



FCC TEST REPORT

Report No: STS1503041F05

Issued for

Product Name:	Wireless AC600 Dual-Band USB Mini Adapter
Brand Name:	IOGEAR
Model No.:	GWU635
FCC ID:	QLE-GWU635
Test Standard:	FCC Part 15.407

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TEST RESULT CERTIFICATION

Applicant's name.....: ATEN Technology, Inc., dba IOGEAR
 Address: 19641 Da Vinci, Foothill Ranch, CA 92610
Manufacture's Name: Winstars Technology Limited
 Address: Block 4, Taisong Industrial Park, Dalang Street, Longhua Town, Bao'an District, Shenzhen, China

Product description

Product name: Wireless AC600 Dual-Band USB Mini Adapter
 Model and/or type reference ..: GWU635

Standards: FCC Part15.407

Test procedure.....: ANSI C63.10-2009

This device described above has been tested by STS, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:


Date (s) of performance of tests: 10 Feb . 2015 ~11 March . 2015

Date of Issue.....: 12 March. 2015


Test Result: **Pass**

Testing Engineer : 

 (Tony Liu)

Technical Manager : 

 (Vita Li)

Authorized Signatory : 

 (Bovey Yang)





Table of Contents	Page
1. SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TEST	9
2.4 DESCRIPTION OF SUPPORT UNITS	9
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	10
3. EMC EMISSION TEST	11
3.1 CONDUCTED EMISSION MEASUREMENT	11
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	11
3.1.2 TEST RESULTS	12
3.2 RADIATED EMISSION MEASUREMENT	14
3.2.1 RADIATED EMISSION LIMITS	14
3.2.2 TEST PROCEDURE	15
3.2.3 TEST SETUP	16
3.2.4 EUT OPERATING CONDITIONS	17
3.2.5 TEST RESULT	18
3.2.6 TEST RESULTS (BAND EDGE)	31
4. CONDUCTED SPURIOUS EMISSIONS	43
4.1 APPLIED PROCEDURES / LIMIT	43
4.2 TEST PROCEDURE	43
4.3 DEVIATION FROM STANDARD	43
4.4 TEST SETUP	43
4.5 EUT OPERATION CONDITIONS	43
4.6 TEST RESULTS	44
5. POWER SPECTRAL DENSITY TEST	57
5.1 APPLIED PROCEDURES / LIMIT	57
5.2 TEST PROCEDURE	57
5.3 DEVIATION FROM STANDARD	57
5.4 TEST SETUP	57
5.5 EUT OPERATION CONDITIONS	57
5.6 TEST RESULTS	58



Table of Contents	Page
6. BANDWIDTH TEST	66
6.1 APPLIED PROCEDURES / LIMIT	66
6.2 TEST PROCEDURE	66
6.3 DEVIATION FROM STANDARD	66
6.4 TEST SETUP	66
6.5 EUT OPERATION CONDITIONS	66
6.6 TEST RESULTS	67
7. PEAK OUTPUT POWER TEST	70
7.1 APPLIED PROCEDURES / LIMIT	70
7.2 TEST PROCEDURE	70
7.3 DEVIATION FROM STANDARD	70
7.4 TEST SETUP	70
7.5 EUT OPERATION CONDITIONS	70
7.6 TEST RESULTS	71
8. ANTENNA REQUIREMENT	72
8.1 STANDARD REQUIREMENT	72
8.2 EUT ANTENNA	72
APPENDIX - PHOTOS OF TEST SETUP	73



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.407	6dB Bandwidth	PASS	
15.407	Peak Output Power	PASS	
15.407	Radiated Spurious Emission	PASS	
15.407	Conducted Spurious Emission	PASS	
15.407	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

1.1 TEST FACILITY

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F, Building 2, Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China.

FCC Registration No.: 842334; IC Registration No.: 12108A-1

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless AC600 Dual-Band USB Mini Adapter	
Trade Name	IOGEAR	
Model Name	GWU635	
Product Description	The EUT is a client without DFS and TPC	
	Operation Frequency:	5180 MHz~5240MHz; 5745 MHz~5825MHz
	Modulation Type:	11ac: 16QAM, 64QAM, 128QAM, 256QAM with OFDM 11n: BPSK, QPSK, 16QAM, 64QAM, OFDM
	Bit Rate of Transmitter	802.11ac: up to 433Mbps 802.11n: up to 300Mbps
	Number Of Channel	802.11n20: 9CH 802.11n40: 4CH 802.11ac80: 2CH
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	2 dbi
Channel List	Please refer to the Note 2.	
Ratings	DC 5V from USB Port	
Hardware version number	N/A	
Software versioning number	N/A	
Connecting I/O Port(s)	Please refer to the User's Manual	



Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Frequency Band	Channel Number	Frequency	Frequency Band	Channel Number	Frequency
5180 MHz~ 5240MHz	36	5180 MHz	5745 MHz~ 5825MHz	149	5745 MHz
	38	5190 MHz		151	5755 MHz
	40	5200 MHz		153	5765 MHz
	42	5210 MHz		155	5775 MHz
	44	5220 MHz		157	5785 MHz
	46	5230 MHz		159	5795 MHz
	48	5240 MHz		161	5805 MHz
			165	5825MHz	

Note: For 20MHZ bandwidth system use Channel 36,40,44,48,149,153,157,161,165

For 40MHZ bandwidth system use Channel 38,46,151,159

For 80MHZ bandwidth system use Channel 42,155

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	PIFA Antenna	NA	2	N/A



2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11n20 CH36/ CH48/ CH149/ CH165
Mode 2	802.11n40 CH38/ CH46/ CH151/ CH159
Mode 3	802.11ac80 CH42/ CH155
Mode 4	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

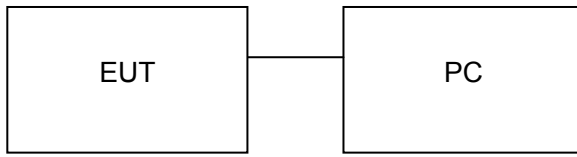
For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11n20 CH36/ CH48/ CH149/ CH165
Mode 2	802.11n40 CH38/ CH46/ CH151/ CH159
Mode 3	802.11ac80 CH42/ CH155
Mode 4	Link Mode

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TEST

Configure:



2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Wireless AC600 Dual-Band USB Mini Adapter	IOGEAR	GWU635	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	YES	1.5m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2014.10.25	2015.10.24
Test Receiver	R&S	ESCI	101427	2014.10.25	2015.10.24
Bilog Antenna	TESEQ	CBL6111D	34678	2014.10.27	2015.10.26
Horn Antenna	R&S	9120D	152265	2014.10.27	2015.10.26
Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2014.07.06	2015.07.05
Amplifier	Agilent	8449B	60538	2014.10.25	2015.10.24
Loop Antenna	ARA	PLA-1030/B	1029	2014.06.08	2015.06.07
Power Meter	Anritsu	ML2495A	1204003	2014.10.25	2015.10.24
Power Sensor	Anritsu	MA2411B	100309	2014.10.25	2015.10.24
Low frequency cable	N/A	R01	N/A	2014.10.25	2015.10.24
High frequency cable	N/A	R02	N/A	2014.10.25	2015.10.24

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	102086	2014.10.25	2015.10.24
LISN	R&S	ENV216	101242	2014.10.25	2015.10.24
LISN	EMCO	3810/2NM	000-23625	2014.10.25	2015.10.24
Conduction Cable	HUBER+SU HNER	C01	N/A	2014.10.25	2015.10.24



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.247&207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Class B (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

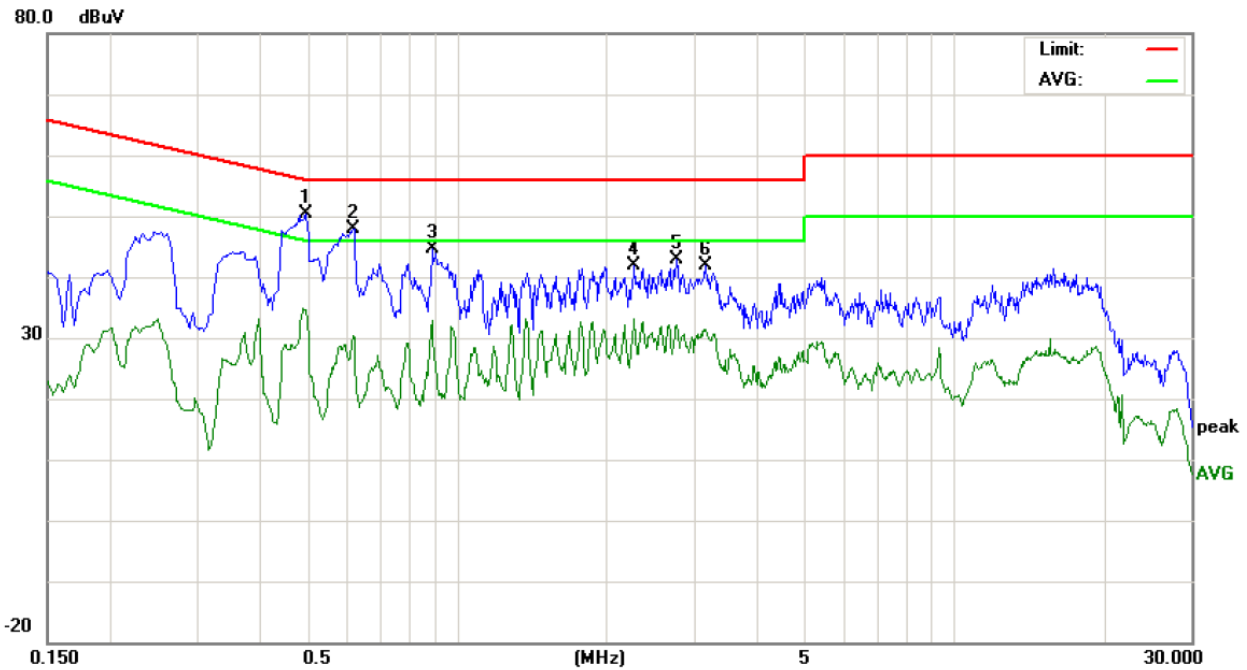
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



3.1.2 TEST RESULTS

EUT:	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	23 °C	Relative Humidity :	50%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V	Test Mode :	Link Mode

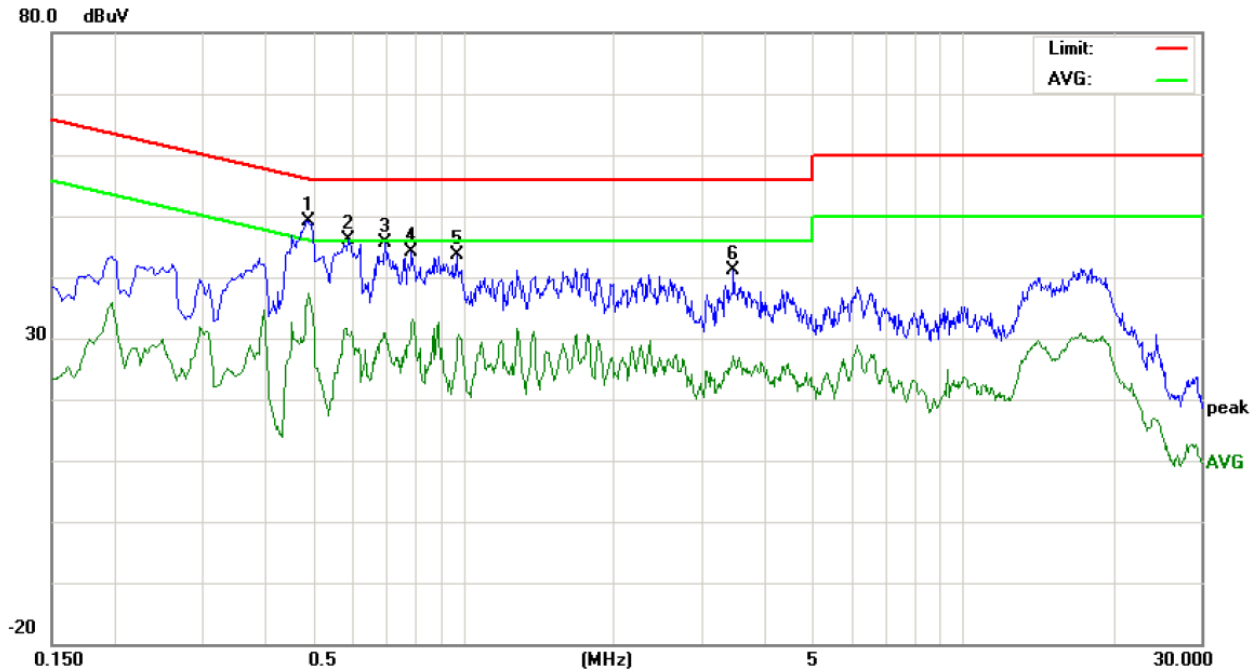


Site: Conduction Phase: **L** Temperature: 26
 Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
 EUT: Wireless AC600 Dual-Band USB Mini Adapter
 M/N: GWU635
 Mode: Link Mode
 Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor (dB)	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4980	40.04		24.13	10.40	50.44		34.53	56.03	46.03	-5.59	-11.50	P	
2	0.6180	37.60		20.16	10.32	47.92		30.48	56.00	46.00	-8.08	-15.52	P	
3	0.8900	34.24		22.40	10.40	44.64		32.80	56.00	46.00	-11.36	-13.20	P	
4	2.2740	31.64		22.71	10.33	41.97		33.04	56.00	46.00	-14.03	-12.96	P	
5	2.7740	32.47		21.61	10.50	42.97		32.11	56.00	46.00	-13.03	-13.89	P	
6	3.1619	31.30		20.77	10.54	41.84		31.31	56.00	46.00	-14.16	-14.69	P	



EUT:	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	23 °C	Relative Humidity :	50%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V	Test Mode :	Link Mode



Site: Conduction Phase: **N** Temperature: 26
 Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
 EUT: Wireless AC600 Dual-Band USB Mini Adapter
 M/N: GWU635
 Mode: Link Mode
 Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor (dB)	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4900	38.81		26.92	10.39	49.20		37.31	56.17	46.17	-6.97	-8.86	P	
2	0.5899	35.76		20.25	10.32	46.08		30.57	56.00	46.00	-9.92	-15.43	P	
3	0.6980	35.34		20.52	10.35	45.69		30.87	56.00	46.00	-10.31	-15.13	P	
4	0.7900	33.75		21.89	10.29	44.04		32.18	56.00	46.00	-11.96	-13.82	P	
5	0.9700	33.15		16.81	10.38	43.53		27.19	56.00	46.00	-12.47	-18.81	P	
6	3.4820	30.52		16.50	10.51	41.03		27.01	56.00	46.00	-14.97	-18.99	P	



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

6 dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on Part 15.247&205(a), then the Part 15.247&209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower



Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz (Peak/AV)
Stop Frequency	10th carrier harmonic(Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz / 10Hz

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

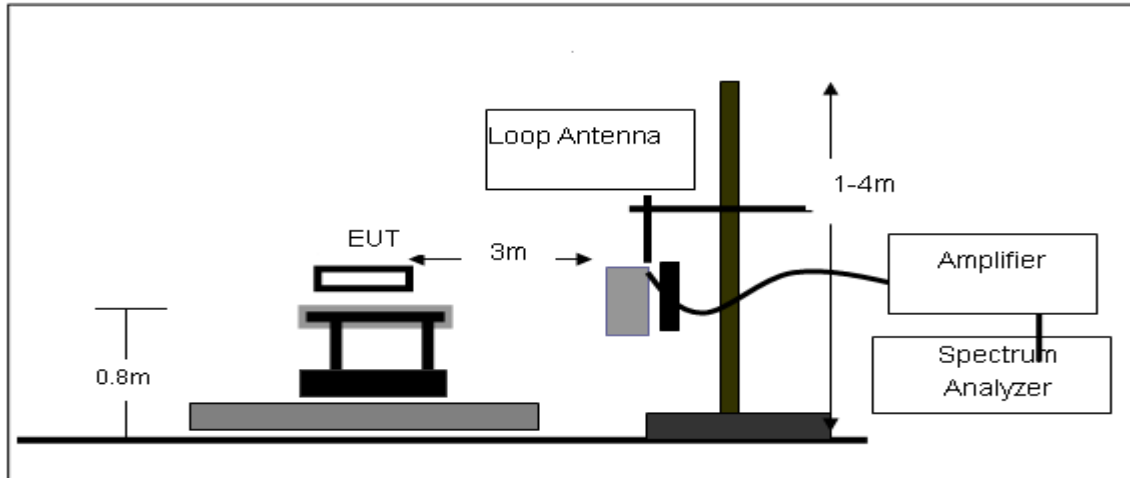
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

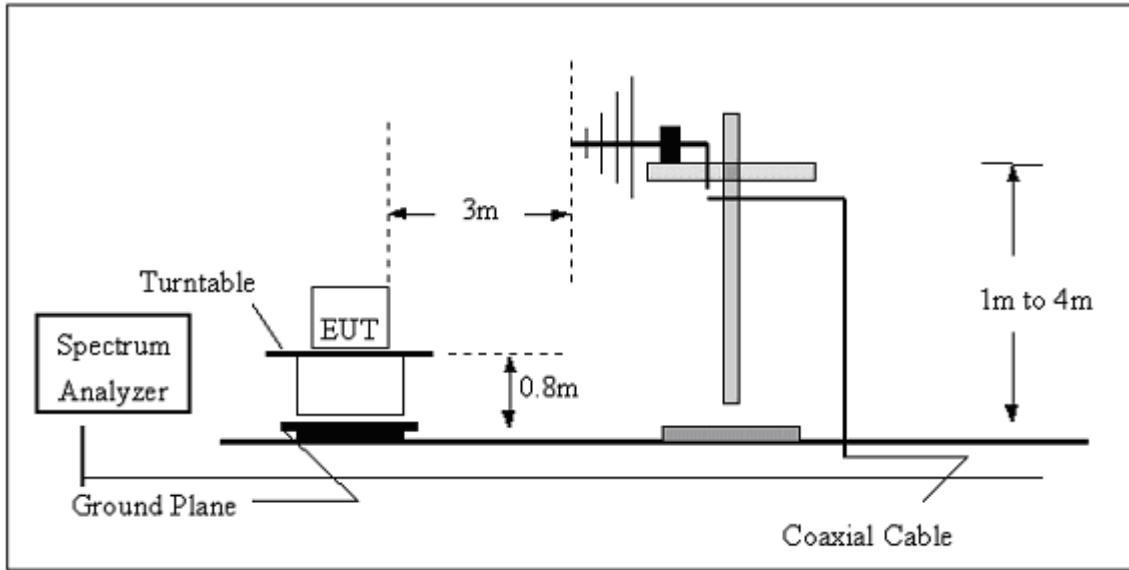
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 TEST SETUP

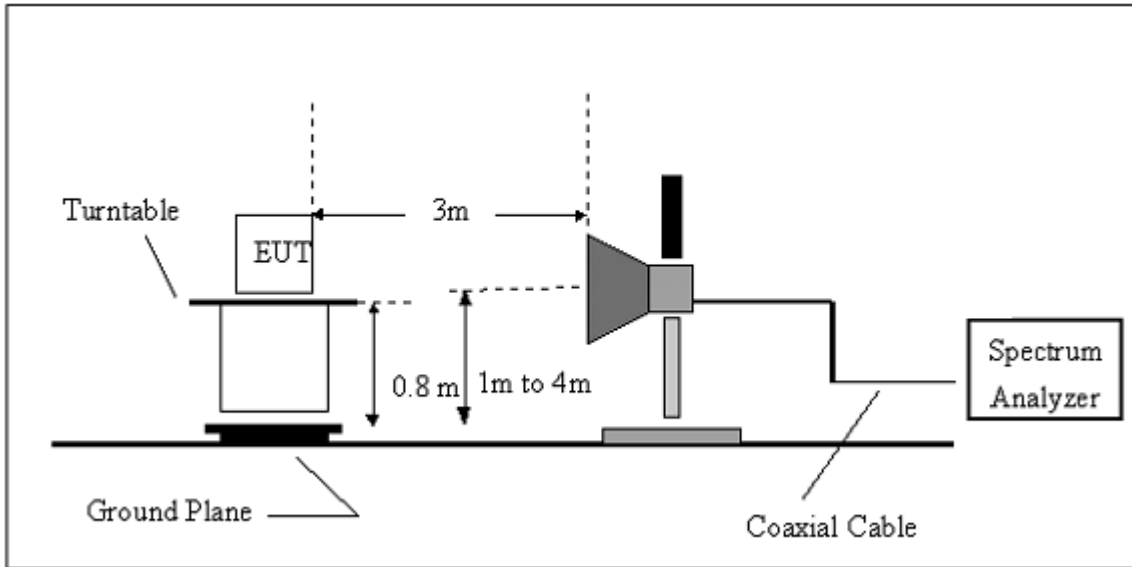
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.5 TEST RESULT

9KHz-30MHz

EUT:	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5V
Test Mode :	Link mode	Polarization :	--

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

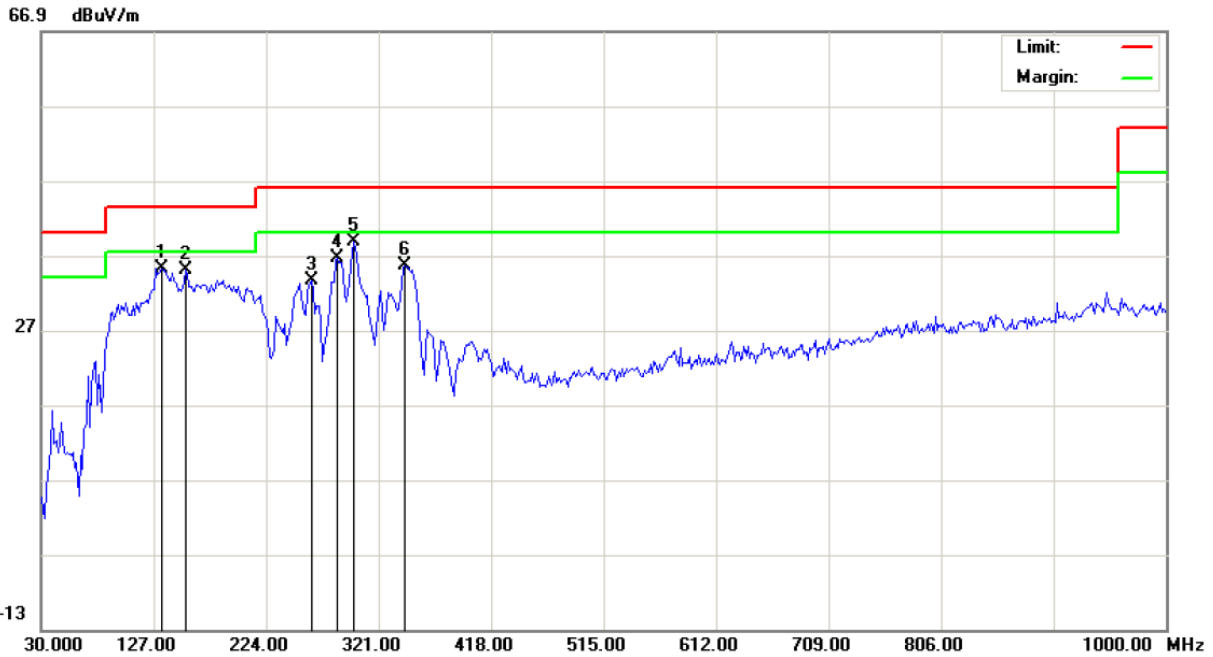
Distance extrapolation factor = $40 \log(\text{specific distance}/\text{test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.



30MHz - 1000MHz

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	Link mode	Polarization :	Horizontal



Site: site #1 Polarization: *Horizontal* Temperature: 26
 Limit: FCC Class B 3M Radiation Power:DC 5V Humidity: 60 %
 EUT: Wireless AC600 Dual-Band USB Mini Adapter Distance:
 M/N: GWU635
 Mode: Link Mode
 Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		Height	Degree	
									cm	degree	
1		133.4667	22.71	12.48	35.19	43.50	-8.31	peak			
2		154.4833	19.73	15.29	35.02	43.50	-8.48	peak			
3		262.8000	19.23	14.29	33.52	46.00	-12.48	peak			
4		285.4332	21.60	14.97	36.57	46.00	-9.43	peak			
5	*	299.9833	23.33	15.41	38.74	46.00	-7.26	peak			
6		343.6333	17.32	18.32	35.64	46.00	-10.36	peak			



Above 1000MHz

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH36 (802.11n20 Mode)5180	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10360.110	43.56	13.16	56.72	74	-17.28	peak
10360.059	34.25	13.16	47.41	54	-6.59	AVG
15540.067	42.14	14.07	56.21	74	-17.79	peak
15540.079	28.37	14.07	42.44	54	-11.56	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH36 (802.11n20 Mode)5180	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10360.051	49.12	13.16	62.28	74	-11.72	peak
10360.067	33.42	13.16	46.58	54	-7.42	AVG
15540.125	48.17	14.07	62.24	74	-11.76	peak
15540.133	30.78	14.07	44.85	54	-9.15	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH48 (802.11n20 Mode)/5240	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.059	44.43	13.28	57.71	74	-16.29	peak
10480.090	31.42	13.28	44.7	54	-9.3	AVG
15720.137	44.68	14.15	58.83	74	-15.17	peak
15720.100	30.57	14.15	44.72	54	-9.28	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH48 (802.11n20 Mode)/5240	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.123	45.21	13.28	58.49	74	-15.51	peak
10480.051	32.18	13.28	45.46	54	-8.54	AVG
15720.140	44.98	14.15	59.13	74	-14.87	peak
15720.099	31.56	14.15	45.71	54	-8.29	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH149 (802.11n20 Mode)/5745	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.067	44.31	13.35	57.66	74	-16.34	peak
11490.061	31.26	13.35	44.61	54	-9.39	AVG
17235.107	45.18	14.26	59.44	74	-14.56	peak
17235.059	30.56	14.26	44.82	54	-9.18	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH149 (802.11n20 Mode)/5745	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.106	45.12	13.35	58.47	74	-15.53	peak
11490.120	32.16	13.35	45.51	54	-8.49	AVG
17235.068	44.78	14.26	59.04	74	-14.96	peak
17235.048	31.28	14.26	45.54	54	-8.46	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH165 (802.11n20 Mode)/5825	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.076	44.21	13.42	57.63	74	-16.37	peak
11650.049	30.15	13.42	43.57	54	-10.43	AVG
17475.055	43.58	14.31	57.89	74	-16.11	peak
17475.076	31.26	14.31	45.57	54	-8.43	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH165 (802.11n20 Mode)/5825	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.078	45.26	13.42	58.68	74	-15.32	peak
11650.114	31.25	13.42	44.67	54	-9.33	AVG
17475.087	44.85	14.31	59.16	74	-14.84	peak
17475.118	30.98	14.31	45.29	54	-8.71	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH38 (802.11n40 Mode)/5190	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10380.106	45.26	13.16	58.42	74	-15.58	peak
10380.081	32.15	13.16	45.31	54	-8.69	AVG
15570.072	46.28	14.07	60.35	74	-13.65	peak
15570.117	29.87	14.07	43.94	54	-10.06	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH38 (802.11n40 Mode)/5190	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10380.085	46.28	13.16	59.44	74	-14.56	peak
10380.114	32.18	13.16	45.34	54	-8.66	AVG
15570.053	46.89	14.07	60.96	74	-13.04	peak
15570.046	31.98	14.07	46.05	54	-7.95	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH46 (802.11n40 Mode)/5230	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10460.043	46.25	13.28	59.53	74	-14.47	peak
10460.125	31.59	13.28	44.87	54	-9.13	AVG
15690.106	47.26	14.15	61.41	74	-12.59	peak
15690.124	32.18	14.15	46.33	54	-7.67	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH46 (802.11n40 Mode)/5230	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10460.108	45.86	13.28	59.14	74	-14.86	peak
10460.052	31.26	13.28	44.54	54	-9.46	AVG
15690.050	46.28	14.15	60.43	74	-13.57	peak
15690.095	30.98	14.15	45.13	54	-8.87	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH151 (802.11n40 Mode)/5755	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11510.021	46.46	13.35	59.81	74	-14.19	peak
11510.111	33.76	13.35	47.11	54	-6.89	AVG
17265.049	45.68	14.26	59.94	74	-14.06	peak
17265.112	30.29	14.26	44.55	54	-9.45	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH151 (802.11n40 Mode)/5755	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11510.115	46.52	13.35	59.87	74	-14.13	peak
11510.064	34.16	13.35	47.51	54	-6.49	AVG
17265.126	49.28	14.26	63.54	74	-10.46	peak
17265.050	33.29	14.26	47.55	54	-6.45	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH159 (802.11n40 Mode)/5795	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11590.070	47.26	13.39	60.65	74	-13.35	peak
11590.111	33.56	13.39	46.95	54	-7.05	AVG
17385.051	48.26	14.28	62.54	74	-11.46	peak
17385.112	34.26	14.28	48.54	54	-5.46	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH159 (802.11n40 Mode)/5795	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11590.137	48.16	13.39	61.55	74	-12.45	peak
11590.152	34.26	13.39	47.65	54	-6.35	AVG
17385.149	47.98	14.28	62.26	74	-11.74	peak
17385.139	30.28	14.28	44.56	54	-9.44	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH42 (802.11ac80 Mode)/5210	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10420.029	48.62	13.21	61.83	74	-12.17	peak
10420.075	33.26	13.21	46.47	54	-7.53	AVG
15630.105	49.26	14.12	63.38	74	-10.62	peak
15630.140	32.68	14.12	46.8	54	-7.2	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH42 (802.11ac80 Mode)/5210	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
10420.079	49.26	13.21	62.47	74	-11.53	peak
10420.039	34.26	13.21	47.47	54	-6.53	AVG
15630.140	47.86	14.12	61.98	74	-12.02	peak
15630.082	30.29	14.12	44.41	54	-9.59	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155 (802.11ac80 Mode)/5775	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11550.054	48.26	13.37	61.63	74	-12.37	peak
11550.063	30.28	13.37	43.65	54	-10.35	AVG
17325.214	47.65	14.27	61.92	74	-12.08	peak
17325.241	31.26	14.27	45.53	54	-8.47	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155 (802.11ac80 Mode)/5775	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11550.254	47.85	13.37	61.22	74	-12.78	peak
11550.301	31.26	13.37	44.63	54	-9.37	AVG
17325.222	48.95	14.27	63.22	74	-10.78	peak
17325.164	30.28	14.27	44.55	54	-9.45	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



