FCC Test Report

Report No.: AGC05734151201FE06

FCC ID	:	SMCP1
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	JmGO Smart Portable Theater
BRAND NAME	:	JmGO
MODEL NAME	:	P1 (Series model name please see page 4)
CLIENT	:	SHENZHEN HOLATEK CO., LTD
DATE OF ISSUE	:	Mar.01, 2016
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15.407 KDB 789033 D02
REPORT VERSION	:	V1.0

***A**ttestation of **G**lobal **C**ompliance (Shenzhen) Co., Ltd*

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar.01, 2016	Valid	Original Report

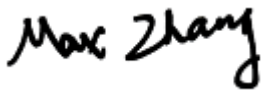
TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY

Applicant	SHENZHEN HOLATEK CO., LTD
Address	1001#, Building 4, Keyuan Road, Kexing Science Park, Nanshan, Shenzhen, China
Manufacturer	Fosunny（Huizhou）Innovation Electronic Technology Co.,Ltd
Address	44&45 Building, the Seventh Zone Daxin Grounp, Shuguang Road, Chenjiang Town, Huizhou, Guangdong Province, P.R. China
Product Designation	JmGO Smart Portable Theater
Brand Name	JmGO
Test Model	P1
Series Model	P2, P3, P4, P5, P6, P1S, P2S, P3S, P4S, P5S, P1 Pro, P2 Pro, P3 Pro, P4 Pro, P5 Pro, P1S Pro, P2S Pro, P3S Pro, P4S Pro, P5S Pro, C1, C2, C3, C4, C5, V1, V2, V3, V4, V5
Model Difference	All the same except the model name.
Date of test	Dec.29,2015 to Dec.31,2015
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BGN/RF

We hereby certify that:

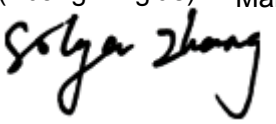
The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

Tested by 

Max Zhang(Zhang Yi) Mar.01, 2016

Reviewed by 

Rock Huang(Huang Dinglue) Mar.01, 2016

Approved by 

Solger Zhang(Zhang Hongyi) Mar.01, 2016
Authorized Officer

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “client”. It is designed by way of utilizing the OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	5150 MHz～5250MHz;5725 MHz～5825MHz
Output Power	IEEE 802.11a20:16.16Bm IEEE 802.11n(40):13.01dBm; IEEE802.11n(20):15.84Bm
Modulation	11a: 16QAM, 64QAM,128QAM, 256QAM with OFDM 11n: BPSK, QPSK, 16QAM, 64QAM, OFDM
Number of channels	13
Hardware Version	1.1.0
Software Version	1.1.5
Antenna Designation	Integrated Antenna(Main), Integrated Antenna(Assistant)
Number of transmit chain	2
Antenna Gain	1.5dBi(Main), 1.5dBi(Assistant)
Power Supply	DC 11.1V by battery or DC 13.6V by adapter

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency	Frequency Band	Channel Number	Frequency
5150 GHz～5250GHz	36	5180 MHz	5725 GHz～5850GHz	149	5745 MHz
	38	5190 MHz		151	5755 MHz
	40	5200 MHz		153	5765 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

2.3. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: SMCP1** filing to comply with the FCC Part 15 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2009).
Radiated testing was performed at an antenna to EUT distance 3 meters.
Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.407 rules KDB 789033

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 3.18dB
Radiated measurement: +/- 3.91dB

4. DESCRIPTION OF TEST MODES

Mode	Available channel	Tested channel	Modulation	Date rate(Mbps)
802.11a/n20	36,40,44,48,149,153,157,161,165	36,48, 149, 165	OFDM	6/6.5
802.11n40	38,46,151,159	38,46, 151,159	OFDM	13.5

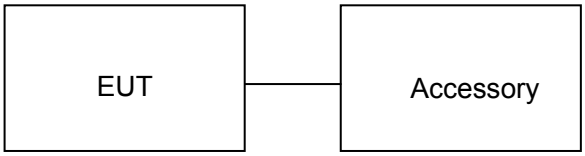
Note:

1. The EUT has been set to operate continuously on tested channel individually, and the EUT is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	JmGO Smart Portable Theater	P1	SMCP1	EUT
2	Adapter	RJ-AS136420	DC 13.6V	Accessory
3	PC	SONY	E1412AYCW	A.E

Note: All the accessories have been used during the test in conduction emission test.

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.407	6dB Bandwidth	Compliant
§15.407	Maximum conducted output power	Compliant
§15.407	Conducted Spurious Emission	Compliant
§15.407	Maximum Conducted Output Power Density	Compliant
§15.209	Radiated Emission	Compliant
§15.407	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

6. TEST FACILITY

Site	Dongguan Precise Testing Service Co., Ltd.
Location	Building D, Baoding Technology Park,Guangming Road2, Dongcheng District, Dongguan, Guangdong, China.
FCC Registration No.	371540
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009.

ALL TEST EQUIPMENT LIST

Radiated Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2015	July 3, 2016
Trilog Broadband Antenna (25M-1GHz)	SCHWARZBECK	VULB9160	9160-3355	July 4, 2015	July 3, 2016
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	July 4, 2015	July 3, 2016
RF Cable	SCHWARZBECK	AK9515E	96221	July 4, 2015	July 3, 2016
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 6, 2015	June 5, 2016
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	June 6, 2015	June 5, 2016
Spectrum analyzer	Agilent	E4407B	MY46185649	June 6, 2015	June 5, 2016
Horn Antenna (1G-18GHz)	SCHWARZBECK	BBHA9120D	9120D-1246	June 6, 2015	June 5, 2016
Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	9170-181	June 6, 2015	June 5, 2016

Conducted Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	- Rohde & Schwarz	ESCI	101417	July 4, 2015	July 3, 2016
Artificial Mains Network	Narda	L2-16B	000WX31025	July 8, 2015	July 7, 2016
Artificial Mains Network (AUX)	Narda	L2-16B	000WX31026	July 8, 2015	July 7, 2016
RF Cable	SCHWARZBECK	AK9515E	96222	July 4, 2015	July 3, 2016
Shielded Room	CHENGYU	843	PTS-002	June 6,2015	June 5,2016

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

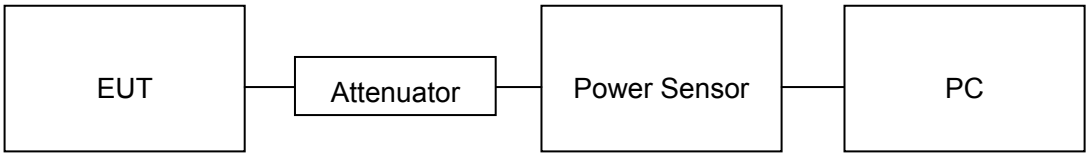
For average power test:

1. Connect EUT RF output port to power sensor through an RF attenuator.
2. Connect the power sensor to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.

Note：The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

7.2. TEST SET-UP

AVERAGE POWER SETUP



7.3. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION					
Frequency (MHz)	**Average Power Chain 0(dBm)**	**Average Power Chain 1(dBm)**	**Average Power Total(dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
5180	13.24	13.06	16.16	24	Pass
5240	13.18	12.96	16.08	24	Pass
5745	11.25	11.12	14.20	30	Pass
5825	11.34	11.21	14.29	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION					
Frequency (MHz)	**Average Power Chain 0(dBm)**	**Average Power Chain 1(dBm)**	**Average Power Total(dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
5180	12.98	12.67	15.84	24	Pass
5240	12.84	12.73	15.80	24	Pass
5745	10.87	10.65	13.77	30	Pass
5825	10.74	10.48	13.62	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION					
Frequency (MHz)	**Average Power Chain 0(dBm)**	**Average Power Chain 1(dBm)**	**Average Power Total(dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
5190	10.16	9.84	13.01	24	Pass
5230	10.06	9.65	12.87	24	Pass
5755	9.43	9.12	12.29	30	Pass
5795	9.36	9.27	12.33	30	Pass

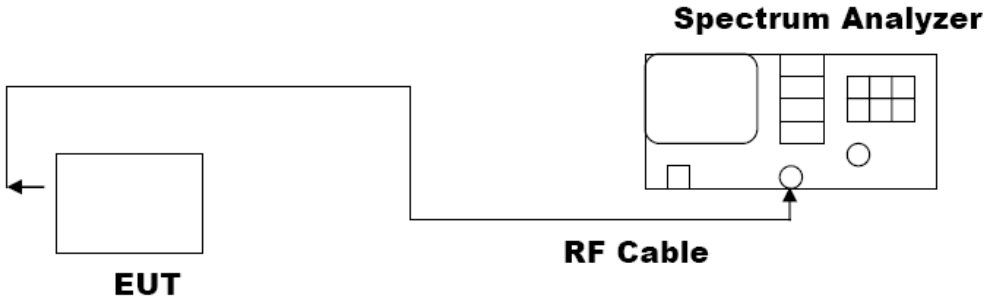
8. 6dB BANDWIDTH

8.1. MEASUREMENT 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 = 100kHz.
4. Set the VBW ⩾3*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.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.3. LIMITS AND MEASUREMENT RESULTS

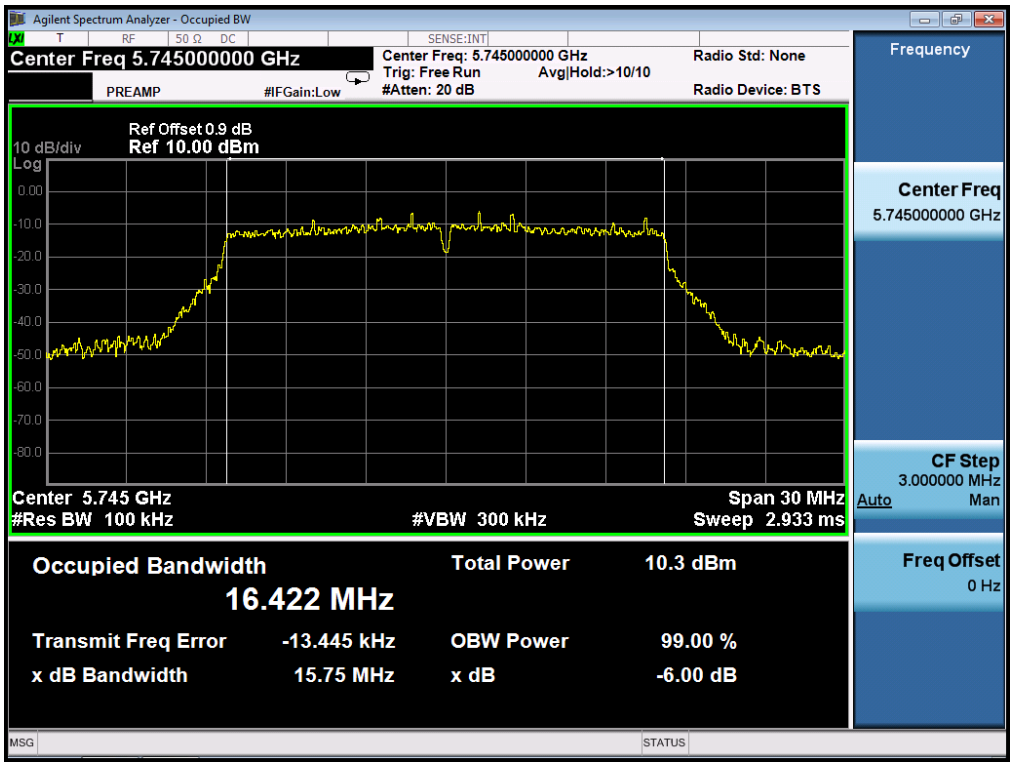
LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	15.75	PASS
	5825MHz	16.07	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	17.56	PASS
	5825MHz	17.03	PASS

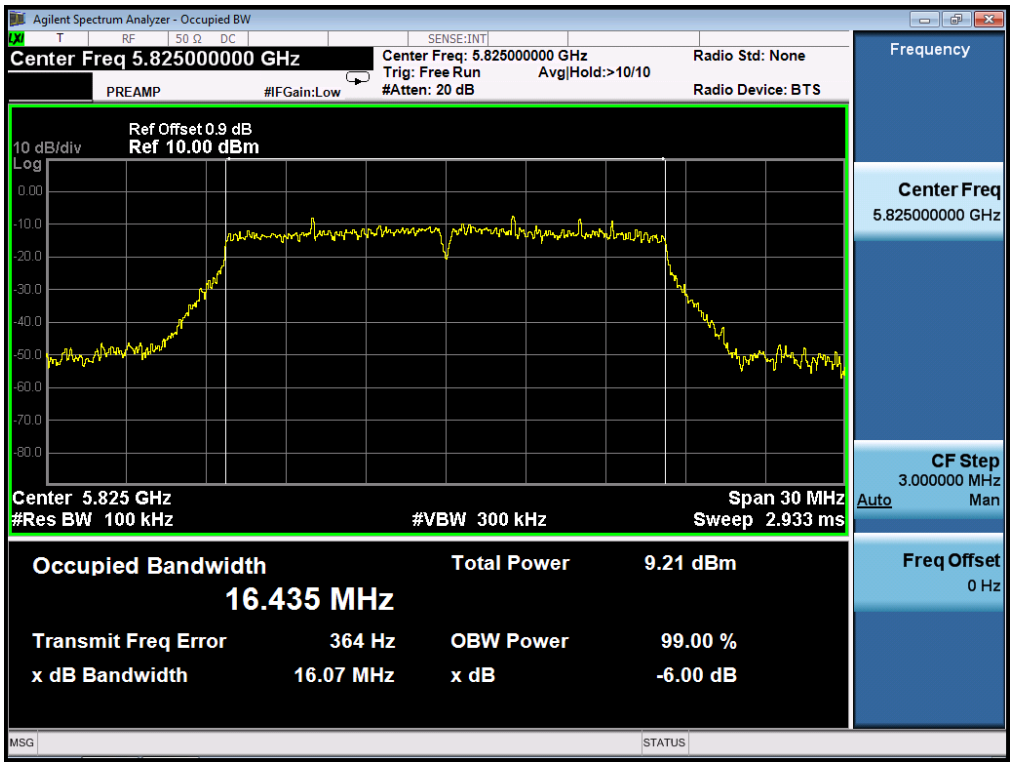
LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5755MHz	35.21	PASS
	5795MHz	35.15	PASS

