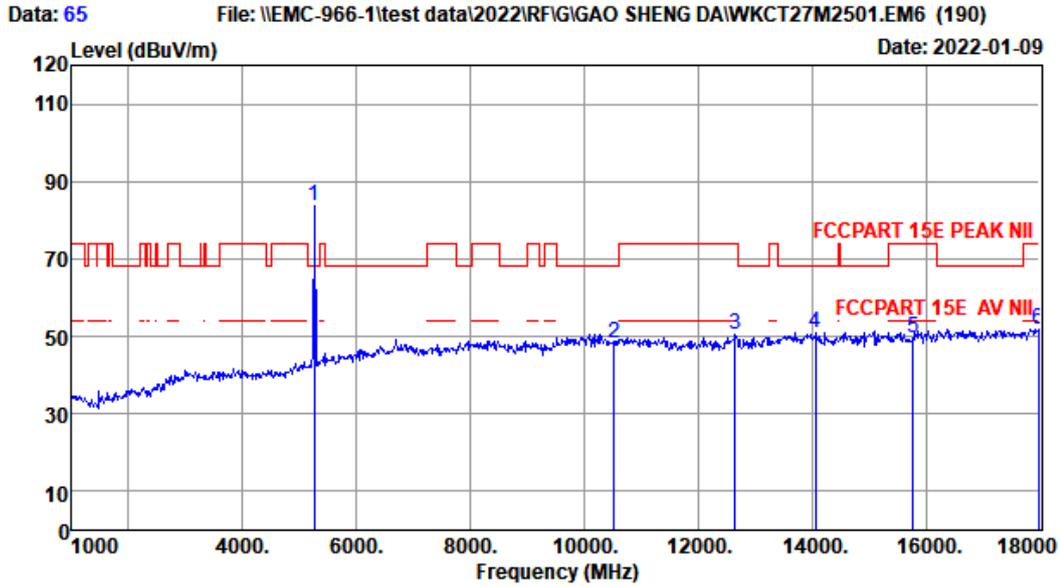
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 64  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5240MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5240.00	32.31	3.55	34.61	82.75	84.00	68.20	-15.80	Peak
2	10480.00	39.39	6.02	34.35	37.83	48.89	68.20	19.31	Peak
3	13223.00	39.77	6.30	34.38	38.89	50.58	68.20	17.62	Peak
4	15008.00	40.90	6.81	34.60	37.89	51.00	68.20	17.20	Peak
5	15720.00	40.10	6.65	34.31	36.81	49.25	74.00	24.75	Peak
6	17609.00	45.78	7.99	34.34	32.12	51.55	68.20	16.65	Peak

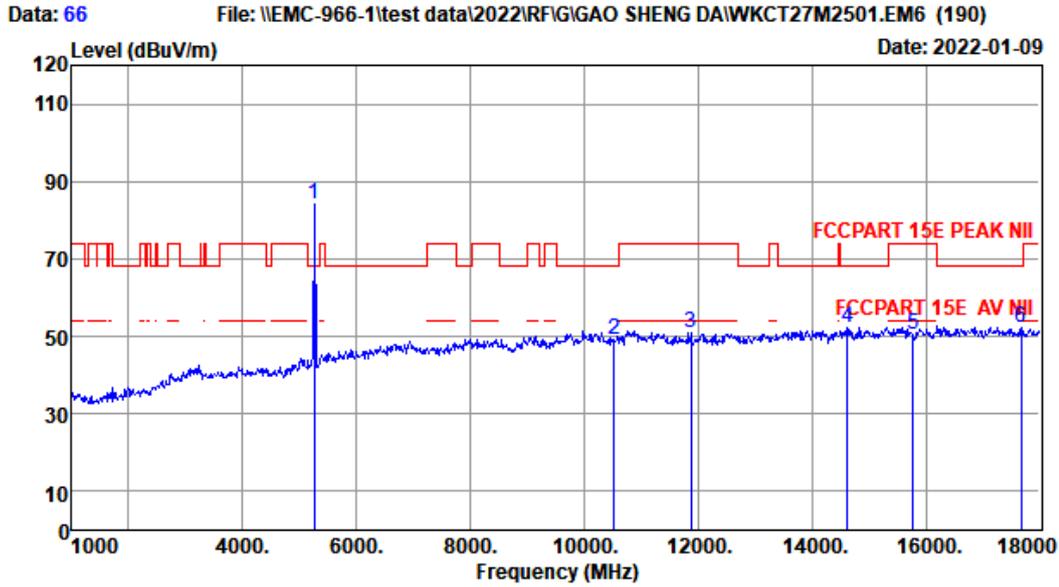
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 65  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5260MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5260.00	32.39	3.57	34.59	82.18	83.55	68.20	-15.35	Peak
2	10520.00	39.43	6.02	34.36	37.31	48.40	68.20	19.80	Peak
3	12645.00	39.58	6.23	34.54	39.20	50.47	74.00	23.53	Peak
4	14056.00	41.09	6.57	34.32	37.51	50.85	68.20	17.35	Peak
5	15780.00	40.05	6.69	34.29	37.17	49.62	74.00	24.38	Peak
6	17983.00	48.76	8.23	34.30	29.13	51.82	74.00	22.18	Peak

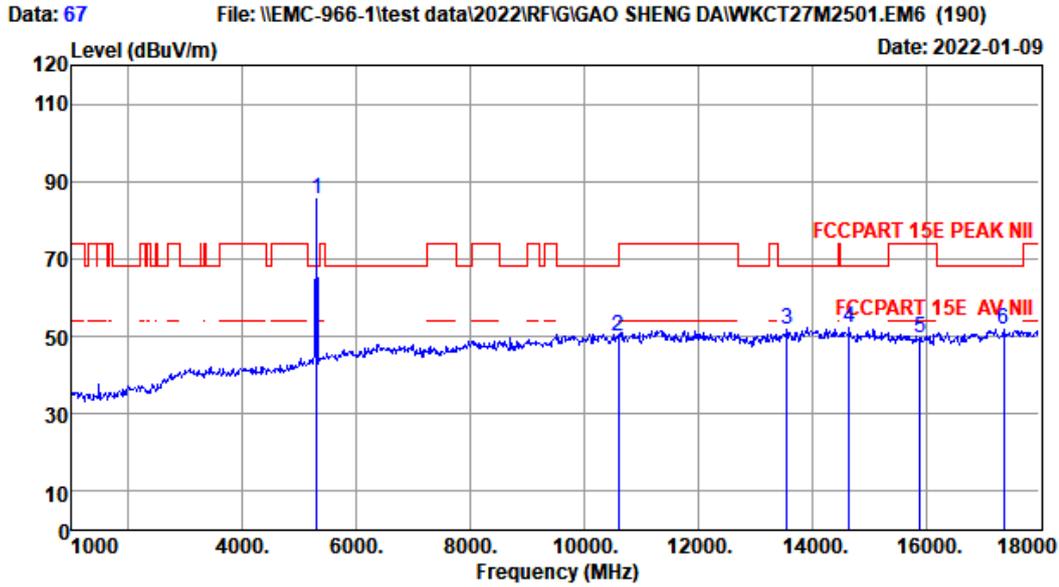
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 66  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5260MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5260.00	32.39	3.57	34.59	82.67	84.04	68.20	-15.84	Peak
2	10520.00	39.43	6.02	34.36	38.12	49.21	68.20	18.99	Peak
3	11880.00	39.90	5.96	34.76	40.01	51.11	74.00	22.89	Peak
4	14617.00	40.98	6.88	34.48	38.69	52.07	68.20	16.13	Peak
5	15780.00	40.05	6.69	34.29	38.07	50.52	74.00	23.48	Peak
6	17677.00	46.32	8.03	34.33	32.25	52.27	68.20	15.93	Peak

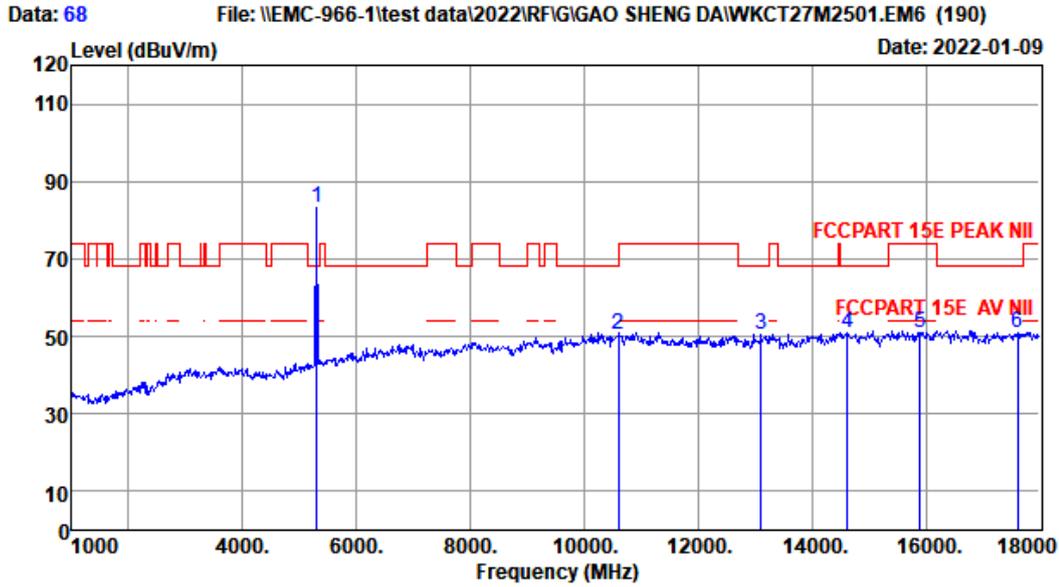
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 67  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5300MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5300.00	32.46	3.59	34.58	84.06	85.53	68.20	-17.33	Peak
2	10600.00	39.51	6.04	34.38	39.00	50.17	68.20	18.03	Peak
3	13563.00	40.35	6.36	34.34	39.53	51.90	68.20	16.30	Peak
4	14651.00	40.97	6.87	34.49	38.95	52.30	68.20	15.90	Peak
5	15900.00	39.91	6.81	34.24	37.23	49.71	74.00	24.29	Peak
6	17371.00	43.88	7.79	34.36	34.39	51.70	68.20	16.50	Peak

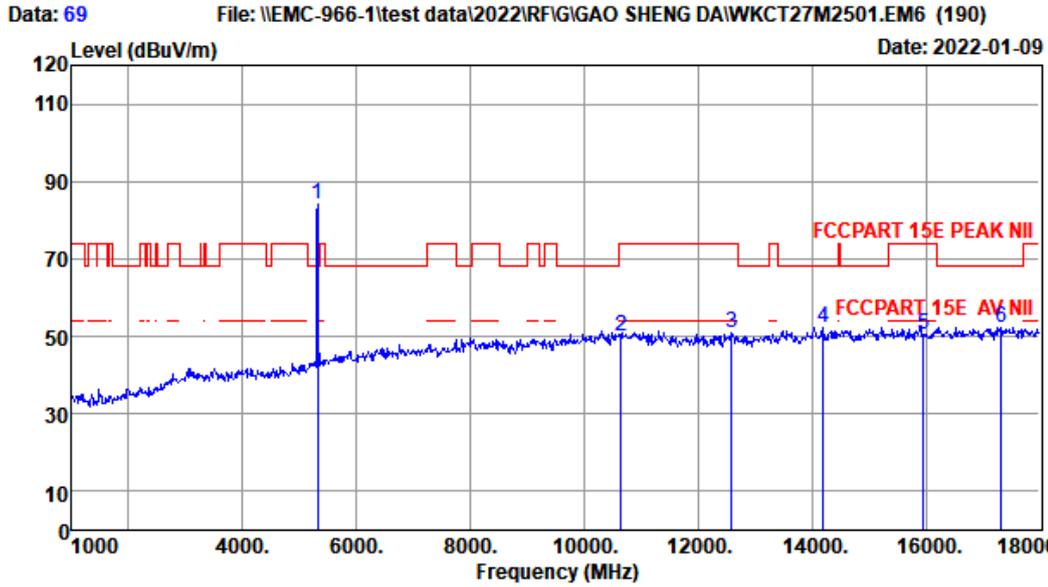
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 68  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5300MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5300.00	32.46	3.59	34.58	81.76	83.23	68.20	-15.03	Peak
2	10600.00	39.51	6.04	34.38	39.17	50.34	68.20	17.86	Peak
3	13104.00	39.57	6.28	34.39	38.97	50.43	68.20	17.77	Peak
4	14617.00	40.98	6.88	34.48	37.56	50.94	68.20	17.26	Peak
5	15900.00	39.91	6.81	34.24	38.63	51.11	74.00	22.89	Peak
6	17609.00	45.78	7.99	34.34	31.52	50.95	68.20	17.25	Peak

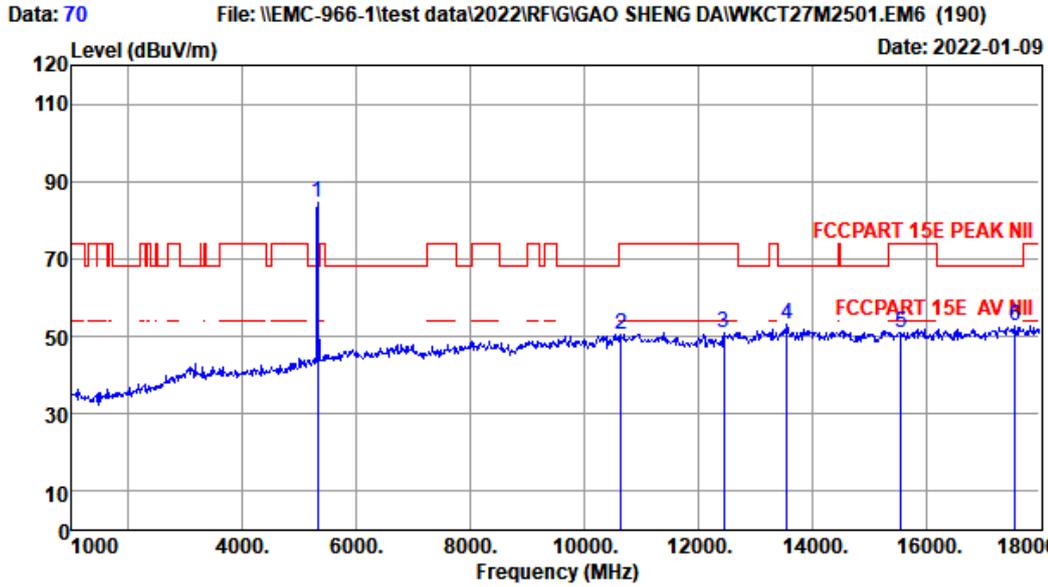
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 69  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5320MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5320.00	32.50	3.60	34.57	82.55	84.08	68.20	-15.88	Peak
2	10640.00	39.54	6.04	34.39	38.79	49.98	74.00	24.02	Peak
3	12594.00	39.60	6.22	34.56	39.68	50.94	74.00	23.06	Peak
4	14192.00	41.06	6.67	34.36	38.88	52.25	68.20	15.95	Peak
5	15960.00	39.84	6.88	34.21	38.08	50.59	74.00	23.41	Peak
6	17320.00	43.48	7.74	34.37	35.59	52.44	68.20	15.76	Peak

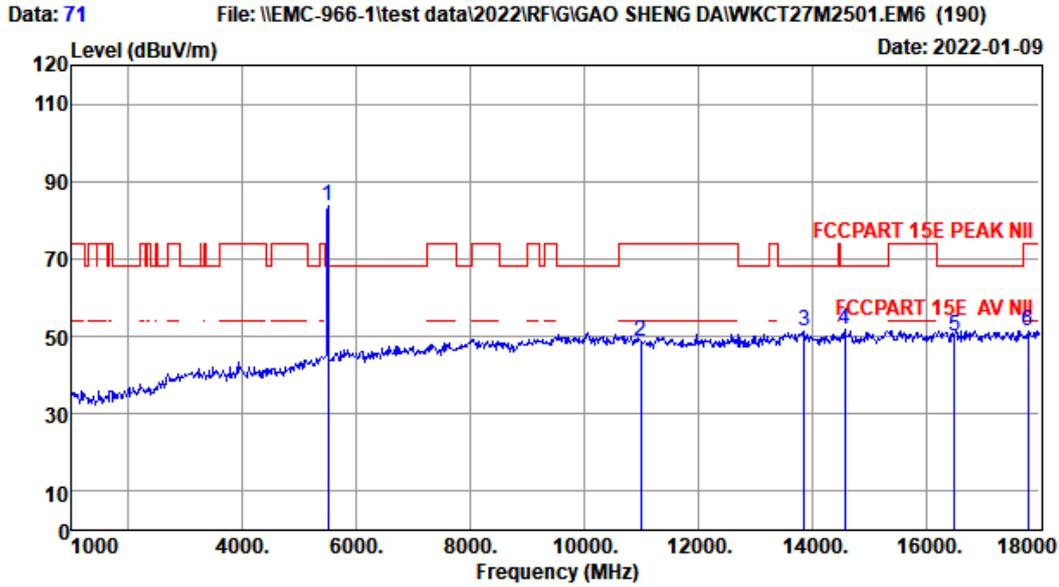
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 70  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5320MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5320.00	32.50	3.60	34.57	83.25	84.78	68.20	-16.58	Peak
2	10640.00	39.54	6.04	34.39	39.07	50.26	74.00	23.74	Peak
3	12458.00	39.67	6.19	34.62	39.61	50.85	74.00	23.15	Peak
4	13563.00	40.35	6.36	34.34	40.62	52.99	68.20	15.21	Peak
5	15570.00	40.27	6.50	34.37	38.47	50.87	74.00	23.13	Peak
6	17575.00	45.51	7.96	34.34	33.73	52.86	68.20	15.34	Peak

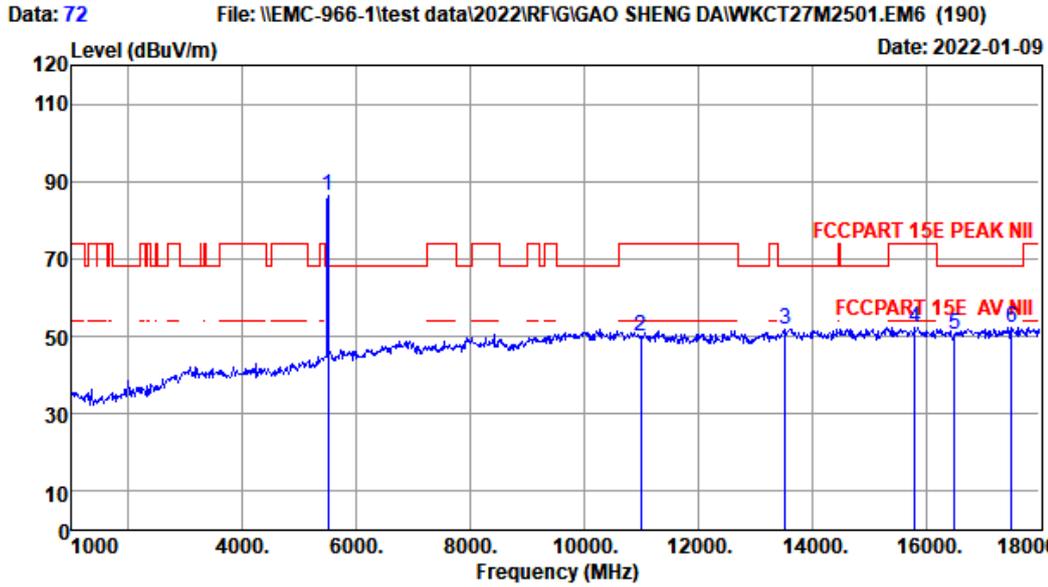
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 71  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5500MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5500.00	32.90	3.71	34.50	81.49	83.60	68.20	-15.40	Peak
2	11000.00	39.90	6.11	34.50	37.34	48.85	74.00	25.15	Peak
3	13869.00	40.87	6.48	34.31	38.14	51.18	68.20	17.02	Peak
4	14583.00	40.98	6.89	34.47	38.34	51.74	68.20	16.46	Peak
5	16500.00	40.36	7.12	34.30	36.72	49.90	68.20	18.30	Peak
6	17796.00	47.27	8.11	34.32	30.29	51.35	74.00	22.65	Peak

