



Shenzhen GTI Technology Co., Ltd.

1F,2 Block, Jiaquan Building, Guanlan High-tech Park Baoan District,
Shenzhen, Guangdong, China.

Tel: +86-755-27559792

Fax: +86-755-86116468

Report No.: GTI20150428F-1

Page 1 of 97

TEST REPORT

Product Name: SeeSwitch, SmartPanel

Trademark: /

Model/Type reference: SeeSwitch 4S, SmartPanel 42, SeeSwitch 5S,
SmartPanel 52

FCC ID.....: **2AFTZSS525S424S**

Test Standards: **FCC Part 15.247: Operation within the bands 902-928
MHz, 2400-2483.5 MHz and 5725-5850 MHz**

Applicant: SHENZHEN KINGFEI Technologies Co.,Ltd

Address of applicant: 2-20C HAIHUAJU, The WORLD GARDEN, SHAHE,
NANSHAN,SHENZHEN, GUANGDONG, CHINA

Date of Receipt: Aug. 25, 2015

Date of Test Date.....: Aug. 27, 2015 - Oct. 15, 2015

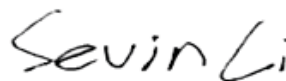
Data of issue.: Oct. 15, 2015

Test result	Pass *
--------------------	---------------

* In the configuration tested, the EUT complied with the standards specified above

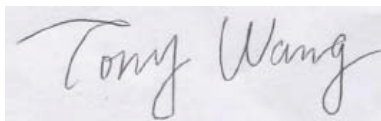
GENERAL DESCRIPTION OF EUT	
Equipment:	SeeSwitch, SmartPanel
Model Name:	SeeSwitch 4S, SmartPanel 42, SeeSwitch 5S, SmartPanel 52
Manufacturer:	SHENZHEN KINGFEI Technologies Co.,Ltd
Manufacturer Address:	2-20C HAIHUAJU, The WORLD GARDEN, SHAHE, NANSHAN, SHENZHEN, GUANGDONG, CHINA
Power Rating:	AC 100-240V, 50/60Hz

Compiled By:



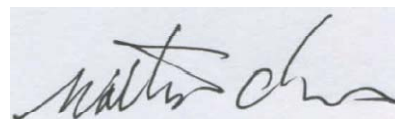
(Sevin Li)

Reviewed By:



(Tony Wang)

Approved By:



(Walter Chen)

This test report consists of 97 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by GTI. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of compiler, reviewer and approver. Any objections must be raised to GTI within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.



Table of Contents

Page

1. SUMMARY.....	4
1.1. TEST STANDARDS.....	4
1.2. TEST DESCRIPTION.....	4
1.3. TEST FACILITY	5
1.4. MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION.....	6
2.1. ENVIRONMENTAL CONDITIONS	6
2.2. GENERAL DESCRIPTION OF EUT	6
2.3. DESCRIPTION OF TEST MODES	7
2.4. MEASUREMENT INSTRUMENTS LIST	9
3. TEST CONDITIONS AND RESULTS	10
3.1. CONDUCTED EMISSION (AC MAIN)	10
3.2. RADIATED EMISSION	15
3.3. MAXIMUM CONDUCTED OUTPUT POWER.....	37
3.4. POWER SPECTRAL DENSITY	43
3.5. 6dB BANDWIDTH.....	49
3.6. BAND EDGE COMPLIANCE OF RF EMISSION	55
3.7. SPURIOUS RF CONDUCTED EMISSION.....	66
3.8. ANTENNA REQUIREMENT.....	85
4. EUT TEST PHOTO	87
5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL	88
5.1. EXTERNAL PHOTO.....	88
5.2. INTERNAL PHOTO	95

1. SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

ANSI C63.10:2009: American National Standard for Testing Unlicensed Wireless Devices

ANSI C63.4: 2009 : American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment

KDB558074 D01 V03r03: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

1.2. Test Description

FCC PART 15 15.247		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.247(a)(2)	6dB Bandwidth	PASS
FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS
FCC Part 15.247(b)	Maximum Peak Output Power	PASS
FCC Part 15.247(e)	Power Spectral Density	PASS
FCC Part 15.205/ 15.209	Radiated Emissions	PASS
FCC Part 15.247(d)	Band Edge	PASS
FCC Part 15.203/15.247 (b)	Antenna Requirement	PASS

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen General Testing & Inspection Technology Co., Ltd.