802.11a20 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5745MHz

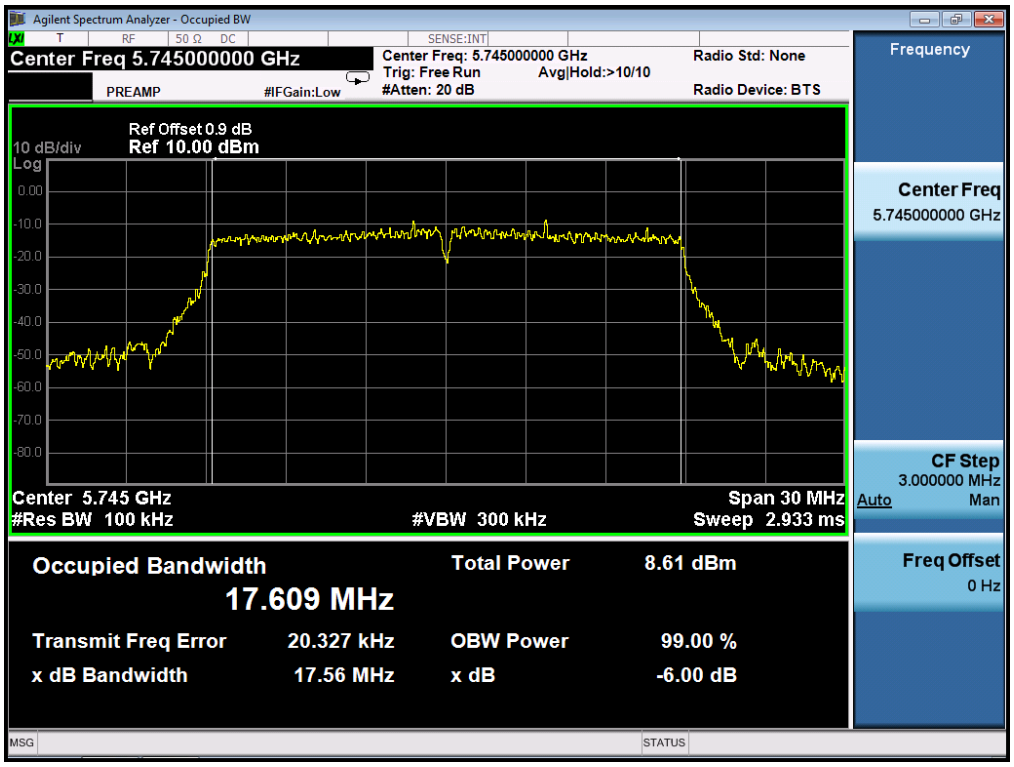


TEST PLOT OF BANDWIDTH FOR 5825MHz

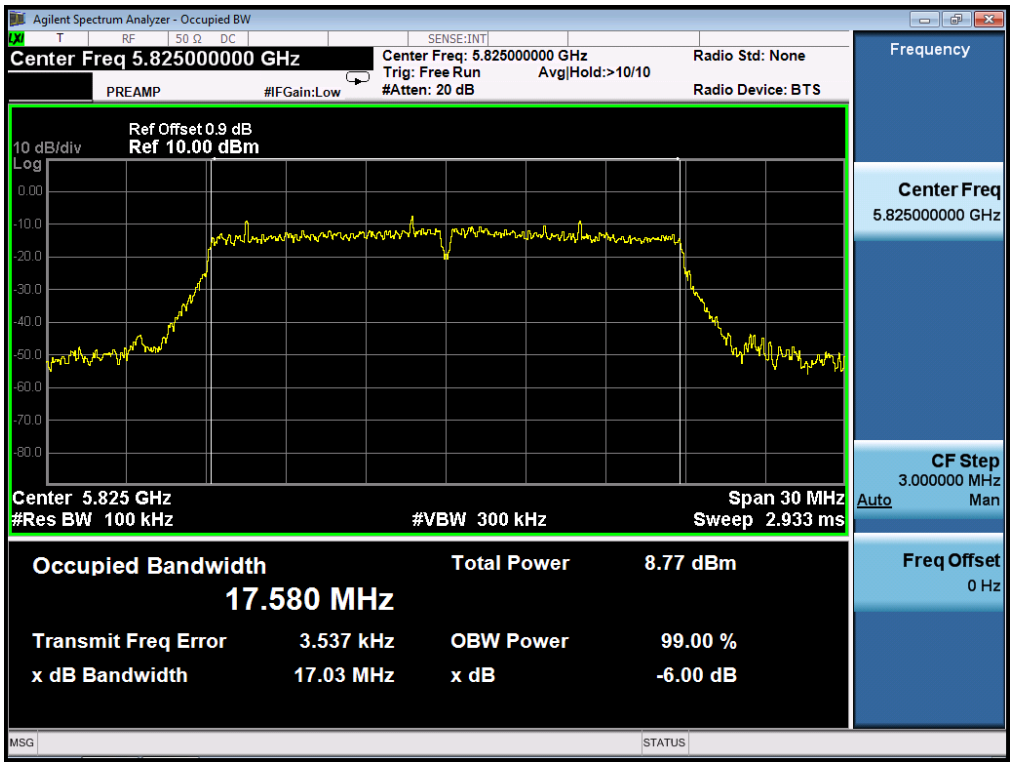


802.11n20 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5745MHz

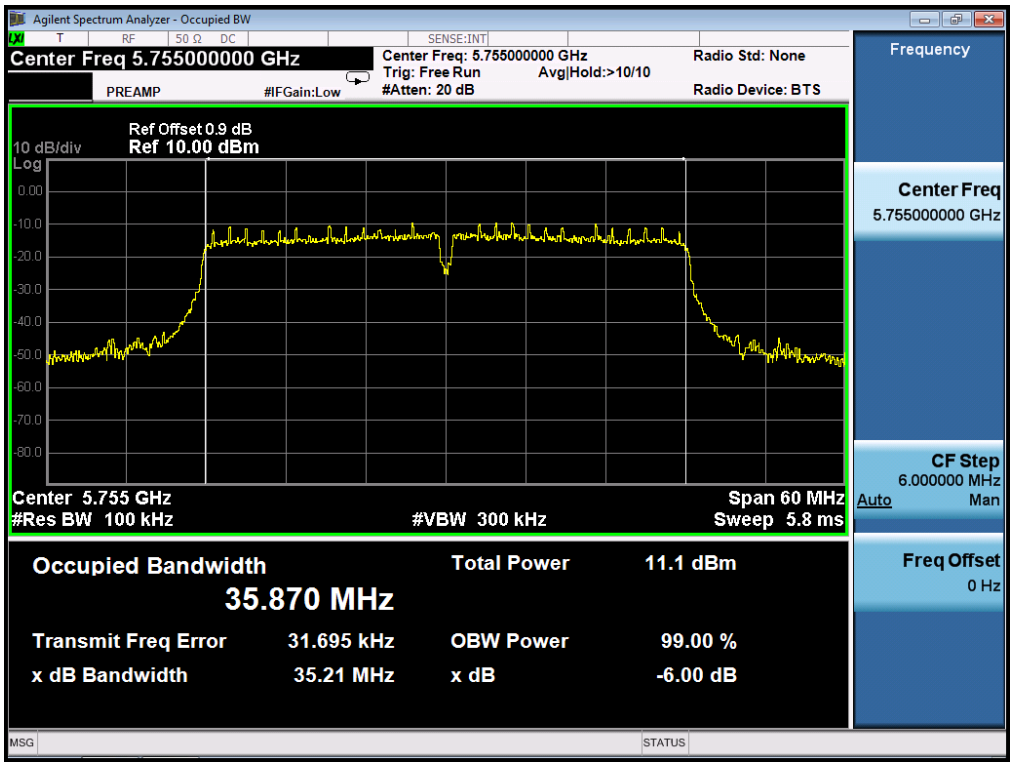


TEST PLOT OF BANDWIDTH FOR 5825MHz

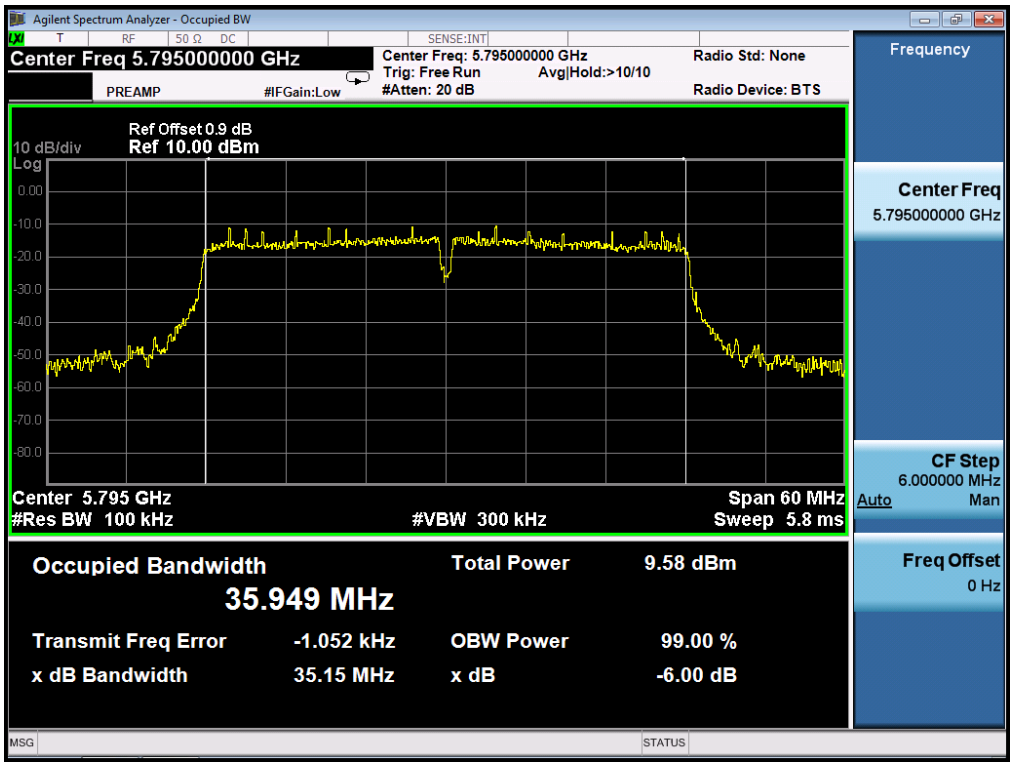


802.11n40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5755MHz



TEST PLOT OF BANDWIDTH FOR 5795MHz



9. MAXIMUM CONDUCTED OUTPUT PEAK POWER SPECTRAL DENSITY

9.1 MEASUREMENT PROCEDURE

Refer to KDB 789033 section F

9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

9.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

9.4 LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION					
Frequency (MHz)	**Power density Chain 0 (dBm/MHz)**	**Power density Chain 1 (dBm/MHz)**	**Power density Total (dBm/MHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5180	1.36	1.16	4.27	11	Pass
5240	1.27	1.08	4.19	11	Pass
Frequency (MHz)	**Power density Chain 0 (dBm/500kHz)**	**Power density Chain 1 (dBm/500kHz)**	**Power density Total (dBm/500kHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5745	0.62	0.45	3.55	30	Pass
5825	0.58	0.36	3.48	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION					
Frequency (MHz)	**Power density Chain 0 (dBm/MHz)**	**Power density Chain 1 (dBm/MHz)**	**Power density Total (dBm/MHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5180	1.02	0.84	3.94	11	Pass
5240	0.95	0.76	3.87	11	Pass
Frequency (MHz)	**Power density Chain 0 (dBm/500kHz)**	**Power density Chain 1 (dBm/500kHz)**	**Power density Total (dBm/500kHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5745	-0.35	-0.61	2.53	30	Pass
5825	-0.28	-0.53	2.61	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION					
Frequency (MHz)	**Power density Chain 0 (dBm/MHz)**	**Power density Chain 1 (dBm/MHz)**	**Power density Total (dBm/MHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5190	-1.62	-1.84	1.28	11	Pass
5230	-1.71	-2.06	1.13	11	Pass
Frequency (MHz)	**Power density Chain 0 (dBm/500kHz)**	**Power density Chain 1 (dBm/500kHz)**	**Power density Total (dBm/500kHz)**	**Applicable Limits (dBm)**	**Pass or Fail**
5755	-2.84	-3.65	-0.22	30	Pass
5795	-3.12	-3.87	-0.47	30	Pass

10. CONDUCTED SPURIOUS EMISSION

10.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

10.3. MEASUREMENT EQUIPMENT USED

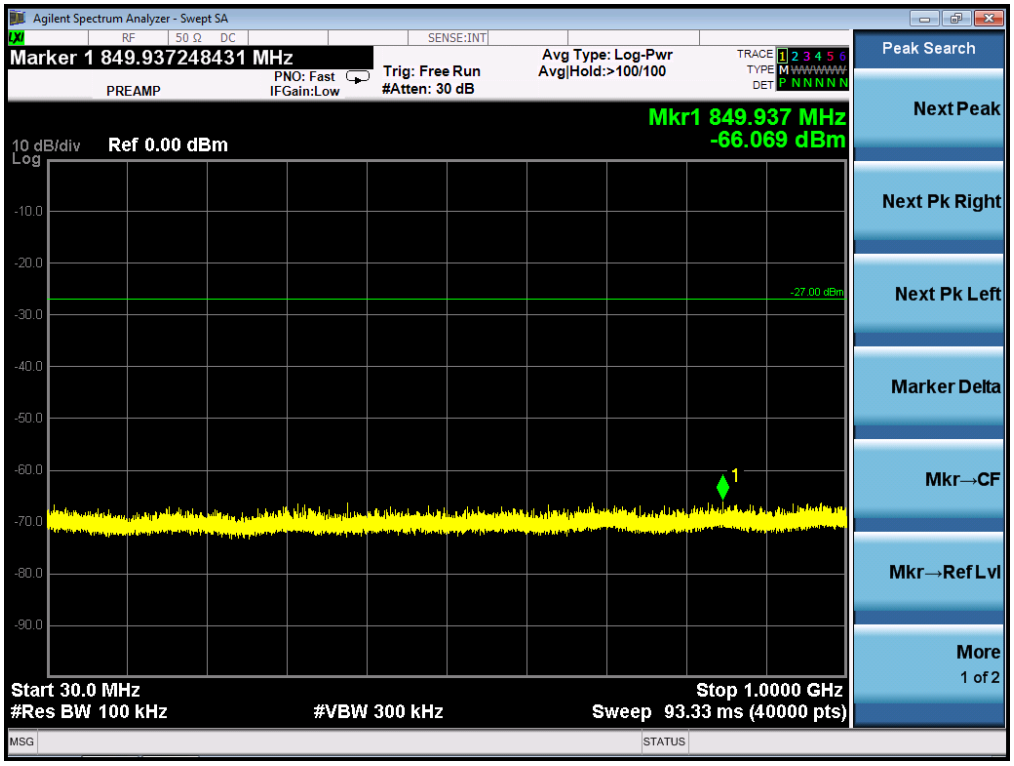
The same as described in section 6.

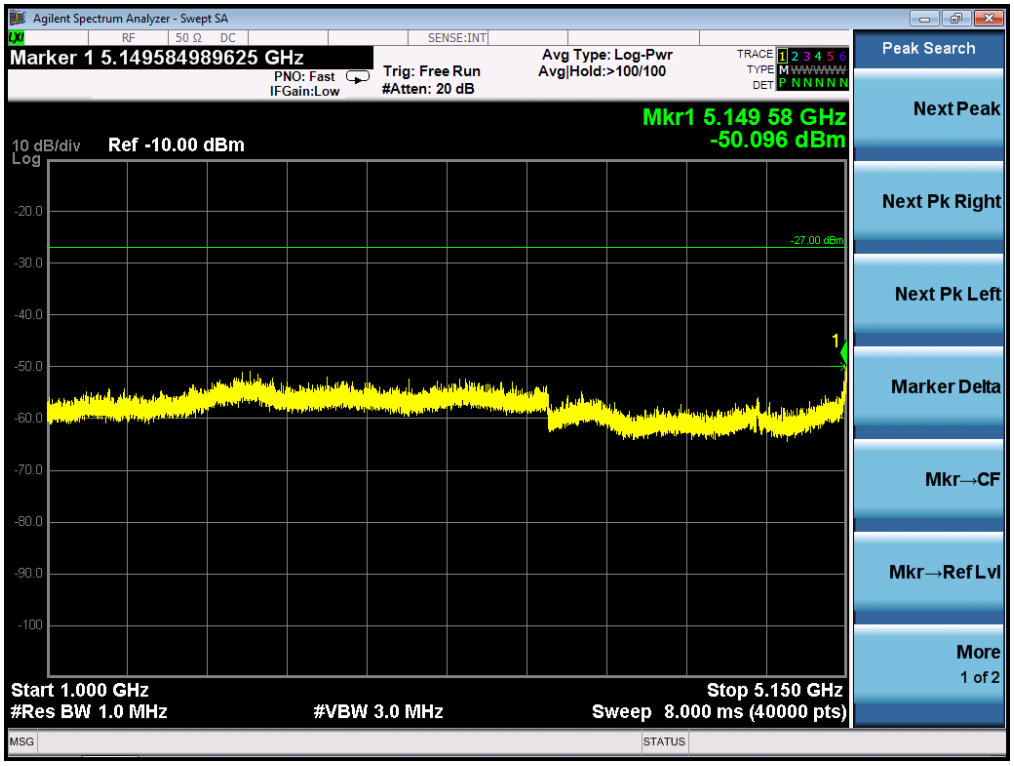
10.4. LIMITS AND MEASUREMENT RESULT

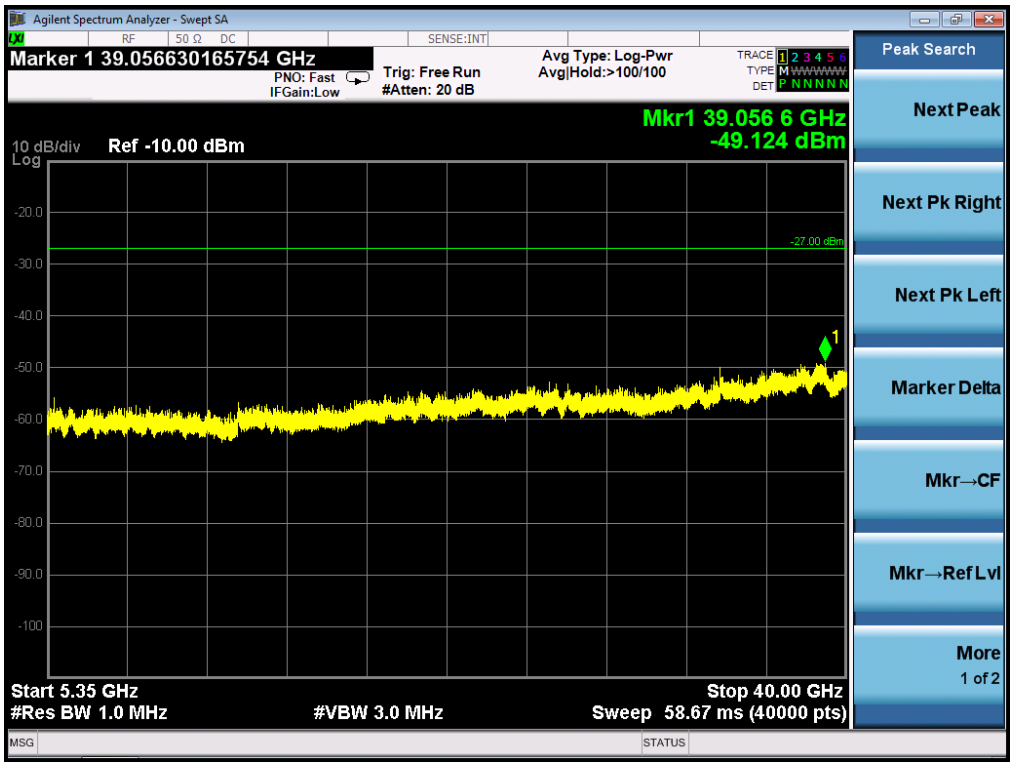
LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test channel	Criteria
27dBm	5150MHz-5250MHz	PASS
17dBm within 5715-5725MHz and 5850-5860MHz 27dBm outside 5715-5860MHz	5725MHz-5825MHz	PASS

FOR 802.11A20 MODULATION

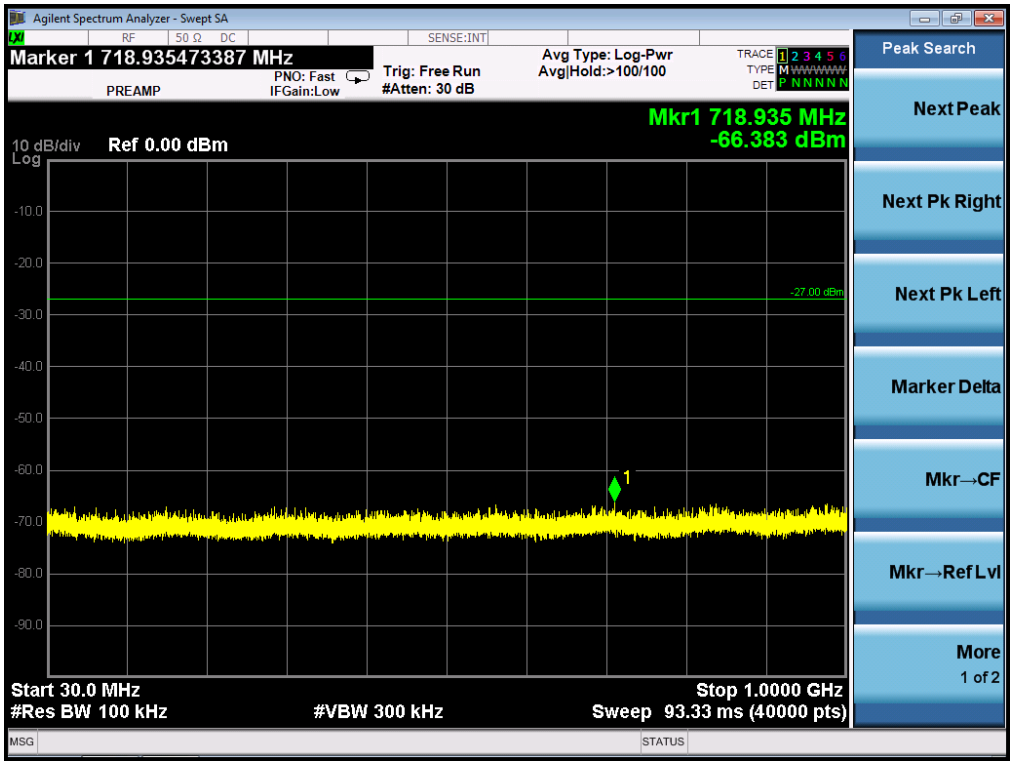
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5180MHz

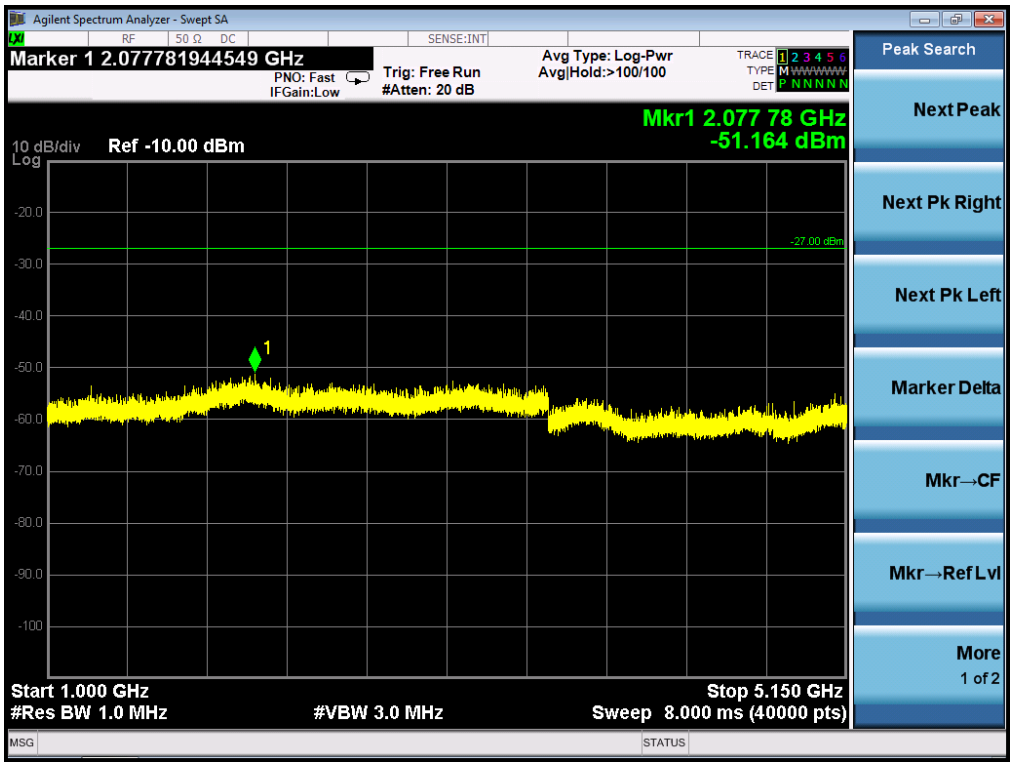


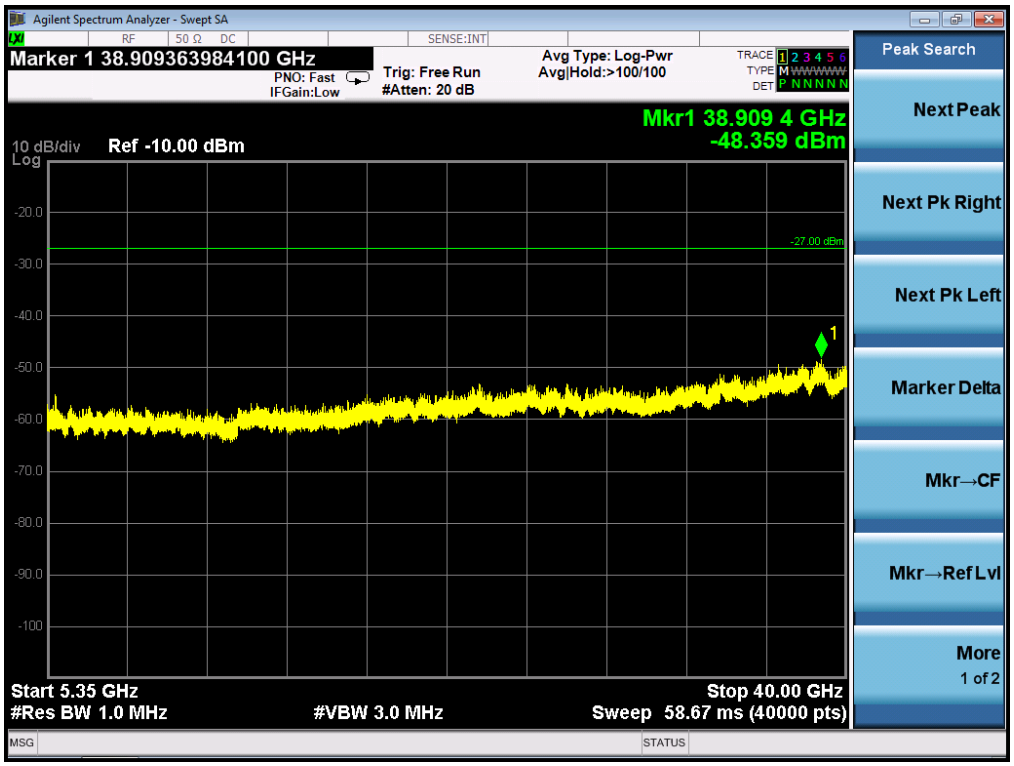




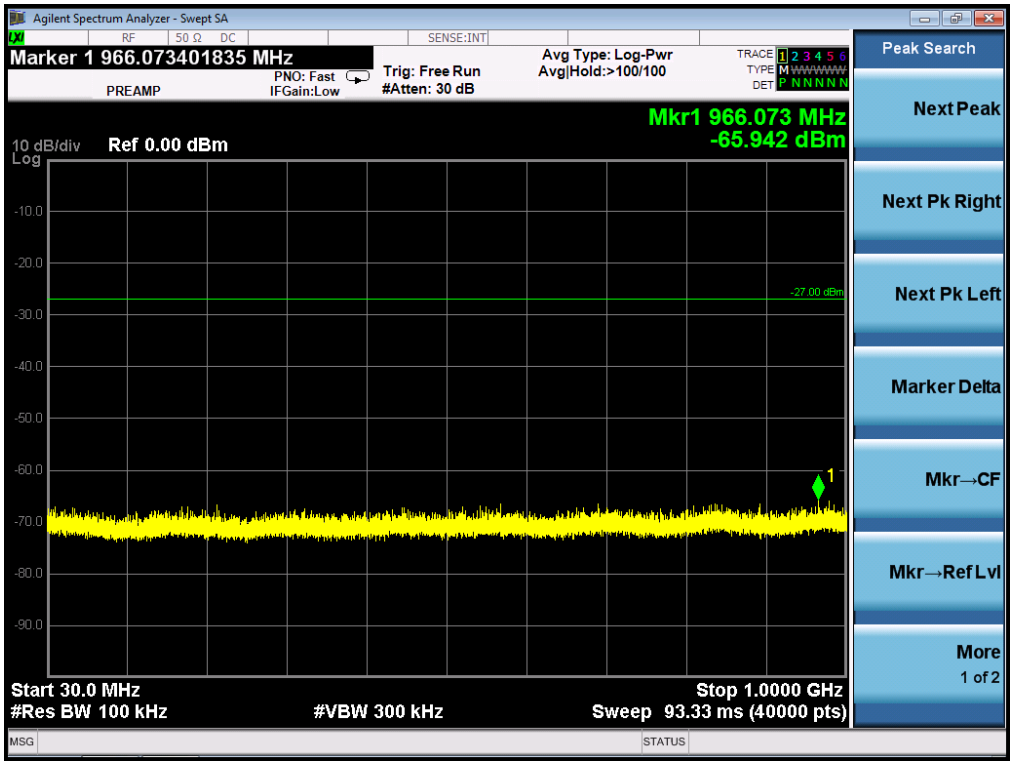
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5240MHz