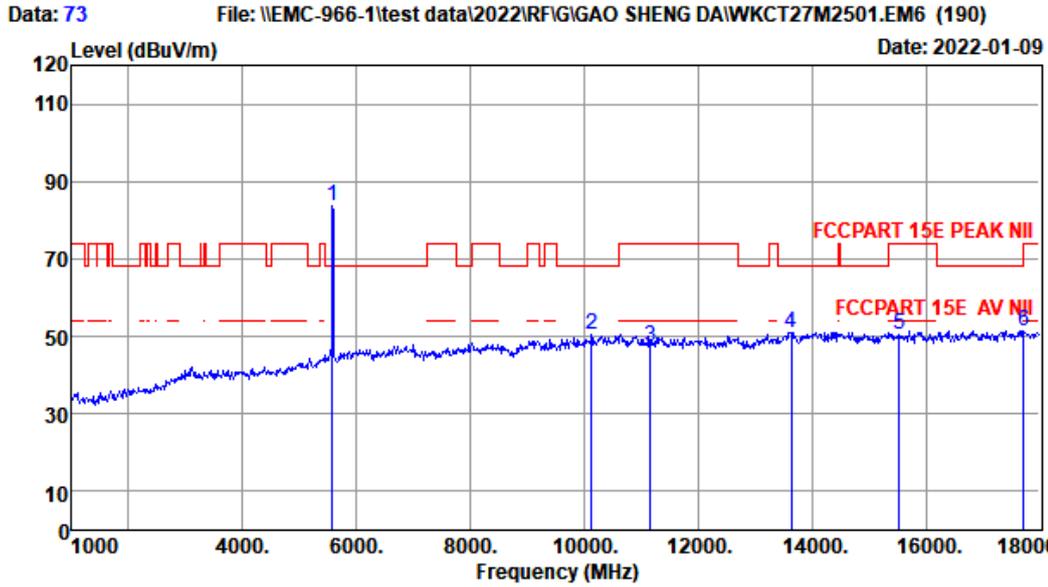
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 72  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5500MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5500.00	32.90	3.71	34.50	84.45	86.56	68.20	-18.36	Peak
2	11000.00	39.90	6.11	34.50	38.31	49.82	74.00	24.18	Peak
3	13529.00	40.29	6.34	34.35	39.59	51.87	68.20	16.33	Peak
4	15807.00	40.01	6.73	34.28	39.74	52.20	74.00	21.80	Peak
5	16500.00	40.36	7.12	34.30	37.37	50.55	68.20	17.65	Peak
6	17507.00	44.97	7.92	34.35	33.66	52.20	68.20	16.00	Peak

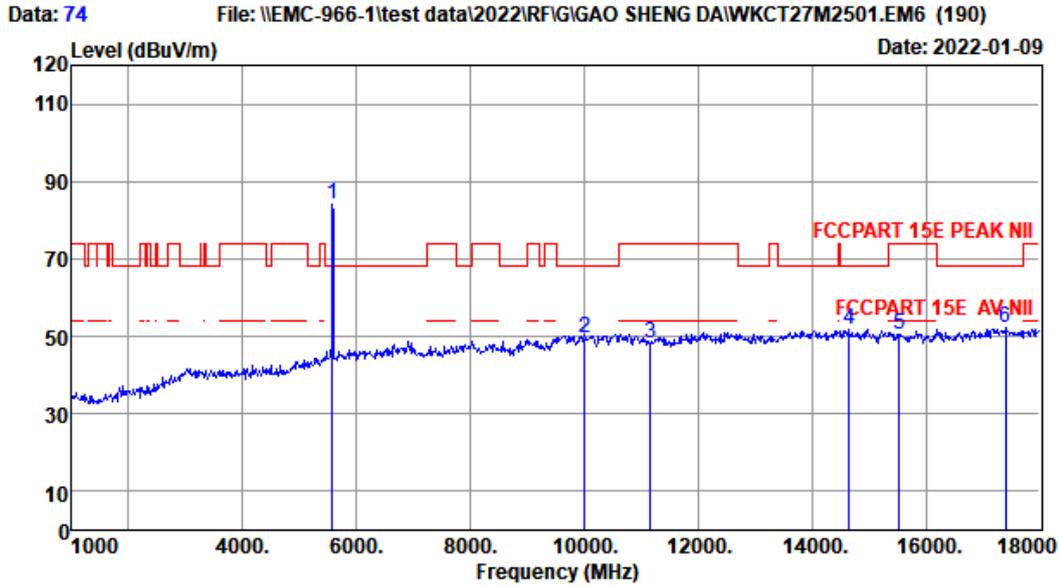
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 73  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5580MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5580.00	32.89	3.79	34.47	81.47	83.68	68.20	-15.48	Peak
2	10129.00	39.04	5.92	34.24	39.82	50.54	68.20	17.66	Peak
3	11160.00	39.90	6.12	34.55	36.05	47.52	74.00	26.48	Peak
4	13631.00	40.47	6.38	34.34	38.53	51.04	68.20	17.16	Peak
5	15540.00	40.31	6.46	34.39	38.27	50.65	74.00	23.35	Peak
6	17728.00	46.73	8.06	34.33	31.08	51.54	74.00	22.46	Peak

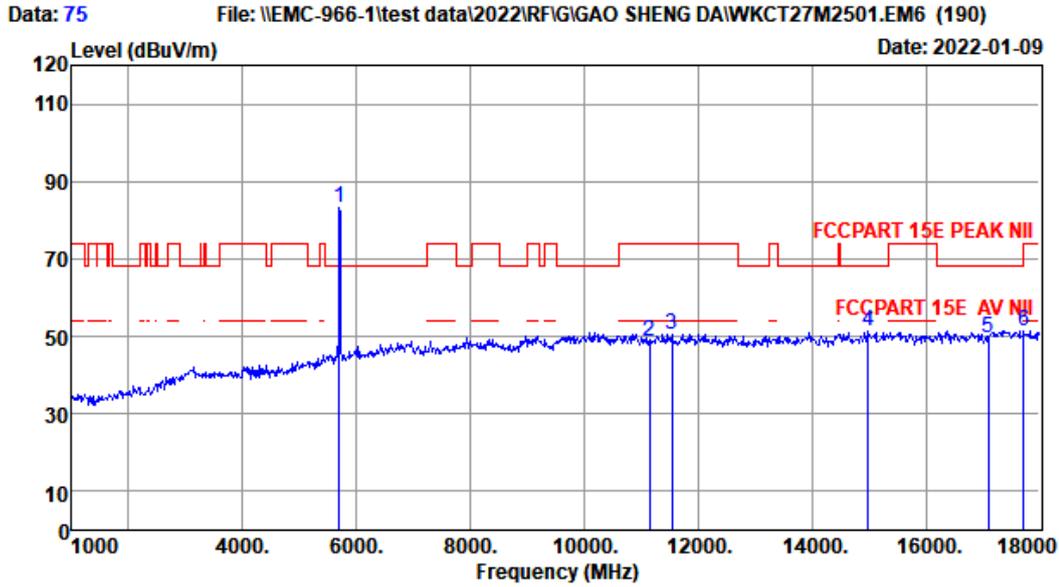
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 74  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5580MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5580.00	32.89	3.79	34.47	82.00	84.21	68.20	-16.01	Peak
2	10010.00	38.92	5.89	34.21	38.80	49.40	68.20	18.80	Peak
3	11160.00	39.90	6.12	34.55	36.74	48.21	74.00	25.79	Peak
4	14651.00	40.97	6.87	34.49	38.40	51.75	68.20	16.45	Peak
5	15540.00	40.31	6.46	34.39	38.08	50.46	74.00	23.54	Peak
6	17405.00	44.15	7.82	34.36	34.43	52.04	68.20	16.16	Peak

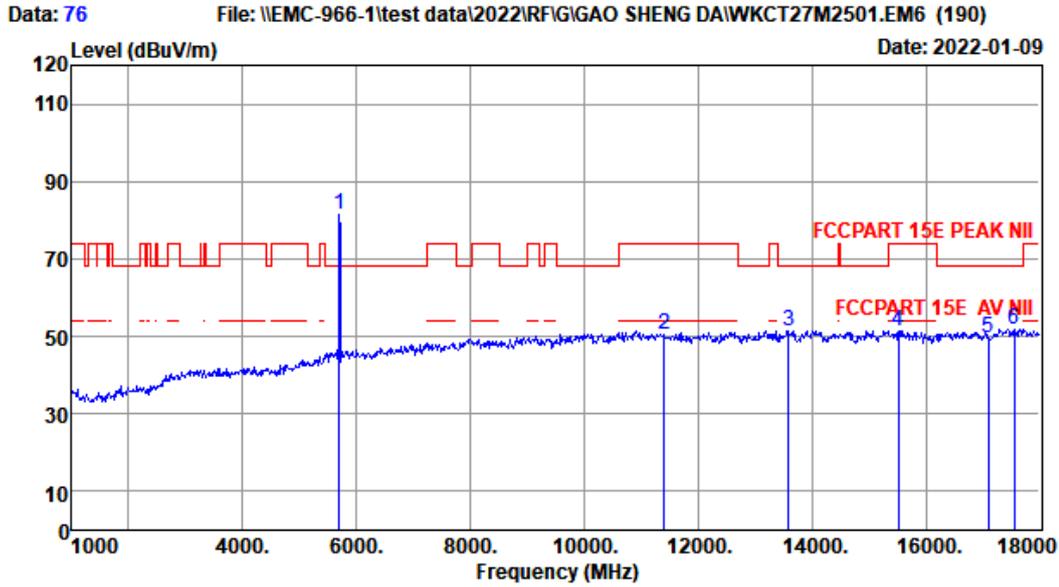
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 75  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5700MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5700.00	32.86	3.94	34.42	80.86	83.24	68.20	-15.04	Peak
2	11140.00	39.90	6.12	34.54	37.45	48.93	74.00	25.07	Peak
3	11540.00	39.90	6.13	34.66	39.24	50.61	74.00	23.39	Peak
4	14991.00	40.90	6.81	34.59	38.29	51.41	68.20	16.79	Peak
5	17100.00	41.71	7.52	34.39	34.96	49.80	68.20	18.40	Peak
6	17728.00	46.73	8.06	34.33	31.00	51.46	74.00	22.54	Peak

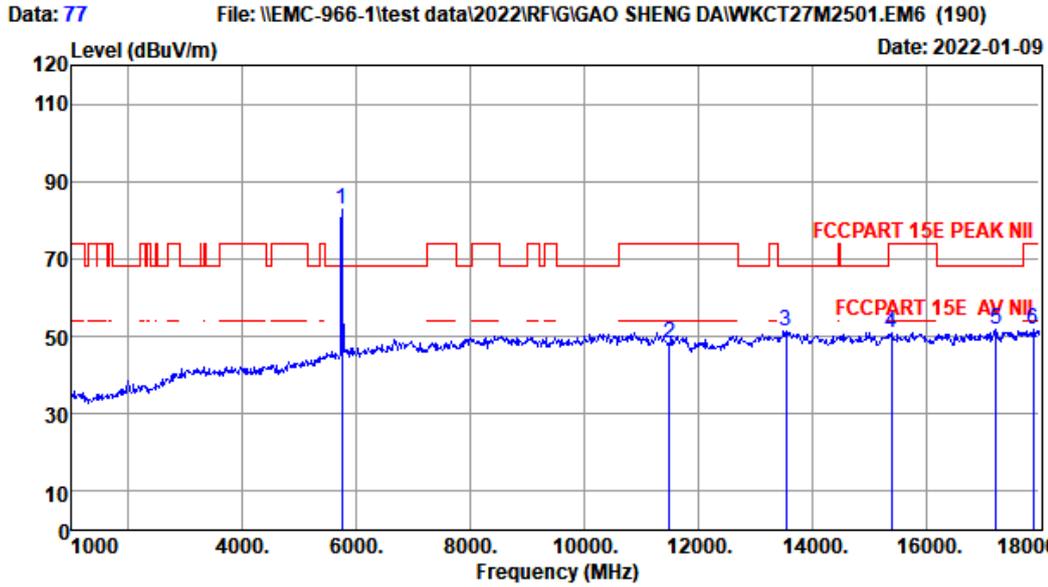
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 76  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5700MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5700.00	32.86	3.94	34.42	79.09	81.47	68.20	-13.27	Peak
2	11400.00	39.90	6.14	34.62	38.84	50.26	74.00	23.74	Peak
3	13597.00	40.41	6.37	34.34	39.13	51.57	68.20	16.63	Peak
4	15518.00	40.33	6.45	34.39	39.12	51.51	74.00	22.49	Peak
5	17100.00	41.71	7.52	34.39	34.72	49.56	68.20	18.64	Peak
6	17558.00	45.37	7.95	34.34	32.90	51.88	68.20	16.32	Peak

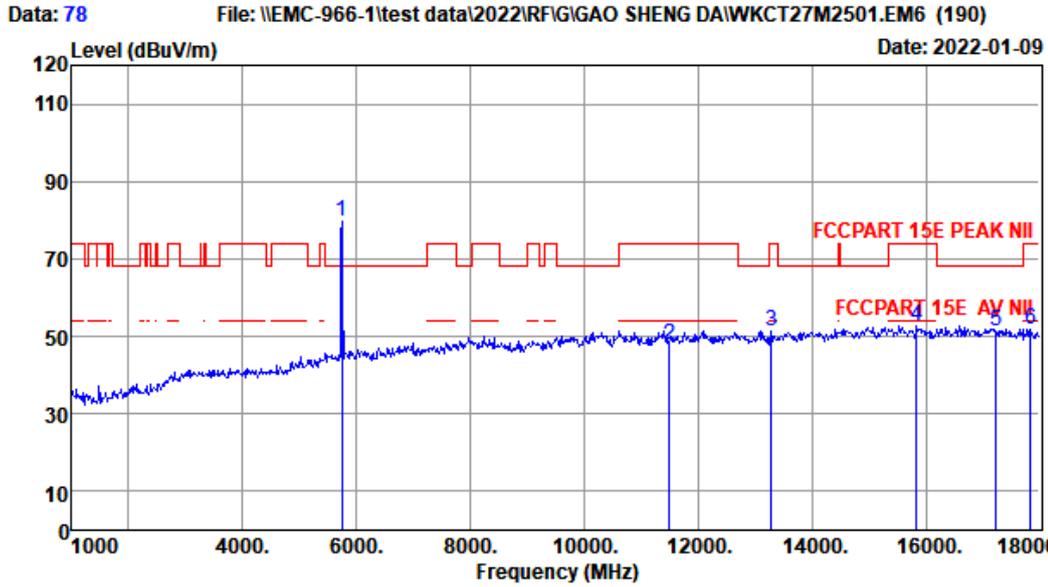
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 77  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5745MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5745.00	32.85	4.00	34.40	80.49	82.94	68.20	-14.74	Peak
2	11490.00	39.90	6.15	34.65	36.94	48.34	74.00	25.66	Peak
3	13546.00	40.32	6.35	34.35	39.00	51.32	68.20	16.88	Peak
4	15399.00	40.46	6.51	34.44	38.46	50.99	74.00	23.01	Peak
5	17235.00	42.80	7.65	34.38	35.59	51.66	68.20	16.54	Peak
6	17881.00	47.95	8.16	34.31	29.88	51.68	74.00	22.32	Peak

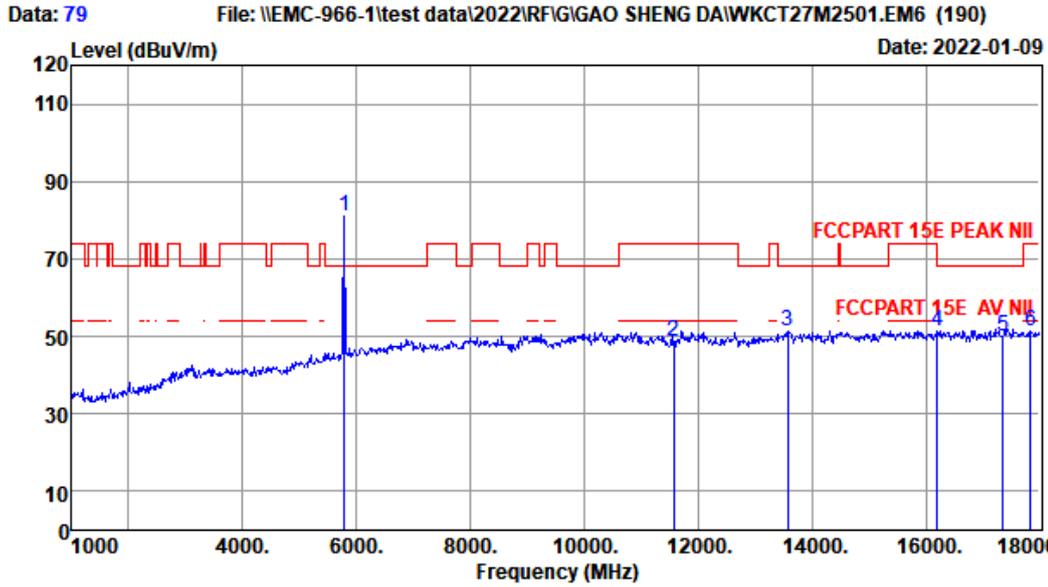
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 78  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5745MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5745.00	32.85	4.00	34.40	77.17	79.62	68.20	-11.42	Peak
2	11490.00	39.90	6.15	34.65	36.43	47.83	74.00	26.17	Peak
3	13291.00	39.89	6.31	34.37	39.65	51.48	74.00	22.52	Peak
4	15841.00	39.97	6.76	34.26	40.27	52.74	74.00	21.26	Peak
5	17235.00	42.80	7.65	34.38	35.46	51.53	68.20	16.67	Peak
6	17847.00	47.68	8.14	34.32	30.37	51.87	74.00	22.13	Peak