Add: 1F, 2 Block, Jiaquan Building, Guanlan High-tech Park Baoan District, Shenzhen, Guangdong, China

1.3.2 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

IC Registration No.: 9783A

The 3m alternate test site of Shenzhen GTI Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Aug, 2011.

FCC-Registration No.: 214666

Shenzhen GTI Technology 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 214666, Sep 19, 2011

1.4. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements and is documented in the Shenzhen General Testing & Inspection Technology Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for General Testing & Inspection laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	1.60 dB	(1)
Radiated spurious emission 9KHz-40 GHz	2.20 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

2.2. General Description of EUT

Product Name:	SeeSwitch, SmartPanel
Model/Type reference:	SeeSwitch 4S, SmartPanel 42, SeeSwitch 5S, SmartPanel 52
Model difference:	SeeSwitch 4S, SmartPanel 42 are electrically identical, and SeeSwitch 5S, SmartPanel 52 are electrically identical. SeeSwitch 4S/SmartPanel 42 and SeeSwitch 5S/SmartPanel 52 have same circuit ,same key components ,same RF module;but PCB layout and display size ,enclosure are different .
Power supply:	AC 100-240V, 50/60Hz
Hardware version:	3.x/4.x
Software version:	v4.x/v5.x
WIFI :	
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)
Modulation technology:	802.11b: DSSS 802.11g/802.11n(H20)/802.11n(H40): OFDM
Modulation type:	802.11b: BPSK/QPSK/CCK 802.11g/802.11n(H20)/802.11n(H40): BPSK/QPSK/16QAM/64QAM
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz
Channel number:	802.11b/802.11g/802.11n(H20): 11, 802.11n(H40): 7
Channel separation:	5MHz
Antenna type:	FPC Antenna
Antenna gain:	2.3dBi
Bluetooth:	
Supported type:	Version 4.0 for low Energy
Modulation:	GFSK
Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Channel separation:	2 MHz
Antenna type:	FPC Antenna
Antenna gain:	2.3dBi

ZigBee:	
Supported type:	IEEE802.15.4 (2.4GHz)
Modulation:	O-QPSK
Operation frequency:	2405MHz to 2480MHz
Channel number:	16
Channel separation:	5 MHz
Antenna type:	FPC Antenna
Antenna gain:	2.5dBi

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

2.3. Description of Test Modes

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) mode for testing.

ZigBee Operation Frequency :

Channel	Frequency (MHz)
00	2405
02	2410
03	2415
:	:
07	2440
:	:
13	2470
14	2475
15	2480

BT 4.0 Operation Frequency :

Channel	Frequency (MHz)
00	2402
02	2404
03	2406
:	:
19	2440
:	:
37	2476
38	2478
39	2480

WIFI Operation Frequency :

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		

Data Rate Used:

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission Radiated Emission 9kHz~1GHz& Radiated Emission 1GHz~10th Harmonic	11b/DSSS	1 Mbps	1/6/11
	11g/OFDM	6 Mbps	1/6/11
	11n(20MHz)/OFDM	6.5Mbps	1/6/11
	11n(40MHz)/OFDM	13.5 Mbps	3/6/9
Band Edge	11b/DSSS	1 Mbps	1/11
	11g/OFDM	6 Mbps	1/11
	11n(20MHz)/OFDM	6.5Mbps	1/11
	11n(40MHz)/OFDM	13.5 Mbps	3/9

2.4. Measurement Instruments List

Maximum Peak Output Power / Band Edge Compliance of RF Emission / Spurious RF Conducted Emission / Hoping Require/ 20dB bandwidth

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Rohde & Schwarz	FSU	100105	Jan 07,2016

Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrate until
1	LISN	R&S	ENV216	101112	Jan. 07, 2016
2	LISN	R&S	ENV216	101113	Jan. 07, 2016
3	EMI Test Receiver	R&S	ESCI	100920	Jan. 07, 2016
4	Cable	Schwarzbeck	AK9515E	33156	Jan. 07, 2016

Radiated Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100967	Jan 07,2016
2	High pass filter	micro-tranics	HPM50111	142	Jan 07,2016
3	Log-Bicon Antenna	Schwarzbeck	CBL6141A	4180	Jan. 10,2016
4	Ultra-Broadband Antenna	ShwarzBeck	BBHA9170	25841	Jan. 10,2016
5	Loop Antenna	LAPLAC	RF300	9138	Jan. 10,2016
6	Spectrum Analyzer	Rohde & Schwarz	FSU	100105	Jan 07,2016
7	Horn Antenna	Schwarzbeck	BBHA 9120D	647	Jan. 13,2016
8	Pre-Amplifier	HP	8447D	1937A03050	Jan. 07,2016
9	Pre-Amplifier	EMCI	EMC05183 5	980075	Jan. 07,2016
10	Antenna Mast	UC	UC3000	N/A	N/A
11	Turn Table	UC	UC3000	N/A	N/A
12	Cable Below 1GHz	Schwarzbeck	AK9515E	33155	Jan. 07,2016
13	Cable Above 1GHz	Hubersuhner	SUCOFLEX1 02	DA1580	Jan. 07,2016

Note: 1. The Cal.Interval was one year.

