



Shenzhen Asia Test Technology Co., Ltd.

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FCC RADIO TEST REPORT

FCC ID: 2AB6C-870

Product : wireless Baby Monitor

Trade Name : N/A

Model Name : 870

Serial Model : N/A

Prepared for

Shenzhen Seepower Electronics Co.,LTD
3 floor, 9 Building, Guoxia industrial area Sanlian village, Longhua
Subdistrict, Baoan town, shenzhen, China

Prepared by

Shenzhen Asia Test Technology Co.,Ltd.
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TEST RESULT CERTIFICATION

Manufacturer's Name.... Shenzhen Seepower Electronics Co.,LTD

Address..... 3 floor, 9 Building, Guoxia industrial area Sanlian village, Longhua Subdistrict, Baoan town, shenzhen, China

Product description

Product name..... wireless Baby Monitor

Model and/or type 870
reference

Additional Model..... N/A

Standards..... FCC Part15.247

Test procedure..... ANSI C63.10-2013

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

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Date of Test.....

Date (s) of performance of tests..... Jun. 01 2017 ~Jun. 21 2017

Date of Issue..... Jun. 22 2017

Test Result..... **Pass**

Testing Engineer : _____

Jack Yu

(Jack Yu)

Technical Manager : _____

Jerry You

(Jerry You)

Authorized Signatory : _____

Can Liu

(Can Liu)



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SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Test Item	FCC Part No.	Requirements	Verdict
DTS (6 dB) Bandwidth	15.247(a)(2)	≥ 500 kHz.	PASS
Maximum Peak Conducted Output Power	15.247(b)(3)	For directional gain:< 30dBm – (G[dBi] –6 [dB]),peak; Otherwise :< 30dBm, peak.	PASS
Transmitter Power Spectral Density	15.247(e)	For directional gain :< 8dBm/3 kHz – (G[dBi] –6[dB]), peak. Otherwise :< 8dBm/3 kHz, peak.	PASS
Conducted Out of band emission measurement	15.247(d)	< -20dB/100 kHz if total peak power \leq power limit.	PASS
Spurious Radiated Emissions	15.247(d) 15.209 15.35(b)	FCC Part 15.209&15.35(b) field strength limit;	PASS
AC Power Line Conducted Emissions	15.207	FCC Part 15.207 conducted limit;	PASS

NOTE:

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

Summary of measurement results

Test Specification clause	Test case	Test Mode	Test Channel	Recorded In Report			Pass	Fail	NA	NP	Remark
§15.247(b)(4)	Antenna gain	802.11b	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies	
§15.247(e)	Power spectral density	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies	
§15.247(a)(2)	Spectrum bandwidth – 6 dB bandwidth	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies	
§15.247(b)(3)	Maximum output power	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies	
§15.247(d)	Band edge compliant	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies	

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	ce conducted									
§15.20 5	Band edge compliance radiated	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.24 7(d)	TX spurious emissions conducted	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.24 7(d)	TX spurious emissions radiated	802.11b 802.11g 802.11n HT20	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	802.11b	<input checked="" type="checkbox"/> Lowest <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> Highest	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.10 9	RX spurious emissions radiated	-/-	-/-	-/-	-/-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.20 9(a)	TX spurious Emissions radiated < 30 MHz	802.11b	-/-	802.11b	-/-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.10 7(a) §15.20 7	Conducted Emissions < 30 MHz	802.11b	-/-	802.11b	-/-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies



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TEST FACILITY

Shenzhen Asia Test Technology Co.,Ltd.

7 / F, Xinwei Building, Gushu Village, Xixiang Town, Baoan District, Shenzhen, China

FCC Registration No.: 348715

MEASUREMENT UNCERTAINTY

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

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



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. GENERAL INFORMATION

GENERAL DESCRIPTION OF EUT

Equipment	wireless Baby Monitor
Model Name	870
Serial number	N/A
Serial Model	N/A
Model Difference	N/A
WLAN FCC Operation frequency	IEEE 802.11b:2412-2462MHz IEEE 802.11g:2412-2462MHz IEEE 802.11n HT20:2412-2462MHz
WLAN FCC Modulation Type	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna	0dbi, PCB antenna
Ratings	DC 5V, 1A
Adapter	M/N:SBJ-001 Input:100-240V~, 50/60Hz, 0.18A Output:5Vdc, 1A
Battery	N/A
HW:	N/A
SW:	N/A



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DESCRIPTION OF TEST MODES

IEEE 802.11b/g/n: The product support thirteen channels but only use Eleventh channels in USA.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432		
6	2437		
7	2442		

TEST MODES

Test Case	Test Conditions	
	Configuration	Description
DTS (6 dB) Bandwidth	Measurement Method	FCC KDB 558074 §8.2 Option 2
	Test Environment	NTNV
	EUT Configuration	11b_L,11b_M,11b_H 11g_L,11g_M,11g_H 11n HT20_L, 11n HT20_M, 11n HT20_H
Maximum Peak Conducted Output Power	Measurement Method	FCC KDB 558074§9.1.2
	Test Environment	NTNV
	Test Setup	Test Setup 1
	EUT Configuration	11b_L,11b_M,11b_H 11g_L,11g_M,11g_H 11n HT20_L, 11n HT20_M, 11n HT20_H
	Measurement Method	FCC KDB 558074 §10.2 (peak PSD).
Maximum Power Spectral Density Level	Test Environment	NTNV
	EUT Configuration	11b_L,11b_M,11b_H 11g_L,11g_M,11g_H 11n HT20_L, 11n HT20_M, 11n HT20_H
	Measurement Method	FCC KDB 558074§11.0.
Unwanted Emissions into Non-Restricted Frequency Bands	Test Environment	NTNV
	Test Setup	Test Setup 1
	EUT Configuration	11b_L,11b_M,11b_H 11g_L,11g_M,11g_H 11n HT20_L, 11n HT20_M, 11n HT20_H
	Measurement Method	FCC KDB 558074§12.2, Conducted (antenna-port).
	Test Environment	NTNV
Unwanted Emissions into Restricted Frequency Bands (Conducted)	EUT Configuration	11b_L,11b_M,11b_H 11g_L,11g_M,11g_H

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		11n HT20_L, 11n HT20_M, 11n HT20_H
Unwanted Emissions into Restricted	Measurement Method	FCC KDB 558074§12.1, Radiated(cabinet/case emissions with Impedance matching for antenna-port).
	Test Environment	NTNV
	EUT Configuration	11b_L, 11b_M, 11b_H 11g_L, 11g_M, 11g_H 11n HT20_L, 11n HT20_M, 11n HT20_H

Test Case	Test Conditions	
	Configuration	Description
AC Power Line Conducted Emissions	Measurement Method	AC mains conducted.
	Test Environment	NTNV
	EUT Configuration	11g_M (Worst Conf.).

Remark:

1. For Radiated Emissions, By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.
2. Typical working modes for each IEEE 802.11 mode are selected to perform tests. The manufacturer provide special test software(WLAN facility) to control TX duty cycle >98% for TX test. Set the output power to max(PK) as Prescribed by the manufacturer.

Test Mode	Test Modes Description
IEEE 802.11b	IEEE 802.11b with data rate of 1 Mbps using SISO mode.
IEEE 802.11g	IEEE 802.11g with data rate of 6 Mbps using SISO mode.
IEEE 802.11n HT20	IEEE 802.11n with data rate of MCS0 and bandwidth of 20MHz using SISO mode.



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EUT operation mode

Test Mode	RF Ch.	TX Freq. [MHz]	RX Freq. [MHz]	Ch. BW [MHz]
IEEE 802.11b	L	Ch No. 1 / 2412MHz	---	20
	M	Ch No. 6 / 2437 MHz	---	20
	H	Ch No. 11/ 2462MHz	---	20
IEEE 802.11g	L	Ch No. 1 / 2412MHz	---	20
	M	Ch No. 6 / 2437 MHz	---	20
	H	Ch No. 11/ 2462MHz	---	20
IEEE 802.11n HT20	L	Ch No. 1 / 2412MHz	---	20
	M	Ch No. 6 / 2437 MHz	---	20
	H	Ch No. 11/ 2462MHz	---	20

EUT configuration

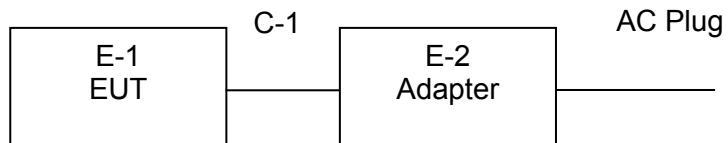
The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer

- supplied by the lab

<input type="radio"/>	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
<input type="radio"/>	Multimeter	Manufacturer :	/
		Model No. :	/

BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	wireless Baby Monitor	N/A	870	N/A	EUT
E-2	Adapter	N/A	SBJ-001	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.8m	

Note:

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



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EQUIPMENTS LIST FOR ALL TEST ITEMS

Equipment No.	Instrument	Manufacturer	Model Name	Serial Number	Specification	Cal. Data	due date
1	Semi-anechoic chamber	Changzhou Chengyu	EC3088	N/A	9*6*6m	10/25/2016	10/24/2017
2	Loop antenna	ZHINAN	ZN30900A	12037	9KHz-30MHz	10/25/2016	10/24/2017
3	Broadband antenna	R&S	VULB 9160	VULB91 60-516	30MHz-1500 MHz	10/25/2016	10/24/2017
4	Horn antenna	R&S	BBHA 9120D	10087	1GHz-18GHz	06/05/2016	10/24/2017
5	Test receiver	R&S	ESCI	101686	9KHz-3GHz	10/25/2016	10/24/2017
6	EMI Measuring Receiver	R&S	ESR	101660	9KHz-40GHz	10/25/2016	10/24/2017
7	Multi-device controller	MF	MF-7868	MF78680 8762	N/A	10/25/2016	10/24/2017
8	Amplifier	EM	EM-30180	060538	1GHz-18GHz	10/25/2016	10/24/2017
9	Amplifier	Schwarzbeck	BBV 9475	BBV 9475-663	1GHz-18GHz	06/05/2016	06/04/2017
10	Spectrum Analyzer	agilent	E4440B	US44300368	1GHz-26.5GHz	06/05/2016	06/04/2017
11	Test receiver	R&S	ESCI	101689	9KHz-3GHz	10/25/2016	10/24/2017
12	LISN	R&S	NSLK81 26	8126466	9k-30MHz	10/25/2016	10/24/2017
13	LISN	Narda	L2-16B	5589756	9k-30MHz	10/25/2016	10/24/2017
14	Power Meter	Anritsu	ML2495A	N/A	40MHz	10/25/2016	10/24/2017
15	Power sensor	Anritsu	MA2411B	N/A	40MHz	10/25/2016	10/24/2017

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16	Radiated Cable 1#	FUJIKURA	5D-2W	01	9KHz-1GHz	10/25/2016	10/24/2017
17	Radiated Cable 2#	FUJIKURA	10D2W	02	1GHz -25GHz	10/25/2016	10/24/2017
18	Conducted Cable 1#	FUJIKURA	1D-2W	01	9KHz-30MHz	10/25/2016	10/24/2017
19	SMA Antenna connector	Dosin	Dosin-SMA	N/A	N/A	10/25/2016	10/24/2017
<p>Note: The SMA antenna connector is soldered on the PCB board in order to perform conducted tests and this SMA antenna connector is listed in the equipment list. The Cal.Interval was one year</p>							



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. EMC EMISSION TEST

CONDUCTED EMISSION MEASUREMENT

POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

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

Note:

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

The following table is the setting of the receiver

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



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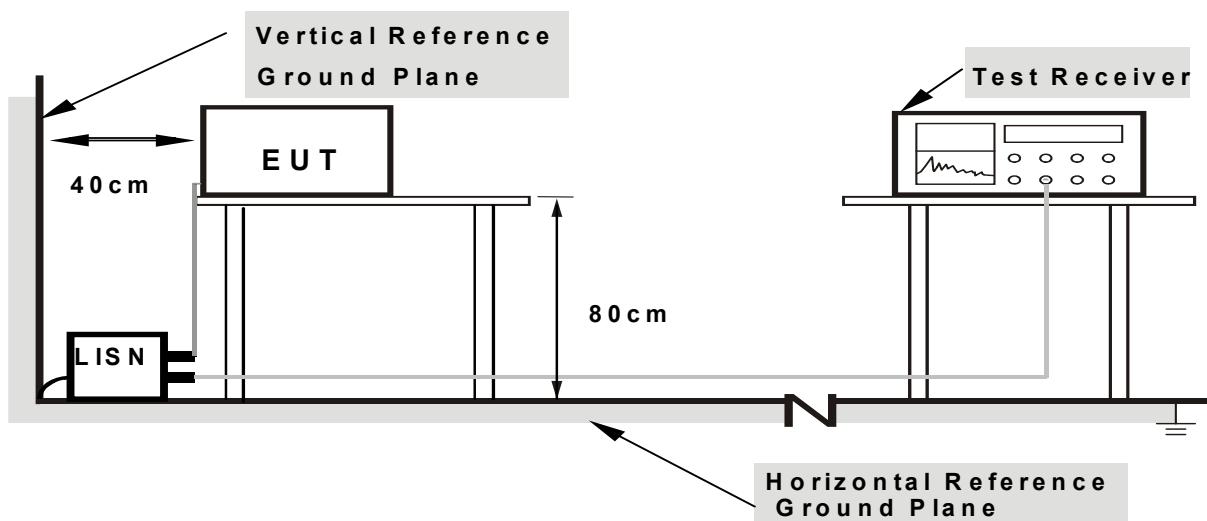
TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

DEVIATION FROM TEST STANDARD

No deviation

TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



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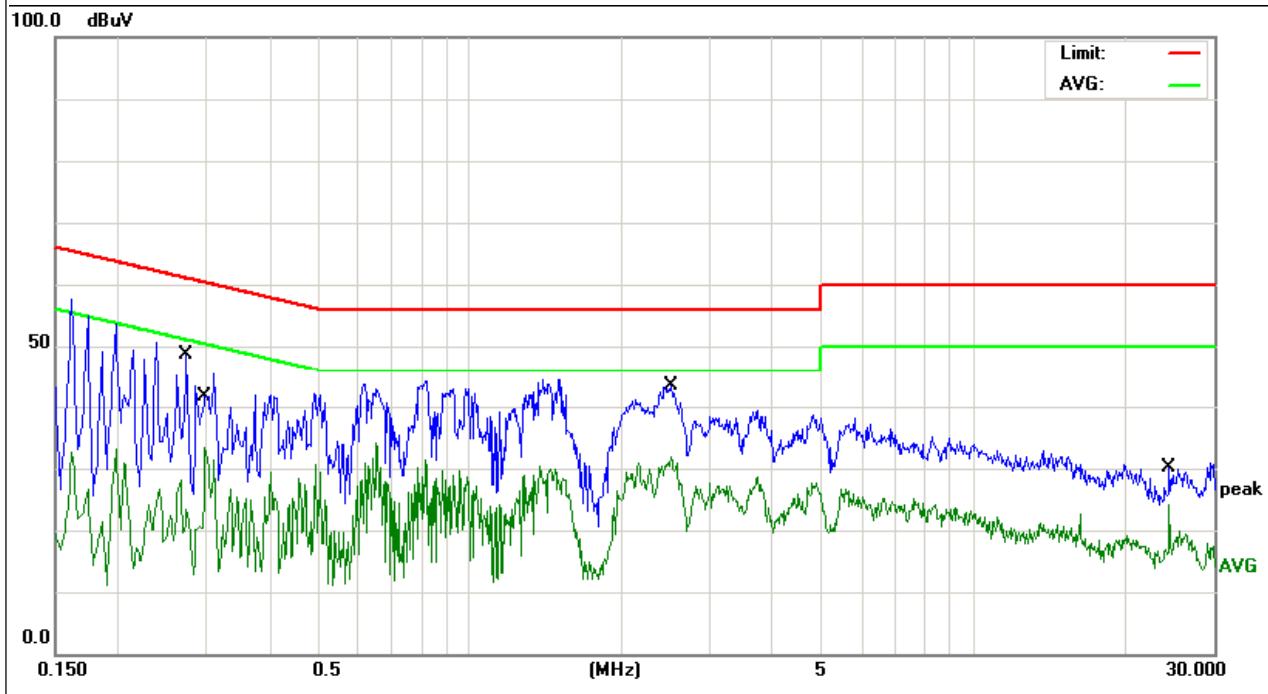
TEST RESULTS

Phase : L Test Voltage : DC 5V from adapter AC 120V/60Hz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dB	Detector	Comment
1	*	0.2740	37.81	10.81	48.62	60.99	-12.37	QP
2		0.2980	23.17	10.23	33.40	50.30	-16.90	AVG
3		2.5059	33.31	9.97	43.28	56.00	-12.72	QP
4		2.5059	21.94	9.97	31.91	46.00	-14.09	AVG
5		24.4900	18.77	11.26	30.03	60.00	-29.97	QP
6		24.4900	12.86	11.26	24.12	50.00	-25.88	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit





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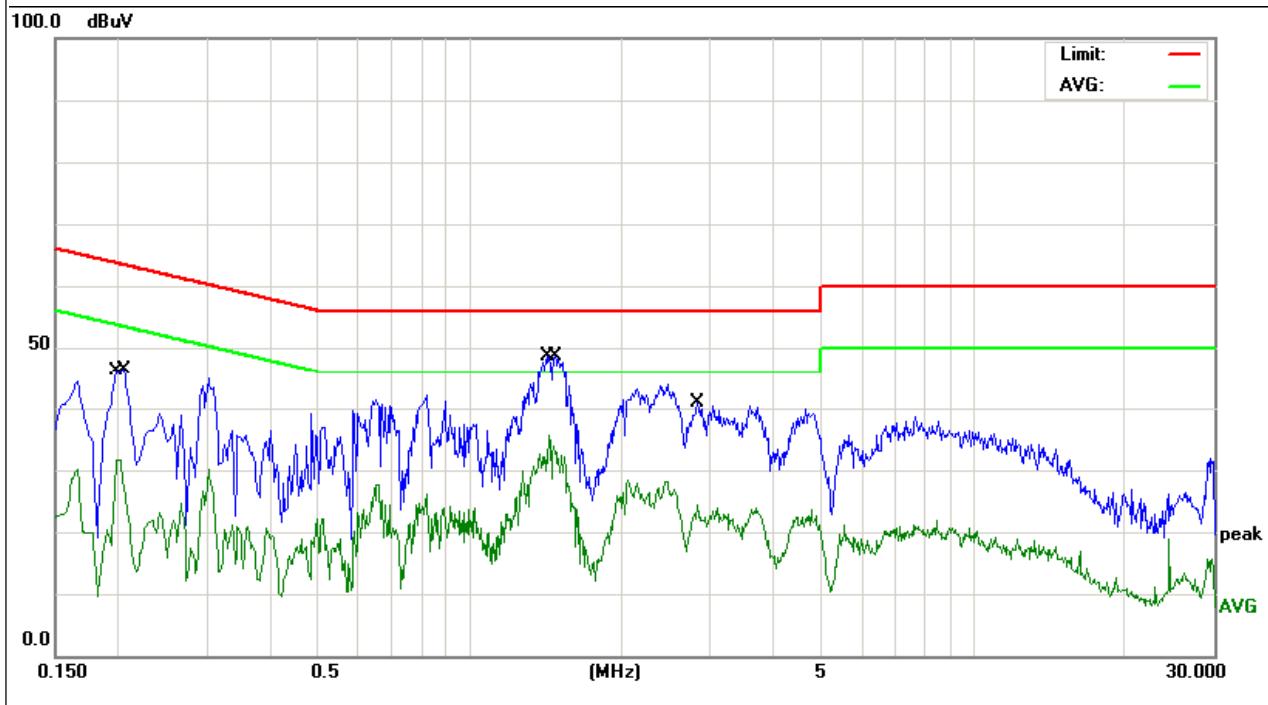
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Phase : N Test Voltage : DC 5V from adapter AC 120V/60Hz

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dB			
1		0.1980	20.41	11.16	31.57	53.69	-22.12	AVG	
2		0.2060	35.37	11.09	46.46	63.36	-16.90	QP	
3		1.4340	25.73	9.93	35.66	46.00	-10.34	AVG	
4	*	1.4780	38.82	9.93	48.75	56.00	-7.25	QP	
5		2.8300	30.93	9.99	40.92	56.00	-15.08	QP	
6		2.8300	14.35	9.99	24.34	46.00	-21.66	AVG	

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit





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RADIATED EMISSION MEASUREMENT

RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below 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

Notes:

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

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

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

TEST PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane for below 1GHz and 1.50m above ground plane for above 1GHz.



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2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. The EUT minimum operation frequency was 24MHz and maximum operation frequency was 2480MHz.so radiated emission test frequency band from 9 KHz to 25GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	3

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto	Peak
	Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

More procedure as follows;

1) Sequence of testing 9 kHz to 30 MHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premereasurement:

- The turntable rotates from 0° to 315° using 45° steps.



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--- The antenna height is 1.0 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

2) Sequence of testing 30 MHz to 1 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premereasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 4 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1 GHz to 18 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or



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described by manufacturer.

- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 2.5 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

4) Sequence of testing above 18 GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 1 meter.
- The EUT was set into operation.

Premeasurement:

- The antenna is moved spherical over the EUT in different polarizations of the antenna.

Final measurement:

- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

Field Strength Calculation

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The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$\mathbf{FS = RA + AF + CL - AG}$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude		AG = Amplifier Gain
AF = Antenna Factor		

For example

Frequency (MHz)	FS (dB μ V/m)	RA (dB μ V/m)	AF (dB)	CL (dB)	AG (dB)	Transd (dB)
300.00	40	58.1	12.2	1.6	31.90	-18.1

$$\text{Transd} = \text{AF} + \text{CL} - \text{AG}$$

DEVIATION FROM TEST STANDARD

No deviation

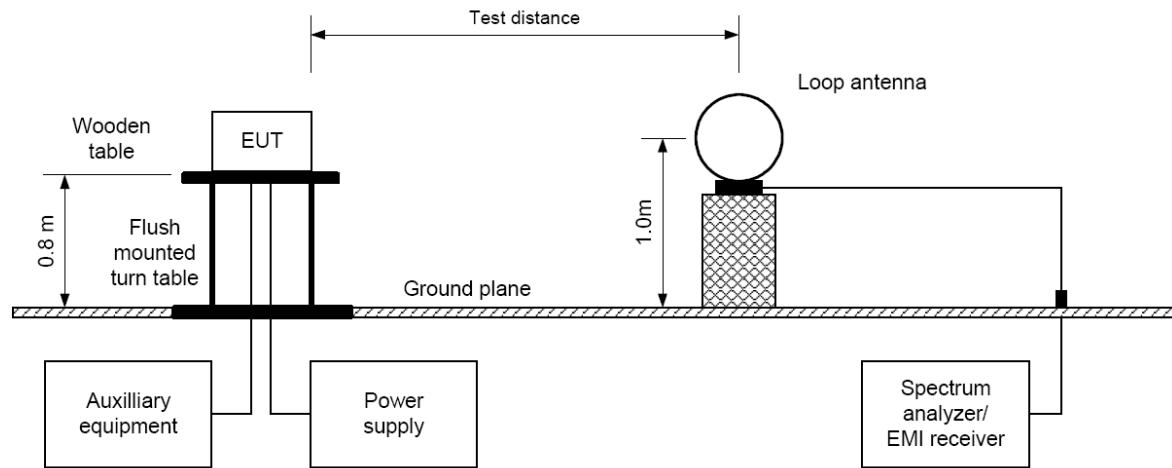


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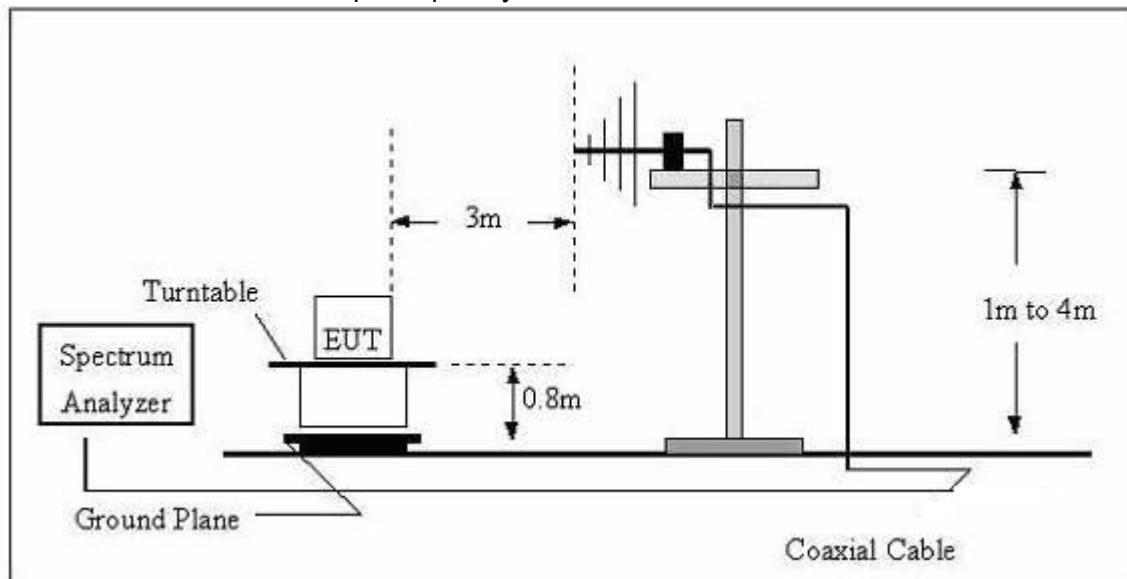
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TEST SETUP

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



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

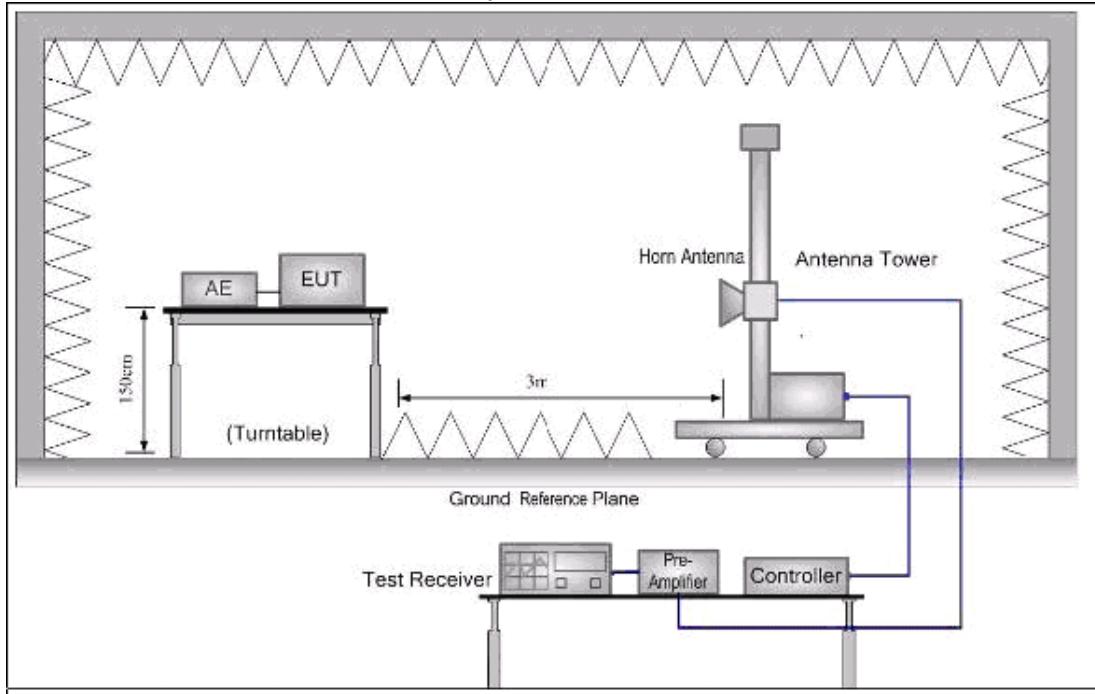




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(C) Radiated Emission Test-Up Frequency Above 1GHz



EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



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TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT:	wireless Baby Monitor	Model Name. :	870
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX	Polarization :	--

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

NOTE:

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

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})$ (dB);
Limit line = specific limits(dBuV) + distance extrapolation factor.