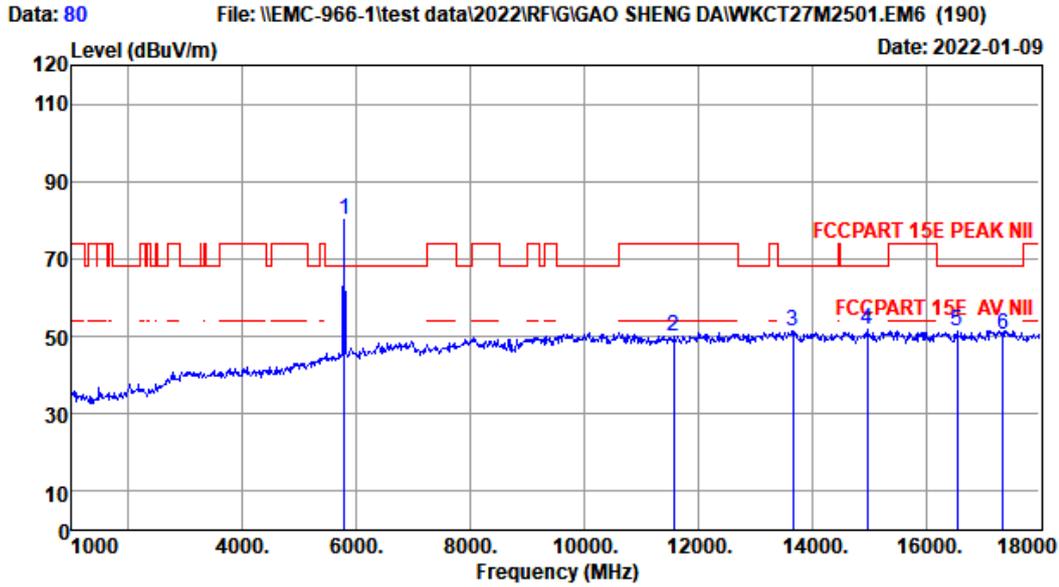
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 79  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5785MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5785.00	32.84	4.05	34.39	78.32	80.82	68.20	-12.62	Peak
2	11570.00	39.90	6.12	34.67	37.20	48.55	74.00	25.45	Peak
3	13580.00	40.38	6.36	34.34	38.85	51.25	68.20	16.95	Peak
4	16198.00	40.02	6.99	34.24	38.50	51.27	74.00	22.73	Peak
5	17355.00	43.75	7.77	34.36	33.02	50.18	68.20	18.02	Peak
6	17847.00	47.68	8.14	34.32	30.03	51.53	74.00	22.47	Peak

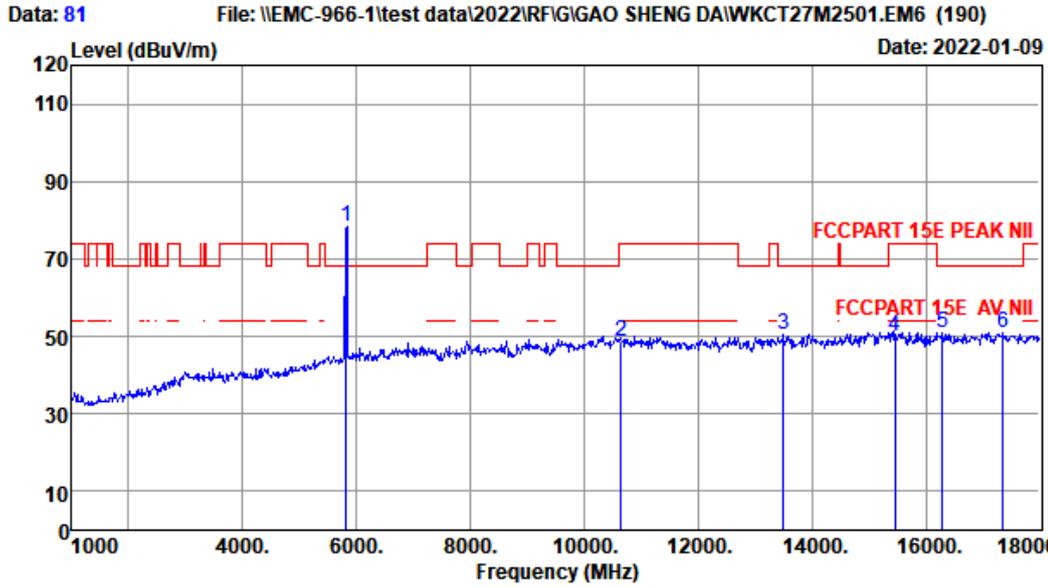
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 80  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5785MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5785.00	32.84	4.05	34.39	77.58	80.08	68.20	-11.88	Peak
2	11570.00	39.90	6.12	34.67	38.57	49.92	74.00	24.08	Peak
3	13665.00	40.52	6.40	34.33	38.90	51.49	68.20	16.71	Peak
4	14974.00	40.91	6.82	34.59	38.49	51.63	68.20	16.57	Peak
5	16555.00	40.42	7.15	34.31	37.94	51.20	68.20	17.00	Peak
6	17355.00	43.75	7.77	34.36	33.48	50.64	68.20	17.56	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 81  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5825MHz

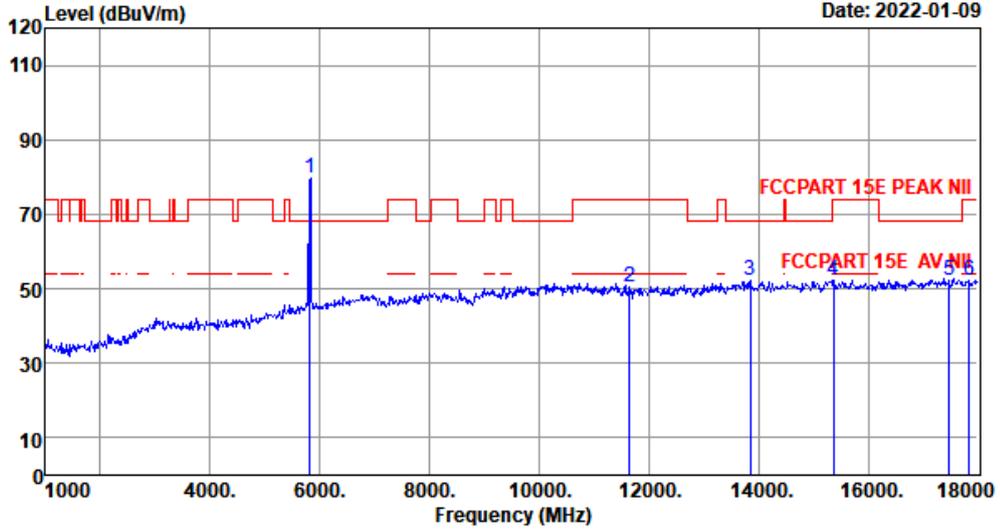
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5825.00	32.83	4.11	34.37	75.72	78.29	68.20	-10.09	Peak
2	10650.00	39.56	6.05	34.40	37.61	48.82	74.00	25.18	Peak
3	13495.00	40.24	6.33	34.35	38.17	50.39	68.20	17.81	Peak
4	15460.00	40.39	6.46	34.41	37.81	50.25	74.00	23.75	Peak
5	16300.00	40.14	7.04	34.26	37.90	50.82	68.20	17.38	Peak
6	17354.00	43.75	7.77	34.36	33.61	50.77	68.20	17.43	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

# EST Technology

Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878

Data: 82 File: \\EMC-966-1\test data\2022\RF\GIAO SHENG DAI\WKCT27M2501.EM6 (190) Date: 2022-01-09



Site no. : 1# 966 Chamber Data no. : 82  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5825MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5825.00	32.83	4.11	34.37	77.32	79.89	68.20	-11.69	Peak
2	11650.00	39.90	6.08	34.69	39.03	50.32	74.00	23.68	Peak
3	13852.00	40.84	6.47	34.32	39.35	52.34	68.20	15.86	Peak
4	15365.00	40.50	6.53	34.46	39.58	52.15	74.00	21.85	Peak
5	17475.00	44.70	7.89	34.35	34.12	52.36	68.20	15.84	Peak
6	17847.00	47.68	8.14	34.32	30.79	52.29	74.00	21.71	Peak

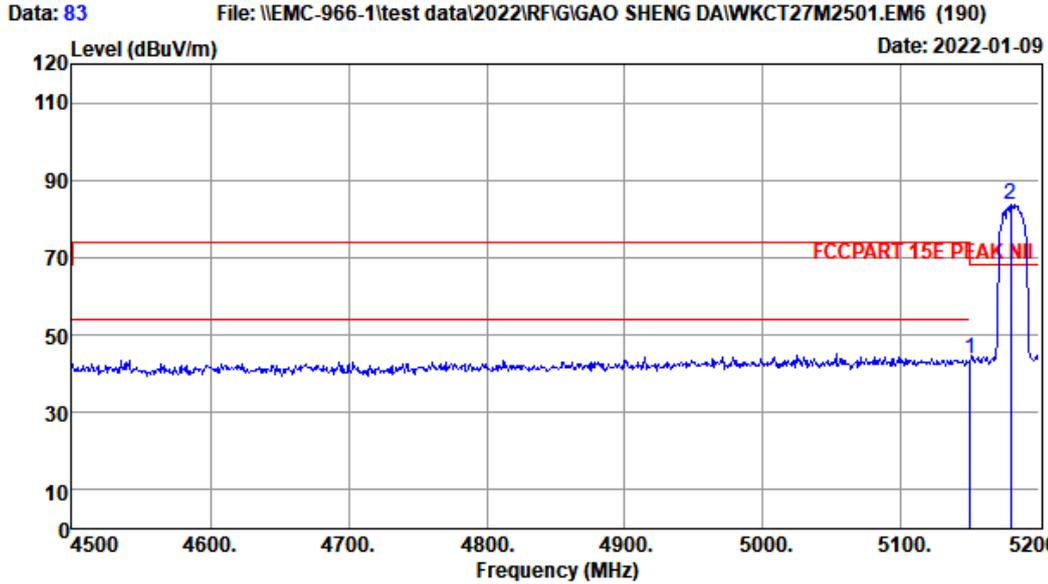
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

Note: The amplitude of 18GHz to 40GHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

### Radiated Band Edge

EST Technology

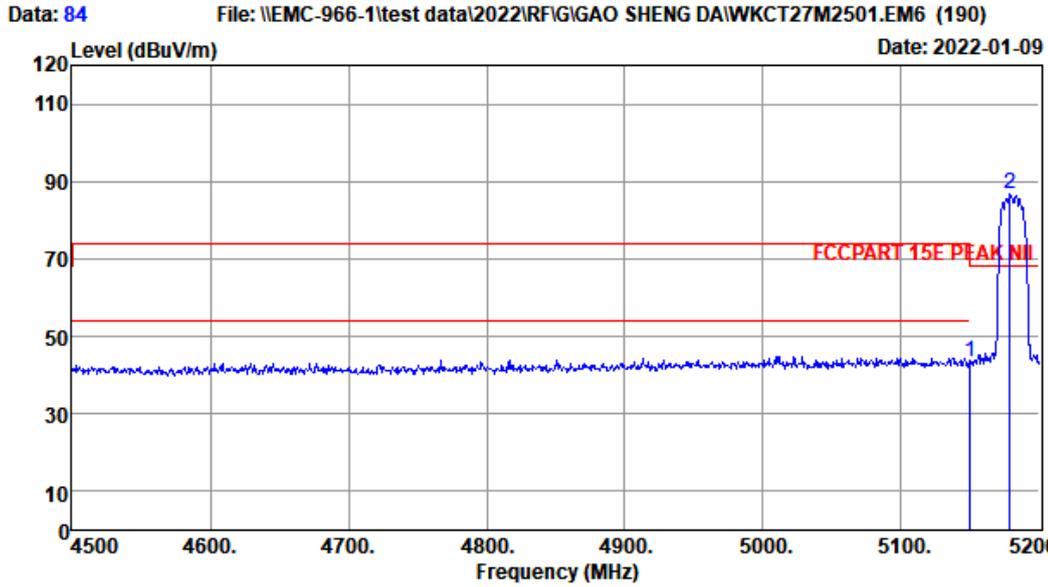
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel:+86-769-83081888  
Fax:+86-769-83081878



Site no. : 1# 966 Chamber Data no. : 83  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5180MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5150.00	32.13	3.50	34.64	42.92	43.91	68.20	24.29	Peak
2	5179.00	32.20	3.52	34.63	82.72	83.81	68.20	-15.61	Peak

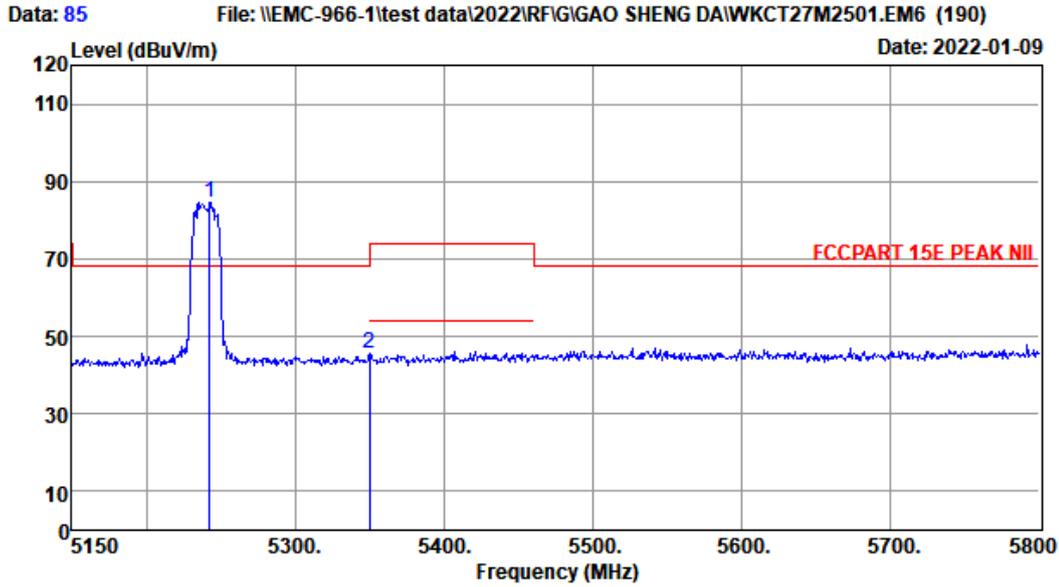
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 84  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5180MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5150.00	32.13	3.50	34.64	42.38	43.37	68.20	24.83	Peak
2	5178.30	32.20	3.52	34.63	85.62	86.71	68.20	-18.51	Peak

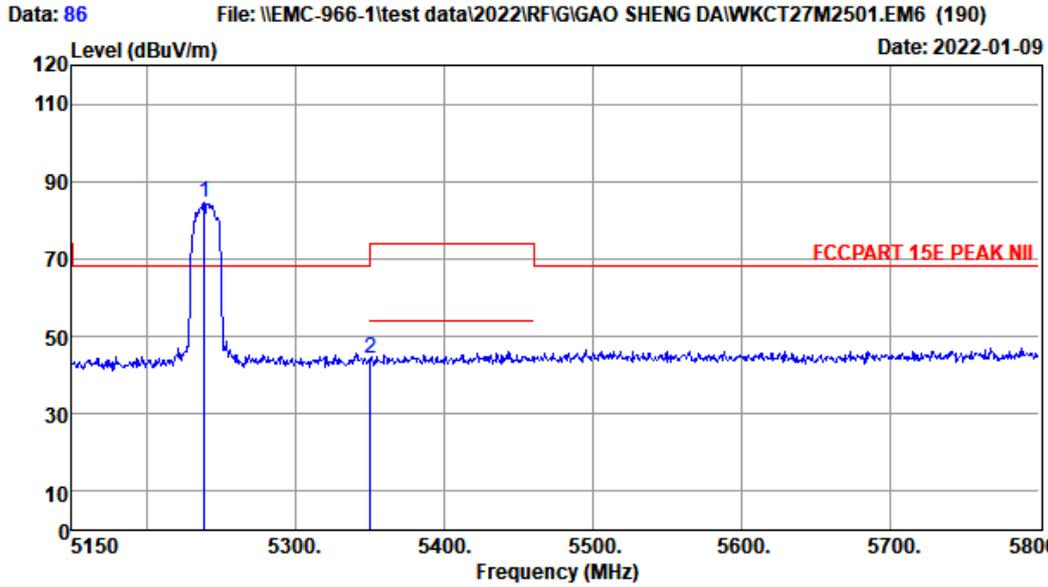
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 85  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5240MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	5242.30	32.35	3.56	34.60	83.19	84.50	68.20	-16.30	Peak
2	5350.00	32.57	3.62	34.56	43.94	45.57	68.20	22.63	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



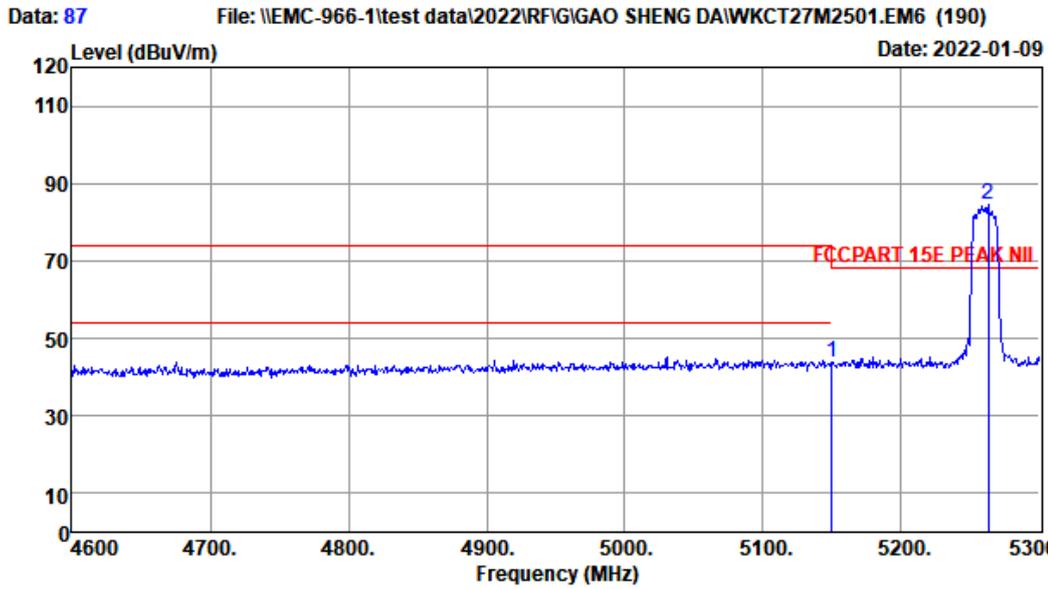
Site no. : 1# 966 Chamber Data no. : 86  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5240MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5239.05	32.31	3.55	34.61	83.34	84.59	68.20	-16.39	Peak
2	5350.20	32.57	3.62	34.56	42.84	44.47	74.00	29.53	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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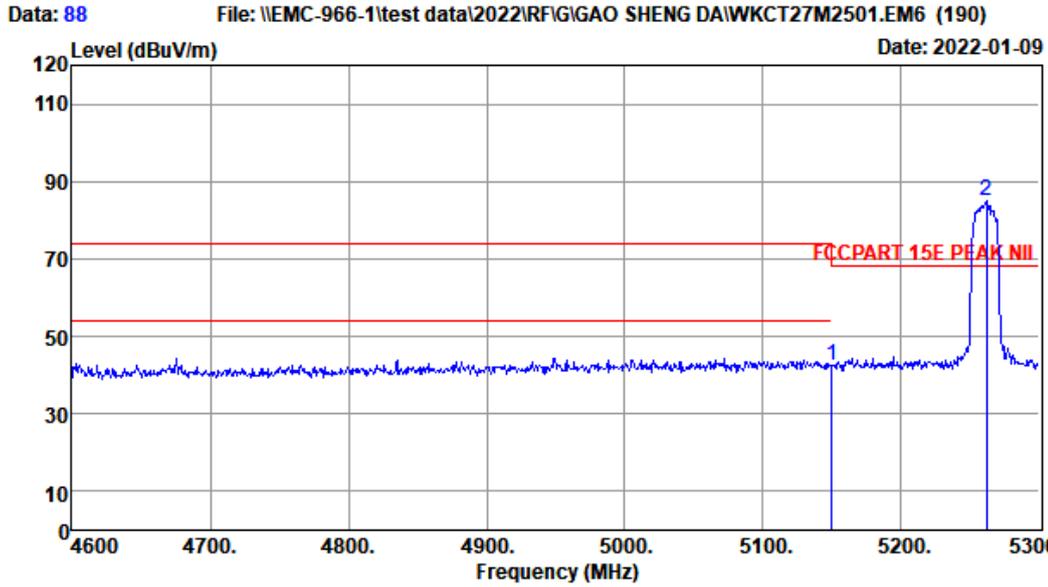
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