2. The cable loss has calculated in test result which connection between each test instruments.

3. TEST CONDITIONS AND RESULTS

3.1. Conducted Emission (AC Main)

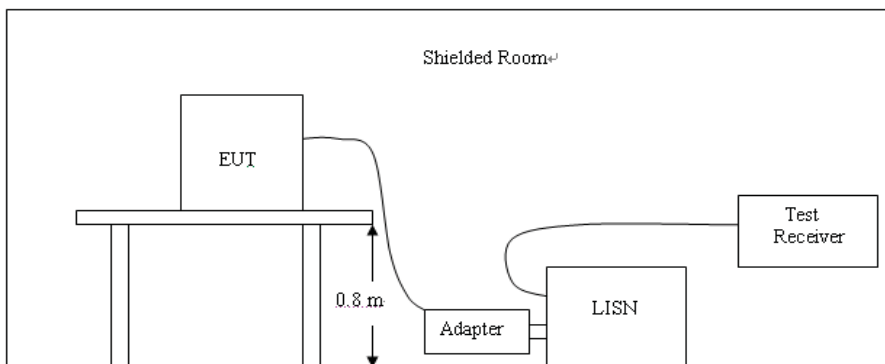
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
2. Support equipment, if needed, was placed as per ANSI C63.4-2009
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009
4. The EUT received DC5V power from the adapter, the adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST RESULTS

Note: We tested all modes, recorded the worst case at wifi 802.11b Low Channel mode

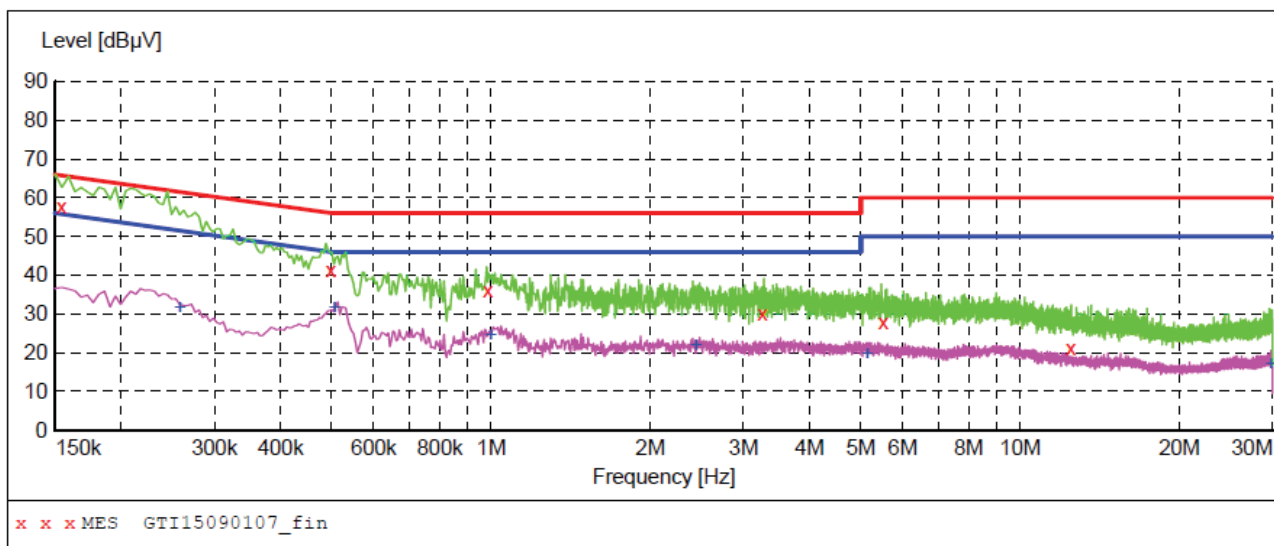
SeeSwitch 5S/SmartPanel 52

LINE

L

SCAN TABLE: "Vol (9K-30M) FIN-N"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "GTI15090107_fin"