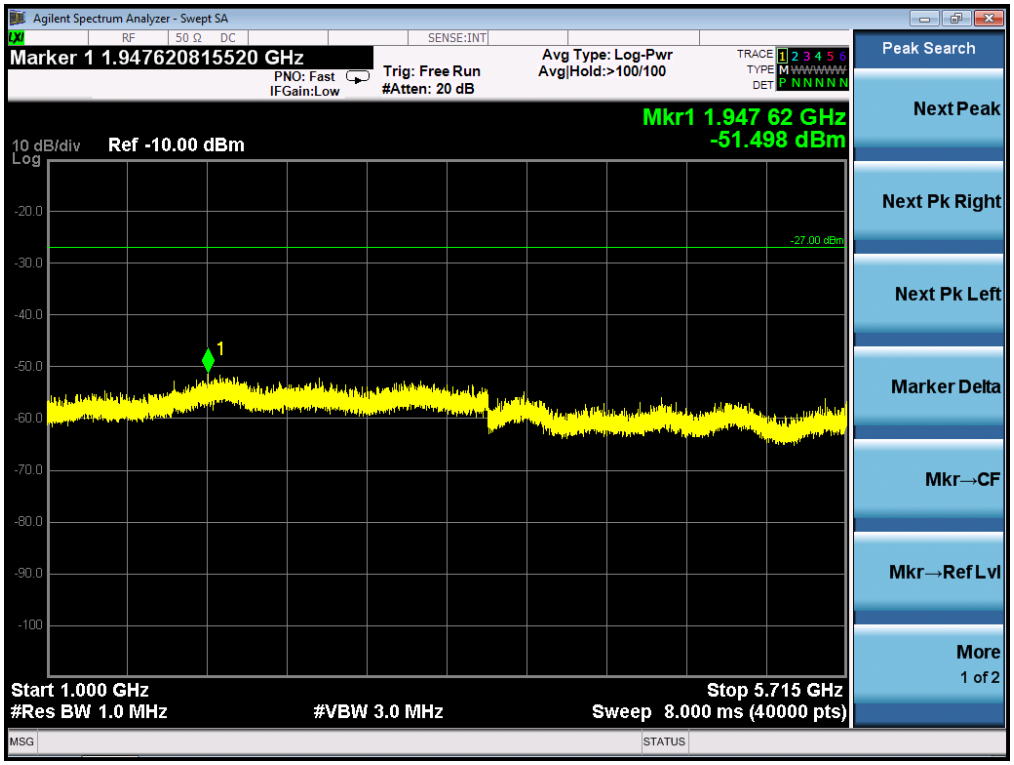


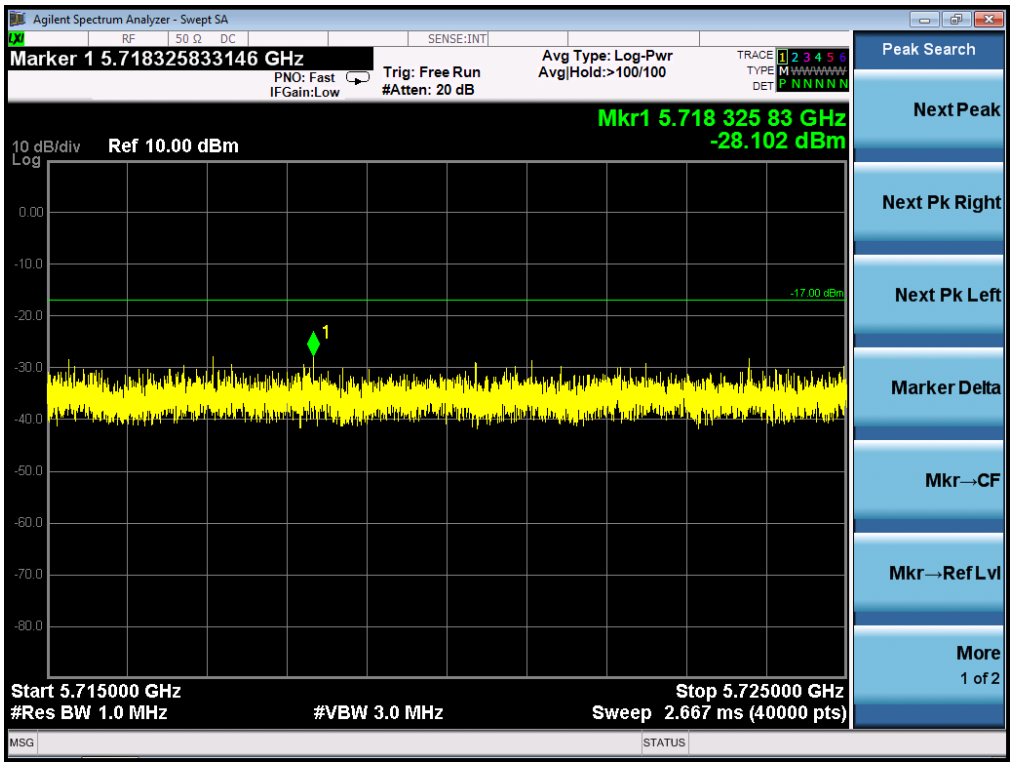

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.077781944549 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 2.077 78 GHz
-51.164 dBm
10 dB/div
Log
Ref -10.00 dBm
-27.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.150 GHz
Sweep 8.000 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

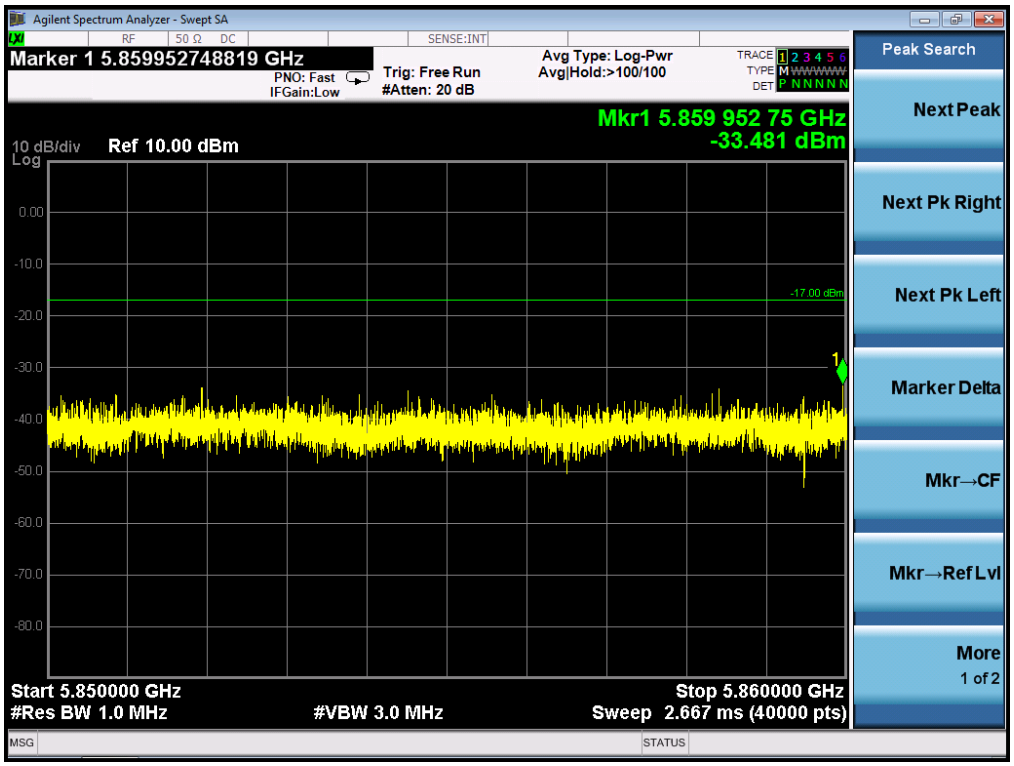

Agilent Spectrum Analyzer - Swept SA
Marker 1 38.909363984100 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 38.909 4 GHz
-48.359 dBm
10 dB/div
Log
Ref -10.00 dBm
-27.00 dBm
Start 5.35 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 40.00 GHz
Sweep 58.67 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

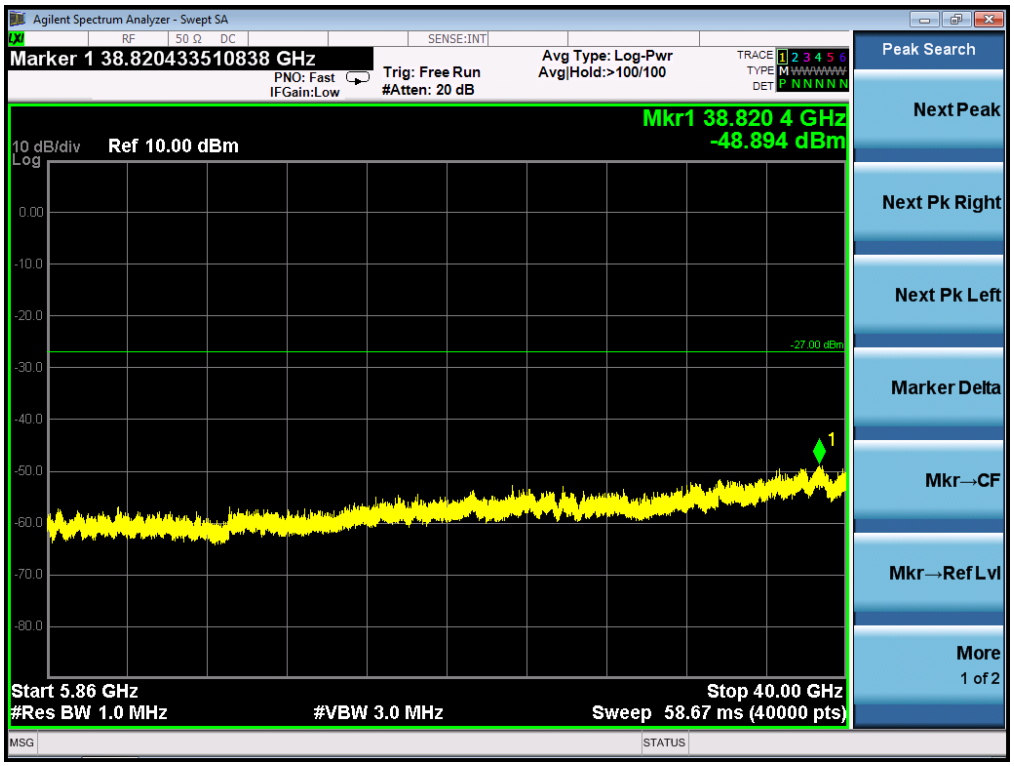
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5745MHz



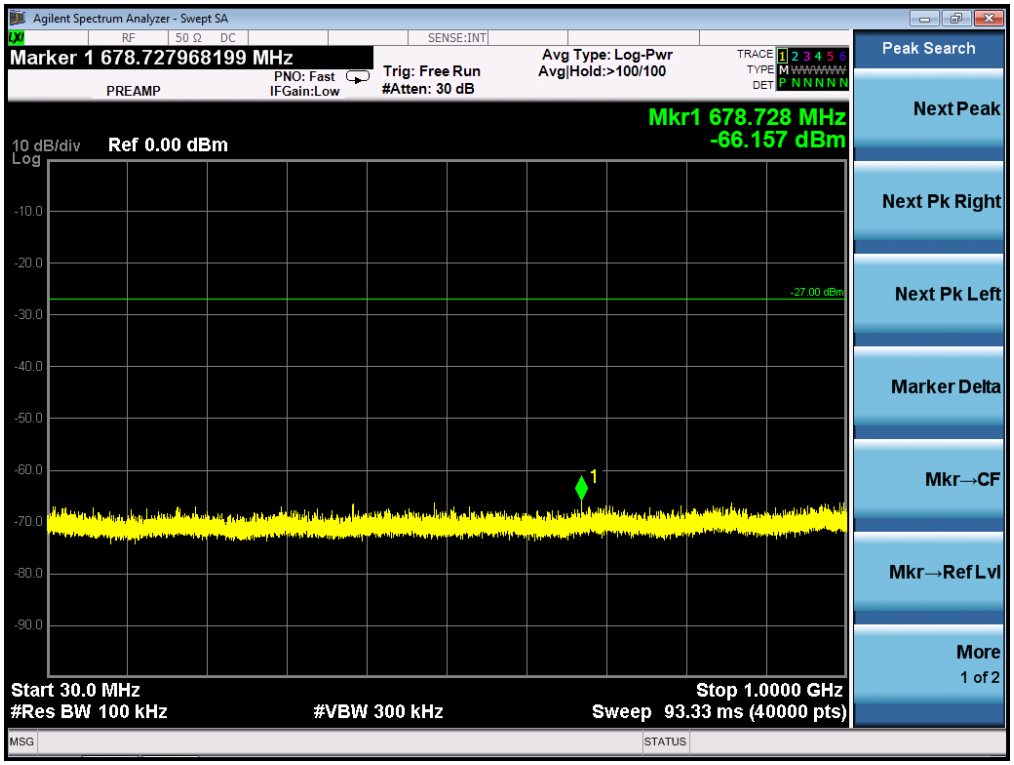


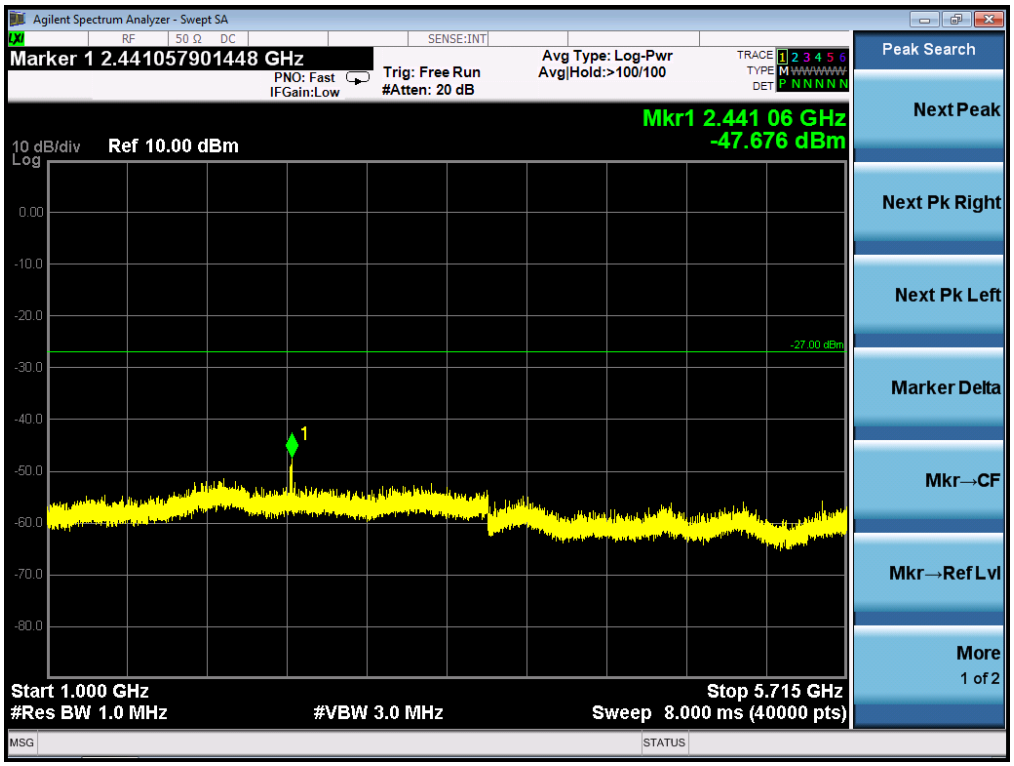

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
Marker 1 5.718325833146 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 5.718 325 83 GHz
-28.102 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-17.00 dBm
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

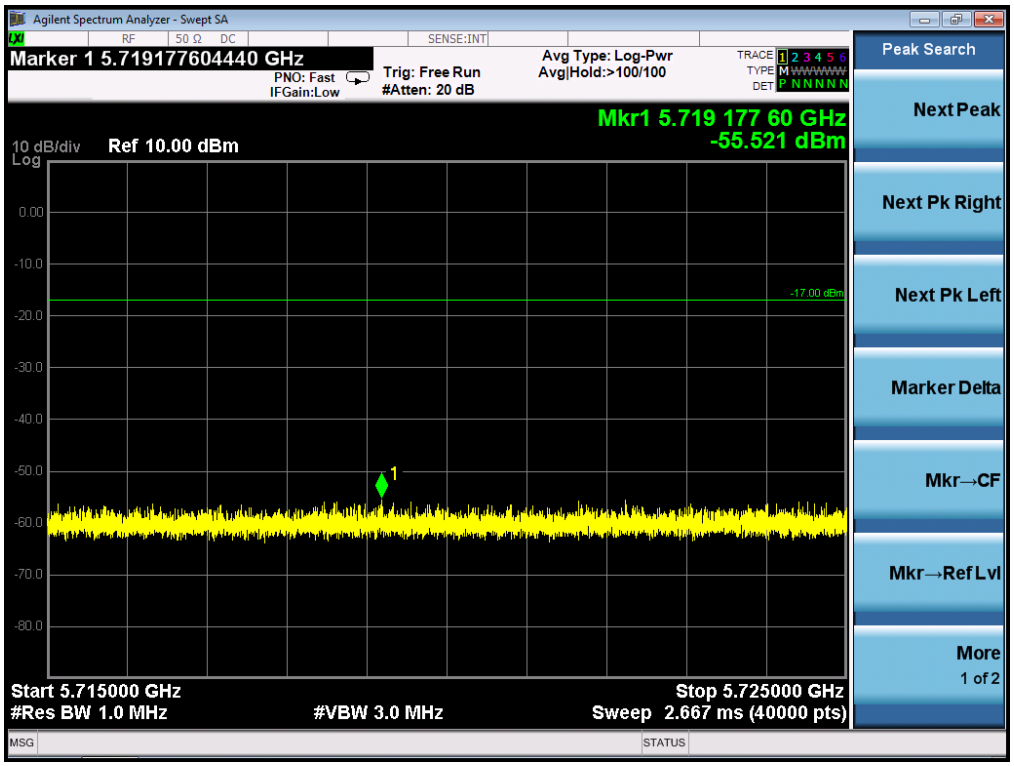

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
Marker 1 5.859952748819 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 5.859 952 75 GHz
-33.481 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-17.00 dBm
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Start 5.850000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.860000 GHz
Sweep 2.667 ms (40000 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

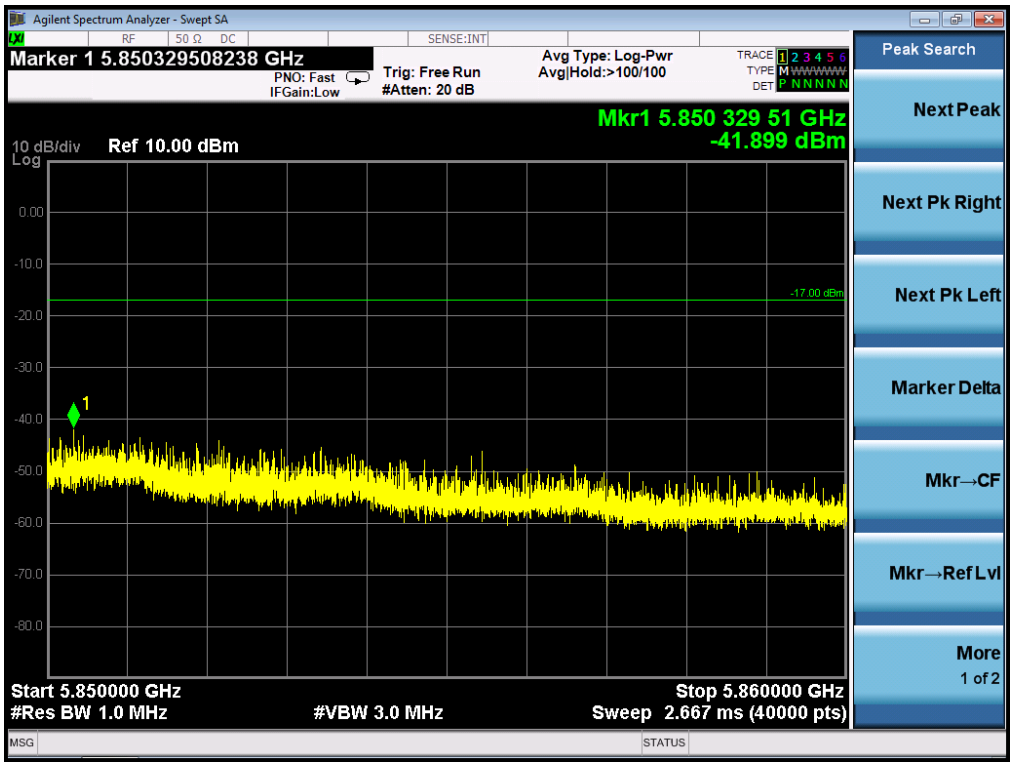


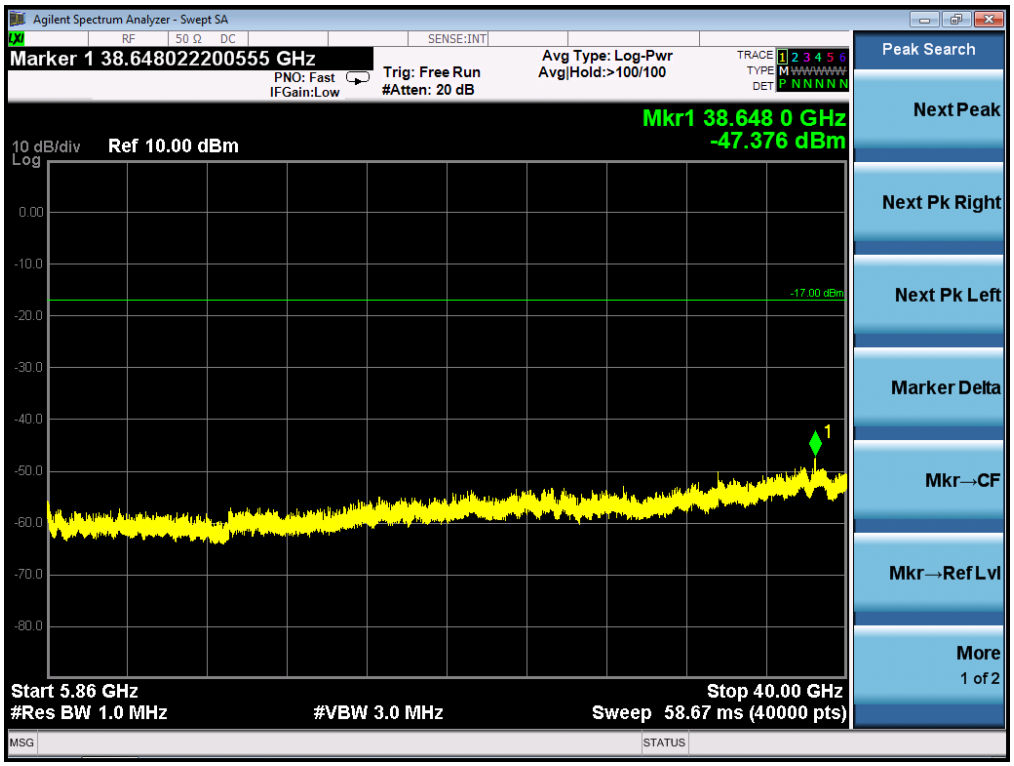
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5825MHz