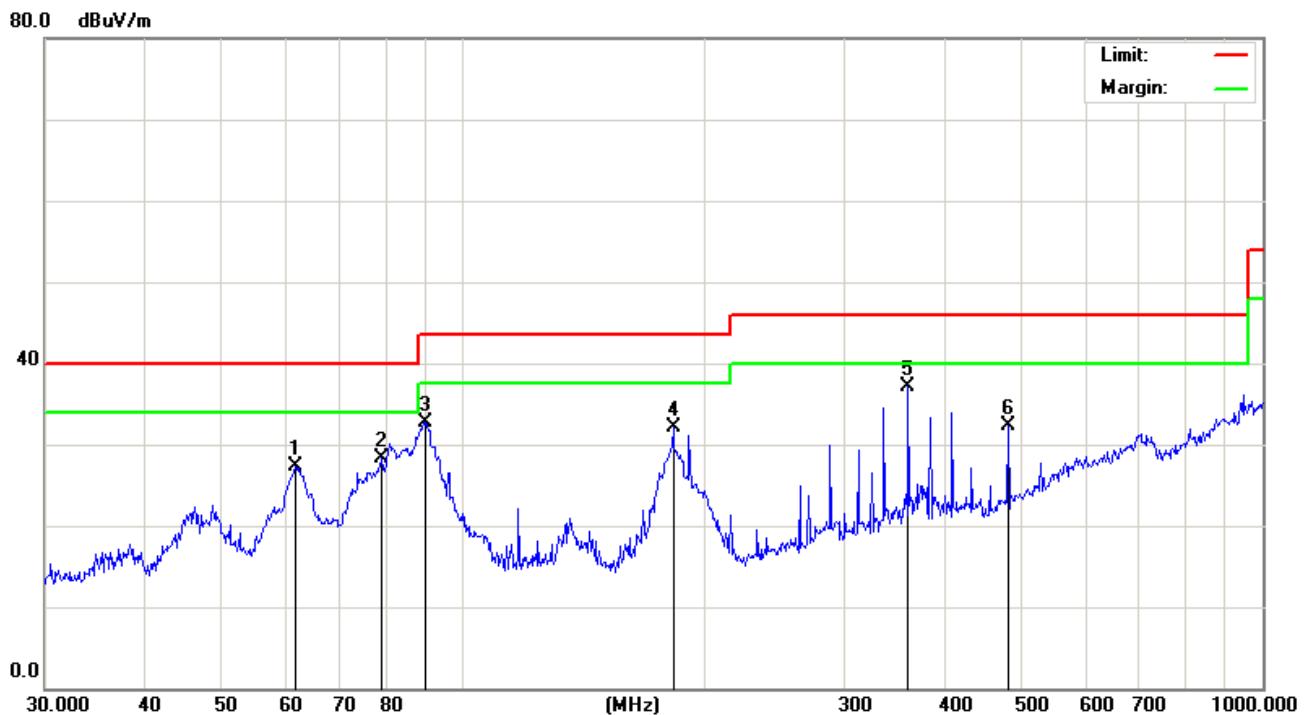


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TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

Polarization:	Horizontal	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2412		



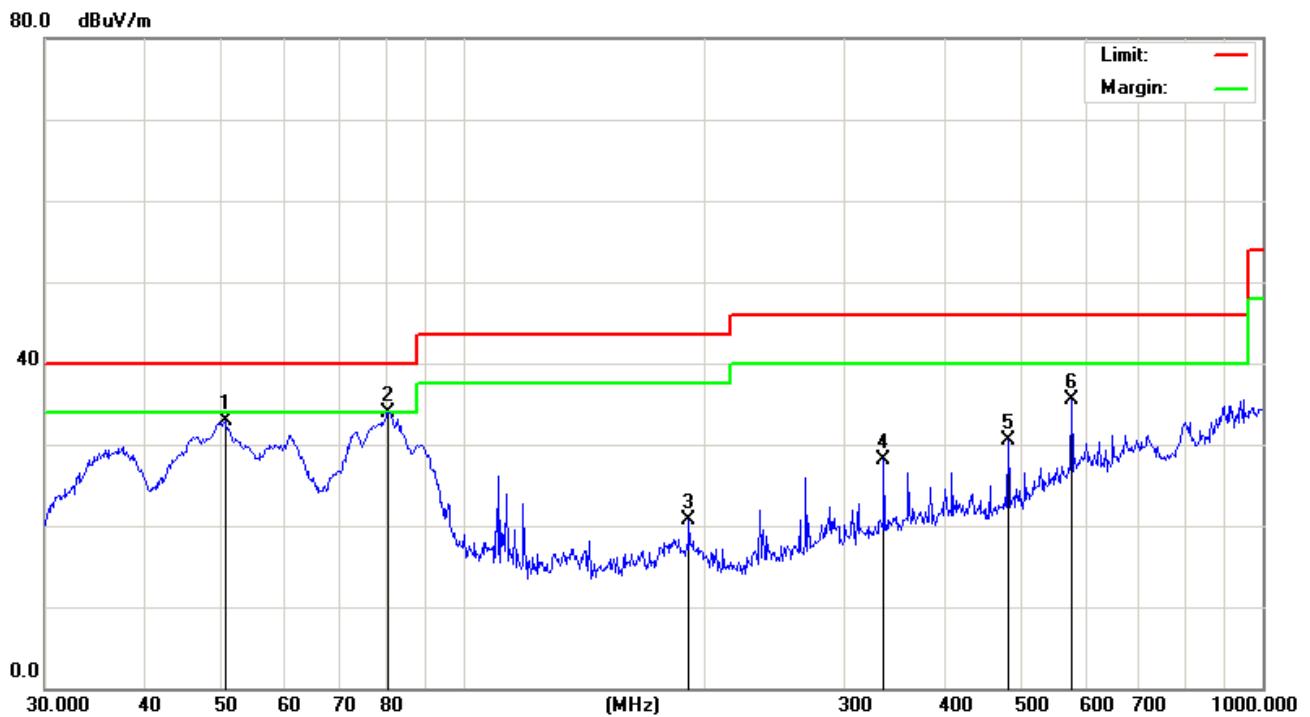
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure-ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	61.7781	45.50	-18.23	27.27	40.00	-12.73	QP			
2	79.2426	47.10	-18.82	28.28	40.00	-11.72	QP			
3	89.9047	49.58	-16.82	32.76	43.50	-10.74	QP			
4	183.2005	43.38	-11.34	32.04	43.50	-11.46	QP			
5 *	360.4476	44.78	-7.59	37.19	46.00	-8.81	QP			
6	480.5276	38.25	-5.90	32.35	46.00	-13.65	QP			



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Polarization:	Vertical	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2412		



No. Mk.	Freq. MHz	Reading Level	Correct Factor	Measure- ment	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
		dBuV	dB	dBuV/m					
1	50.4089	51.65	-18.82	32.83	40.00	-7.17	QP		
2 *	80.6442	53.04	-19.04	34.00	40.00	-6.00	QP		
3	191.7450	36.78	-16.07	20.71	43.50	-22.79	QP		
4	336.0352	36.71	-8.64	28.07	46.00	-17.93	QP		
5	480.5276	36.40	-5.90	30.50	46.00	-15.50	QP		
6	576.6443	38.29	-2.76	35.53	46.00	-10.47	QP		

Note: test perform on 802.11b/g/n mode, "802.11b TX2412" mode is the worst mode and has been reported.

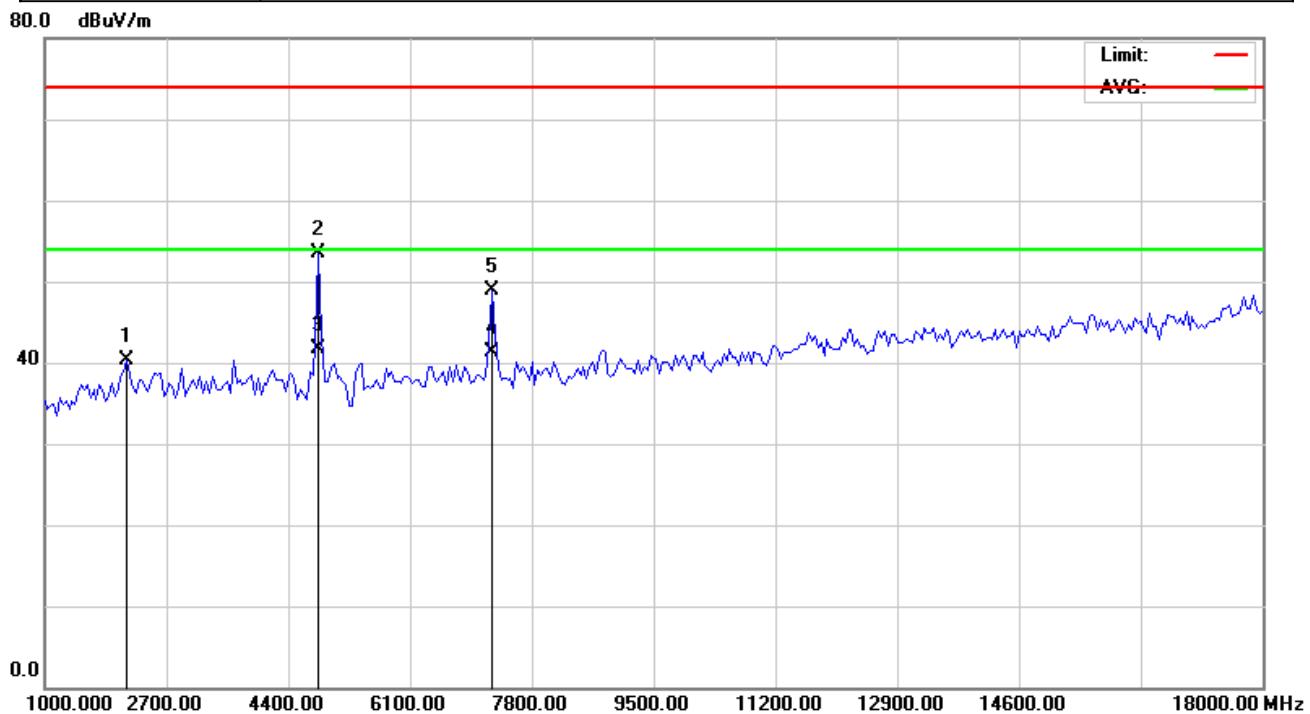


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TEST RESULTS (ABOVE 1000 MHZ)

Polarization:	Horizontal	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2412		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	2147.500	45.80	-5.50	40.30	74.00	-33.70	peak		
2	4824.000	45.44	8.14	53.58	74.00	-20.42	peak		
3 *	4824.000	33.66	8.14	41.80	54.00	-12.20	AVG		
4	7236.100	29.52	11.73	41.25	54.00	-12.75	AVG		
5	7246.100	37.11	11.77	48.88	74.00	-25.12	peak		

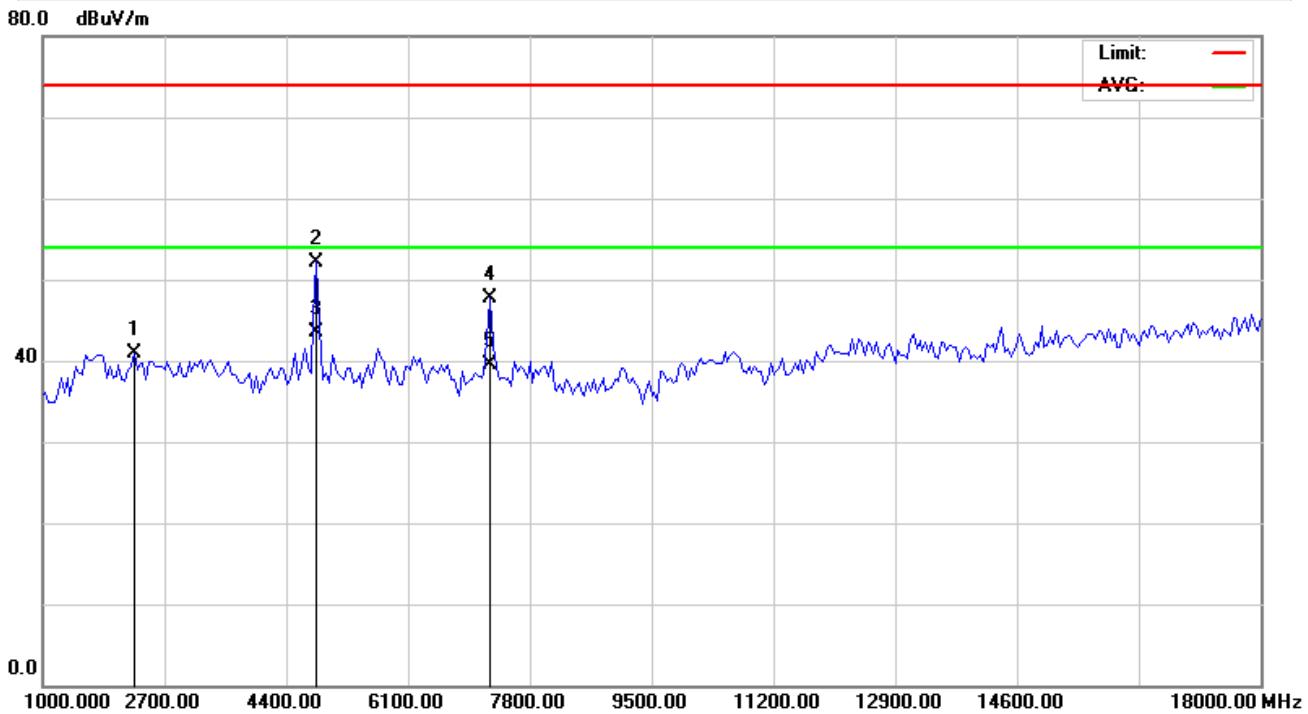
Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.



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Polarization:	Vertical	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2412		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		2275.000	45.14	-4.24	40.90	74.00	-33.10	peak			
2		4824.000	44.06	8.14	52.20	74.00	-21.80	peak			
3	*	4824.000	35.35	8.14	43.49	54.00	-10.51	AVG			
4		7236.100	35.97	11.73	47.70	74.00	-26.30	peak			
5		7236.100	27.83	11.73	39.56	54.00	-14.44	AVG			

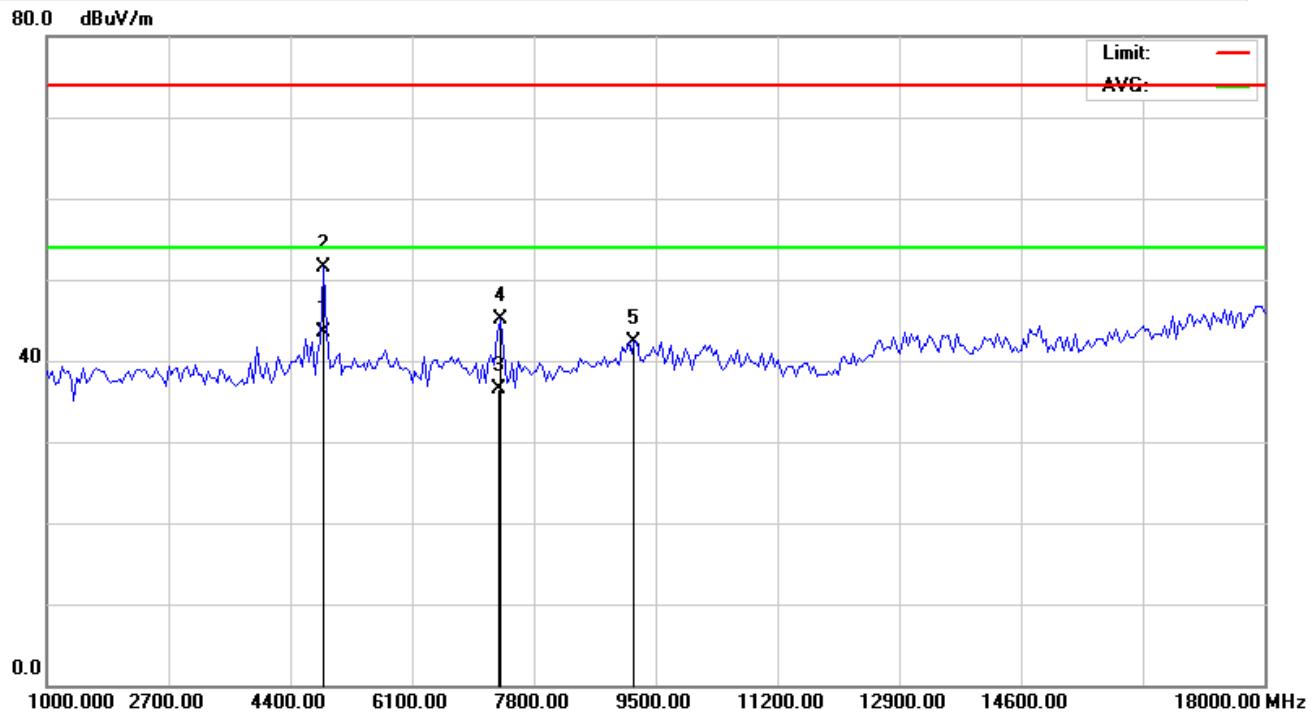
Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.



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Polarization:	Horizontal	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2437		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	Degree
			Level							
		MHz	dB _{uV}		dB	dB _{uV/m}	dB _{uV/m}	dB	Detector	cm
1	*	4874.000	35.28	8.17	43.45	54.00	54.00	-10.55	AVG	
2		4874.500	43.37	8.17	51.54	74.00	74.00	-22.46	peak	
3		7311.000	24.52	12.07	36.59	54.00	54.00	-17.41	AVG	
4		7332.500	32.88	12.16	45.04	74.00	74.00	-28.96	peak	
5		9202.500	25.86	16.54	42.40	74.00	74.00	-31.60	peak	

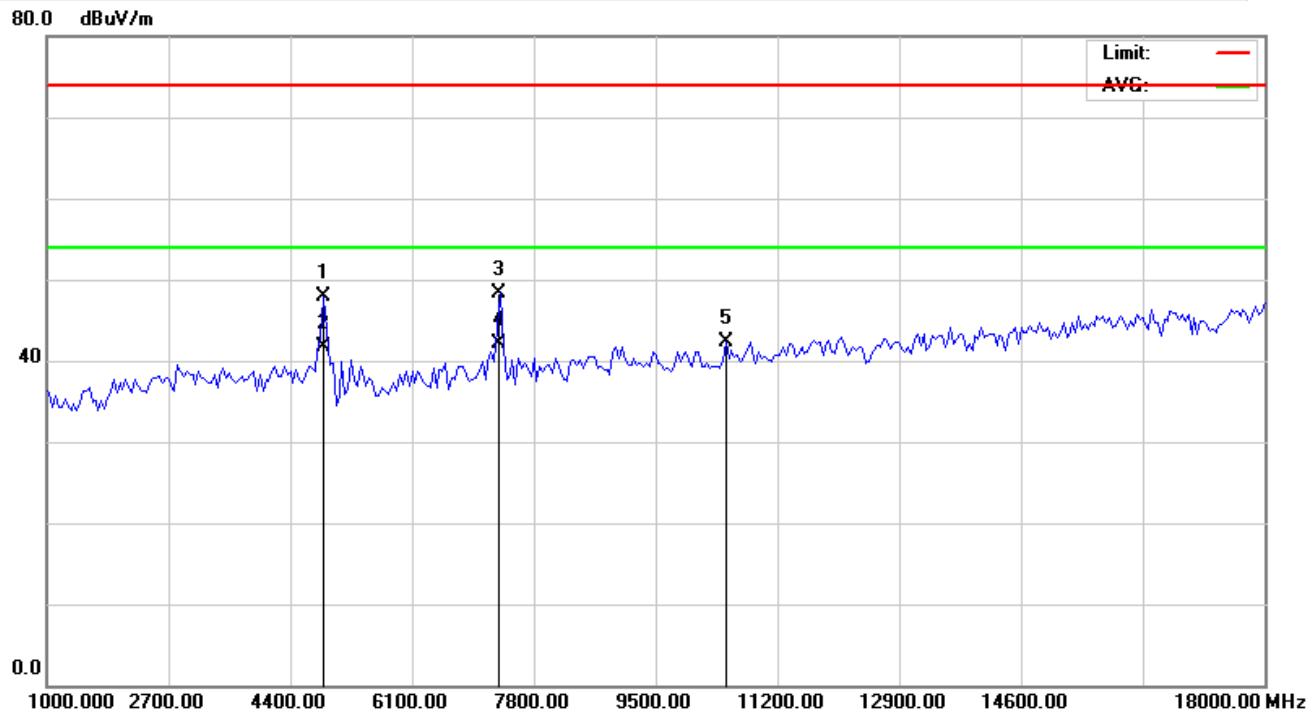
Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.



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Polarization:	Vertical	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2437		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
			Level						Height	Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		4874.000	39.78	8.17	47.95	74.00	-26.05	peak		
2		4874.000	33.56	8.17	41.73	54.00	-12.27	AVG		
3		7311.000	36.28	12.07	48.35	74.00	-25.65	peak		
4	*	7311.000	29.94	12.07	42.01	54.00	-11.99	AVG		
5		10477.50	21.34	21.06	42.40	74.00	-31.60	peak		

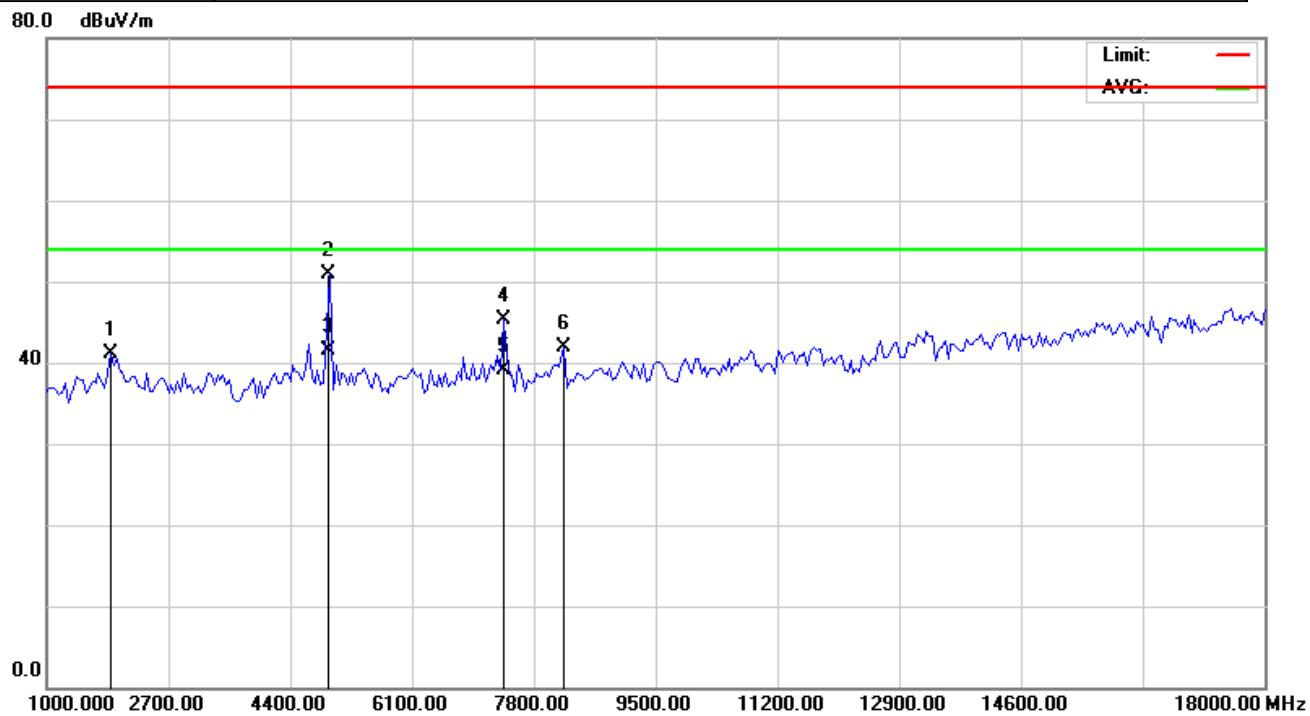
Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.



