TEST REPORT

Reference No.	:	WTS16S0857612E
FCC ID.....	:	2AJVL-IBG01
Applicant	:	InvizBox Limited
Address	:	LINC Centre, IT Blanchardstown, Blanchardstown, Dublin 15 Ireland
Manufacturer	:	InvizBox Limited
Address	:	LINC Centre, IT Blanchardstown, Blanchardstown, Dublin 15 Ireland
Product Name	:	InvizBox Go
Model No.	:	IB-InvizBoxGo-v1.0
Standards.....	:	FCC CFR47 Part 15 C Section 15.247:2015
Date of Receipt sample.....	:	Aug. 05, 2016
Date of Test.....	:	Aug. 06 – Sep. 20, 2016
Date of Issue	:	Oct. 07, 2016
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.
The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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2 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.207(a)	PASS
Radiated Emissions	15.247 15.205(a) 15.209(a)	PASS
6dB Bandwidth	15.247(a)(2)	PASS
Maximum Peak Output Power	15.247(b)(3),(4)	PASS
Power Spectral Density	15.247(e)	PASS
Band Edge	15.247(d)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

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4 General Information

4.1 General Description of E.U.T.

Product Name:	InvizBox Go
Model No.:	IB-InvizBoxGo-v1.0
Model Description:	N/A
Operation Frequency:	IEEE 802.11b/g/n(HT20):2412MHz ~ 2462MHz IEEE 802.11n(HT40):2422MHz~2452MHz
The Lowest Oscillator:	40MHz
Antenna Gain:	ANT 0 2.4GHz WIFI: 3dBi ANT 1 2.4GHz WIFI: 3dBi
Type of modulation:	IEEE 802.11b DSSS(CCK/QPSK/BPSK) IEEE 802.11g OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n OFDM(BPSK/QPSK/16QAM/64QAM)
Number of transmitter chains:	WIFI:2*2 (MIMO)

The device supports MIMO 2*2, and the MIMO works with STBC(Space-Time Block Coding).The antenna is omnidirectional, does not support any directional gain in any modes.

TX power for MIMO rate, the wifi chip has a power/rate table that controls TX power from chipout, it's preset in nvram, FW don't need to calculate it again when MIMO rate is fixed. Of course the real radiation power is also related to antenna efficient.

Two transmitter signals are not correlated with each other.

4.2 Details of E.U.T.

Technical Data:	Input: 5V ⎓ 1A Output: 5V ⎓ 1.5A Power: 5000mAH, 18.5Wh

4.3 Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462	12	-

4.4 Test Mode

Test Mode Description:

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Transmitting duty cycle is no less 98%.

The software is installed in operation system, named “RFTestTool.apk” ,Version 1,date 20160818.

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak Output Power	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Power Spectral Density	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Band Edge	802.11b	11 Mbps	1/11	TX
	802.11g	54 Mbps	1/11	TX
	802.11n HT20	108 Mbps	1/11	TX
	802.11n HT40	150 Mbps	3/9	TX
Transmitter Spurious Emissions	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX

Table 2 Tests Carried Out Under FCC part 15.207 & FCC part 15.209

Test Item	Test Mode
Conduction Emission, 0.15MHz to 30MHz	Communication

4.5 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

  Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A-1, October 15, 2015.

- **FCC Test Site 1#– Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 328995, December 3, 2014.

5 Equipment Used during Test

5.1 Equipments List

Conducted Emissions Test Site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMI Test Receiver	R&S	ESCI	100947	Sep. 12, 2016	Sep.11 ,2017
2	LISN	R&S	ENV216	100115	Sep. 12, 2016	Sep.11 ,2017
3	Cable	Top	TYPE16(3.5M)	-	Sep. 12, 2016	Sep.11 ,2017
Conducted Emissions Test Site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	101155	Sep. 12, 2016	Sep.11 ,2017
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Sep. 12, 2016	Sep.11 ,2017
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Sep. 12, 2016	Sep.11 ,2017
4.	Cable	LARGE	RF300	-	Sep. 12, 2016	Sep.11 ,2017
3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.14,2016	Sep.13,2017
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Jan.13, 2016	Jan.12, 2017
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Oct.17,2015	Oct.16,2016
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep. 12, 2016	Sep.11 ,2017
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr. 09,2016	Apr.08,2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Sep.14,2016	Sep.13,2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Apr. 13, 2016	Apr.12,2017
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Apr. 13, 2016	Apr.12,2017
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	Apr. 13, 2016	Apr.12, 2017
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Apr. 09, 2016	Apr.08,2017
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Apr. 13, 2016	Apr.12, 2017
4	Cable	HUBER+SUHNER	CBL2	525178	Apr. 13, 2016	Apr.12, 2017
RF Conducted Testing						

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Sep.14,2016	Sep.13,2017
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Sep.14,2016	Sep.13,2017
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep.14,2016	Sep.13,2017

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

5.3 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 1 x 10^{-6}
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (30M~1000MHz)
	± 5.47 dB (1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6 Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.10:2013
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class/Severity:	Class B
Limit:	66-56 dBμV between 0.15MHz & 0.5MHz
	56 dBμV between 0.5MHz & 5MHz
	60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

6.1 E.U.T. Operation

Operating Environment **:**

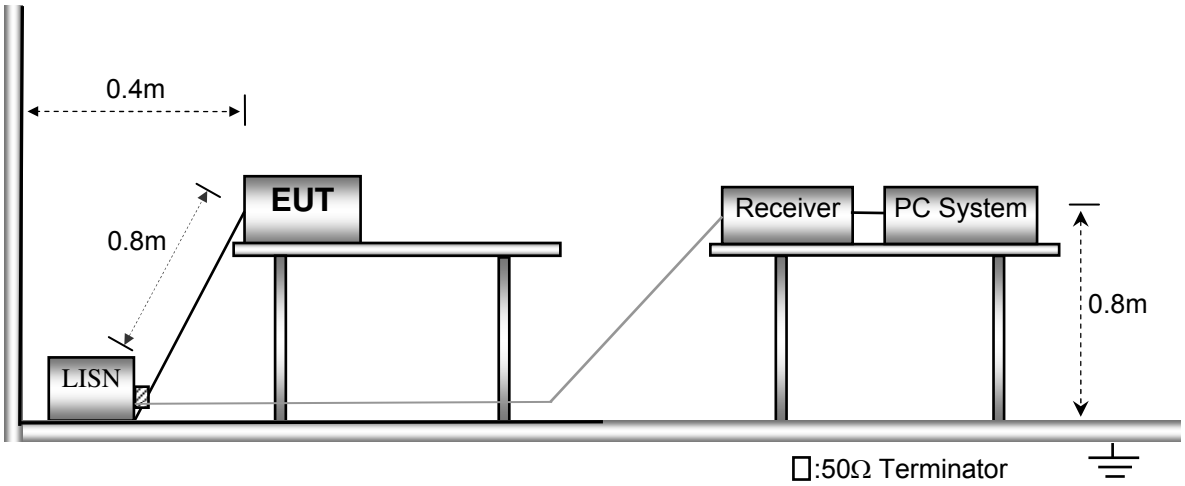
Temperature:	21.5 °C
Humidity:	51.9 % RH
Atmospheric Pressure:	101.2kPa

EUT Operation **:**

The test was performed in transmitting mode, the test data were shown in the report.

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



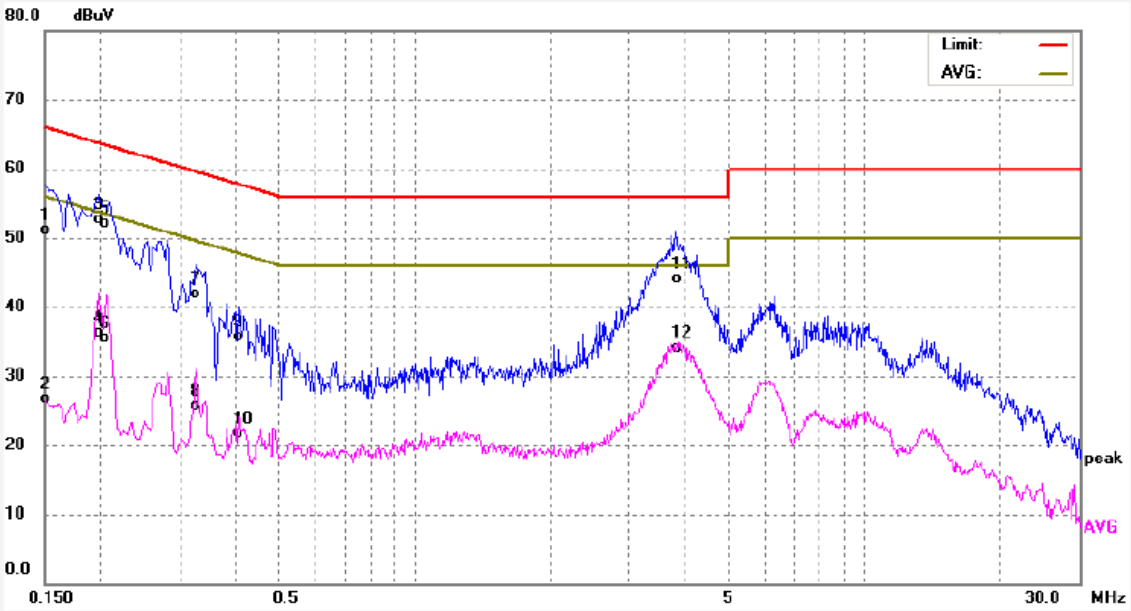
6.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

6.4 Conducted Emission Test Result

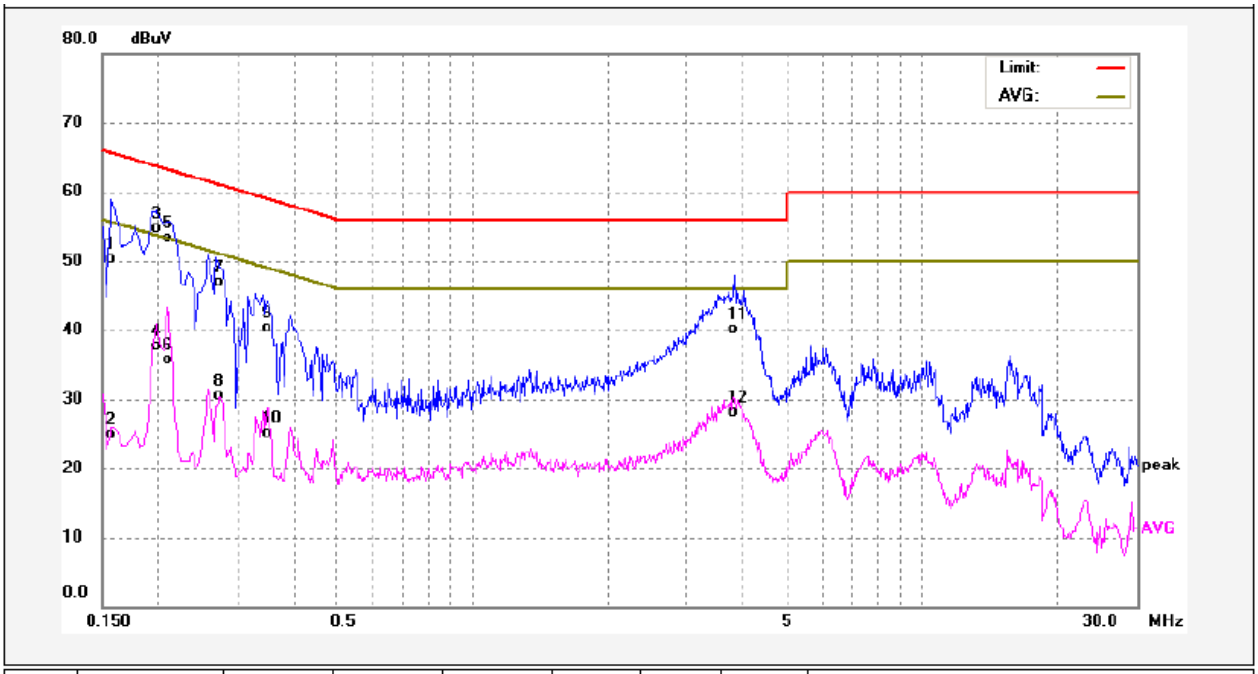
An initial pre-scan was performed on the live and neutral lines.

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	40.80	10.29	51.09	65.99	-14.90	QP	
2	0.1500	16.45	10.29	26.74	55.99	-29.25	AVG	
3	0.1980	42.53	10.26	52.79	63.69	-10.90	QP	
4	0.1980	26.08	10.26	36.34	53.69	-17.35	AVG	
5	0.2060	41.80	10.26	52.06	63.36	-11.30	QP	
6	0.2060	25.33	10.26	35.59	53.36	-17.77	AVG	
7	0.3260	31.71	10.29	42.00	59.55	-17.55	QP	
8	0.3260	15.37	10.29	25.66	49.55	-23.89	AVG	
9	0.4060	25.44	10.27	35.71	57.73	-22.02	QP	
10	0.4060	11.38	10.27	21.65	47.73	-26.08	AVG	
11	3.8580	33.63	10.51	44.14	56.00	-11.86	QP	
12	3.8580	23.54	10.51	34.05	46.00	-11.95	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	39.96	10.29	50.25	65.56	-15.31	QP	
2	0.1580	14.67	10.29	24.96	55.56	-30.60	AVG	
3	0.1980	44.40	10.26	54.66	63.69	-9.03	QP	
4	0.1980	27.35	10.26	37.61	53.69	-16.08	AVG	
5	0.2100	43.05	10.26	53.31	63.20	-9.89	QP	
6	0.2100	25.36	10.26	35.62	53.20	-17.58	AVG	
7	0.2740	36.68	10.27	46.95	60.99	-14.04	QP	
8	0.2740	20.26	10.27	30.53	50.99	-20.46	AVG	
9	0.3500	29.93	10.29	40.22	58.96	-18.74	QP	
10	0.3500	14.73	10.29	25.02	48.96	-23.94	AVG	
11	3.8140	29.51	10.51	40.02	56.00	-15.98	QP	
12	3.8140	17.59	10.51	28.10	46.00	-17.90	AVG	

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

7.1 EUT Operation

Operating Environment **:**

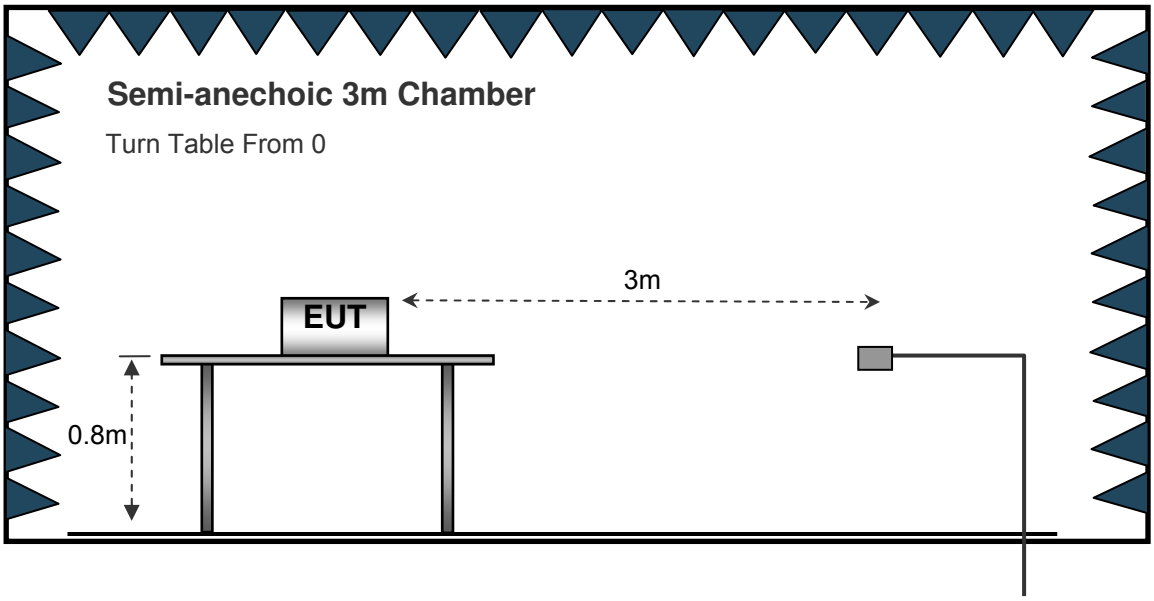
Temperature: 23.5 °C

Humidit

7.2 Test Setup

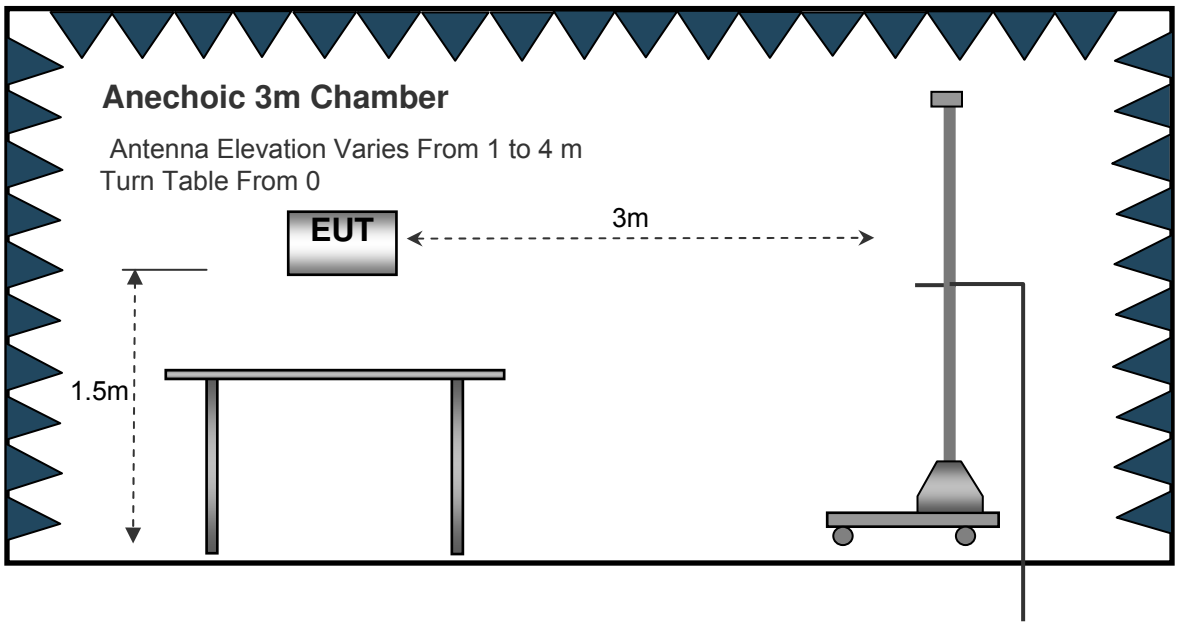
The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.

The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.

The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed ..... Auto
IF Bandwidth..... 10kHz
Video Bandwidth..... 10kHz
Resolution Bandwidth..... 10kHz

30MHz ~ 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 100kHz
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 3MHz
Detector ..... Ave.
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 10Hz

7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in X axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used druing radiated emissions above 1GHz measurement.

7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Limit

7.6 Summary of Test Results

Test Frequency : 30MHz ~ 18GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0 11b: Low Channel 2412MHz									
262.15	42.11	QP	316.76	1.18	H	-11.62	30.49	46.00	-15.51
262.15	37.65	QP	73.29	1.95	V	-11.62	26.03	46.00	-19.97
4824.00	51.37	PK	239.57	1.11	V	-1.06	50.31	74.00	-23.69
4824.00	45.98	Ave	239.57	1.11	V	-1.06	44.92	54.00	-9.08
7236.00	41.52	PK	188.17	1.99	H	1.33	42.85	74.00	-31.15
7236.00	41.25	Ave	188.17	1.99	H	1.33	42.58	54.00	-11.42
2313.21	45.43	PK	233.99	1.29	V	-13.19	32.24	74.00	-41.76
2313.21	38.66	Ave	233.99	1.29	V	-13.19	25.47	54.00	-28.53
2374.41	44.41	PK	285.73	1.16	H	-13.14	31.27	74.00	-42.73
2374.41	38.44	Ave	285.73	1.16	H	-13.14	25.30	54.00	-28.70
2498.34	44.91	PK	275.06	1.50	V	-13.08	31.83	74.00	-42.17
2498.34	37.44	Ave	275.06	1.50	V	-13.08	24.36	54.00	-29.64

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0 11b: Middle Channel 2437MHz									
262.15	42.92	QP	45.77	1.41	H	-11.62	31.30	46.00	-14.70
262.15	38.96	QP	28.92	1.50	V	-11.62	27.34	46.00	-18.66
4874.00	52.33	PK	154.35	1.92	V	-0.62	51.71	74.00	-22.29
4874.00	45.65	Ave	154.35	1.92	V	-0.62	45.03	54.00	-8.97
7311.00	42.24	PK	312.30	1.64	H	2.21	44.45	74.00	-29.55
7311.00	41.61	Ave	312.30	1.64	H	2.21	43.82	54.00	-10.18
2328.92	45.67	PK	246.55	1.06	V	-13.19	32.48	74.00	-41.52
2328.92	37.40	Ave	246.55	1.06	V	-13.19	24.21	54.00	-29.79
2360.87	43.97	PK	281.71	1.73	H	-13.14	30.83	74.00	-43.17
2360.87	37.06	Ave	281.71	1.73	H	-13.14	23.92	54.00	-30.08
2486.09	42.44	PK	342.24	1.35	V	-13.08	29.36	74.00	-44.64
2486.09	36.91	Ave	342.24	1.35	V	-13.08	23.83	54.00	-30.17

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)

ANT0 11b:

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT1 11b: Low Channel 2412MHz									
262.15	41.98	QP	130.29	1.53	H	-11.62	30.36	46.00	-15.64
262.15	37.67	QP	19.42	1.62	V	-11.62	26.05	46.00	-19.95
4824.00	51.41	PK	71.23	1.35	V	-1.06	50.35	74.00	-23.65
4824.00	46.95	Ave	71.23	1.35	V	-1.06	45.89	54.00	-8.11
7236.00	41.24	PK	196.82	1.04	H	1.33	42.57	74.00	-31.43
7236.00	41.52	Ave	196.82	1.04	H	1.33	42.85	54.00	-11.15
2332.64	46.95	PK	59.76	1.11	V	-13.19	33.76	74.00	-40.24
2332.64	37.34	Ave	59.76	1.11	V	-13.19	24.15	54.00	-29.85
2353.79	43.07	PK	114.52	1.41	H	-13.14	29.93	74.00	-44.07
2353.79	38.62	Ave	114.52	1.41	H	-13.14	25.48	54.00	-28.52
2498.67	44.79	PK	103.22	1.27	V	-13.08	31.71	74.00	-42.29
2498.67	37.45	Ave	103.22	1.27	V	-13.08	24.37	54.00	-29.63

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT1 11b: Middle Channel 2437MHz									
262.15	40.67	QP	219.73	1.06	H	-11.62	29.05	46.00	-16.95
262.15	38.59	QP	200.29	1.59	V	-11.62	26.97	46.00	-19.03
4874.00	50.00	PK	84.17	2.00	V	-0.62	49.38	74.00	-24.62
4874.00	46.19	Ave	84.17	2.00	V	-0.62	45.57	54.00	-8.43
7311.00	42.16	PK	60.89	1.83	H	2.21	44.37	74.00	-29.63
7311.00	41.29	Ave	60.89	1.83	H	2.21	43.50	54.00	-10.50
2338.04	45.86	PK	13.75	1.65	V	-13.19	32.67	74.00	-41.33
2338.04	37.21	Ave	13.75	1.65	V	-13.19	24.02	54.00	-29.98
2374.88	44.66	PK	254.31	1.99	H	-13.14	31.52	74.00	-42.48
2374.88	37.07	Ave	254.31	1.99	H	-13.14	23.93	54.00	-30.07
2484.84	44.13	PK	244.65	1.89	V	-13.08	31.05	74.00	-42.95
2484.84	38.34	Ave	244.65	1.89	V	-13.08	25.26	54.00	-28.74

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)

ANT1 11b:

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0 11g: Low Channel 2412MHz									
262.15	42.41	QP	342.73	1.72	H	-11.62	30.79	46.00	-15.21
262.15	38.88	QP	251.78	1.41	V	-11.62	27.26	46.00	-18.74
4824.00	51.47	PK	352.99	1.62	V	-1.06	50.41	74.00	-23.59
4824.00	46.06	Ave	352.99	1.62	V	-1.06	45.00	54.00	-9.00
7236.00	43.92	PK	215.82	1.21	H	1.33	45.25	74.00	-28.75
7236.00	43.52	Ave	215.82	1.21	H	1.33	44.85	54.00	-9.15
2349.79	46.13	PK	56.07	1.70	V	-13.19	32.94	74.00	-41.06
2349.79	38.40	Ave	56.07	1.70	V	-13.19	25.21	54.00	-28.79
2351.10	43.51	PK	206.37	1.05	H	-13.14	30.37	74.00	-43.63
2351.10	36.56	Ave	206.37	1.05	H	-13.14	23.42	54.00	-30.58
2496.08	42.56	PK	144.22	1.41	V	-13.08	29.48	74.00	-44.52
2496.08	36.62	Ave	144.22	1.41	V	-13.08	23.54	54.00	-30.46

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0 11g: Middle Channel 2437MHz									
262.15	41.79	QP	204.06	1.48	H	-11.62	30.17	46.00	-15.83
262.15	39.12	QP	53.70	1.96	V	-11.62	27.50	46.00	-18.50
4874.00	52.82	PK	69.35	1.79	V	-0.62	52.20	74.00	-21.80
4874.00	44.87	Ave	69.35	1.79	V	-0.62	44.25	54.00	-9.75
7311.00	45.41	PK	169.96	1.55	H	2.21	47.62	74.00	-26.38
7311.00	44.83	Ave	169.96	1.55	H	2.21	47.04	54.00	-6.96
2331.32	45.98	PK	103.10	1.79	V	-13.19	32.79	74.00	-41.21
2331.32	38.40	Ave	103.10	1.79	V	-13.19	25.21	54.00	-28.79
2352.66	43.11	PK	289.07	1.63	H	-13.14	29.97	74.00	-44.03
2352.66	36.37	Ave	289.07	1.63	H	-13.14	23.23	54.00	-30.77
2490.33	44.93	PK	169.42	1.12	V	-13.08	31.85	74.00	-42.15
2490.33	36.90	Ave	169.42	1.12	V	-13.08	23.82	54.00	-30.18