Site no. : 1# 966 Chamber Data no. : 87  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5260MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5150.00	32.13	3.50	34.64	42.99	43.98	68.20	24.22	Peak
2	5262.90	32.39	3.57	34.59	83.35	84.72	68.20	-16.52	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



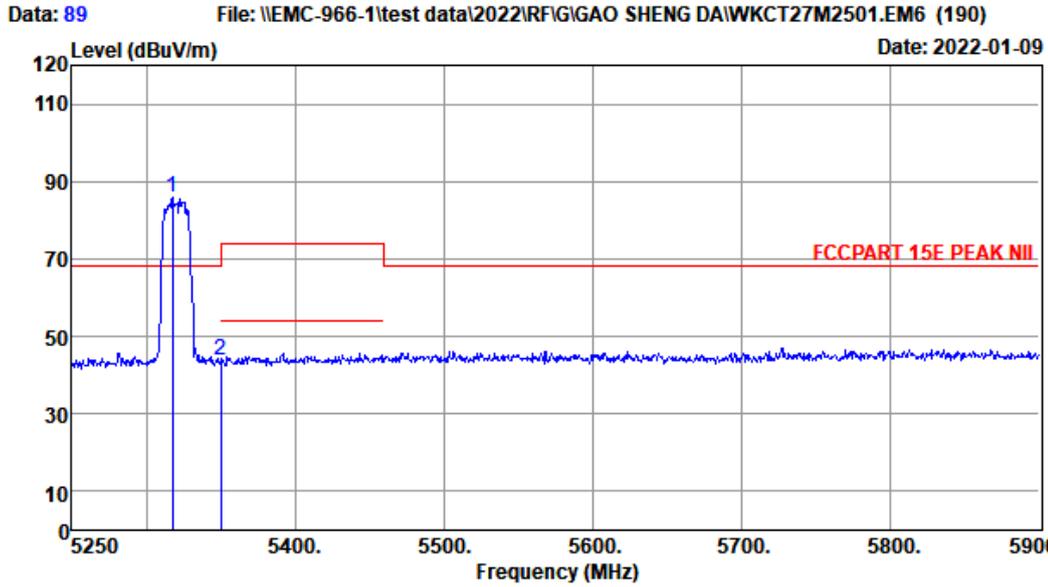
Site no. : 1# 966 Chamber Data no. : 88  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5260MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5150.00	32.13	3.50	34.64	41.33	42.32	68.20	25.88	Peak
2	5261.50	32.39	3.57	34.59	83.63	85.00	68.20	-16.80	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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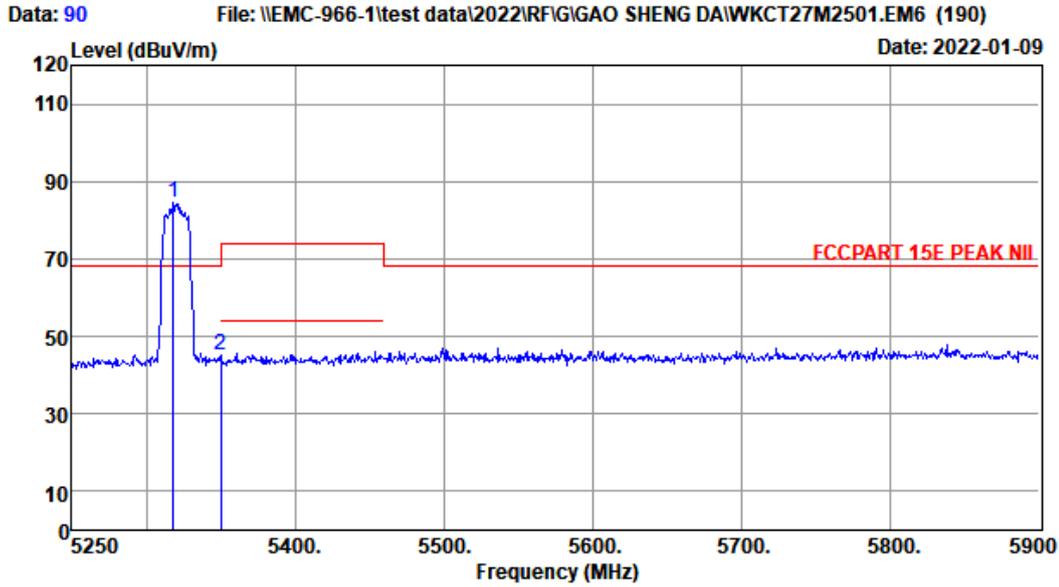
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



Site no. : 1# 966 Chamber Data no. : 89  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5320MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5317.60	32.50	3.60	34.57	84.54	86.07	68.20	-17.87	Peak
2	5350.00	32.57	3.62	34.56	42.27	43.90	68.20	24.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



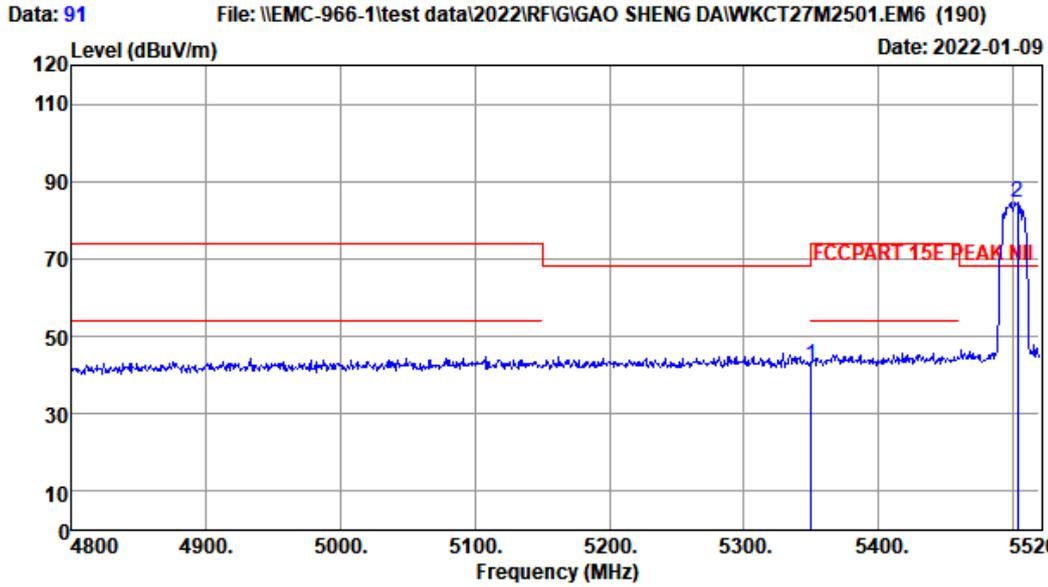
Site no. : 1# 966 Chamber Data no. : 90  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5320MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5318.25	32.50	3.60	34.57	83.02	84.55	68.20	-16.35	Peak
2	5350.00	32.57	3.62	34.56	43.36	44.99	68.20	23.21	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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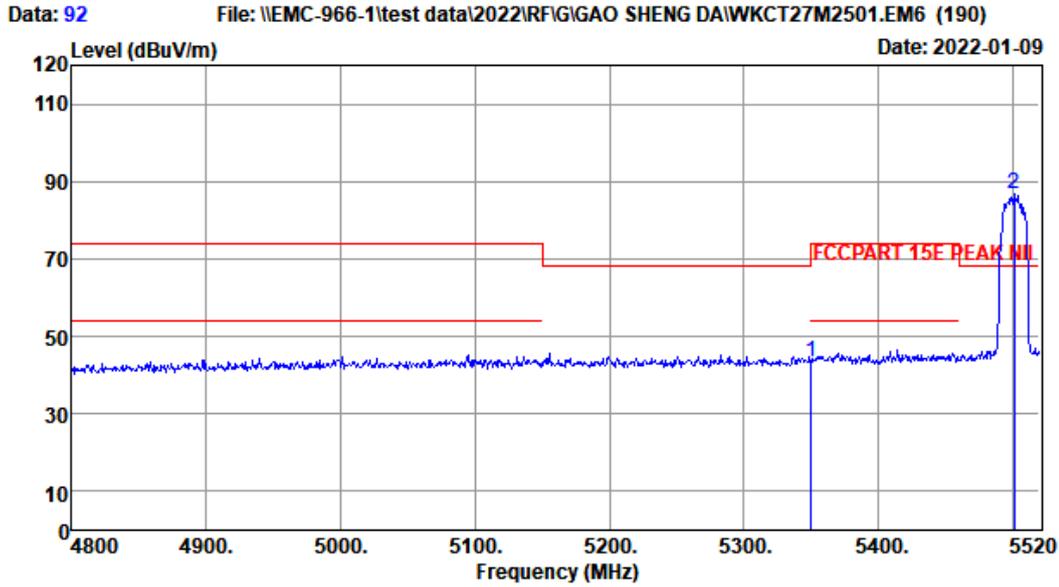
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



Site no. : 1# 966 Chamber Data no. : 91  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5500MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5350.00	32.57	3.62	34.56	41.04	42.67	68.20	25.53	Peak
2	5503.44	32.90	3.71	34.50	82.45	84.56	68.20	-16.36	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



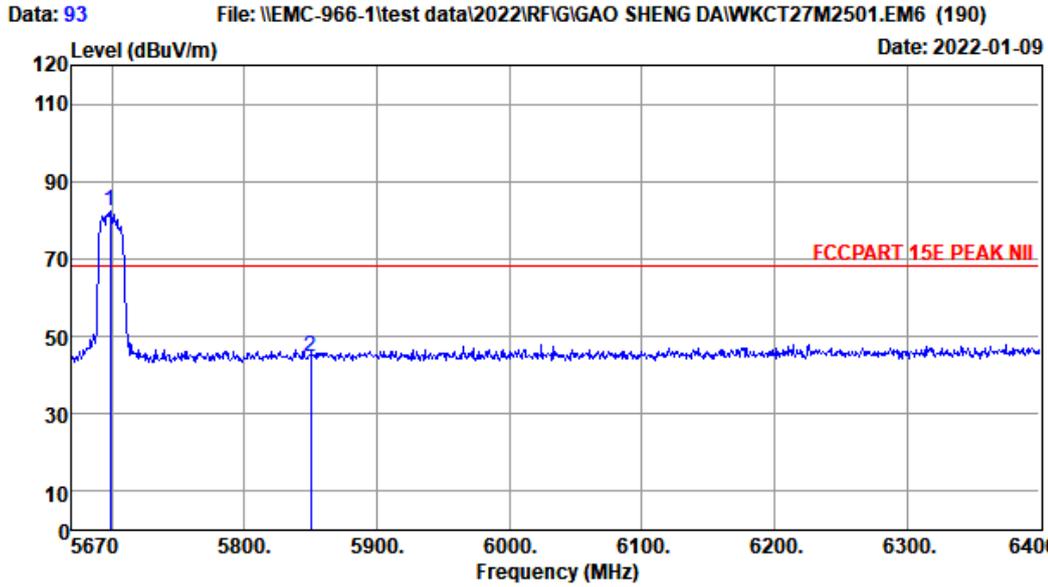
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 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5500MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5350.00	32.57	3.62	34.56	41.65	43.28	68.20	24.92	Peak
2	5501.28	32.90	3.71	34.50	84.68	86.79	68.20	-18.59	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



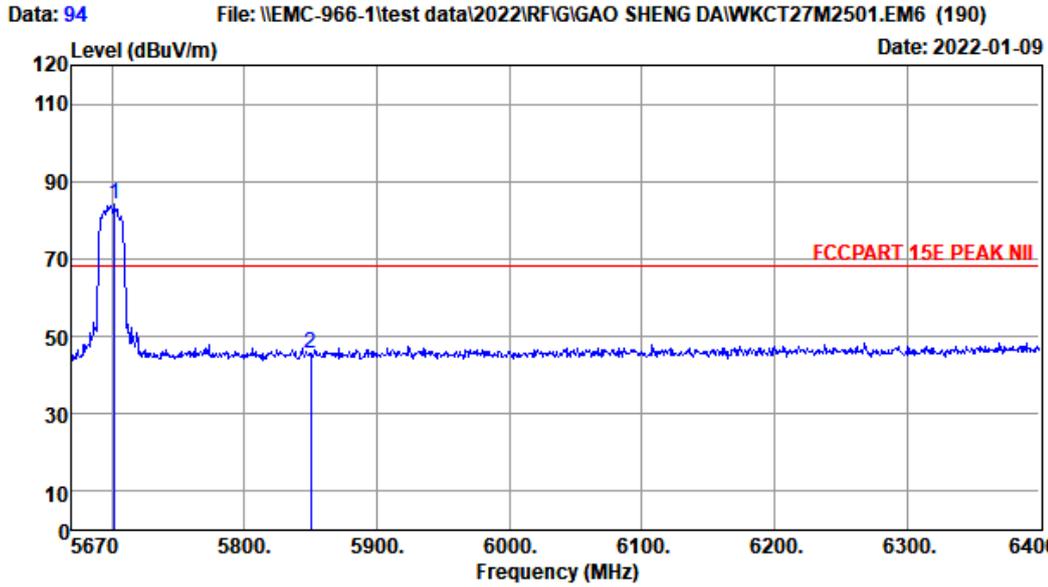
Site no. : 1# 966 Chamber Data no. : 93  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NIL  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5700MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5699.20	32.86	3.94	34.42	80.12	82.50	68.20	-14.30	Peak
2	5850.00	32.83	4.13	34.36	42.15	44.75	68.20	23.45	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



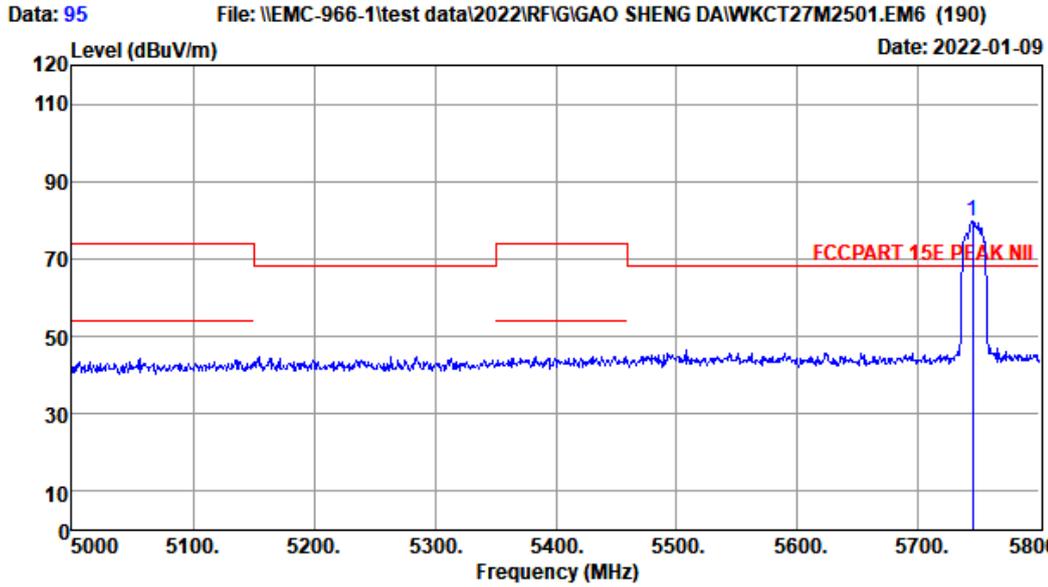
Site no. : 1# 966 Chamber Data no. : 94  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NIL  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5700MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5702.12	32.86	3.96	34.42	81.58	83.98	68.20	-15.78	Peak
2	5850.00	32.83	4.13	34.36	43.17	45.77	68.20	22.43	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

EST Technology

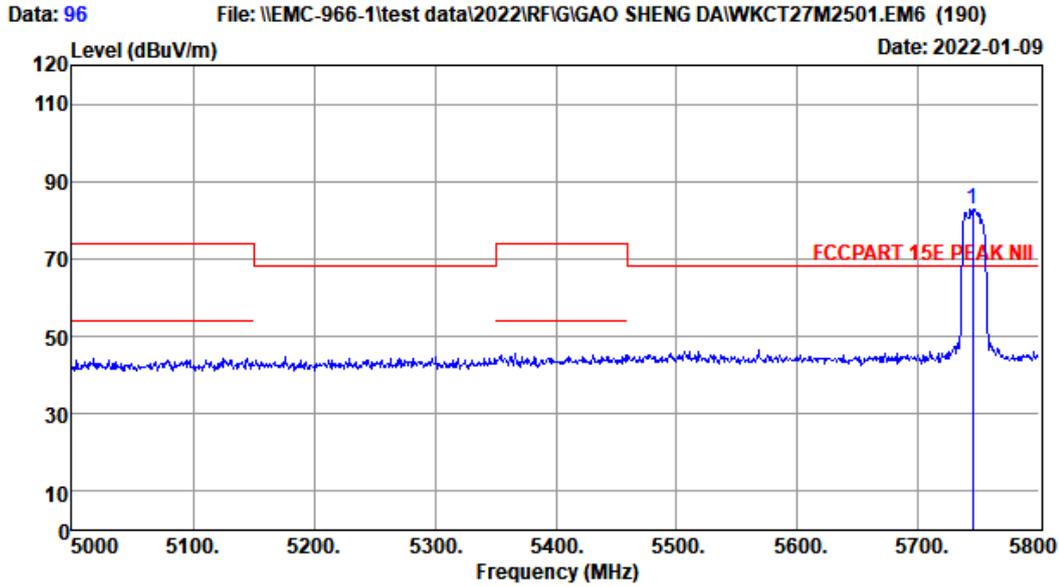
Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



Site no. : 1# 966 Chamber Data no. : 95  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5745MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5744.80	32.85	4.00	34.40	77.27	79.72	68.20	-11.52	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.