3.2.6 TEST RESULTS (BAND EDGE)

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH36(802.11n20 Mode)5180	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5149.900	48.65	10.41	59.06	74	-14.94	peak
5149.900	36.83	10.41	47.24	54	-6.76	AVG
5150.000	48.56	10.41	58.97	74	-15.03	peak
5150.000	36.58	10.41	46.99	54	-7.01	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH36(802.11n20 Mode)5180	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5149.900	48.41	10.41	58.82	74	-15.18	peak
5149.900	36.27	10.41	46.68	54	-7.32	AVG
5150.000	48.13	10.41	58.54	74	-15.46	peak
5150.000	36.42	10.41	46.83	54	-7.17	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH38(802.11n40 Mode)5190	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5149.900	47.64	10.41	58.05	74	-15.95	peak
5149.900	35.62	10.41	46.03	54	-7.97	AVG
5150.000	47.56	10.41	57.97	74	-16.03	peak
5150.000	34.52	10.41	44.93	54	-9.07	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH38(802.11n40 Mode)5190	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5149.900	48.21	10.41	58.62	74	-15.38	peak
5149.900	34.62	10.41	45.03	54	-8.97	AVG
5150.000	47.96	10.41	58.37	74	-15.63	peak
5150.000	35.26	10.41	45.67	54	-8.33	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH42(802.11ac80 Mode)5210	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5149.900	47.52	10.41	57.93	74	-16.07	peak
5149.900	31.26	10.41	41.67	54	-12.33	AVG
5150.000	46.52	10.41	56.93	74	-17.07	peak
5150.000	32.16	10.41	42.57	54	-11.43	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH42(802.11ac80 Mode)5210	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5149.900	48.25	10.41	58.66	74	-15.34	peak
5149.900	32.16	10.41	42.57	54	-11.43	AVG
5150.000	47.65	10.41	58.06	74	-15.94	peak
5150.000	31.98	10.41	42.39	54	-11.61	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH48(802.11n20 Mode)5240	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5235.000	32.56	10.58	43.14	74	-30.86	peak
5235.000	21.38	10.58	31.96	54	-22.04	AVG
5235.100	32.35	10.58	42.93	74	-31.07	peak
5235.100	21.75	10.58	32.33	54	-21.67	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH48(802.11n20 Mode)5240	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5235.000	32.47	10.58	43.05	74	-30.95	peak
5235.000	21.27	10.58	31.85	54	-22.15	AVG
5235.100	32.43	10.58	43.01	74	-30.99	peak
5235.100	21.87	10.58	32.45	54	-21.55	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH47(802.11n40 Mode)5230	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5235.000	32.44	10.58	43.02	74	-30.98	peak
5235.000	21.21	10.58	31.79	54	-22.21	AVG
5235.100	32.44	10.58	43.02	74	-30.98	peak
5235.100	21.85	10.58	32.43	54	-21.57	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH47(802.11n40 Mode)5230	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5235.000	32.52	10.58	43.1	74	-30.9	peak
5235.000	21.31	10.58	31.89	54	-22.11	AVG
5235.100	32.27	10.58	42.85	74	-31.15	peak
5235.100	21.43	10.58	32.01	54	-21.99	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH58(802.11ac80 Mode)5290	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5235.000	32.42	10.58	43	74	-31	peak
5235.000	21.25	10.58	31.83	54	-22.17	AVG
5235.100	32.47	10.58	43.05	74	-30.95	peak
5235.100	21.81	10.58	32.39	54	-21.61	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH58(802.11ac80 Mode)5290	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5235.000	32.57	10.58	43.15	74	-30.85	peak
5235.000	21.35	10.58	31.93	54	-22.07	AVG
5235.100	32.28	10.58	42.86	74	-31.14	peak
5235.100	21.45	10.58	32.03	54	-21.97	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH149(802.11n20 Mode)/5745	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	42.19	10.93	53.12	74	-20.88	peak
5724.900	32.37	10.93	43.3	54	-10.7	AVG
5725.000	41.26	10.93	52.19	74	-21.81	peak
5725.000	31.29	10.93	42.22	54	-11.78	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH149(802.11n20 Mode)/5745	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	42.78	10.93	53.71	74	-20.29	peak
5724.900	32.46	10.93	43.39	54	-10.61	AVG
5725.000	41.58	10.93	52.51	74	-21.49	peak
5725.000	31.14	10.93	42.07	54	-11.93	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH151(802.11n40 Mode)/5755	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	42.17	10.93	53.1	74	-20.9	peak
5724.900	32.34	10.93	43.27	54	-10.73	AVG
5725.000	41.26	10.93	52.19	74	-21.81	peak
5725.000	31.37	10.93	42.3	54	-11.7	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH151(802.11n40 Mode)/5755	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	41.68	10.93	52.61	74	-21.39	peak
5724.900	31.85	10.93	42.78	54	-11.22	AVG
5725.000	40.98	10.93	51.91	74	-22.09	peak
5725.000	31.45	10.93	42.38	54	-11.62	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155(802.11ac80 Mode)/5775	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	41.23	10.93	52.16	74	-21.84	peak
5724.900	31.64	10.93	42.57	54	-11.43	AVG
5725.000	40.85	10.93	51.78	74	-22.22	peak
5725.000	30.62	10.93	41.55	54	-12.45	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155(802.11ac80 Mode)/5775	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5724.900	41.12	10.93	52.05	74	-21.95	peak
5724.900	31.42	10.93	42.35	54	-11.65	AVG
5725.000	40.28	10.93	51.21	74	-22.79	peak
5725.000	31.07	10.93	42	54	-12	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH165(802.11n20 Mode)/5825	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5850.000	43.27	11.16	54.43	74	-19.57	peak
5850.000	31.98	11.16	43.14	54	-10.86	AVG
5850.100	42.67	11.16	53.83	74	-20.17	peak
5850.100	31.83	11.16	42.99	54	-11.01	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH165(802.11n20 Mode)/5825	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
5850.000	43.45	11.16	54.61	74	-19.39	peak
5850.000	31.46	11.16	42.62	54	-11.38	AVG
5850.100	42.79	11.16	53.95	74	-20.05	peak
5850.100	31.47	11.16	42.63	54	-11.37	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH159(802.11n40 Mode)/5795	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5850.000	33.56	11.16	44.72	74	-29.28	peak
5850.000	21.53	11.16	32.69	54	-21.31	AVG
5850.100	33.86	11.16	45.02	74	-28.98	peak
5850.100	20.86	11.16	32.02	54	-21.98	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH159(802.11n40 Mode)/5795	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5850.000	34.52	11.16	45.68	74	-28.32	peak
5850.000	22.63	11.16	33.79	54	-20.21	AVG
5850.100	34.86	11.16	46.02	74	-27.98	peak
5850.100	21.96	11.16	33.12	54	-20.88	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155(802.11ac80 Mode)/5775	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5850.000	33.12	11.16	44.28	74	-29.72	peak
5850.000	21.07	11.16	32.23	54	-21.77	AVG
5850.100	33.19	11.16	44.35	74	-29.65	peak
5850.100	20.46	11.16	31.62	54	-22.38	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH155(802.11ac80 Mode)/5775	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Value Type
5850.000	34.28	11.16	45.44	74	-28.56	peak
5850.000	22.43	11.16	33.59	54	-20.41	AVG
5850.100	34.27	11.16	45.43	74	-28.57	peak
5850.100	21.73	11.16	32.89	54	-21.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

4. CONDUCTED SPURIOUS EMISSIONS

4.1 APPLIED PROCEDURES / LIMIT

Applicable Limits	Measurement Result	
	Test channel	Criteria
27dBm	5150MHz-5250MHz	PASS
17dBm within 5715-5725MHz and 5850-5860MHz 27dBm outside 5715-5860MHz	5725MHz-5825MHz	PASS

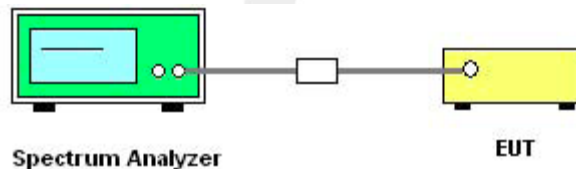
4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 40GHz
RB / VB (emission in restricted band)	1MHz/1MHz
Trace-Mode:	Max hold

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1MHz. In order to make an accurate measurement, set the span greater than RBW.

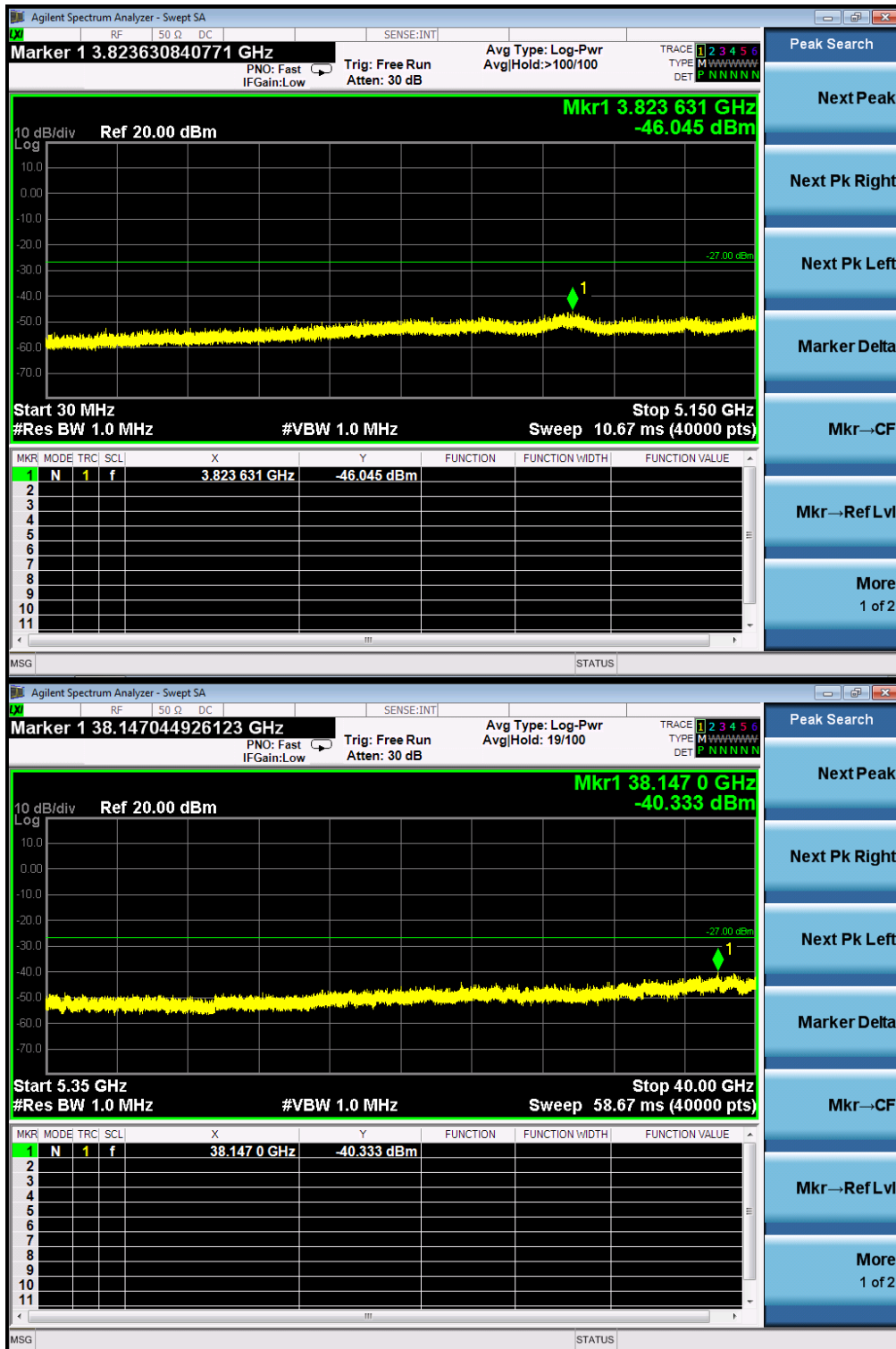
4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