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0 11g: High Channel 2462MHz									
262.15	41.31	QP	297.02	1.66	H	-11.62	29.69	46.00	-16.31
262.15	40.40	QP	311.96	1.41	V	-11.62	28.78	46.00	-17.22
4924.00	53.69	PK	215.58	1.74	V	-0.24	53.45	74.00	-20.55
4924.00	44.82	Ave	215.58	1.74	V	-0.24	44.58	54.00	-9.42
7386.00	45.11	PK	316.82	1.25	H	2.84	47.95	74.00	-26.05
7386.00	43.50	Ave	316.82	1.25	H	2.84	46.34	54.00	-7.66
2333.95	46.16	PK	66.57	1.16	V	-13.19	32.97	74.00	-41.03
2333.95	38.61	Ave	66.57	1.16	V	-13.19	25.42	54.00	-28.58
2381.72	44.58	PK	184.55	1.57	H	-13.14	31.44	74.00	-42.56
2381.72	37.93	Ave	184.55	1.57	H	-13.14	24.79	54.00	-29.21
2498.27	44.61	PK	223.50	1.01	V	-13.08	31.53	74.00	-42.47
2498.27	38.09	Ave	223.50	1.01	V	-13.08	25.01	54.00	-28.99

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT1 11g: Low Channel 2412MHz									
262.15	37.86	QP	164.78	1.97	H	-11.62	26.24	46.00	-19.76
262.15	38.77	QP	28.97	1.55	V	-11.62	27.15	46.00	-18.85
4824.00	50.89	PK	339.15	1.14	V	-1.06	49.83	74.00	-24.17
4824.00	46.35	Ave	339.15	1.14	V	-1.06	45.29	54.00	-8.71
7236.00	42.49	PK	227.60	1.79	H	1.33	43.82	74.00	-30.18
7236.00	43.96	Ave	227.60	1.79	H	1.33	45.29	54.00	-8.71
2318.16	45.36	PK	340.99	1.75	V	-13.19	32.17	74.00	-41.83
2318.16	38.17	Ave	340.99	1.75	V	-13.19	24.98	54.00	-29.02
2354.12	43.92	PK	26.13	1.06	H	-13.14	30.78	74.00	-43.22
2354.12	37.53	Ave	26.13	1.06	H	-13.14	24.39	54.00	-29.61
2485.00	44.92	PK	194.63	1.92	V	-13.08	31.84	74.00	-42.16
2485.00	37.07	Ave	194.63	1.92	V	-13.08	23.99	54.00	-30.01

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT1 11g: Middle Channel 2437MHz									
262.15	37.01	QP	97.14	1.03	H	-11.62	25.39	46.00	-20.61
262.15	37.64	QP	358.31	1.65	V	-11.62	26.02	46.00	-19.98
4874.00	51.24	PK	214.62	1.93	V	-0.62	50.62	74.00	-23.38
4874.00	45.86	Ave	214.62	1.93	V	-0.62	45.24	54.00	-8.76
7311.00	42.61	PK	54.77	1.31	H	2.21	44.82	74.00	-29.18
7311.00	44.50	Ave	54.77	1.31	H	2.21	46.71	54.00	-7.29
2317.74	45.97	PK	256.50	1.06	V	-13.19	32.78	74.00	-41.22
2317.74	39.28	Ave	256.50	1.06	V	-13.19	26.09	54.00	-27.91
2351.43	44.76	PK	265.20	1.60	H	-13.14	31.62	74.00	-42.38
2351.43	37.95	Ave	265.20	1.60	H	-13.14	24.81	54.00	-29.19
2498.93	43.45	PK	136.74	1.12	V	-13.08	30.37	74.00	-43.63
2498.93	37.70	Ave	136.74	1.12	V	-13.08	24.62	54.00	-29.38

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT1 11g: High Channel 2462MHz									
262.15	38.48	QP	150.16	1.65	H	-11.62	26.86	46.00	-19.14
262.15	38.34	QP	272.43	1.19	V	-11.62	26.72	46.00	-19.28
4924.00	51.62	PK	188.70	1.63	V	-0.24	51.38	74.00	-22.62
4924.00	44.99	Ave	188.70	1.63	V	-0.24	44.75	54.00	-9.25
7386.00	41.27	PK	275.71	1.05	H	2.84	44.11	74.00	-29.89
7386.00	43.95	Ave	275.71	1.05	H	2.84	46.79	54.00	-7.21
2343.65	45.62	PK	201.54	1.00	V	-13.19	32.43	74.00	-41.57
2343.65	39.49	Ave	201.54	1.00	V	-13.19	26.30	54.00	-27.70
2377.30	43.02	PK	204.58	1.83	H	-13.14	29.88	74.00	-44.12
2377.30	37.04	Ave	204.58	1.83	H	-13.14	23.90	54.00	-30.10
2484.06	44.08	PK	126.62	1.39	V	-13.08	31.00	74.00	-43.00
2484.06	36.32	Ave	126.62	1.39	V	-13.08	23.24	54.00	-30.76

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n20: Low Channel 2412MHz									
262.15	40.24	QP	323.89	1.16	H	-11.62	28.62	46.00	-17.38
262.15	38.99	QP	341.14	1.73	V	-11.62	27.37	46.00	-18.63
4824.00	52.41	PK	292.05	1.74	V	-1.06	51.35	74.00	-22.65
4824.00	44.54	Ave	292.05	1.74	V	-1.06	43.48	54.00	-10.52
7236.00	45.70	PK	160.81	1.90	H	1.33	47.03	74.00	-26.97
7236.00	45.00	Ave	160.81	1.90	H	1.33	46.33	54.00	-7.67
2331.42	45.84	PK	15.60	1.40	V	-13.19	32.65	74.00	-41.35
2331.42	39.81	Ave	15.60	1.40	V	-13.19	26.62	54.00	-27.38
2388.26	43.73	PK	127.20	1.34	H	-13.14	30.59	74.00	-43.41
2388.26	37.11	Ave	127.20	1.34	H	-13.14	23.97	54.00	-30.03
2494.94	43.72	PK	197.68	1.12	V	-13.08	30.64	74.00	-43.36
2494.94	36.57	Ave	197.68	1.12	V	-13.08	23.49	54.00	-30.51

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n20: Middle Channel 2437MHz									
262.15	39.81	QP	43.38	1.58	H	-11.62	28.19	46.00	-17.81
262.15	38.51	QP	157.37	1.92	V	-11.62	26.89	46.00	-19.11
4874.00	50.99	PK	264.75	1.00	V	-0.62	50.37	74.00	-23.63
4874.00	45.38	Ave	264.75	1.00	V	-0.62	44.76	54.00	-9.24
7311.00	46.68	PK	151.72	1.49	H	2.21	48.89	74.00	-25.11
7311.00	46.44	Ave	151.72	1.49	H	2.21	48.65	54.00	-5.35
2347.69	45.99	PK	51.21	1.16	V	-13.19	32.80	74.00	-41.20
2347.69	39.96	Ave	51.21	1.16	V	-13.19	26.77	54.00	-27.23
2374.04	42.96	PK	347.27	1.10	H	-13.14	29.82	74.00	-44.18
2374.04	38.85	Ave	347.27	1.10	H	-13.14	25.71	54.00	-28.29
2497.10	42.46	PK	138.54	1.78	V	-13.08	29.38	74.00	-44.62
2497.10	36.98	Ave	138.54	1.78	V	-13.08	23.90	54.00	-30.10

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n20: High Channel 2462MHz									
262.15	40.86	QP	295.23	1.68	H	-11.62	29.24	46.00	-16.76
262.15	38.35	QP	160.39	1.81	V	-11.62	26.73	46.00	-19.27
4924.00	50.96	PK	348.15	1.62	V	-0.24	50.72	74.00	-23.28
4924.00	46.33	Ave	348.15	1.62	V	-0.24	46.09	54.00	-7.91
7386.00	47.33	PK	188.94	1.09	H	2.84	50.17	74.00	-23.83
7386.00	46.46	Ave	188.94	1.09	H	2.84	49.30	54.00	-4.70
2319.60	46.93	PK	3.77	1.46	V	-13.19	33.74	74.00	-40.26
2319.60	37.41	Ave	3.77	1.46	V	-13.19	24.22	54.00	-29.78
2351.44	43.28	PK	80.61	1.97	H	-13.14	30.14	74.00	-43.86
2351.44	38.06	Ave	80.61	1.97	H	-13.14	24.92	54.00	-29.08
2488.39	42.32	PK	106.53	1.84	V	-13.08	29.24	74.00	-44.76
2488.39	38.00	Ave	106.53	1.84	V	-13.08	24.92	54.00	-29.08

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n40: Low Channel 2422MHz									
262.15	40.03	QP	279.29	1.56	H	-11.62	28.41	46.00	-17.59
262.15	32.29	QP	242.04	1.83	V	-11.62	20.67	46.00	-25.33
4844.00	51.28	PK	204.21	1.41	V	-1.06	50.22	74.00	-23.78
4844.00	41.83	Ave	204.21	1.41	V	-1.06	40.77	54.00	-13.23
7266.00	37.44	PK	40.10	1.63	H	1.33	38.77	74.00	-35.23
7266.00	39.96	Ave	40.10	1.63	H	1.33	41.29	54.00	-12.71
2336.19	45.19	PK	93.11	1.63	V	-13.19	32.00	74.00	-42.00
2336.19	39.95	Ave	93.11	1.63	V	-13.19	26.76	54.00	-27.24
2366.54	42.22	PK	214.92	1.39	H	-13.14	29.08	74.00	-44.92
2366.54	36.46	Ave	214.92	1.39	H	-13.14	23.32	54.00	-30.68
2485.58	44.15	PK	4.92	1.81	V	-13.08	31.07	74.00	-42.93
2485.58	38.29	Ave	4.92	1.81	V	-13.08	25.21	54.00	-28.79

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n40: Middle Channel 2437MHz									
262.15	39.99	QP	26.13	1.39	H	-11.62	28.37	46.00	-17.63
262.15	31.42	QP	162.75	1.98	V	-11.62	19.80	46.00	-26.20
4874.00	51.86	PK	129.59	1.81	V	-0.62	51.24	74.00	-22.76
4874.00	42.52	Ave	129.59	1.81	V	-0.62	41.90	54.00	-12.10
7311.00	37.00	PK	43.35	1.14	H	2.21	39.21	74.00	-34.79
7311.00	40.06	Ave	43.35	1.14	H	2.21	42.27	54.00	-11.73
2339.96	46.30	PK	134.97	1.46	V	-13.19	33.11	74.00	-40.89
2339.96	37.95	Ave	134.97	1.46	V	-13.19	24.76	54.00	-29.24
2360.08	42.76	PK	59.13	1.62	H	-13.14	29.62	74.00	-44.38
2360.08	37.30	Ave	59.13	1.62	H	-13.14	24.16	54.00	-29.84
2484.05	43.26	PK	285.71	1.99	V	-13.08	30.18	74.00	-43.82
2484.05	38.07	Ave	285.71	1.99	V	-13.08	24.99	54.00	-29.01

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
ANT0+ANT1 n40: High Channel 2452MHz									
262.15	39.52	QP	230.09	1.80	H	-11.62	27.90	46.00	-18.10
262.15	30.53	QP	36.75	1.14	V	-11.62	18.91	46.00	-27.09
4904.00	52.18	PK	242.82	1.23	V	-0.24	51.94	74.00	-22.06
4904.00	42.14	Ave	242.82	1.23	V	-0.24	41.90	54.00	-12.10
7356.00	36.81	PK	191.80	1.56	H	2.84	39.65	74.00	-34.35
7356.00	39.92	Ave	191.80	1.56	H	2.84	42.76	54.00	-11.24
2321.34	45.93	PK	46.37	1.73	V	-13.19	32.74	74.00	-41.26
2321.34	39.06	Ave	46.37	1.73	V	-13.19	25.87	54.00	-28.13
2386.07	42.38	PK	208.45	1.77	H	-13.14	29.24	74.00	-44.76
2386.07	38.85	Ave	208.45	1.77	H	-13.14	25.71	54.00	-28.29
2486.89	42.52	PK	148.35	1.10	V	-13.08	29.44	74.00	-44.56
2486.89	36.47	Ave	148.35	1.10	V	-13.08	23.39	54.00	-30.61

Test Frequency: 18GHz~25GHz

The measurements were more than 20 dB below the limit and not reported.

8 Band Edge Measurement

Test Requirement:	FCC CFR47 Part 15 Section 15.247
Test Method:	KDB558074 D01 DTS Meas Guidance v03r05
Test Limit:	Regulation 15.247 (d),In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
Test Mode:	Transmitting

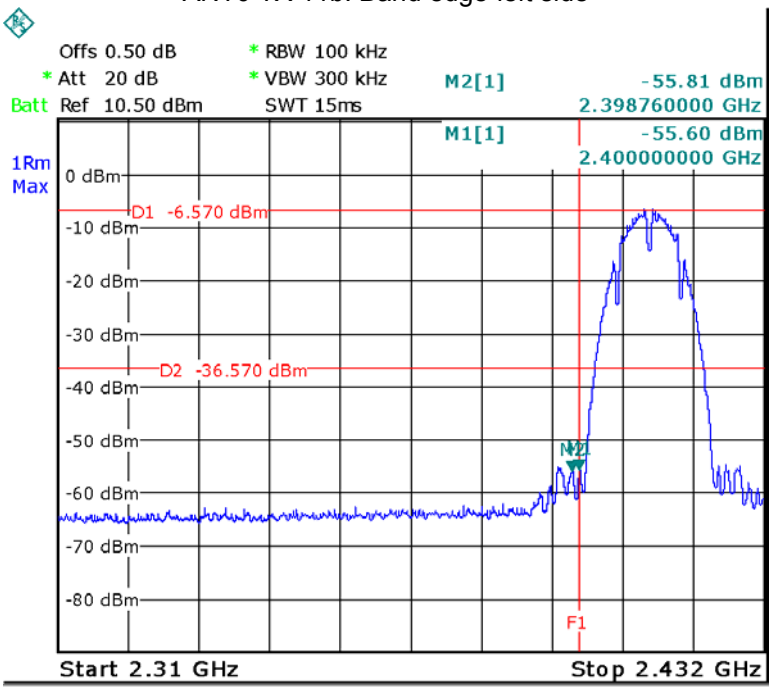
8.1 Test Produce

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

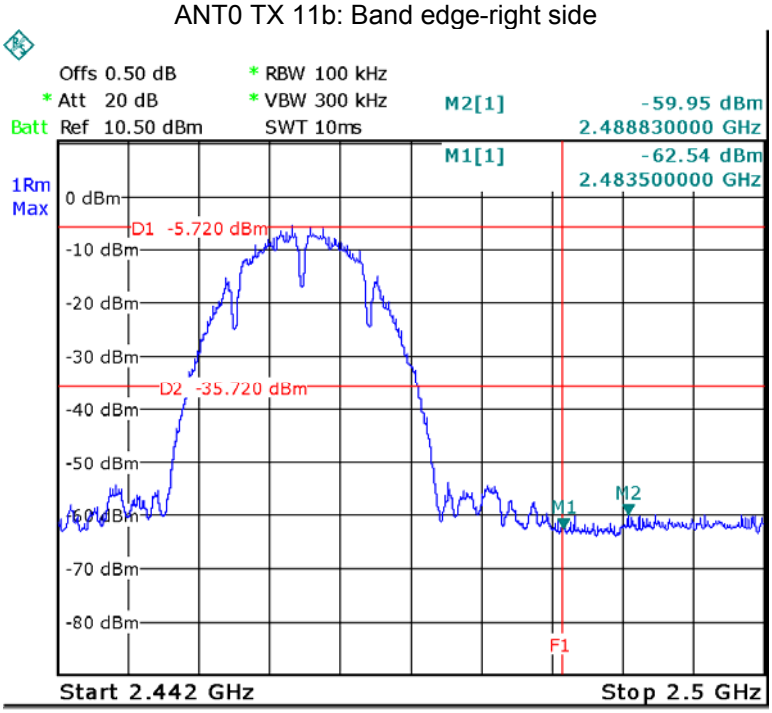
8.2 Test Result

Test result plots shown as follows:

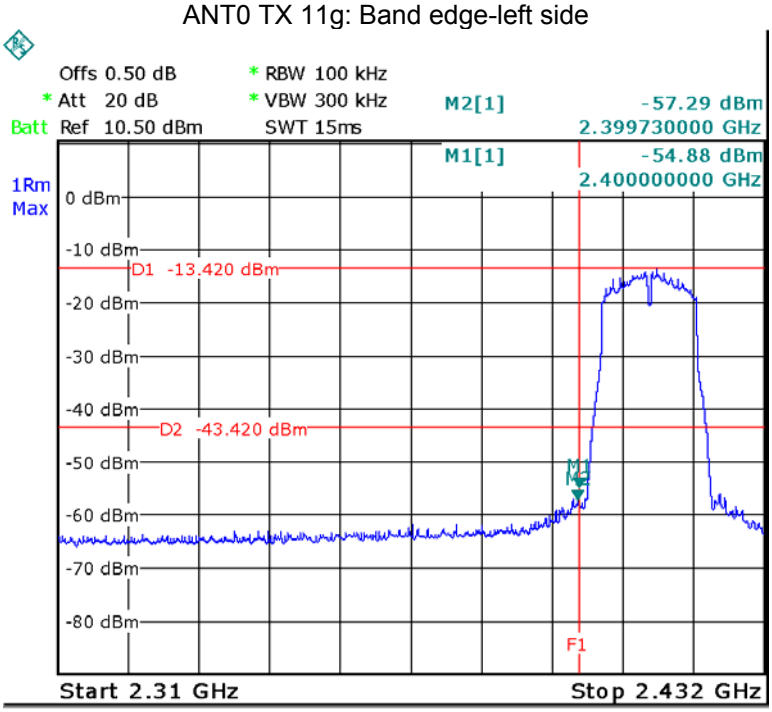
ANT0 TX 11b: Band edge-left side



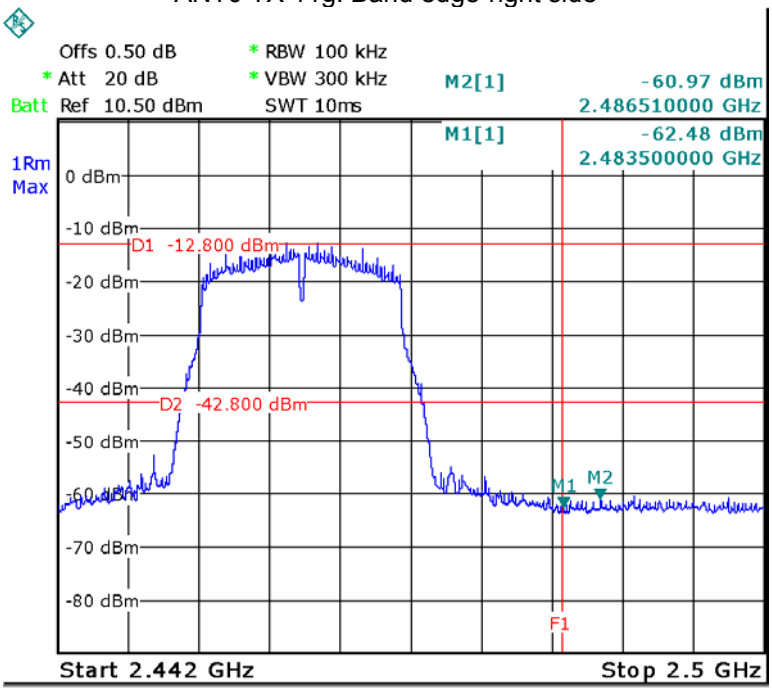
ANT0 TX 11b: Band edge-right side



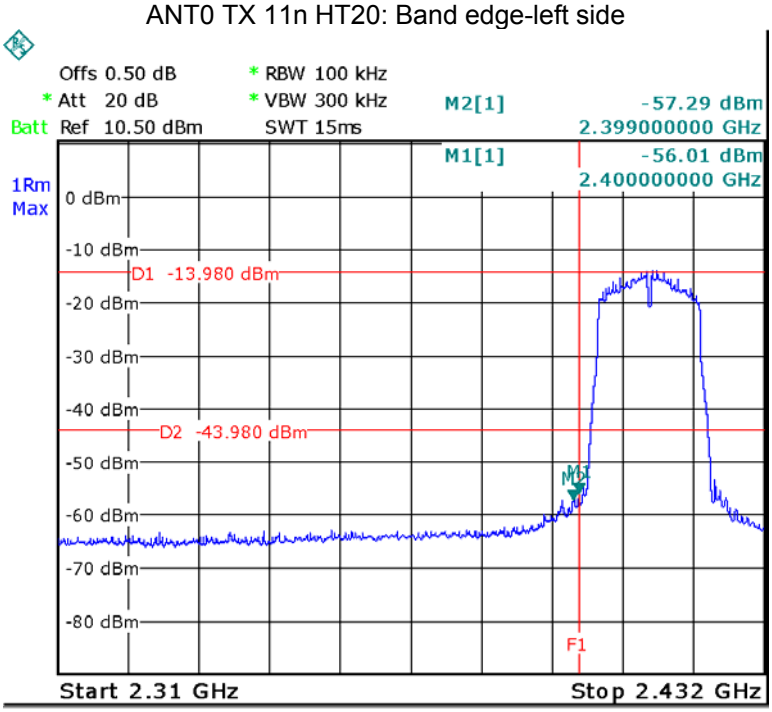
ANT0 TX 11g: Band edge-left side



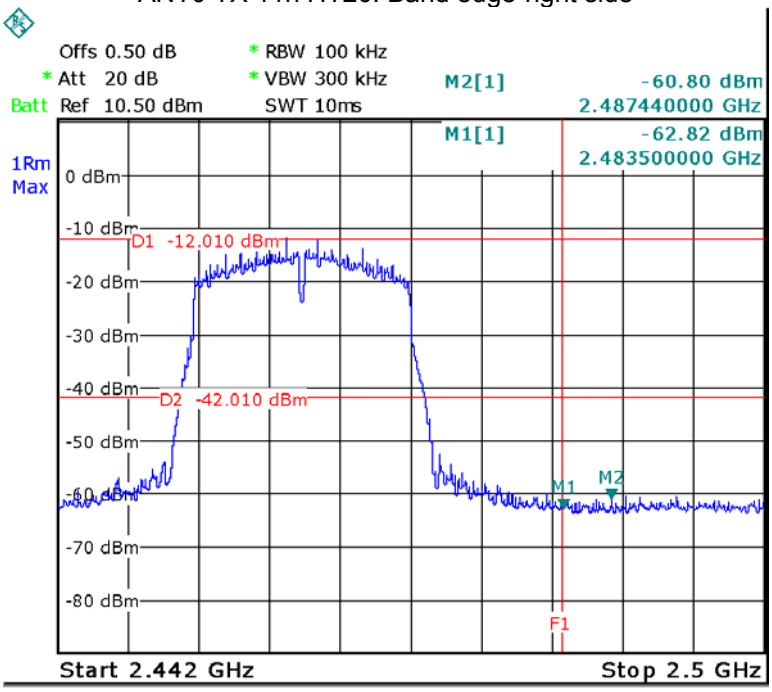
ANT0 TX 11g: Band edge-right side



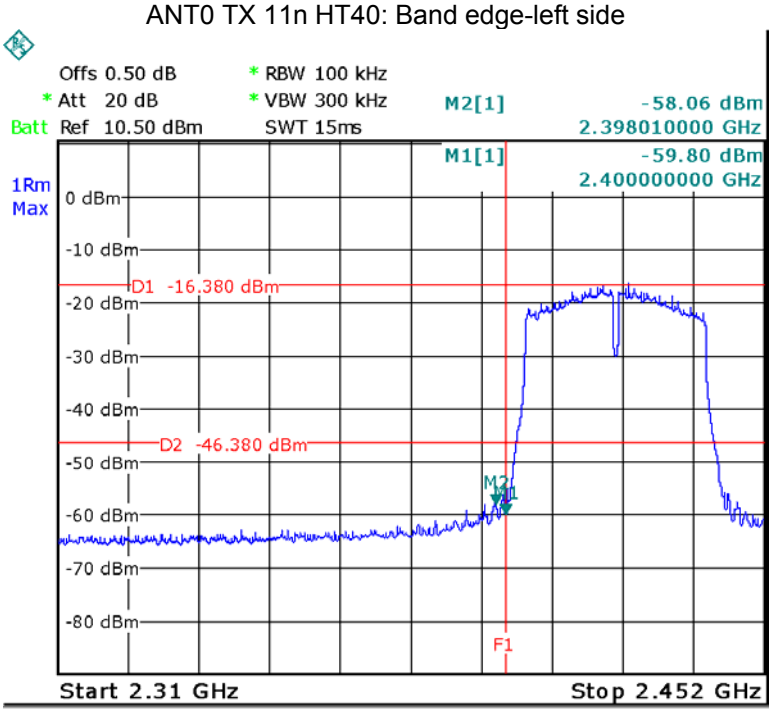
ANT0 TX 11n HT20: Band edge-left side



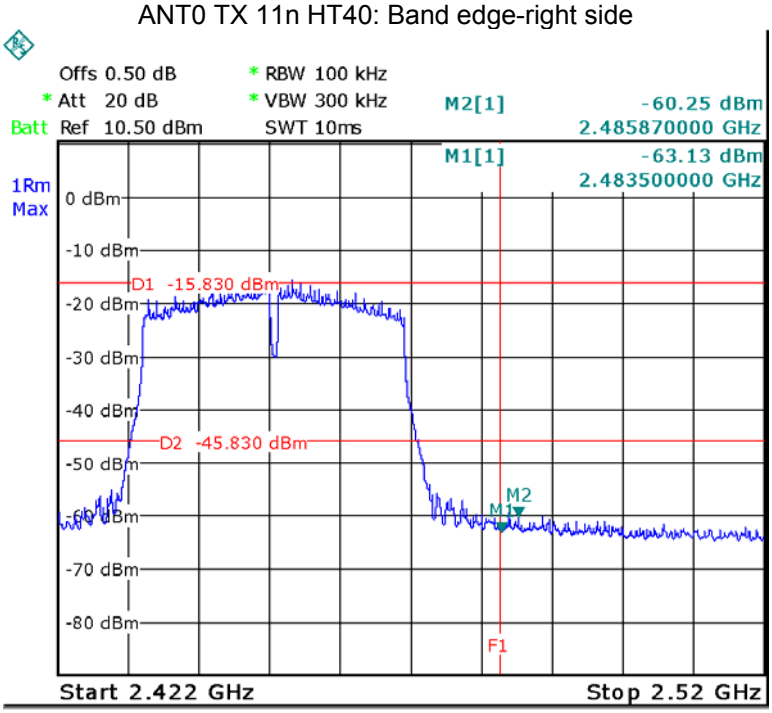
ANT0 TX 11n HT20: Band edge-right side



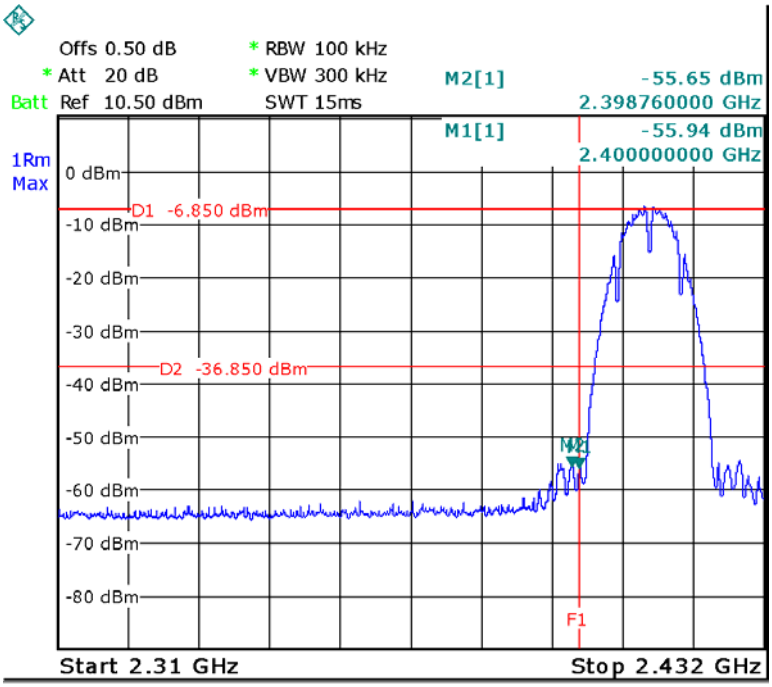
ANT0 TX 11n HT40: Band edge-left side



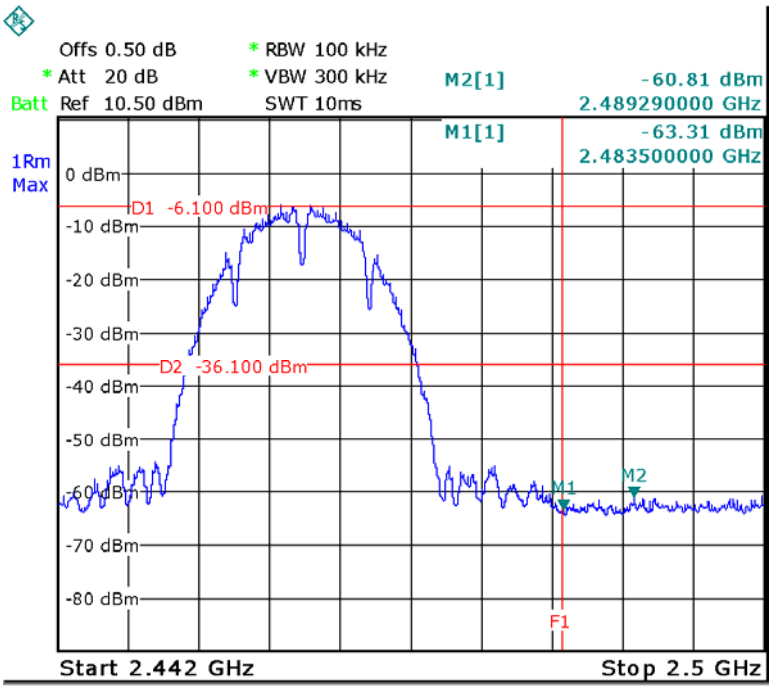
ANT0 TX 11n HT40: Band edge-right side



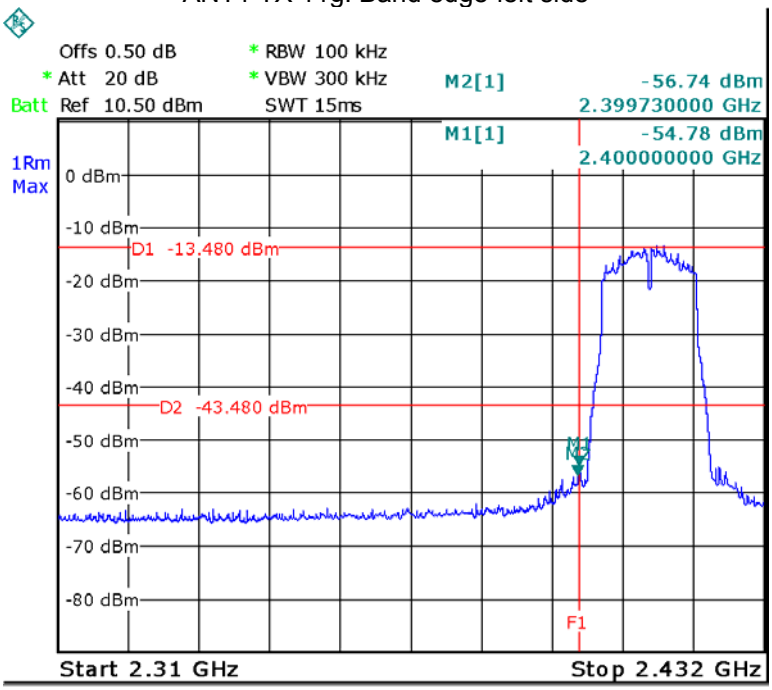
ANT1 TX 11b: Band edge-left side



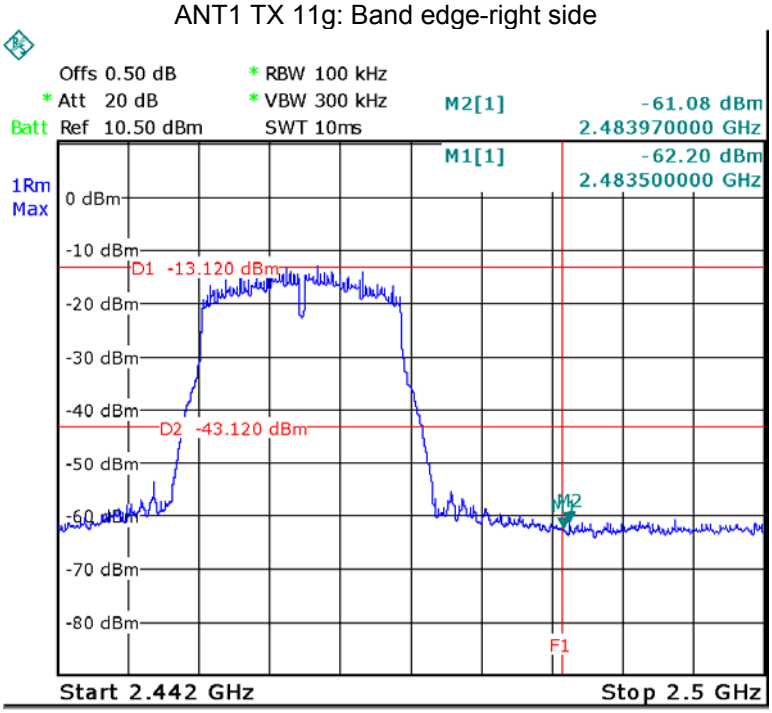
ANT1 TX 11b: Band edge-right side



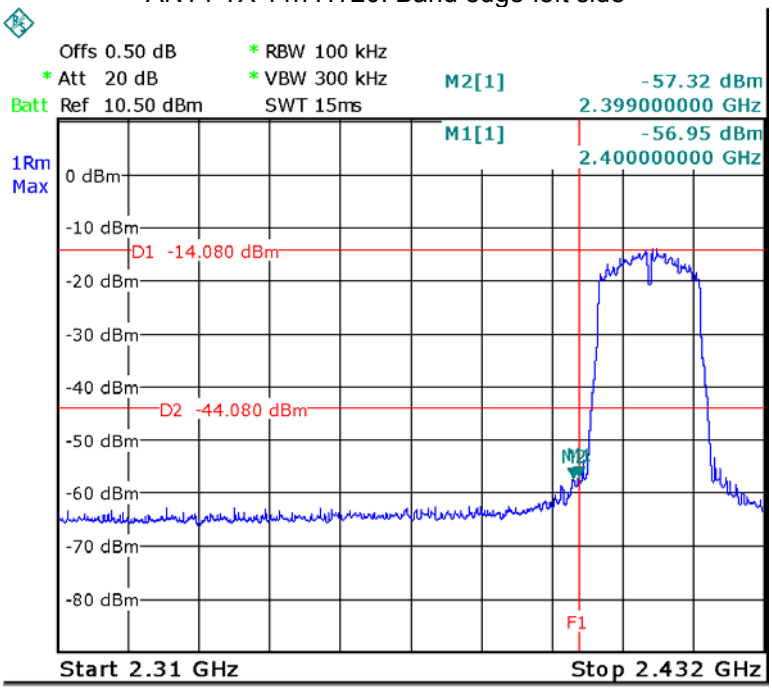
ANT1 TX 11g: Band edge-left side



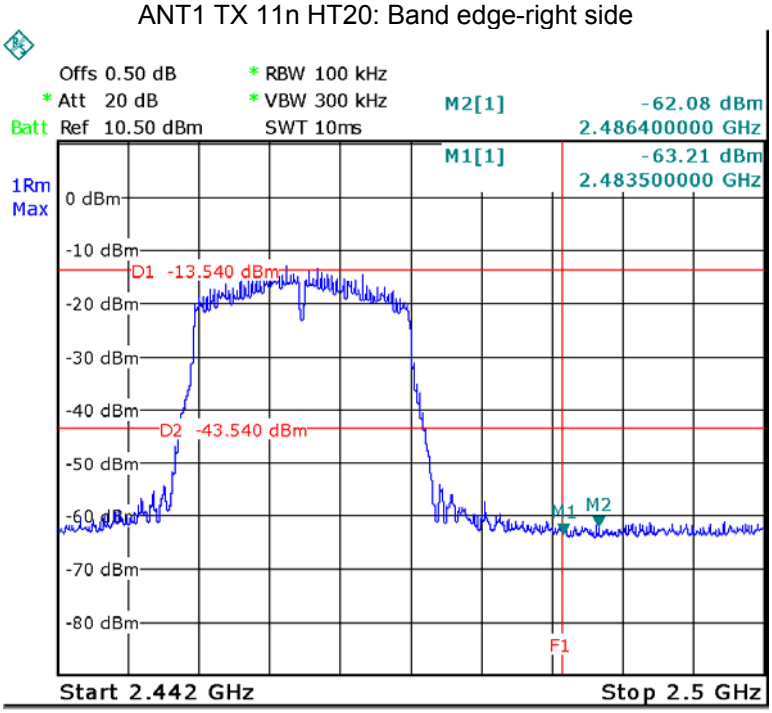
ANT1 TX 11g: Band edge-right side



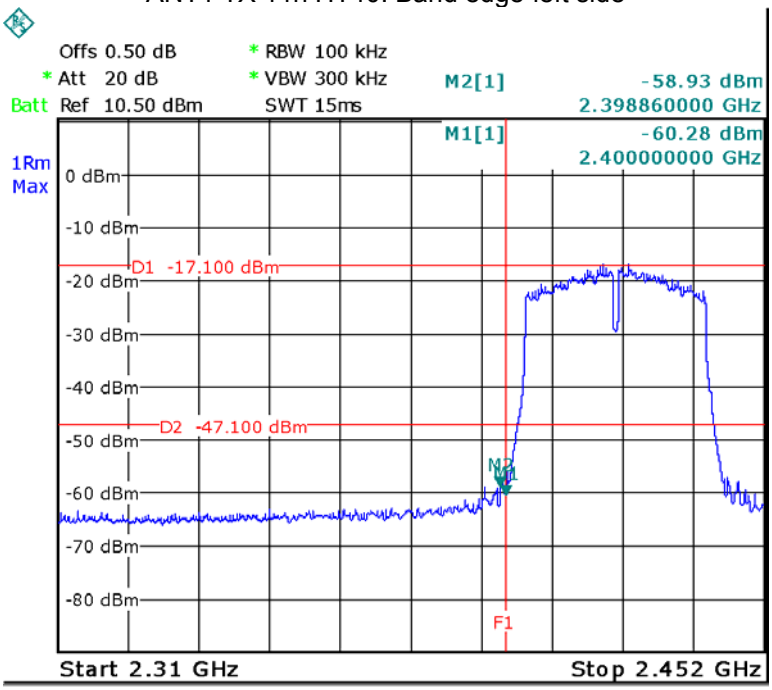
ANT1 TX 11n HT20: Band edge-left side



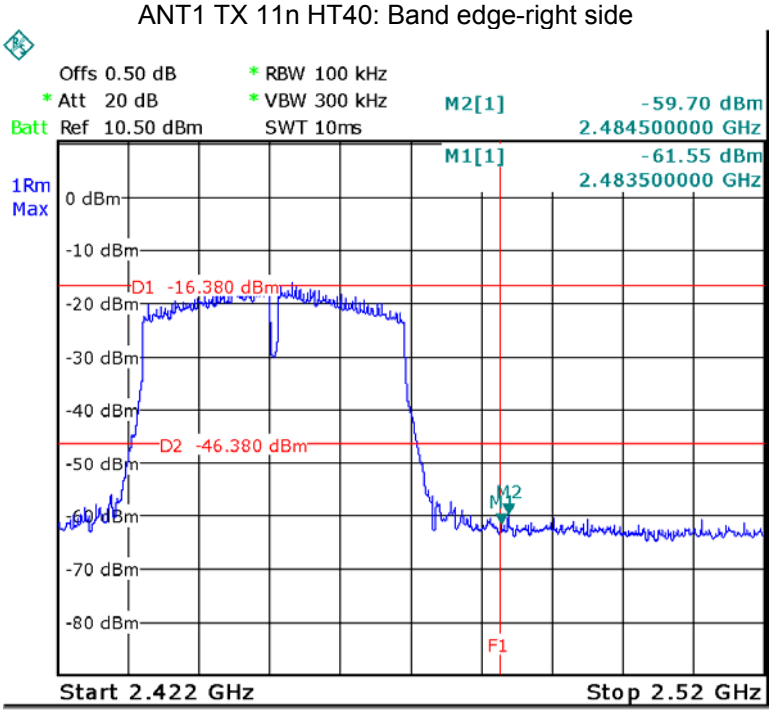
ANT1 TX 11n HT20: Band edge-right side



ANT1 TX 11n HT40: Band edge-left side



ANT1 TX 11n HT40: Band edge-right side



9 6 dB Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

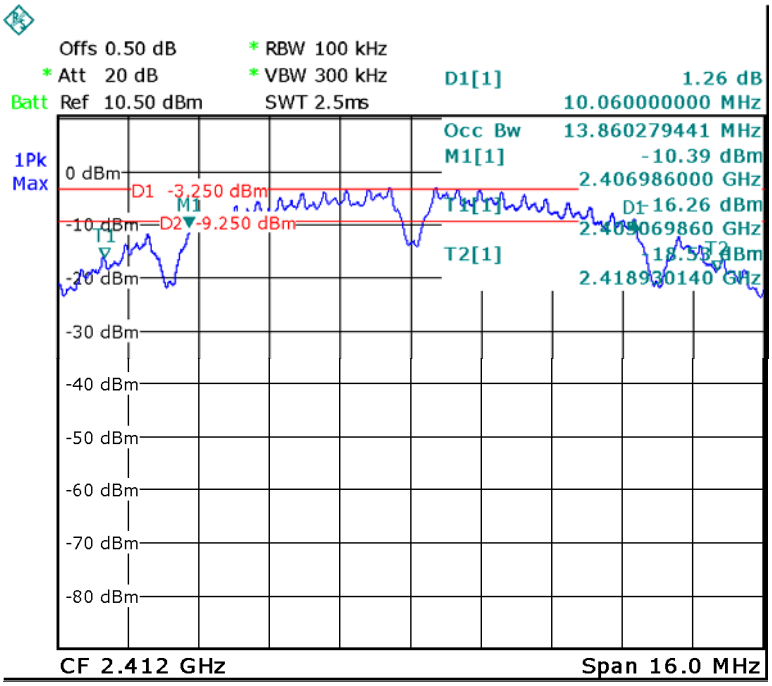
9.1 Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

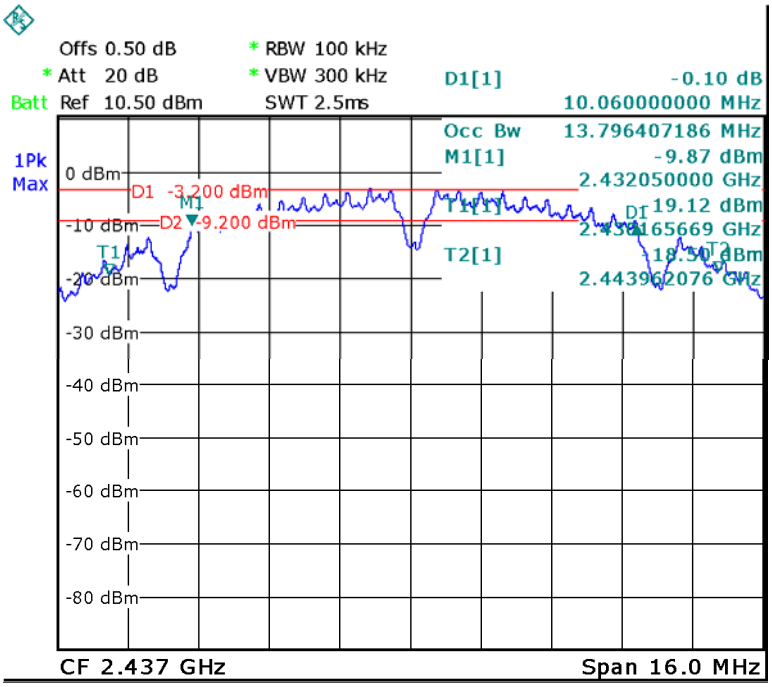
9.2 Test Result:

ANT	Operation mode	Bandwidth (MHz)		
		Low	Middle	High
ANT0	11b	10.06	10.06	10.06
	11g	10.06	10.06	10.06
	11n HT20	15.15	15.15	15.15
	11n HT40	15.10	15.10	15.10
ANT1	11b	16.07	16.07	16.07
	11g	16.62	16.62	16.62
	11n HT20	19.36	19.36	19.36
	11n HT40	35.12	35.12	35.12