Agilent Spectrum Analyzer - Swept SA
Marker 1 2.441057901448 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 2.441 06 GHz
-47.676 dBm
10 dB/div
Log
Ref 10.00 dBm
-27.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.715 GHz
Sweep 8.000 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

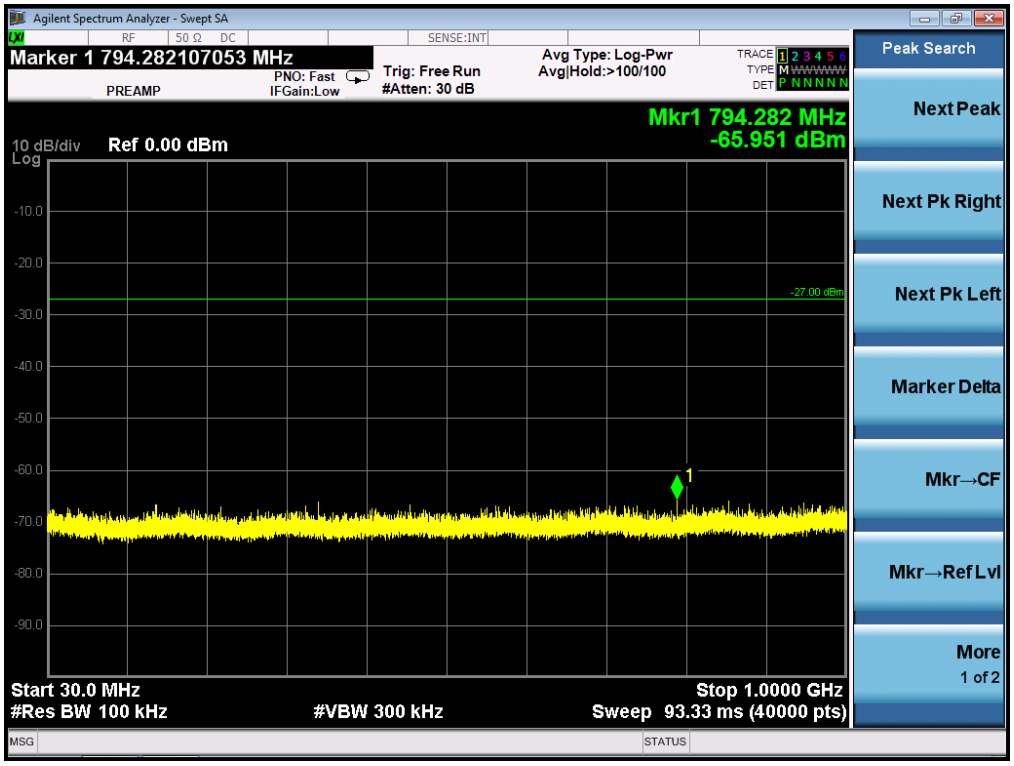

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.719177604440 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.719 177 60 GHz
-55.521 dBm
10 dB/div
Log
Ref 10.00 dBm
-17.00 dBm
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

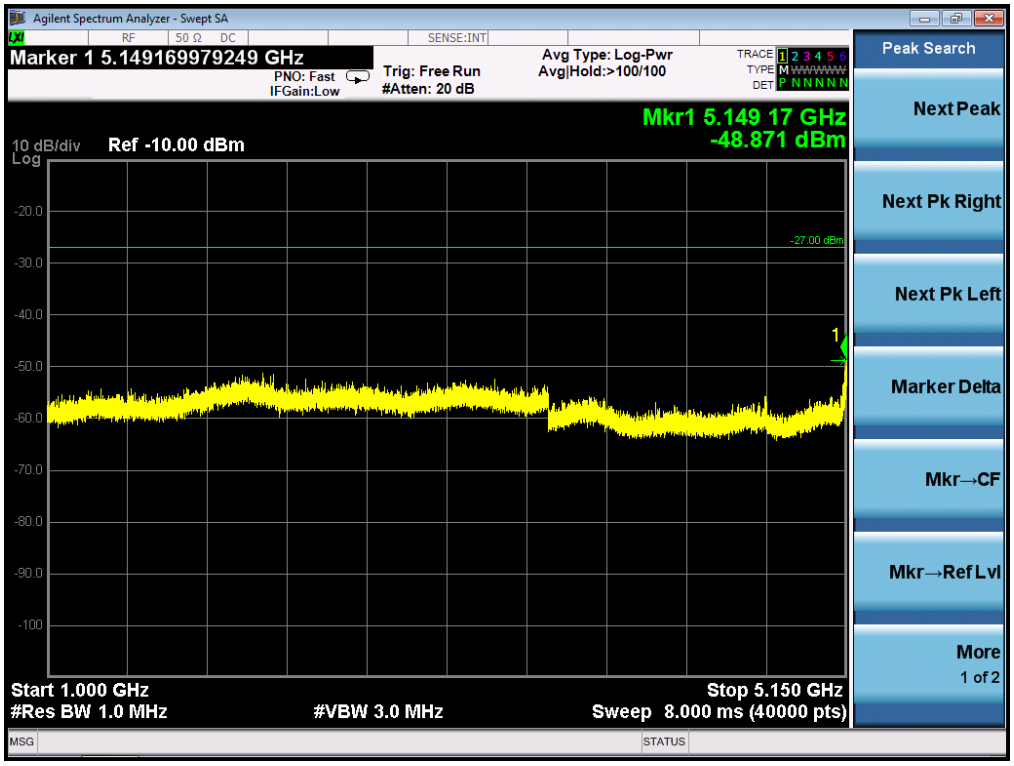

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.850329508238 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.850 329 51 GHz
-41.899 dBm
10 dB/div
Log
Ref 10.00 dBm
-17.00 dBm
Start 5.850000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.860000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

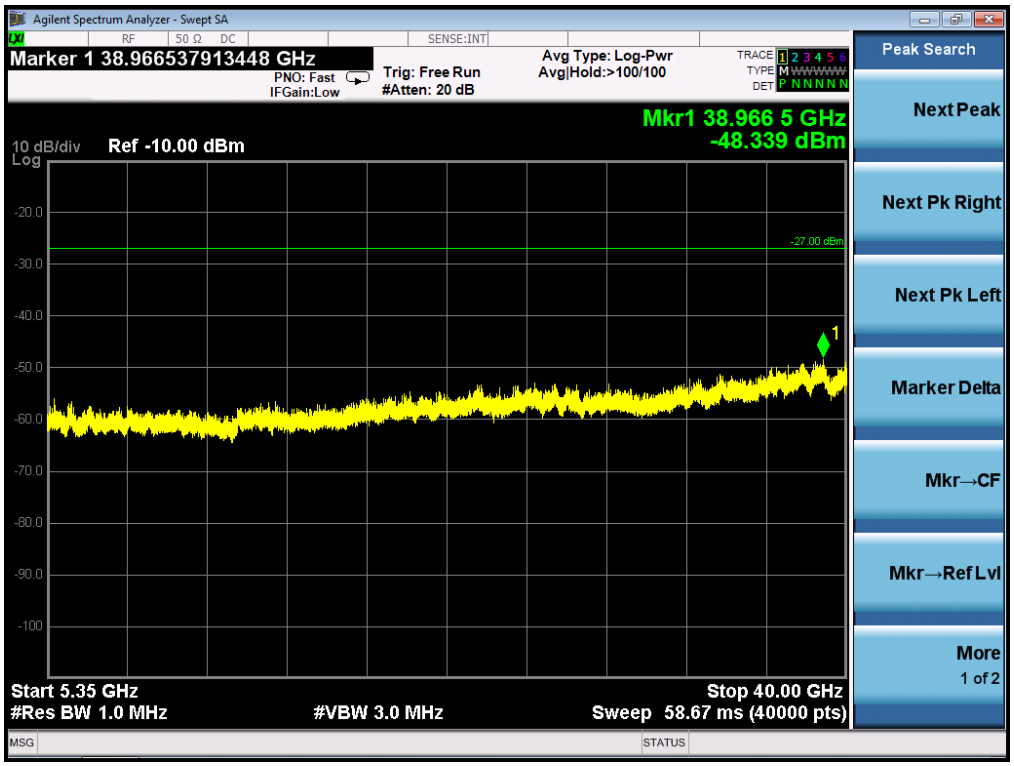

Agilent Spectrum Analyzer - Swept SA
Marker 1 38.648022200555 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 38.648 0 GHz
-47.376 dBm
10 dB/div
Log
Ref 10.00 dBm
-17.00 dBm
Start 5.86 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 40.00 GHz
Sweep 58.67 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

FOR 802.11N20 MODULATION

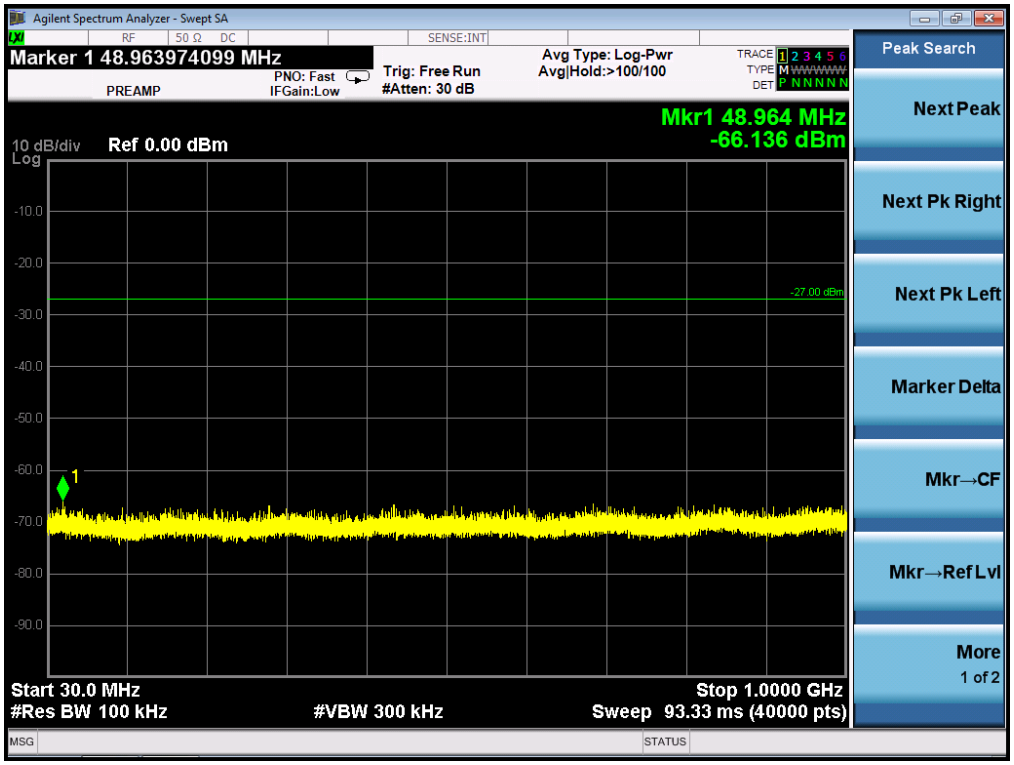
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5180MHz



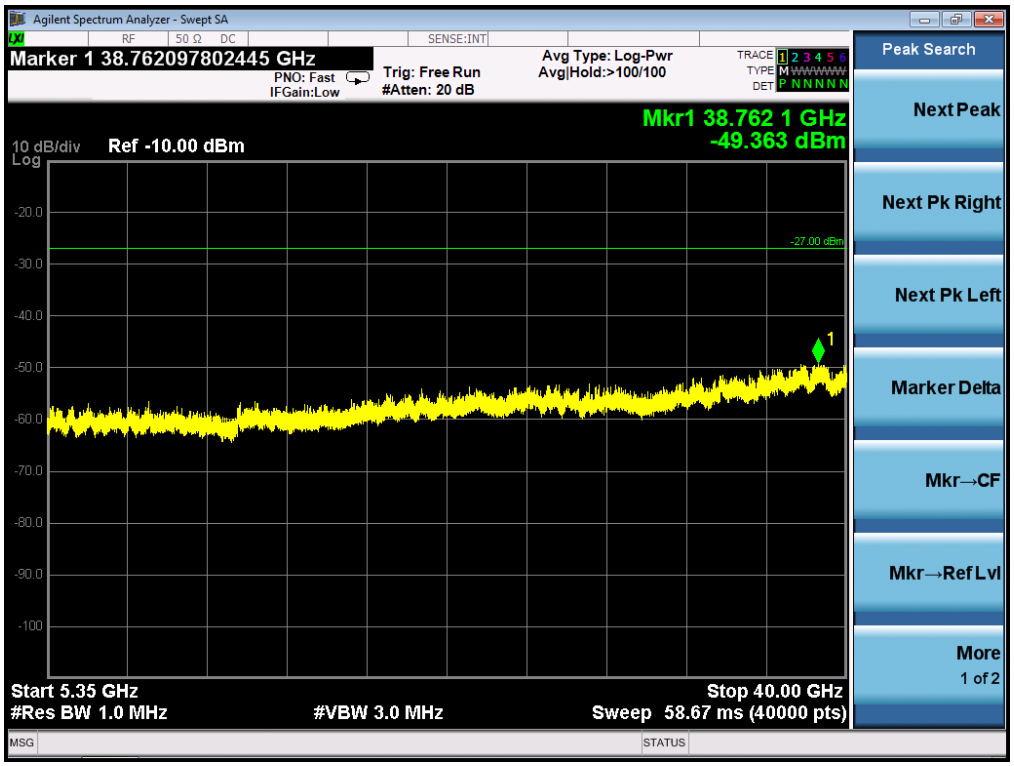




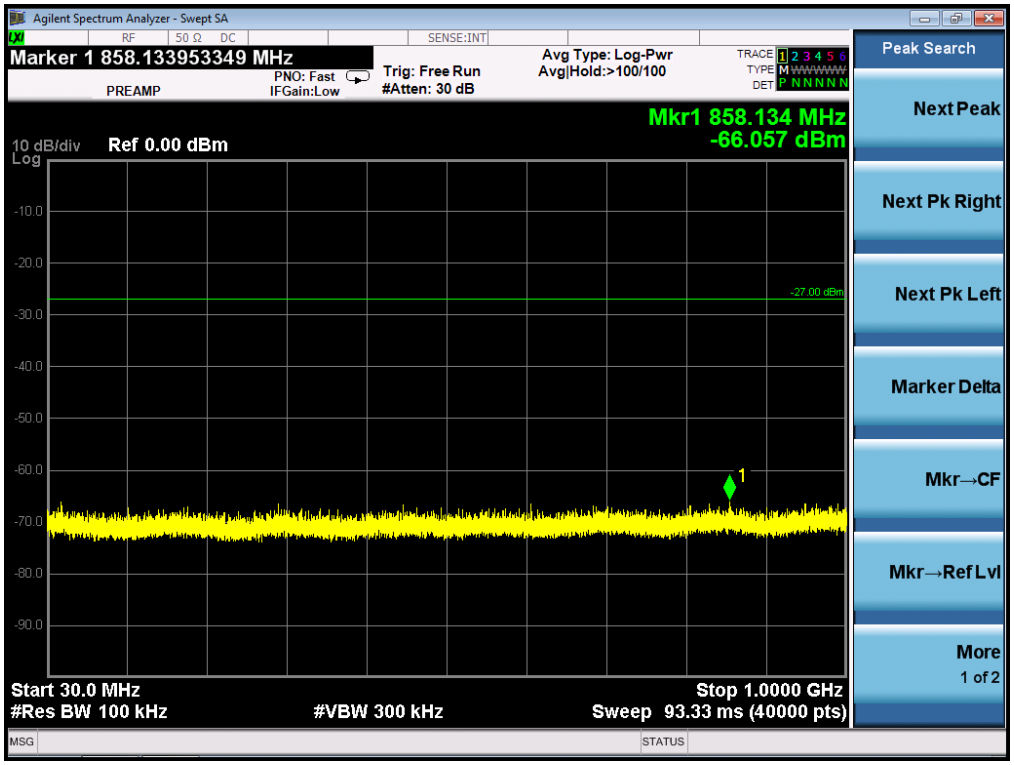
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5240MHz

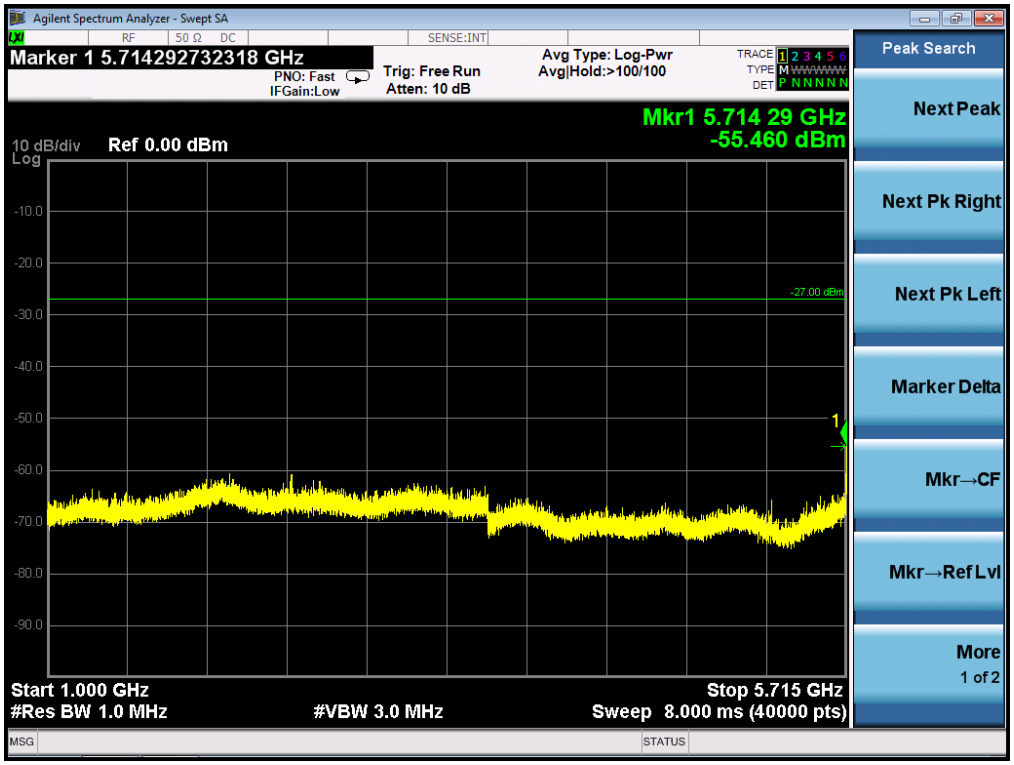


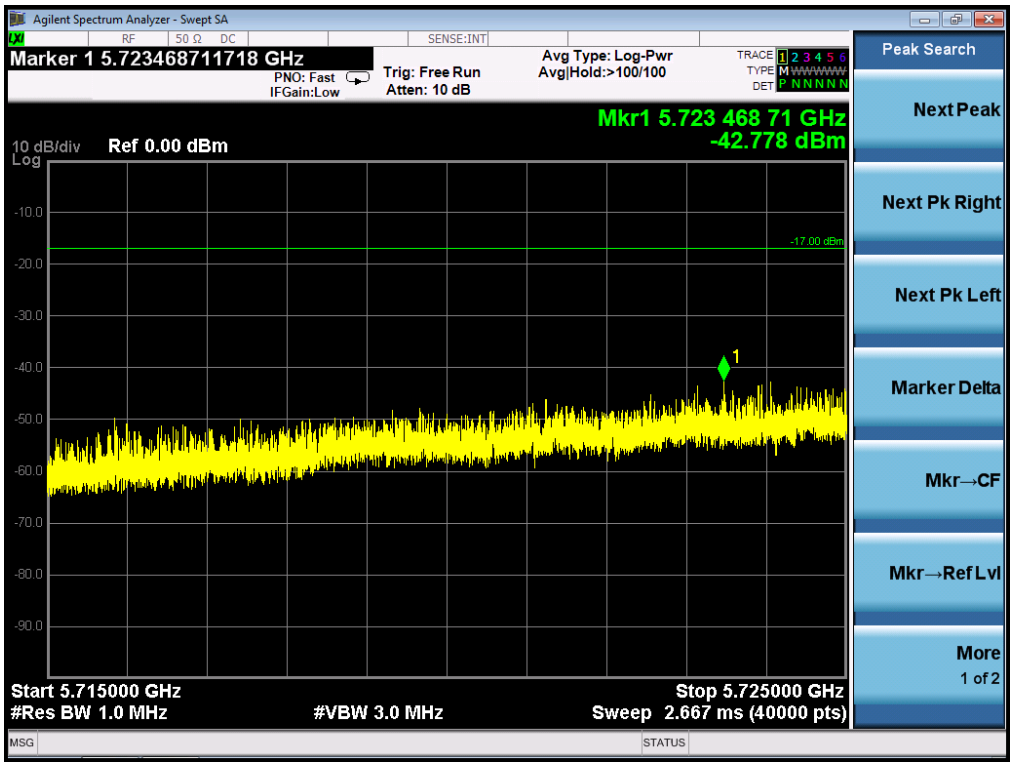

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
Marker 1 2.021340533513 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.021 34 GHz
-51.692 dBm
10 dB/div
Log
Ref -10.00 dBm
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
-27.00 dBm
1
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.150 GHz
Sweep 8.000 ms (40000 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