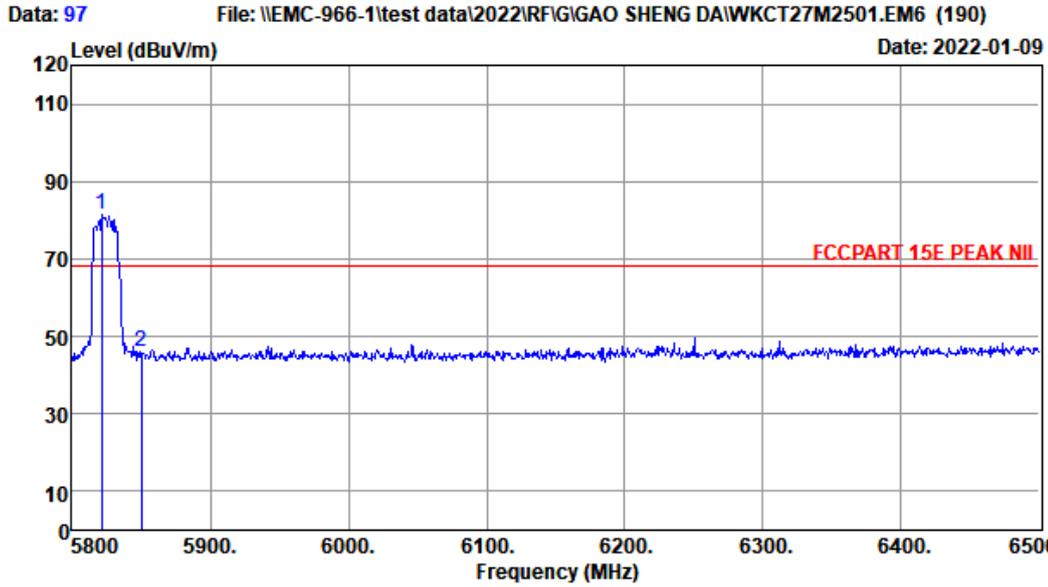
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 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5745MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5744.80	32.85	4.00	34.40	80.56	83.01	68.20	-14.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



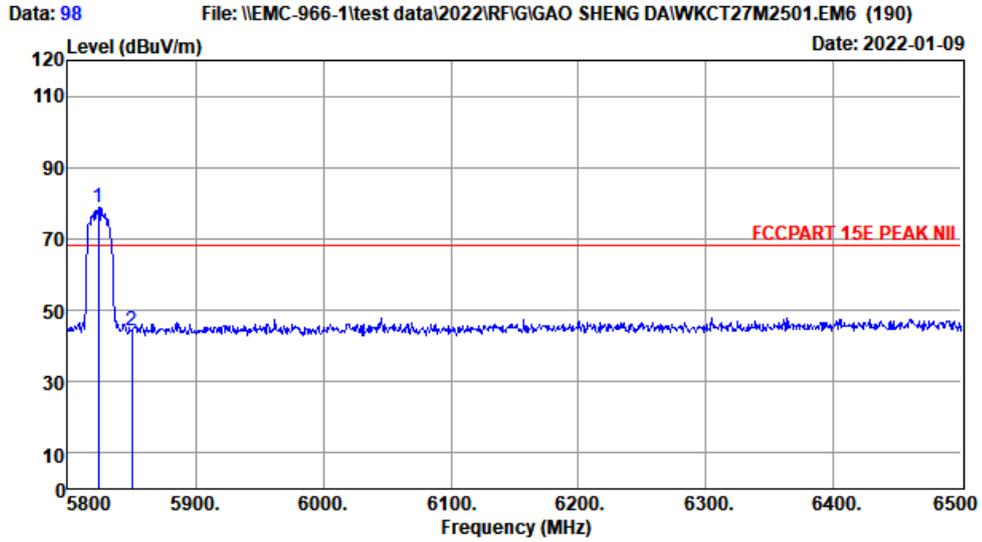
Site no. : 1# 966 Chamber Data no. : 97  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL  
 Limit : FCCPART 15E PEAK NIL  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5825MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5821.70	32.83	4.11	34.37	78.99	81.56	68.20	-13.36	Peak
2	5850.00	32.83	4.13	34.36	43.27	45.87	68.20	22.33	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878



Site no. : 1# 966 Chamber Data no. : 98  
 Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCCPART 15E PEAK NII  
 Env. / Ins. : Temp:22.8';Humi:53%;Press:101.52kPa  
 Engineer : JBR  
 EUT : WIFI+BT Module  
 Power : DC 3.3V  
 M/N : WKCT27M2501  
 Test Mode : IEEE 802.11n HT20 TX 5825MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	5823.80	32.83	4.11	34.37	76.22	78.79	68.20	-10.59	Peak
2	5850.00	32.83	4.13	34.36	41.81	44.41	68.20	23.79	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. Margin= Limit - Emission Level.  
 3. The emission levels that are 20dB below the official limit are not reported.

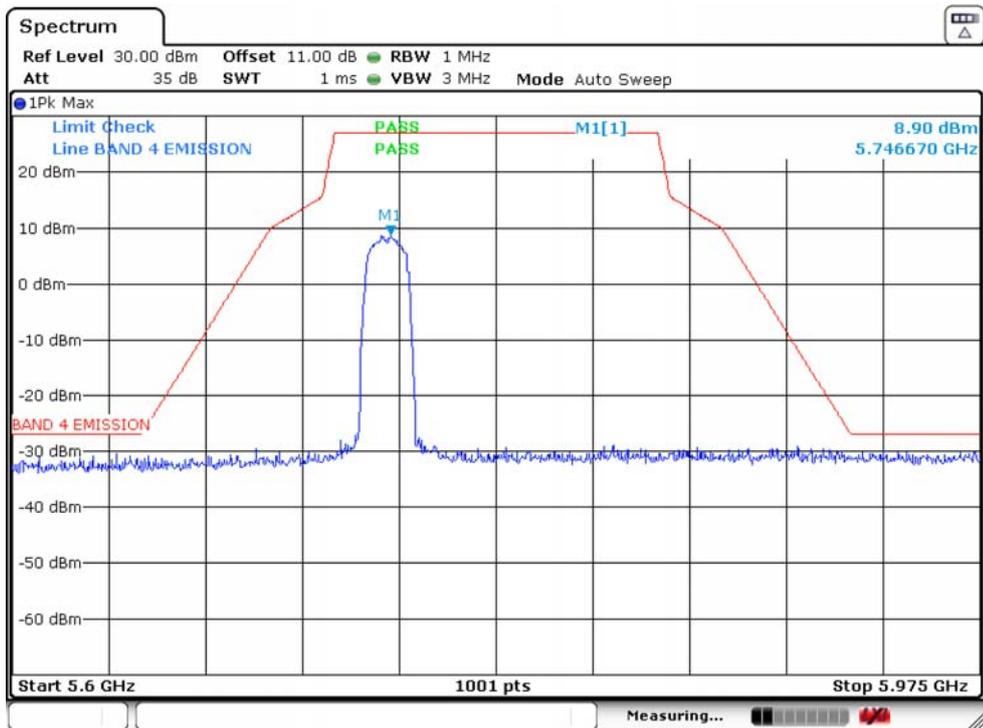
Note:

1. The amplitude of 18GHz to 40GHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
2. All test mode had been pre-test, only Low/Middle/High Channel of the worst case modulation mode was reported