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Polarization:	Horizontal	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2462		



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	Comment	
	MHz	dB _{UV}	dB	dB _{UV} /m	dB _{UV} /m	dB	Detector	cm	degree	Comment
1	1892.500	48.26	-7.06	41.20	74.00	-32.80	peak			
2	4924.200	42.69	8.20	50.89	74.00	-23.11	peak			
3 *	4924.200	33.34	8.20	41.54	54.00	-12.46	AVG			
4	7386.000	32.98	12.41	45.39	74.00	-28.61	peak			
5	7386.000	26.77	12.41	39.18	54.00	-14.82	AVG			
6	8225.000	25.80	16.10	41.90	74.00	-32.10	peak			

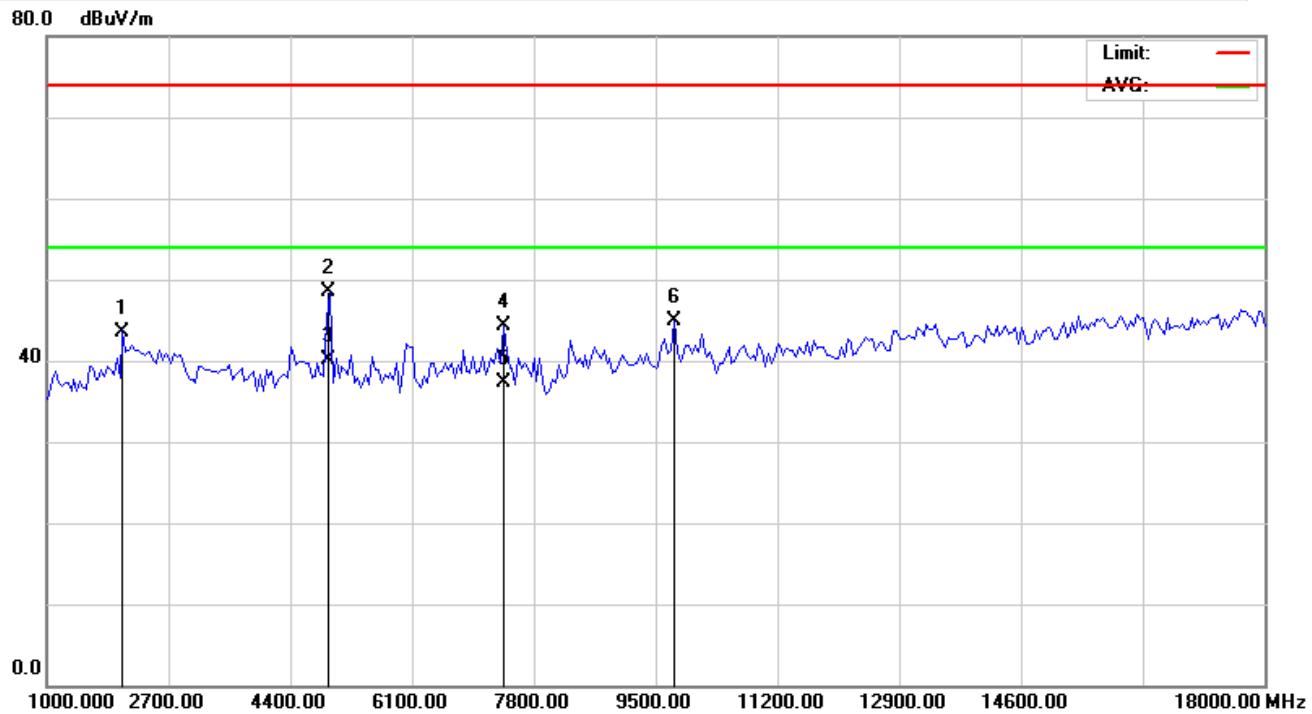
Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.



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Polarization:	Vertical	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	802.11B TX 2462		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	Degree	Comment
			Level								
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	
1		2062.500	49.91	-6.31	43.60	74.00	-30.40	peak			
2		4924.200	40.36	8.20	48.56	74.00	-25.44	peak			
3	*	4924.200	32.00	8.20	40.20	54.00	-13.80	AVG			
4		7386.000	31.95	12.41	44.36	74.00	-29.64	peak			
5		7386.000	24.93	12.41	37.34	54.00	-16.66	AVG			
6		9755.000	26.66	18.24	44.90	74.00	-29.10	peak			

Note: test perform on 802.11b/g/n mode, "802.11b" mode is the worst mode and has been reported. spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported above 18G.

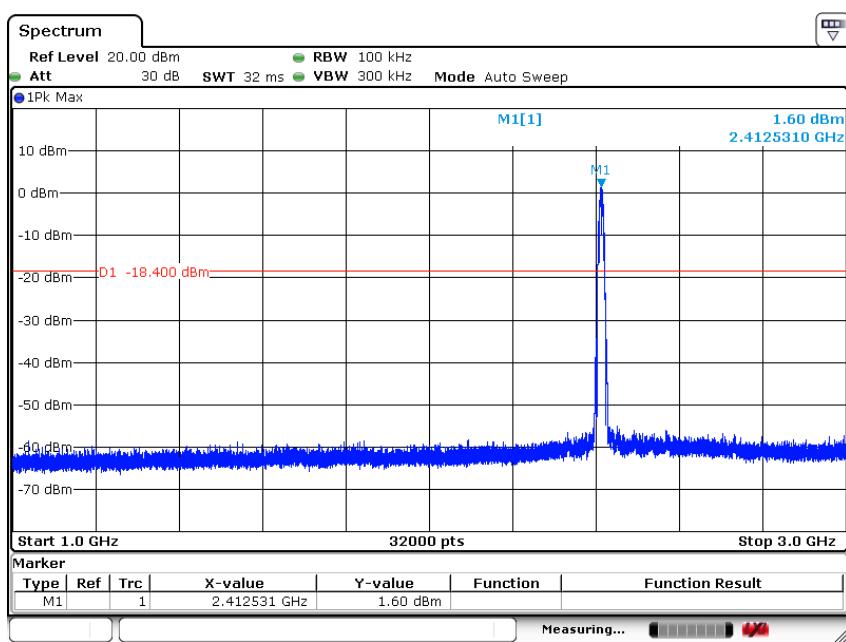
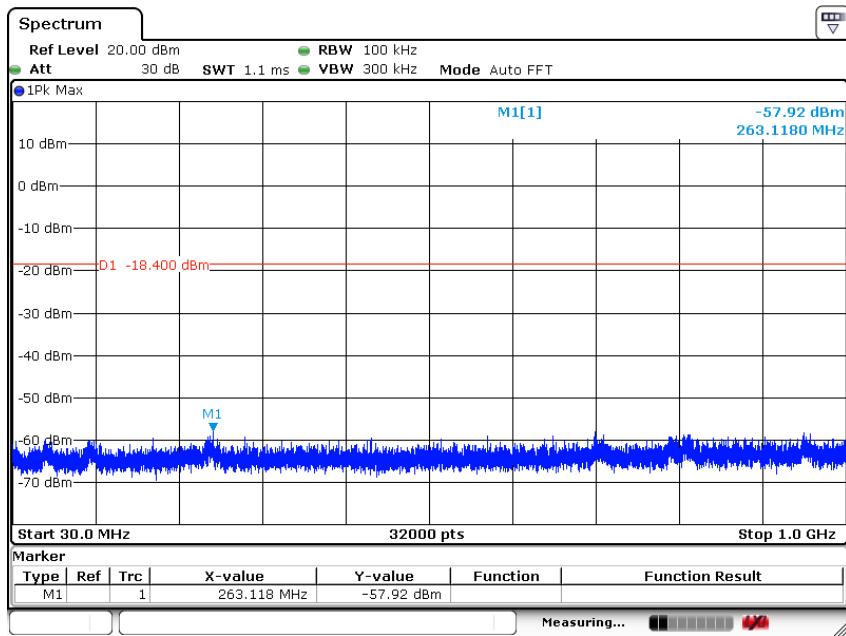


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Conducted Spurious Emissions at Antenna Port:

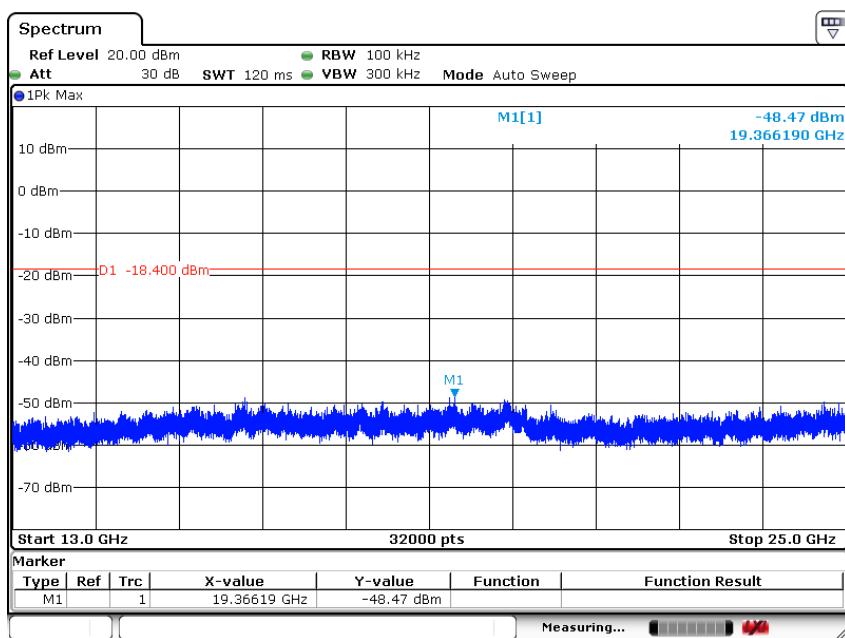
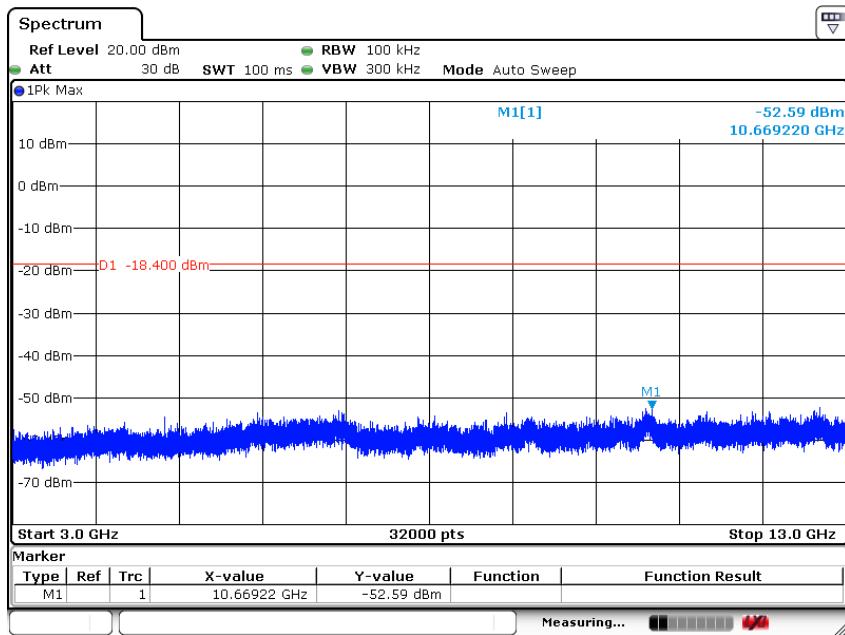
802.11b Low Channel





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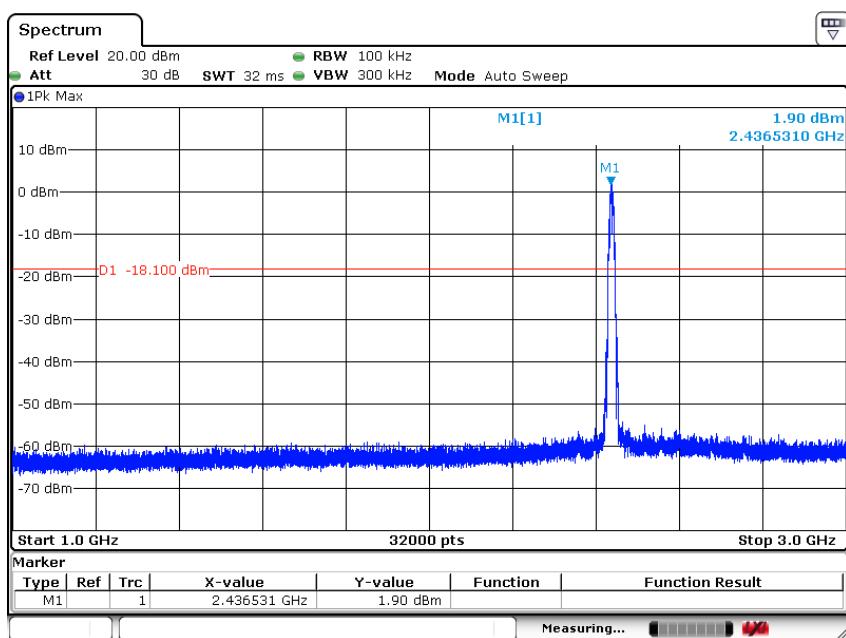
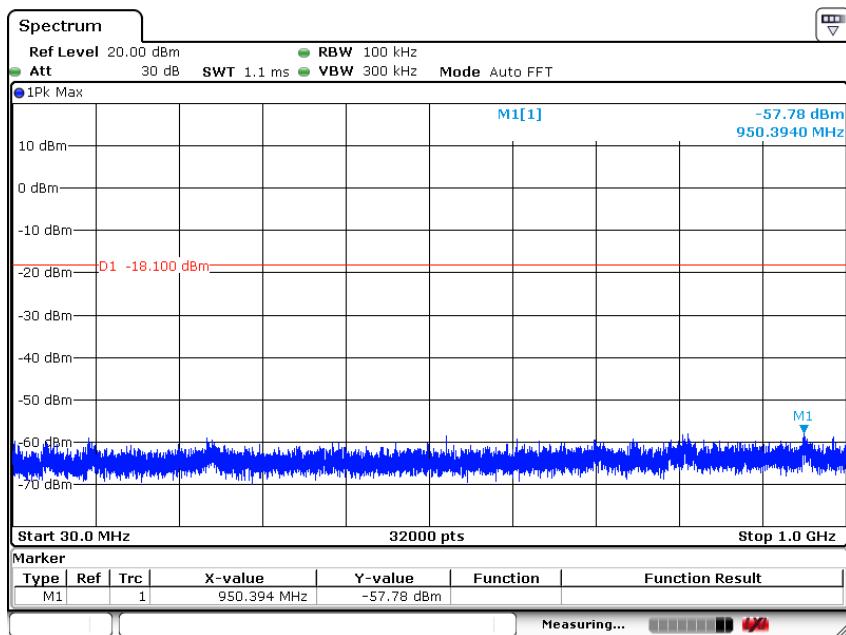




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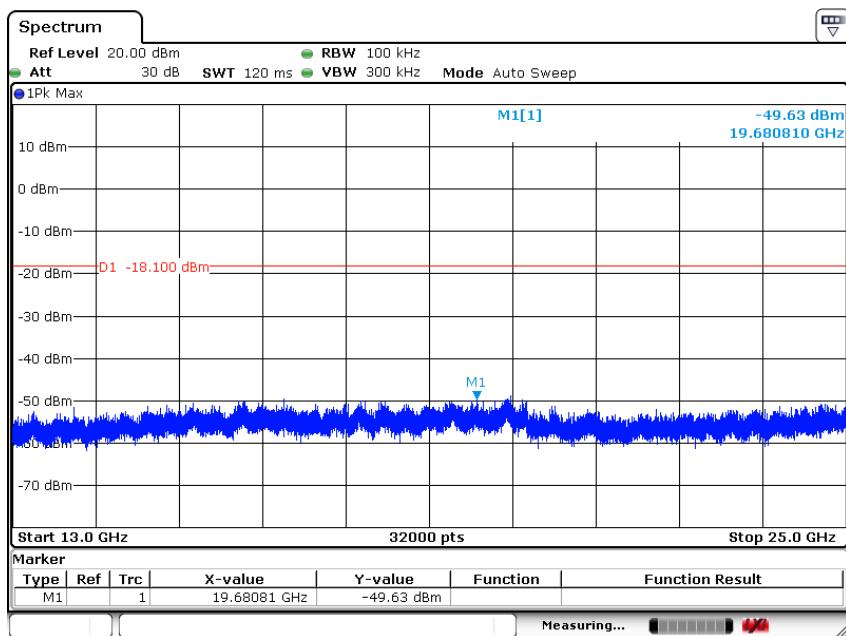
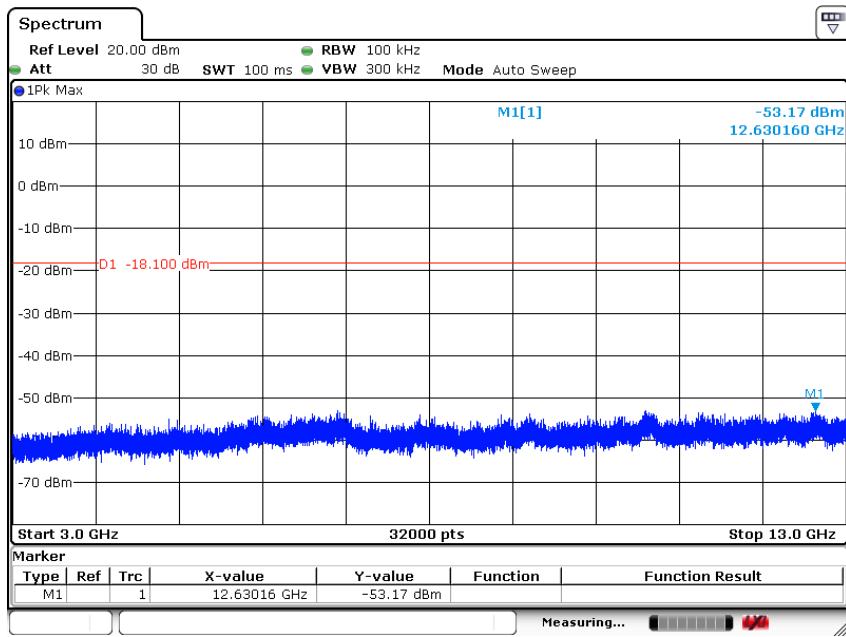
802.11b Middle Channel





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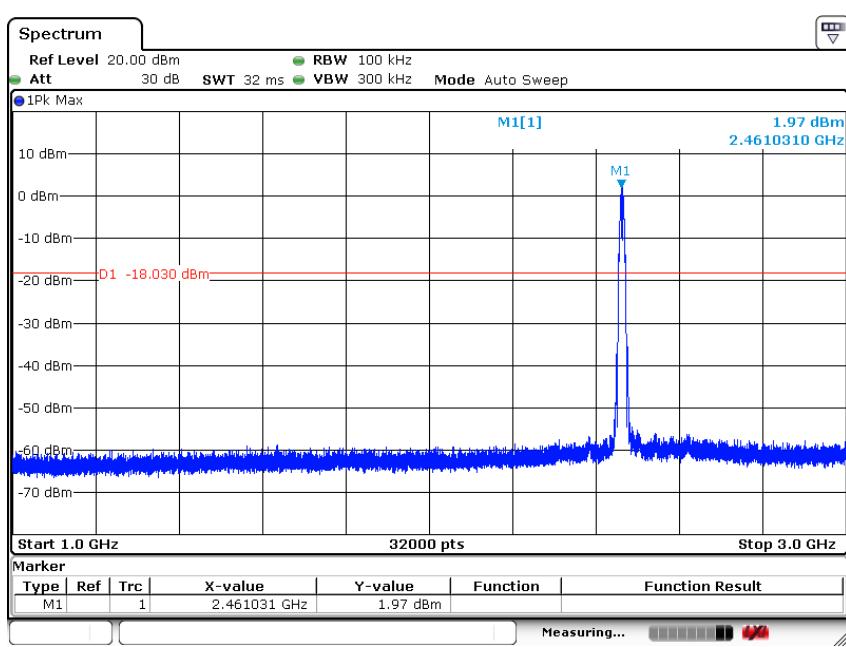
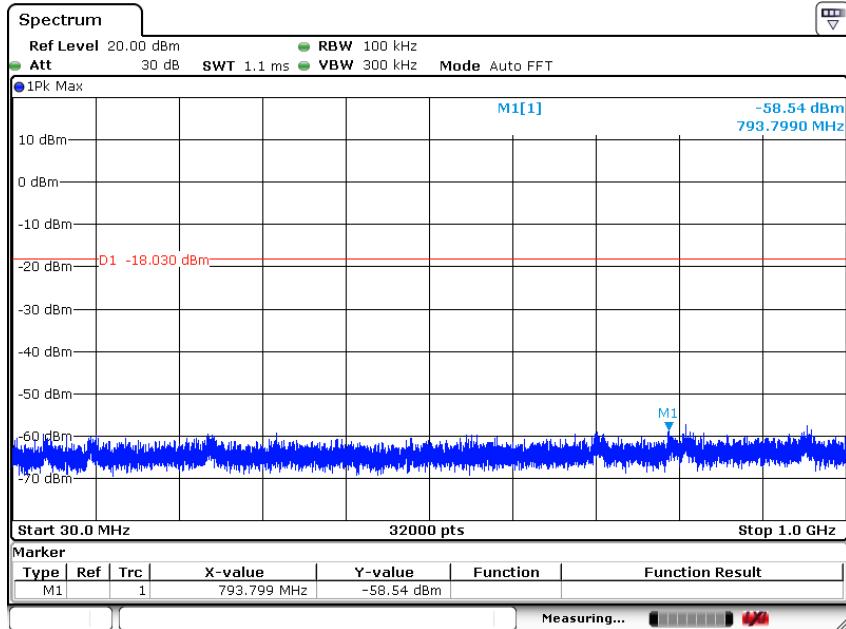




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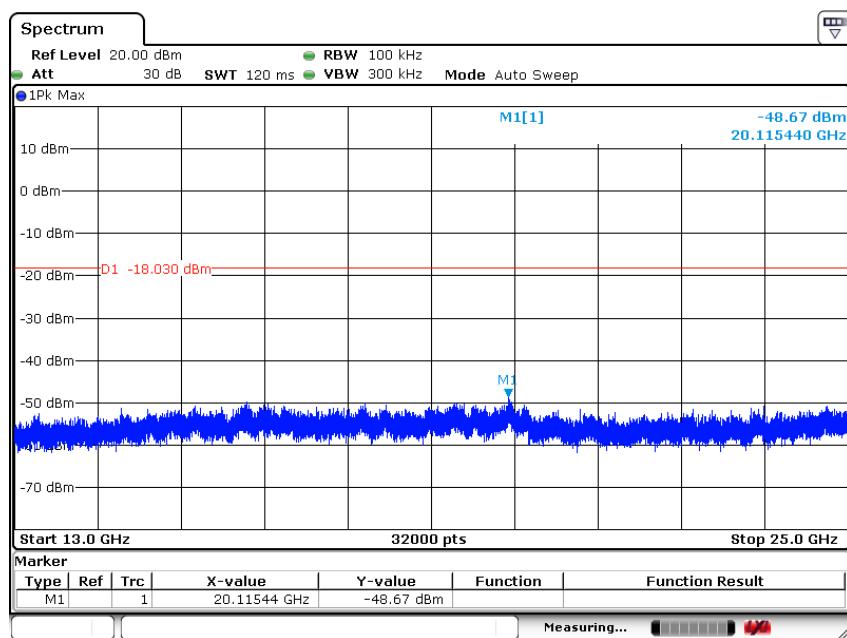
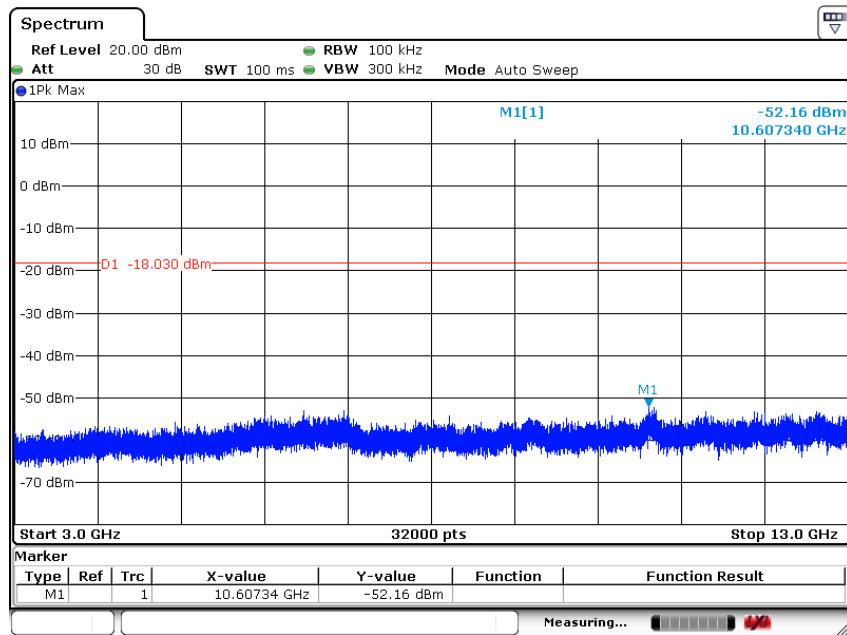
802.11b High Channel