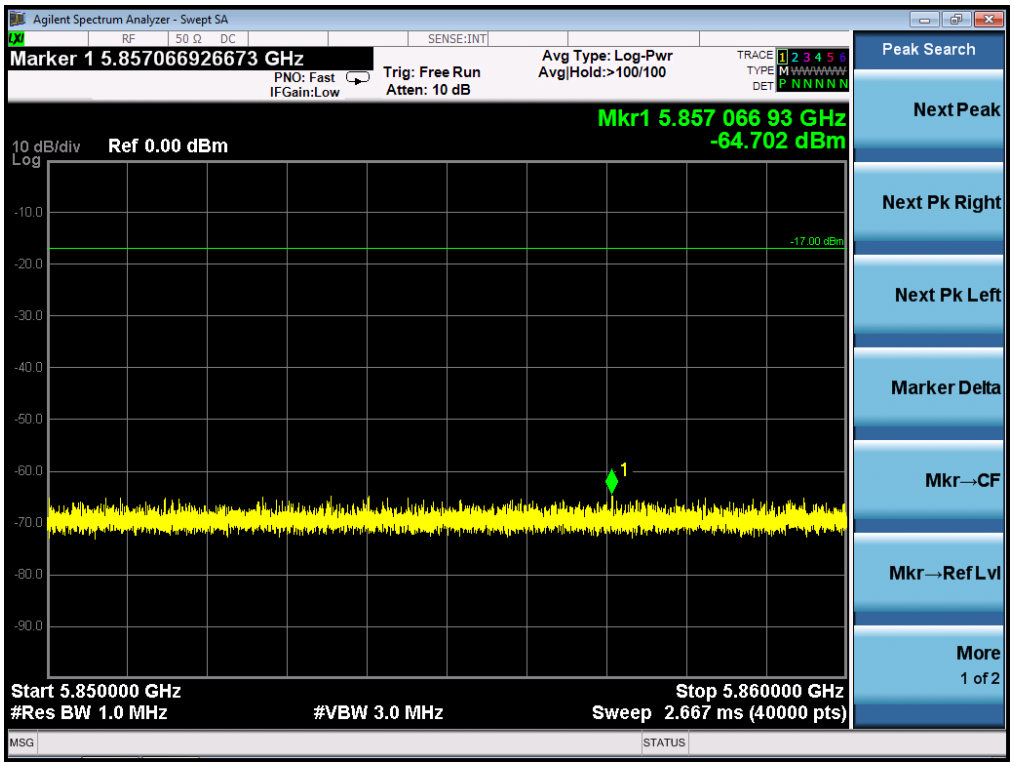

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
Marker 1 38.762097802445 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 38.762 1 GHz
-49.363 dBm
10 dB/div
Log
Ref -10.00 dBm
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
-27.00 dBm
1
Start 5.35 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 40.00 GHz
Sweep 58.67 ms (40000 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

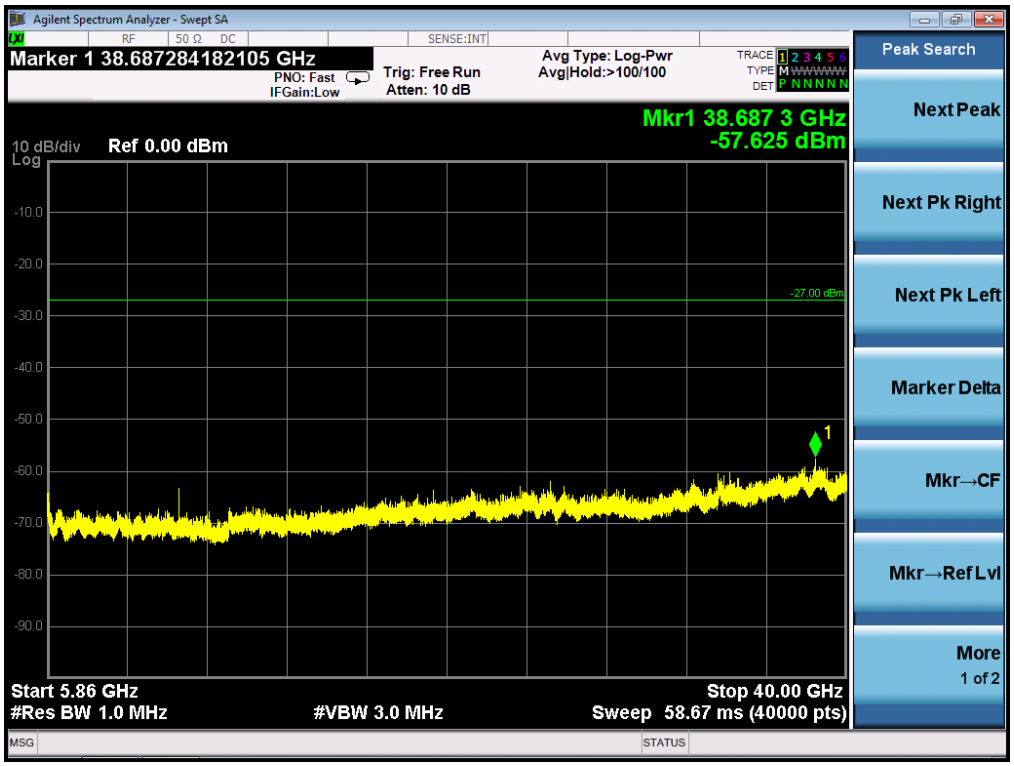
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5745MHz



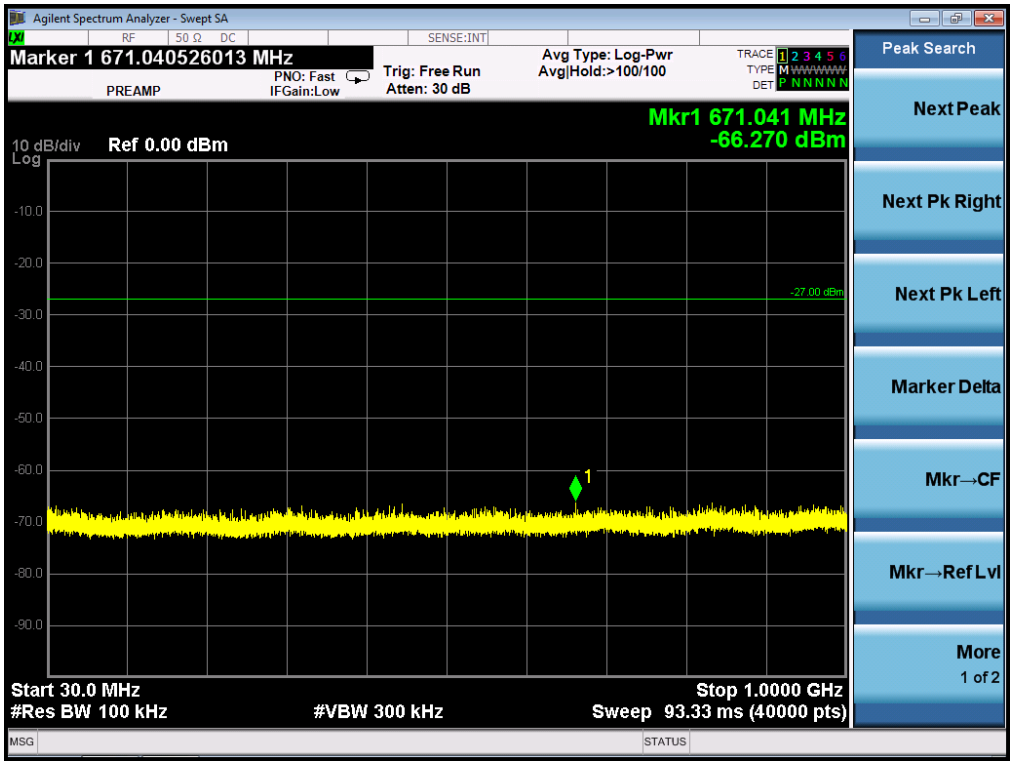


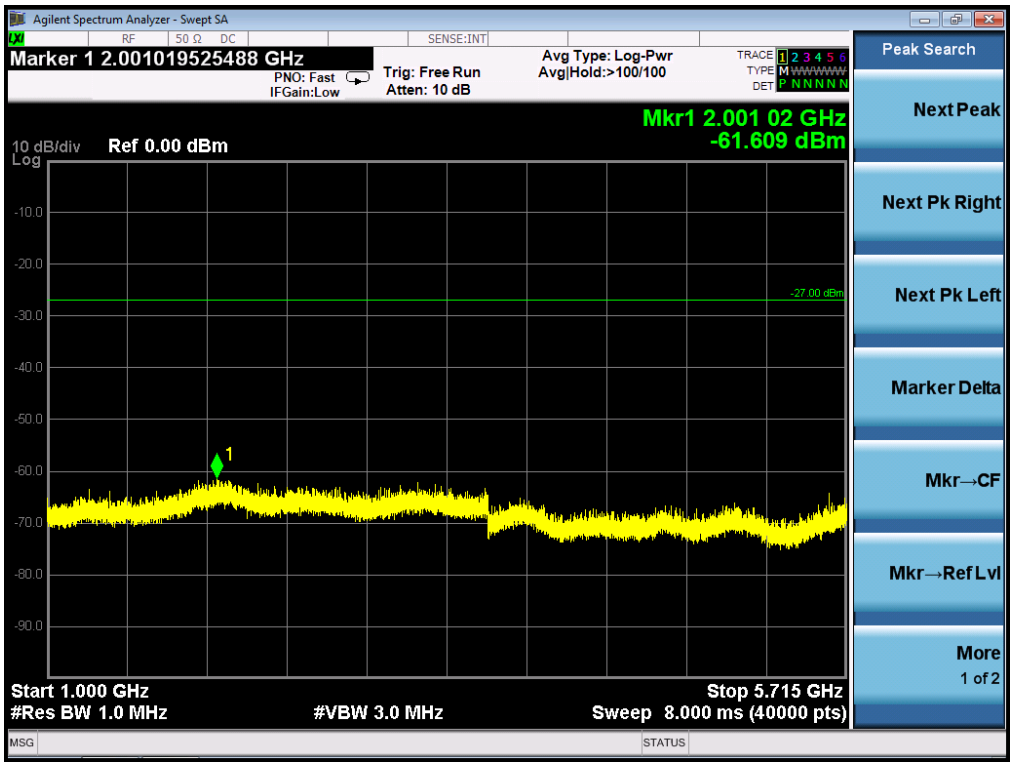

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.723468711718 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.723 468 71 GHz
-42.778 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

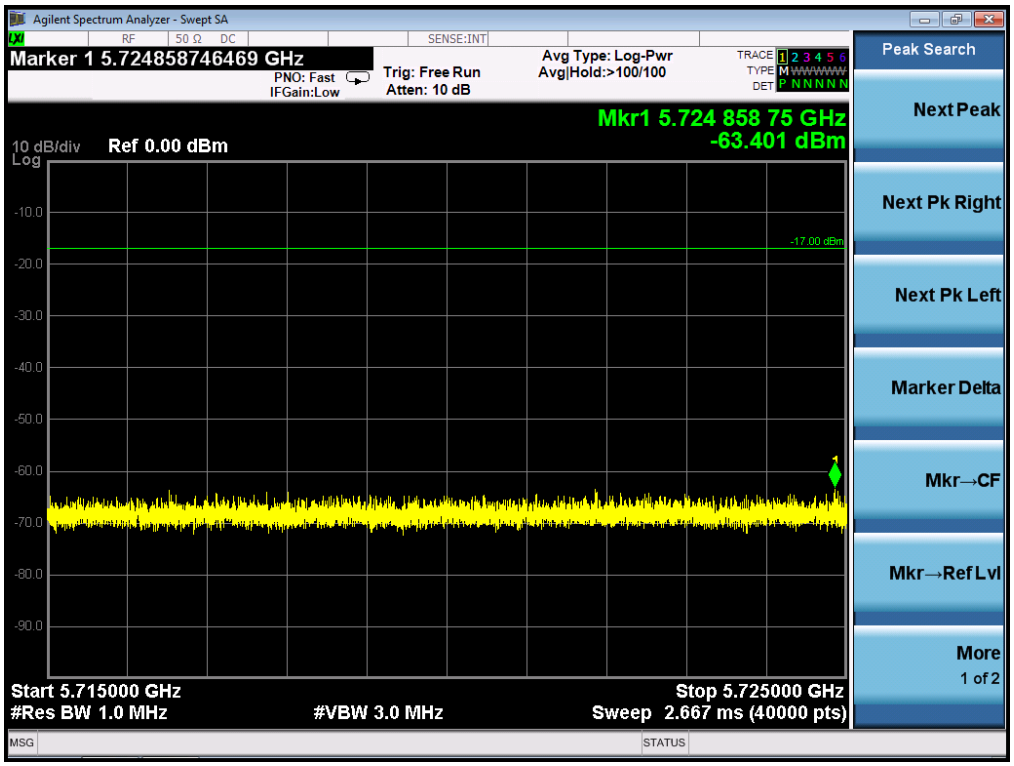

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.857066926673 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.857 066 93 GHz
-64.702 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.850000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.860000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

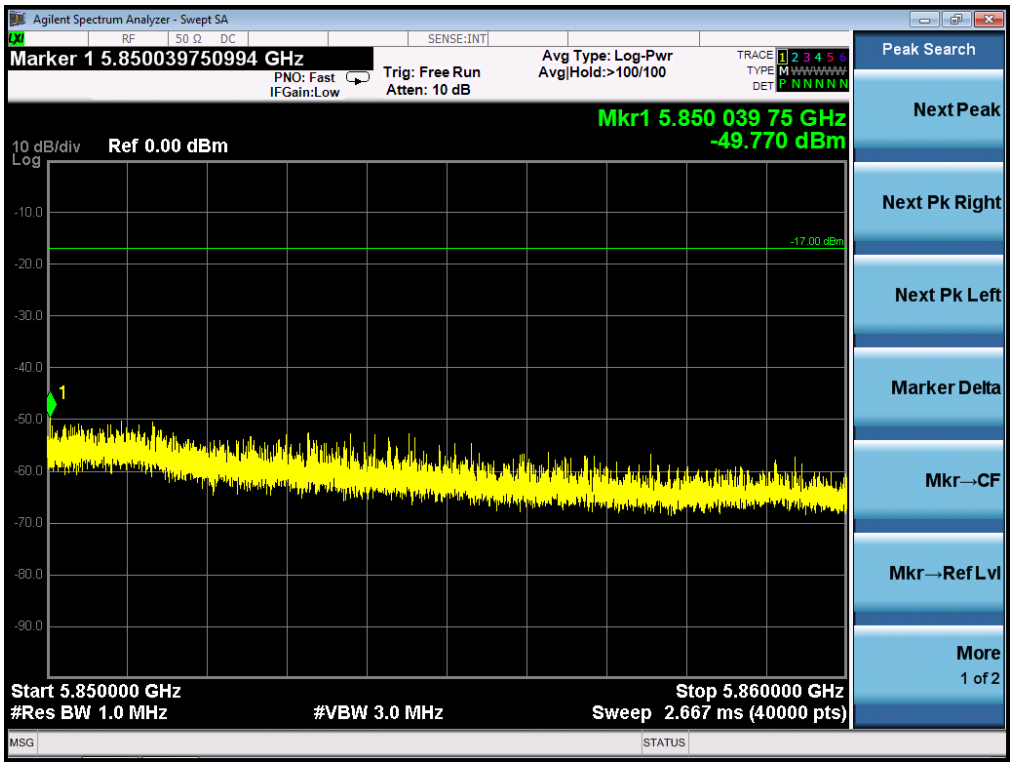


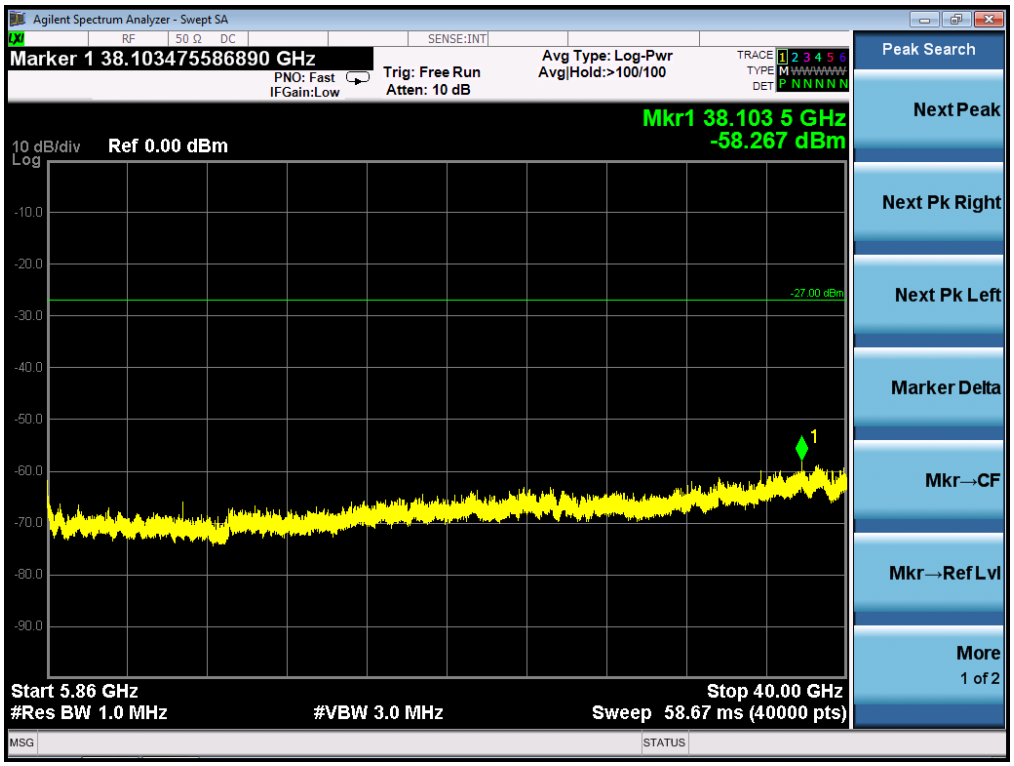
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5825MHz




Agilent Spectrum Analyzer - Swept SA
Marker 1 2.001019525488 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 2.001 02 GHz
-61.609 dBm
10 dB/div
Log
Ref 0.00 dBm
-27.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.715 GHz
Sweep 8.000 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

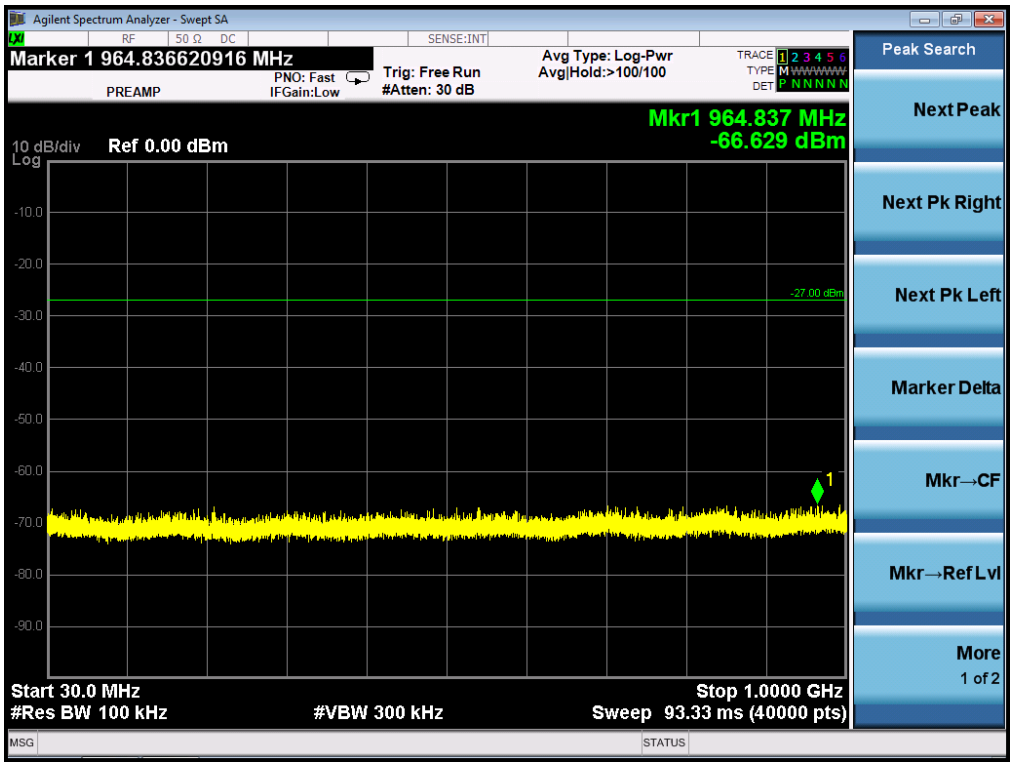

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.724858746469 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.724 858 75 GHz
-63.401 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