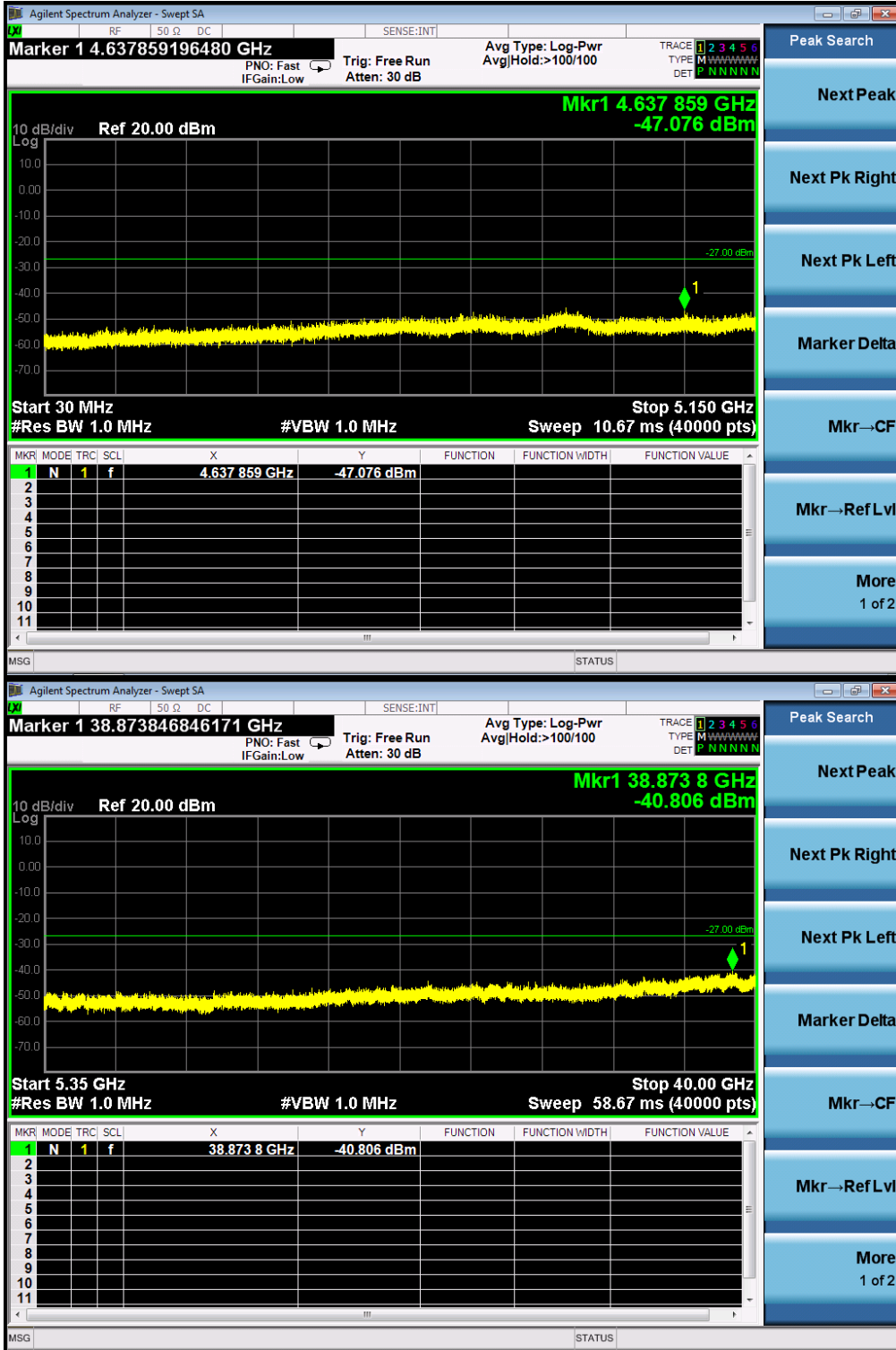
4.6 TEST RESULTS

TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5180MHZ



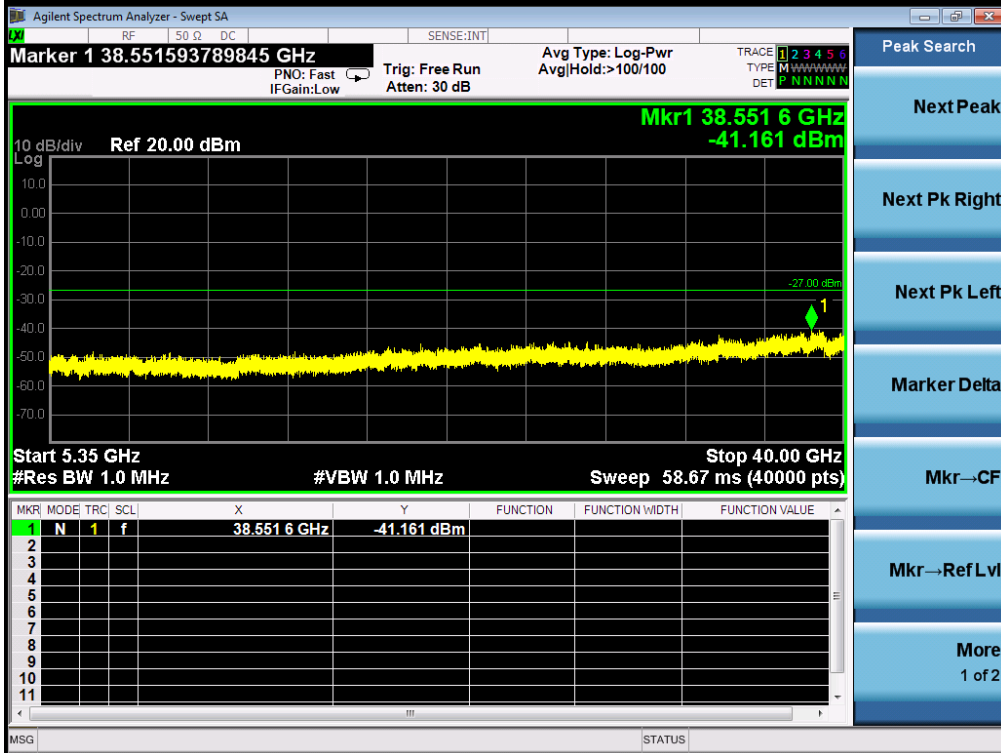
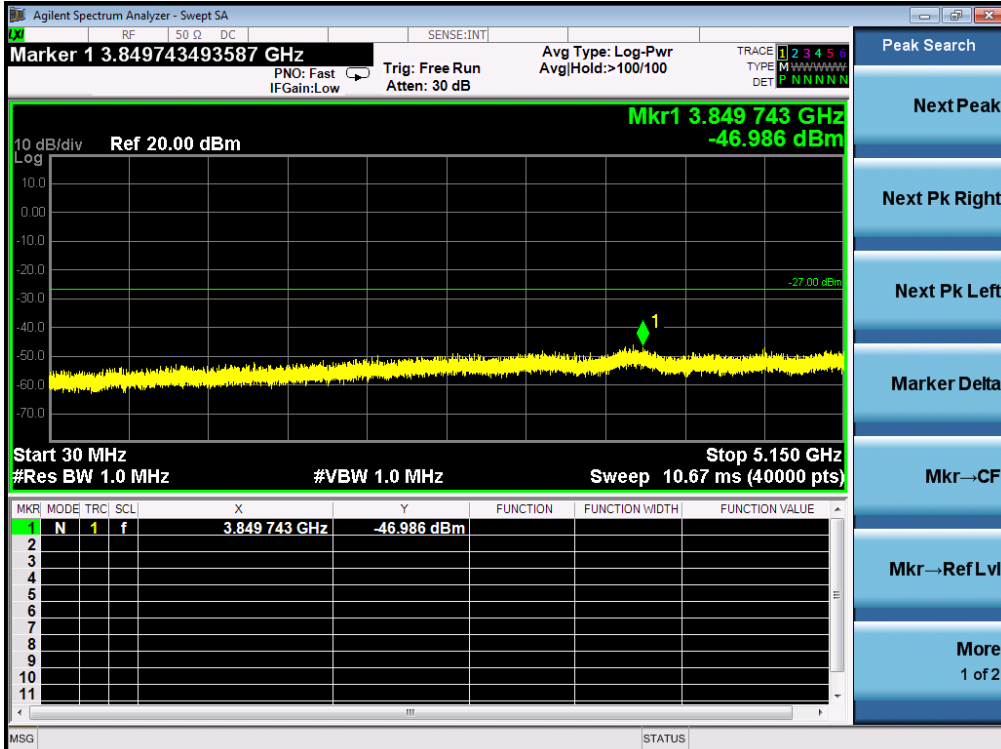


TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5190MHz



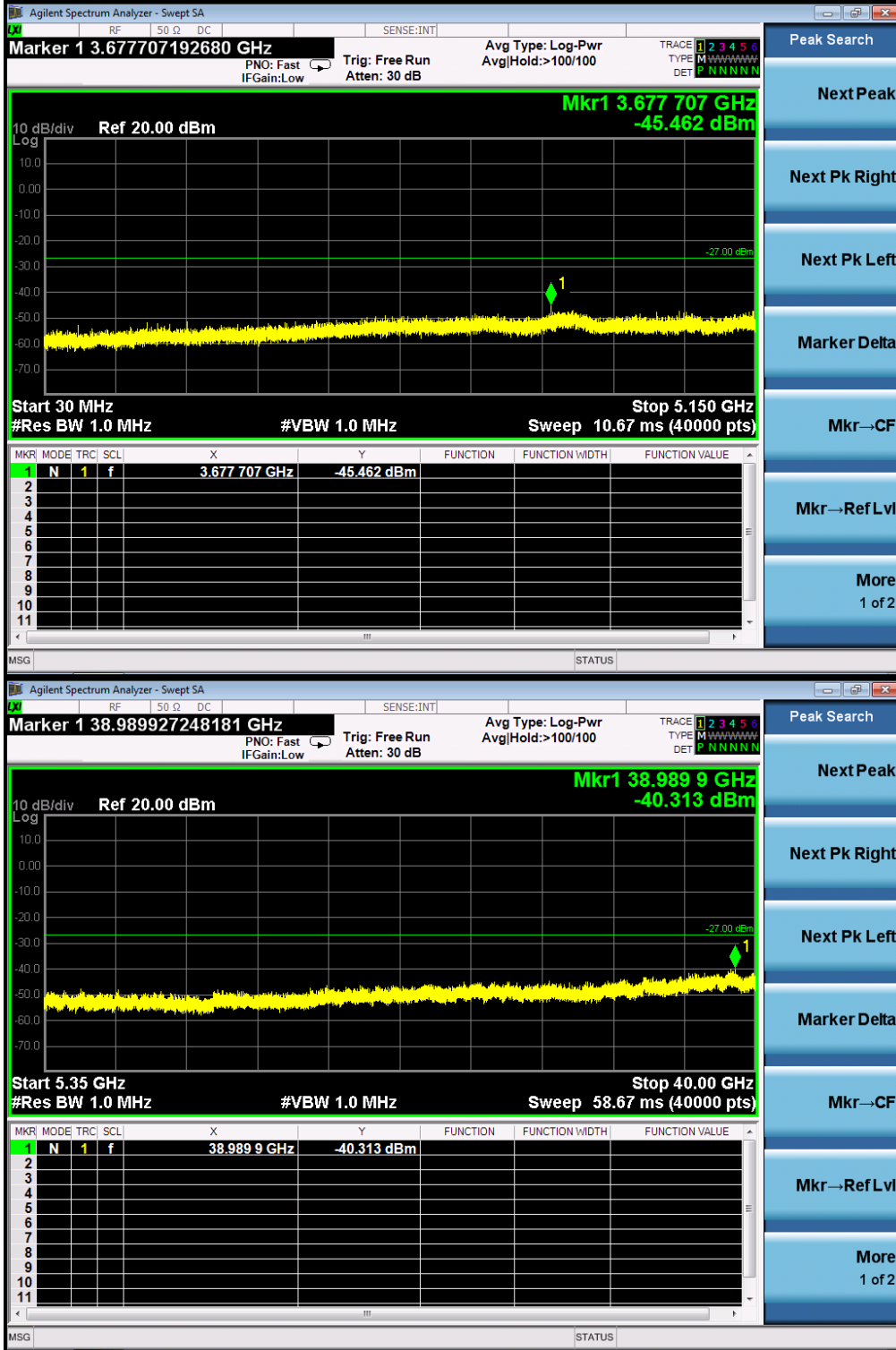


TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5210MHz



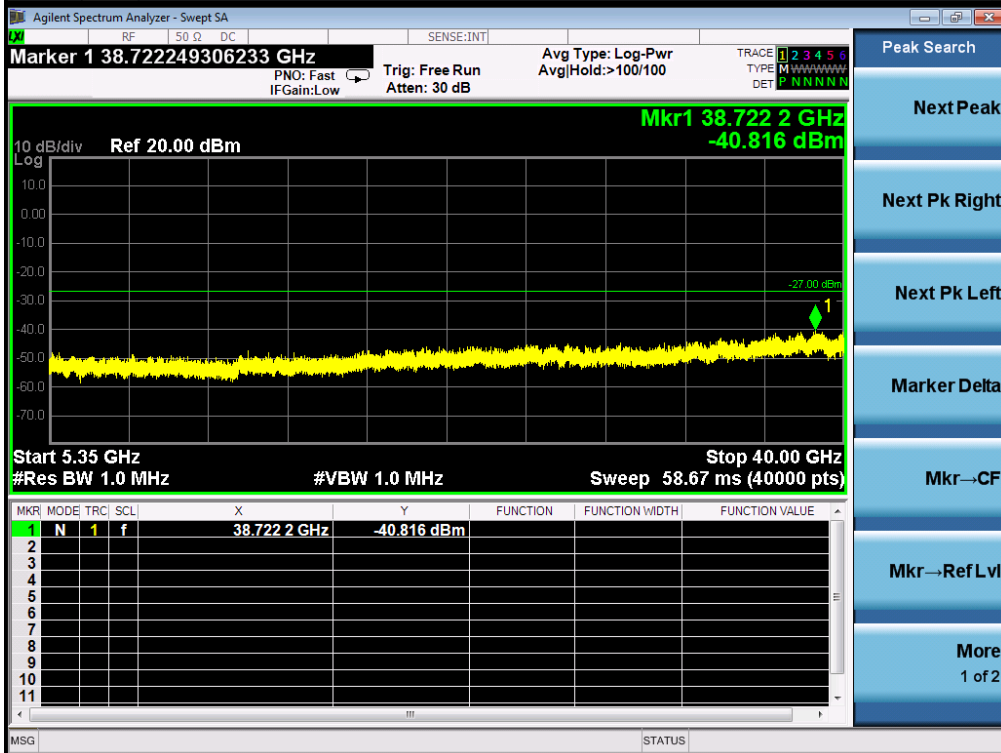
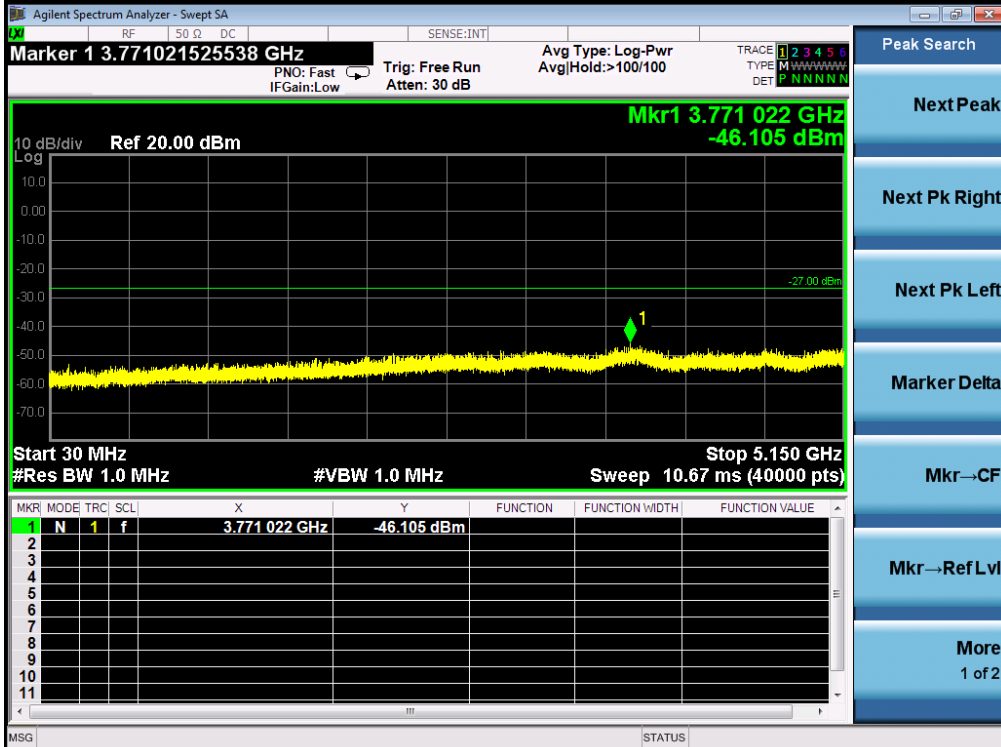


TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5230MHz



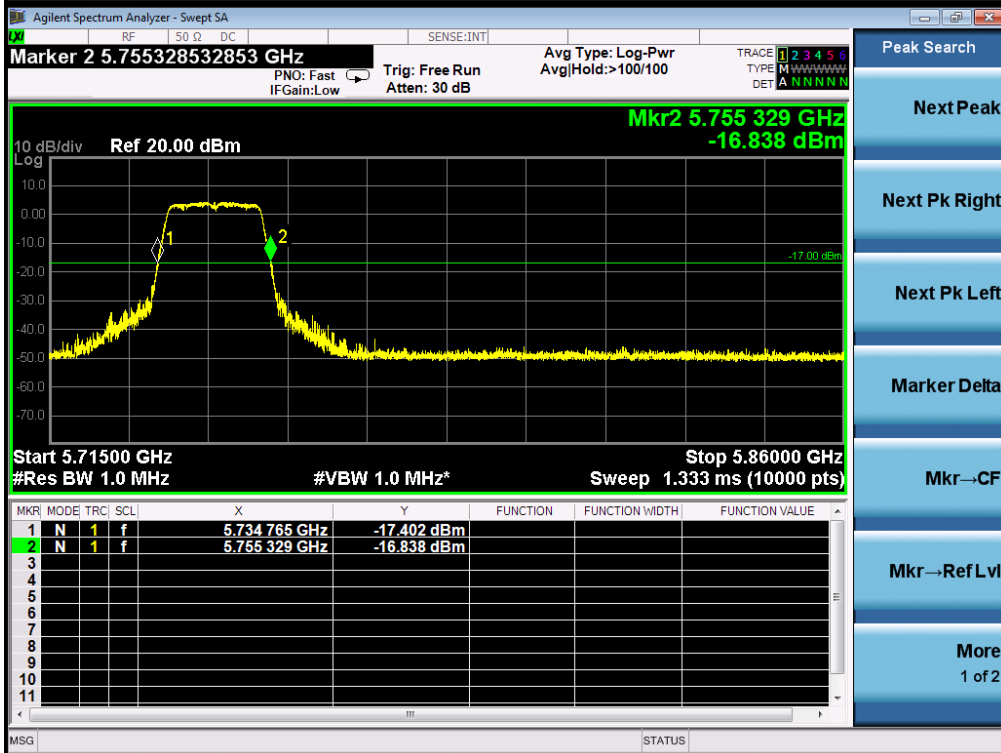
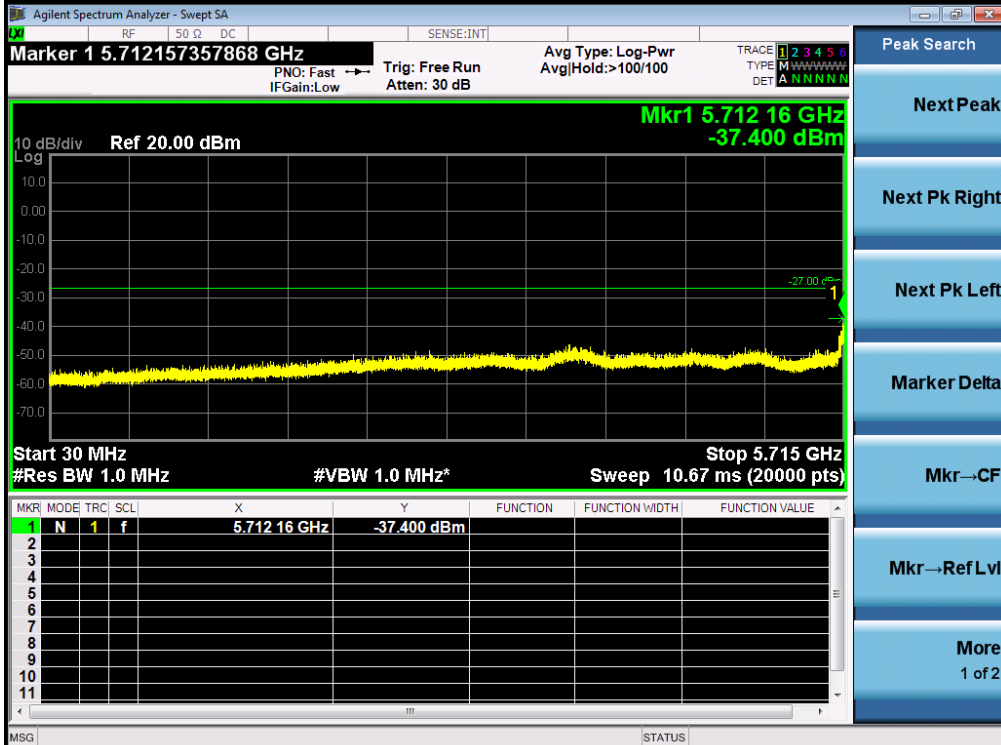


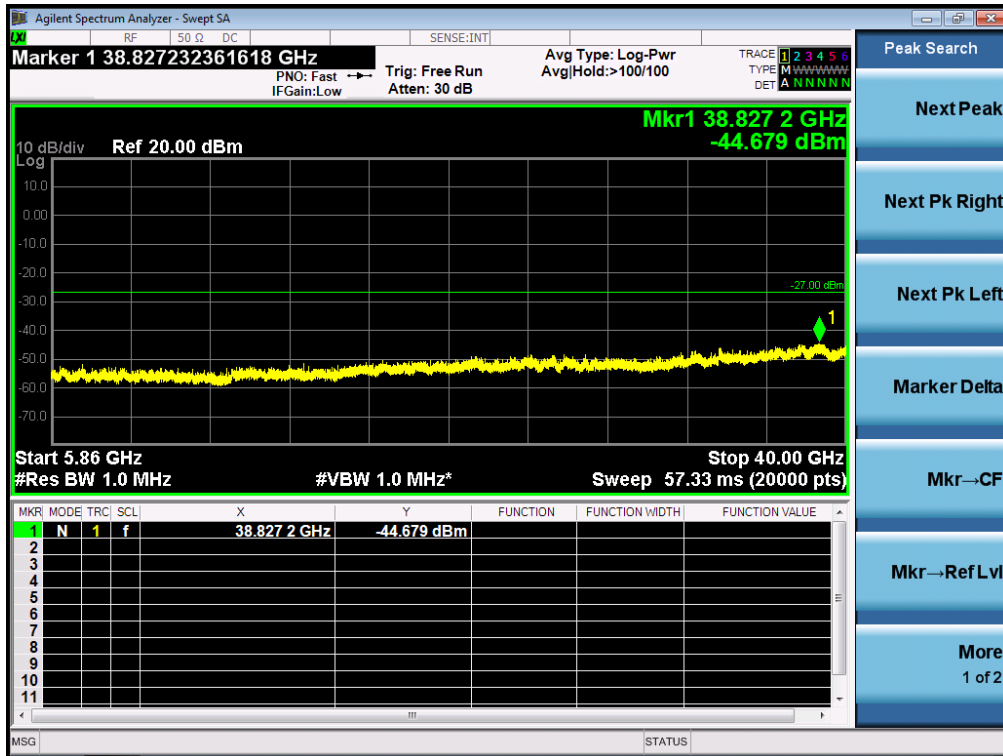
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5240MHz



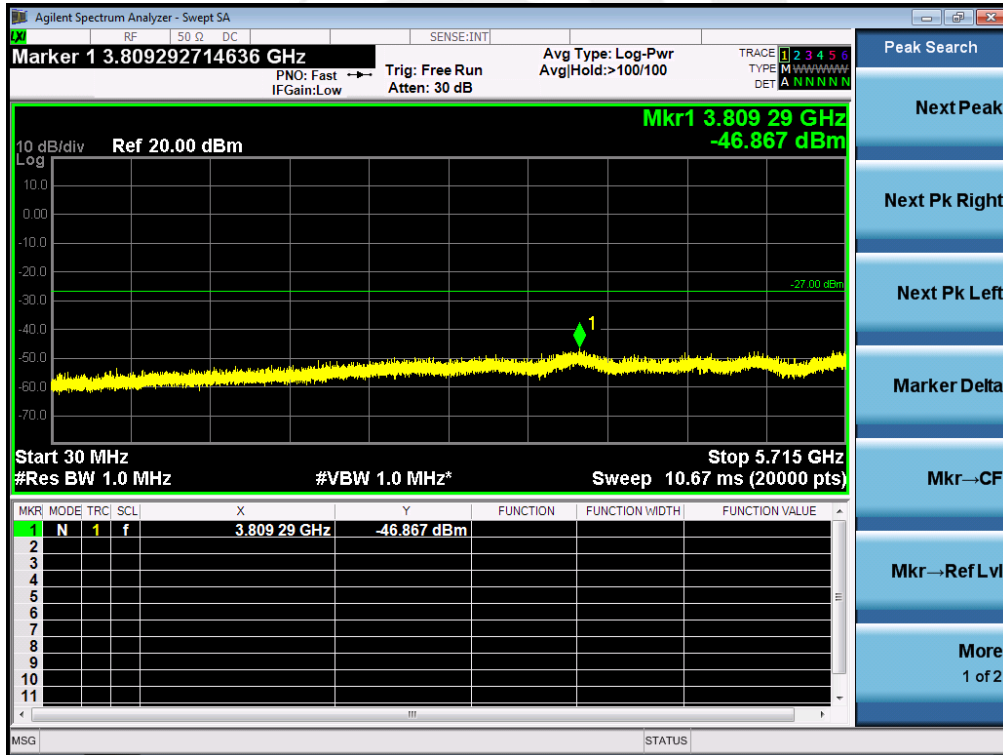


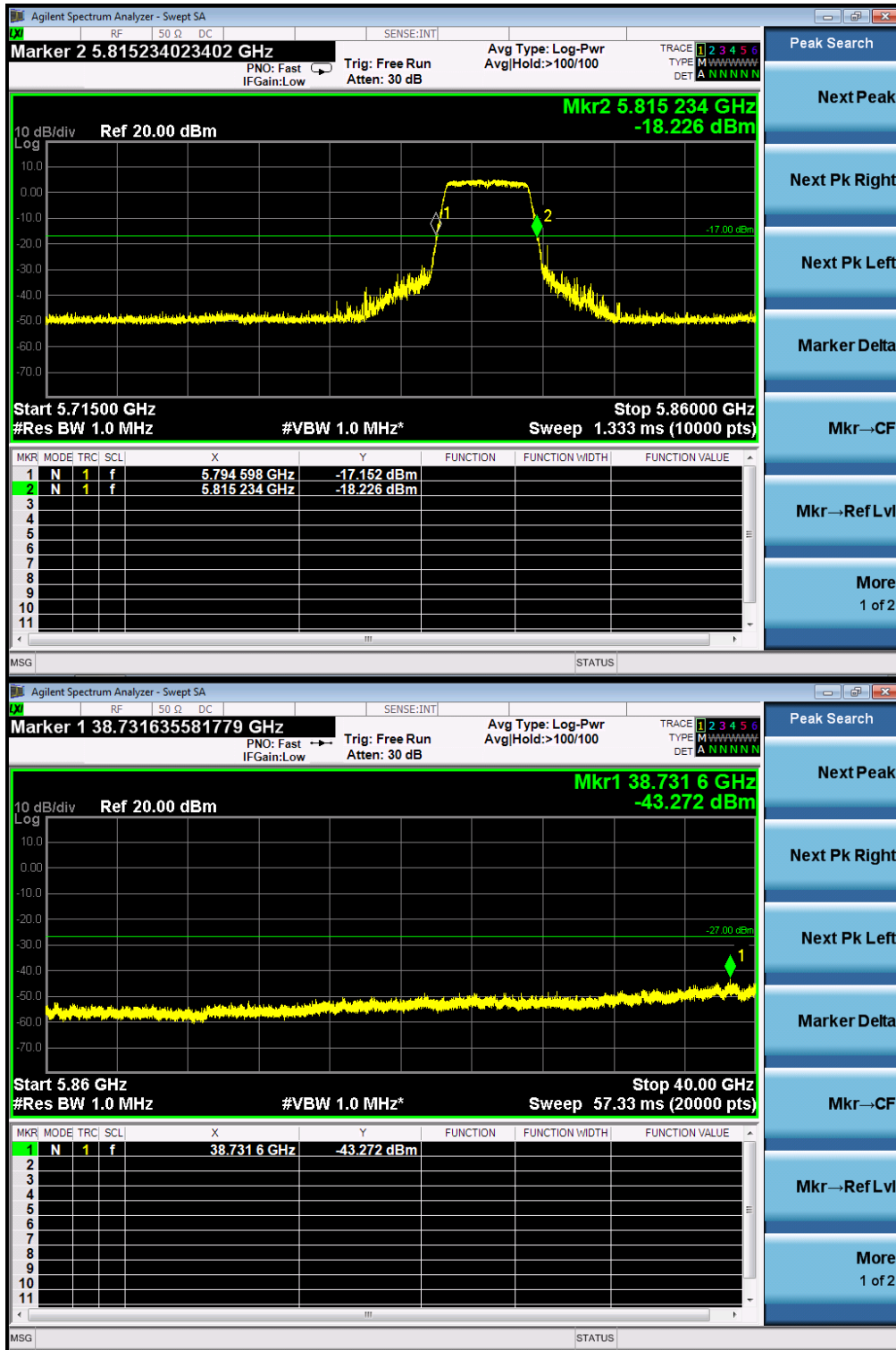
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5745MHz