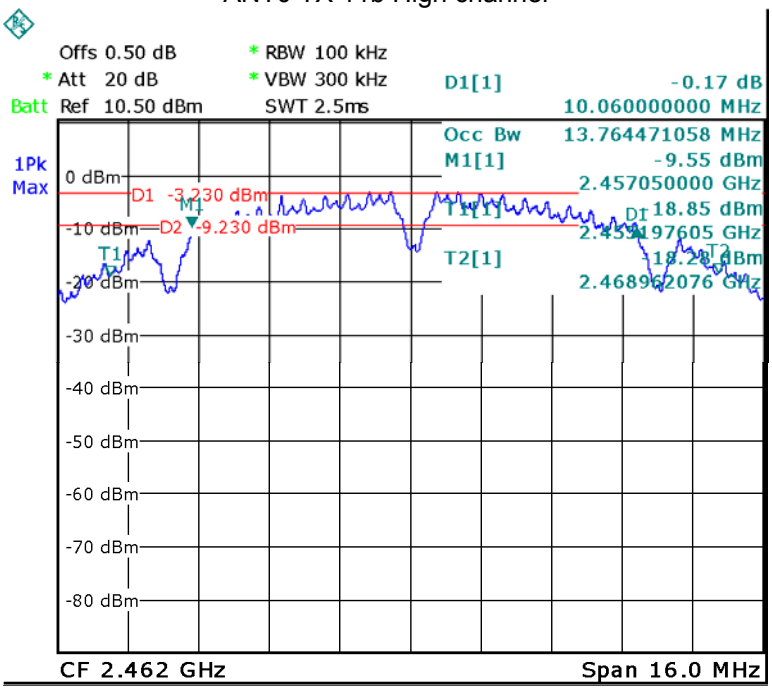
ANT0 TX 11b Low channel



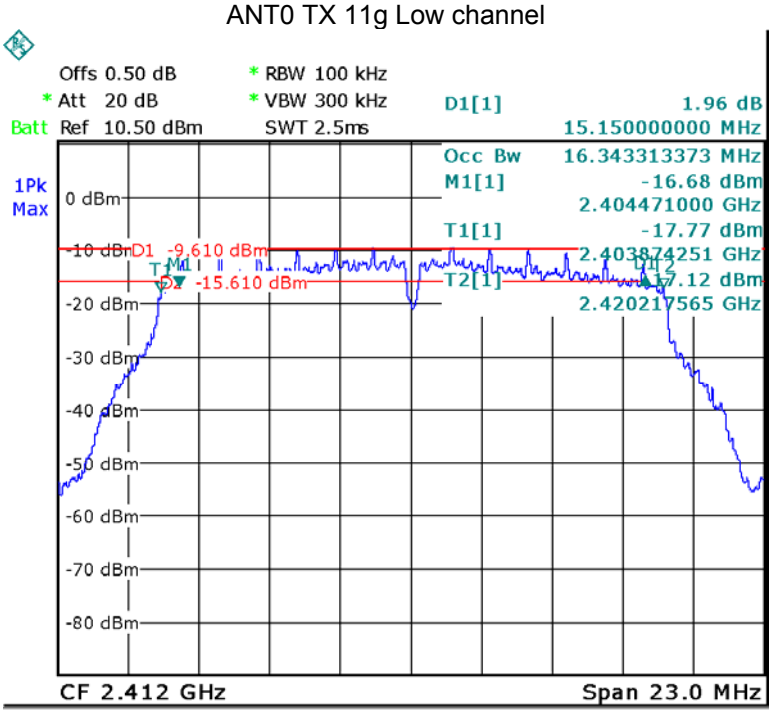
ANT0 TX 11b Middle channel



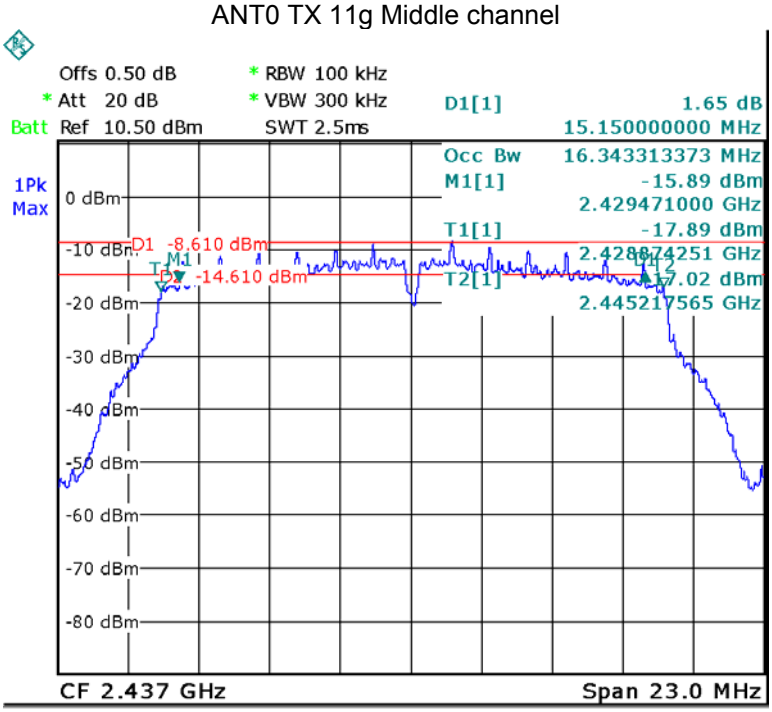
ANT0 TX 11b High channel



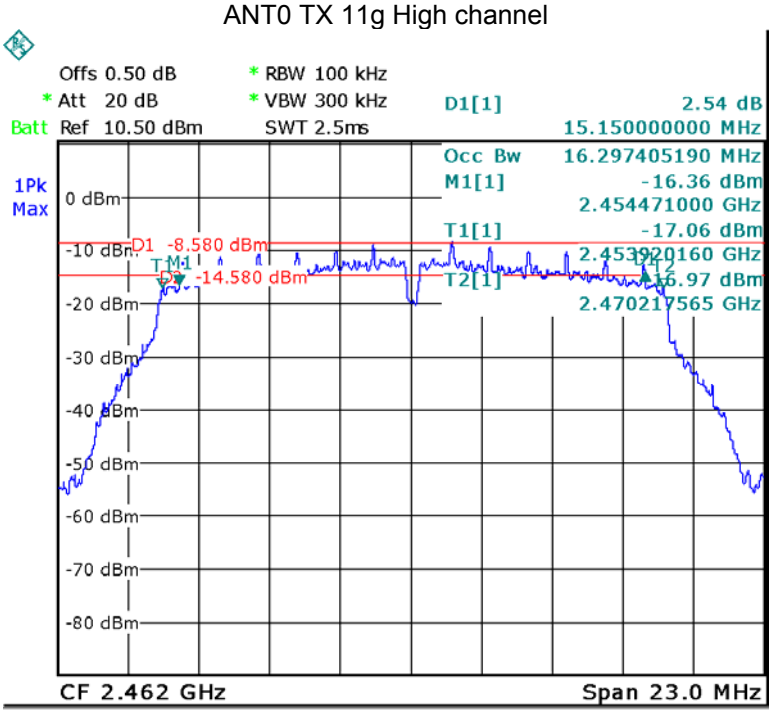
ANT0 TX 11g Low channel



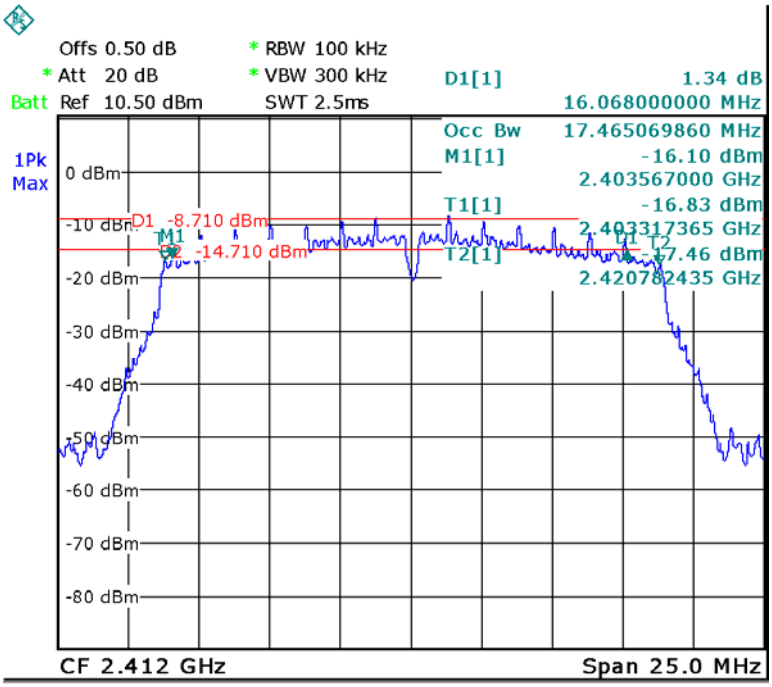
ANT0 TX 11g Middle channel



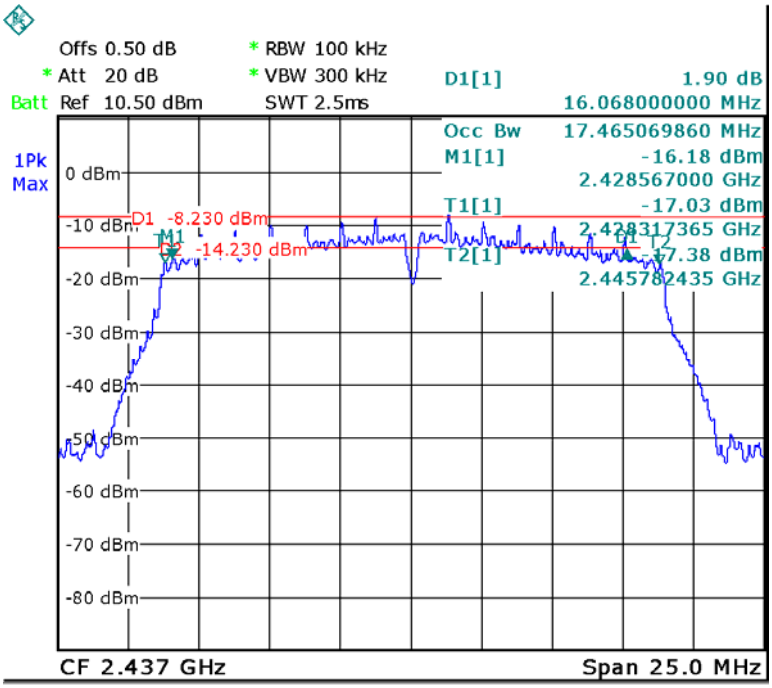
ANT0 TX 11g High channel



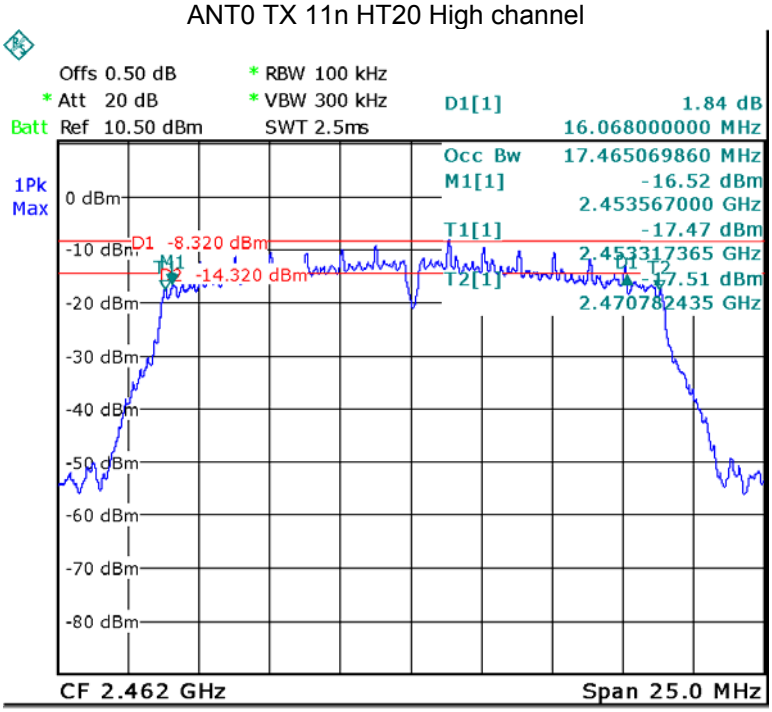
ANT0 TX 11n HT20 Low channel



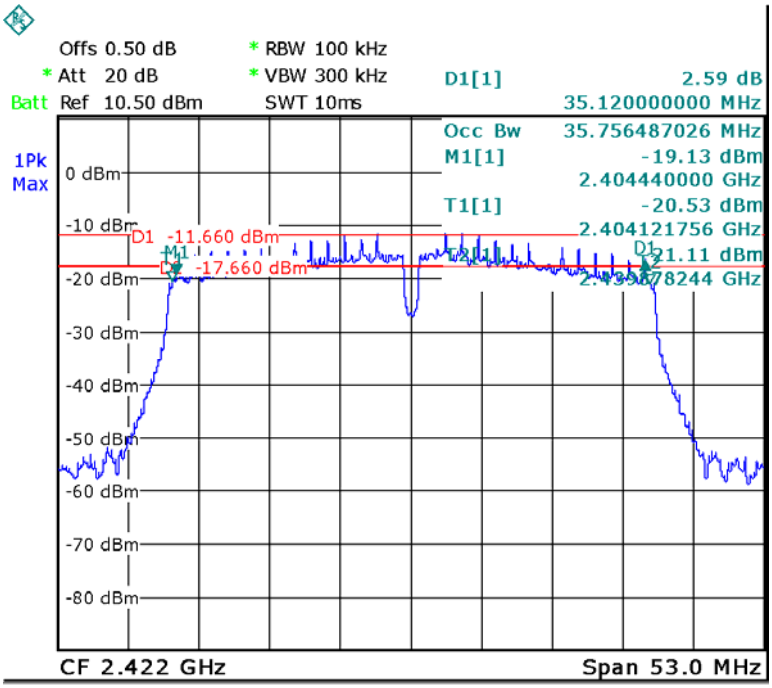
ANT0 TX 11n HT20 Middle channel



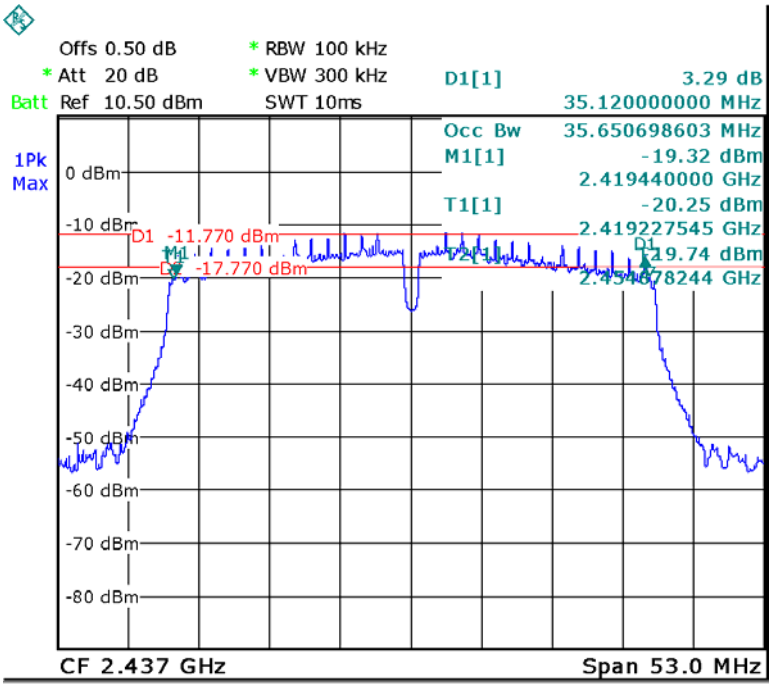
ANT0 TX 11n HT20 High channel



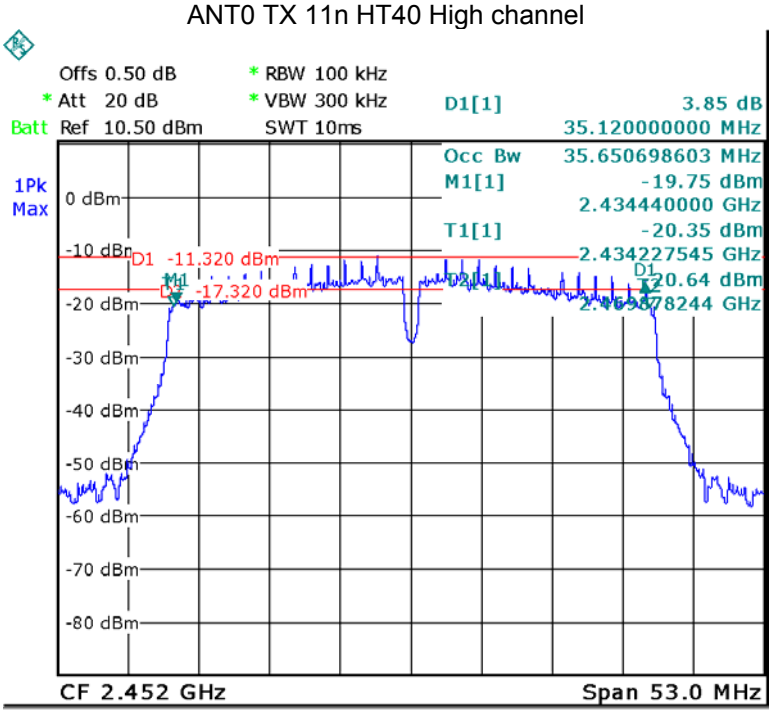
ANT0 TX 11n HT40 Low channel



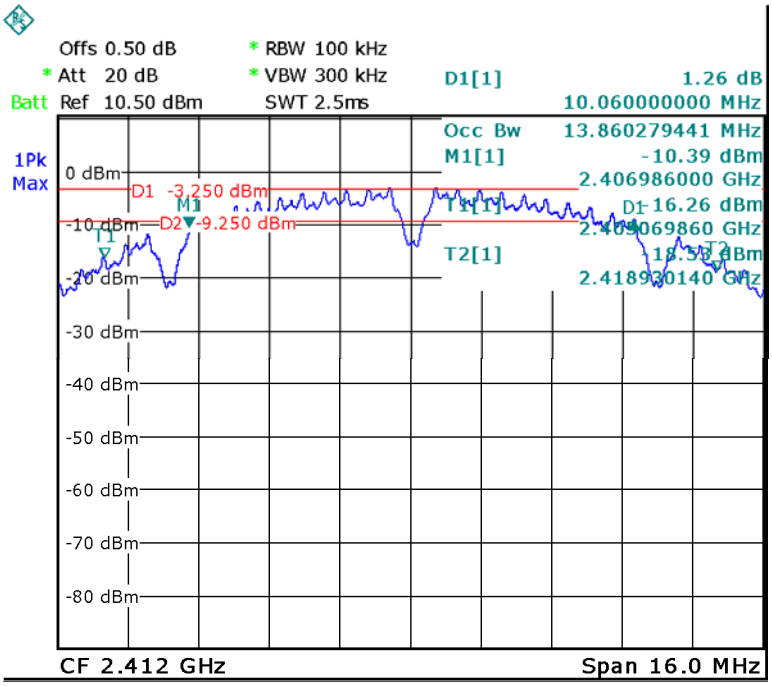
ANT0 TX 11n HT40 Middle channel



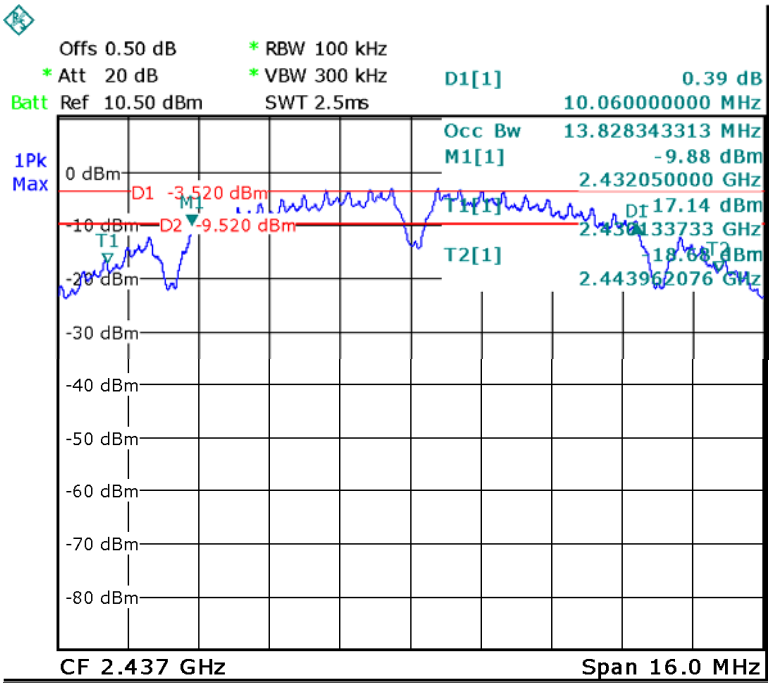
ANT0 TX 11n HT40 High channel



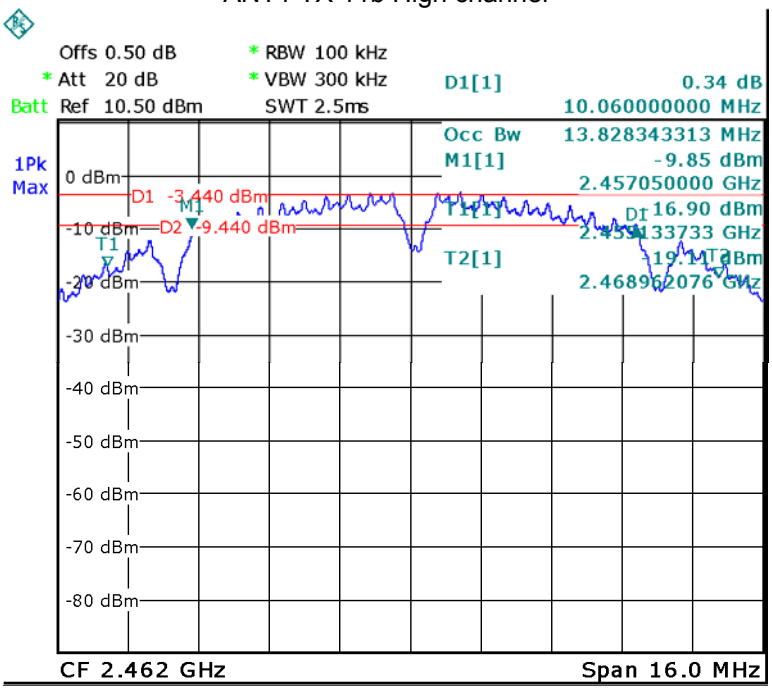
ANT1 TX 11b Low channel



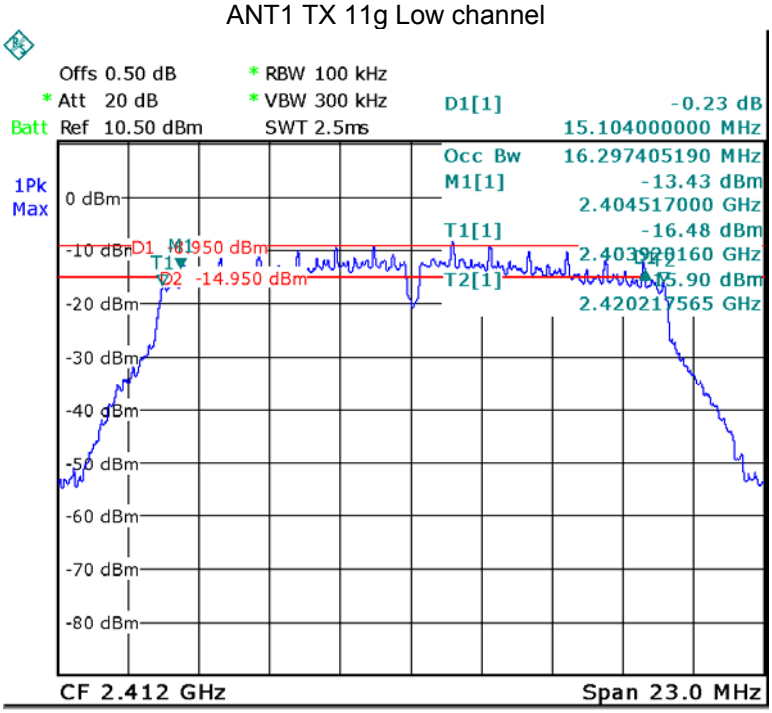
ANT1 TX 11b Middle channel



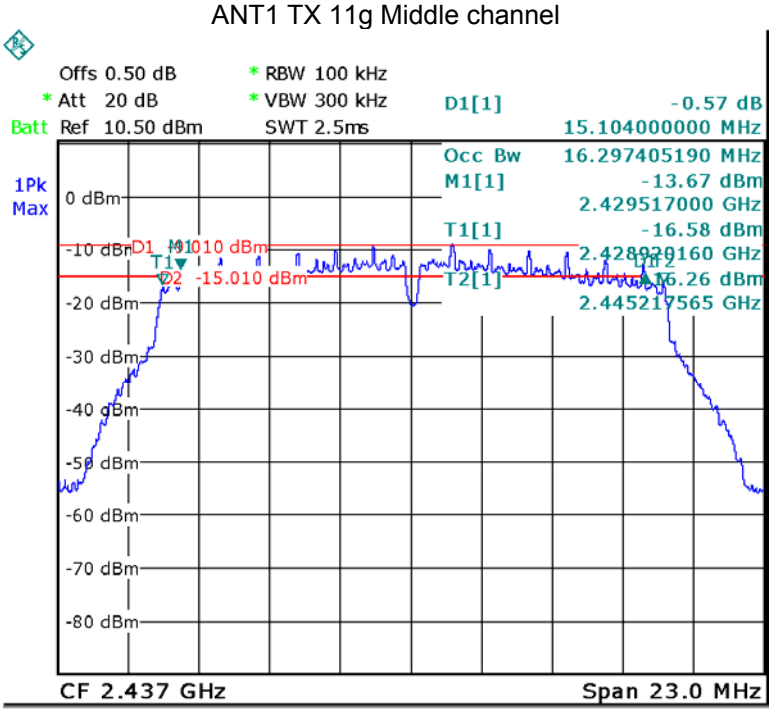
ANT1 TX 11b High channel



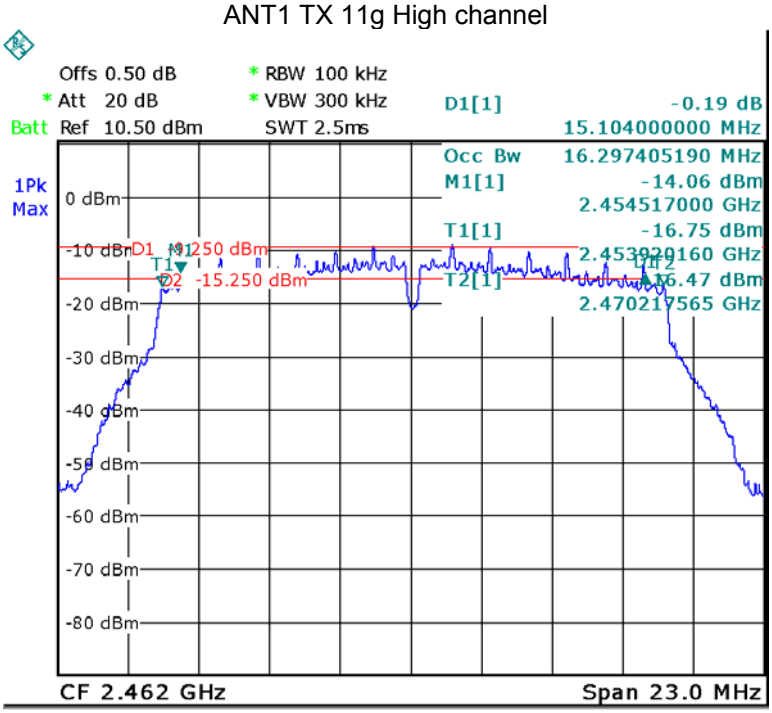
ANT1 TX 11g Low channel



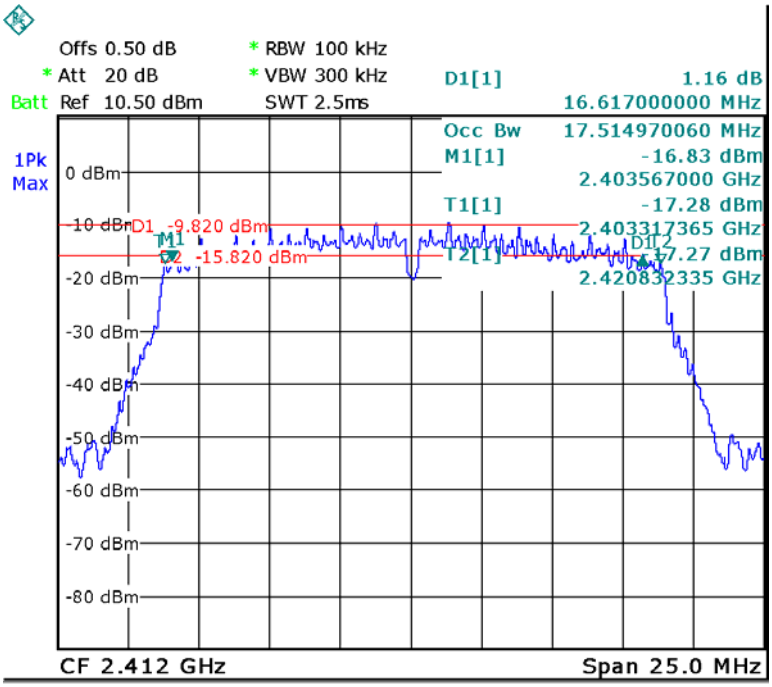
ANT1 TX 11g Middle channel



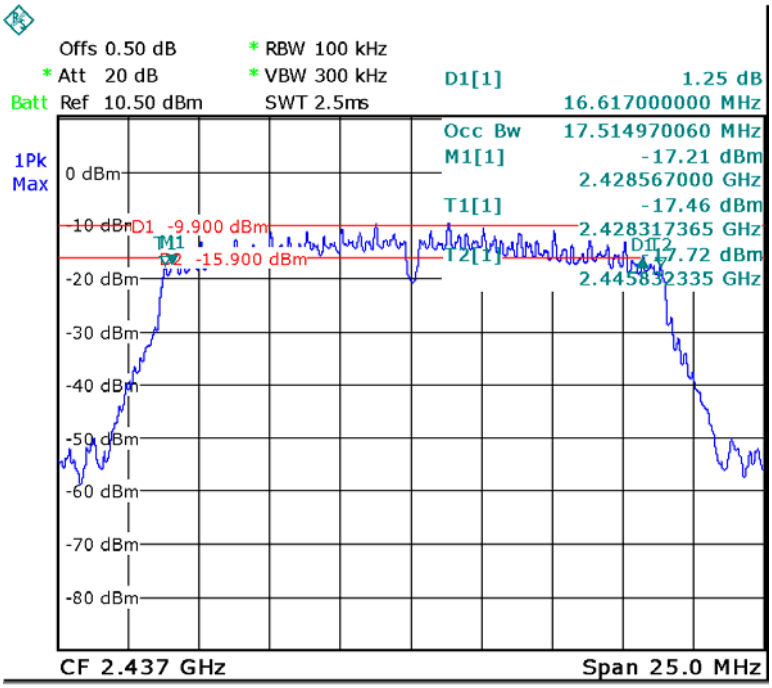
ANT1 TX 11g High channel



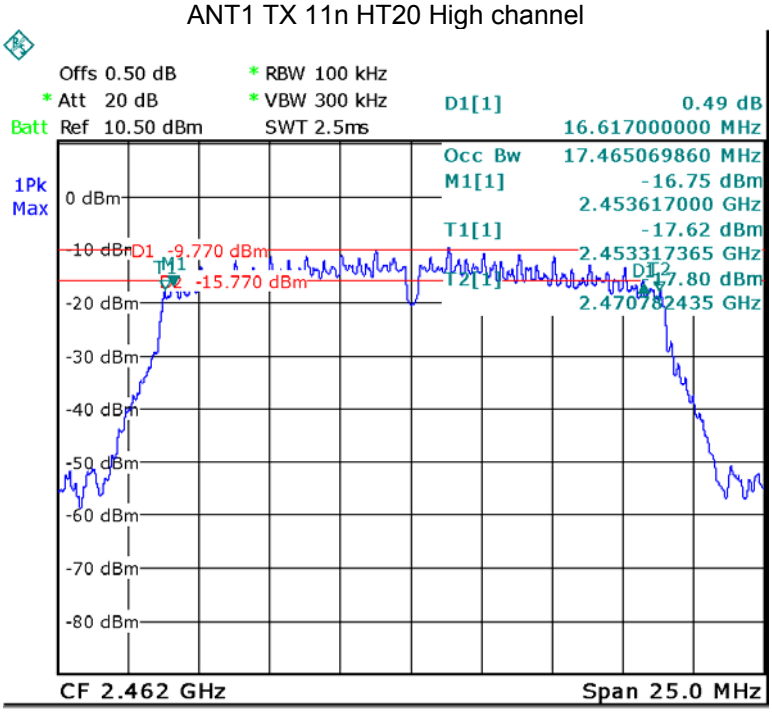
ANT1 TX 11n HT20 Low channel



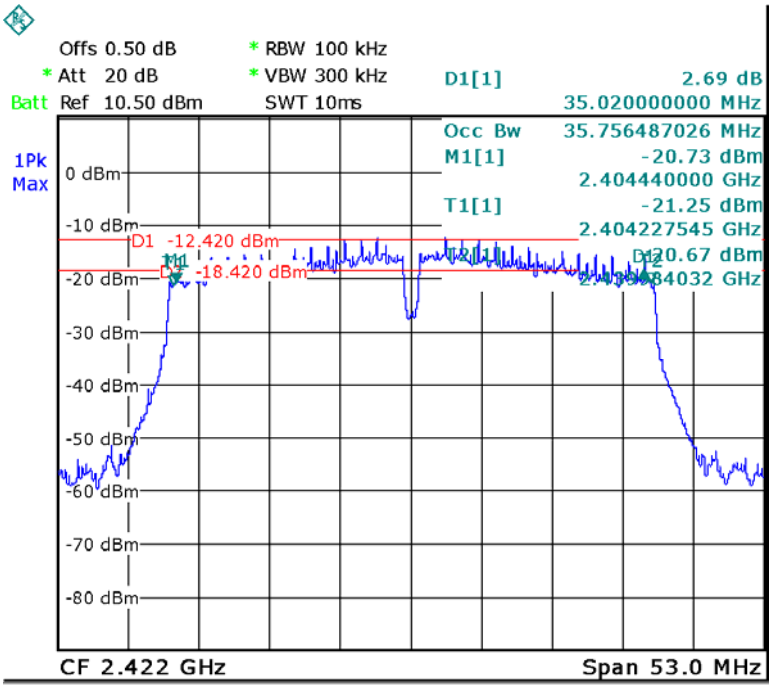
ANT1 TX 11n HT20 Middle channel



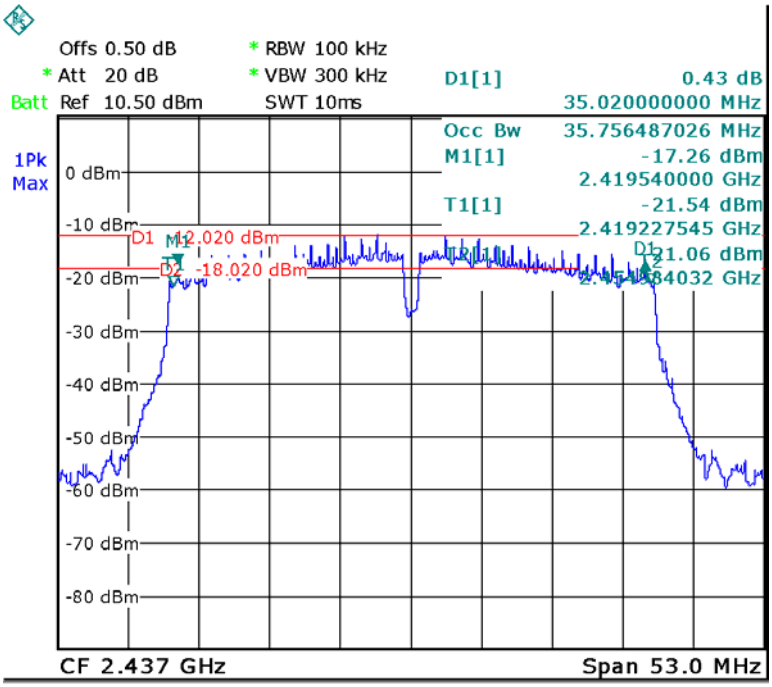
ANT1 TX 11n HT20 High channel



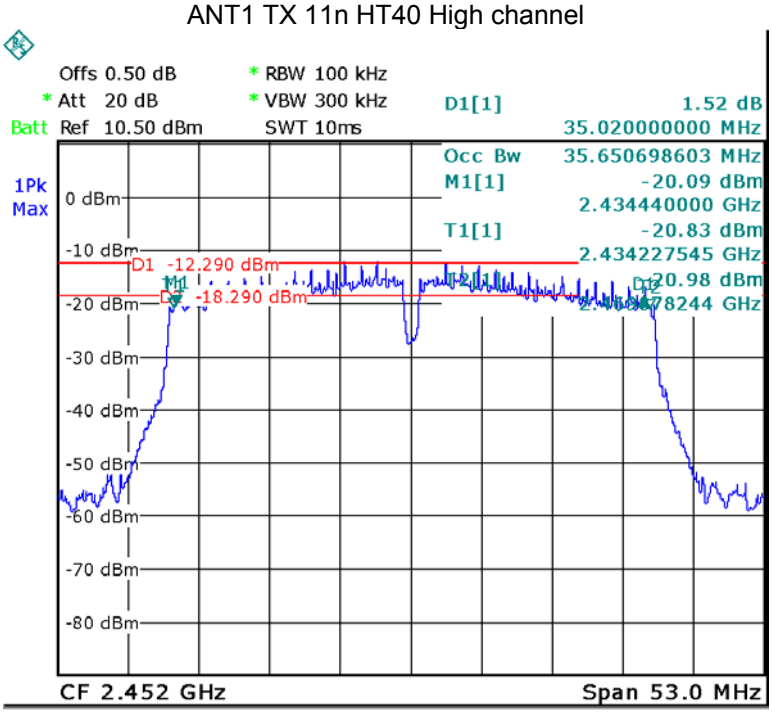
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



10 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

10.1 Test Procedure:

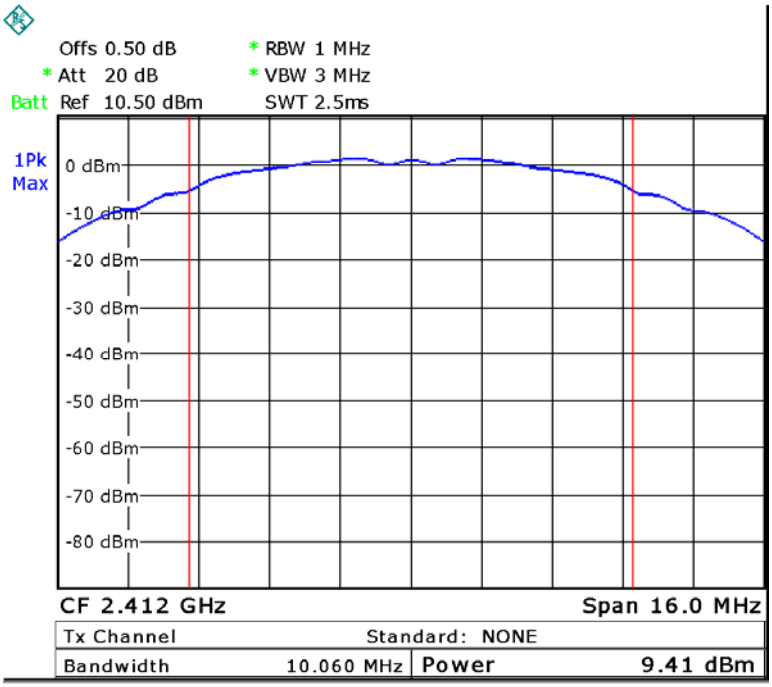
KDB558074 D01 DTS Meas Guidance v03r05 section 9.1.2

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 1 MHz. VBW = 3 MHz. Sweep = auto; Detector Function = Peak, Set the span to fully encompass the DTS bandwidth.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

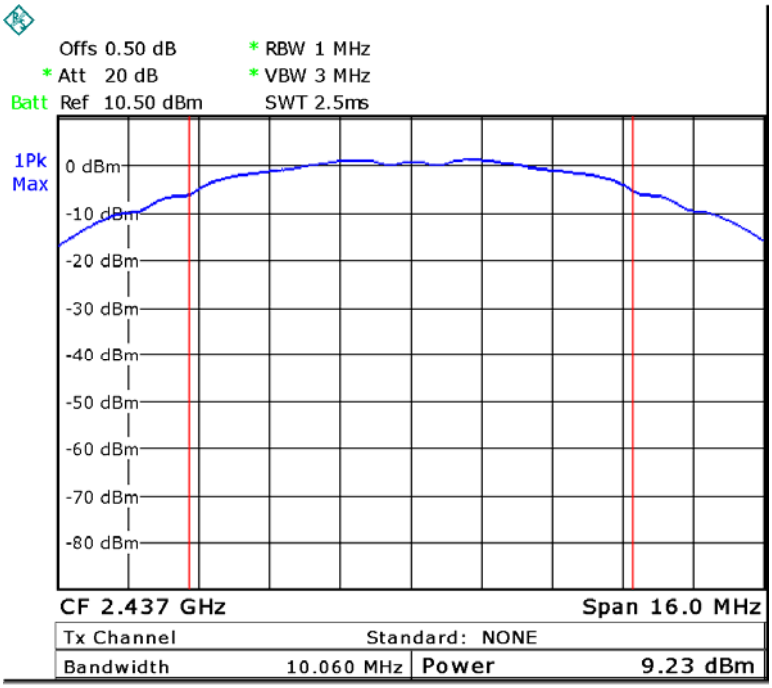
10.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm)		
		Low	Middle	High
11b	ANT0	9.41	9.23	9.40
	ANT1	9.47	9.29	9.21
11g	ANT0	9.35	9.24	9.32
	ANT1	9.40	9.17	9.11
11n HT20	ANT0	9.26	9.47	9.15
	ANT1	9.33	9.08	9.07
	ANT0+ANT1	12.31	12.29	12.12
11n HT40	ANT0	9.42	9.40	9.37
	ANT1	9.48	9.23	9.14
	ANT0+ANT1	12.46	12.33	12.27
Limit				
1W/30dBm				