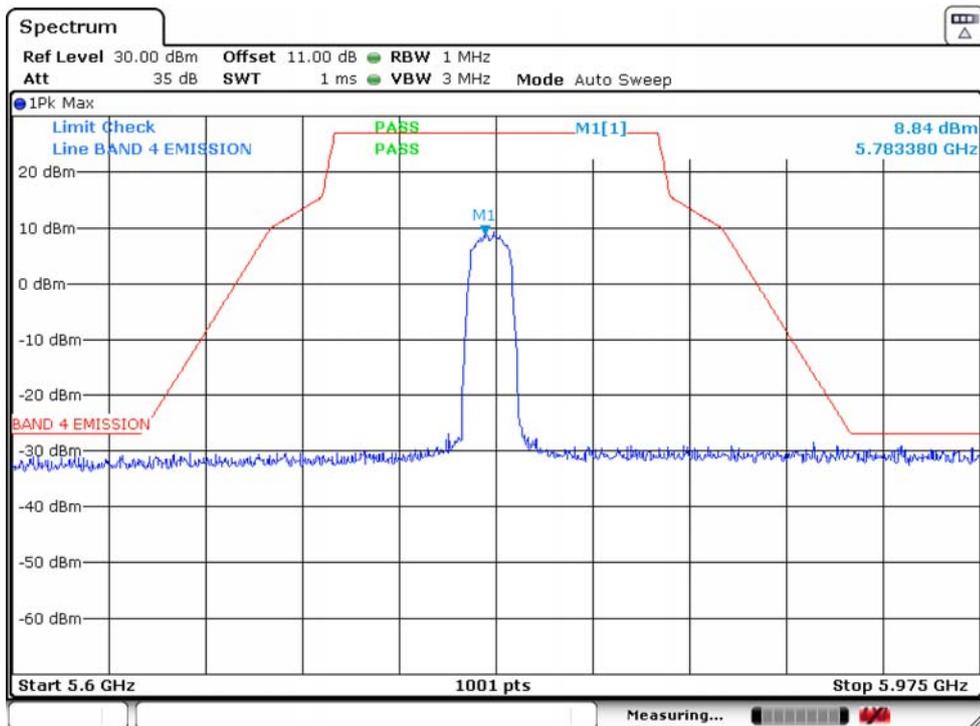


### Band Edge

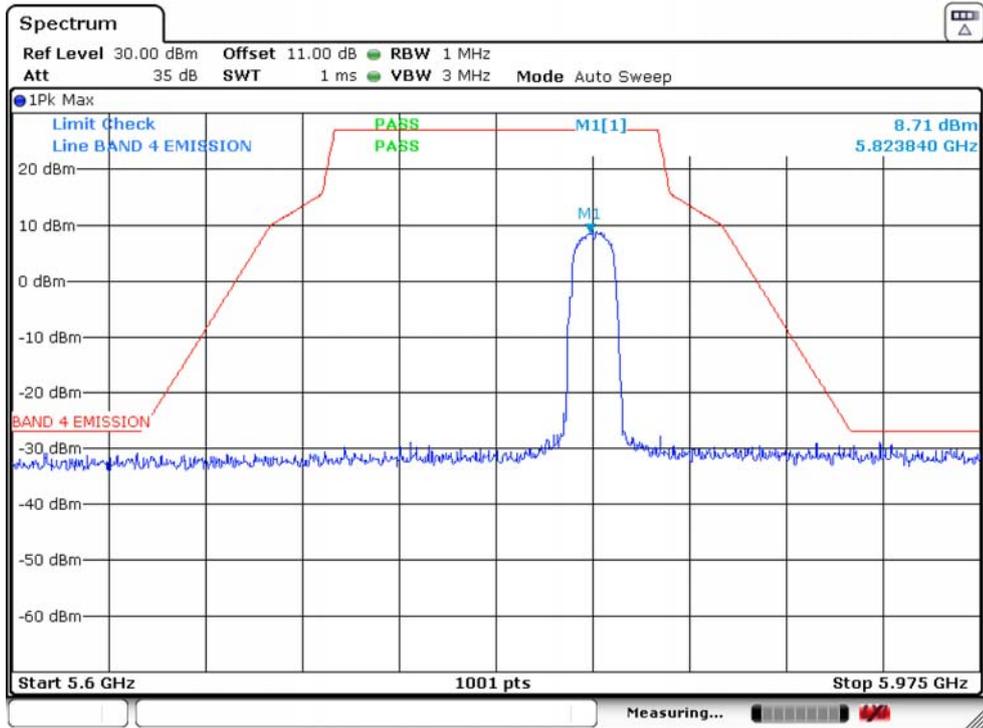
IEEE 802.11a 5745



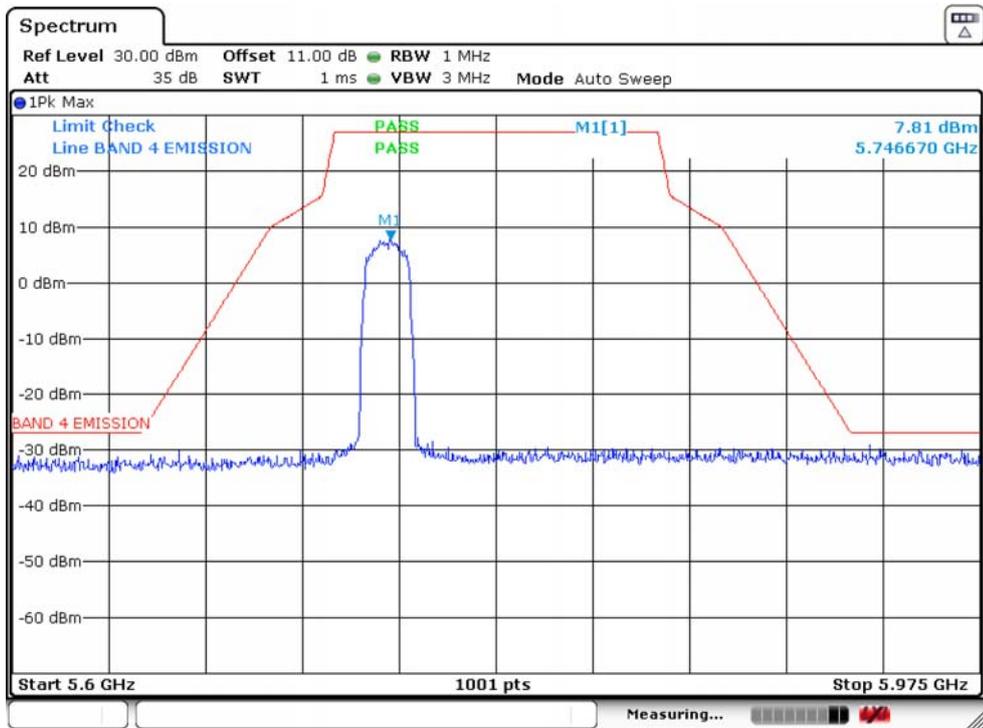
IEEE 802.11a 5785



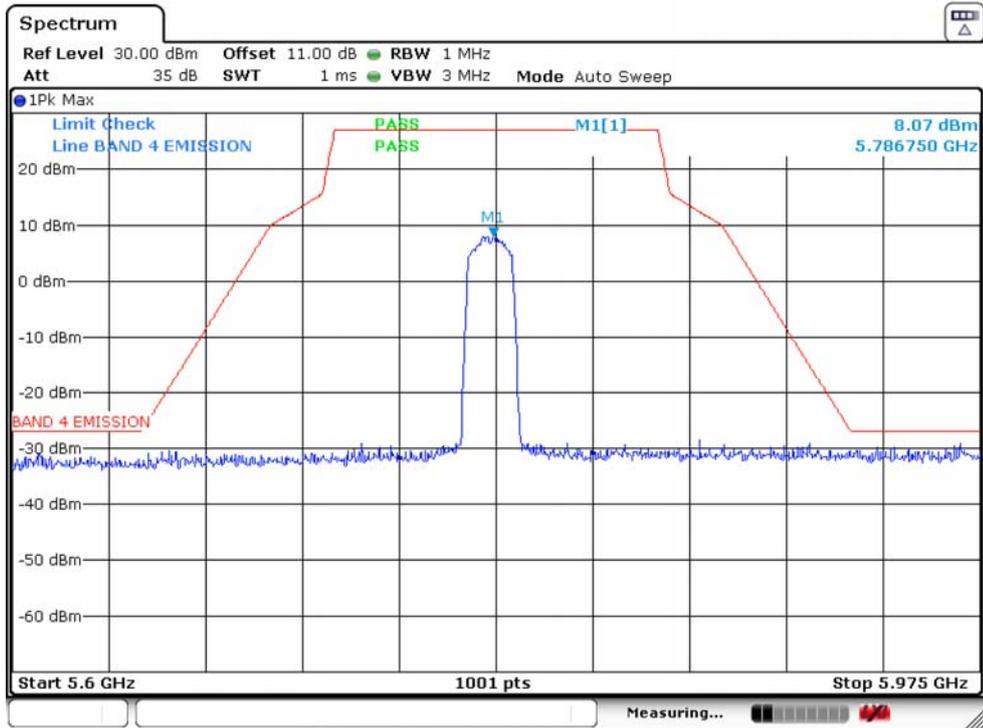
### IEEE 802.11a 5825



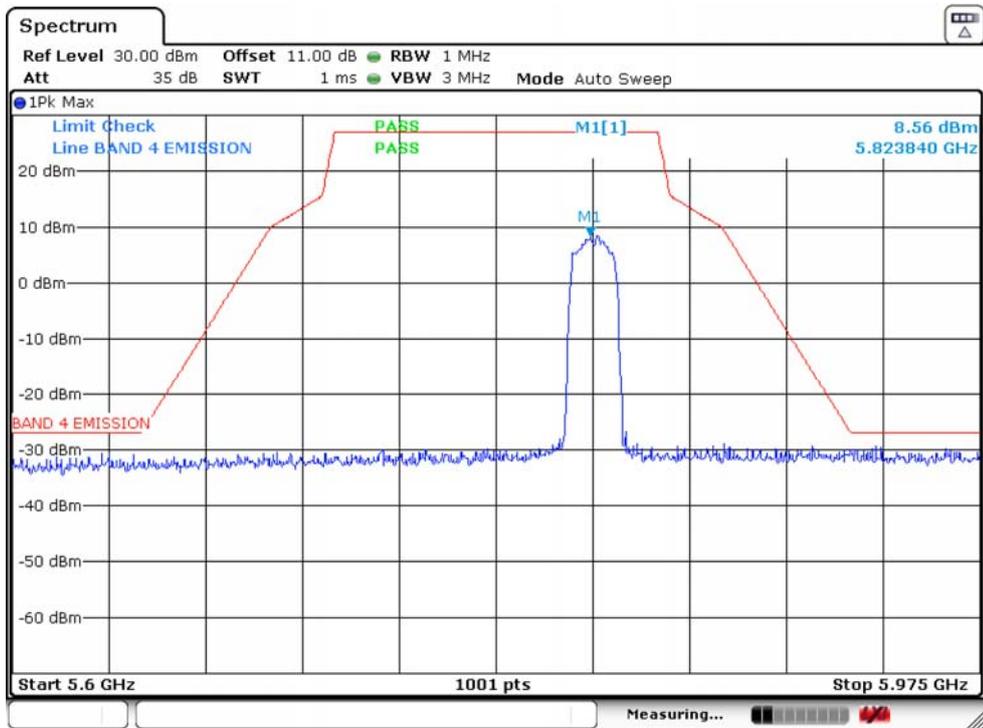
### IEEE 802.11n HT20 5745



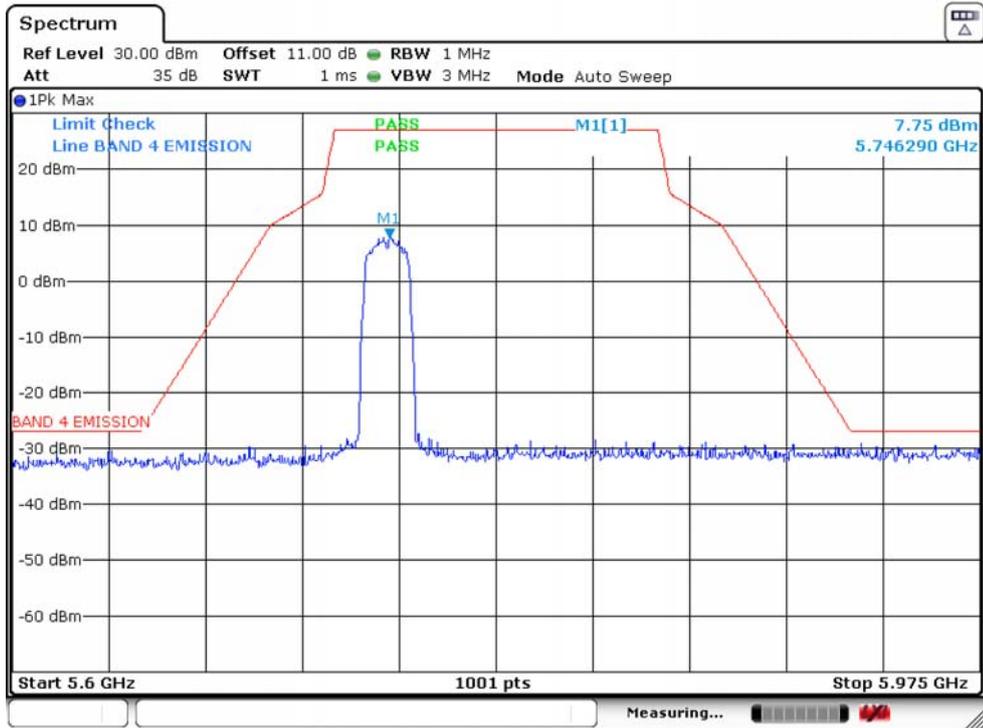
### IEEE 802.11n HT20 5785



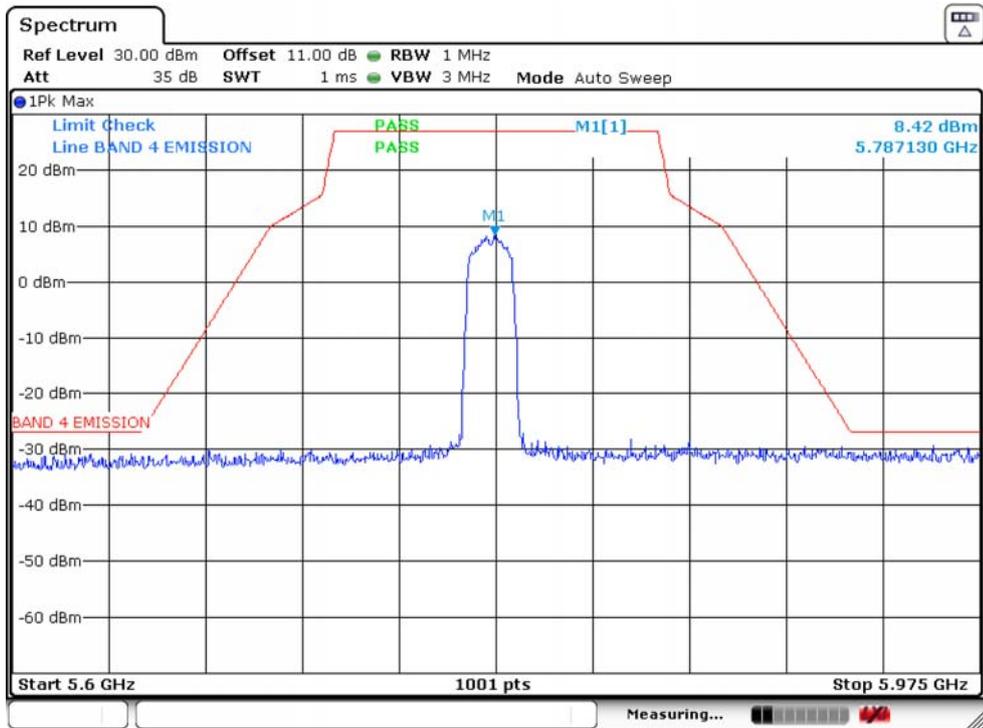
### IEEE 802.11n HT20 5825



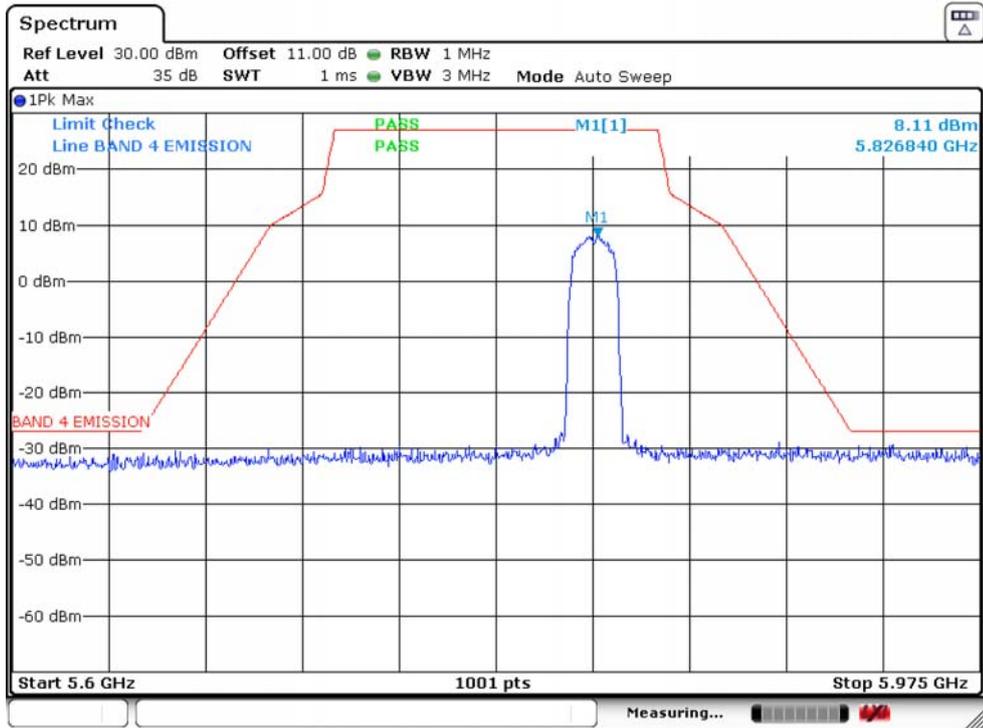
IEEE 802.11ac VHT20 5745



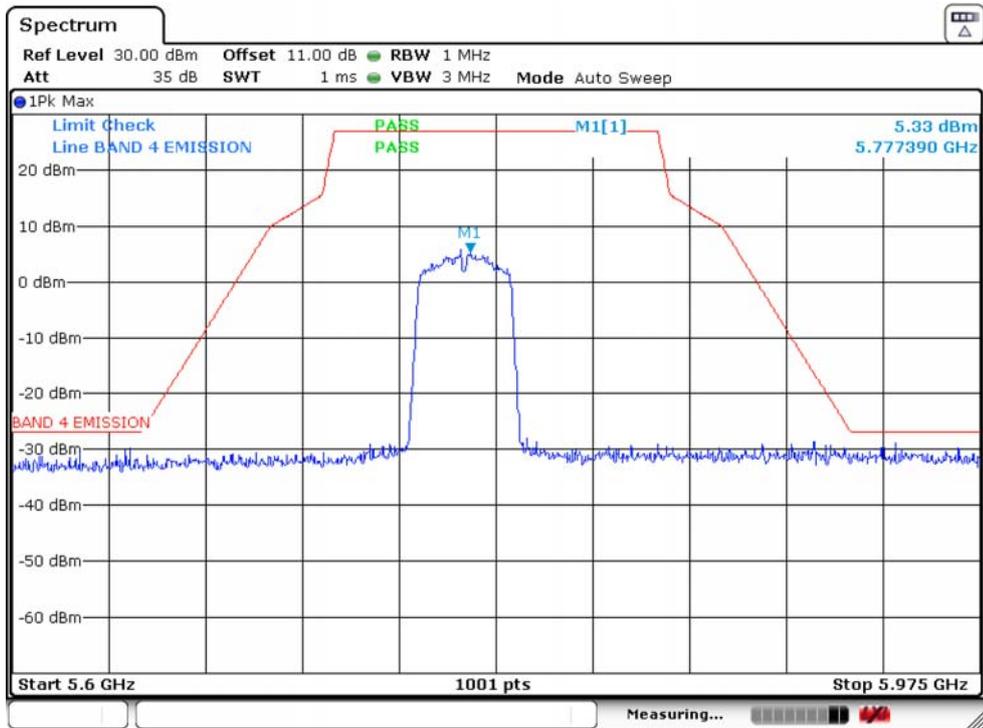
IEEE 802.11ac VHT20 5785



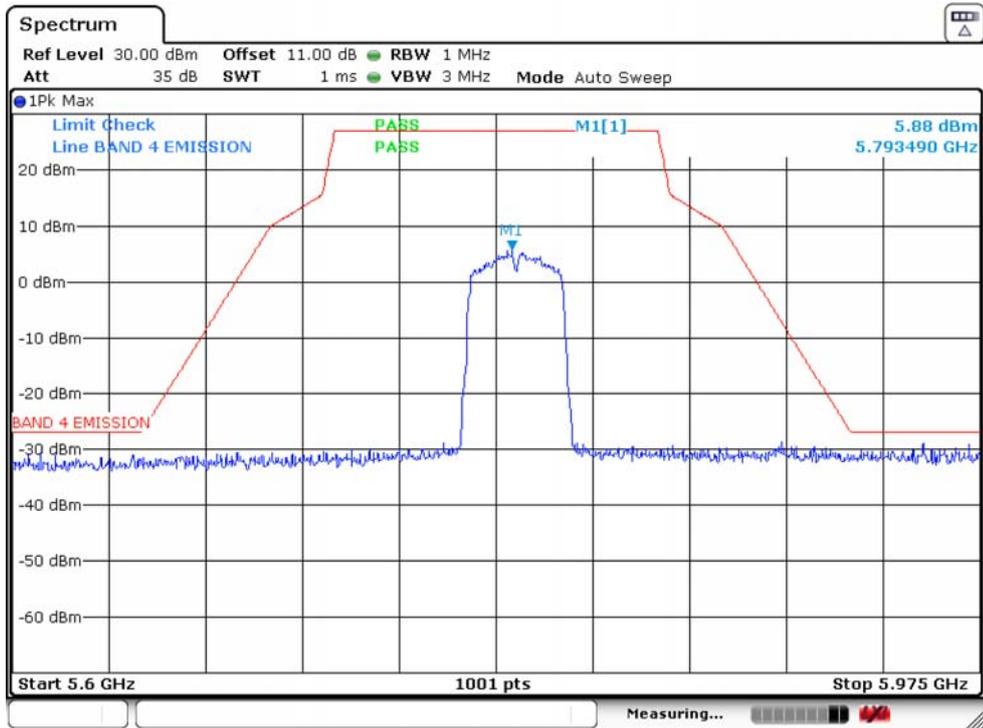
### IEEE 802.11ac VHT20 5825



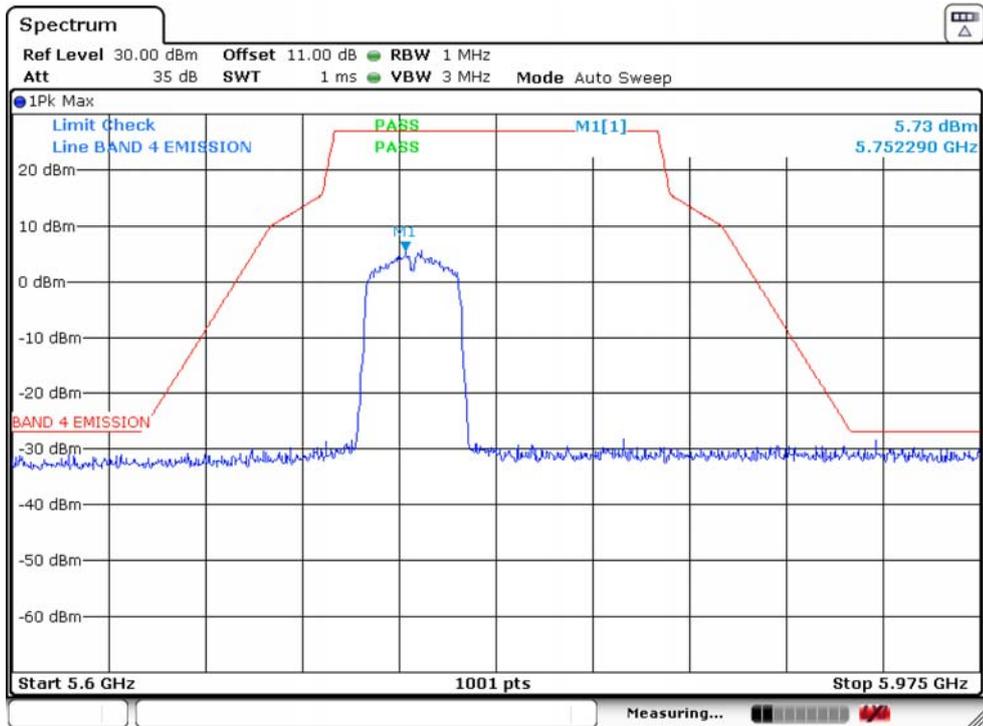
### IEEE 802.11n HT40 5755



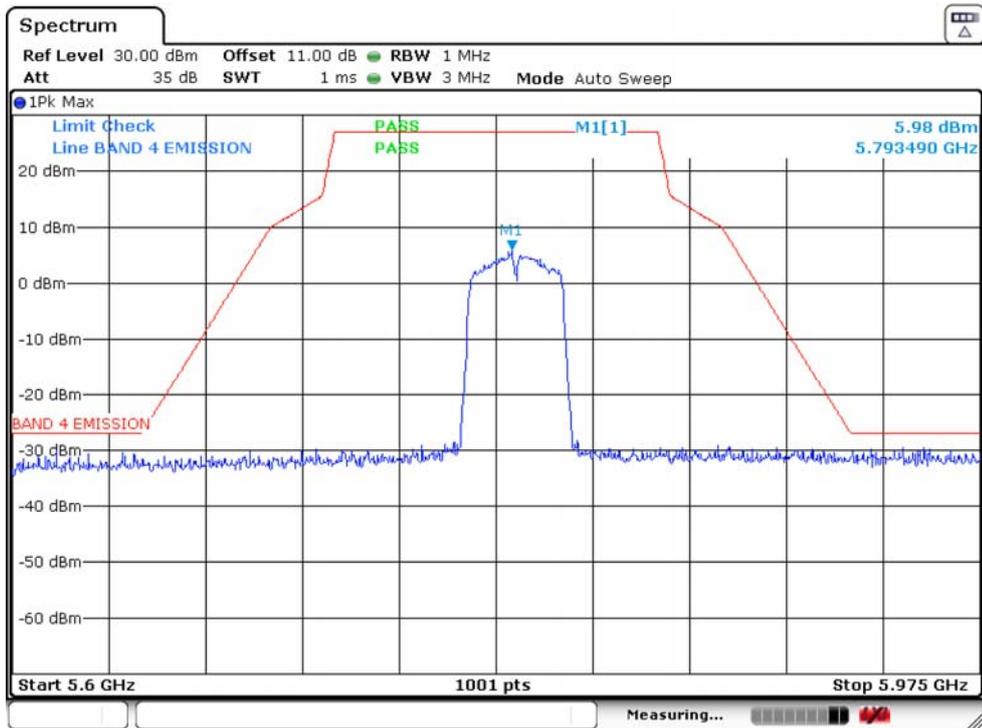
### IEEE 802.11n HT40 5795



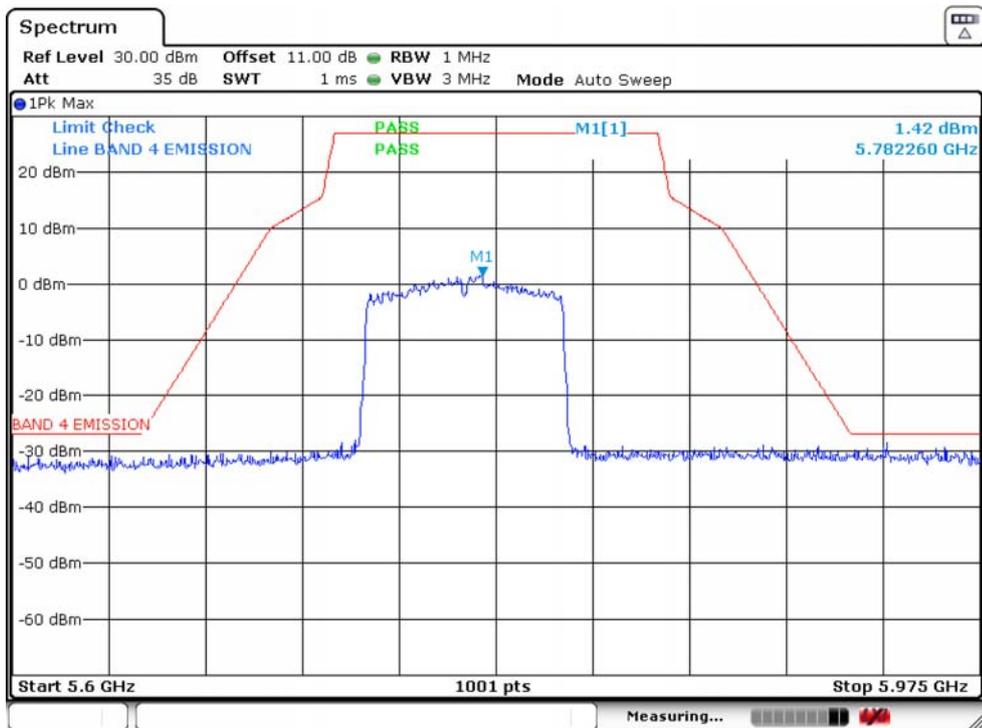
### IEEE 802.11ac VHT40 5755



### IEEE 802.11ac VHT40 5795



### IEEE 802.11ac VHT80 5775



All modulations are all tested ,only worse case is reported

**18000MHz-40000MHz**

Pass

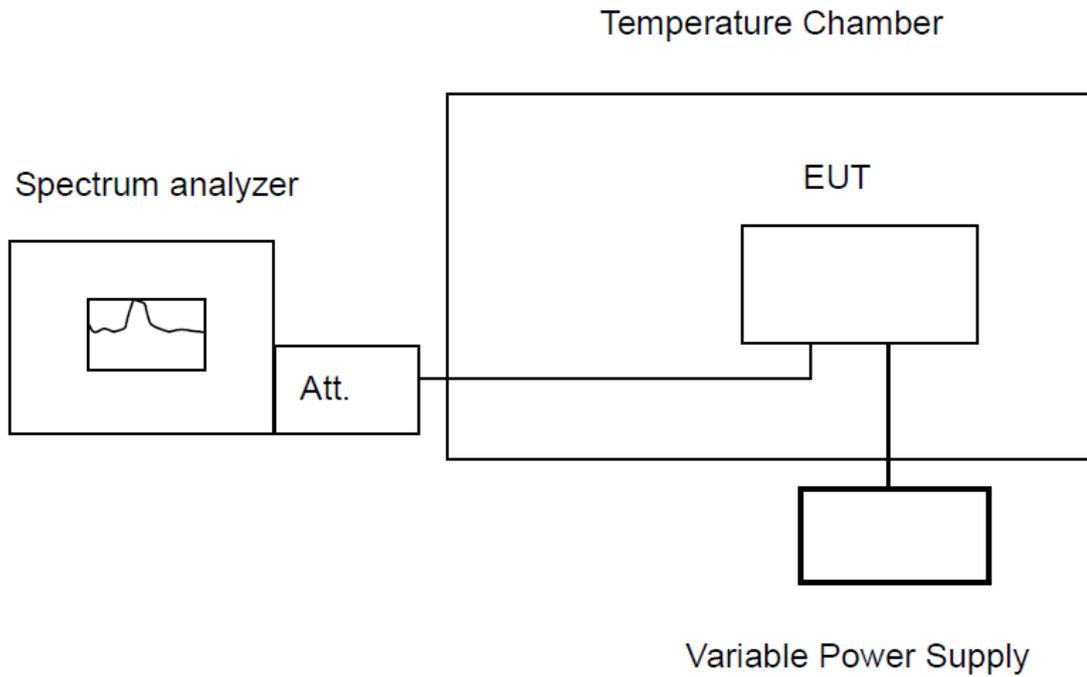
Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

## 7. FREQUENCY STABILITY

### 7.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

### 7.2. Test Setup



### 7.3. Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	10KHz
VBW	10KHz
Span	200KHz
Sweep Time	Auto
Detector	PEAK
Trace Mode	Max Hold

## 7.4. Test Procedure

### **For measurement frequency stability under temperature variation :**

- a. Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT.
- b. Turn the EUT OFF and place it inside the environmental temperature chamber.
- c. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- d. Spectrum analyzer setting parameters in accordance with section 7.3.
- e. Set the temperature control on the chamber to the Specified temperature and allow the oscillator heater and the chamber temperature to stabilize.
- f. Turn the EUT ON with the rated voltage, and the EUT transmit continuously with maximum output power.
- g. Record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized.
- h. Repeat step d through step f to measured the temperature form  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  in  $10^{\circ}\text{C}$  steps.