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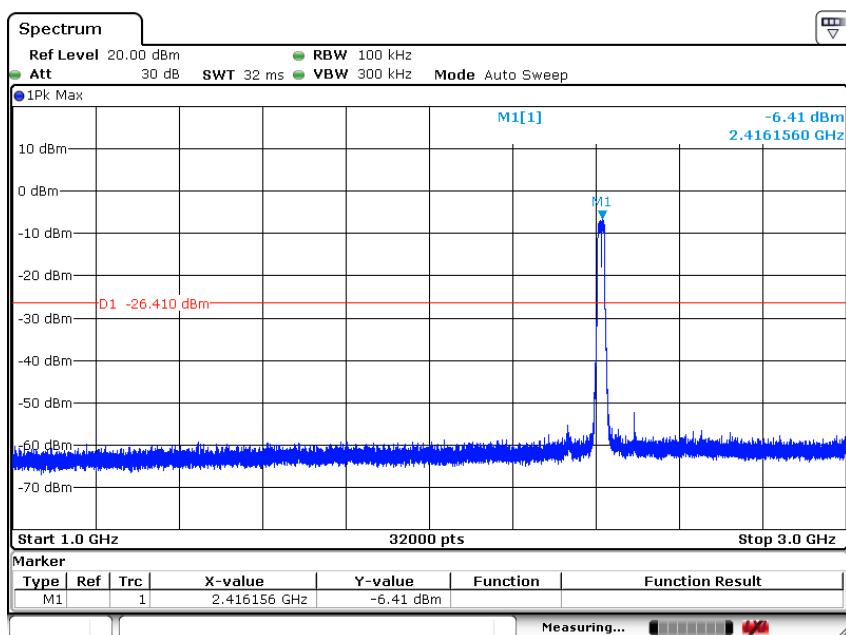
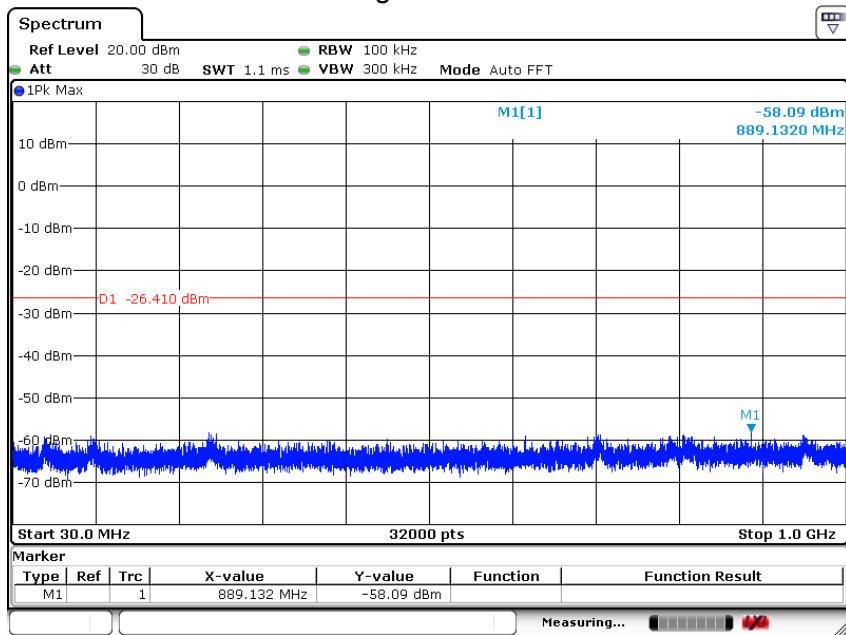




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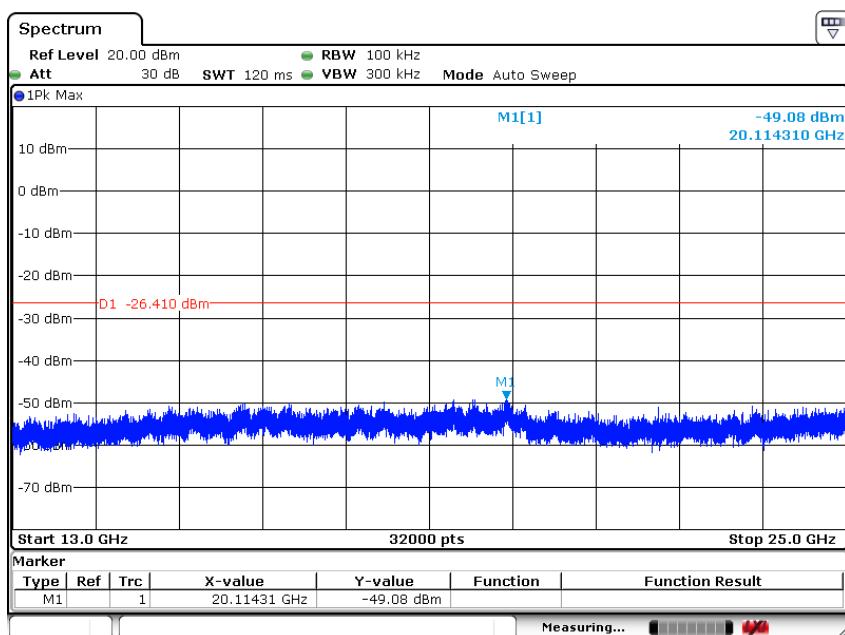
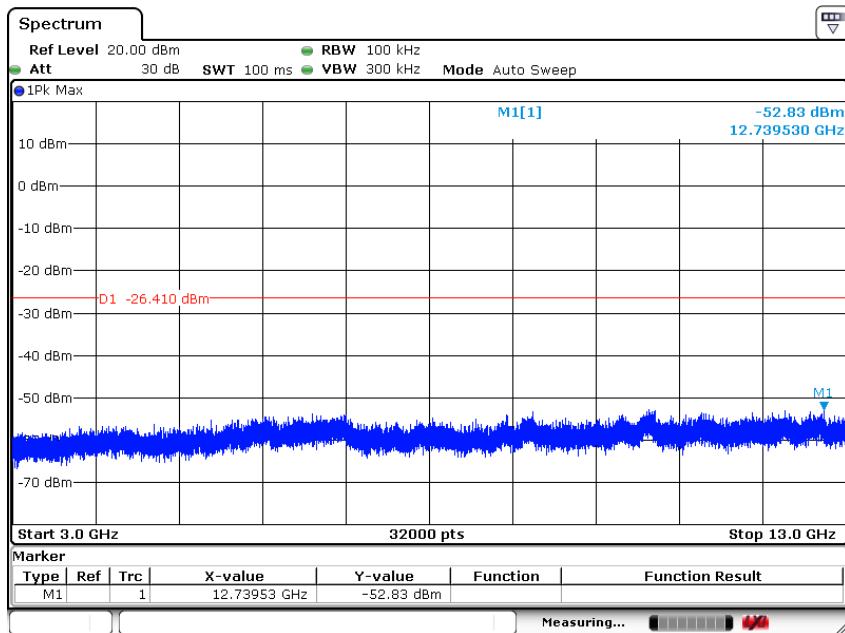
802.11g Low Channel





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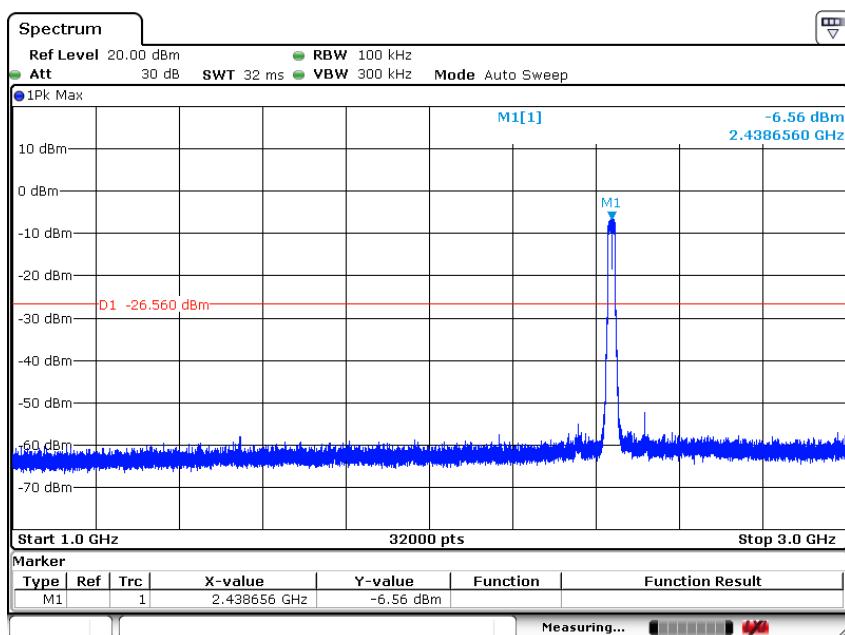
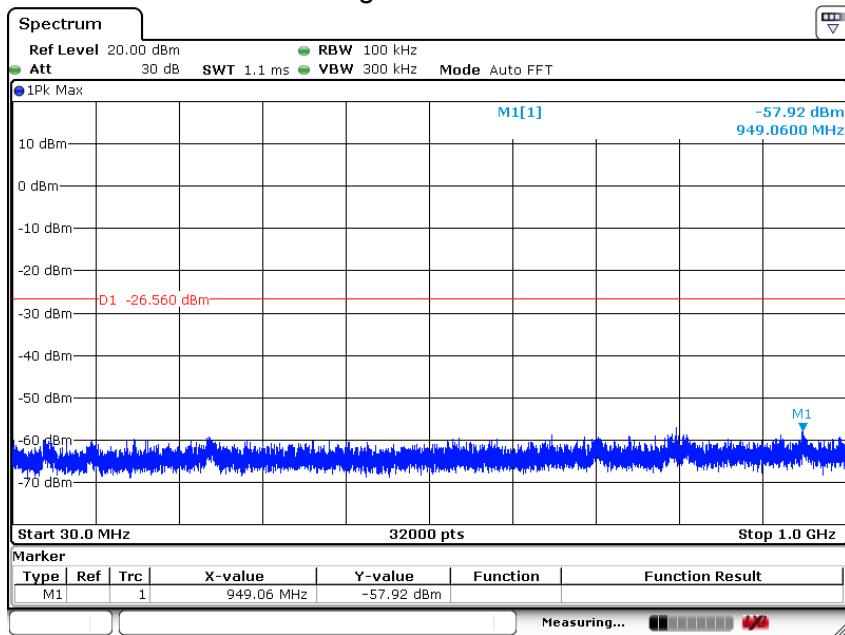




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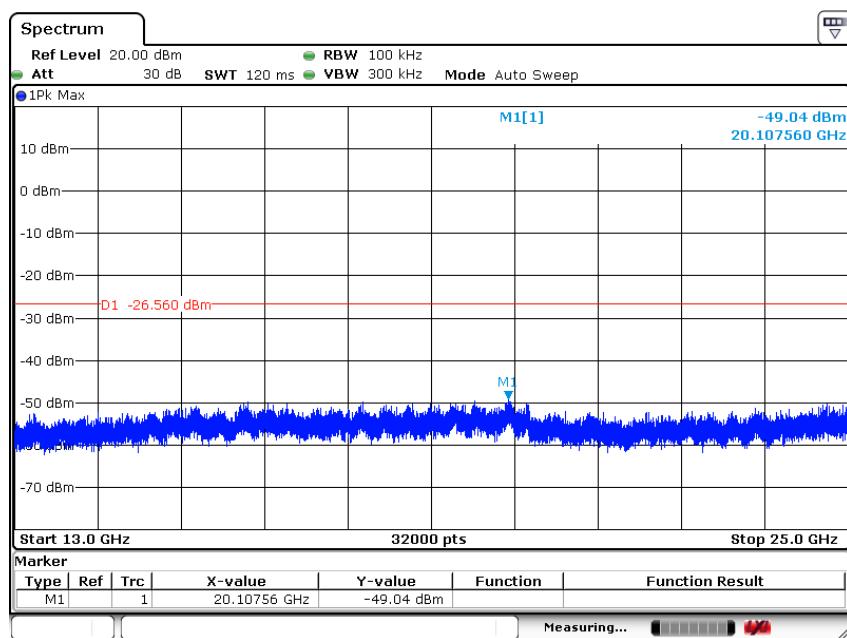
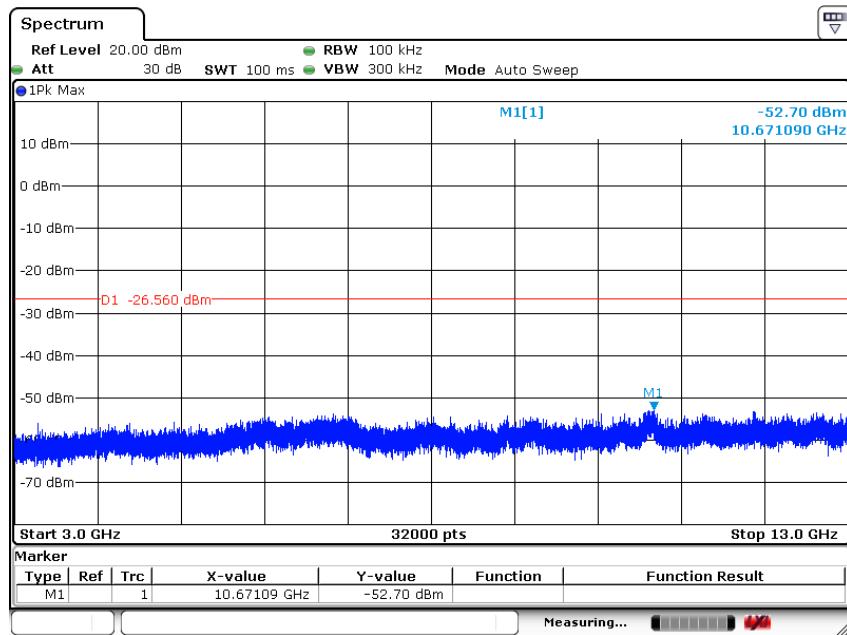
802.11g Middle Channel





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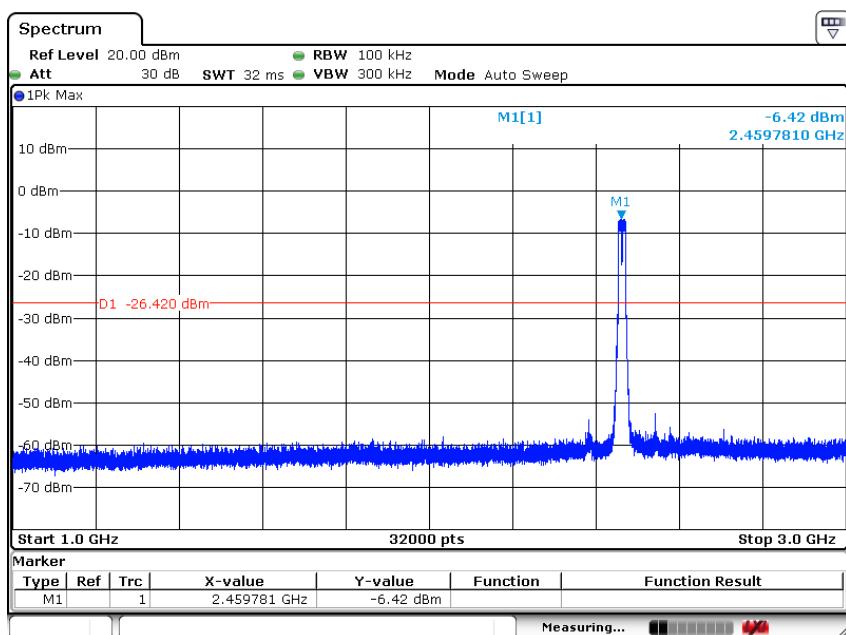
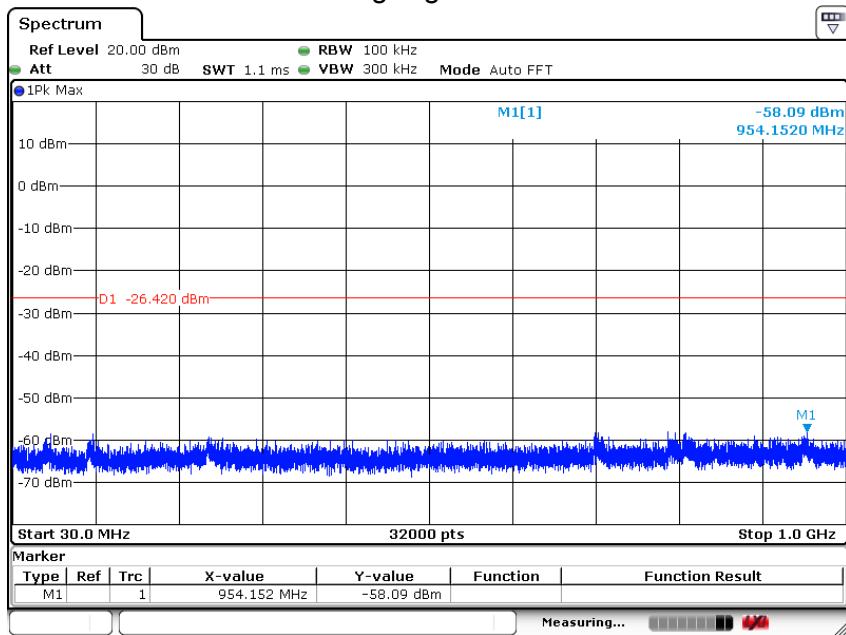




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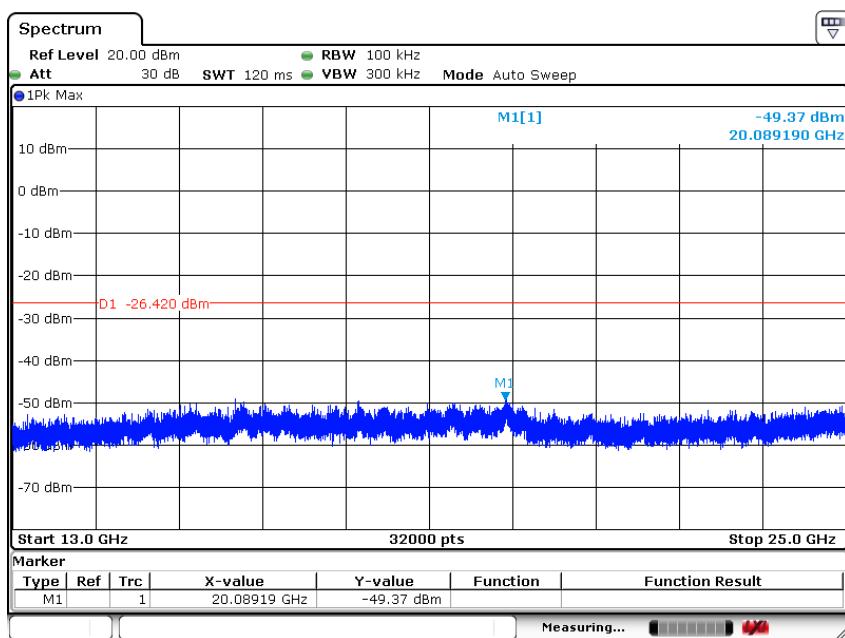
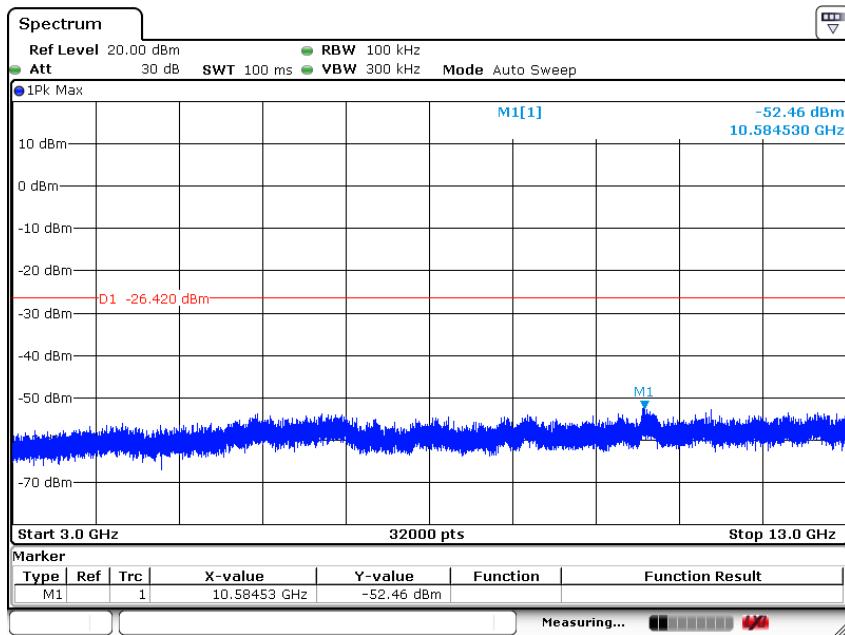
802.11g High Channel





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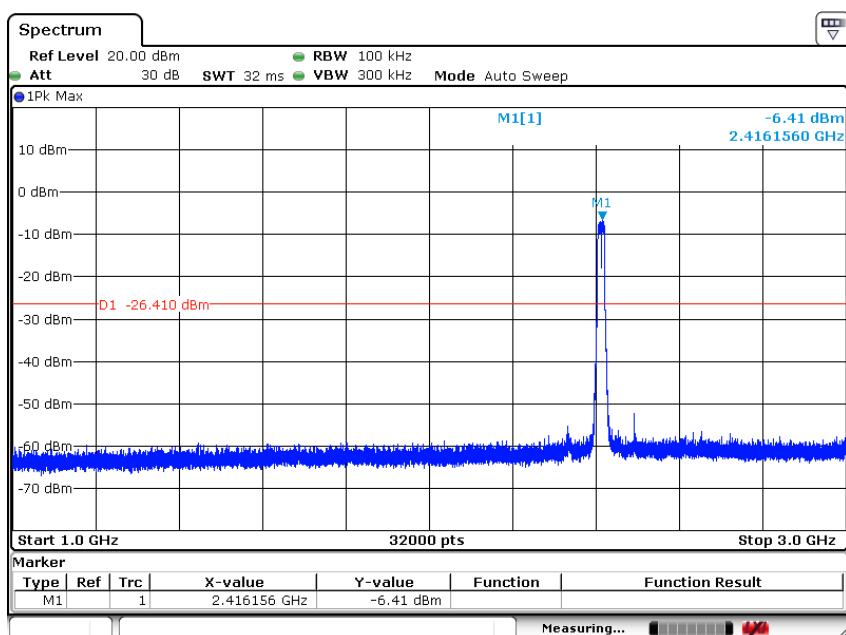
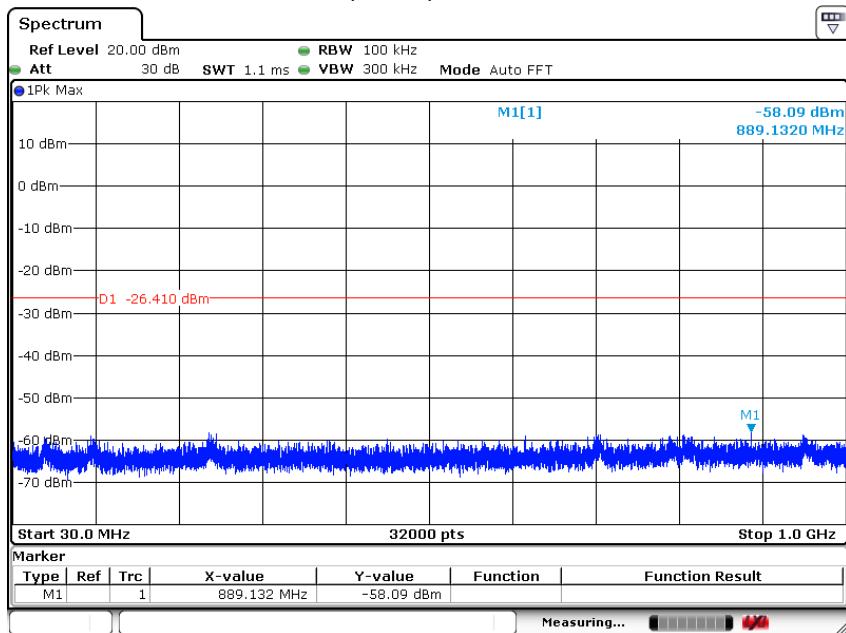




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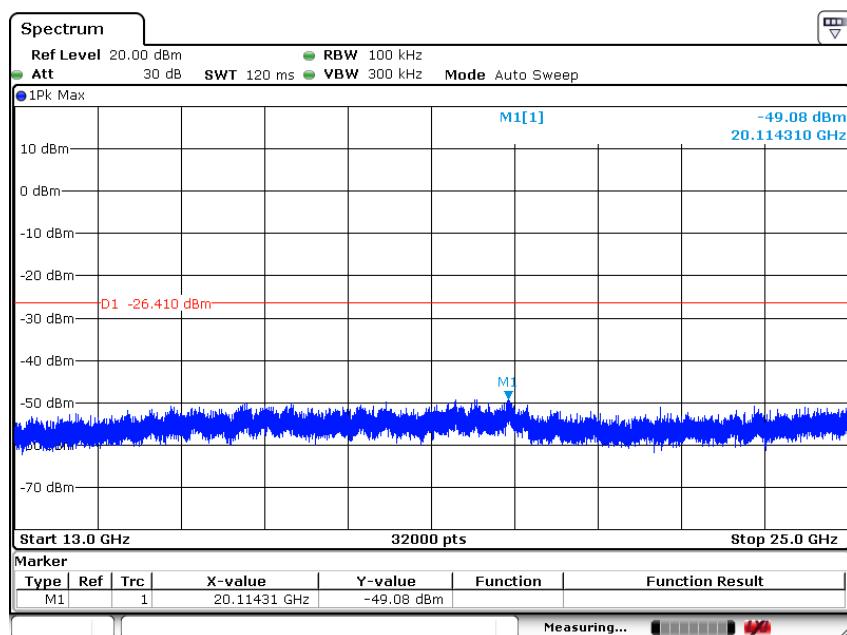
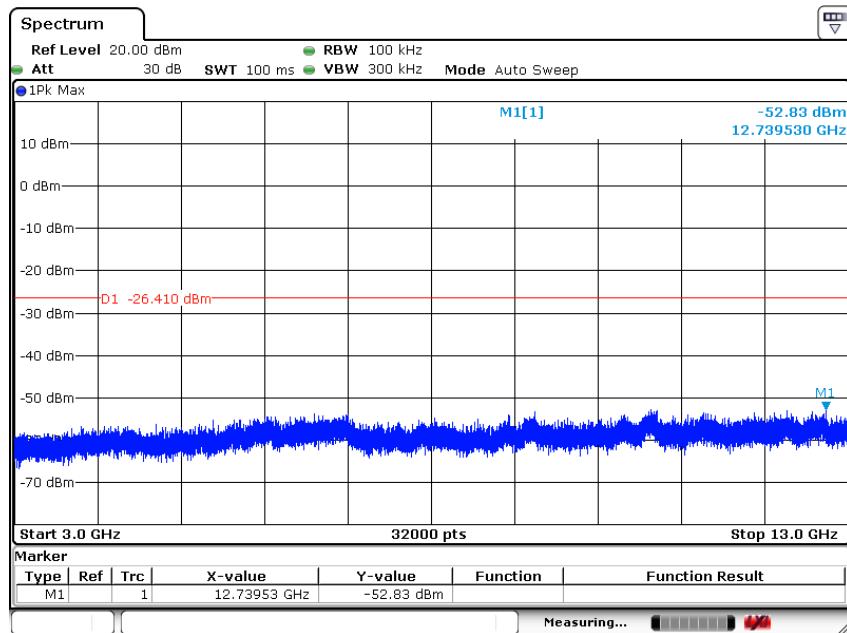
802.11n(HT20) Low Channel