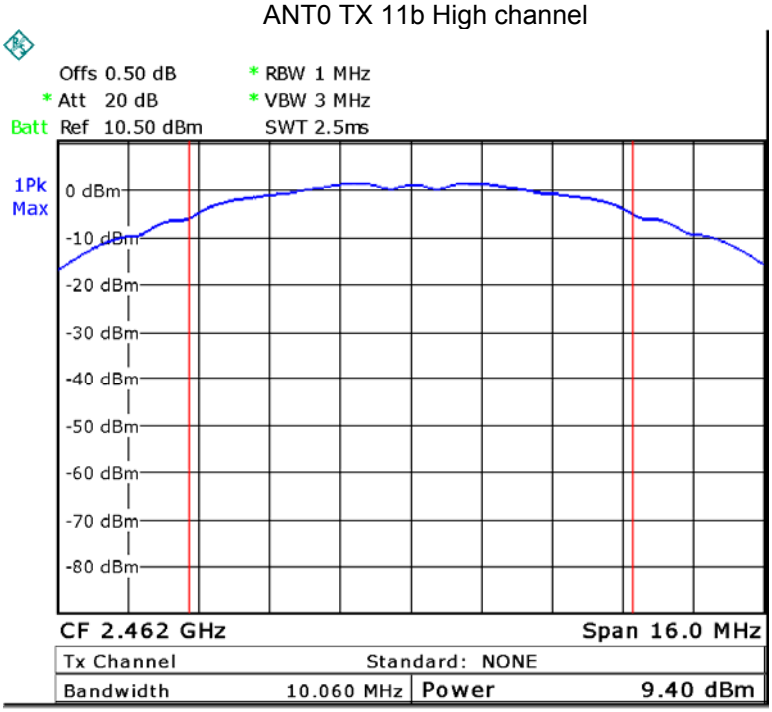
ANT0 TX 11b Low channel



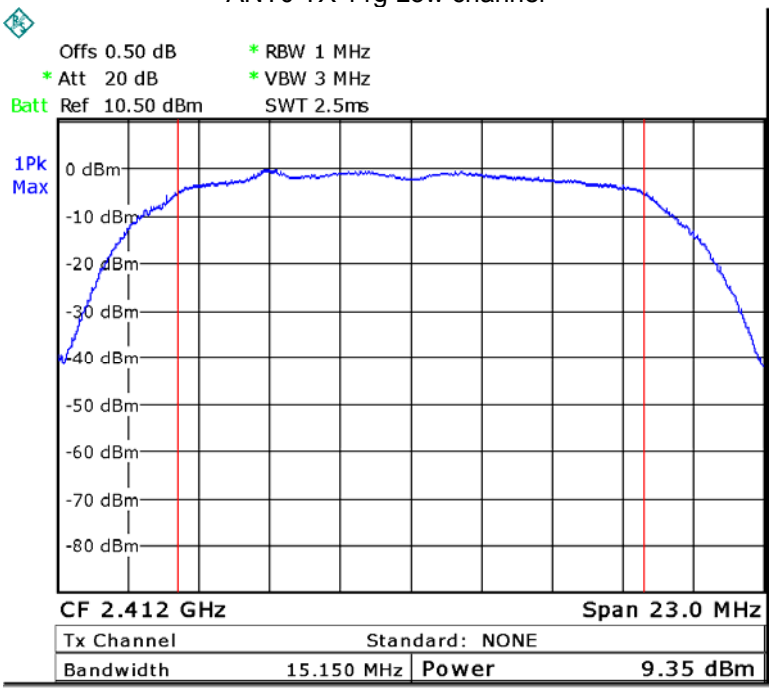
ANT0 TX 11b Middle channel



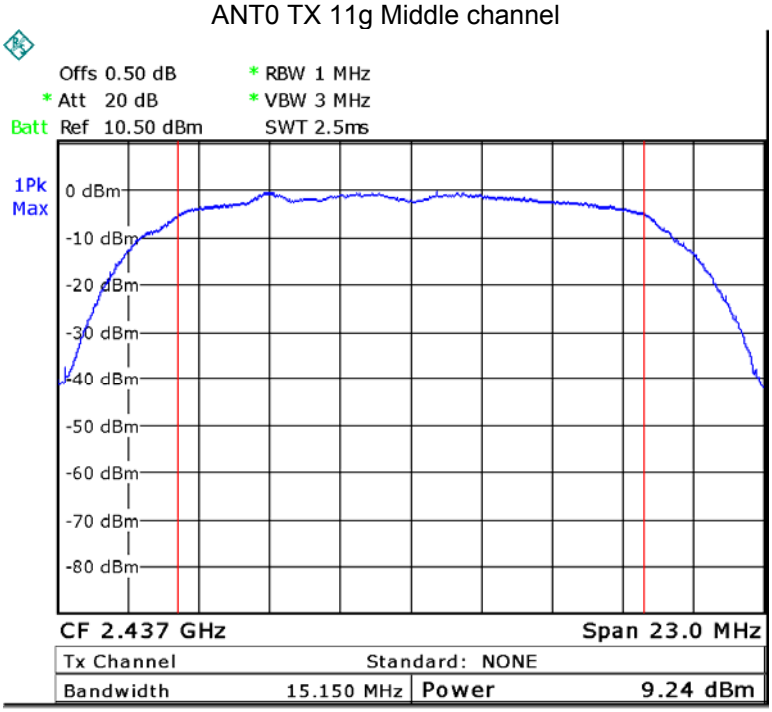
ANT0 TX 11b High channel



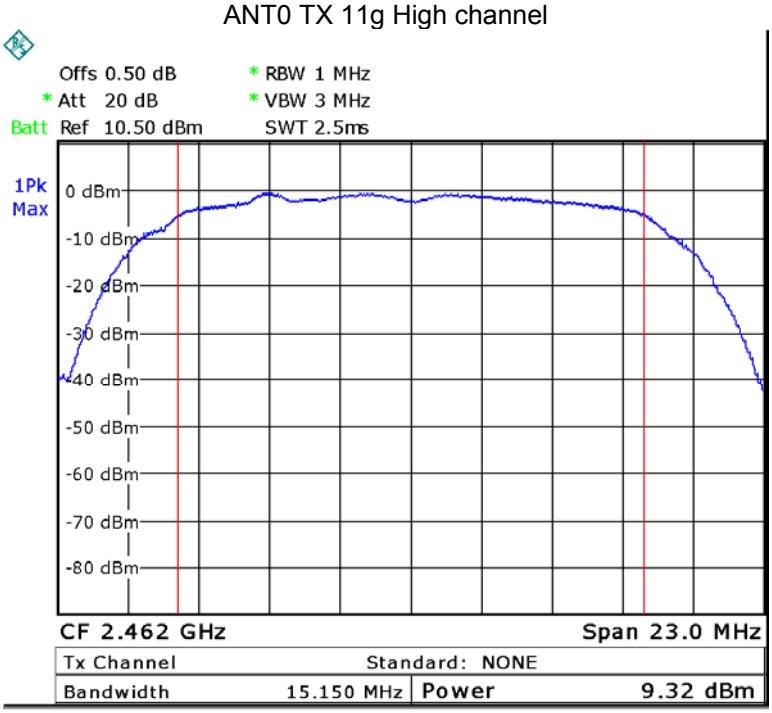
ANT0 TX 11g Low channel



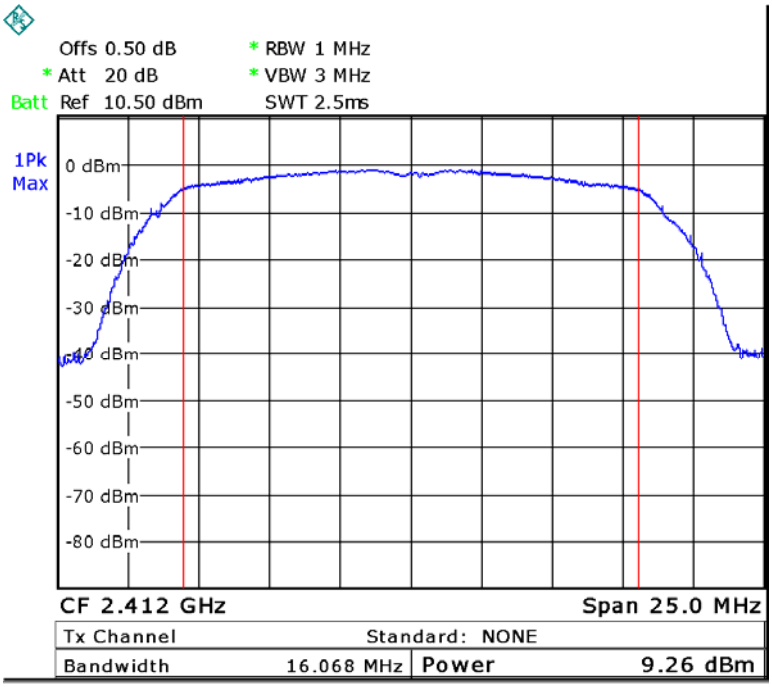
ANT0 TX 11g Middle channel



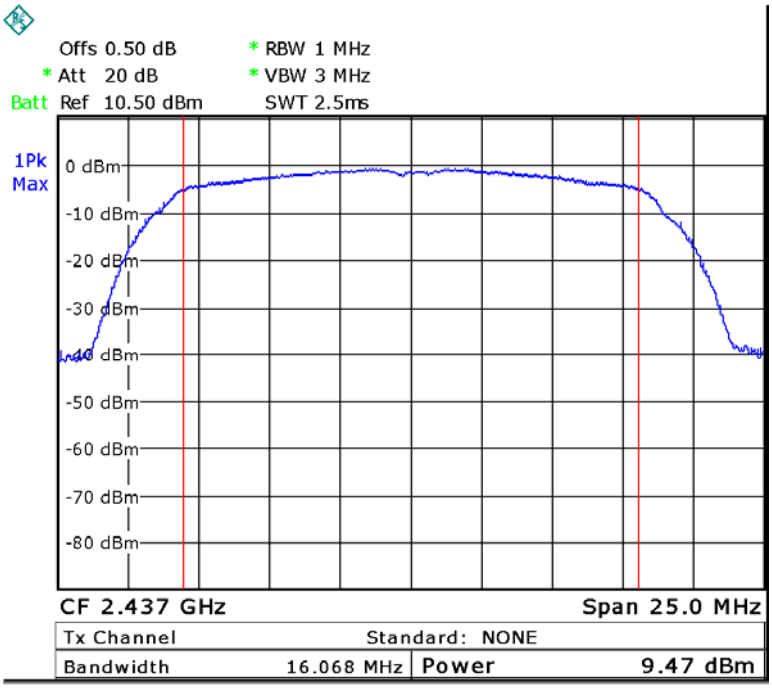
ANT0 TX 11g High channel



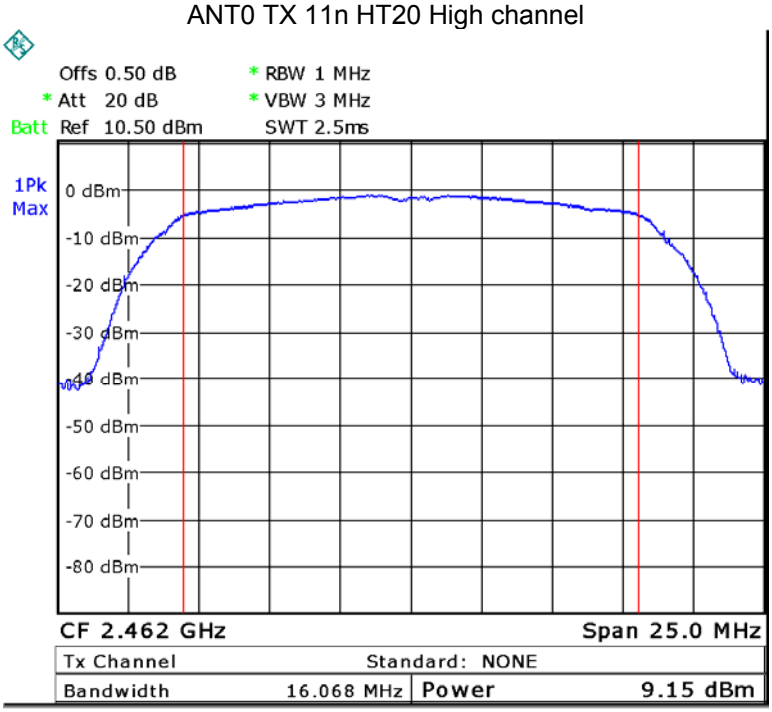
ANT0 TX 11n HT20 Low channel



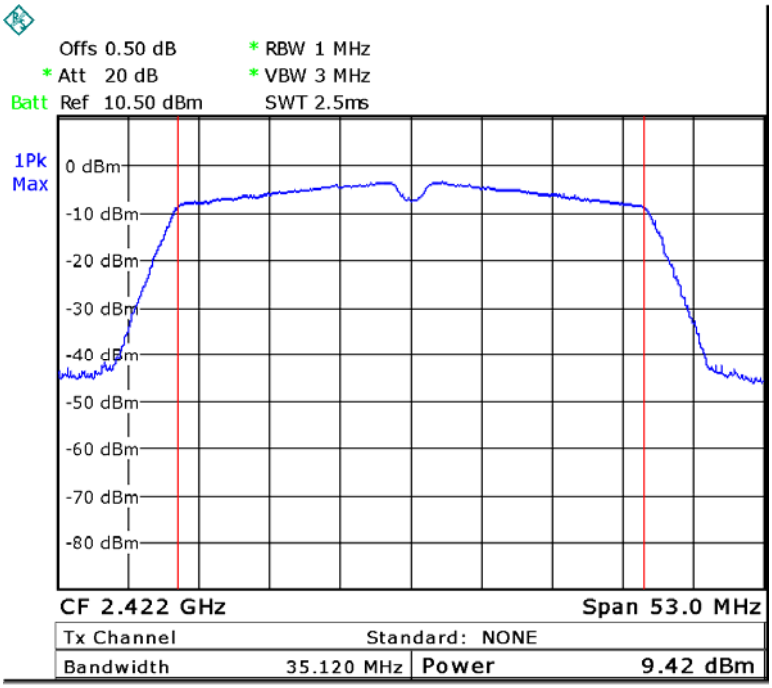
ANT0 TX 11n HT20 Middle channel



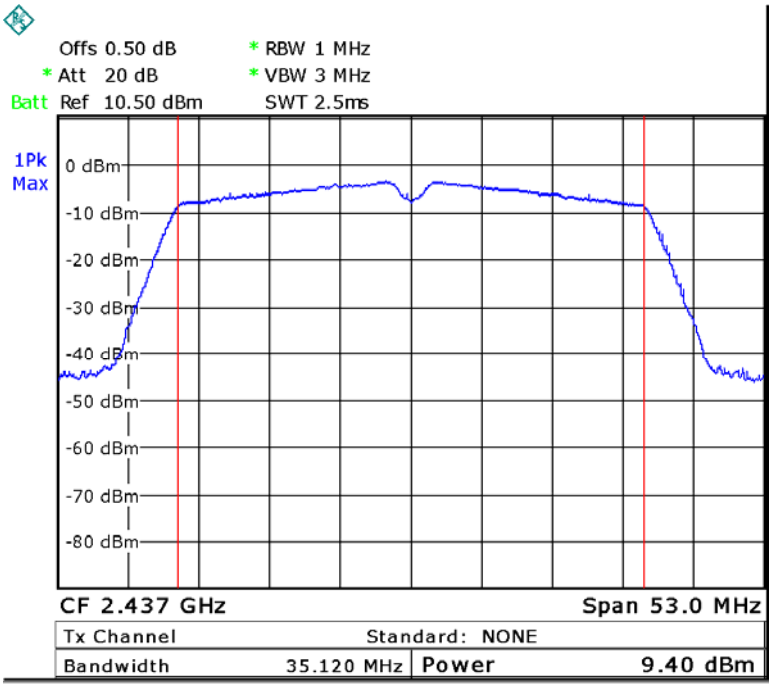
ANT0 TX 11n HT20 High channel



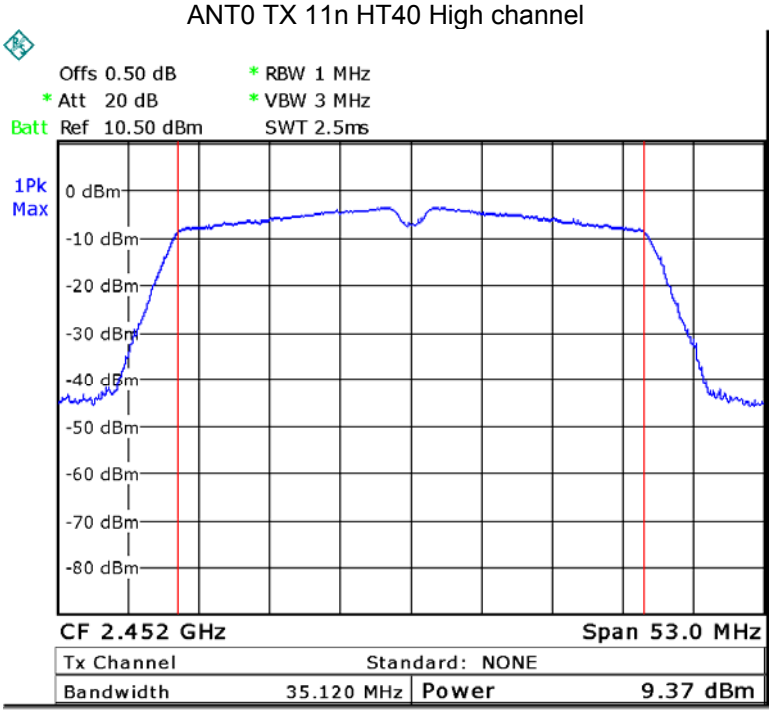
ANT0 TX 11n HT40 Low channel



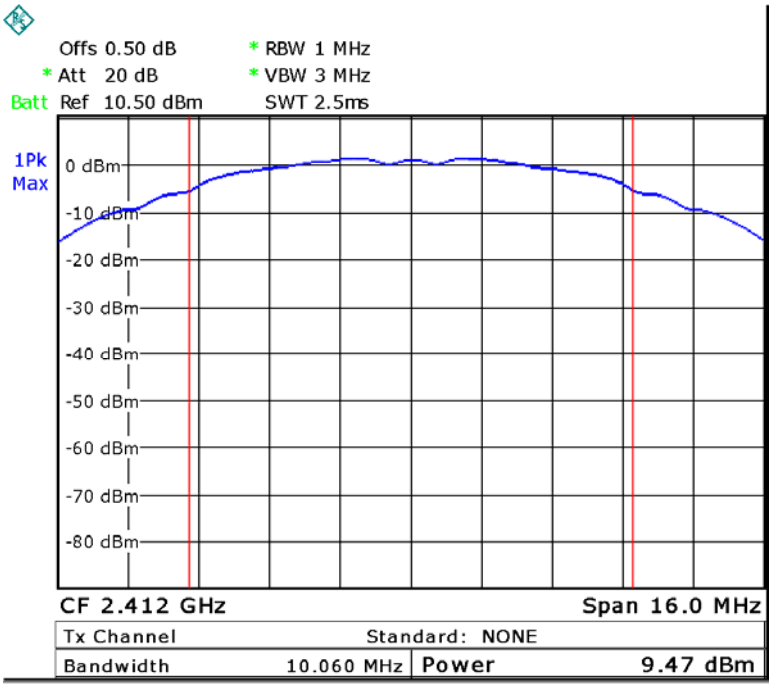
ANT0 TX 11n HT40 Middle channel



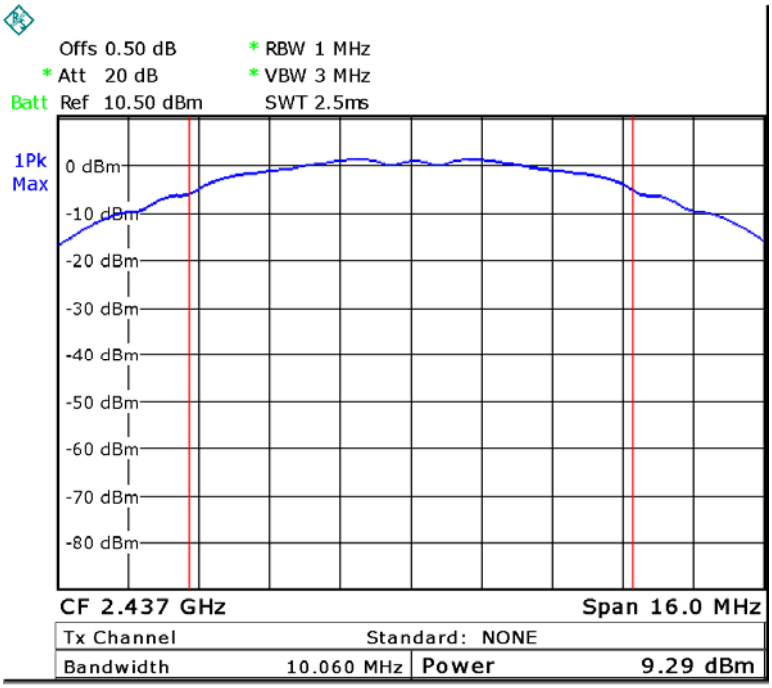
ANT0 TX 11n HT40 High channel



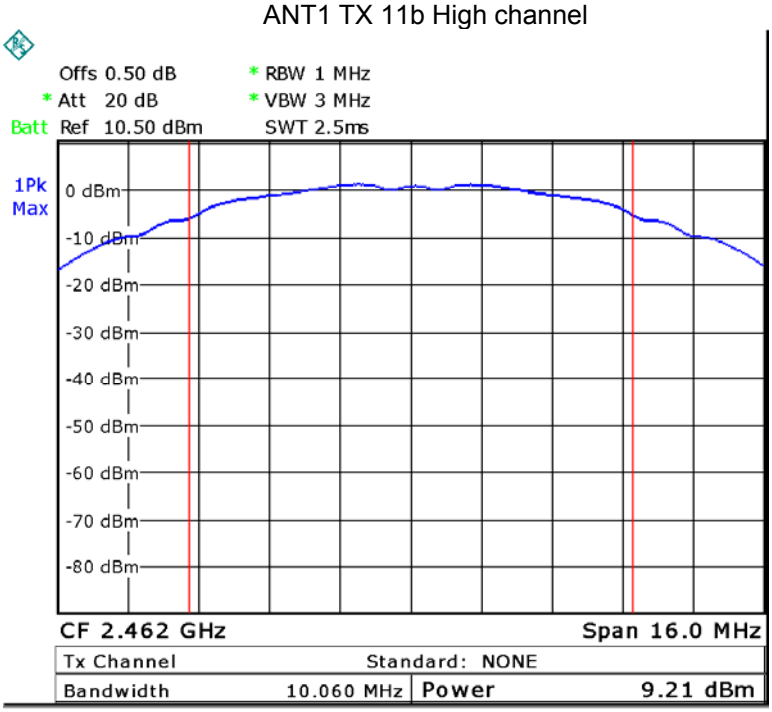
ANT1 TX 11b Low channel



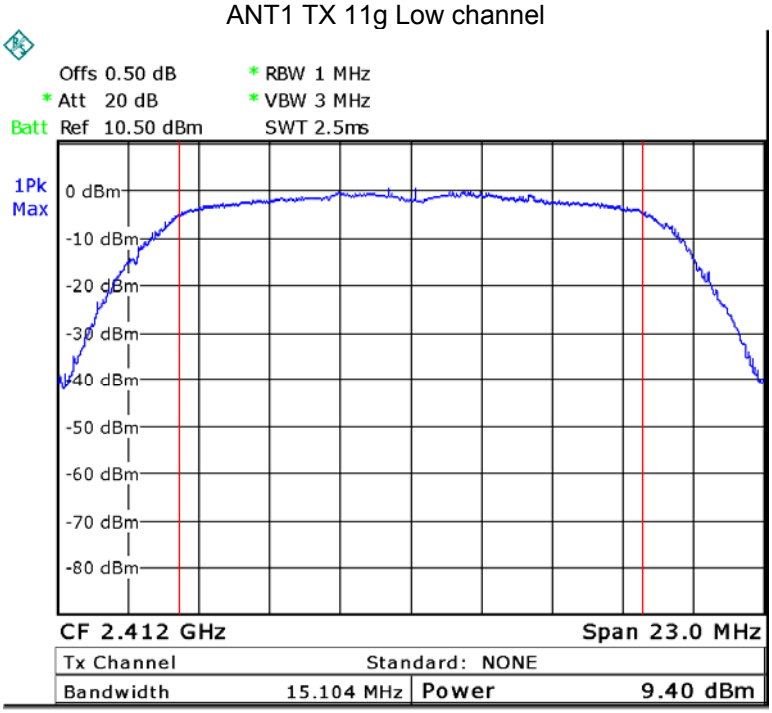
ANT1 TX 11b Middle channel



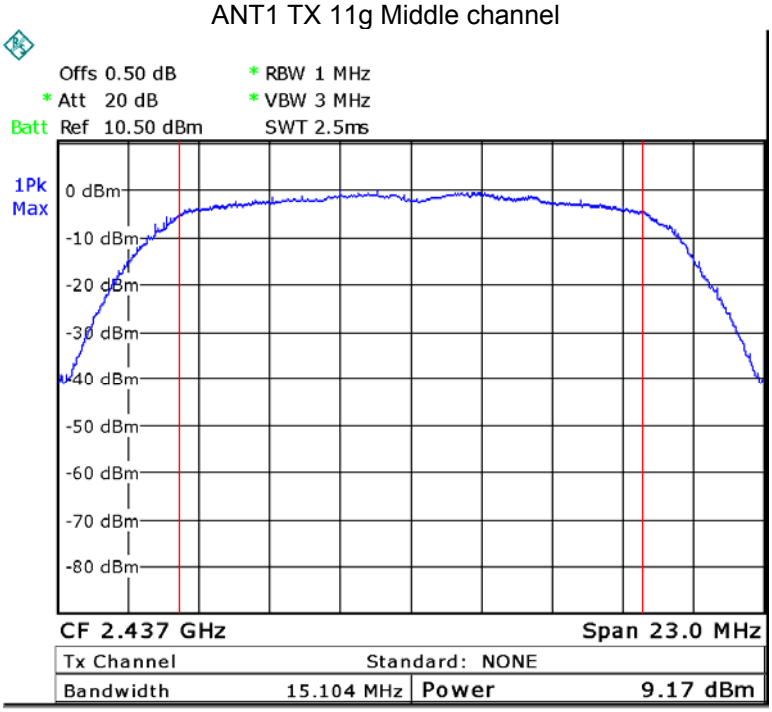
ANT1 TX 11b High channel



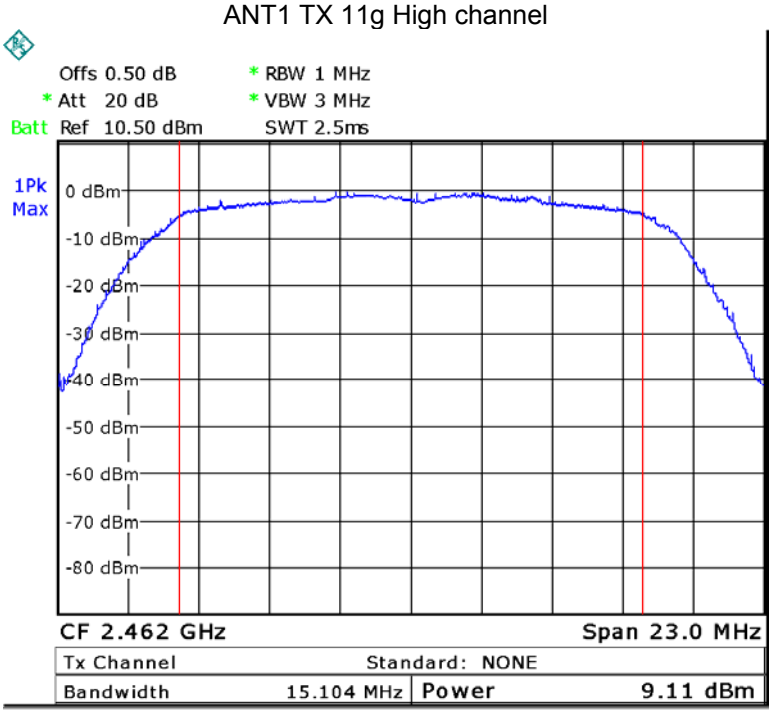
ANT1 TX 11g Low channel



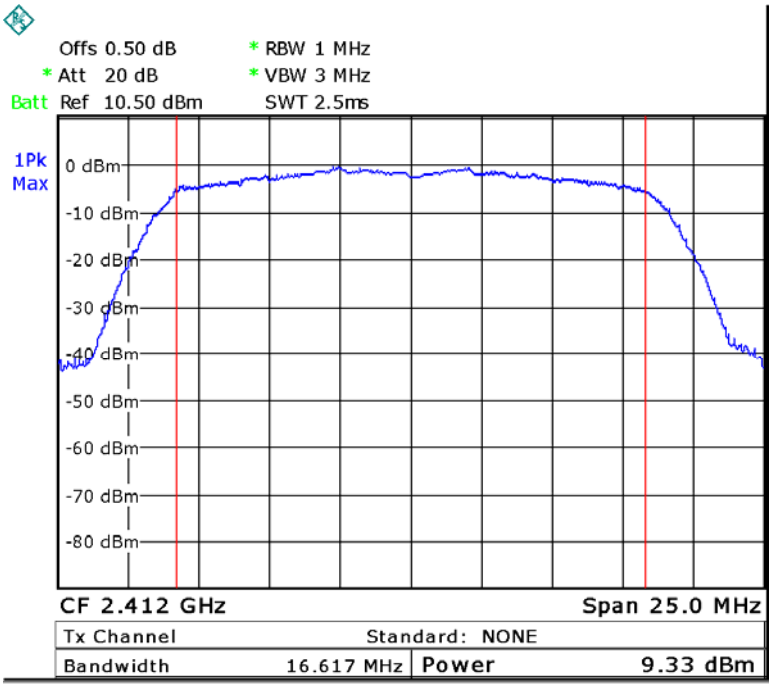
ANT1 TX 11g Middle channel



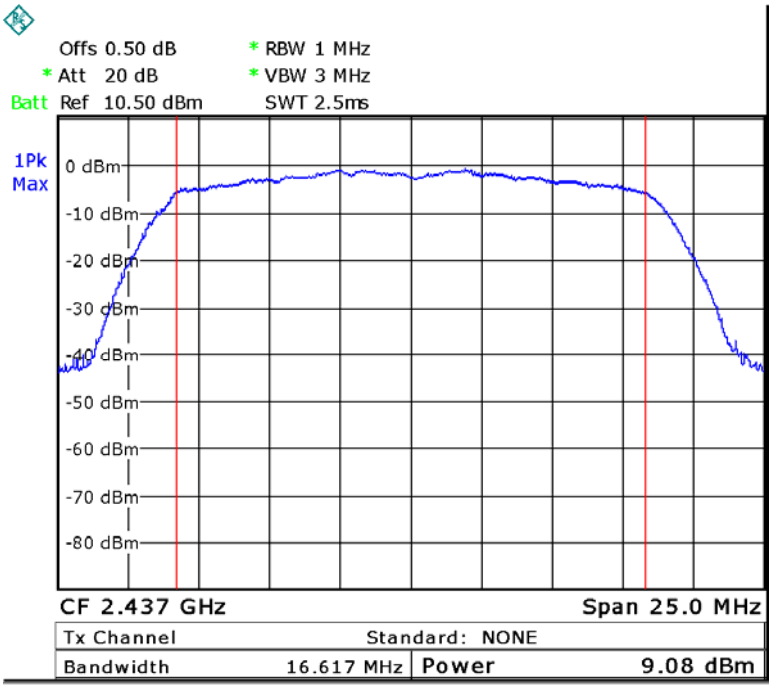
ANT1 TX 11g High channel



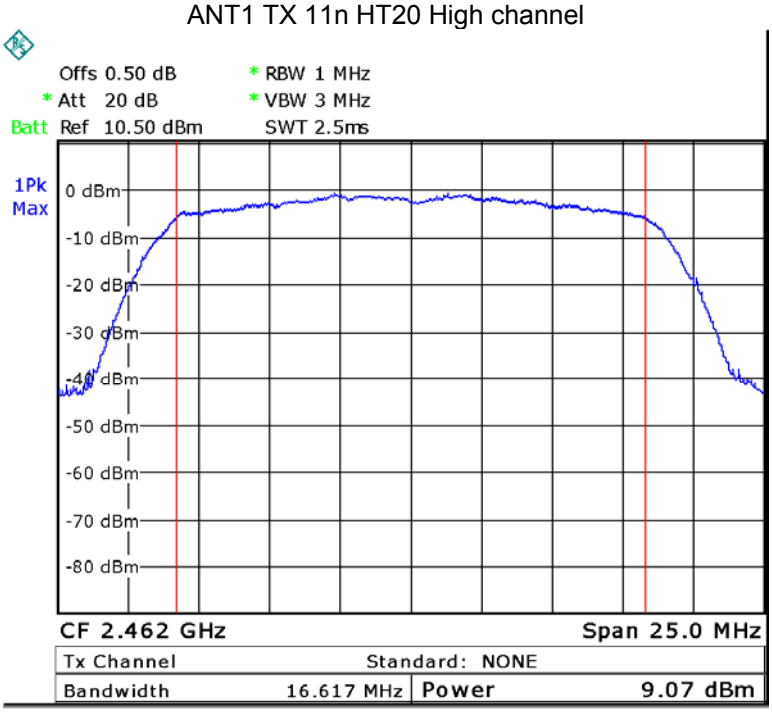
ANT1 TX 11n HT20 Low channel



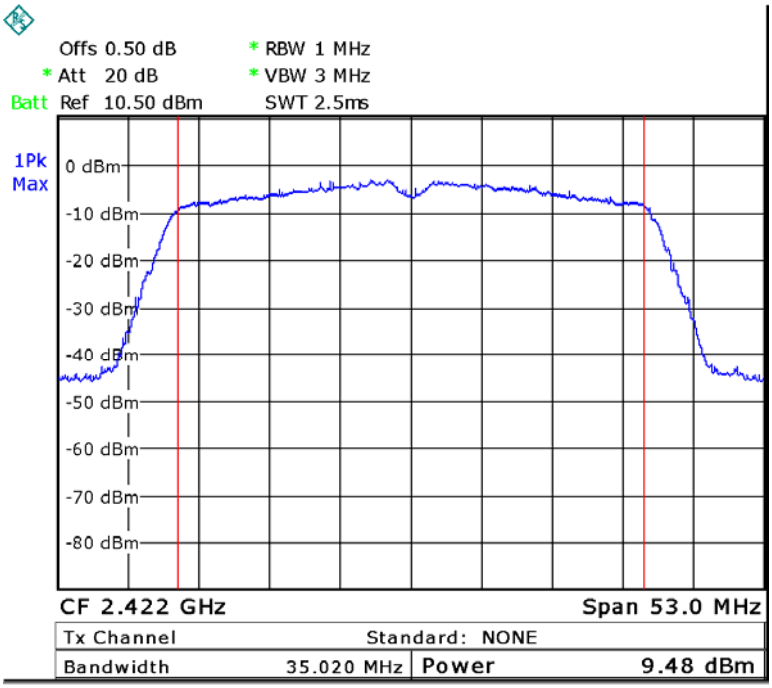
ANT1 TX 11n HT20 Middle channel



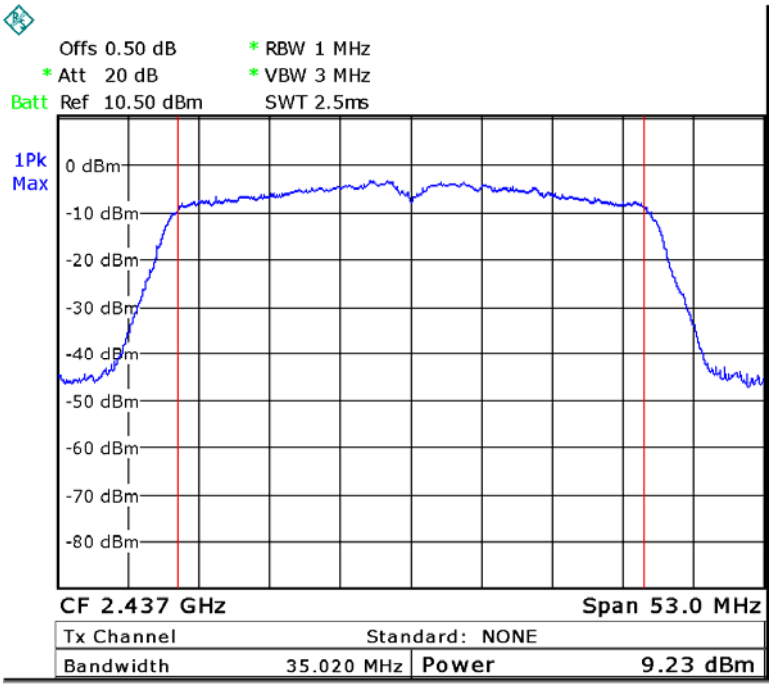
ANT1 TX 11n HT20 High channel



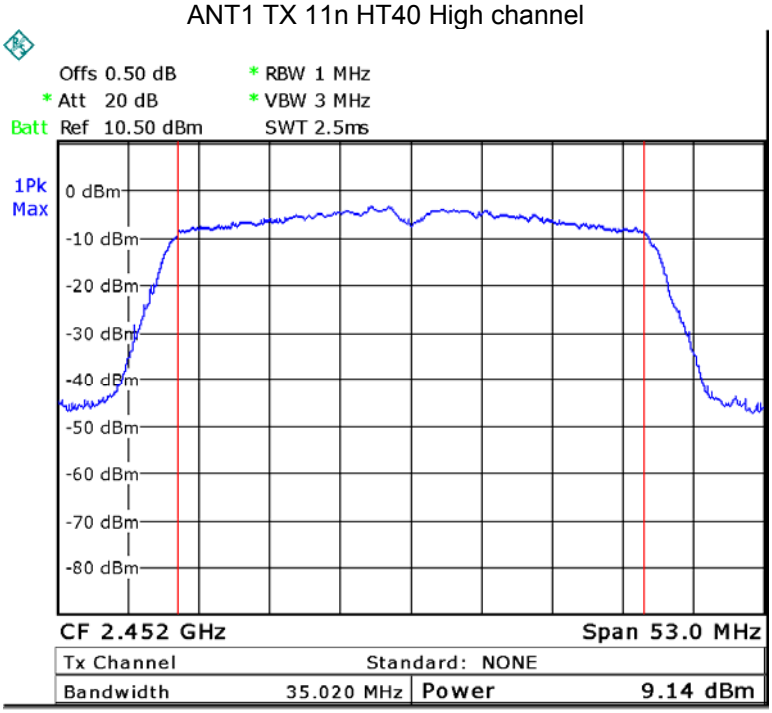
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



11 Power Spectral density

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

11.1 Test Procedure:

KDB558074 D01 DTS Meas Guidance v03r05 section 10.2

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

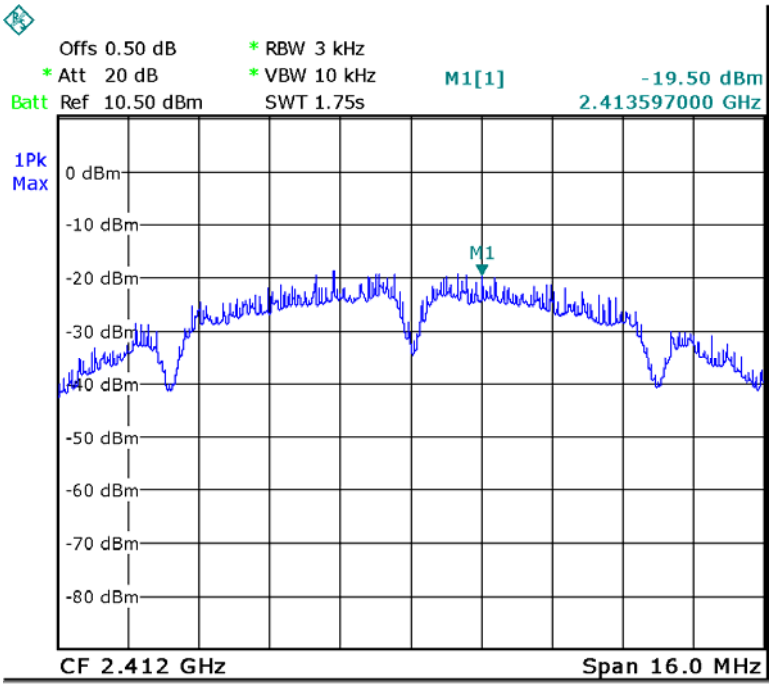
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