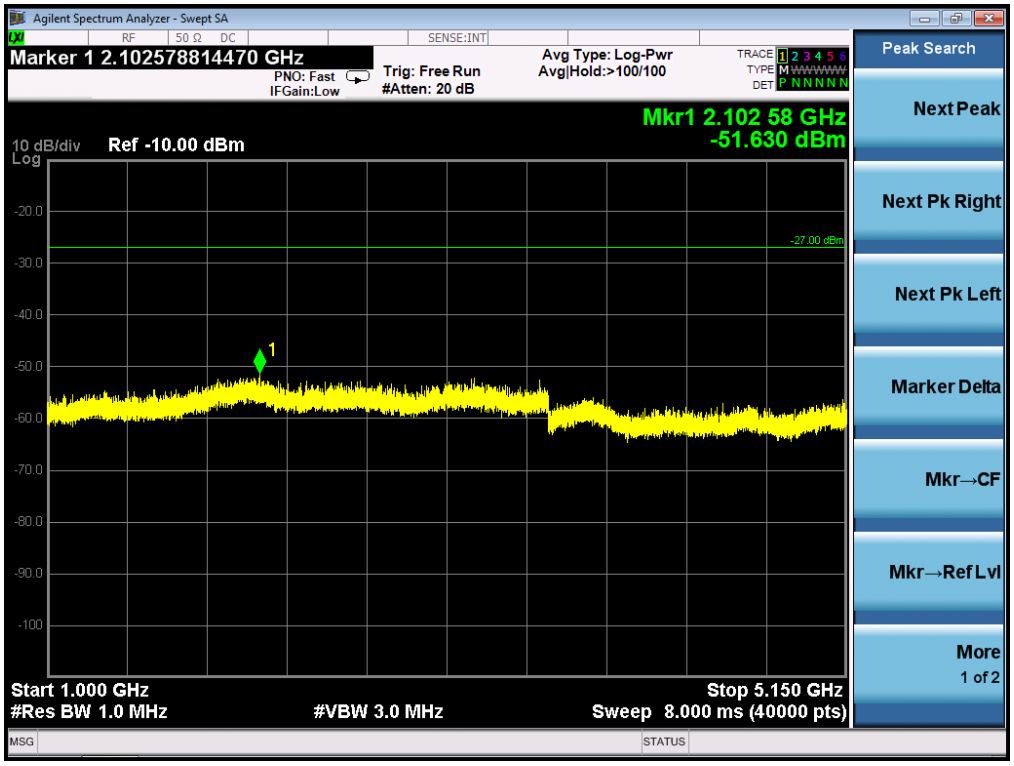

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.850039750994 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.850 039 75 GHz
-49.770 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.850000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.860000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

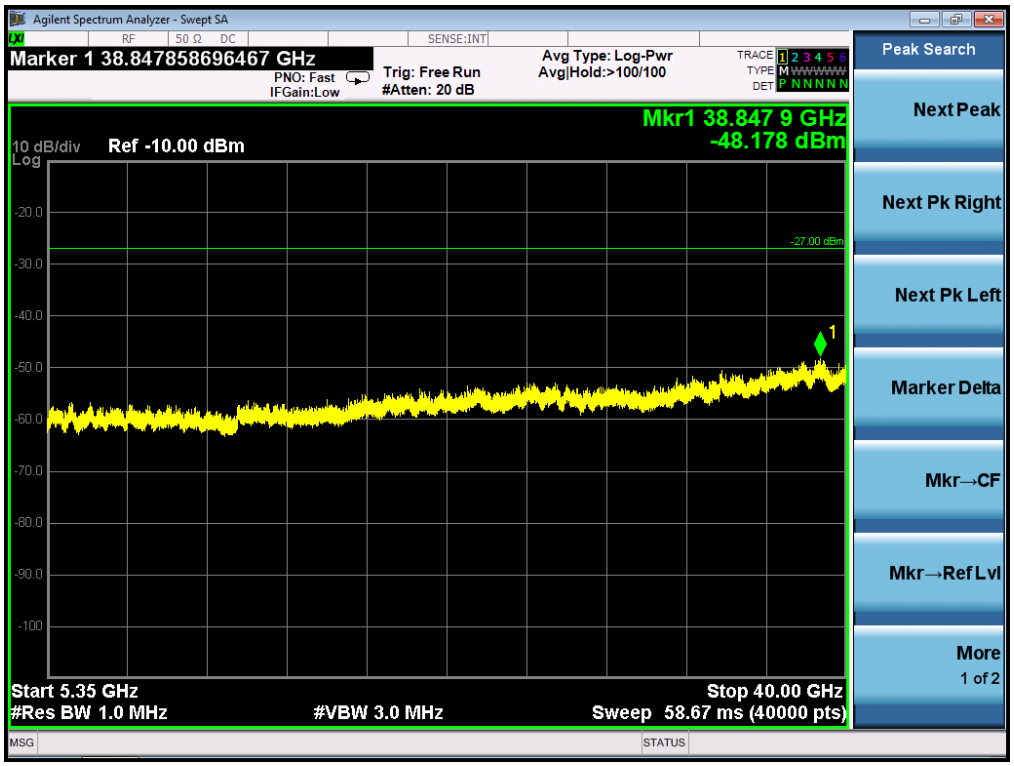

Agilent Spectrum Analyzer - Swept SA
Marker 1 38.103475586890 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 38.103 5 GHz
-58.267 dBm
10 dB/div
Log
Ref 0.00 dBm
-27.00 dBm
Start 5.86 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 40.00 GHz
Sweep 58.67 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

FOR 802.11N40 MODULATION

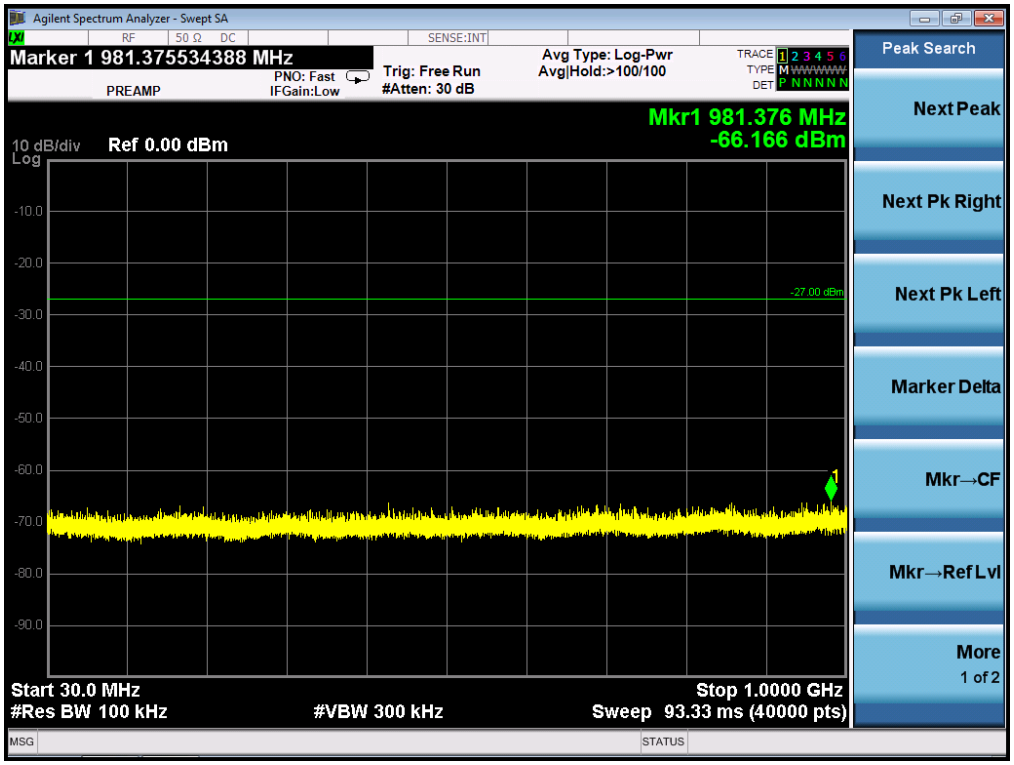
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5190MHz



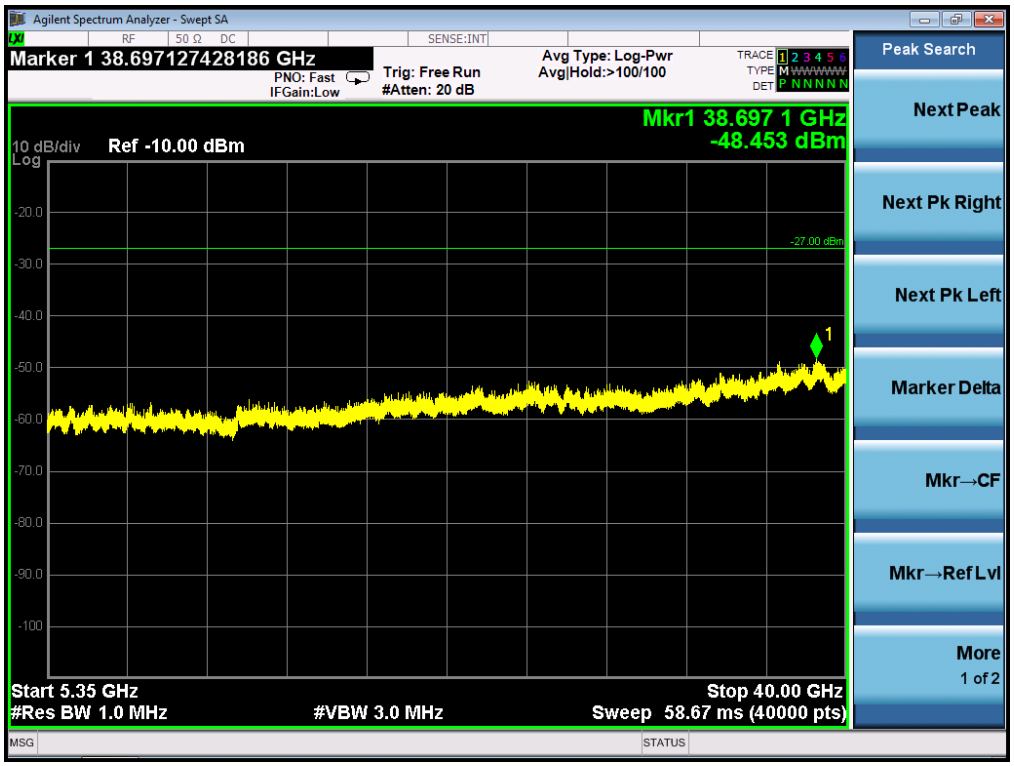




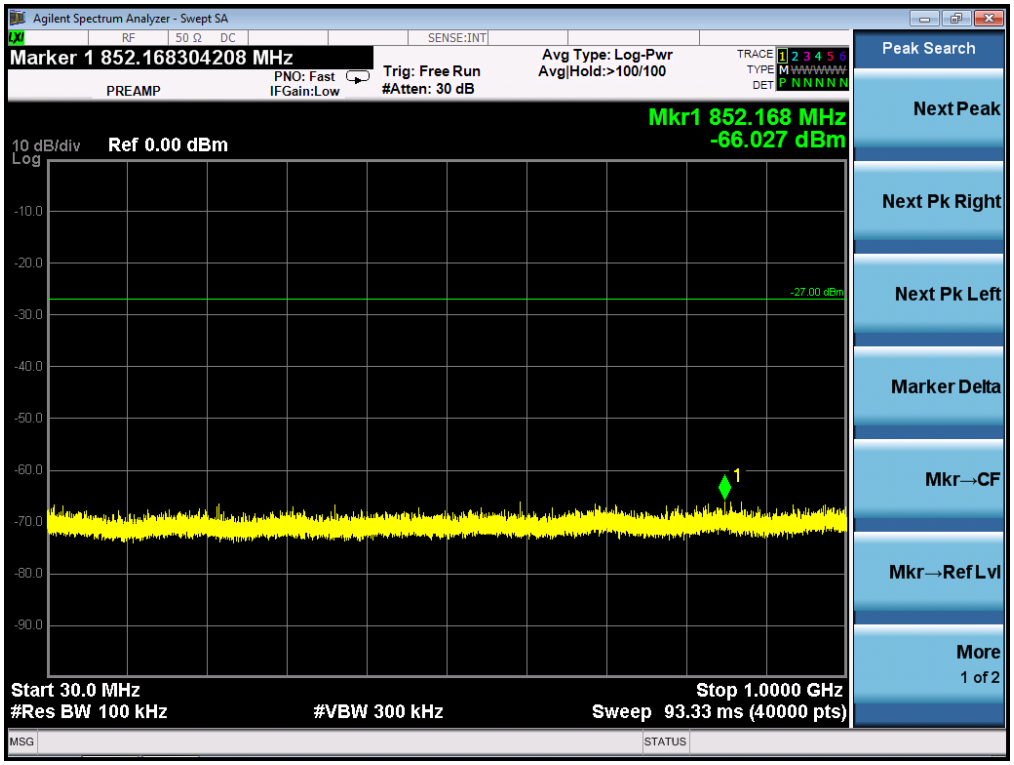
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5230MHz

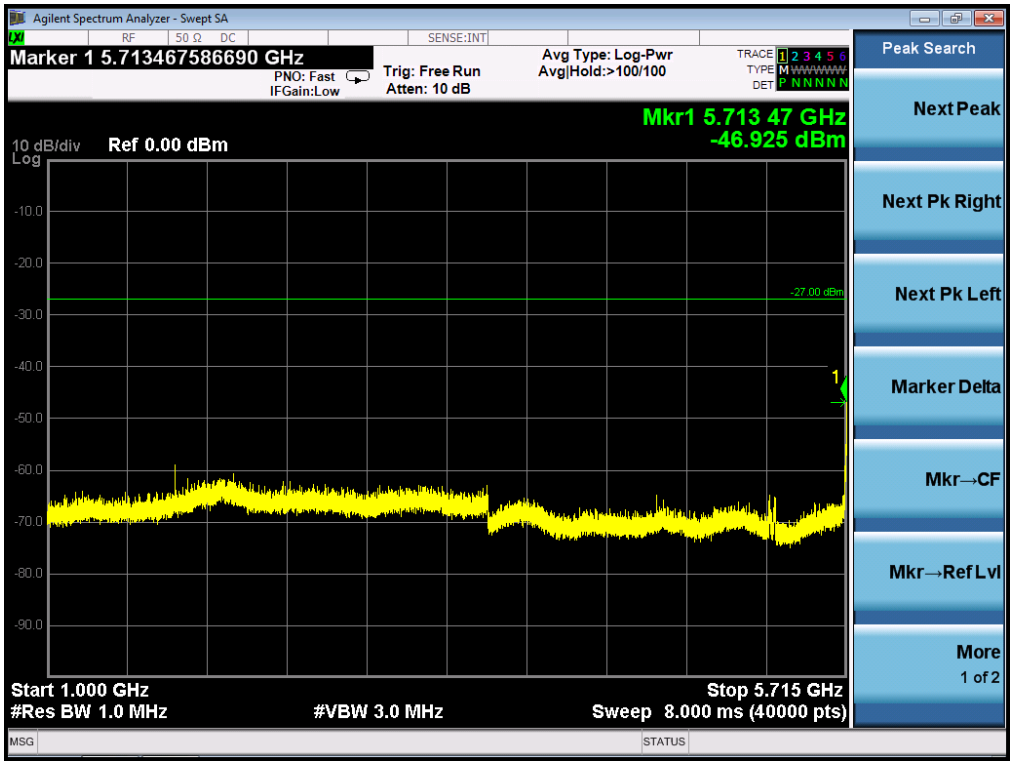


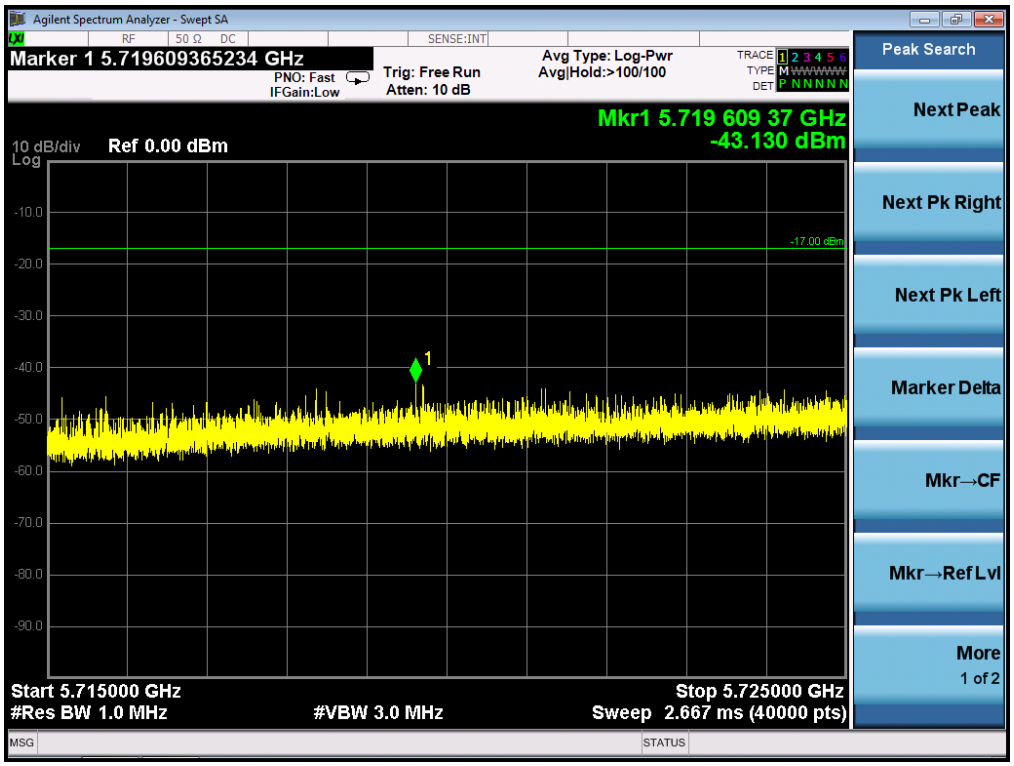

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.035139628491 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 2.035 14 GHz
-51.982 dBm
10 dB/div
Log
Ref -10.00 dBm
-27.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.150 GHz
Sweep 8.000 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

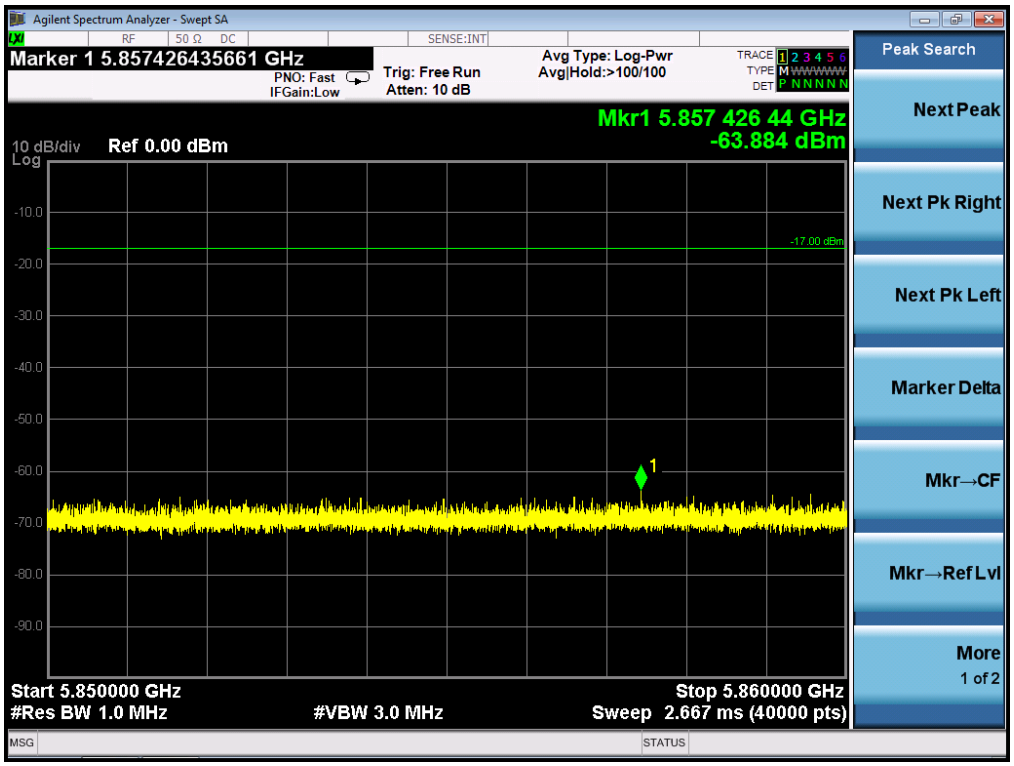

Agilent Spectrum Analyzer - Swept SA
Marker 1 38.697127428186 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 38.697 1 GHz
-48.453 dBm
10 dB/div
Log
Ref -10.00 dBm
-27.00 dBm
Start 5.35 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 40.00 GHz
Sweep 58.67 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

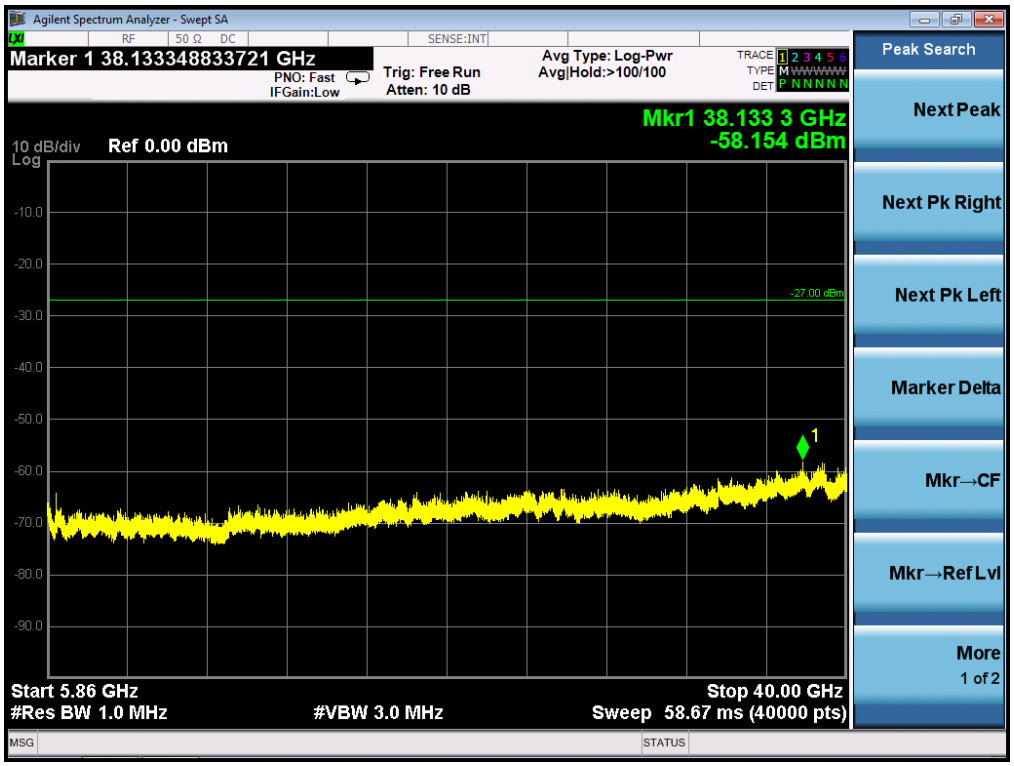
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5755MHz