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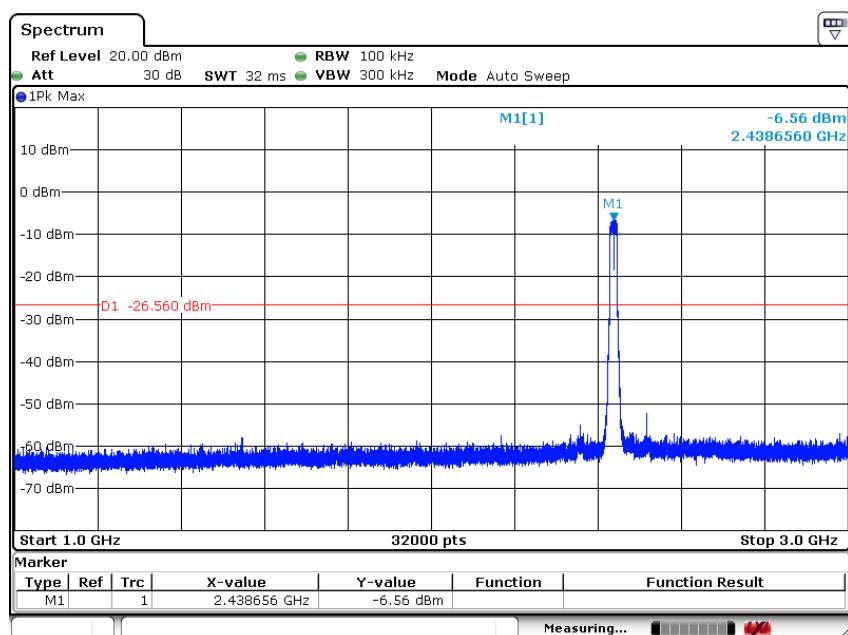
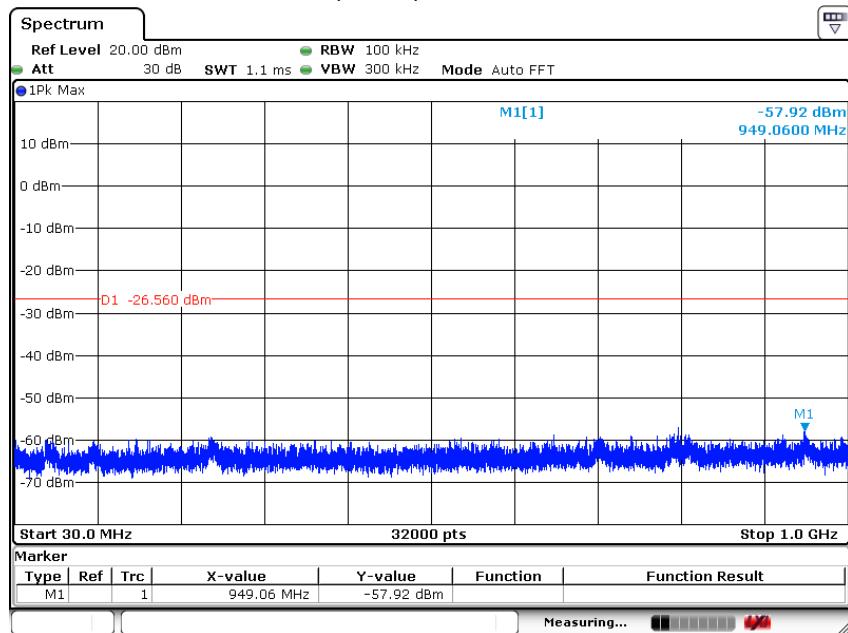




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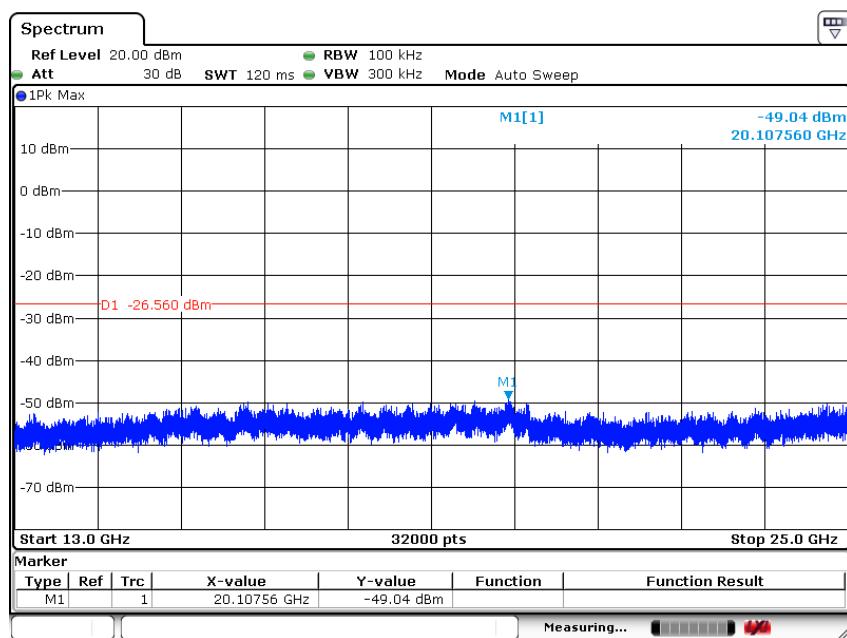
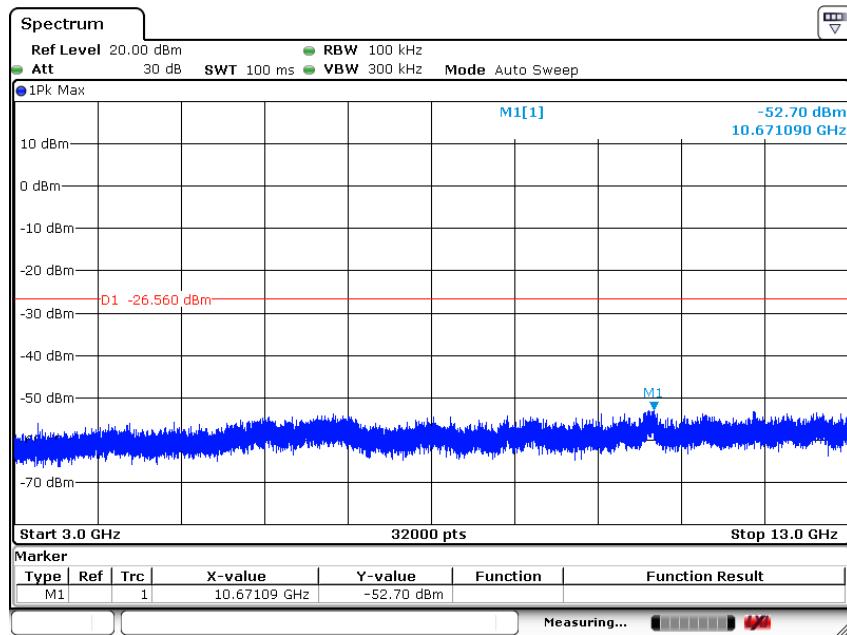
802.11n(HT20) Middle Channel





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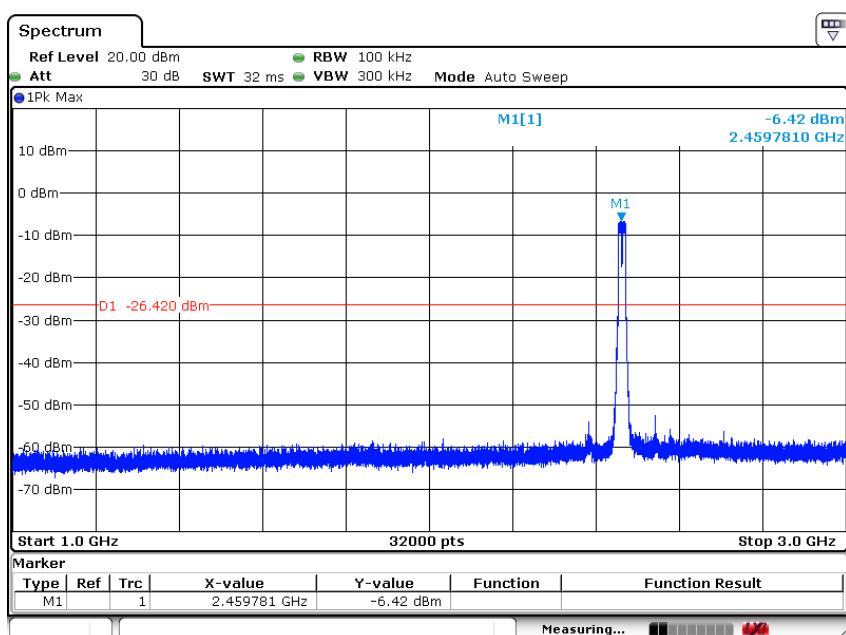
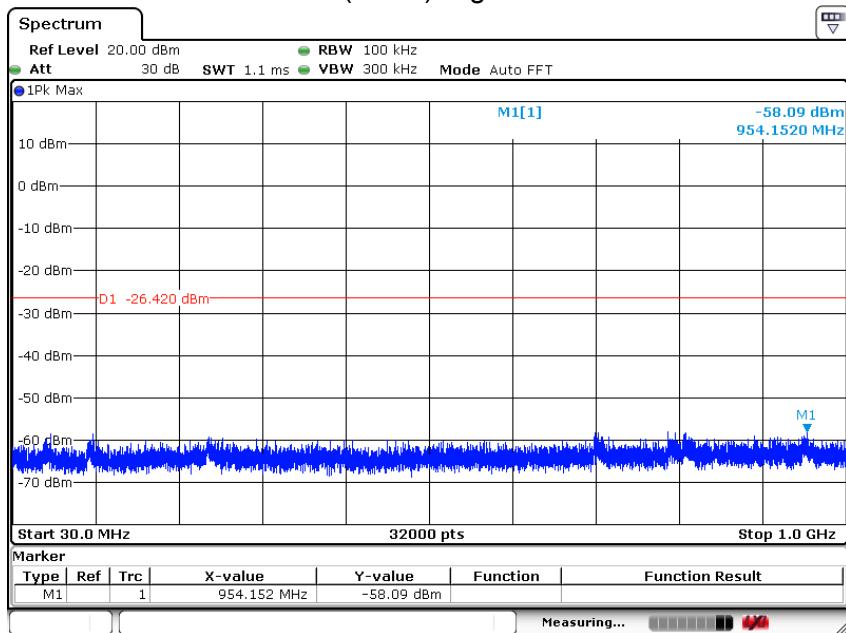




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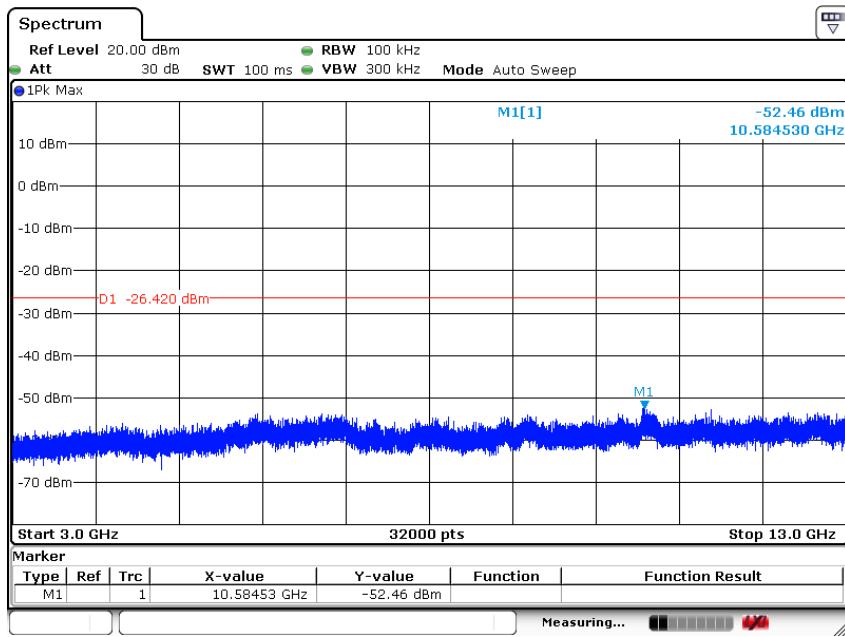
802.11n(HT20) High Channel



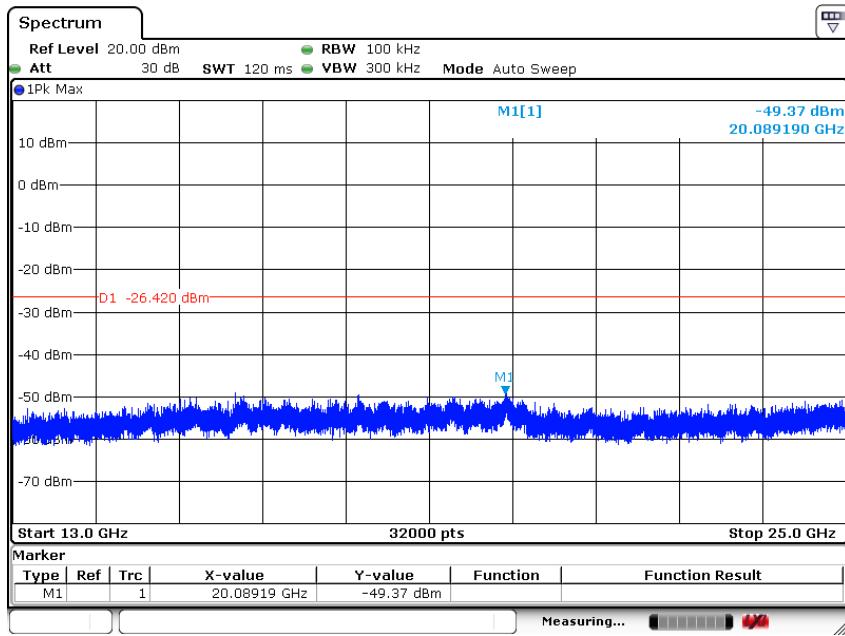


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Date: 16 JUN 2017 17:12:37



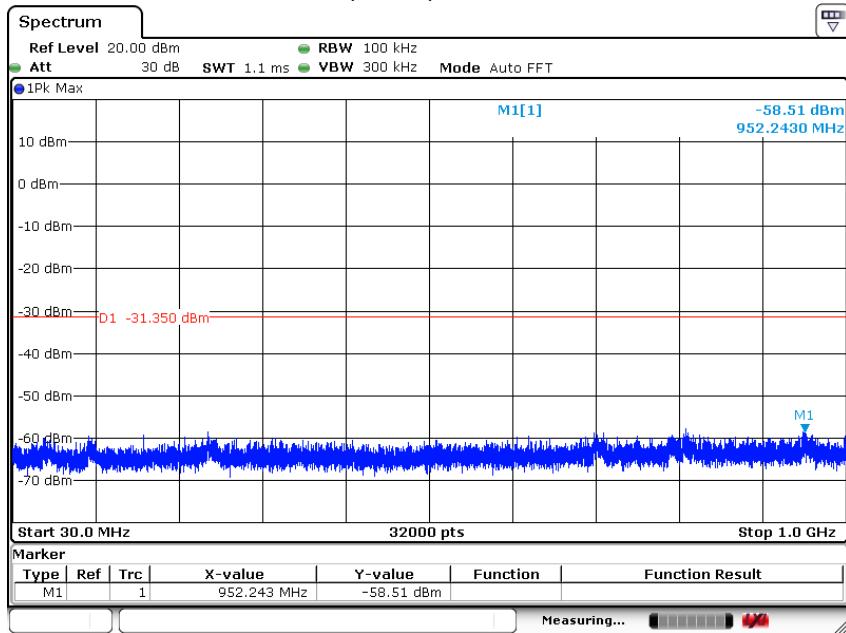
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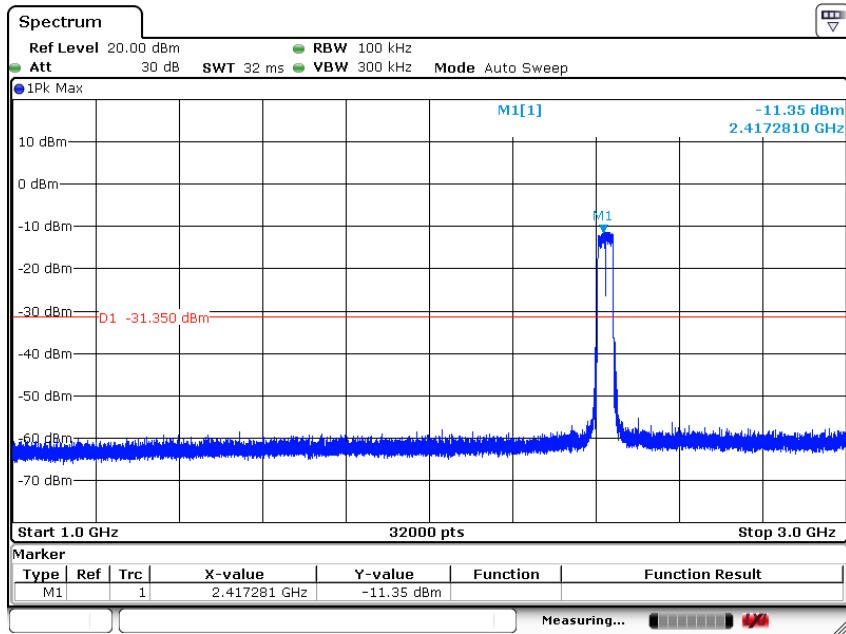
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802.11n(HT40) Low Channel



Date: 16 JUN 2017 17:17:37

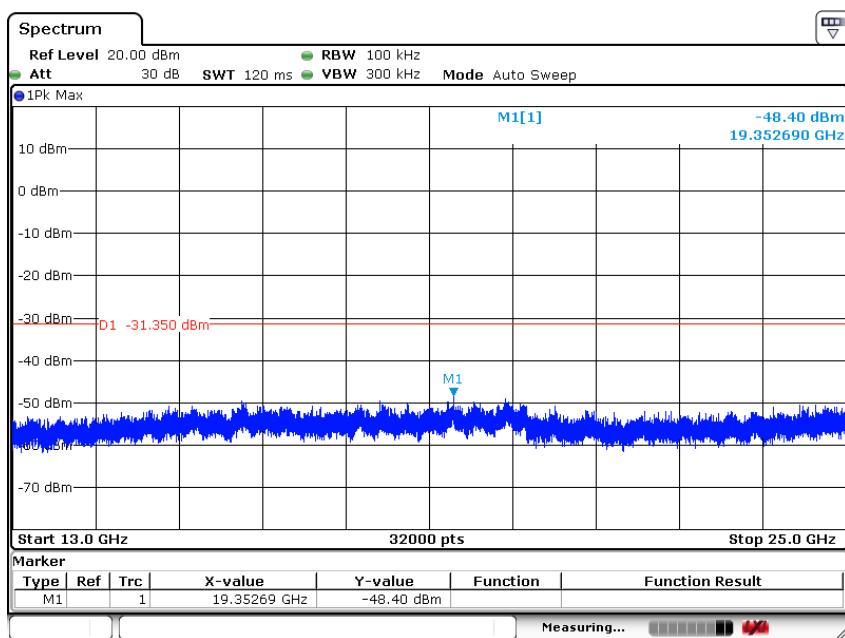
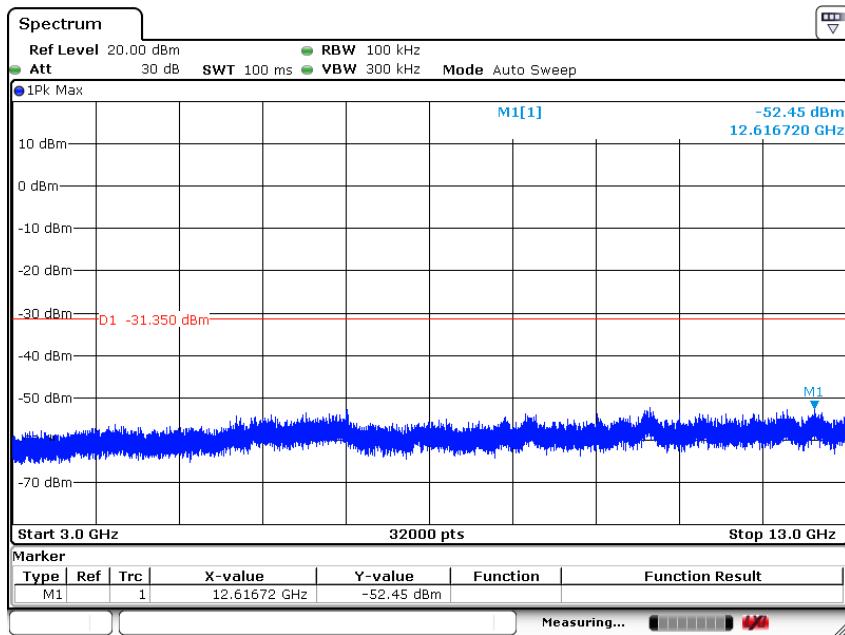


Date: 16 JUN 2017 17:17:25



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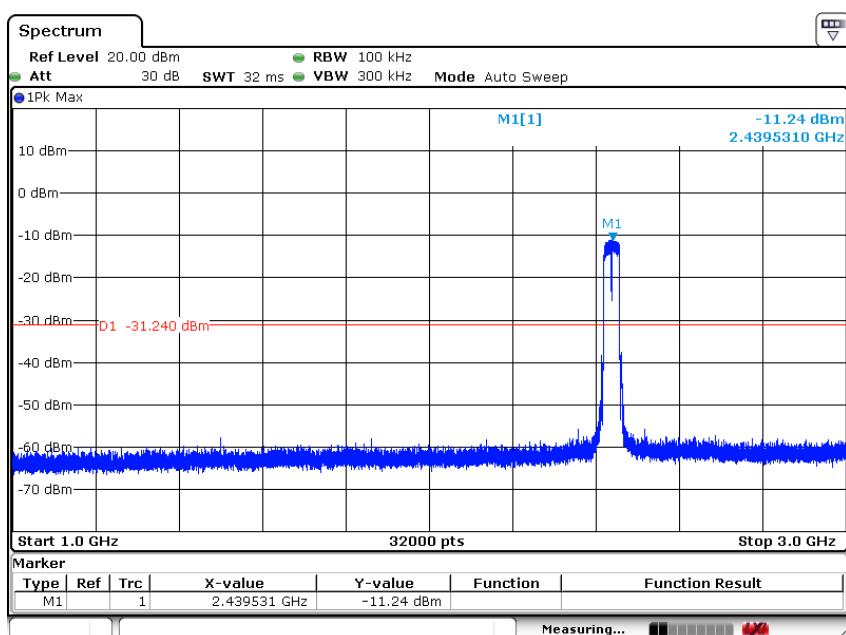
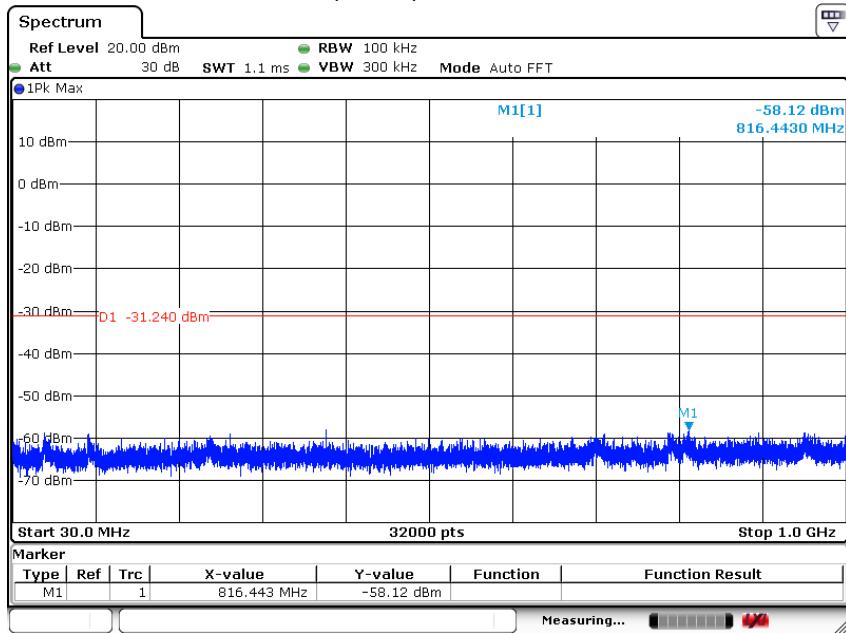




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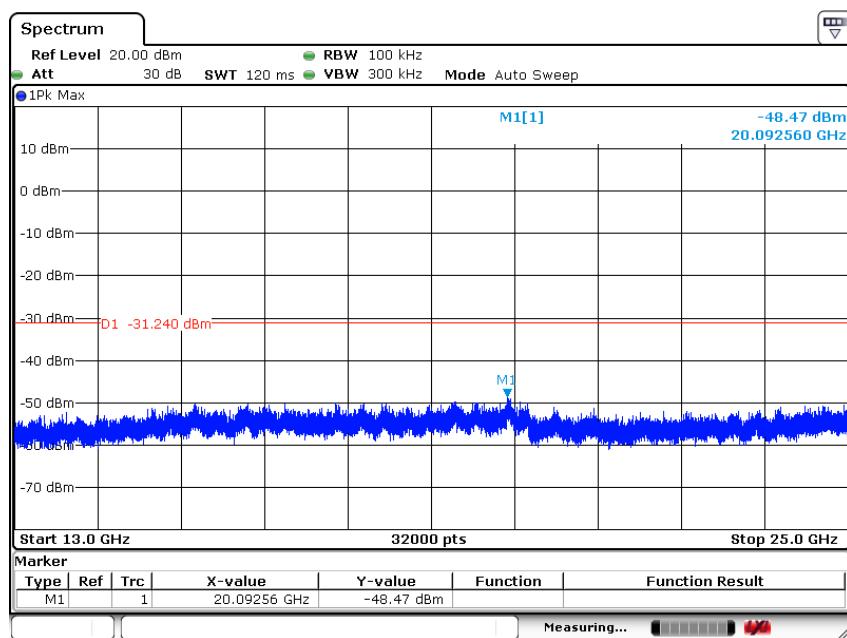
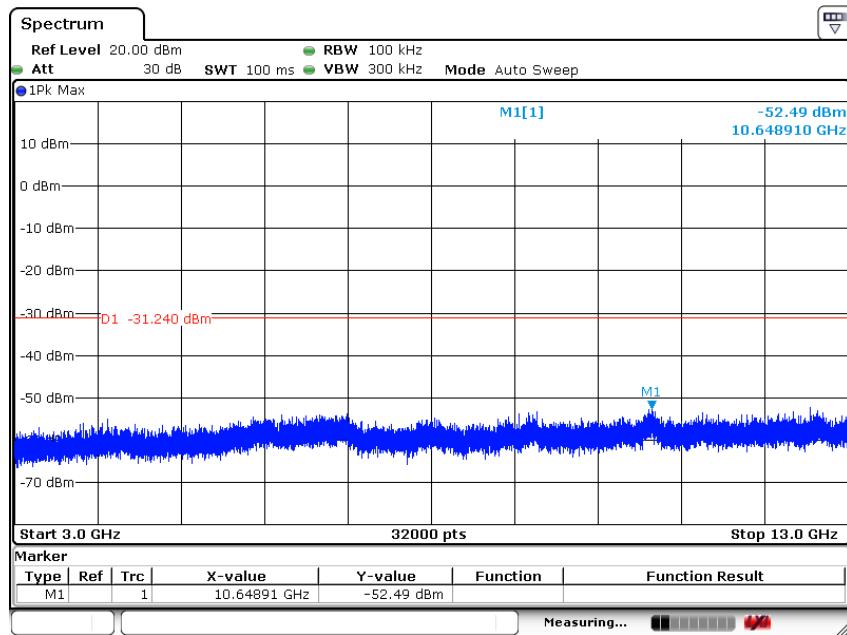
802.11n(HT40) Middle Channel