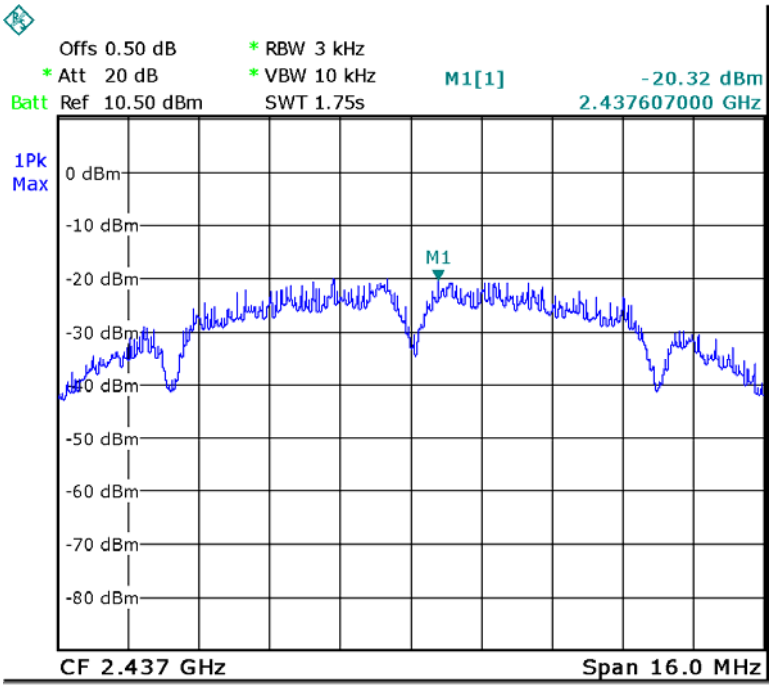
11.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm per 3kHz)		
		Low	Middle	High
11b	ANT0	-19.50	-20.32	-17.90
	ANT1	-19.30	-20.32	-20.35
11g	ANT0	-26.00	-24.55	-25.00
	ANT1	-23.70	-26.10	-25.93
11n HT20	ANT0	-25.55	-25.31	-25.77
	ANT1	-25.94	-26.85	-26.74
	ANT0+ANT1	-22.73	-23.00	-23.22
11n HT40	ANT0	-29.05	-28.83	-27.88
	ANT1	-29.16	-29.35	-28.75
	ANT0+ANT1	-26.09	-20.96	-21.21
Limit				
(8 dBm per 3kHz)				