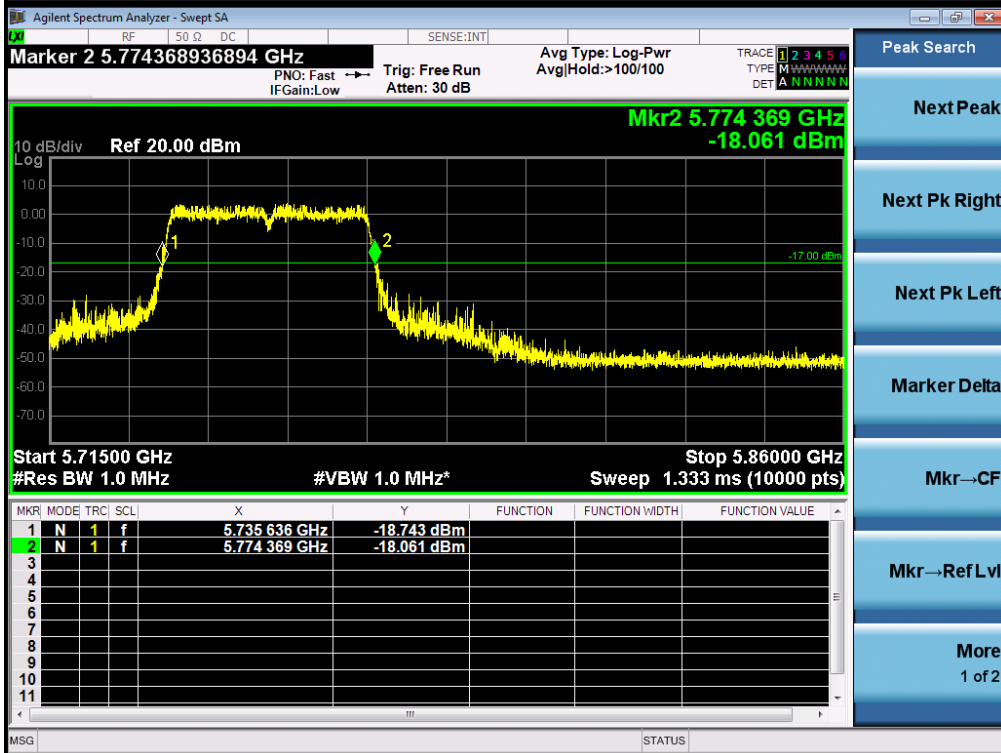
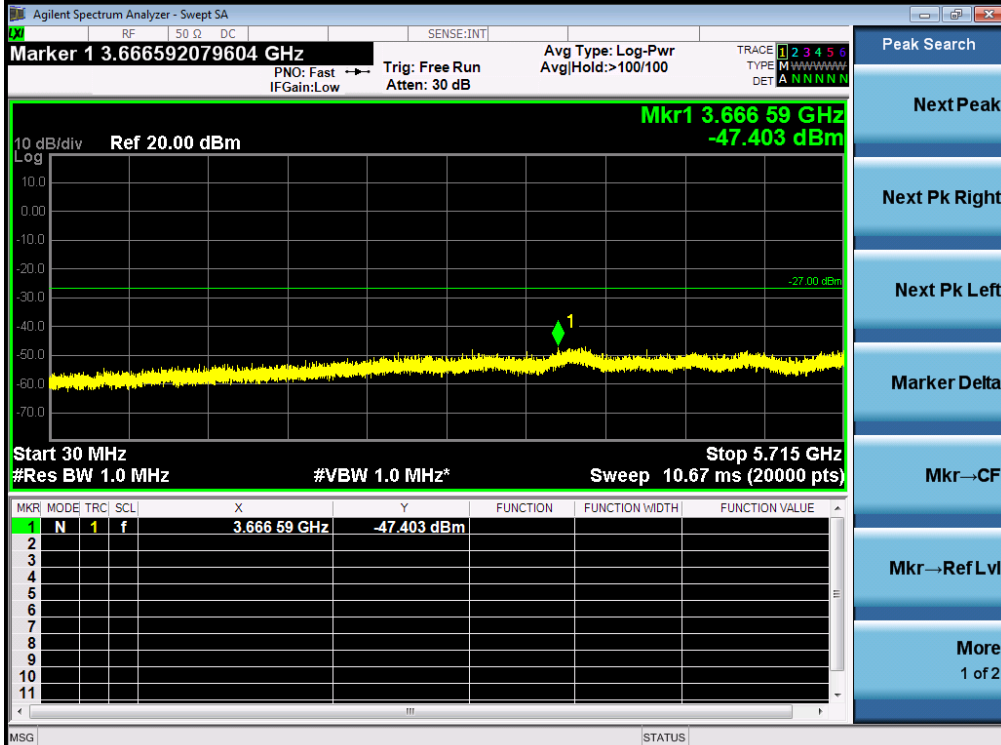
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5805MHz

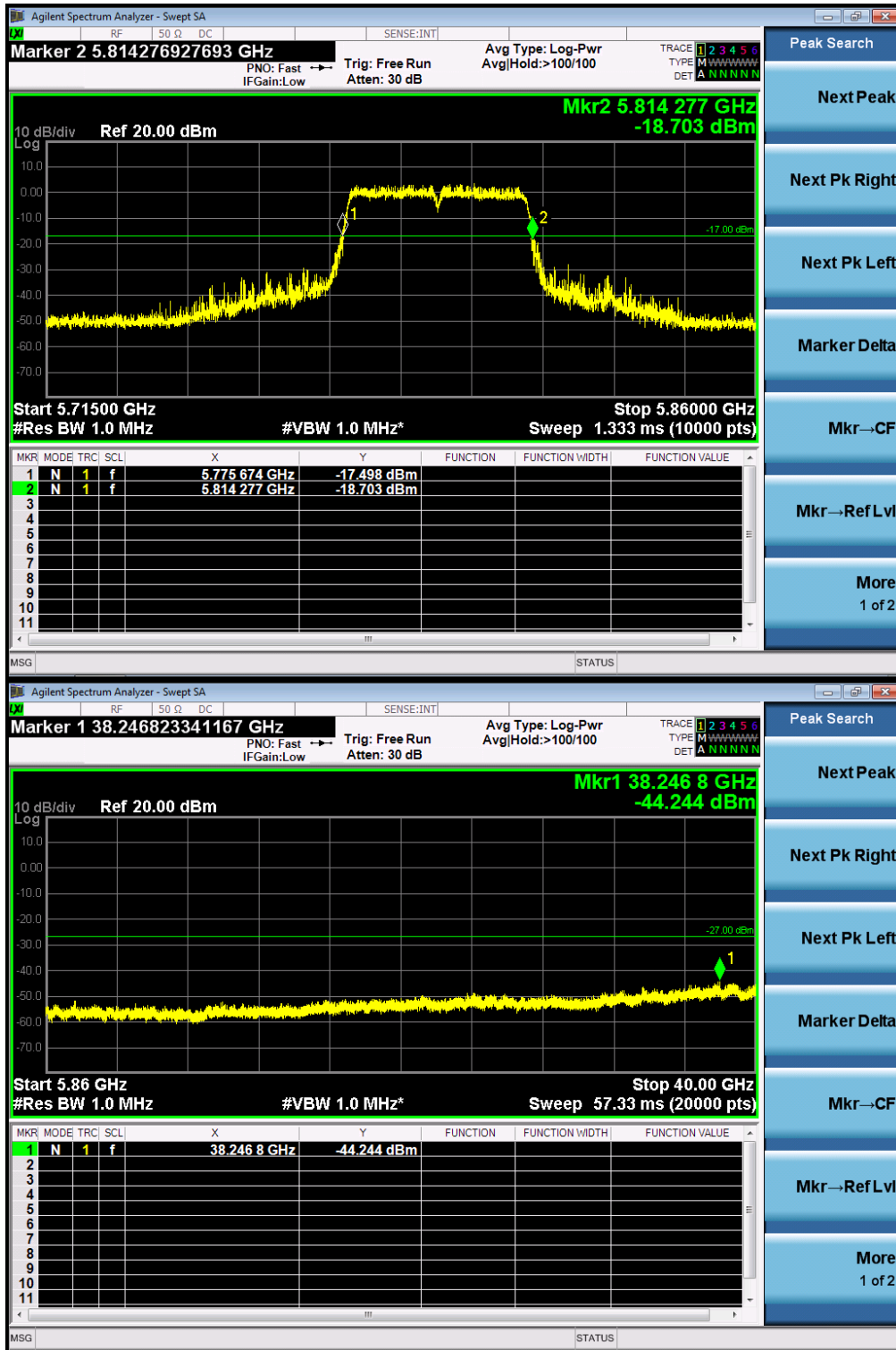


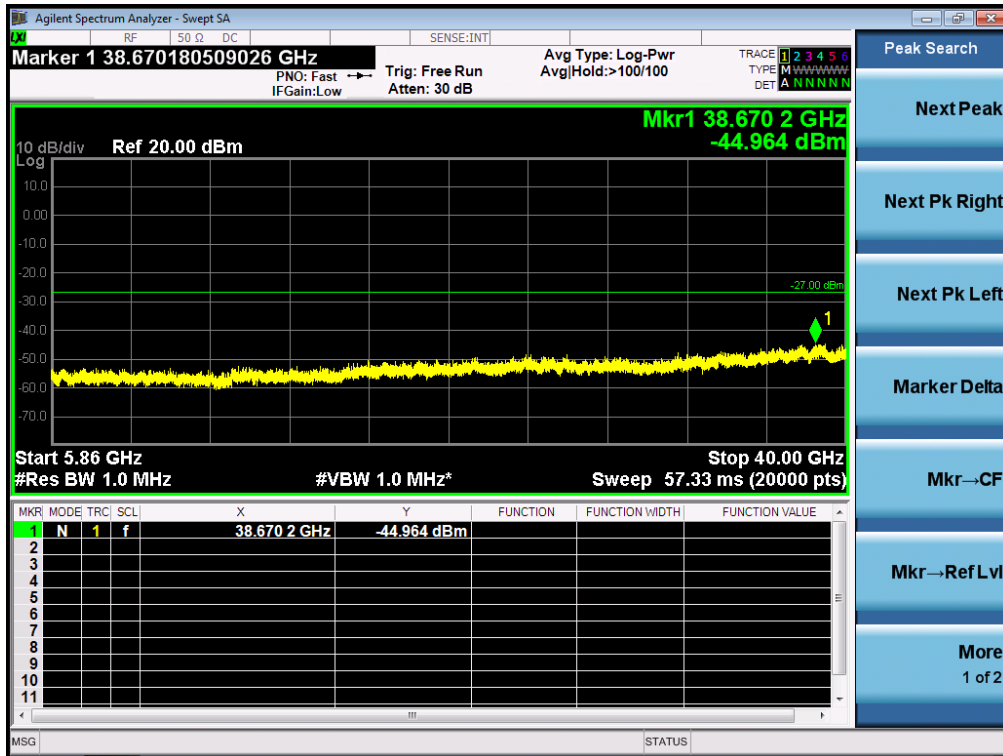




TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5755MHz







5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407	Power Spectral Density	11 dBm (in any 1MHz)	5180-5240	PASS
15.407	Power Spectral Density	30 dBm (in any 500KHz)	5745-5825	PASS

5.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set span to encompass the entire 26-dB emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set the RBW = 1 MHz, Number of points in sweep ≥ 2 Span / RBW.
4. Set the VBW $\geq 3 \times$ RBW.
5. Detector = RMS.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Trace average at least 100 traces in power averaging (i.e., RMS) mode..
9. Use the peak marker function to determine the maximum amplitude level.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

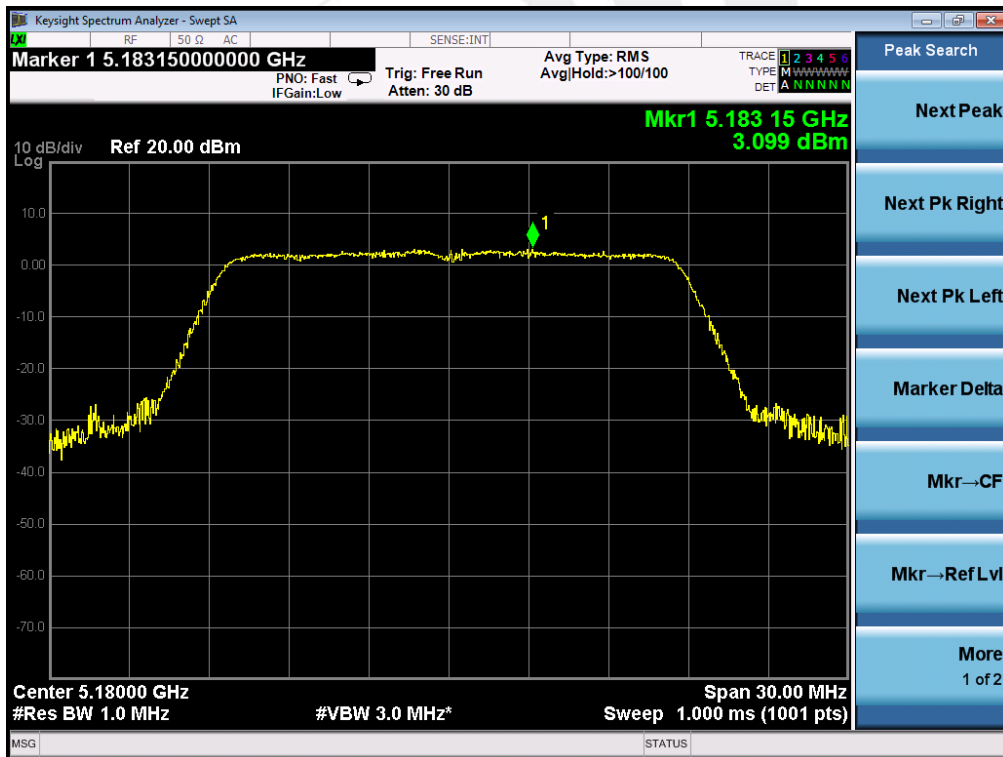


5.6 TEST RESULTS

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	802.11n20 CH36/ CH48/ CH149/ CH165		

Frequency (GHz)	Power density (dBm/MHz)	Applicable Limits (dBm/MHz)	Pass or Fail
5180	3.009	11	Pass
5240	3.035	11	Pass
Frequency (GHz)	Power density (dBm/500kHz)	Applicable Limits (dBm/500kHz)	Pass or Fail
5745	3.323	30	Pass
5825	1.941	30	Pass