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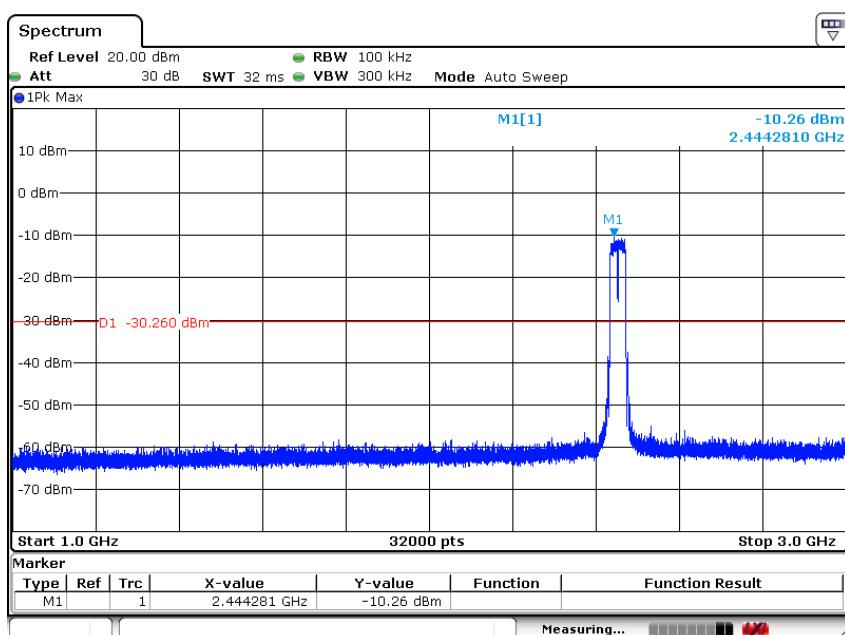
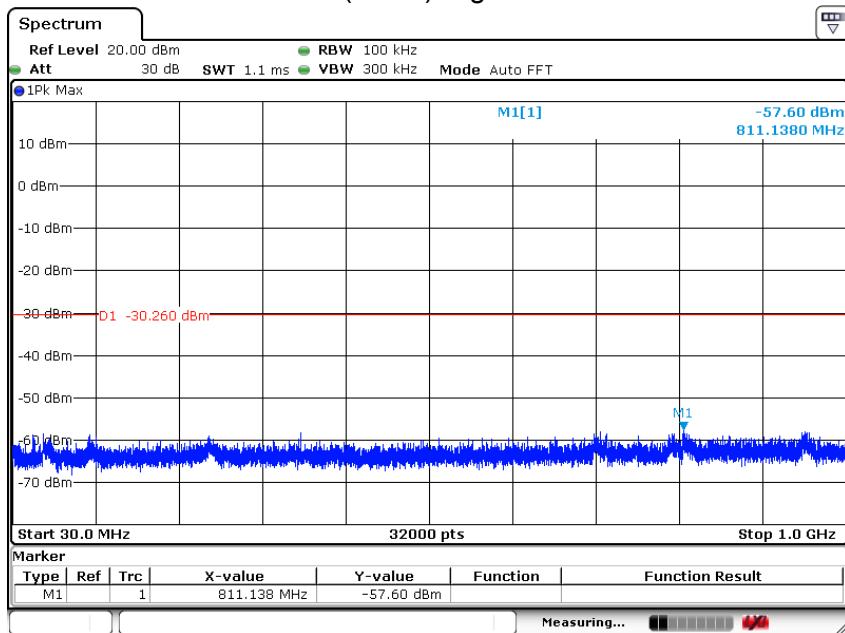




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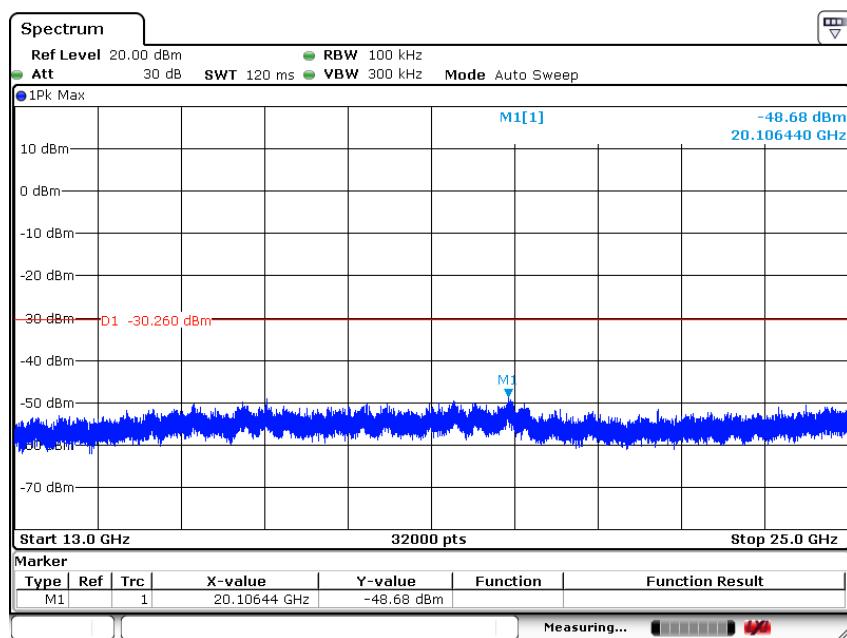
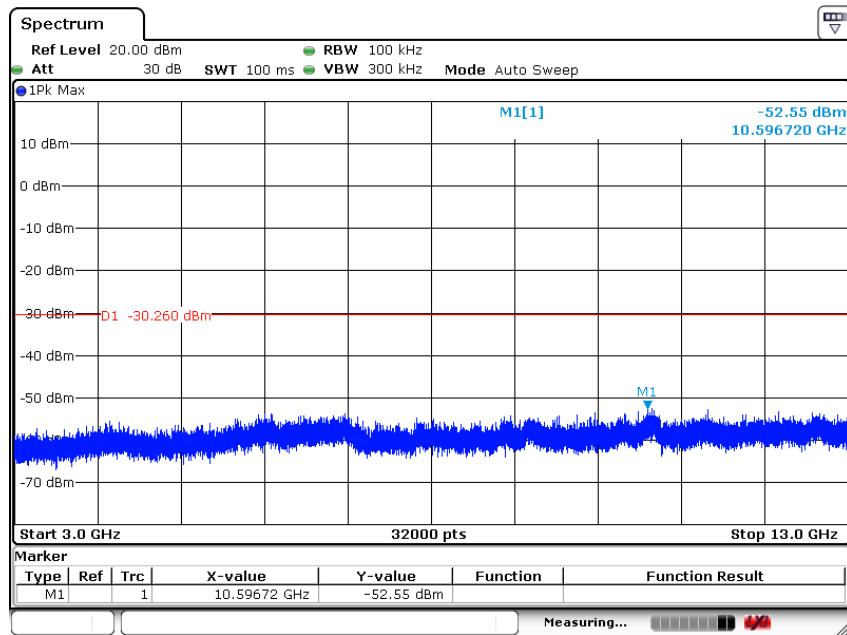
802.11n(HT40) High Channel





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. POWER SPECTRAL DENSITY TEST

APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

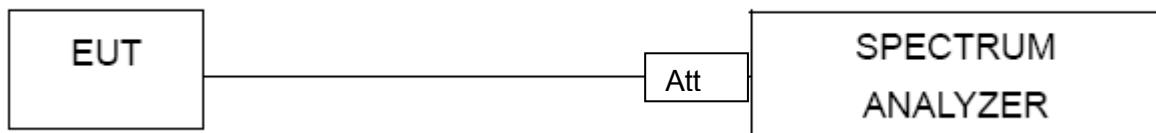
TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times DTS bandwidth.
3. Set the RBW \geq 3 kHz.
4. Set the VBW \geq 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

DEVIATION FROM STANDARD

No deviation.

TEST SETUP



EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.



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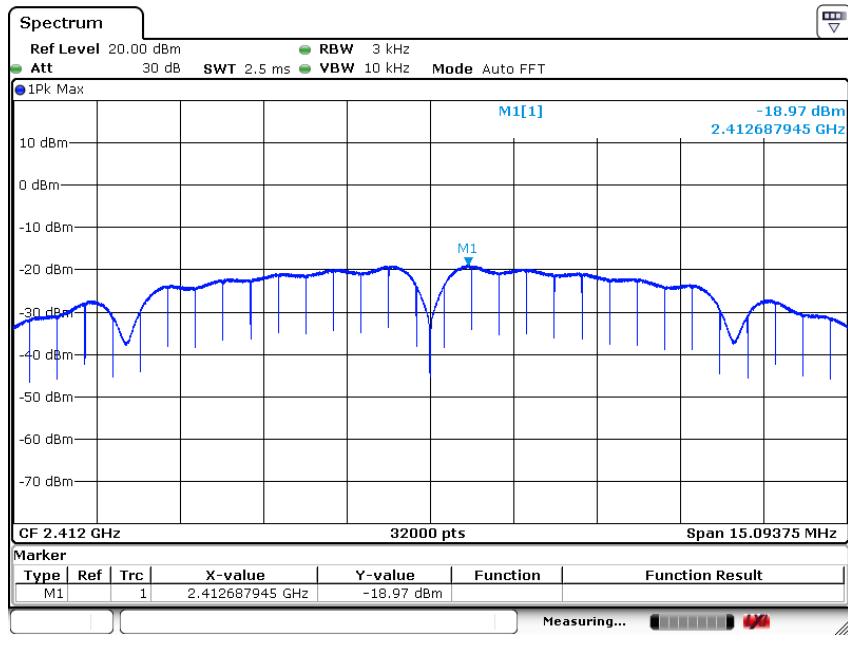
TEST RESULTS

EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Note: The relevant measured result has the offset with cable loss already.

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412 MHz	-18.97	8	PASS
2437 MHz	-18.77	8	PASS
2462 MHz	-18.78	8	PASS

TX CH01

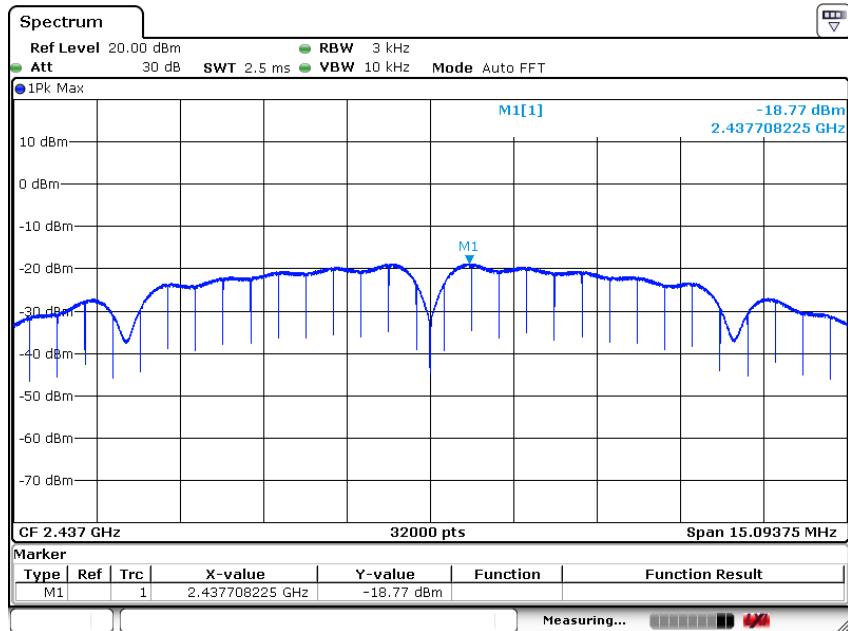




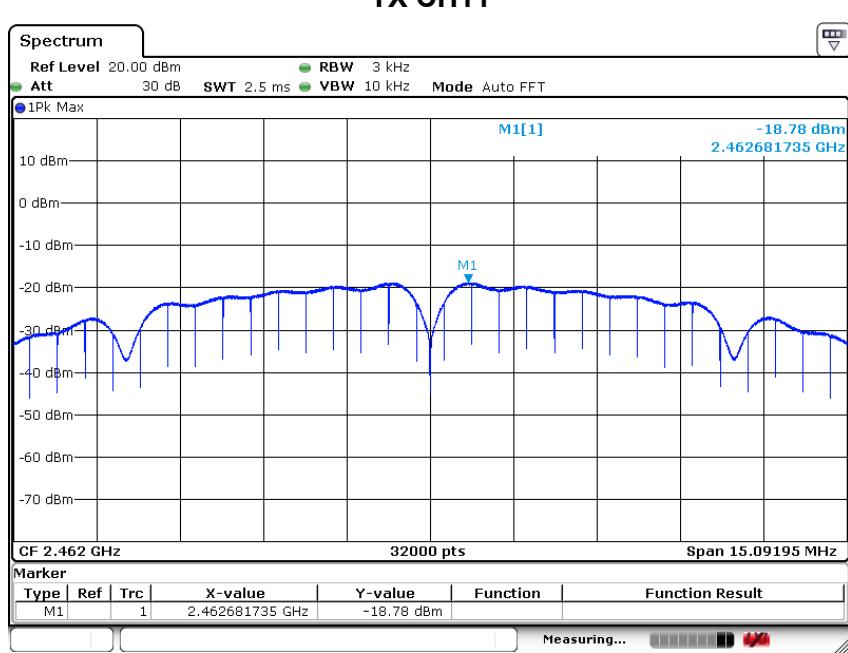
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TX CH06



TX CH11





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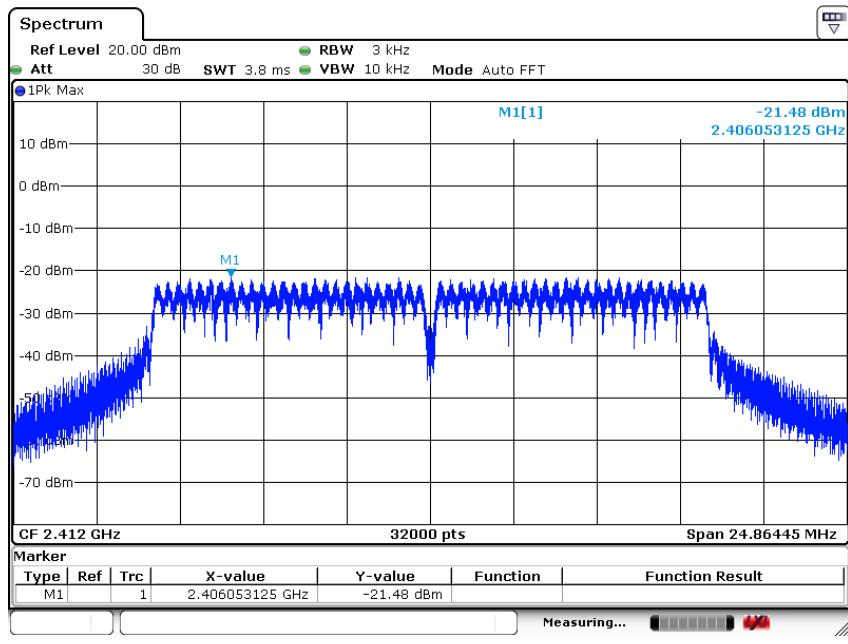
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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Note: The relevant measured result has the offset with cable loss already.

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412 MHz	-21.48	8	PASS
2437 MHz	-20.99	8	PASS
2462 MHz	-20.98	8	PASS

TX CH01



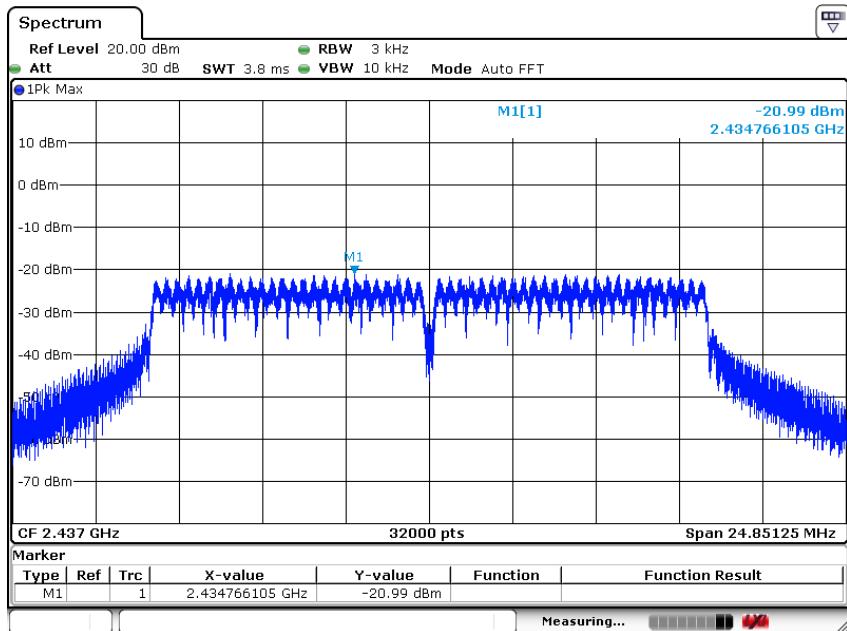
Date: 16 JUN 2017 17:47:01



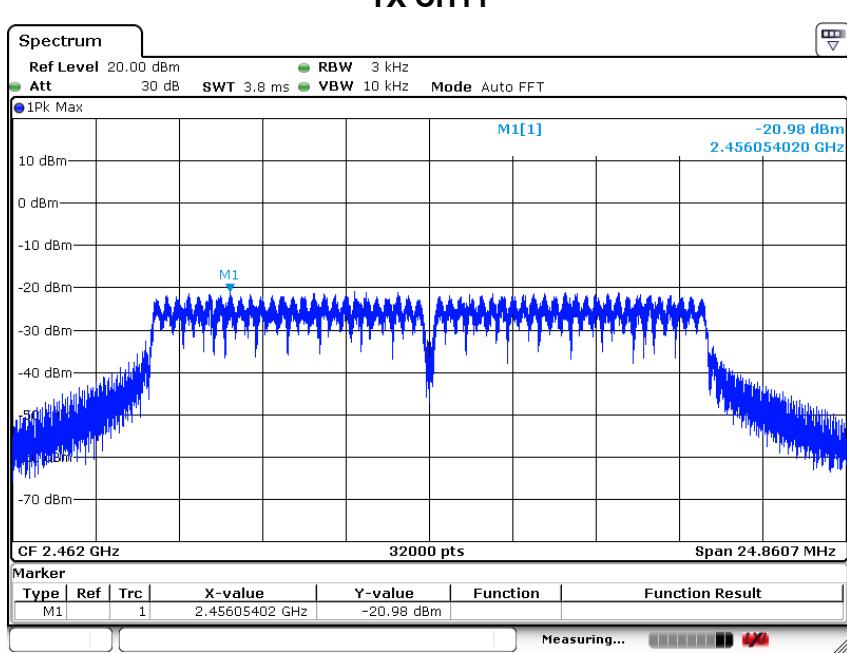
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TX CH06



TX CH11





Shenzhen Asia Test Technology Co., Ltd.

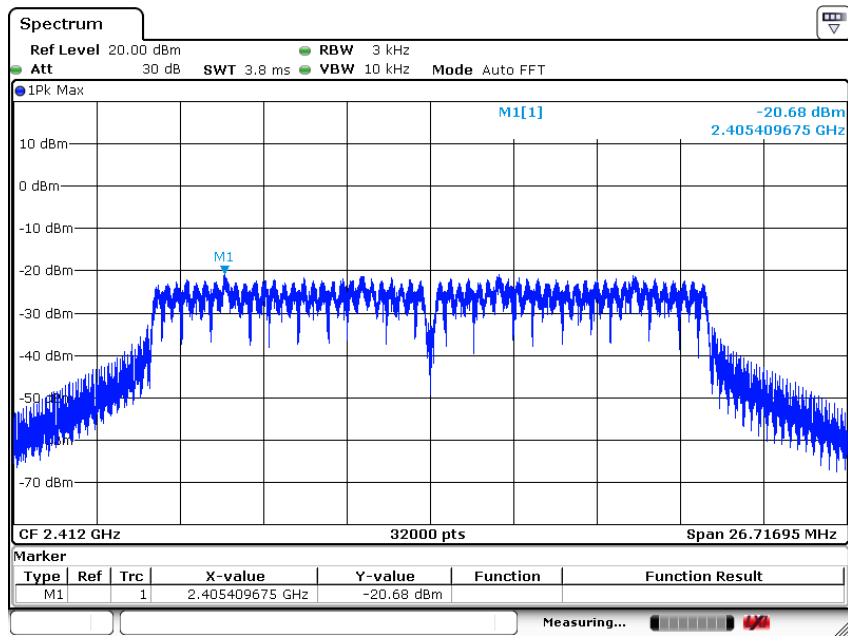
Report No. ATT-2017SZ0615810F
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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX n(HT20) Mode /CH01, CH06, CH11		

Note: The relevant measured result has the offset with cable loss already.

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412 MHz	-20.68	8	PASS
2437 MHz	-20.54	8	PASS
2462 MHz	-20.04	8	PASS

TX CH01

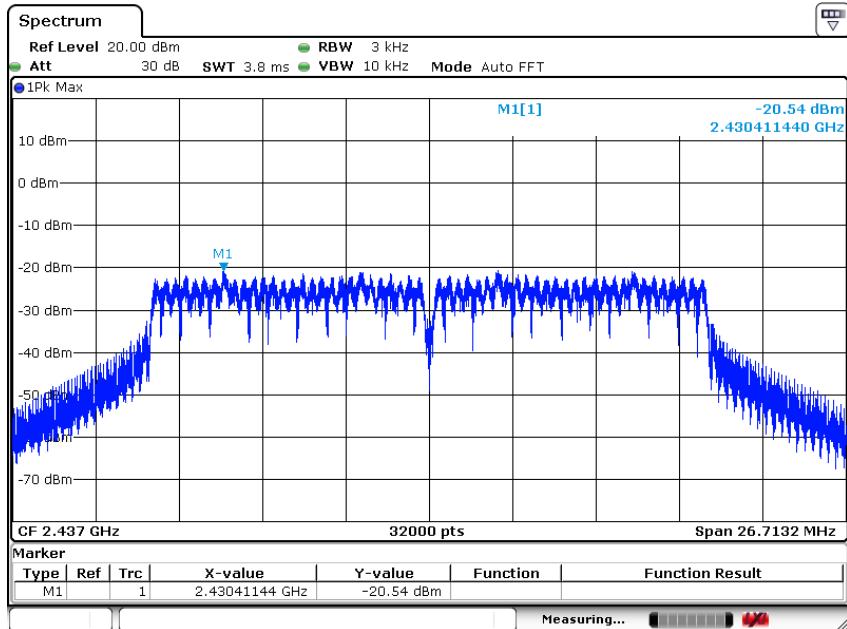




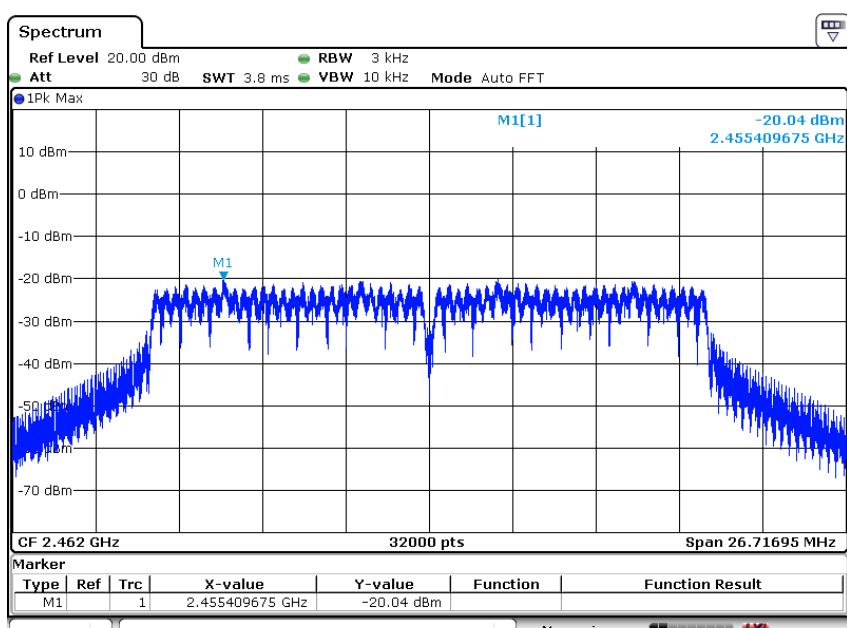
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TX CH06



TX CH11





Shenzhen Asia Test Technology Co., Ltd.