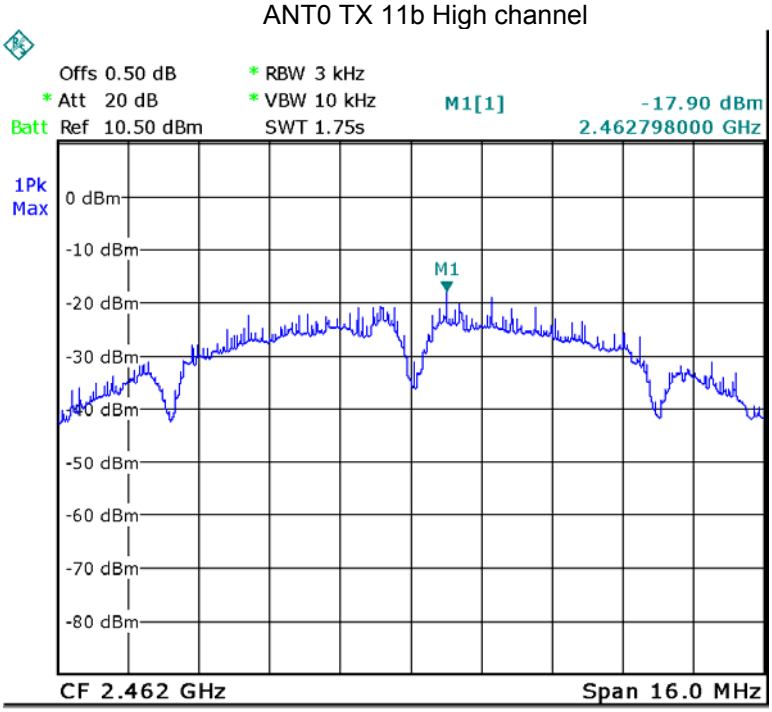
ANT0 TX 11b Low channel



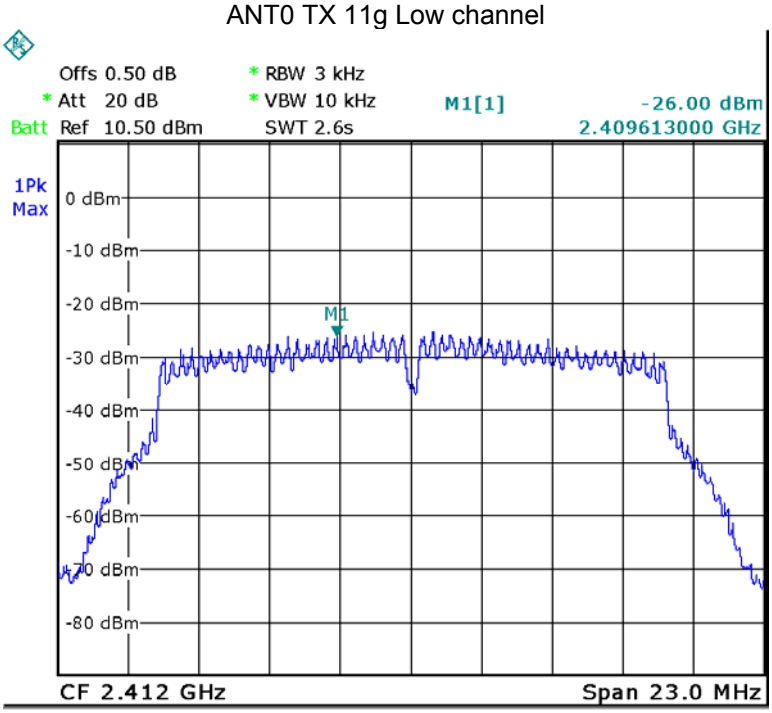
ANT0 TX 11b Middle channel



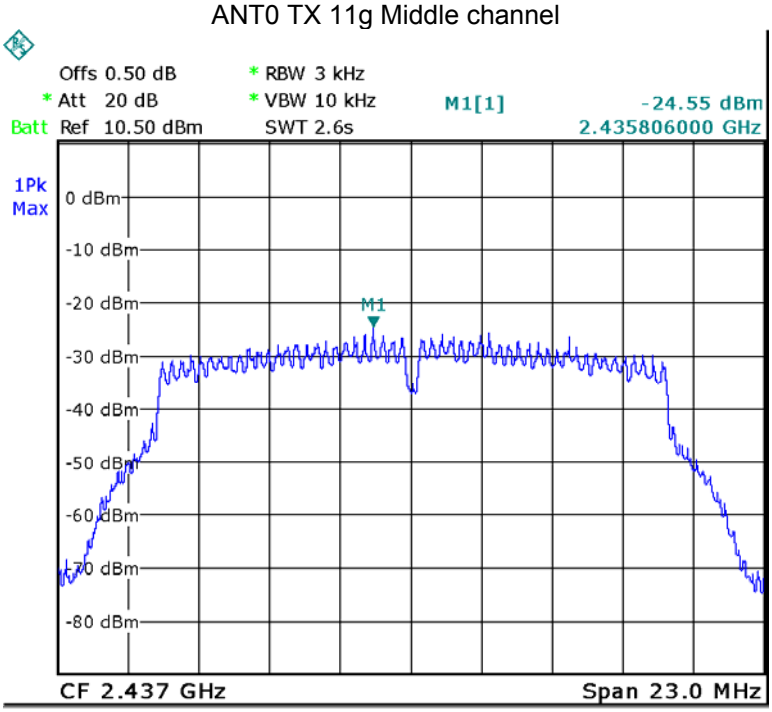
ANT0 TX 11b High channel



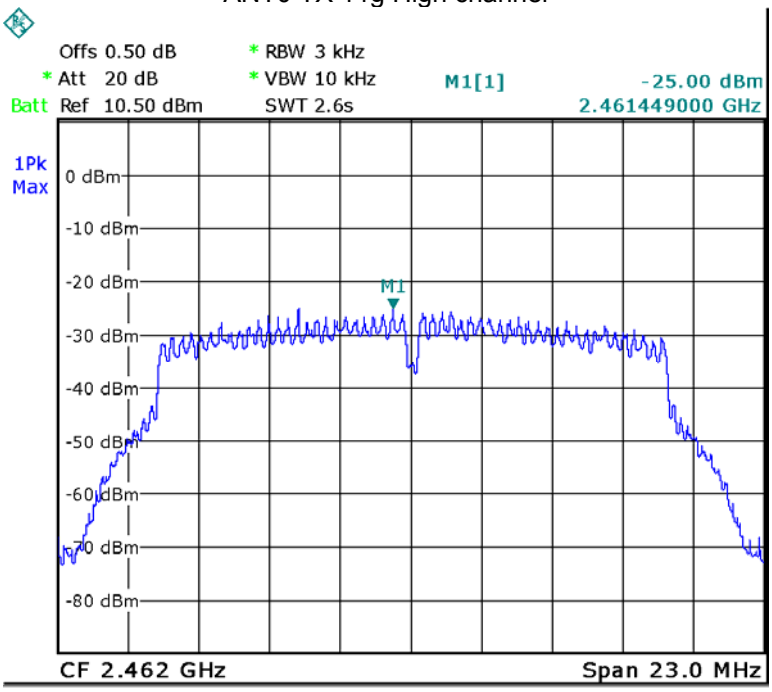
ANT0 TX 11g Low channel



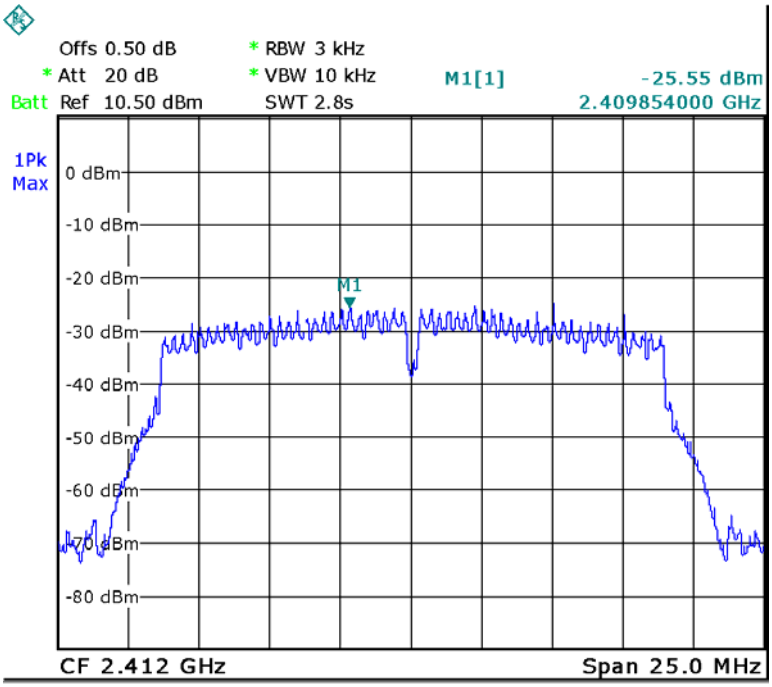
ANT0 TX 11g Middle channel



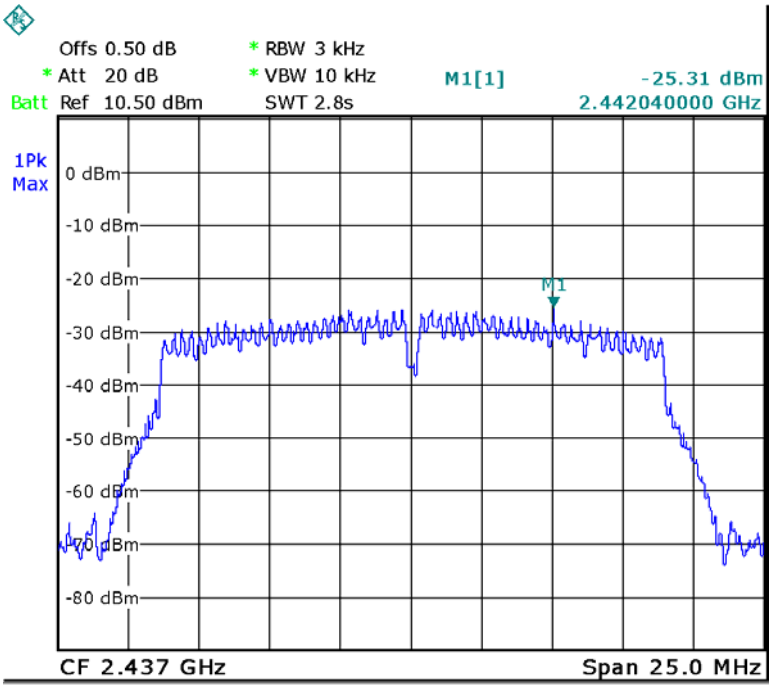
ANT0 TX 11g High channel



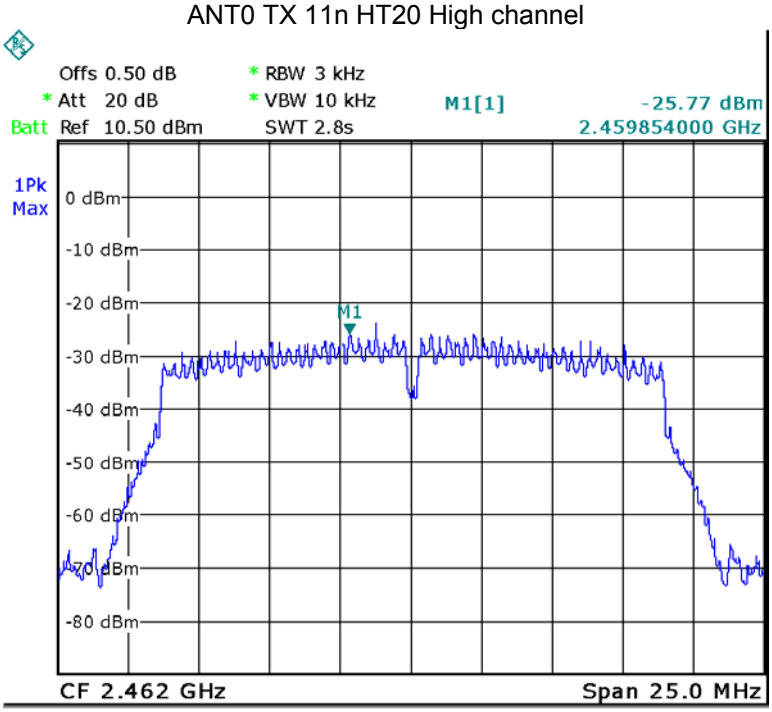
ANT0 TX 11n HT20 Low channel



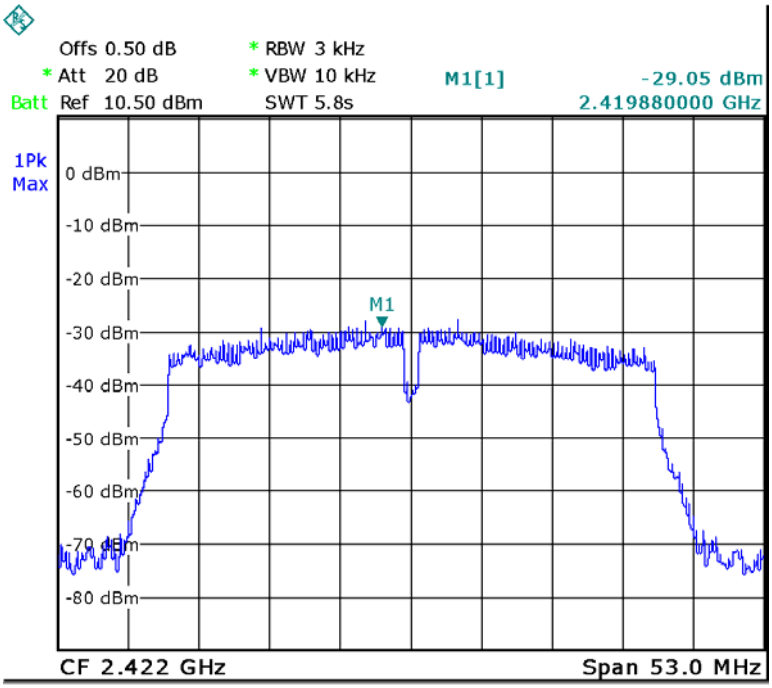
ANT0 TX 11n HT20 Middle channel



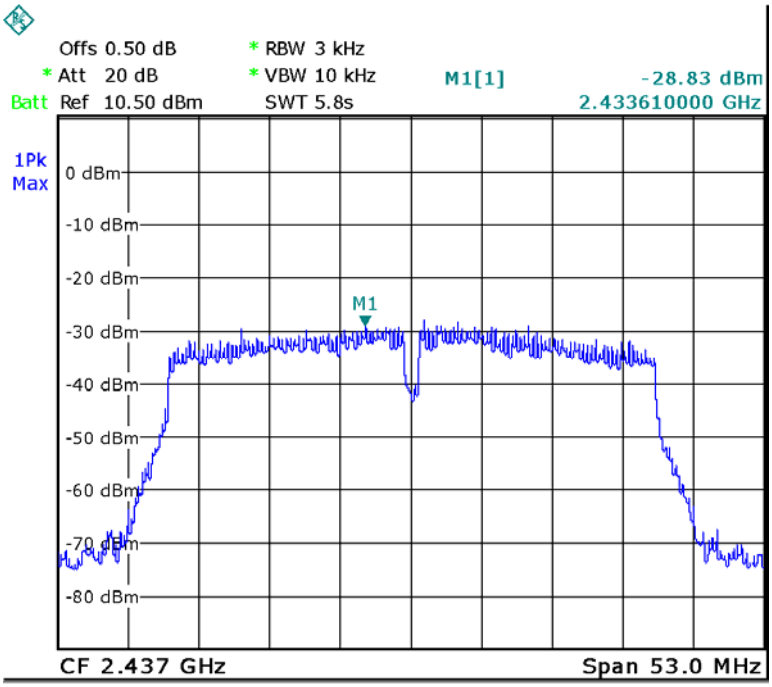
ANT0 TX 11n HT20 High channel



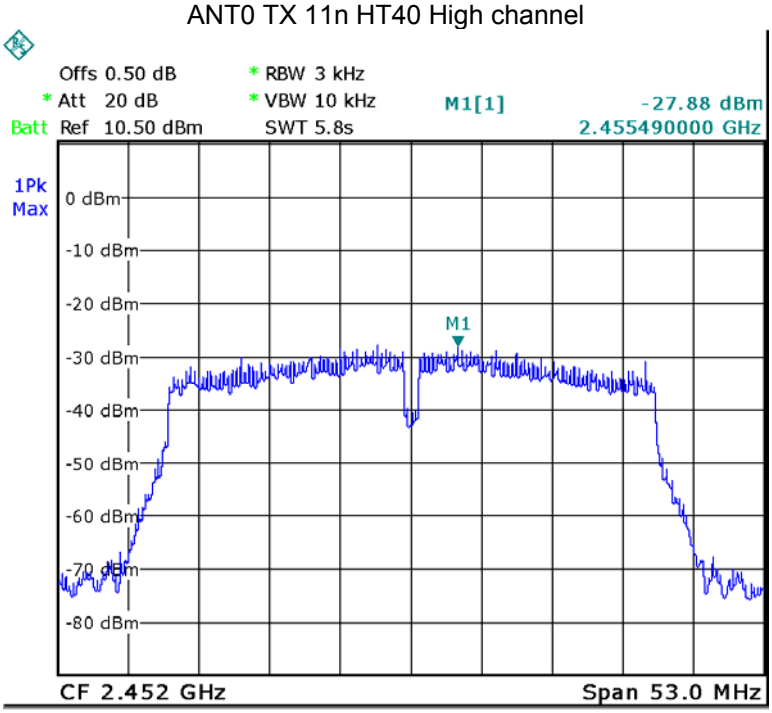
ANT0 TX 11n HT40 Low channel



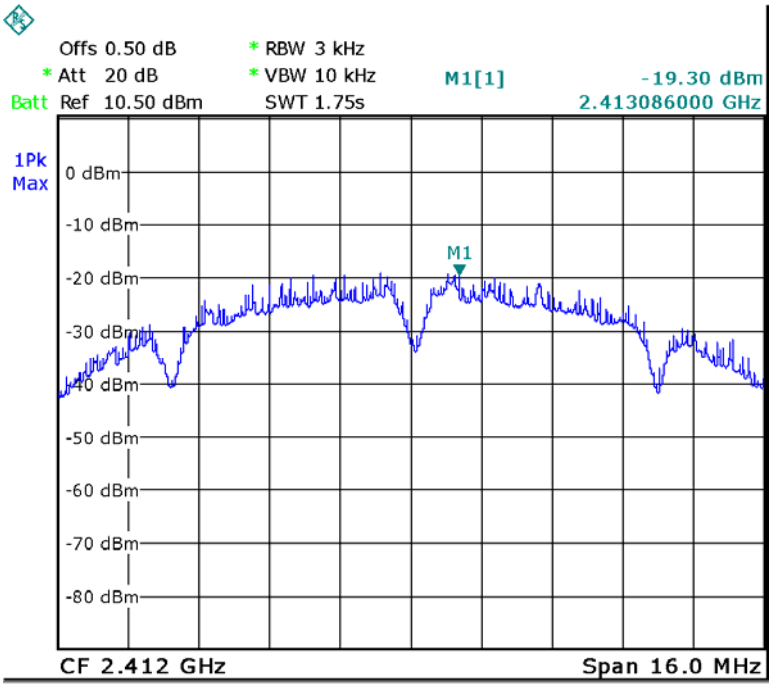
ANT0 TX 11n HT40 Middle channel



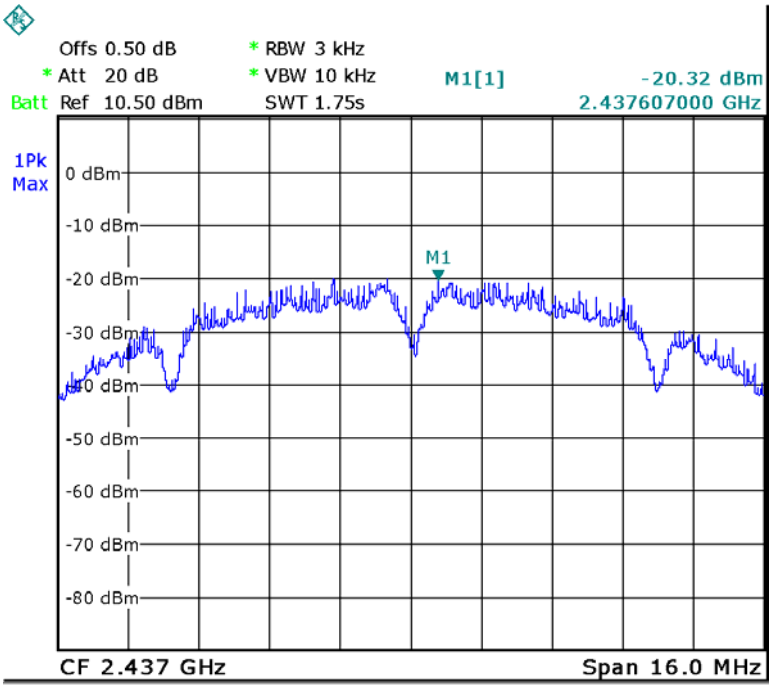
ANT0 TX 11n HT40 High channel



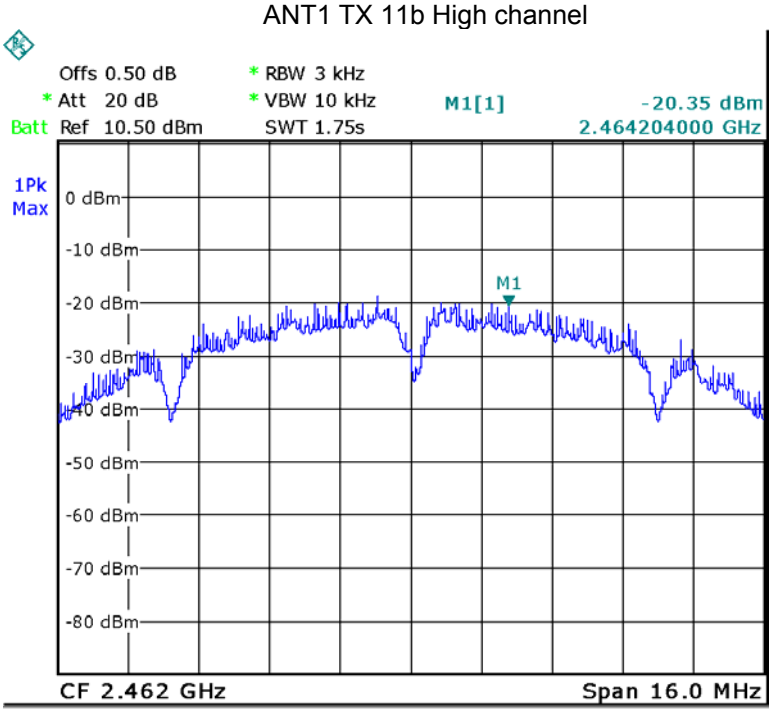
ANT1 TX 11b Low channel



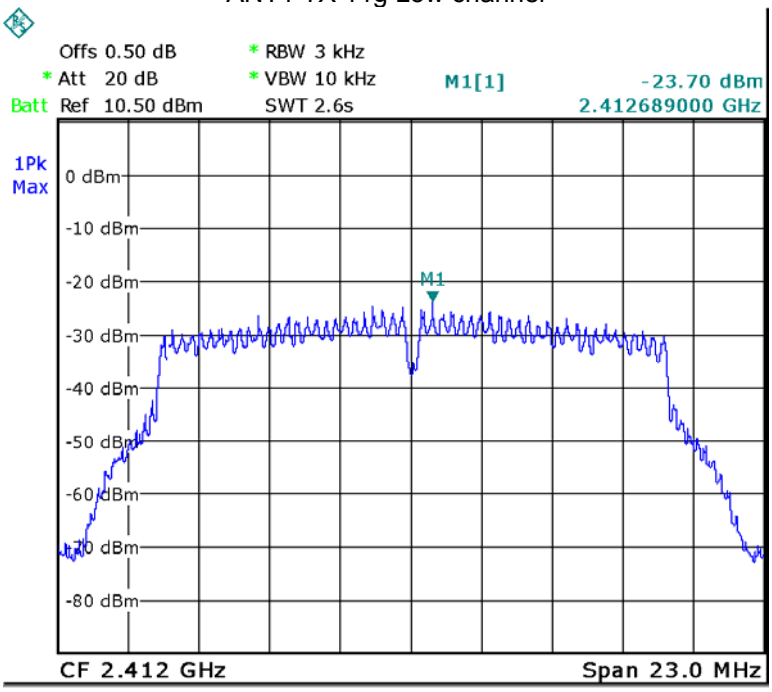
ANT1 TX 11b Middle channel



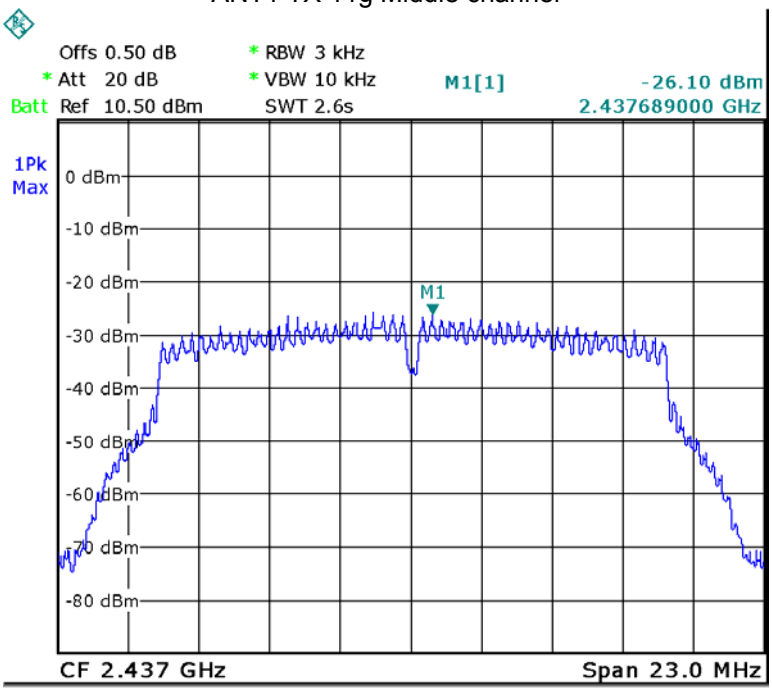
ANT1 TX 11b High channel



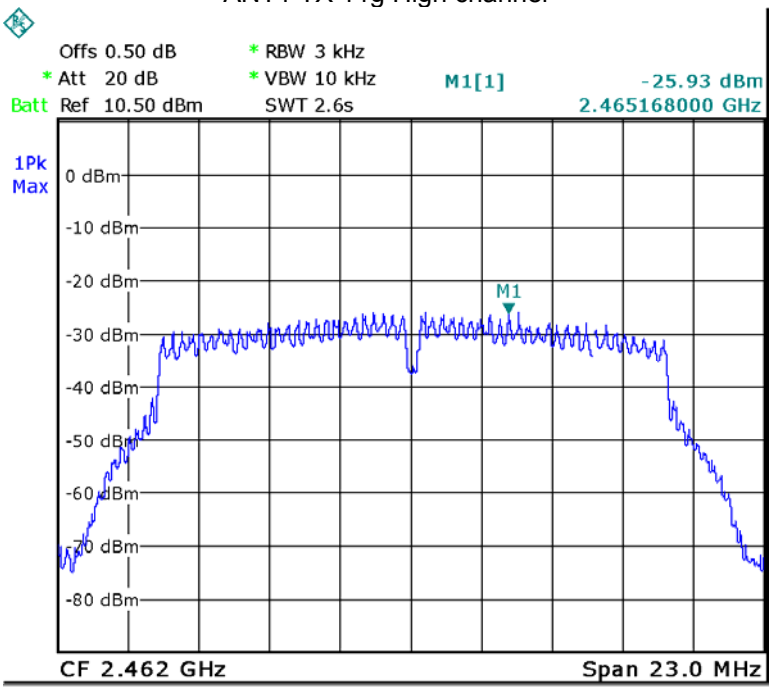
ANT1 TX 11g Low channel



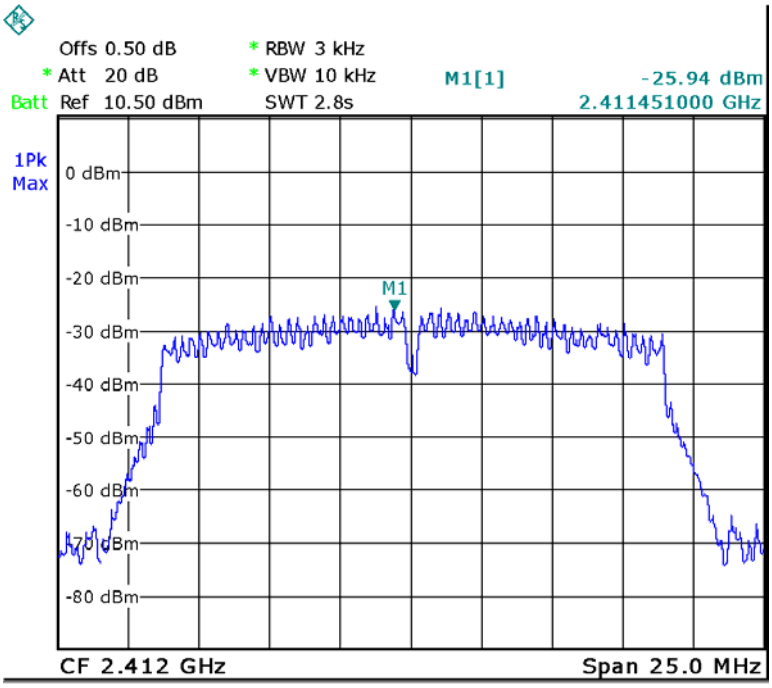
ANT1 TX 11g Middle channel



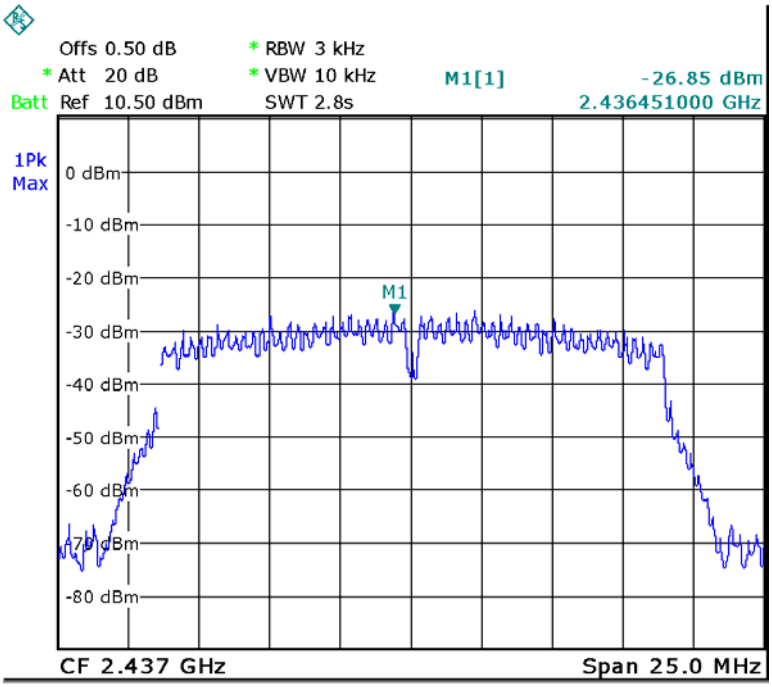
ANT1 TX 11g High channel



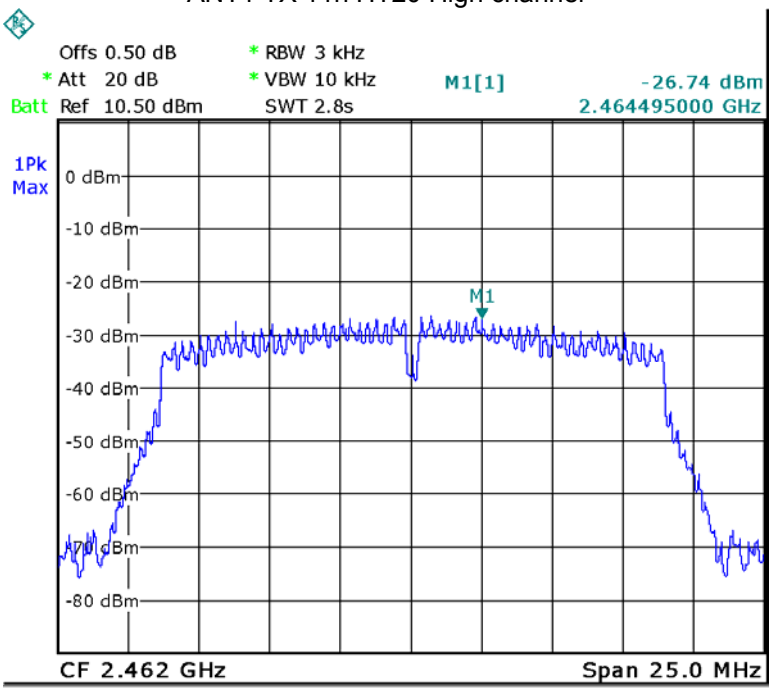
ANT1 TX 11n HT20 Low channel



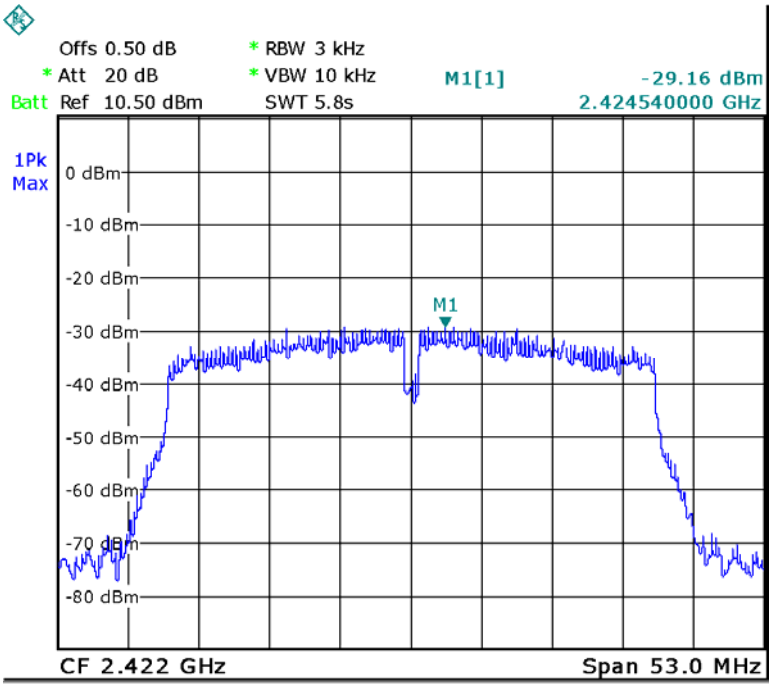
ANT1 TX 11n HT20 Middle channel



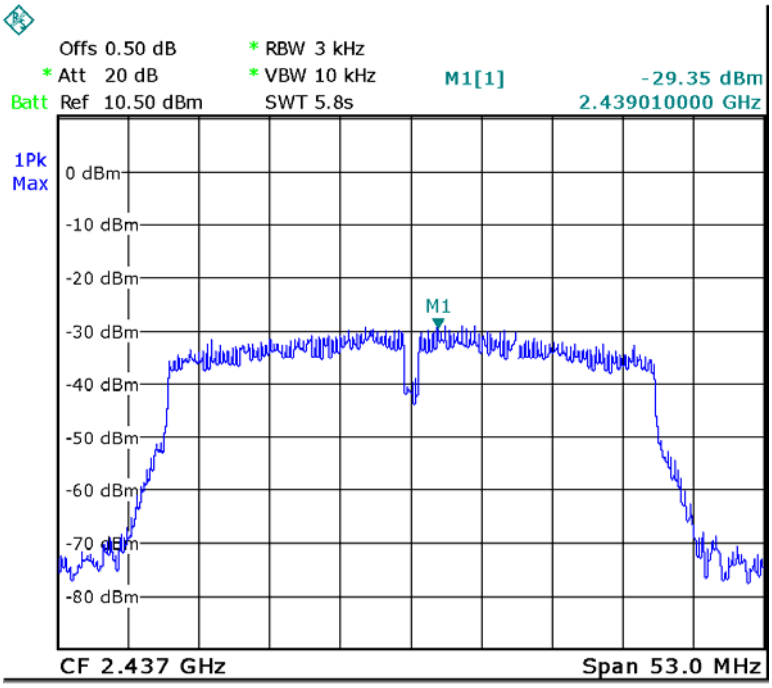
ANT1 TX 11n HT20 High channel