TEST PLOT OF POWER DENSITY FOR 5180MHz

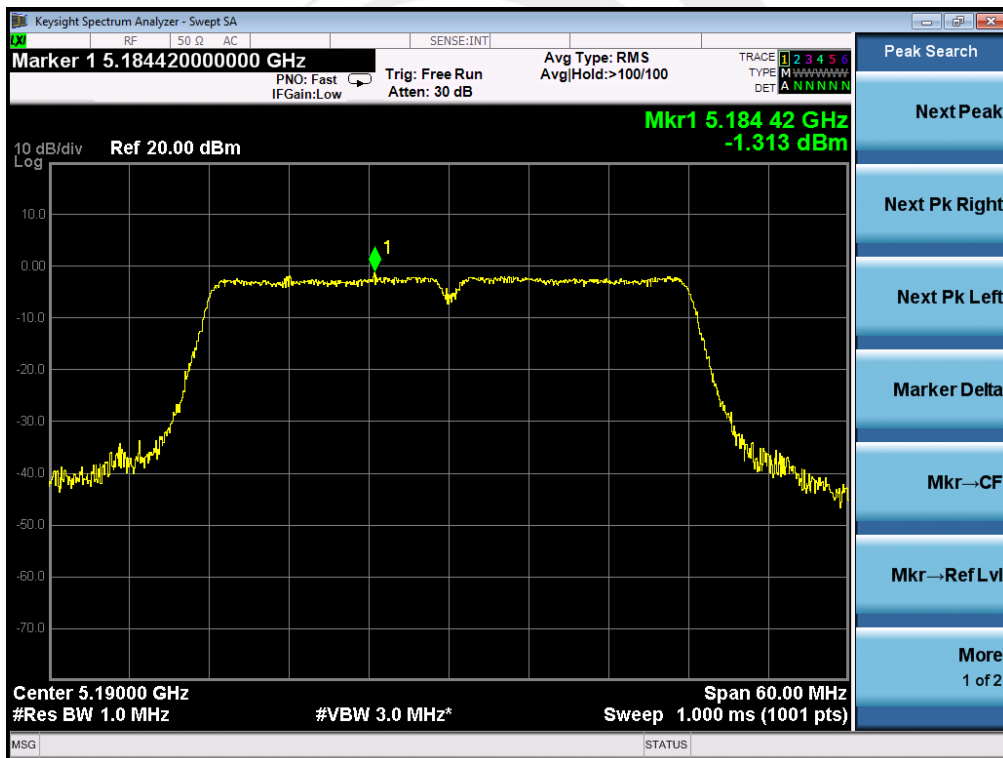




EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	802.11n40 CH38/ CH46/ CH151/ CH159		

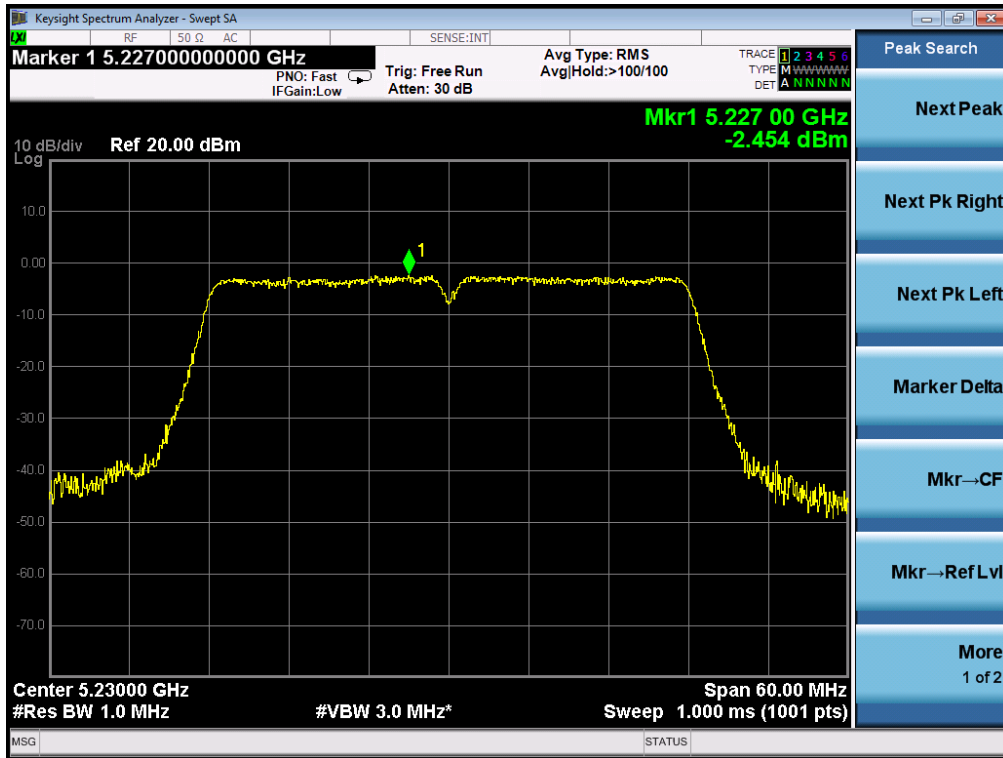
Frequency (GHz)	Power density (dBm/MHz)	Applicable Limits (dBm/MHz)	Pass or Fail
5190	-1.313	11	Pass
5230	-2.454	11	Pass
Frequency (GHz)	Power density (dBm/500kHz)	Applicable Limits (dBm/500kHz)	Pass or Fail
5755	-1.401	30	Pass
5795	-1.471	30	Pass

TEST PLOT OF POWER DENSITY FOR 5190MHZ

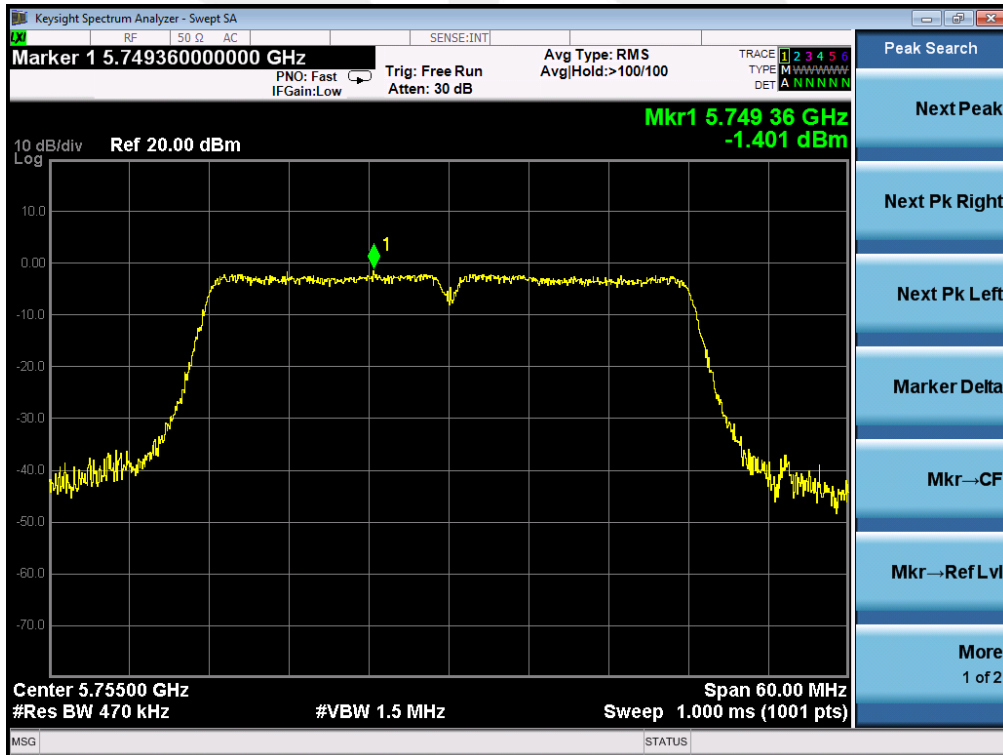




TEST PLOT OF POWER DENSITY FOR 5230MHz



TEST PLOT OF POWER DENSITY FOR 5755MHz

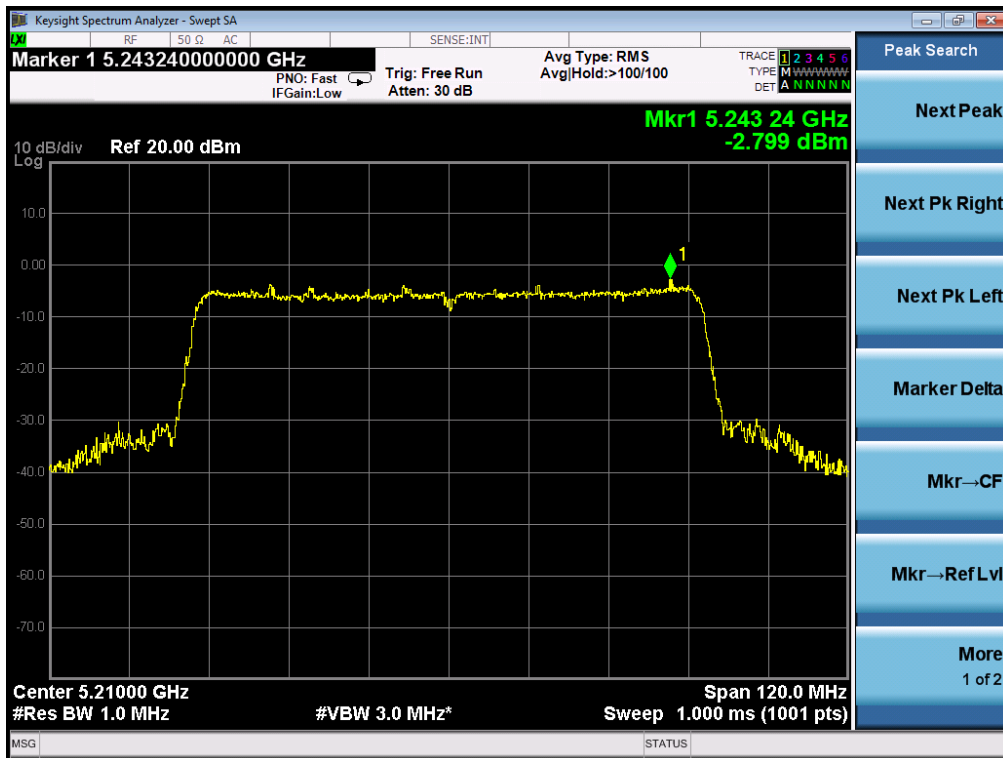




EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	802.11ac80 CH42/ CH155		

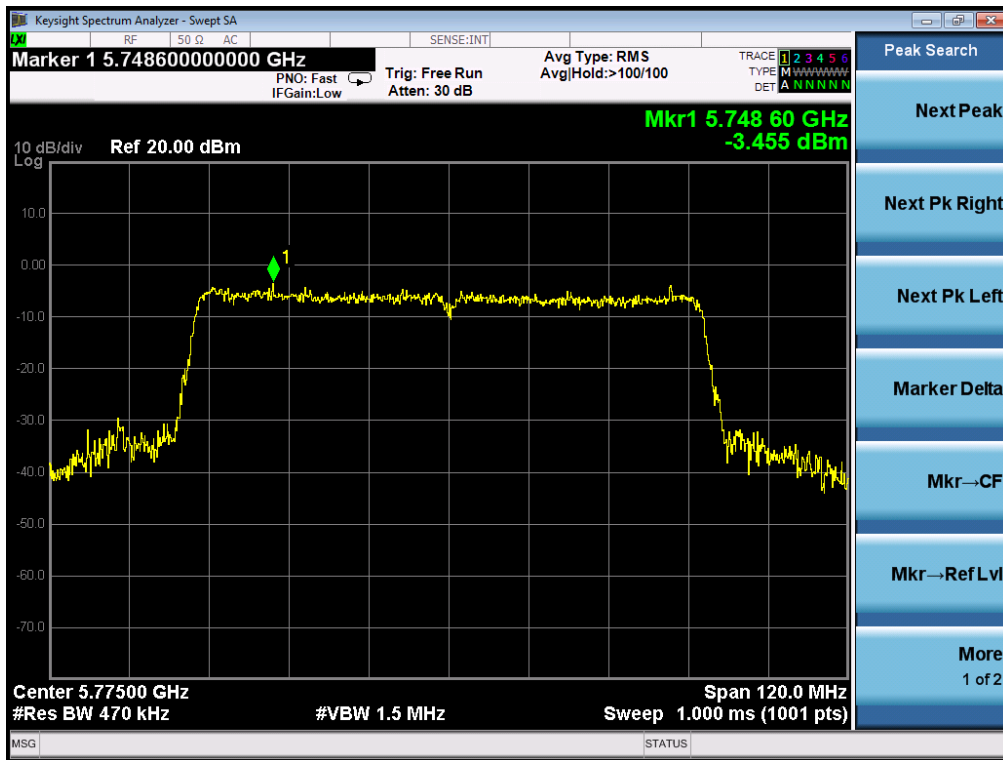
Frequency (GHz)	Power density (dBm/MHz)	Applicable Limits (dBm/MHz)	Pass or Fail
5230	-2.799	11	Pass
Frequency (GHz)	Power density (dBm/500kHz)	Applicable Limits (dBm/500kHz)	Pass or Fail
5775	-3.455	30	Pass

TEST PLOT OF POWER DENSITY FOR 5210MHz





TEST PLOT OF POWER DENSITY FOR 5775MHZ



6. BANDWIDTH TEST

6.1 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	5725-5850	PASS

6.2 TEST PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = approximately 1% of the span.
4. Set the VBW > RBW. Detector = Peak. Trace mode = max hold.
5. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

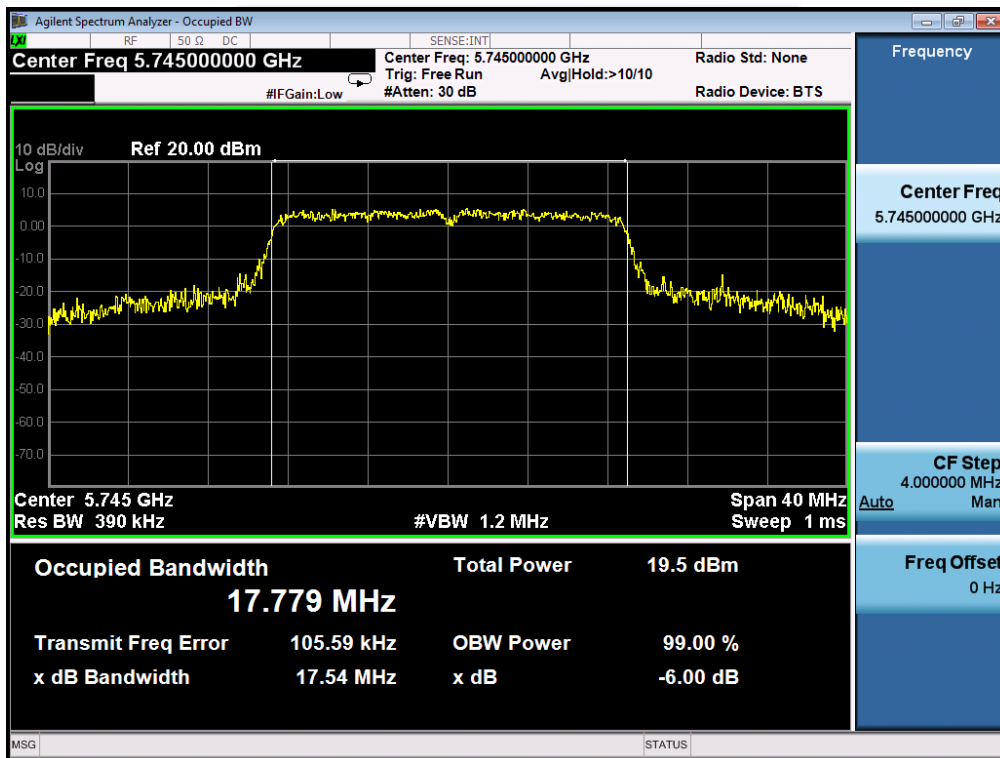


6.6 TEST RESULTS

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	CH149/ CH151/ CH155/ CH159/ CH165		