### **For frequency stability under voltage variation:**

- a. Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT.
- b. Turn the EUT OFF and place it inside the environmental temperature chamber.
- c. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- d. Spectrum analyzer setting parameters in accordance with section 7.3.
- e. Unless otherwise specified, set the temperature control on the chamber to the ambient room temperature ( $+15^{\circ}\text{C}$  to  $+25^{\circ}\text{C}$ ) and allow the oscillator heater and the chamber temperature to stabilize.
- f. Turn the EUT ON with the rated voltage, and the EUT transmit continuously with maximum output power.
- g. Record the operating frequency.
- h. Repeat step d through step f to measured the varied from 85% to 115% of the rated voltage.

7.5. Test Result

Frequency (MHz)	Voltage (V)	Temperature (°C)	Time (minutes)	Measurement Value (MHz)	Frequency Error (ppm)
5180	3.3	50	0	5179.9290070	-13.71
			2	5179.9210080	-15.25
			5	5179.9200080	-15.44
			10	5179.9205340	-15.34
	3.3	40	0	5179.9267430	-14.14
			2	5179.9268550	-14.12
			5	5179.9280760	-13.88
			10	5179.9261020	-14.27
	3.3	30	0	5179.9257490	-14.33
			2	5179.9266270	-14.16
			5	5179.9208340	-15.28
			10	5179.9250750	-14.46
	3.3	20	0	5179.9211230	-15.23
			2	5179.9261140	-14.26
			5	5179.9268960	-14.11
			10	5179.9219100	-15.08
	3.3	10	0	5179.9276690	-13.96
			2	5179.9258900	-14.31
			5	5179.9206090	-15.33
			10	5179.9204840	-15.35
	3.3	0	0	5179.9222590	-15.01
			2	5179.9275380	-13.99
			5	5179.9241650	-14.64
			10	5179.9266670	-14.16
	3.3	-10	0	5179.9279860	-13.90
			2	5179.9266520	-14.16
			5	5179.9249830	-14.48
			10	5179.9252280	-14.43
	3.3	-20	0	5179.9238150	-14.71
			2	5179.9219990	-15.06
			5	5179.9256080	-14.36
			10	5179.9202670	-15.39
3.3	20	/	5179.9233320	-14.80	
3.2	20	/	5179.9285620	-13.79	
3.9	20	/	5179.9240030	-14.67	
<b>MAX Frquency Error(ppm)</b>					<b>-13.71</b>

Frequency (MHz)	Voltage (V)	Temperature (°C)	Time (minutes)	Measurement Value (MHz)	Frequency Error (ppm)
5320	3.3	50	0	5320.0010000	0.19
			2	5319.9600040	-7.52
			5	5319.9720030	-5.26
			10	5319.9815350	-3.47
	3.3	40	0	5319.9763790	-4.44
			2	5319.9936440	-1.19
			5	5319.9646290	-6.65
			10	5319.9783460	-4.07
	3.3	30	0	5319.9918480	-1.53
			2	5319.9634130	-6.88
			5	5319.9939270	-1.14
			10	5319.9790430	-3.94
	3.3	20	0	5319.9835440	-3.09
			2	5319.9875180	-2.35
			5	5320.0001560	0.03
			10	5319.9884420	-2.17
	3.3	10	0	5319.9849840	-2.82
			2	5319.9690470	-5.82
			5	5319.9981000	-0.36
			10	5319.9738370	-4.92
	3.3	0	0	5319.9915050	-1.60
			2	5319.9813440	-3.51
			5	5319.9906710	-1.75
			10	5319.9742690	-4.84
	3.3	-10	0	5319.9671280	-6.18
			2	5319.9818230	-3.42
			5	5319.9960150	-0.75
			10	5319.9998210	-0.03
	3.3	-20	0	5319.9611580	-7.30
			2	5319.9673920	-6.13
			5	5320.0008670	0.16
			10	5319.9749110	-4.72
3.3	20	/	5319.9917660	-1.55	
3.2	20	/	5319.9842390	-2.96	
3.9	20	/	5319.9843410	-2.94	
<b>MAX Frquency Error(ppm)</b>					<b>0.19</b>

Frequency (MHz)	Voltage (V)	Temperature (°C)	Time (minutes)	Measurement Value (MHz)	Frequency Error (ppm)
5500	3.3	50	0	5499.9240080	-13.82
			2	5499.9654740	-6.28
			5	5499.9264780	-13.37
			10	5499.9342800	-11.95
	3.3	40	0	5499.9342400	-11.96
			2	5499.9583790	-7.57
			5	5499.9278960	-13.11
			10	5499.9322660	-12.32
	3.3	30	0	5499.9620070	-6.91
			2	5499.9531270	-8.52
			5	5499.9358270	-11.67
			10	5499.9303460	-12.66
	3.3	20	0	5499.9549110	-8.20
			2	5499.9555910	-8.07
			5	5499.9302450	-12.68
			10	5499.9523710	-8.66
	3.3	10	0	5499.9289780	-12.91
			2	5499.9563470	-7.94
			5	5499.9635770	-6.62
			10	5499.9543830	-8.29
	3.3	0	0	5499.9553820	-8.11
			2	5499.9610540	-7.08
			5	5499.9341190	-11.98
			10	5499.9579800	-7.64
	3.3	-10	0	5499.9567630	-7.86
			2	5499.9648240	-6.40
			5	5499.9561650	-7.97
			10	5499.9498260	-9.12
	3.3	-20	0	5499.9372260	-11.41
			2	5499.9634850	-6.64
			5	5499.9594510	-7.37
			10	5499.9395130	-11.00
3.3	20	/	5499.9424900	-10.46	
3.2	20	/	5499.9450060	-10.00	
3.9	20	/	5499.9250330	-13.63	
<b>MAX Frquency Error(ppm)</b>					<b>-6.28</b>

Frequency (MHz)	Voltage (V)	Temperature (°C)	Time (minutes)	Measurement Value (MHz)	Frequency Error (ppm)
5745	3.3	50	0	5699.9430060	-10.00
			2	5700.0070000	1.23
			5	5700.0070000	1.23
			10	5699.9610820	-6.83
	3.3	40	0	5699.9478690	-9.15
			2	5699.9933760	-1.16
			5	5699.9664440	-5.89
			10	5699.9485150	-9.03
	3.3	30	0	5699.9772180	-4.00
			2	5699.9527520	-8.29
			5	5700.0007220	0.13
			10	5699.9612590	-6.80
	3.3	20	0	5700.0030440	0.53
			2	5699.9606780	-6.90
			5	5699.9985720	-0.25
			10	5699.9580450	-7.36
	3.3	10	0	5699.9623270	-6.61
			2	5699.9448960	-9.67
			5	5699.9477050	-9.17
			10	5699.9677760	-5.65
	3.3	0	0	5699.9869630	-2.29
			2	5699.9976600	-0.41
			5	5699.9733750	-4.67
			10	5700.0060610	1.06
	3.3	-10	0	5699.9602140	-6.98
			2	5700.0066040	1.16
			5	5699.9662710	-5.92
			10	5699.9826140	-3.05
	3.3	-20	0	5699.9887730	-1.97
			2	5699.9609760	-6.85
			5	5699.9481450	-9.10
			10	5699.9737310	-4.61
3.3	20	/	5699.9587250	-7.24	
3.2	20	/	5699.9869290	-2.29	
3.9	20	/	5699.9853800	-2.56	
<b>MAX Frquency Error(ppm)</b>					<b>1.23</b>

## 8. AC POWER LINE CONDUCTED EMISSIONS

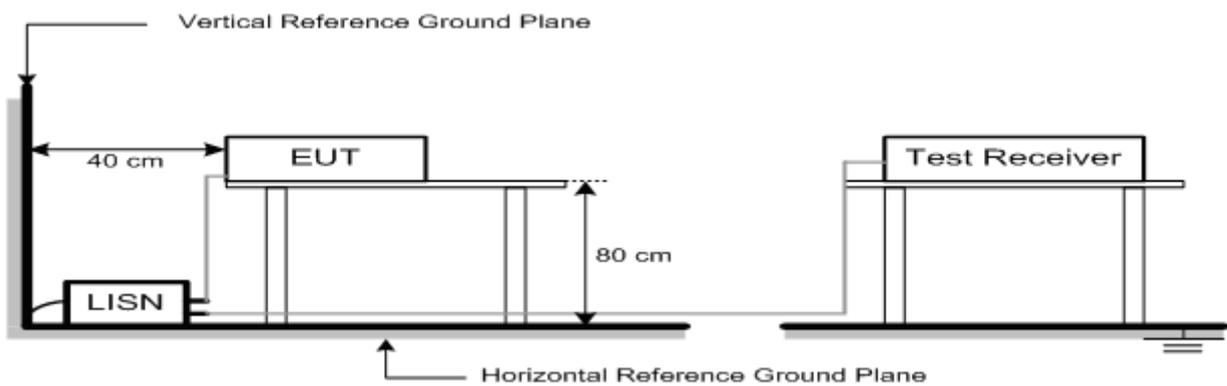
### 8.1. Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes:

1. \* Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

### 8.2. Test Setup



### 8.3. Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	9KHz
VBW	9KHz
Start frequency	150KHz
Stop frequency	30MHz
Sweep Time	Auto
Detector	QP/AVG
Trace Mode	Max Hold

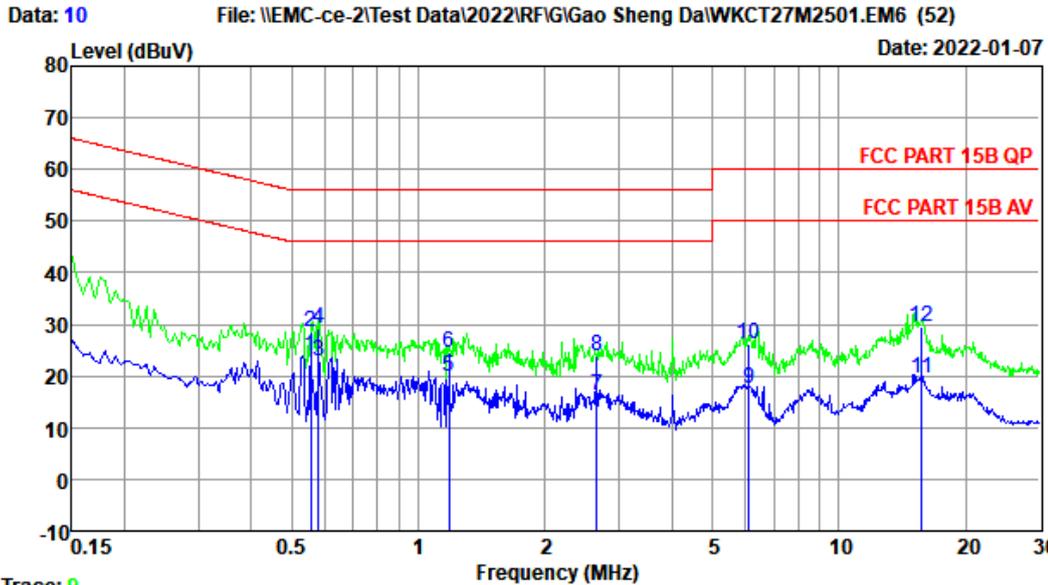
### 8.4. Test Procedure

- a. The EUT was placed on a non-metallic table, 80cm above the ground plane.
- b. The EUT Power connected to the power mains through a line impedance stabilization network.
- c. Provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs).
- d. Set the EUT transmit continuously with maximum output power.
- e. Spectrum analyzer setting parameters in accordance with section 8.3.
- f. The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.
- g. Record the results in the test report.

### 8.5. Test Result

EST Technology

Chilingxiang, Qishantou, Santun,  
Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
Fax: +86-769-83081878

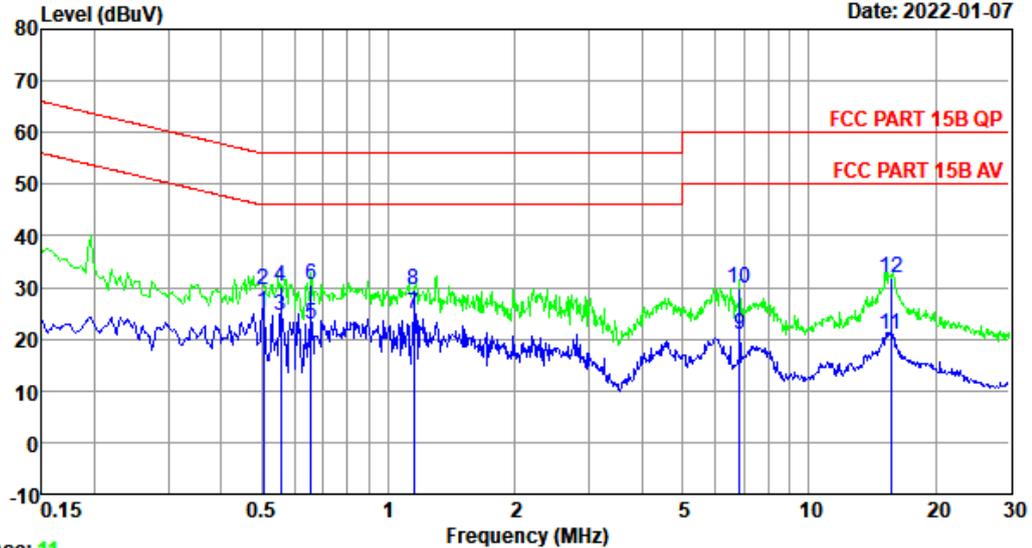


Trace: 9  
 Site no. : 2#CE Shield Room Data no. : 10  
 Env. / Ins. : Temp:22.8°C Humi:58% Press:101.30kPa. : LINE  
 Limit : FCC PART 15B QP  
 Engineer : ZSX  
 EUT : WIFI+BT Module  
 Power : DC 3.3V From PC Input AC 120V/60Hz  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.5552	9.84	0.05	13.88	23.77	46.00	22.23	Average
2	0.5552	9.84	0.05	18.79	28.68	56.00	27.32	QP
3	0.5792	9.83	0.05	13.05	22.93	46.00	23.07	Average
4	0.5792	9.83	0.05	19.43	29.31	56.00	26.69	QP
5	1.1844	9.92	0.06	9.95	19.93	46.00	26.07	Average
6	1.1844	9.92	0.06	14.50	24.48	56.00	31.52	QP
7	2.6500	9.95	0.07	6.27	16.29	46.00	29.71	Average
8	2.6500	9.95	0.07	13.79	23.81	56.00	32.19	QP
9	6.1209	9.90	0.07	7.73	17.70	50.00	32.30	Average
10	6.1209	9.90	0.07	16.27	26.24	60.00	33.76	QP
11	15.7179	9.86	0.08	9.67	19.61	50.00	30.39	Average
12	15.7179	9.86	0.08	19.61	29.55	60.00	30.45	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 12 File: \\EMC-ce-2\Test Data\2022\RF\G\Gao Sheng Da\WKCT27M2501.EM6 (52) Date: 2022-01-07

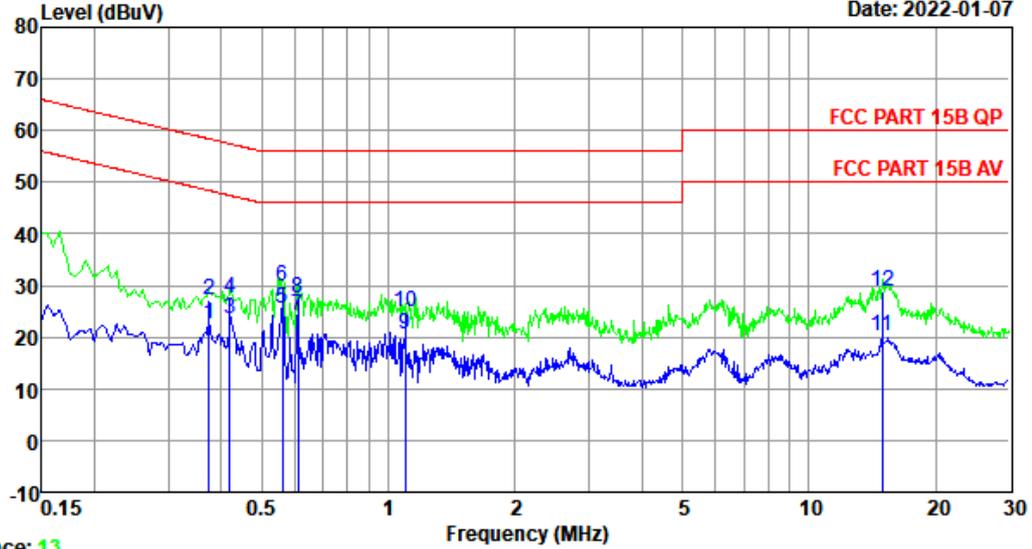


Trace: 11  
 Site no. : 2#CE Shield Room Data no. : 12  
 Env. / Ins. : Temp:22.8°C Humi:58% Press:101.30kPa. : NEUTRAL  
 Limit : FCC PART 15B QP  
 Engineer : ZSX  
 EUT : WIFI+BT Module  
 Power : DC 3.3V From PC Input AC 120V/60Hz  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.5047	9.76	0.05	15.53	25.34	46.00	20.66	Average
2	0.5047	9.76	0.05	19.66	29.47	56.00	26.53	QP
3	0.5552	9.76	0.05	14.65	24.46	46.00	21.54	Average
4	0.5552	9.76	0.05	20.53	30.34	56.00	25.66	QP
5	0.6543	9.76	0.05	13.23	23.04	46.00	22.96	Average
6	0.6543	9.76	0.05	20.84	30.65	56.00	25.35	QP
7	1.1473	9.82	0.06	15.02	24.90	46.00	21.10	Average
8	1.1473	9.82	0.06	19.65	29.53	56.00	26.47	QP
9	6.8412	10.05	0.08	10.86	20.99	50.00	29.01	Average
10	6.8412	10.05	0.08	19.64	29.77	60.00	30.23	QP
11	15.6349	10.13	0.08	10.75	20.96	50.00	29.04	Average
12	15.6349	10.13	0.08	21.48	31.69	60.00	28.31	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 14 File: \\EMC-ce-2\Test Data\2022\RF\G\Gao Sheng Da\WKCT27M2501.EM6 (52) Date: 2022-01-07