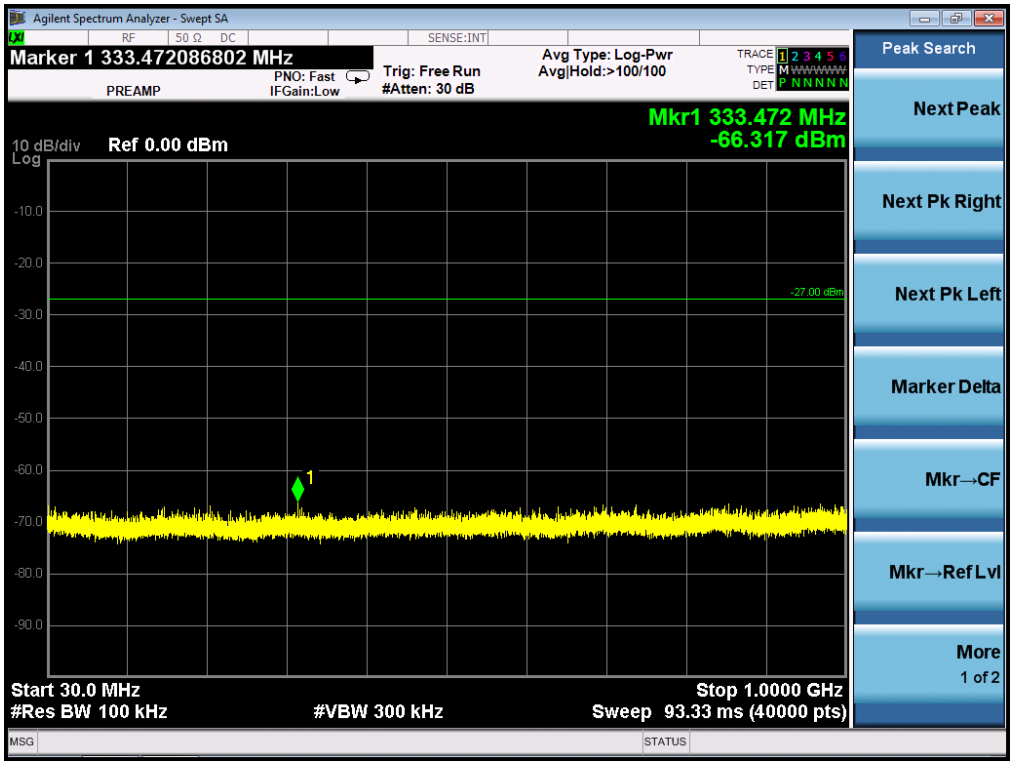


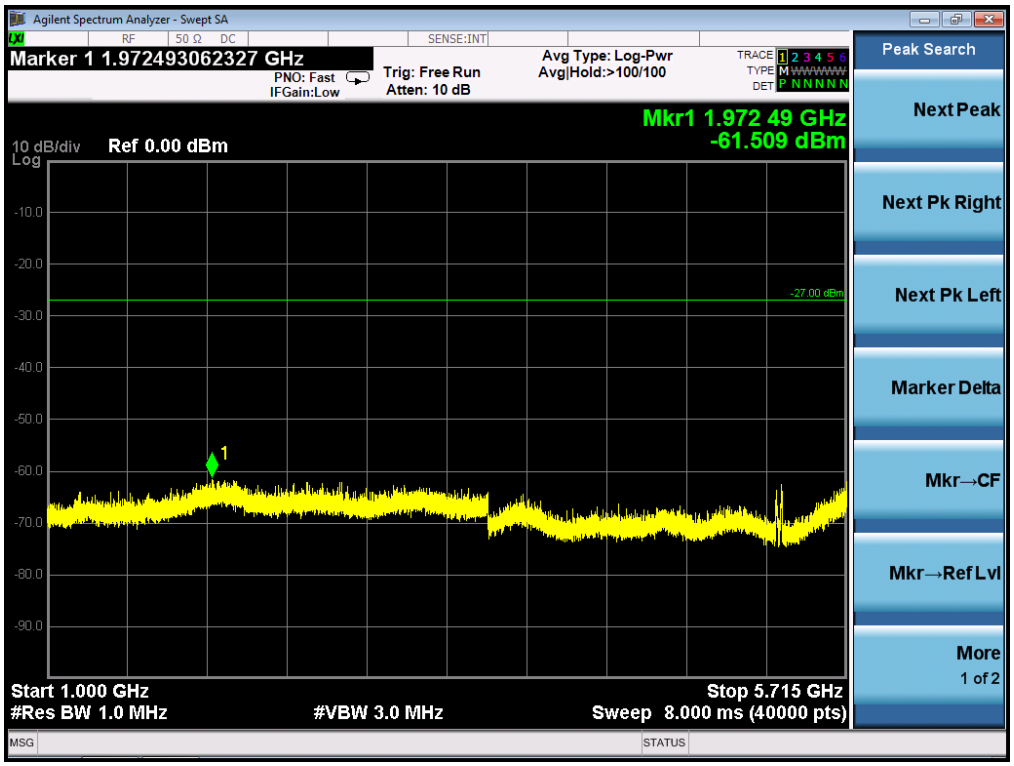

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.719609365234 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.719 609 37 GHz
-43.130 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

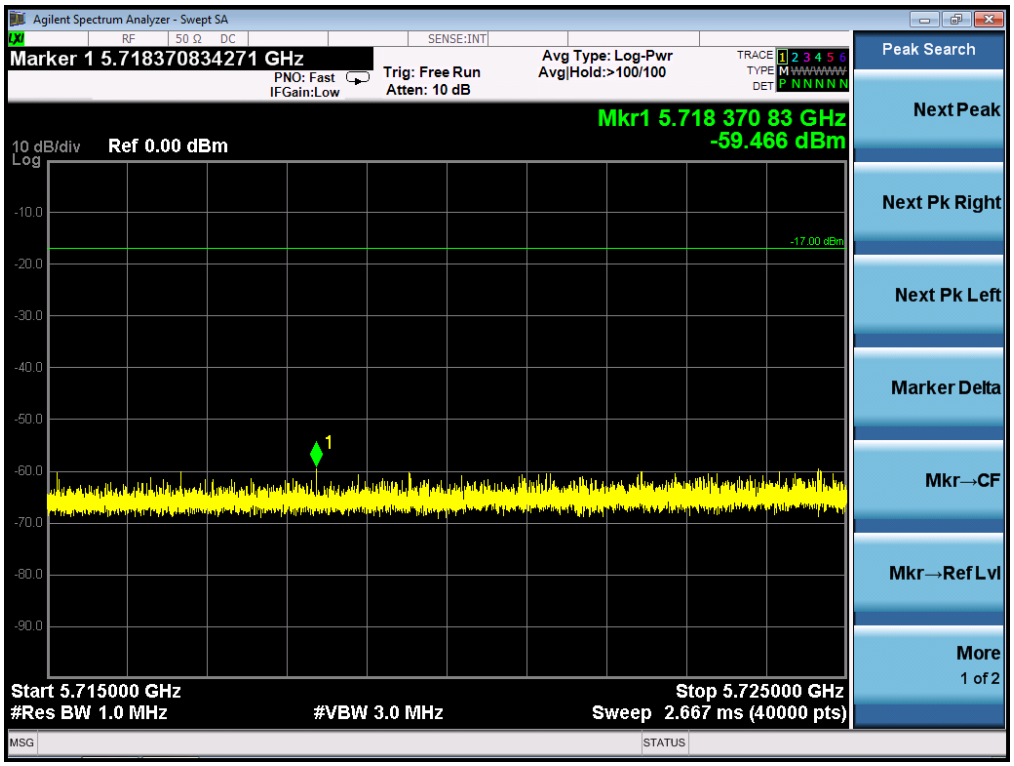

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.857426435661 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.857 426 44 GHz
-63.884 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.850000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.860000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

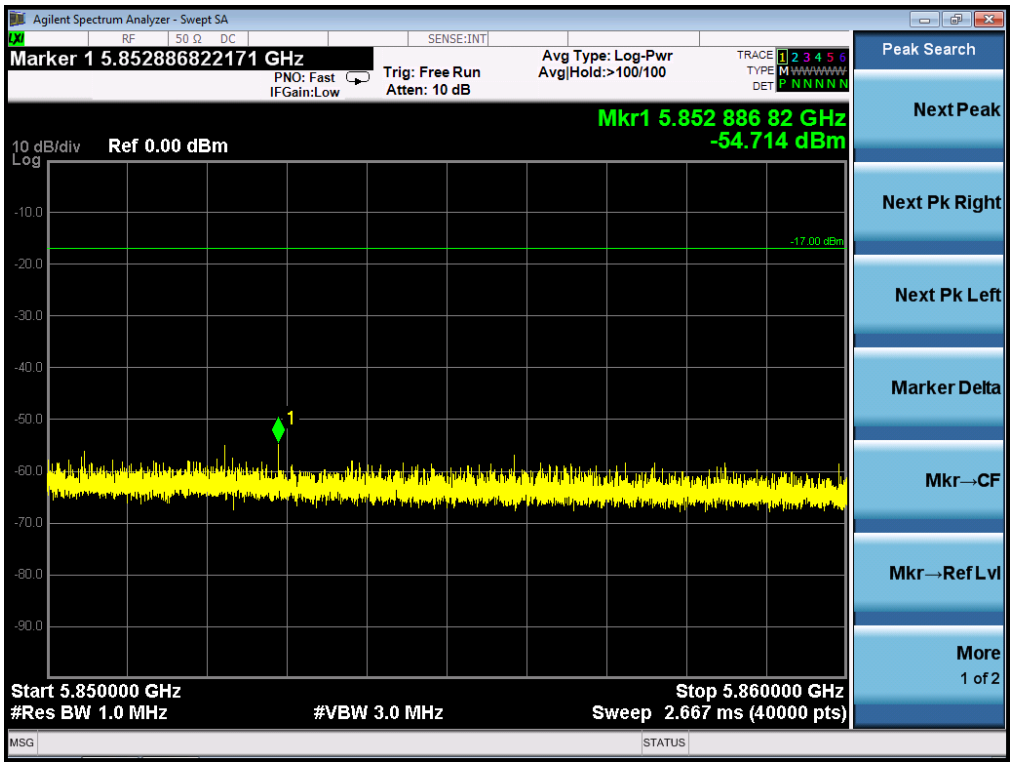


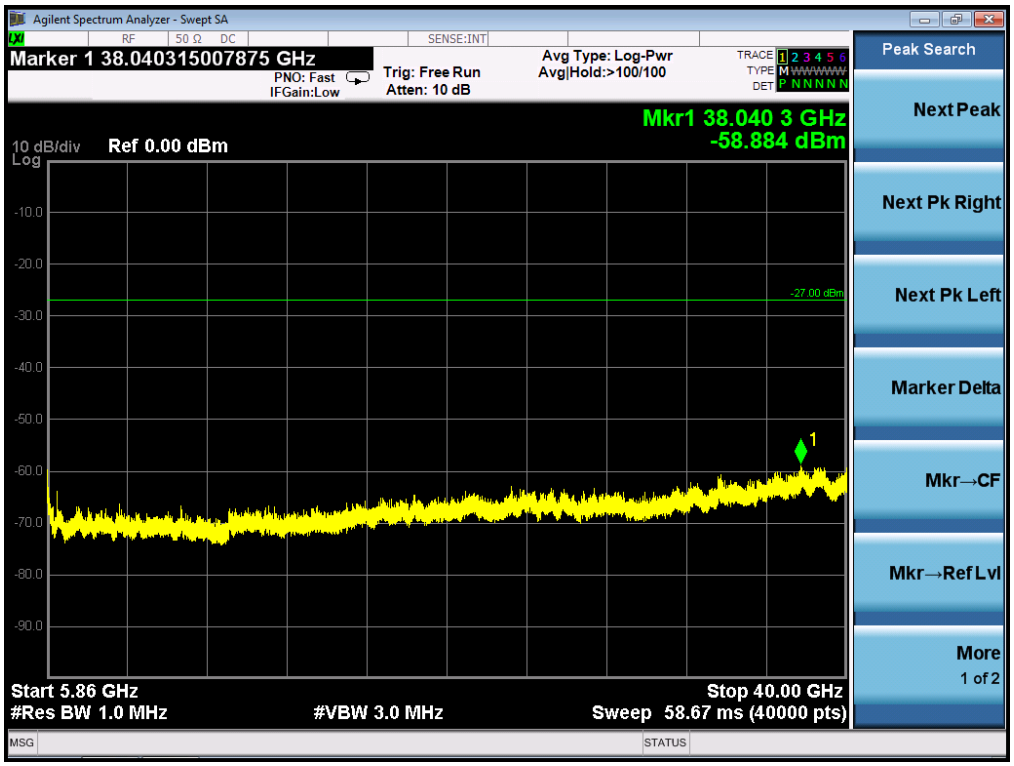
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5795MHz




Agilent Spectrum Analyzer - Swept SA
Marker 1 1.972493062327 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 1.972 49 GHz
-61.509 dBm
10 dB/div
Log
Ref 0.00 dBm
-27.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.715 GHz
Sweep 8.000 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 5.718370834271 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr1 5.718 370 83 GHz
-59.466 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.00 dBm
Start 5.715000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.725000 GHz
Sweep 2.667 ms (40000 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2





Note: Two transmit chains had been tested, the chain 0 was the worst case and record in the test report.

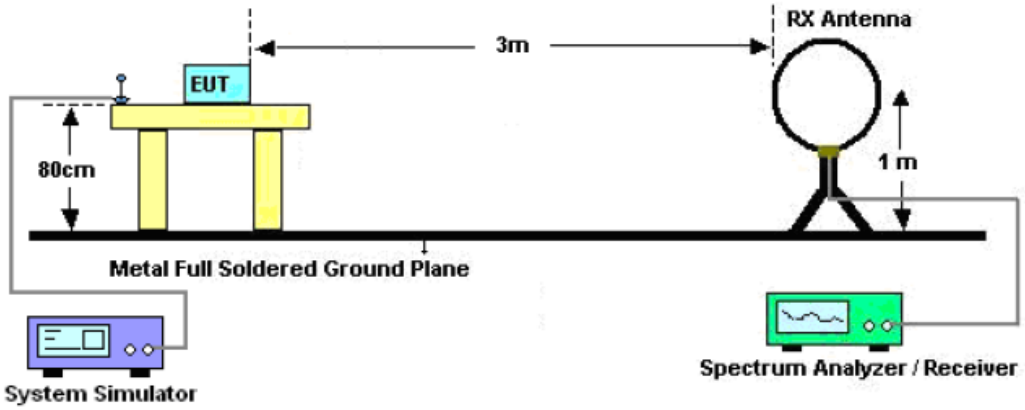
11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

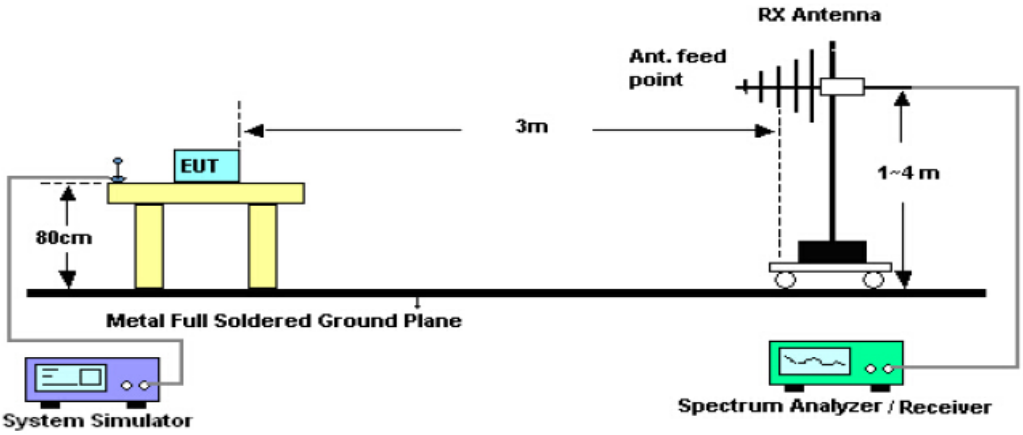
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

11.2. TEST SETUP

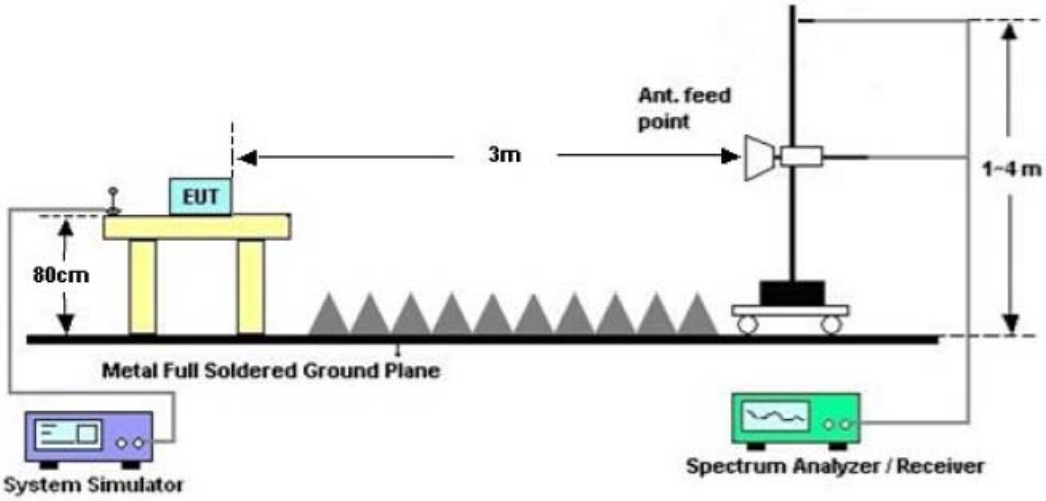
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

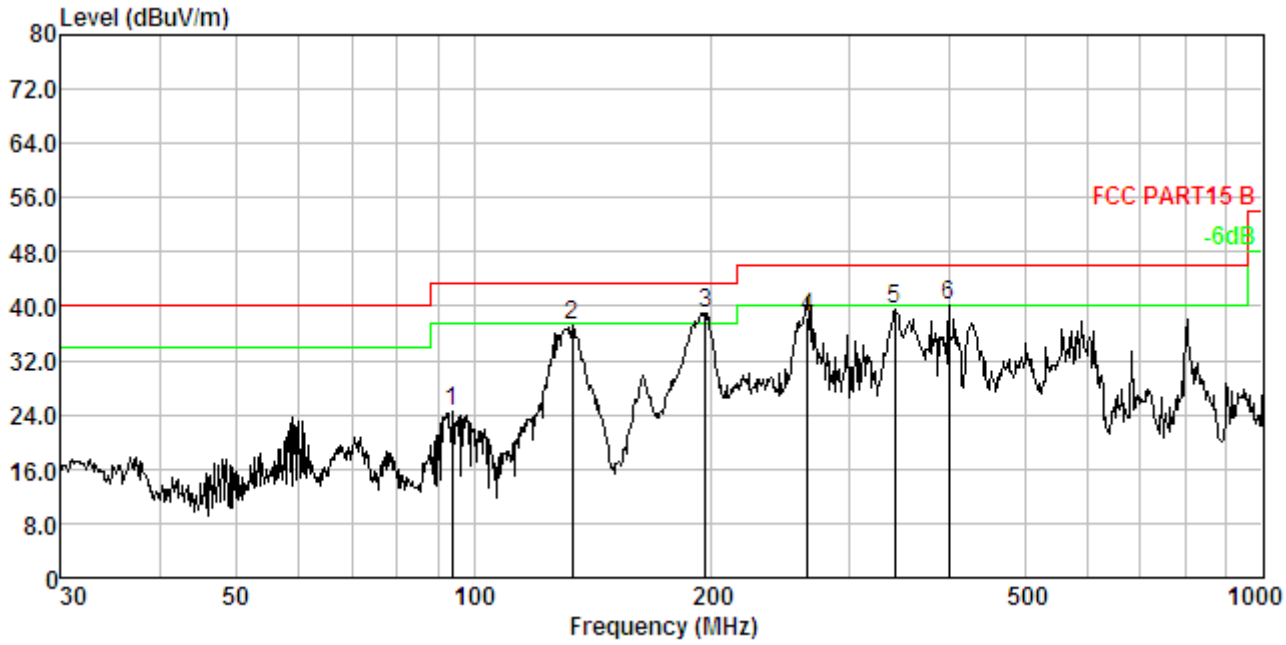
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