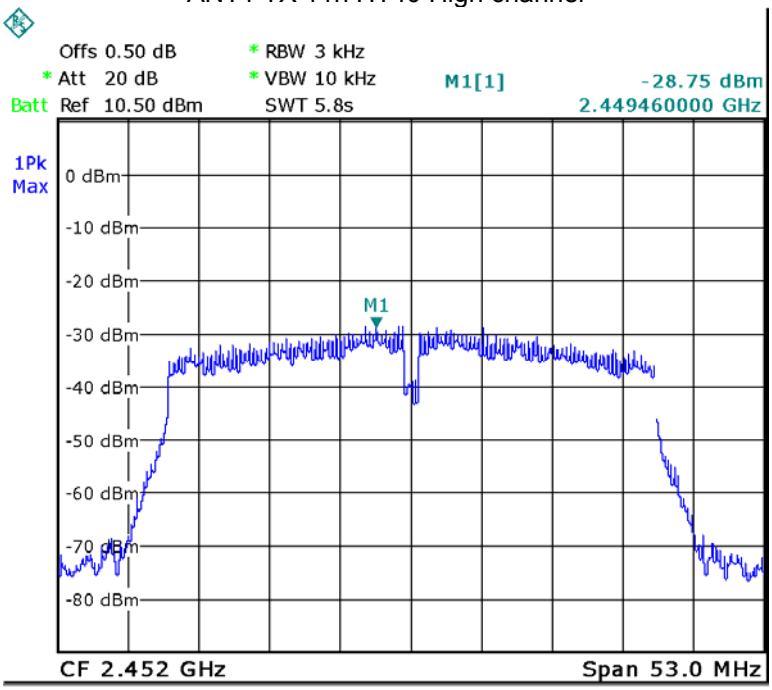
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



12 Antenna Requirement

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

This device uses of two antennas that uses a SMD component coupling to the intentional radiator.

13 RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method 447498 D01 General RF Exposure Guidance v05r02

13.1 Requirements

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances

14 Photographs – Model IB-InvizBoxGo-v1.0Test Setup

14.1 Photograph – Conducted Emission Test Setup at Test Site 1#

14.2 Photograph – Radiation Spurious Emission Test Setup

Below 30MHz at Test Site 2#

30MHz-1GHz at Test Site 2#

Above 1GHz at Test Site 1#

15 Photographs - Constructional Details

15.1 Model IB-InvizBoxGo-v1.0 - External Photos

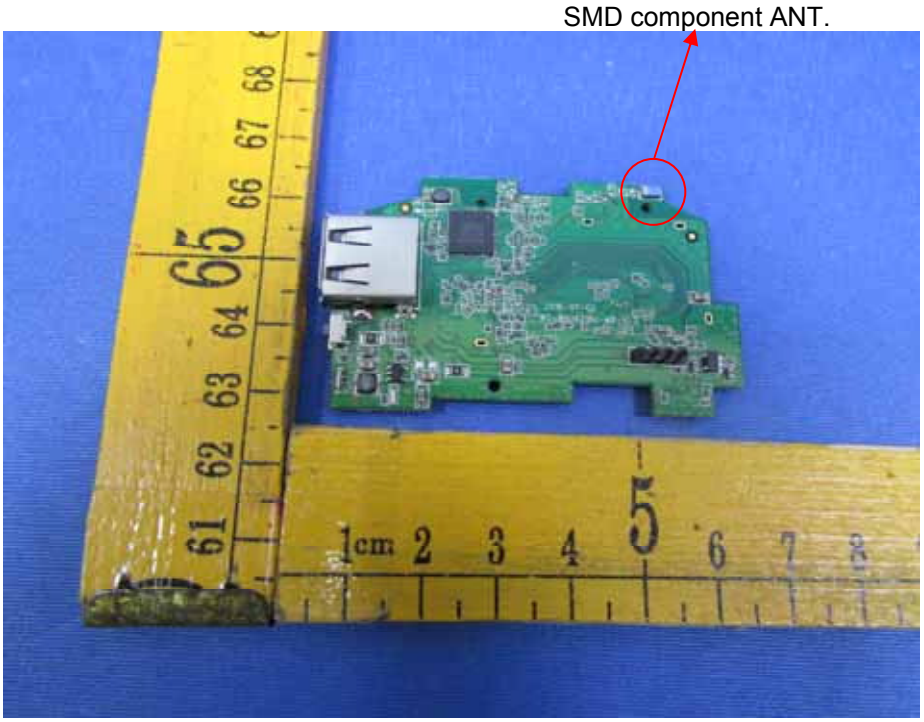
1cm 2 3 4 5 6 7 8 9 10 11 12 13 14
61 62 63 64 65 66 67 68 69 70

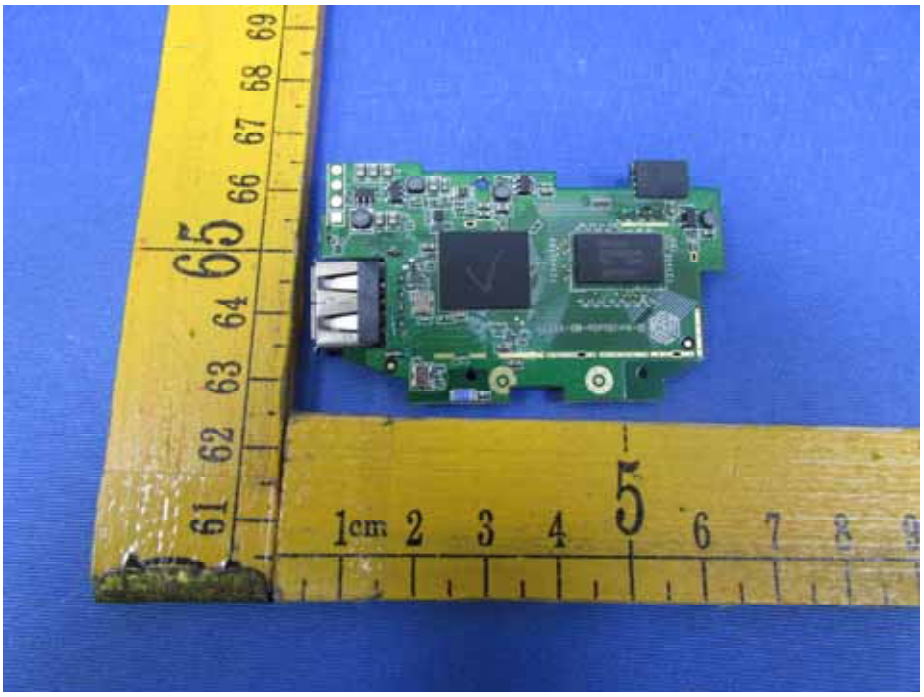
1cm 2 3 4 5 6 7 8 9 10 11 12 13 14
61 62 63 64 65 66 67 68 69 70

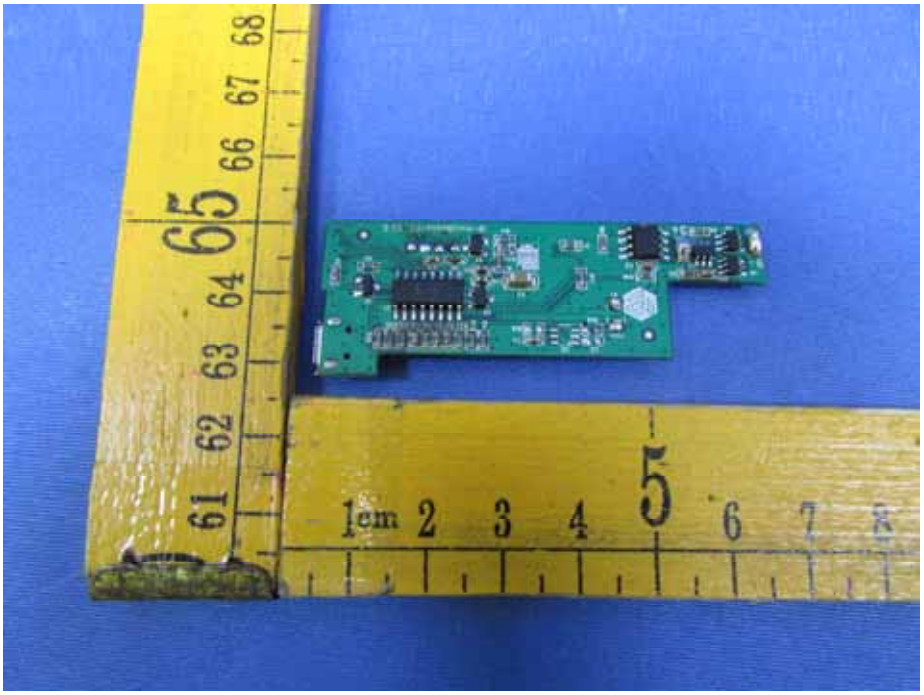
1cm 2 3 4 5 6 7 8 9 10 11 12
61 62 63 64 65 66 67 68 69 70

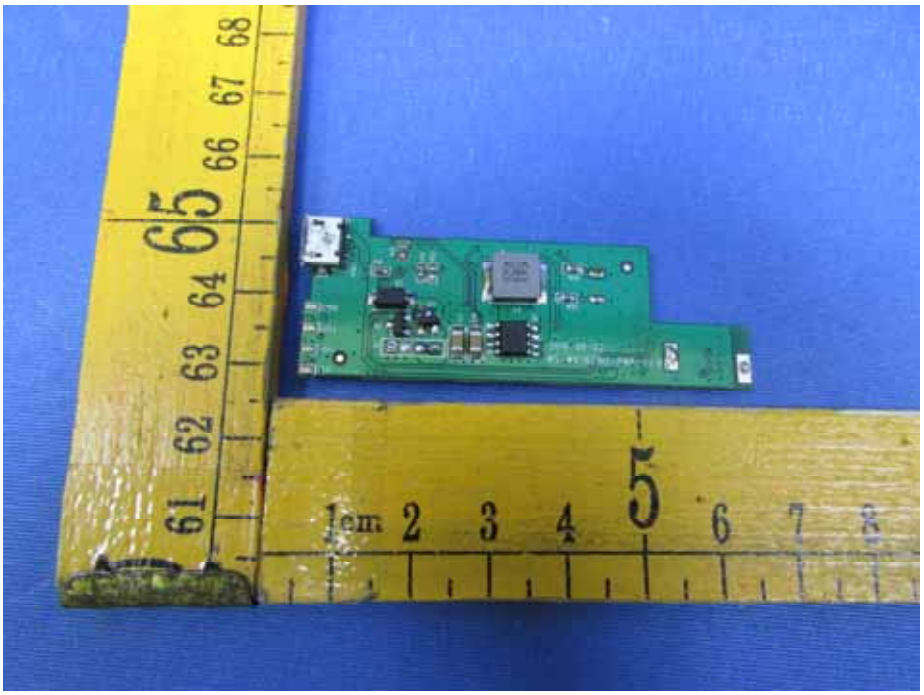
1cm 2 3 4 5 6 7 8 9 10 11 12
61 62 63 64 65 66 67 68 69 70

15.2 Model IB-InvizBoxGo-v1.0 - Internal Photos

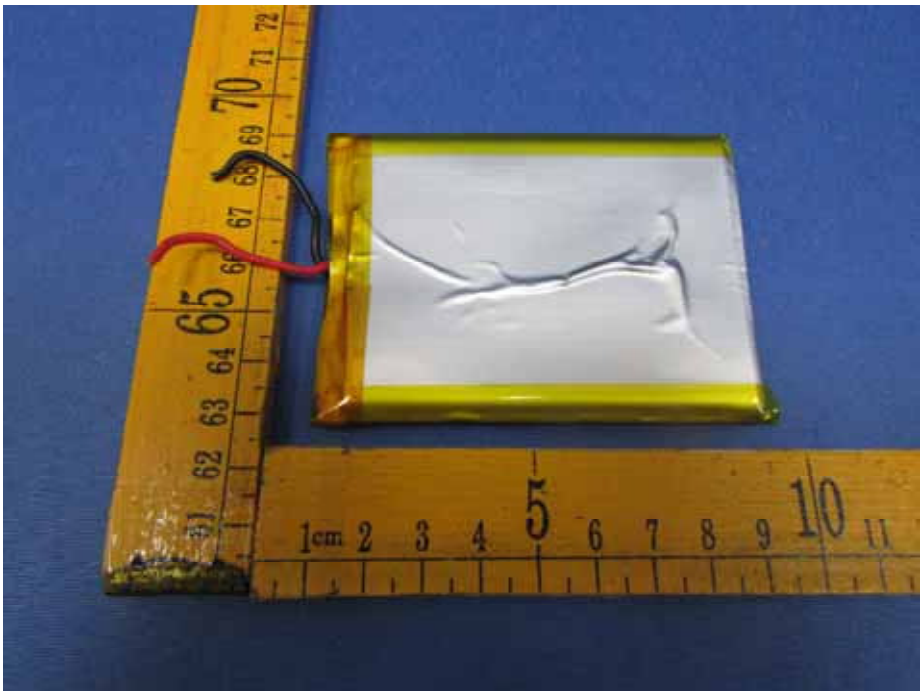



69
68
67
66
65
64
63
62
61
1cm 2 3 4 5 6 7 8


68
67
66
65
64
63
62
61
1cm 2 3 4 5 6 7 8



755385
70 5000mAh 18.5Wh
+ 15626 SPI



======End of Report======