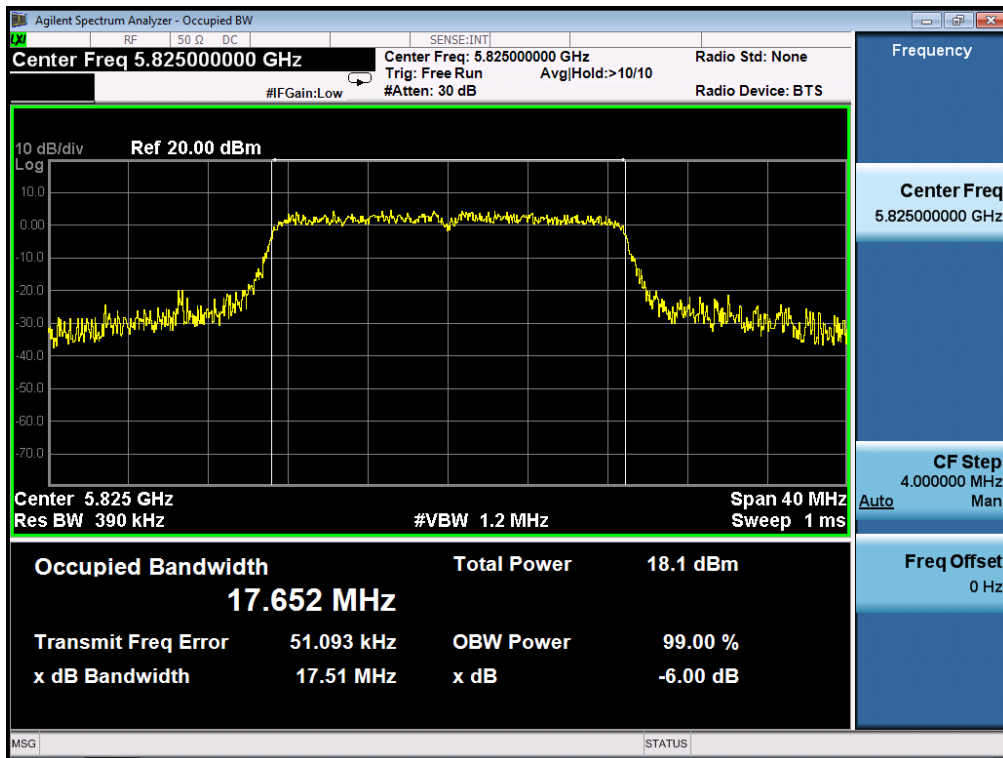
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
5745MHz	17.54	>=500KHz	PASS
5755MHz	36.49	>=500KHz	PASS
5775MHz	76.34	>=500KHz	PASS
5795MHz	36.51	>=500KHz	PASS
5825MHz	17.51	>=500KHz	PASS

TEST PLOT OF BANDWIDTH FOR 5745MHz

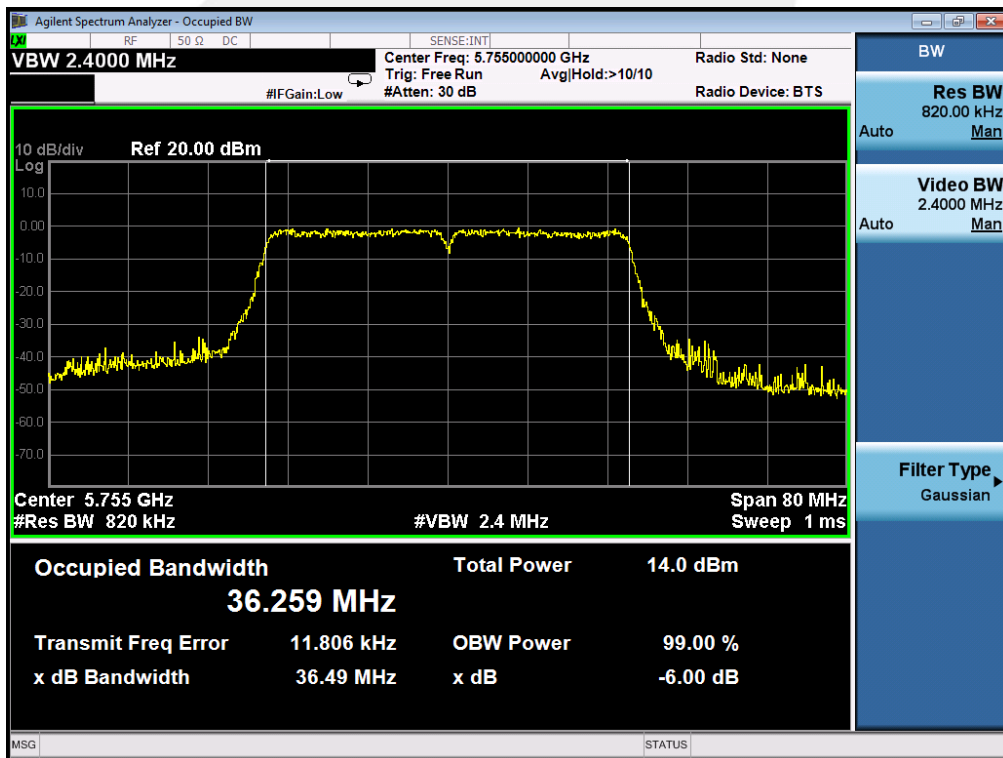




TEST PLOT OF BANDWIDTH FOR 5825MHZ

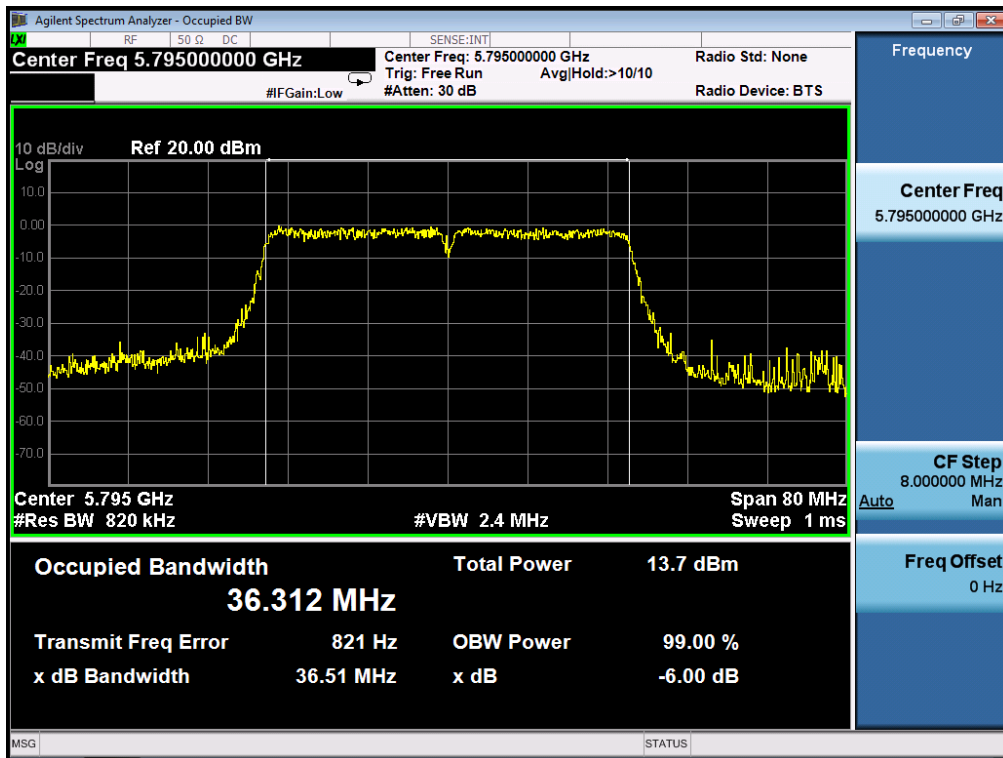


TEST PLOT OF BANDWIDTH FOR 5755MHZ

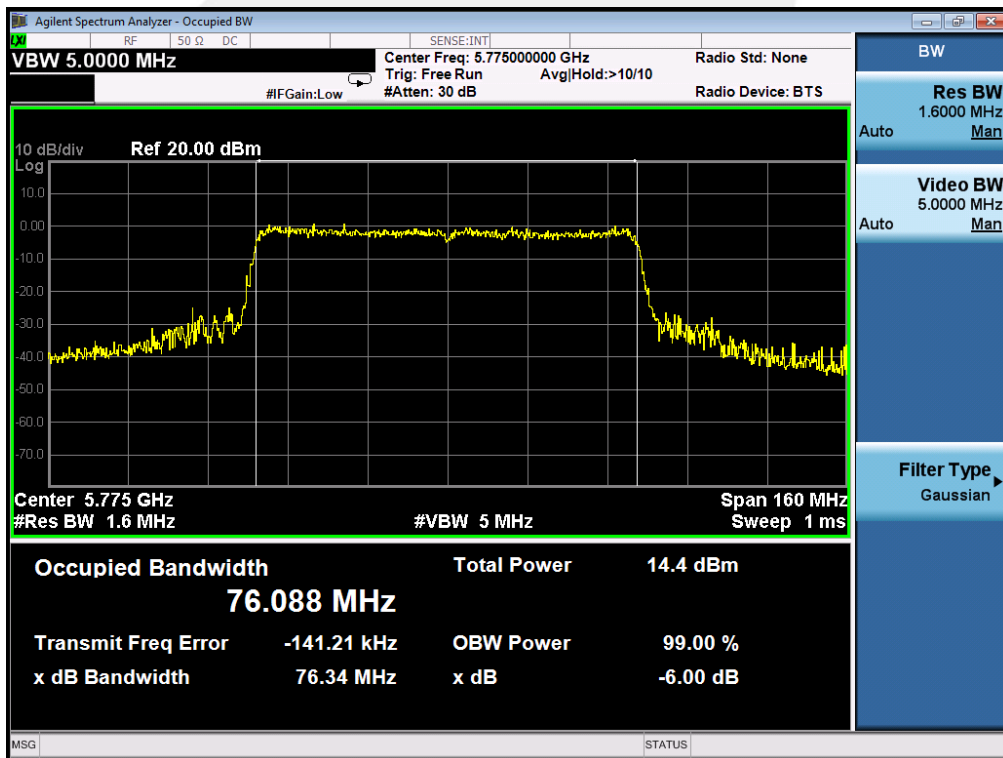




TEST PLOT OF BANDWIDTH FOR 5795MHZ



TEST PLOT OF BANDWIDTH FOR 5775MHZ





7. PEAK OUTPUT POWER TEST

7.1 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407	Peak Output Power	24dBm	5180-5240	PASS
15.407	Peak Output Power	30dBm	5745-5825	PASS

7.2 TEST PROCEDURE

- a. The EUT was directly connected to the Power Sensor&Power meter

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



7.6 TEST RESULTS

EUT :	Wireless AC600 Dual-Band USB Mini Adapter	Model Name. :	GWU635
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V

802.11n20 CH36/ CH48/ CH149/ CH165			
Test Channe	Frequency	Peak Conducted Output Power	LIMIT
	(MHz)	(dBm)	dBm
CH20	5180	15.825	24
CH48	5240	15.958	24
CH149	5745	17.868	30
CH165	5825	16.215	30

802.11n40 CH38/ CH46/ CH151/ CH159			
Test Channe	Frequency	Peak Conducted Output Power	LIMIT
	(MHz)	(dBm)	dBm
CH38	5190	14.194	24
CH46	5230	13.903	24
CH151	5755	13.668	30
CH159	5795	14.157	30

802.11ac80 CH42/ CH155			
Test Channe	Frequency	Peak Conducted Output Power	LIMIT
	(MHz)	(dBm)	dBm
CH42	5230	13.483	24
CH155	5775	14.272	30



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: 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.

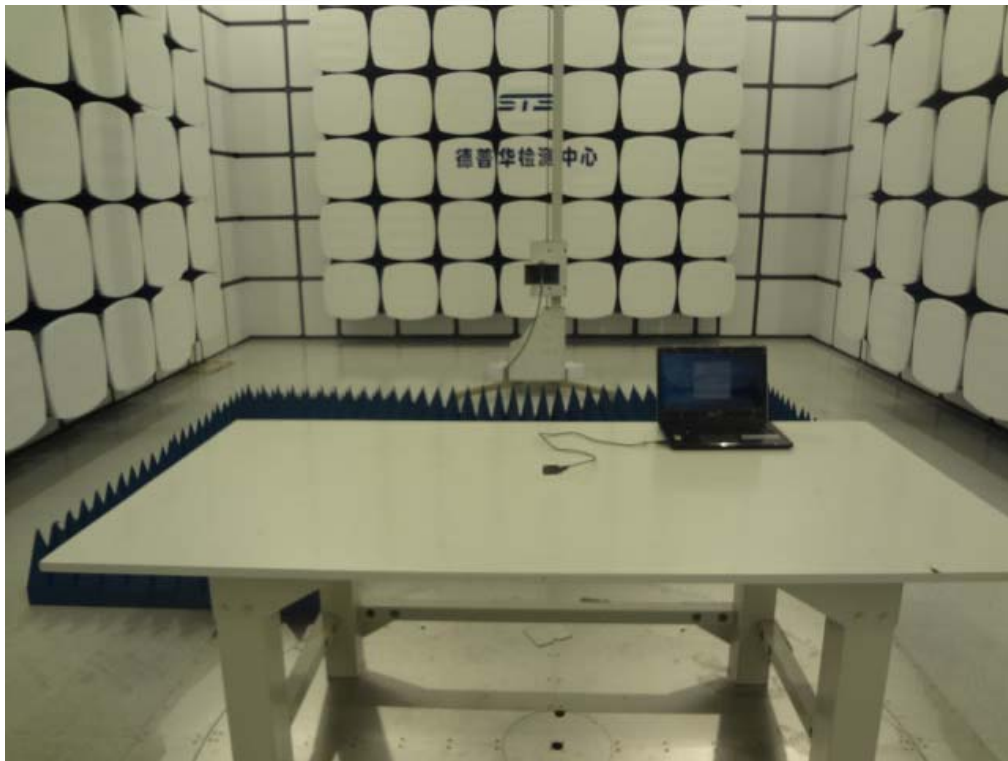
8.2 EUT ANTENNA

The EUT antenna is PIFA Antenna. It comply with the standard requirement.



APPENDIX - PHOTOS OF TEST SETUP

Radiated Measurement Photos



Conducted Measurement Photos