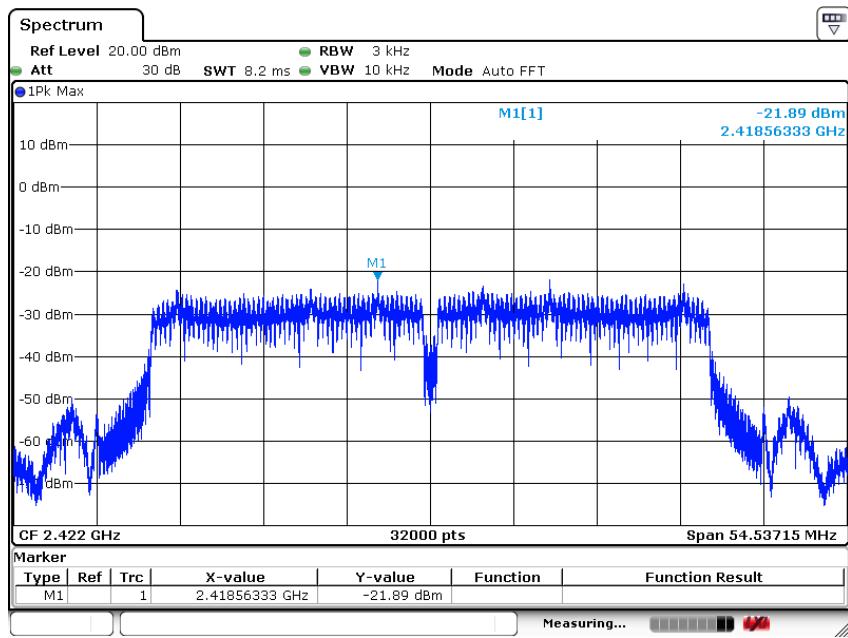
Report No. ATT-2017SZ0615810F
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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX n(HT40) Mode /CH03, CH09, CH09		

Note: The relevant measured result has the offset with cable loss already.

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
2422 MHz	-21.89	8	PASS
2437 MHz	-21.90	8	PASS
2452 MHz	-21.37	8	PASS

TX CH03

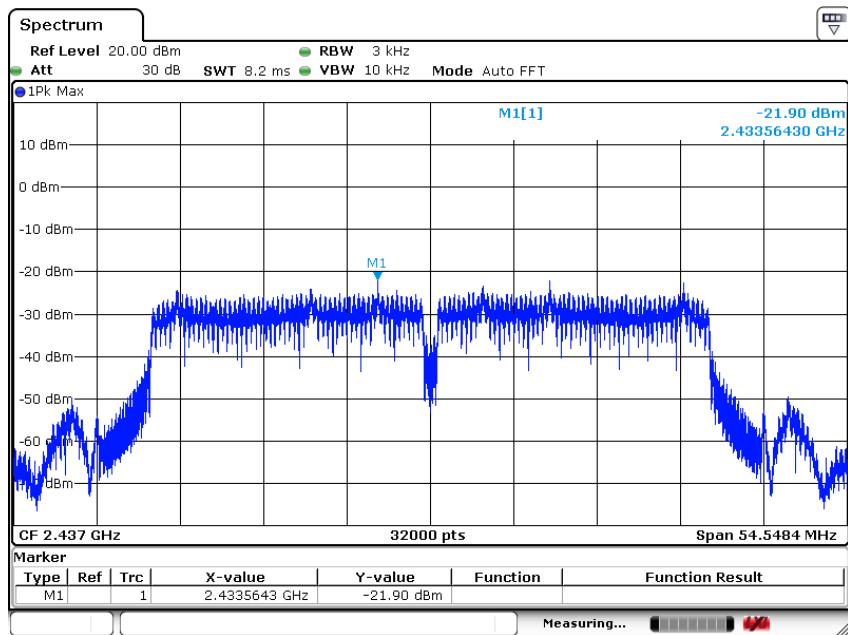




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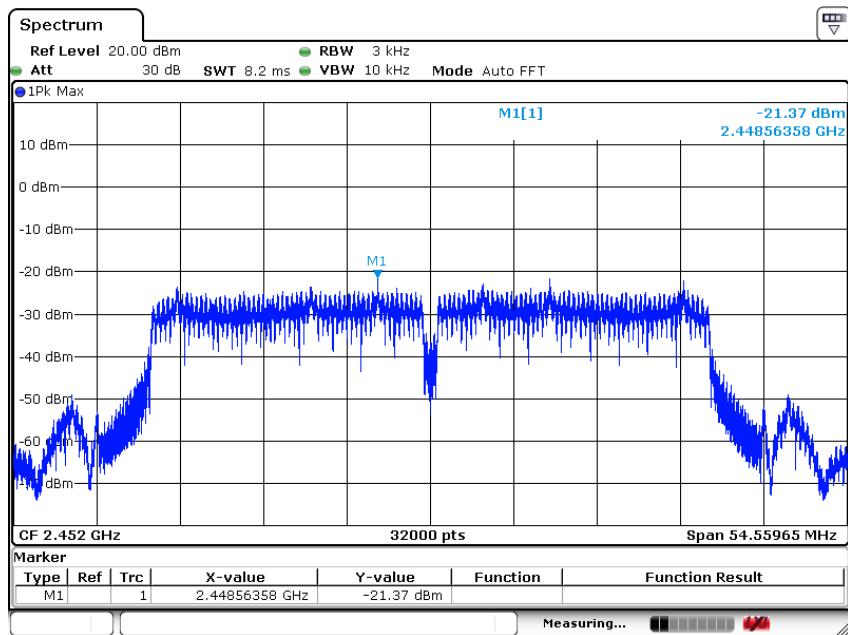
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TX CH06



Date: 16 JUN 2017 17:51:20

TX CH09



Date: 16 JUN 2017 17:51:48



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. BANDWIDTH TEST

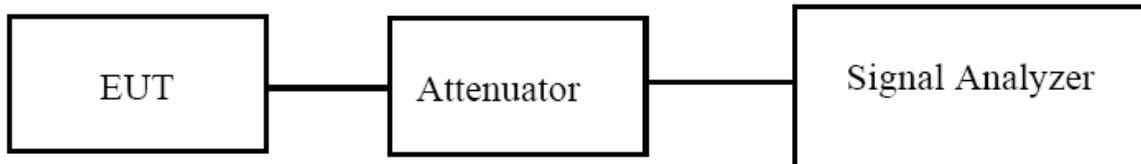
APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

TEST PROCEDURE

According to KDB 558074 D01 DTS Meas Guidance v03r03

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 it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



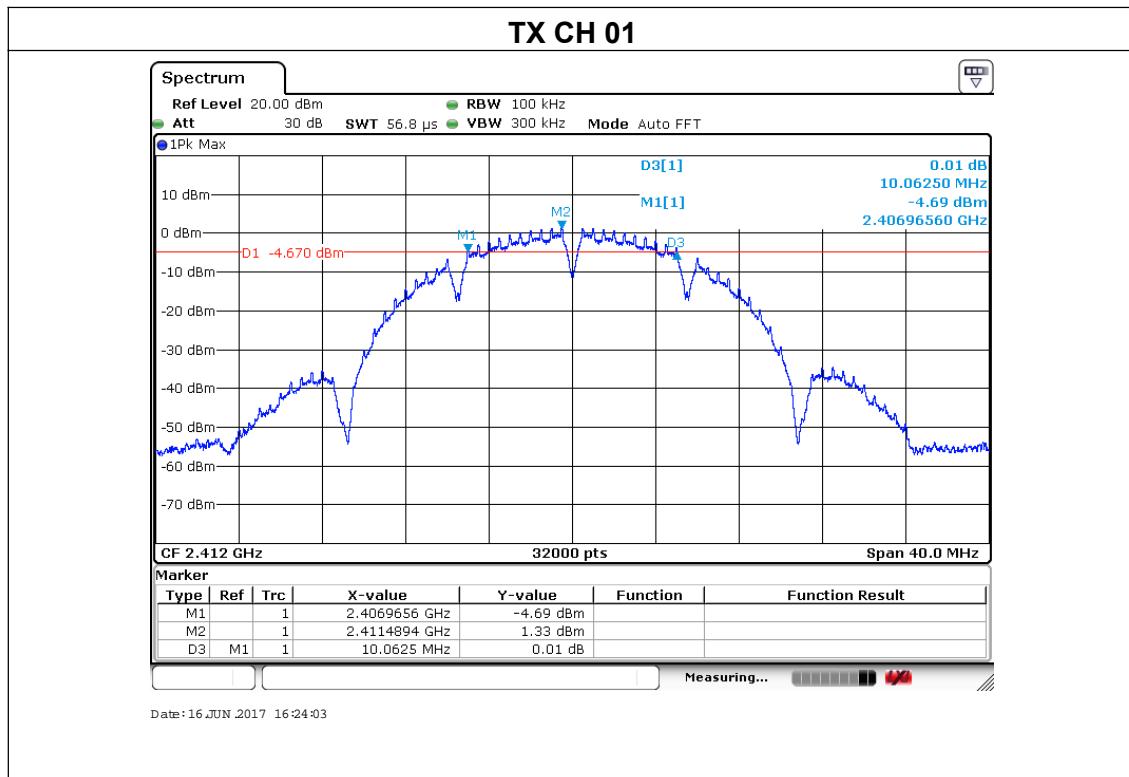
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TEST RESULTS

EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

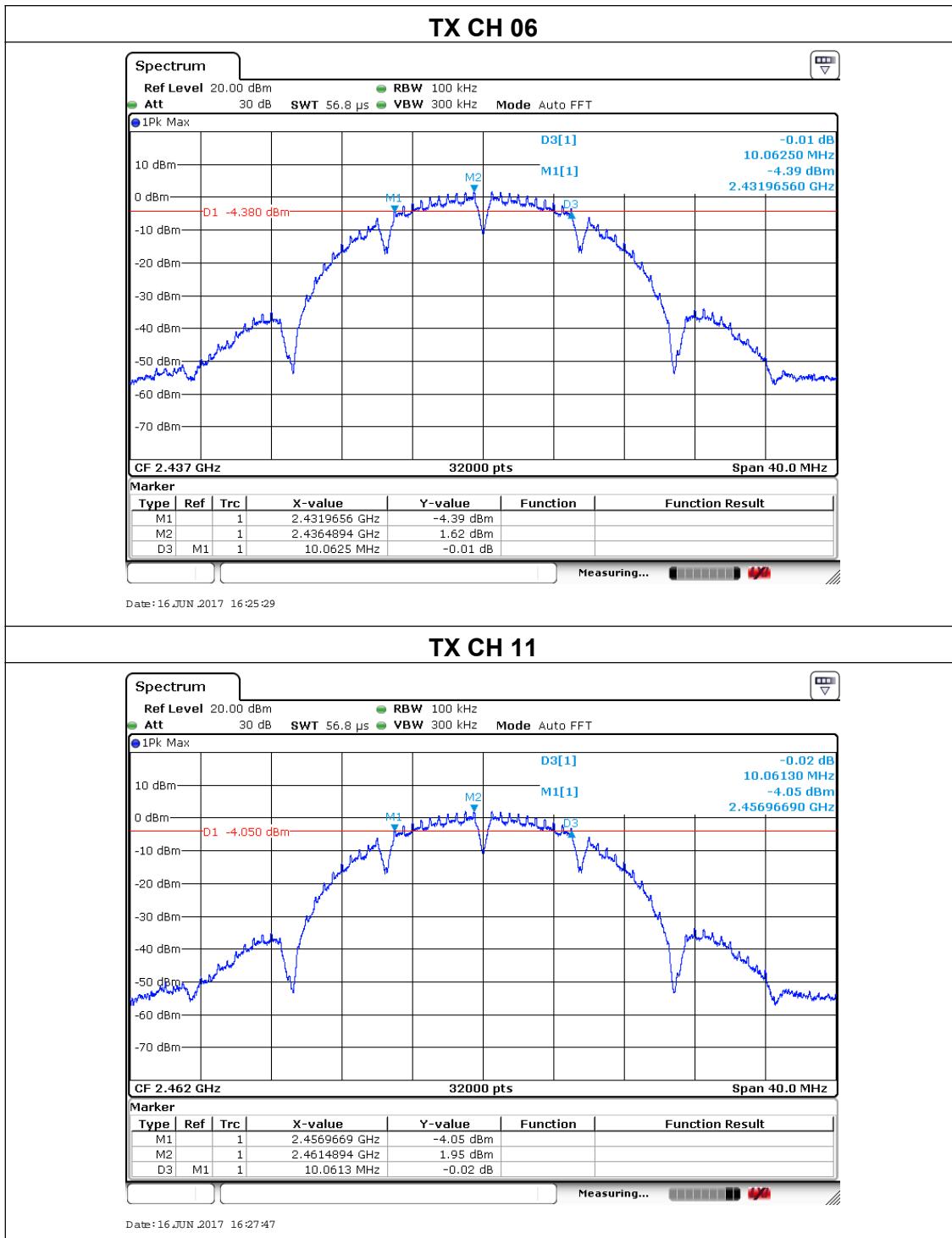
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	10.0625	500	Pass
Middle	2437	10.0625	500	Pass
High	2462	10.0613	500	Pass





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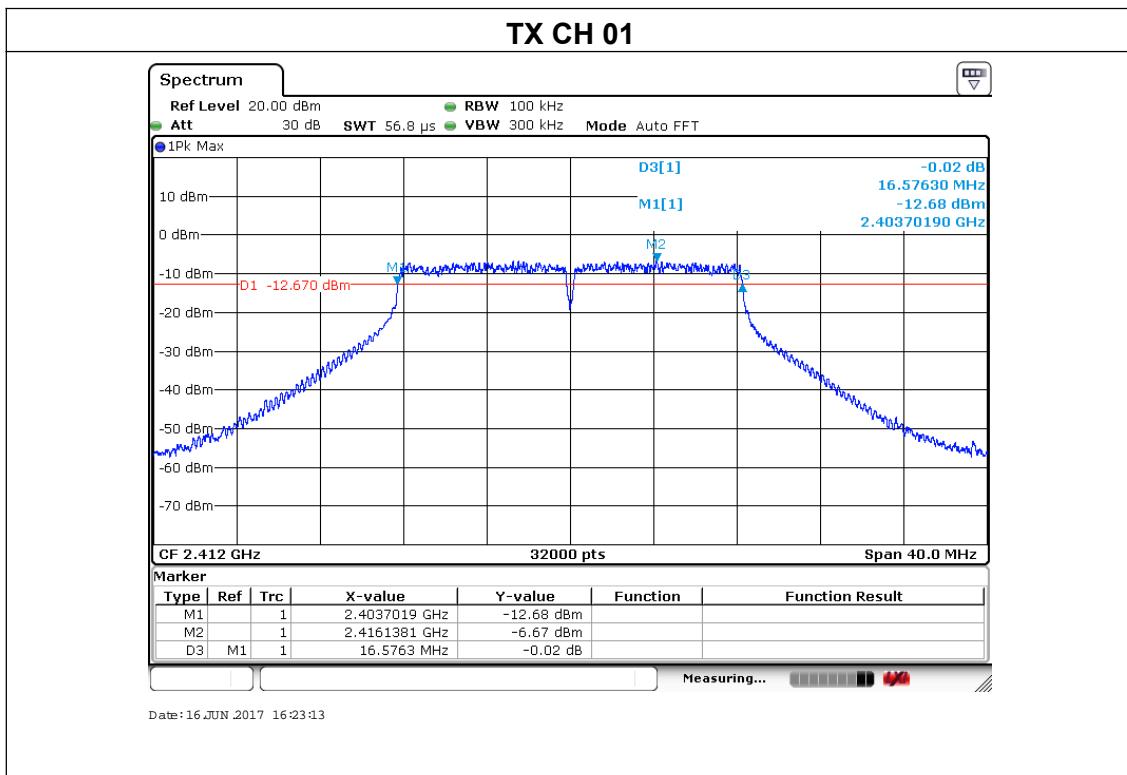


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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

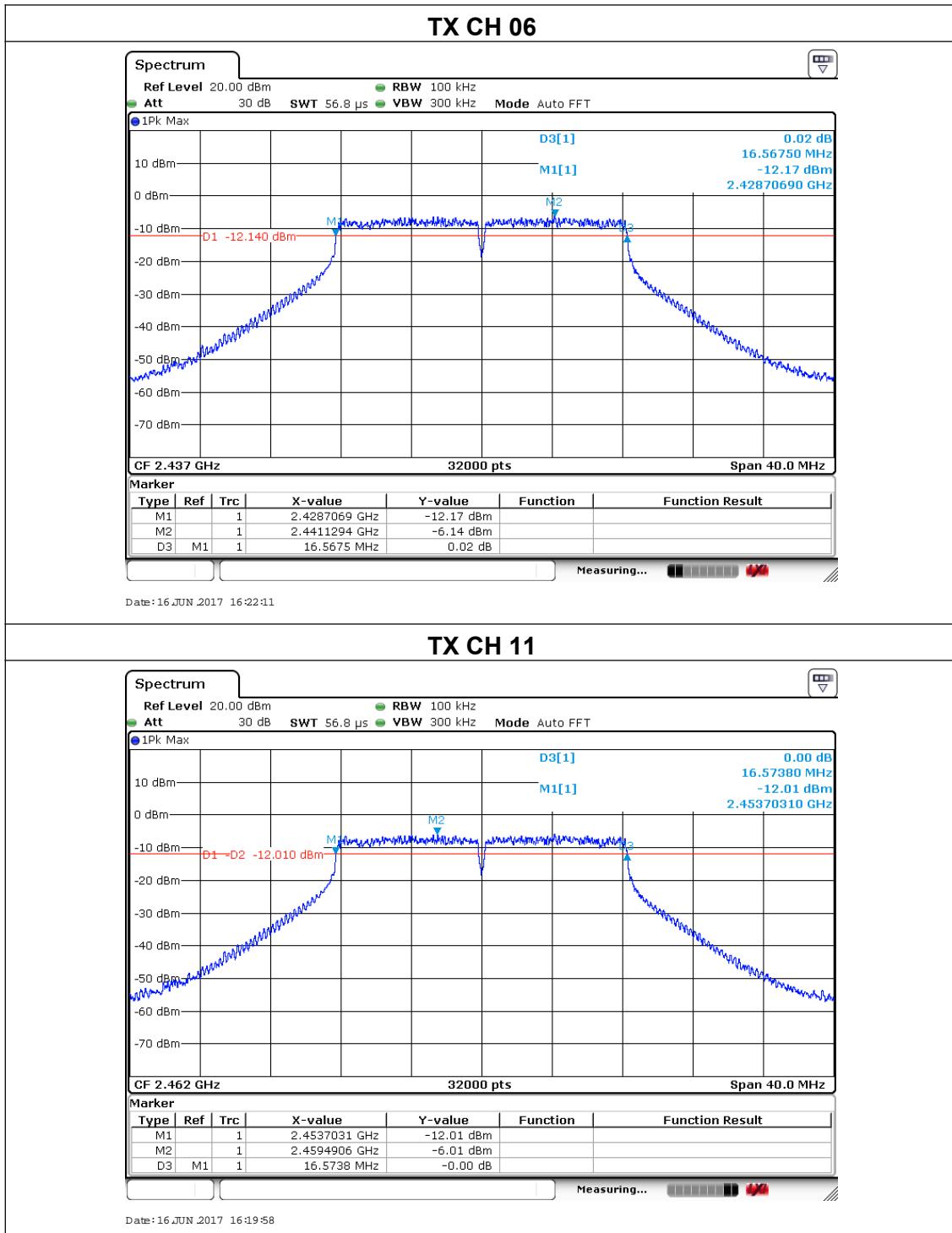
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.5763	500	Pass
Middle	2437	16.5675	500	Pass
High	2462	16.5738	500	Pass





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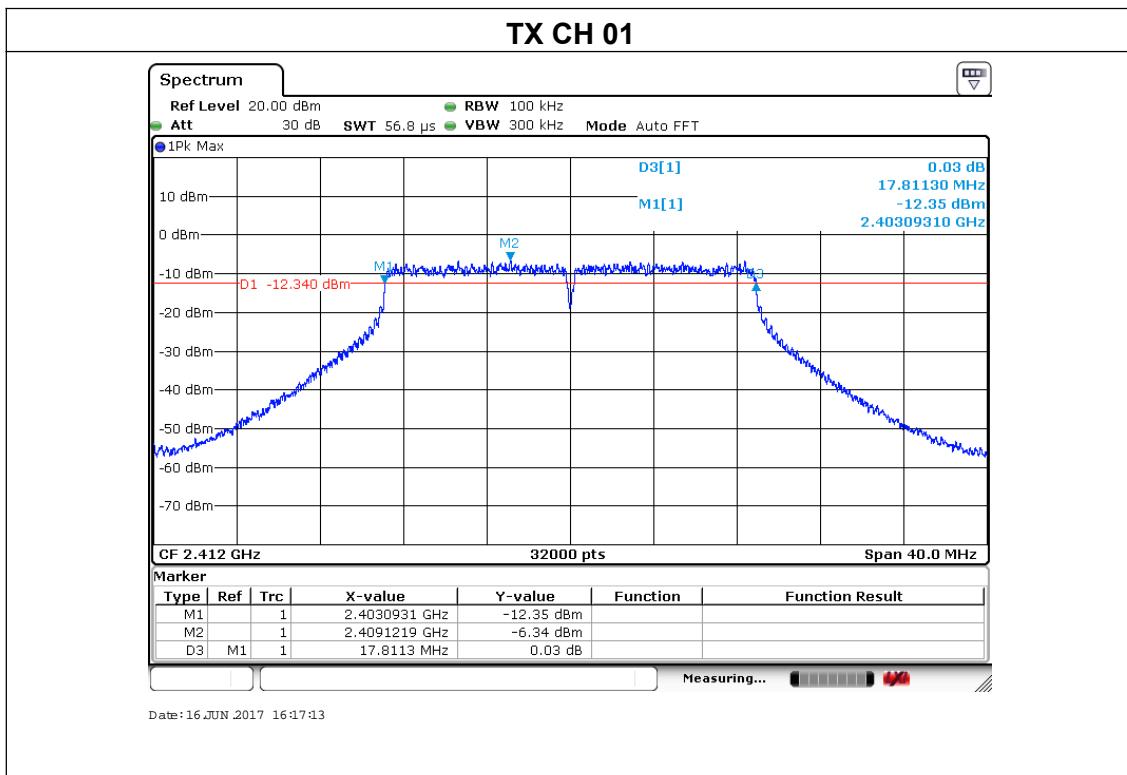


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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX n(HT20) Mode /CH01, CH06, CH11		

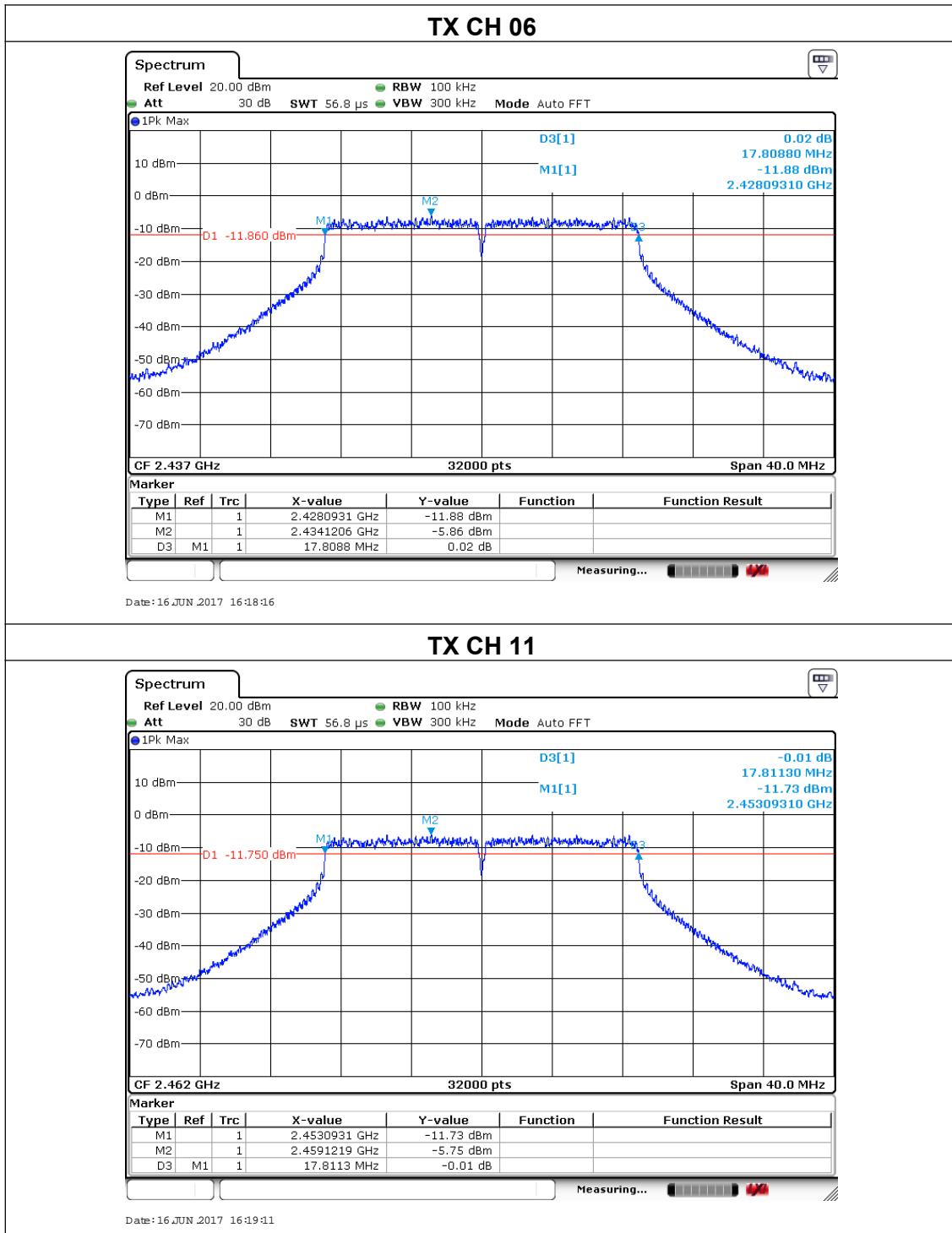
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.8113	500	Pass
Middle	2437	17.8088	500	Pass
High	2462	17.8113	500	Pass