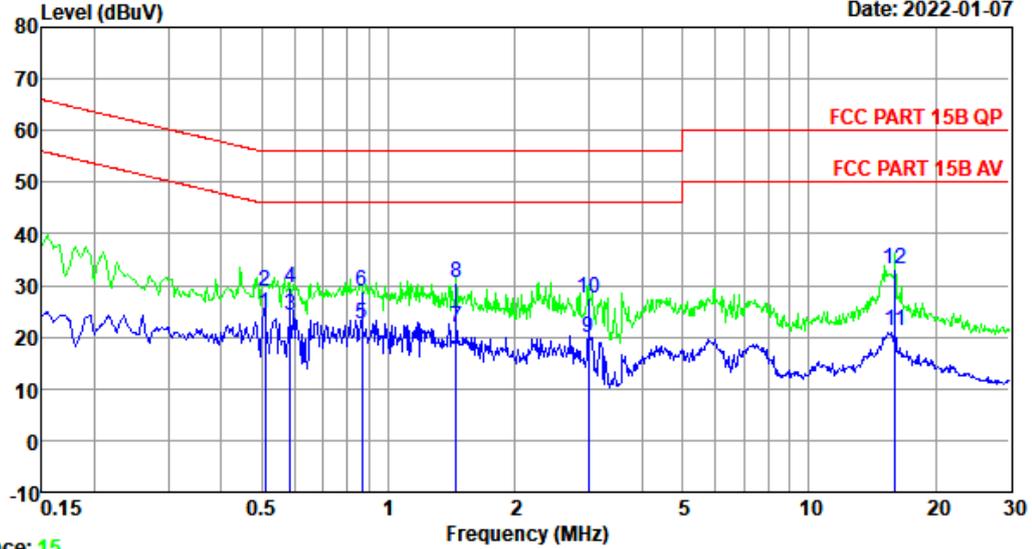


Trace: 13  
 Site no. : 2#CE Shield Room Data no. : 14  
 Env. / Ins. : Temp:22.8°C Humi:58% Press:101.30kPa. : LINE  
 Limit : FCC PART 15B QP  
 Engineer : ZSX  
 EUT : WIFI+BT Module  
 Power : DC 3.3V From PC Input AC 240V/60Hz  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.3751	9.81	0.05	12.81	22.67	48.39	25.72	Average
2	0.3751	9.81	0.05	17.44	27.30	58.39	31.09	QP
3	0.4193	9.85	0.05	13.57	23.47	47.46	23.99	Average
4	0.4193	9.85	0.05	17.76	27.66	57.46	29.80	QP
5	0.5611	9.84	0.05	15.68	25.57	46.00	20.43	Average
6	0.5611	9.84	0.05	19.81	29.70	56.00	26.30	QP
7	0.6108	9.83	0.05	14.48	24.36	46.00	21.64	Average
8	0.6108	9.83	0.05	17.76	27.64	56.00	28.36	QP
9	1.0939	9.93	0.06	10.49	20.48	46.00	25.52	Average
10	1.0939	9.93	0.06	14.89	24.88	56.00	31.12	QP
11	14.9068	9.86	0.08	10.41	20.35	50.00	29.65	Average
12	14.9068	9.86	0.08	18.82	28.76	60.00	31.24	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 16 File: \\EMC-ce-2\Test Data\2022\RF\G\Gao Sheng Da\WKCT27M2501.EM6 (52) Date: 2022-01-07



Trace: 15  
 Site no. : 2#CE Shield Room Data no. : 16  
 Env. / Ins. : Temp:22.8°C Humi:58% Press:101.30kPa. : NEUTRAL  
 Limit : FCC PART 15B QP  
 Engineer : ZSX  
 EUT : WIFI+BT Module  
 Power : DC 3.3V From PC Input AC 240V/60Hz  
 M/N : WKCT27M2501  
 Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.5101	9.76	0.05	14.88	24.69	46.00	21.31	Average
2	0.5101	9.76	0.05	19.05	28.86	56.00	27.14	QP
3	0.5854	9.75	0.05	14.45	24.25	46.00	21.75	Average
4	0.5854	9.75	0.05	19.64	29.44	56.00	26.56	QP
5	0.8664	9.85	0.06	12.70	22.61	46.00	23.39	Average
6	0.8664	9.85	0.06	18.97	28.88	56.00	27.12	QP
7	1.4485	9.85	0.06	12.04	21.95	46.00	24.05	Average
8	1.4485	9.85	0.06	20.64	30.55	56.00	25.45	QP
9	2.9935	9.98	0.07	9.88	19.93	46.00	26.07	Average
10	2.9935	9.98	0.07	17.32	27.37	56.00	28.63	QP
11	16.0546	10.13	0.08	10.99	21.20	50.00	28.80	Average
12	16.0546	10.13	0.08	22.83	33.04	60.00	26.96	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

## 9. ANTENNA REQUIREMENTS

### 9.1. Limit

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

### 9.2. Test Result

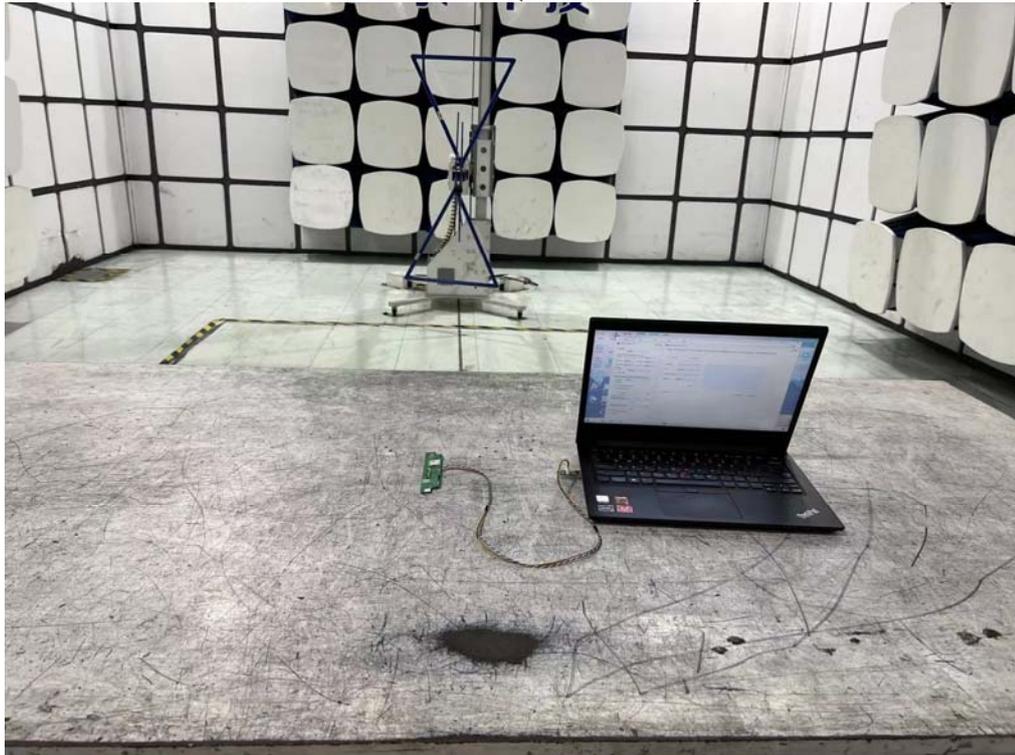
The antennas used for this product is PCB antenna ,so compliance with antenna requirements.  
( Please refer to the EUT photo for details)

# 10. TEST SETUP PHOTO

Conducted Test



**Radiated Test (Below 1GHz)**

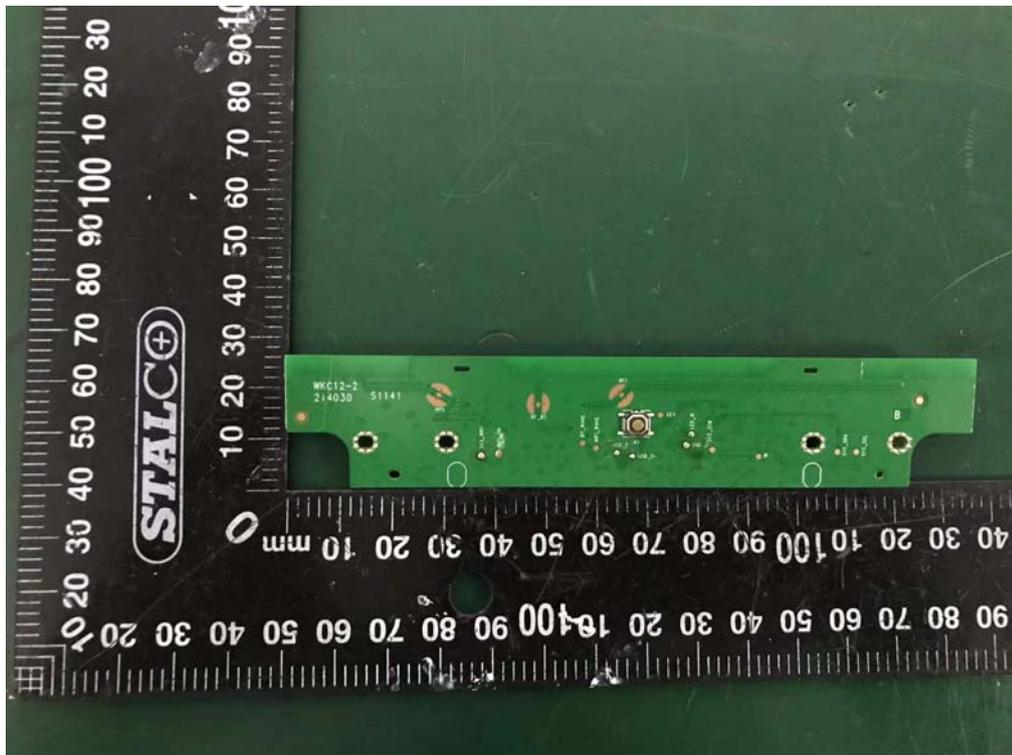
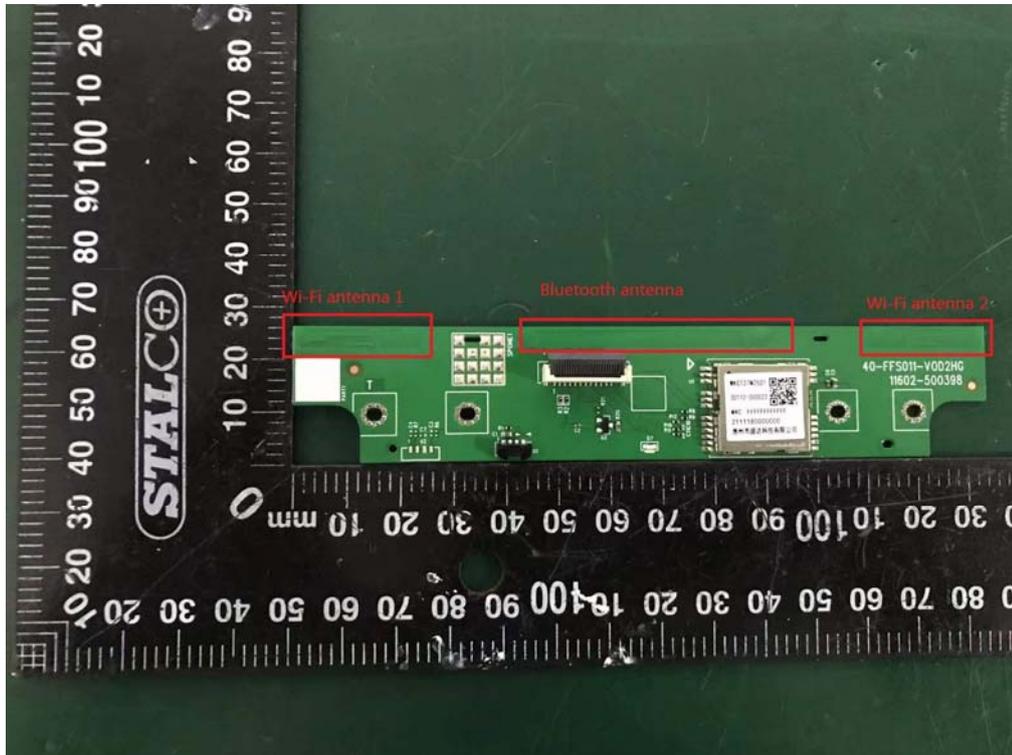


**Radiated Test (Above 1GHz)**

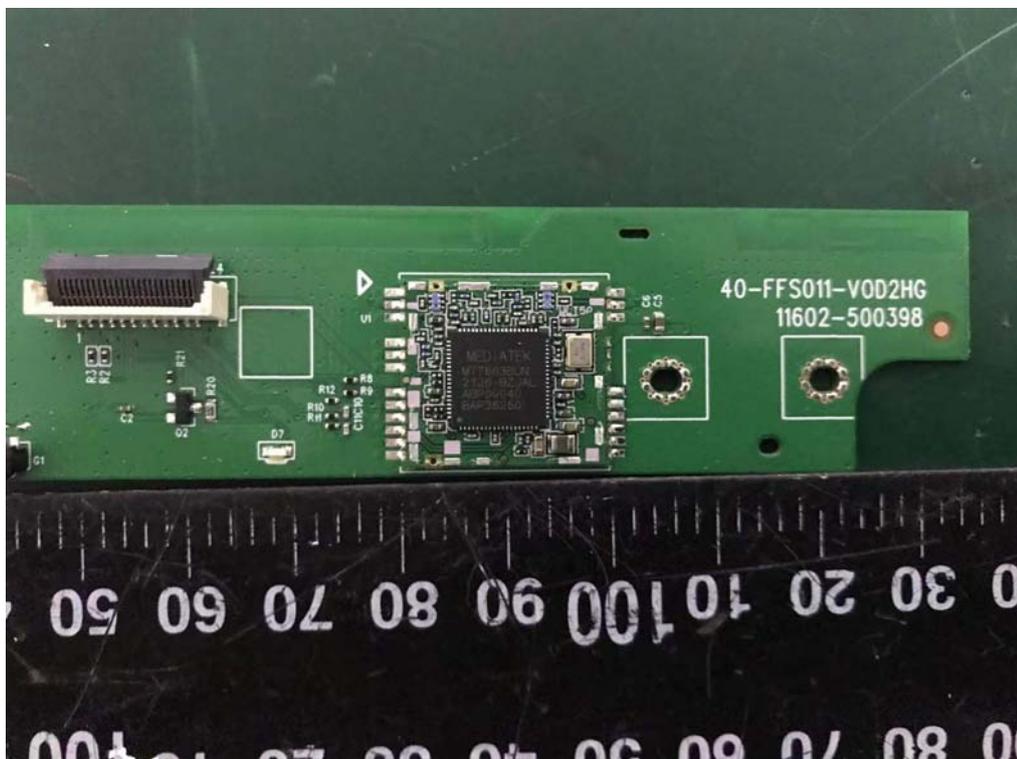
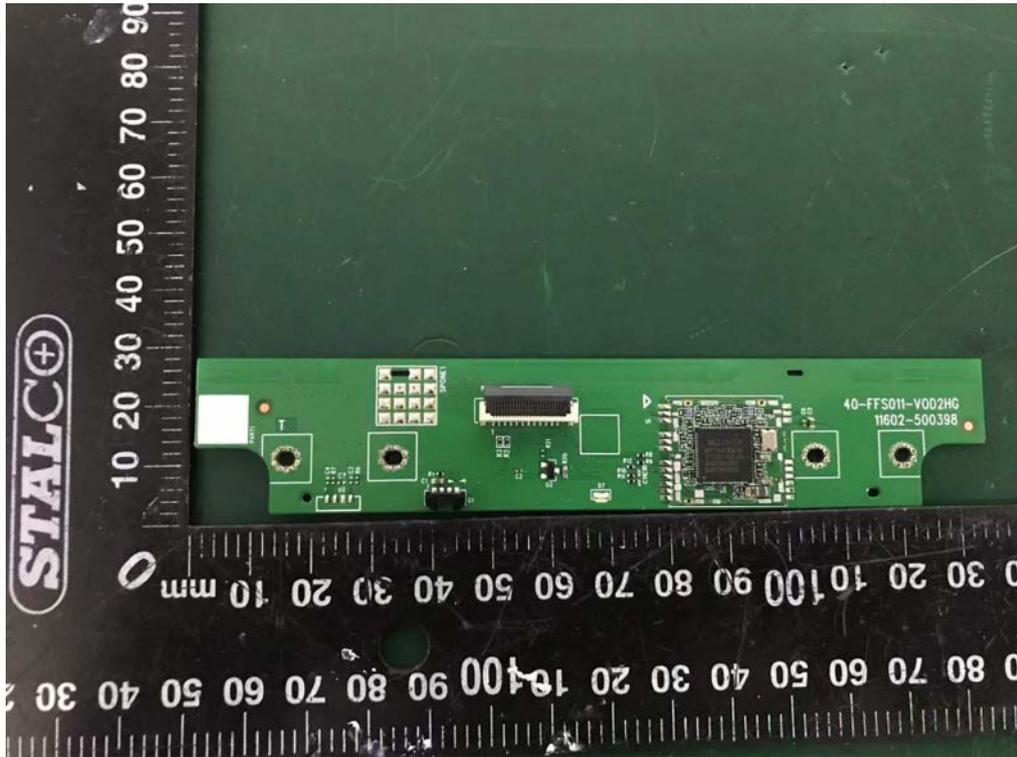


# 11. EUT PHOTO

**External Photos**  
M/N: WKCT27M2501



**Internal photos**  
M/N: WKCT27M2501



**End of Test Report**