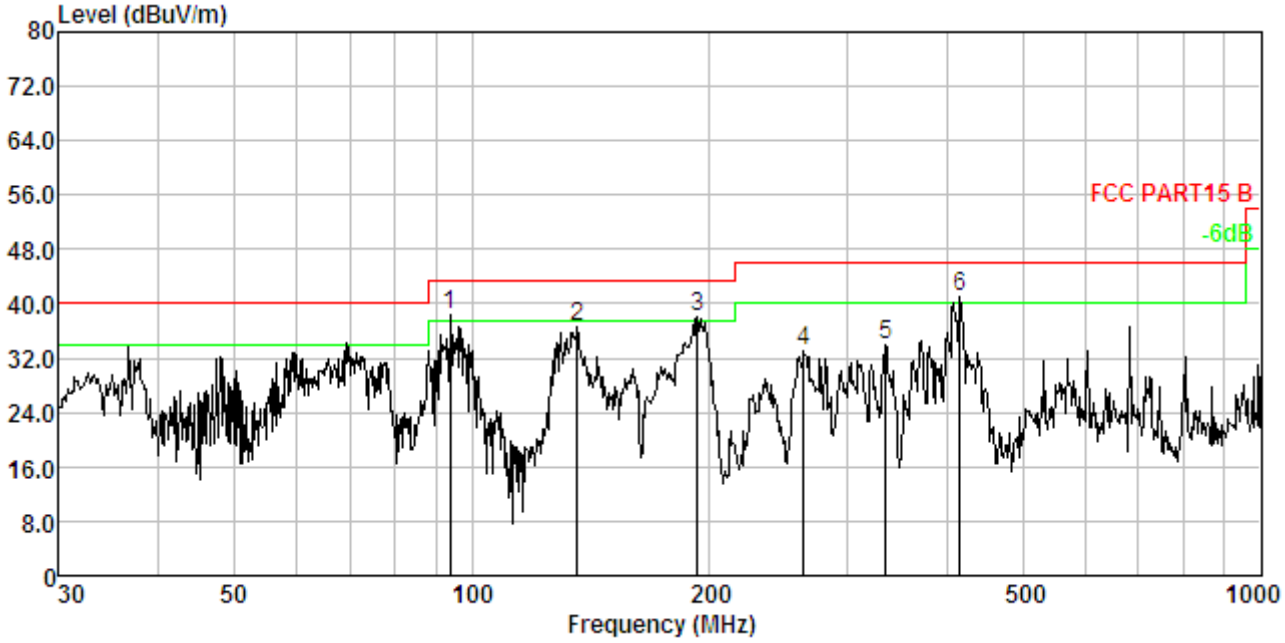
EUT	JmGO Smart Portable Theater	**Model Name**	P1
Temperature	25℃	**Relative Humidity**	55.4%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5180MHz	**Antenna**	Horizontal



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	93.768	2.09	9.63	43.19	30.37	24.54	43.50	-18.96	Peak
2.	133.151	2.40	12.87	52.46	30.49	37.24	43.50	-6.26	Peak
3.	196.510	2.76	10.63	56.14	30.62	38.91	43.50	-4.59	Peak
4.	264.746	3.03	12.30	53.81	30.73	38.41	46.00	-7.59	Peak
5.	341.979	3.26	14.12	52.98	30.82	39.54	46.00	-6.46	Peak
6.	400.432	3.40	15.33	52.19	30.87	40.05	46.00	-5.95	Peak

RESULT: PASS

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	93.768	2.09	9.63	56.95	30.37	38.30	43.50	-5.20	Peak
2.	135.982	2.42	13.07	51.63	30.50	36.62	43.50	-6.88	Peak
3.	193.095	2.74	10.87	55.14	30.62	38.13	43.50	-5.37	Peak
4.	263.819	3.02	12.26	48.62	30.73	33.17	46.00	-12.83	Peak
5.	334.859	3.24	13.98	47.59	30.81	34.00	46.00	-12.00	Peak
6.	416.179	3.44	15.63	52.93	30.89	41.11	46.00	-4.89	Peak

RESULT: PASS

Note: All test channels had been tested. The 802.11a20 at 5180MHz is the worst case and recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The “Factor” value can be calculated automatically by software of measurement system.

RADIATED EMISSION ABOVE 1GHZ

EUT	JmGO Smart Portable Theater	**Model Name**	P1
Temperature	25°C	**Relative Humidity**	55.4%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5180MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.120	42.74	9.14	51.88	74	-22.12	peak
10360.120	36.45	9.14	45.59	54	-8.41	AVG
15540.180	40.29	10.22	50.51	74	-23.49	peak
15540.180	34.36	10.22	44.58	54	-9.42	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.120	41.21	9.14	50.35	74	-23.65	peak
10360.120	35.27	9.14	44.41	54	-9.59	AVG
15540.180	39.65	10.22	49.87	74	-24.13	peak
15540.180	33.18	10.22	43.4	54	-10.6	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5240MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.120	41.27	9.27	50.54	74	-23.46	peak
10480.120	35.84	9.27	45.11	54	-8.89	AVG
15720.180	38.67	10.38	49.05	74	-24.95	peak
15720.180	33.12	10.38	43.5	54	-10.5	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.120	40.21	9.27	49.48	74	-24.52	peak
10480.120	34.02	9.27	43.29	54	-10.71	AVG
15720.180	38.29	10.38	48.67	74	-25.33	peak
15720.180	33.31	10.38	43.69	54	-10.31	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5745MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal (5180MHz)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.120	40.85	9.42	50.27	74	-23.73	peak
11490.120	34.24	9.42	43.66	54	-10.34	AVG
17235.180	38.52	10.51	49.03	74	-24.97	peak
17235.180	34.02	10.51	44.53	54	-9.47	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical (5180MHz)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.120	39.87	9.42	49.29	74	-24.71	peak
11490.120	35.68	9.42	45.1	54	-8.9	AVG
17235.180	38.06	10.51	48.57	74	-25.43	peak
17235.180	33.54	10.51	44.05	54	-9.95	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5825MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal (5180MHz)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.120	40.21	9.62	49.83	74	-24.17	peak
11650.120	34.27	9.62	43.89	54	-10.11	AVG
17475.180	36.52	10.75	47.27	74	-26.73	peak
17475.180	30.71	10.75	41.46	54	-12.54	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical (5180MHz)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.120	38.52	9.62	48.14	74	-25.86	peak
11650.120	32.18	9.62	41.8	54	-12.2	AVG
17475.180	35.63	10.75	46.38	74	-27.62	peak
17475.180	29.86	10.75	40.61	54	-13.39	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: All the case had been tested. The 802.11a modulation is the worst case and recorded in the test report. Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The “Factor” value can be calculated automatically by software of measurement system.

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

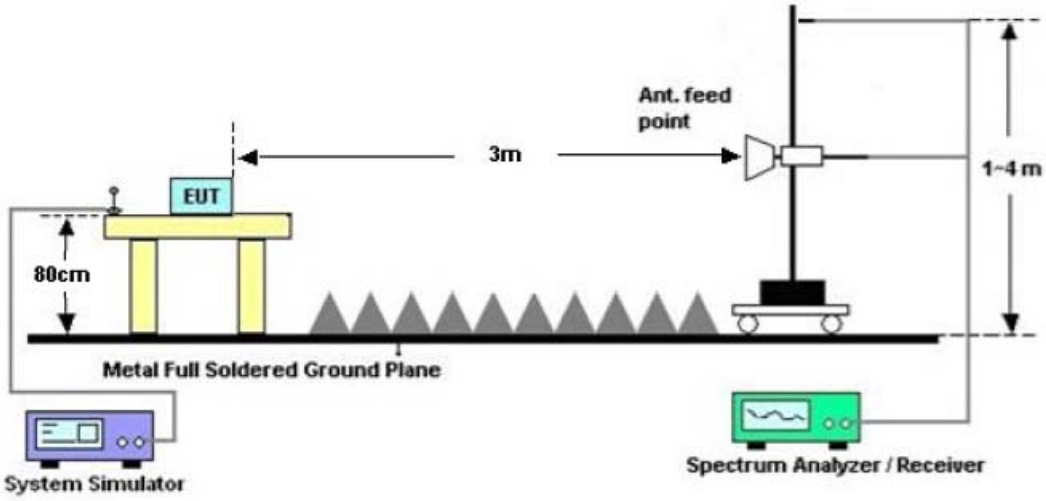
(b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO

3. Other procedures refer to clause 11.2.

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the “Input Correction” of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μV) to represent the Amplitude. Use the F dB(μV/m) to represent the Field Strength. So A=F.
3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz record in the report. Other restricted band 5.35GHz-5.46GHz and 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

12.2. TEST SET-UP



12.3. TEST RESULT

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal

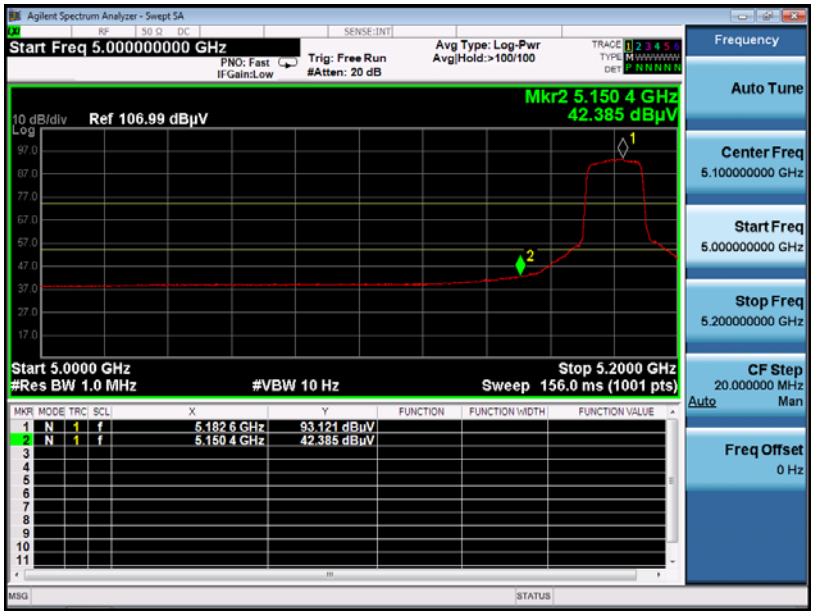
PK Value

AV Value

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical

PK Value

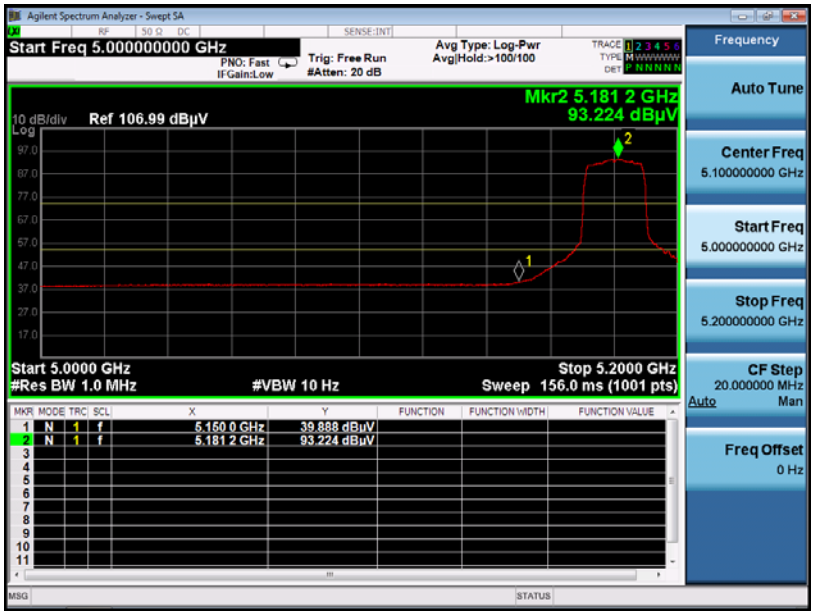
AV Value



EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 5180MHz	Antenna	Horizontal

PK Value

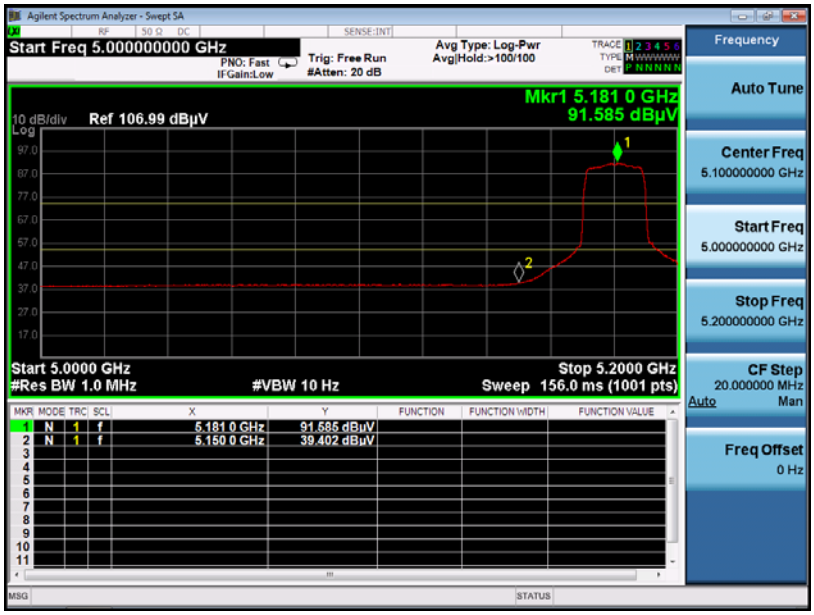
AV Value



EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 5180MHz	Antenna	Vertical

PK Value

AV Value



EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Horizontal

PK Value

AV Value

EUT	JmGO Smart Portable Theater	Model Name	P1
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Vertical

PK Value

AV Value

RESULT: PASS

13. FCC LINE CONDUCTED EMISSION TEST

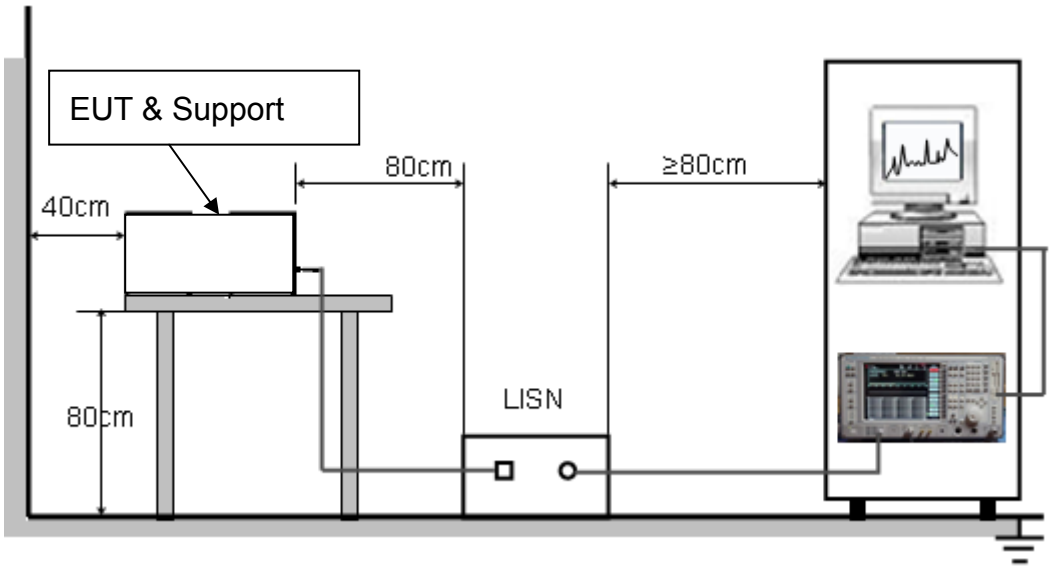
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

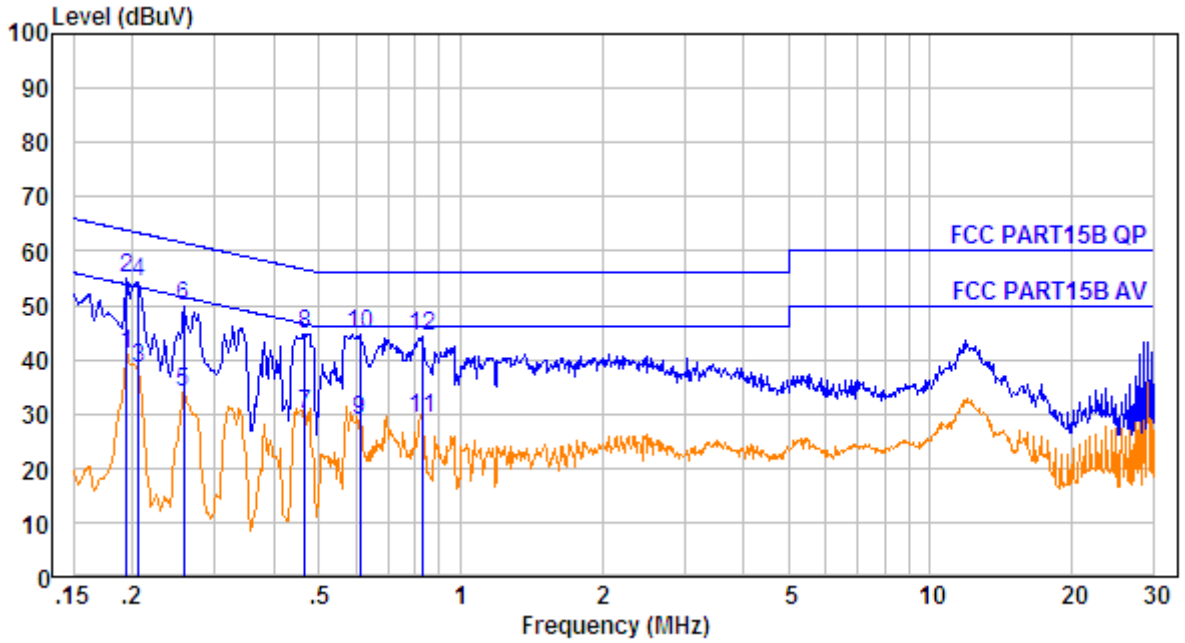
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

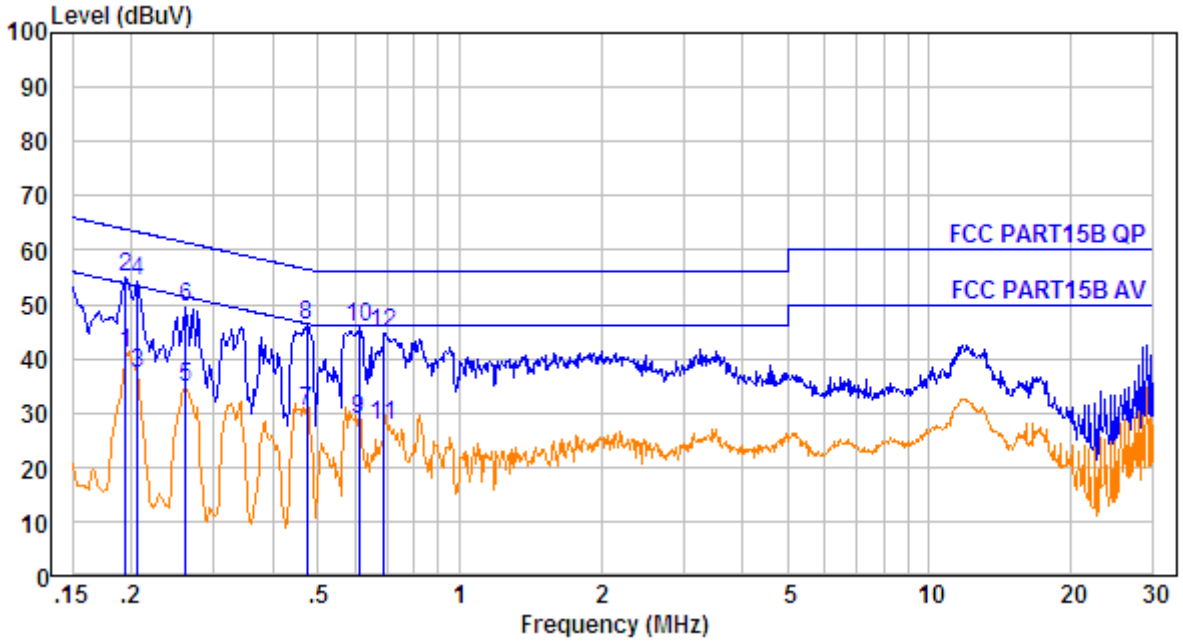
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.194	10.61	0.60	29.68	40.89	53.84	-12.95	Average
2.	0.194	10.61	0.60	43.68	54.89	63.84	-8.95	Peak
3.	0.206	10.61	0.60	27.08	38.29	53.36	-15.07	Average
4.	0.206	10.61	0.60	43.08	54.29	63.36	-9.07	Peak
5.	0.258	10.62	0.60	22.66	33.88	51.51	-17.63	Average
6.	0.258	10.62	0.60	38.66	49.88	61.51	-11.63	Peak
7.	0.466	10.64	0.60	18.54	29.78	46.58	-16.80	Average
8.	0.466	10.64	0.60	33.54	44.78	56.58	-11.80	Peak
9.	0.611	10.66	0.60	17.50	28.76	46.00	-17.24	Average
10.	0.611	10.66	0.60	33.50	44.76	56.00	-11.24	Peak
11.	0.830	10.66	0.60	17.84	29.10	46.00	-16.90	Average
12.	0.830	10.66	0.60	32.84	44.10	56.00	-11.90	Peak

LINE CONDUCTED EMISSION TEST-N



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.194	10.61	0.60	29.80	41.01	53.84	-12.83	Average
2.	0.194	10.61	0.60	43.80	55.01	63.84	-8.83	Peak
3.	0.206	10.61	0.60	26.03	37.24	53.36	-16.12	Average
4.	0.206	10.61	0.60	43.03	54.24	63.36	-9.12	Peak
5.	0.262	10.62	0.60	23.29	34.51	51.38	-16.87	Average
6.	0.262	10.62	0.60	38.29	49.51	61.38	-11.87	Peak
7.	0.474	10.64	0.60	18.98	30.22	46.45	-16.23	Average
8.	0.474	10.64	0.60	34.98	46.22	56.45	-10.23	Peak
9.	0.611	10.66	0.60	17.34	28.60	46.00	-17.40	Average
10.	0.611	10.66	0.60	34.34	45.60	56.00	-10.40	Peak
11.	0.690	10.66	0.60	16.52	27.78	46.00	-18.22	Average
12.	0.690	10.66	0.60	33.52	44.78	56.00	-11.22	Peak

RESULT: PASS