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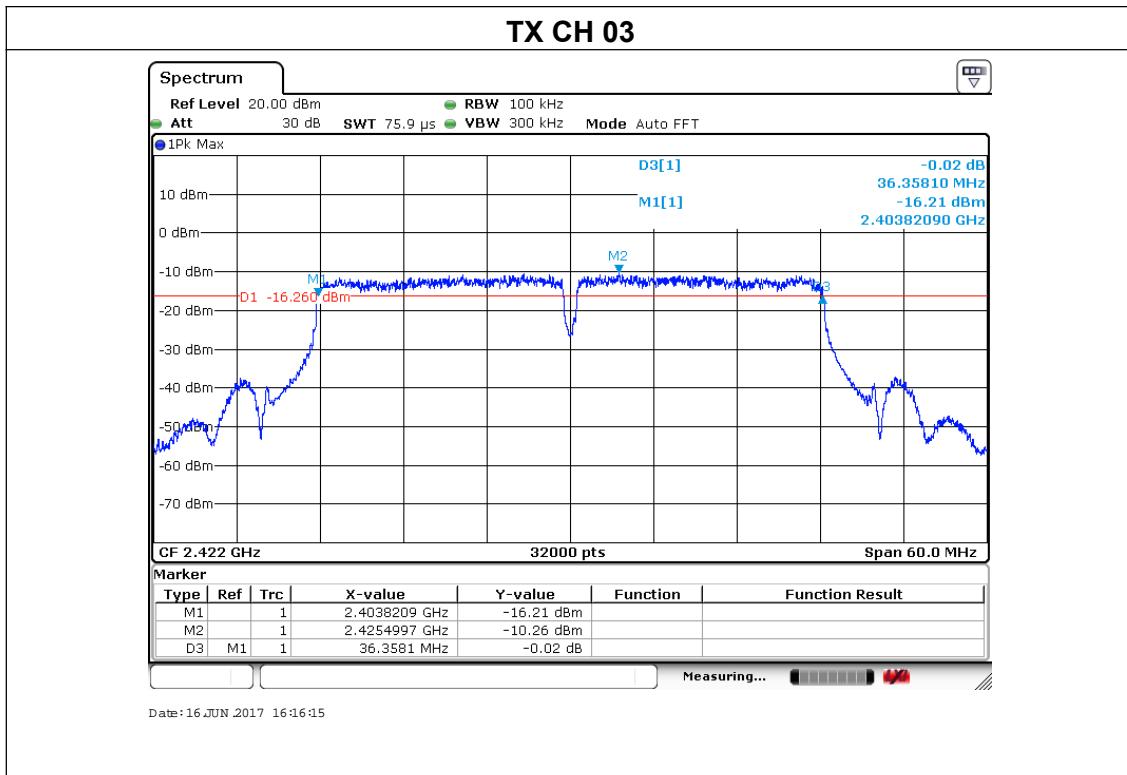


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EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX n(HT40) Mode /CH03, CH06, CH09		

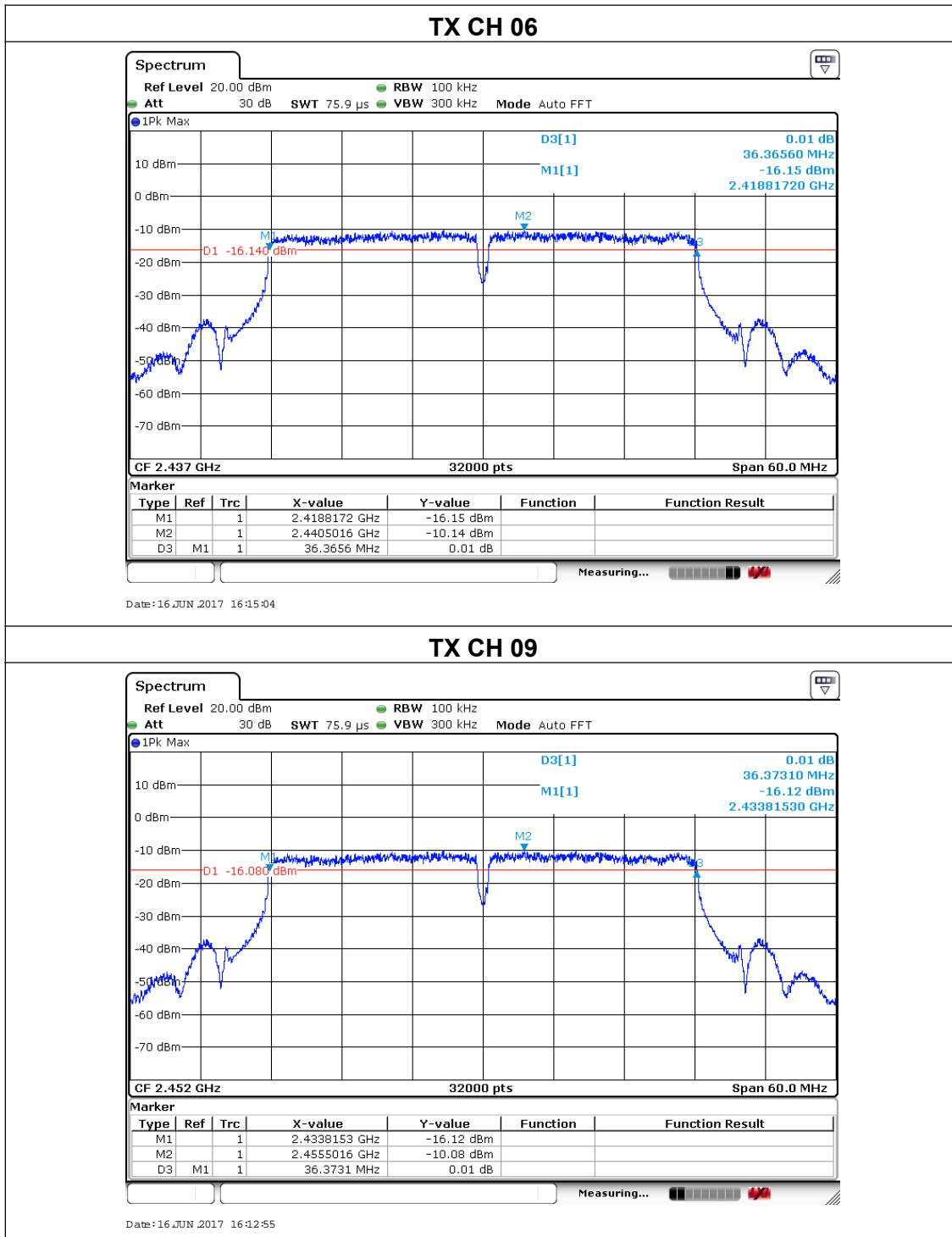
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.3581	500	Pass
Middle	2437	36.3656	500	Pass
High	2452	36.3731	500	Pass





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. PEAK OUTPUT POWER TEST

APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

TEST PROCEDURE

- The EUT was directly connected to the Power meter

DEVIATION FROM STANDARD

No deviation.

TEST SETUP



EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



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TEST RESULTS

EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz
Test Mode :	TX b/g/n Mode		

Test Channel	Frequency (MHz)	Maximum Conducted Output Power(PK)	Max. Tune up Power	LIMIT (dBm)
		(dBm)	(dBm)	
802.11b				
CH01	2412	15.35	16.00	30
CH06	2437	15.32	16.00	30
CH11	2462	15.24	16.00	30
802.11g				
CH01	2412	15.92	16.00	30
CH06	2437	15.71	16.00	30
CH11	2462	15.56	16.00	30
802.11n(HT20)				
CH01	2412	15.65	16.00	30
CH06	2437	15.37	16.00	30
CH11	2462	15.41	16.00	30
802.11n(HT40)				
CH03	2422	14.30	16.00	30
CH06	2437	14.22	16.00	30
CH09	2452	14.23	16.00	30

Note: the highest powers for:

802.11b: 1Mbps

802.11g: 6Mbps

802.11n(HT20):11Mbps

802.11n(HT40):13.5Mbps



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. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

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)).

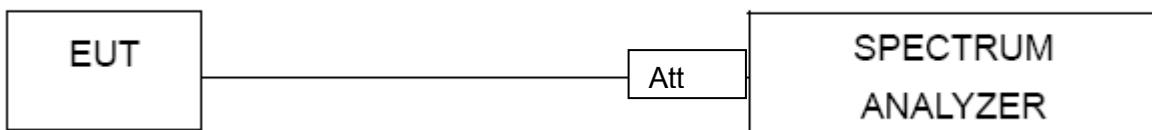
TEST PROCEDURE

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) 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.
- c) 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.
- d) 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.
- e) Repeat above procedures until all measured frequencies were complete.

DEVIATION FROM STANDARD

No deviation.

TEST SETUP



EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



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TEST RESULTS

EUT :	wireless Baby Monitor	Model Name :	870
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V from adapter AC 120V/60Hz

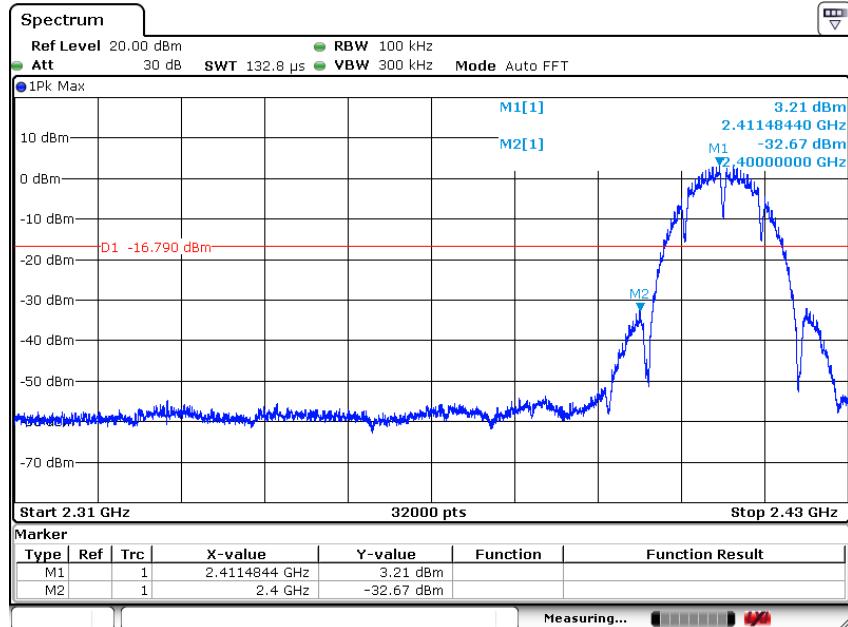
Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type	Comment
			(dB μ V/m)				
802.11b							
2390	46.23	9.86	56.09	74	-17.91	Pk	Vertical
2390	35.74	9.86	45.6	54	-8.4	Av	Vertical
2483.5	43.25	10.14	53.39	74	-20.61	Pk	Vertical
2483.5	34.05	10.14	44.19	54	-9.81	Av	Vertical
802.11g							
2390	45.51	9.86	55.37	74	-18.63	Pk	Vertical
2390	33.64	9.86	43.5	54	-10.5	Av	Vertical
2483.5	42.58	10.14	52.72	74	-21.28	Pk	Vertical
2483.5	33.61	10.14	43.75	54	-10.25	Av	Vertical
802.11n(HT20)							
2390	43.67	9.86	53.53	74	-20.47	Pk	Vertical
2390	33.06	9.86	42.92	54	-11.08	Av	Vertical
2483.5	43.61	10.14	53.75	74	-20.25	Pk	Vertical
2483.5	35.11	10.14	45.25	54	-8.75	Av	Vertical
802.11n(HT40)							
2390	44.46	9.86	54.32	74	-19.68	Pk	Vertical
2390	34.96	9.86	44.82	54	-9.18	Av	Vertical
2483.5	45.10	10.14	55.24	74	-18.76	Pk	Vertical
2483.5	34.26	10.14	44.40	54	-9.60	Av	Vertical



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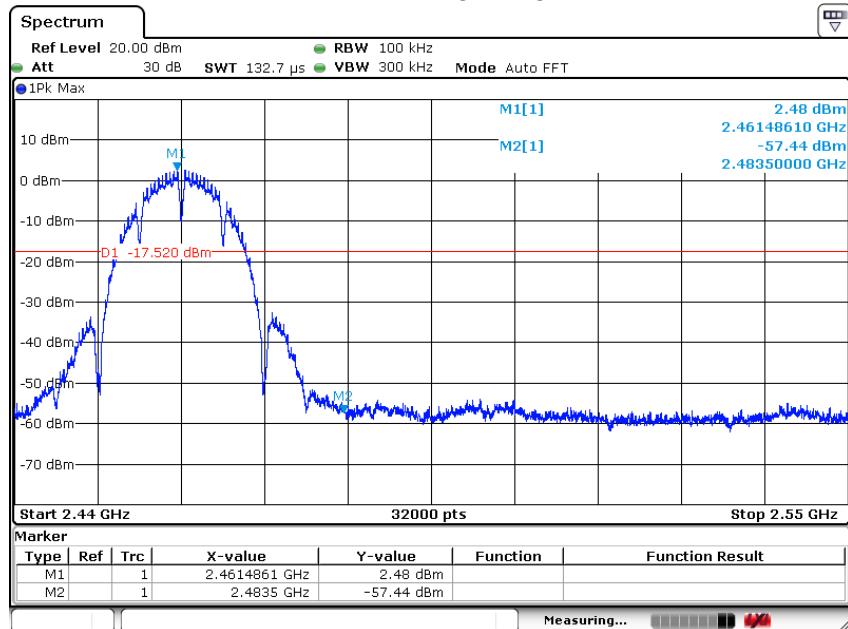
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802.11b: Band Edge, Left Side



Date: 16 JUN 2017 16:58:51

802.11b: Band Edge, Right Side



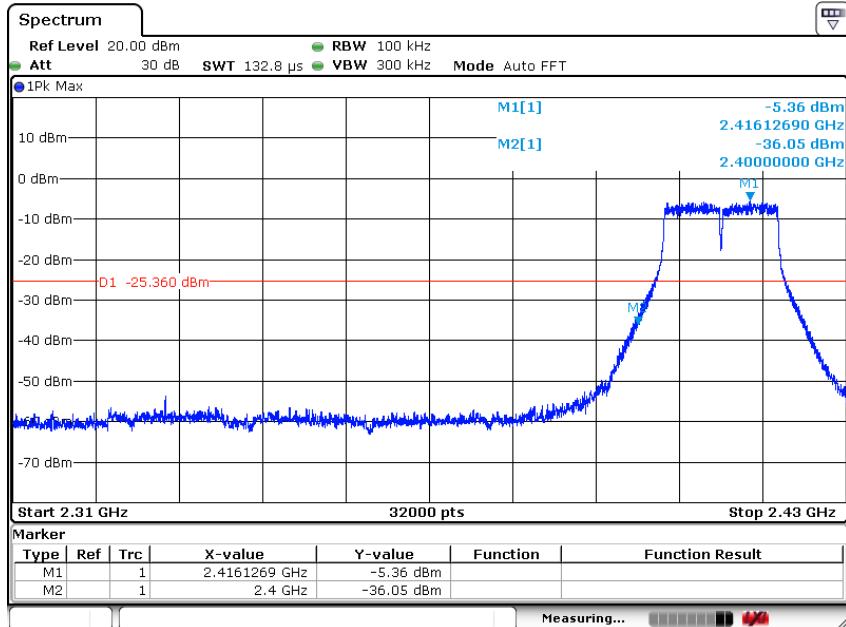
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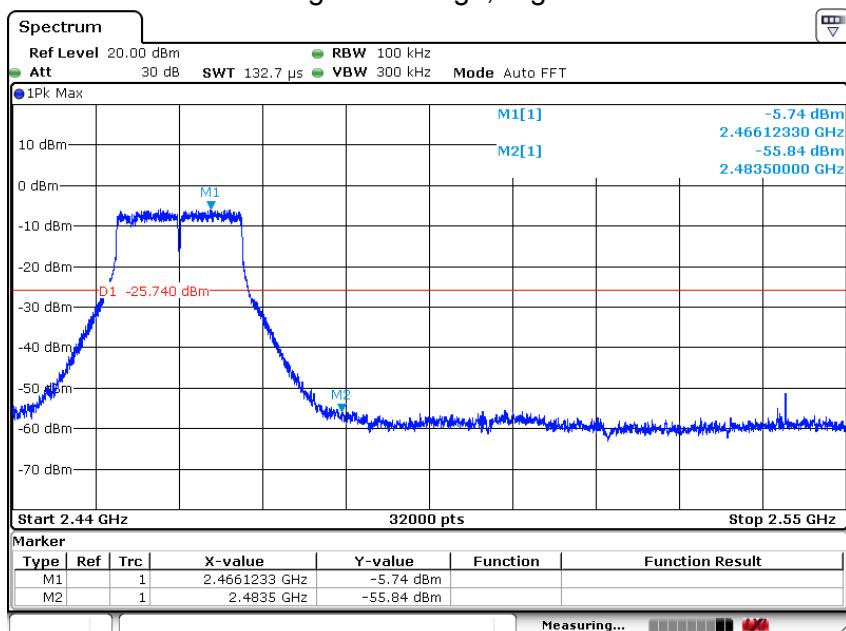
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802.11g: Band Edge, Left Side



802.11g: Band Edge, Right Side

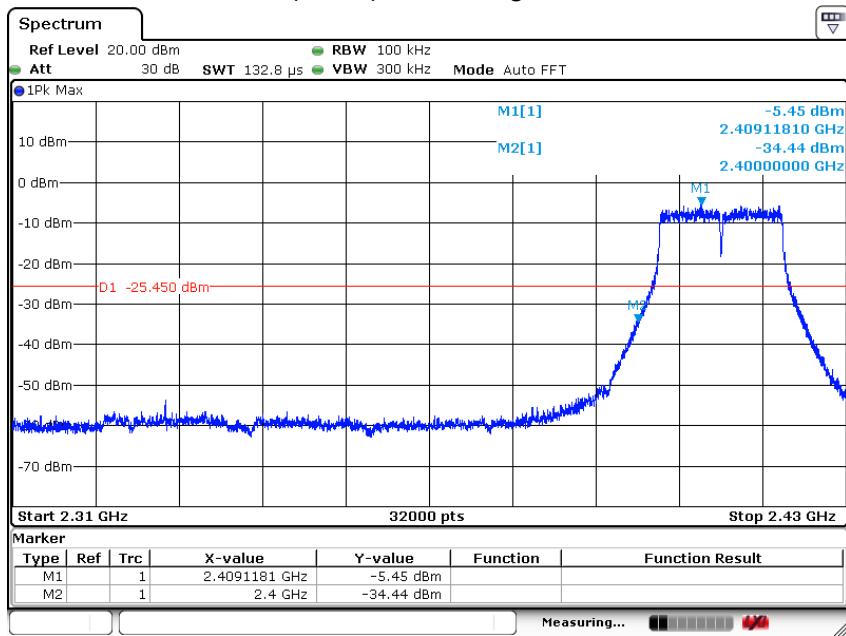




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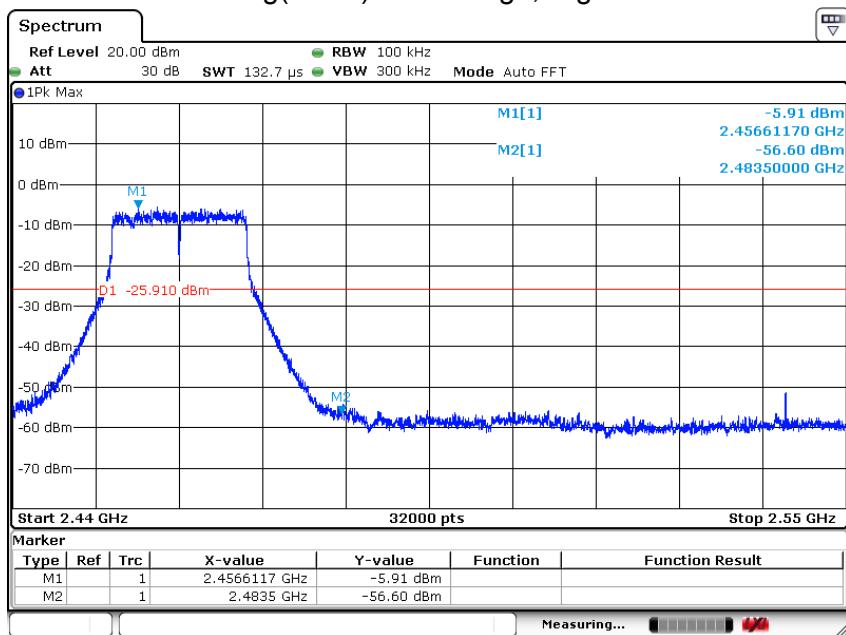
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802.11n(HT20): Band Edge, Left Side



Date: 16 JUN 2017 16:59:46

802.11g(HT20): Band Edge, Right Side



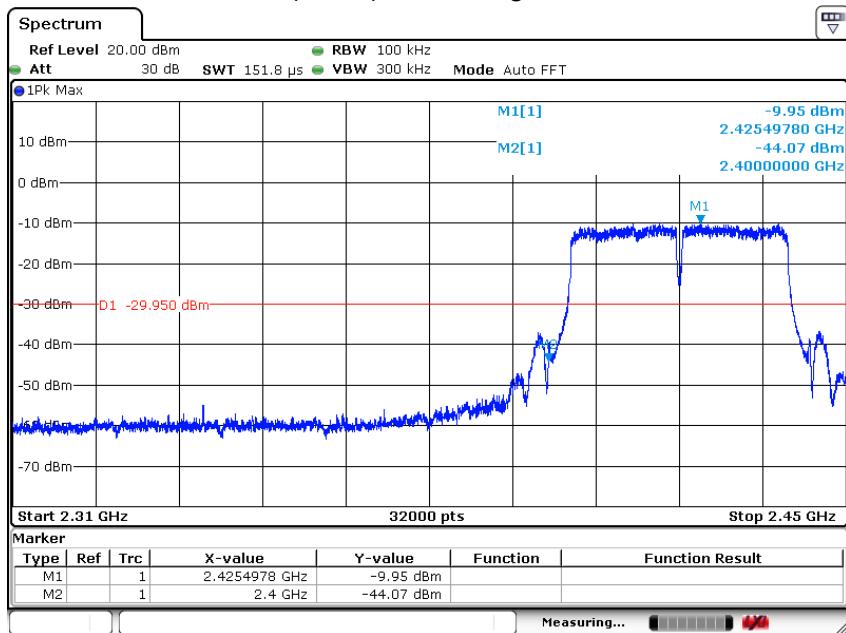
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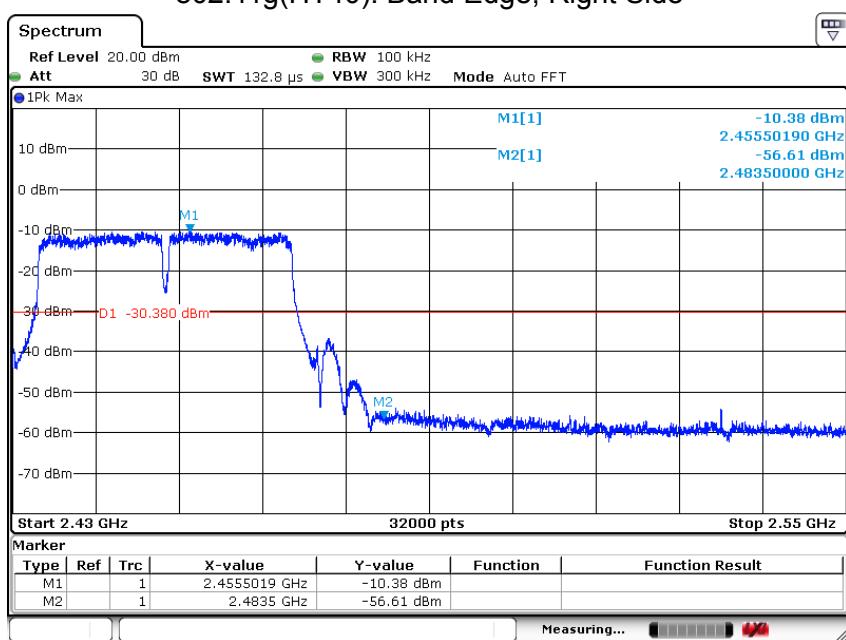
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802.11n(HT40): Band Edge, Left Side



802.11g(HT40): Band Edge, Right Side





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. ANTENNA REQUIREMENT

STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

EUT ANTENNA

The EUT antenna is PCB antenna. It comply with the standard requirement.

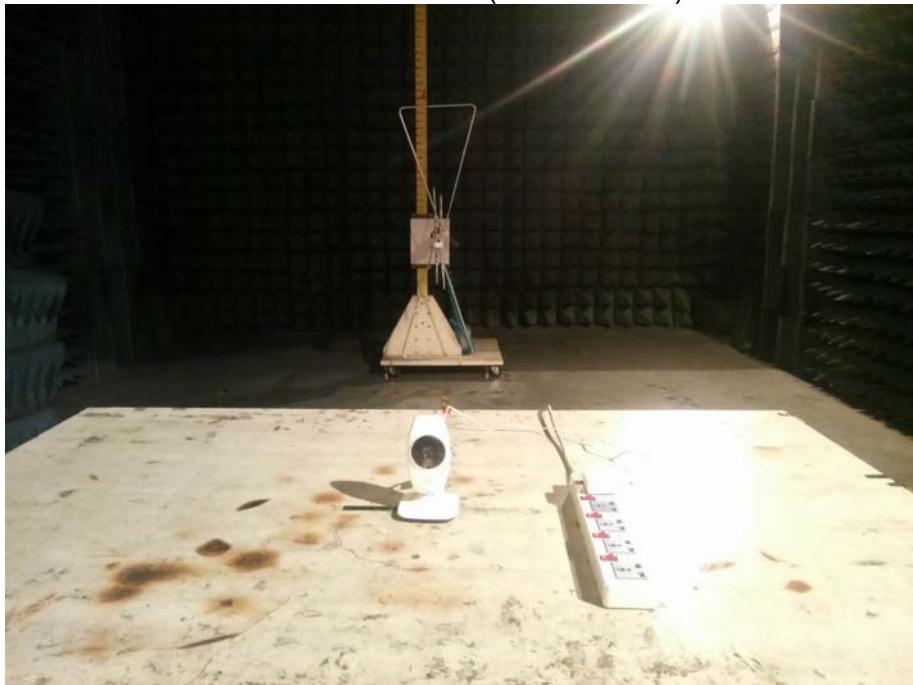


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. EUT TEST PHOTO

Radiated Emission (30MHz-1GHz)



Radiated Emission (above 1GHz)





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Conducted Emission (AC Mains)