9/1/2015 10:34AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.154000	57.80	9.8	66	8.0	QP	L1	GND
0.498000	41.30	9.8	56	14.7	QP	L1	GND
0.986000	36.00	10.0	56	20.0	QP	L1	GND
3.254000	29.90	10.4	56	26.1	QP	L1	GND
5.510000	27.70	10.4	60	32.3	QP	L1	GND
12.464000	21.20	10.6	60	38.8	QP	L1	GND

MEASUREMENT RESULT: "GTI15090107_fin2"

9/1/2015 10:34AM

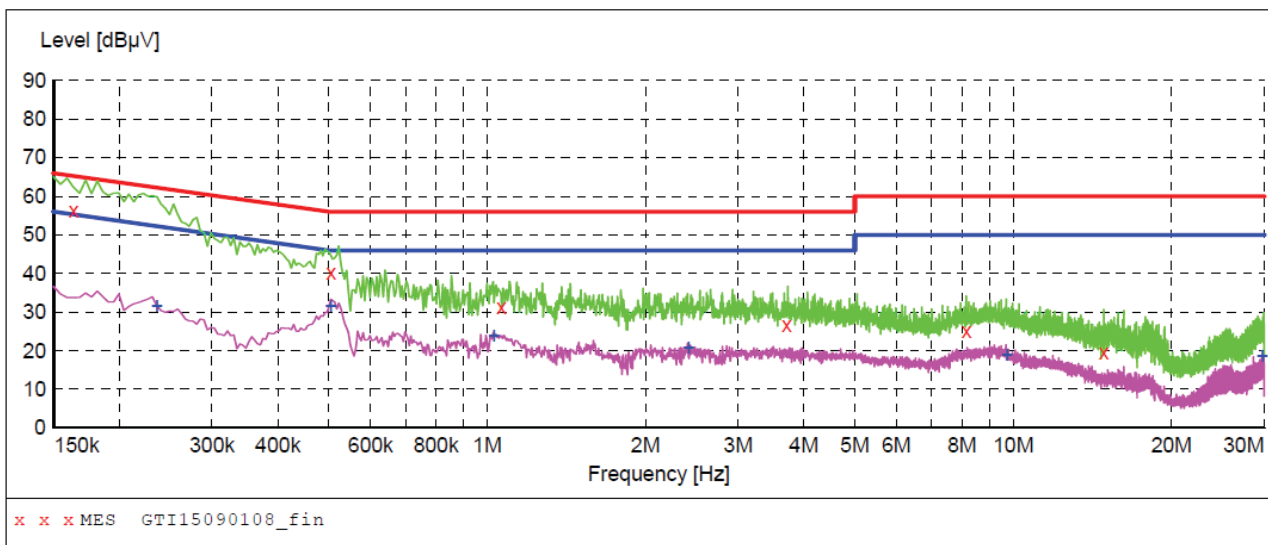
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.258000	31.60	9.7	52	19.9	AV	L1	GND
0.506000	31.40	9.8	46	14.6	AV	L1	GND
0.998000	24.60	10.0	46	21.4	AV	L1	GND
2.438000	21.70	10.3	46	24.3	AV	L1	GND
5.144000	19.60	10.4	50	30.4	AV	L1	GND
29.804000	17.20	10.9	50	32.8	AV	L1	GND

LINE

N

SCAN TABLE: "V01 (9K-30M) FIN-N"

Short Description: 150K-30M Voltage


MEASUREMENT RESULT: "GTI15090108_fin"

9/1/2015 10:40AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.163500	56.40	9.5	65	8.9	QP	N	GND
0.504500	40.30	9.5	56	15.7	QP	N	GND
1.062500	31.30	9.8	56	24.7	QP	N	GND
3.708500	26.60	10.2	56	29.4	QP	N	GND
8.154500	25.00	10.2	60	35.0	QP	N	GND
14.868500	19.60	10.3	60	40.4	QP	N	GND

MEASUREMENT RESULT: "GTI15090108_fin2"

9/1/2015 10:40AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.235500	31.60	9.5	52	20.7	AV	N	GND
0.504500	31.70	9.5	46	14.3	AV	N	GND
1.031000	23.70	9.8	46	22.3	AV	N	GND
2.417000	20.70	10.1	46	25.3	AV	N	GND
9.729500	18.80	10.3	50	31.2	AV	N	GND
29.745500	18.60	10.7	50	31.4	AV	N	GND

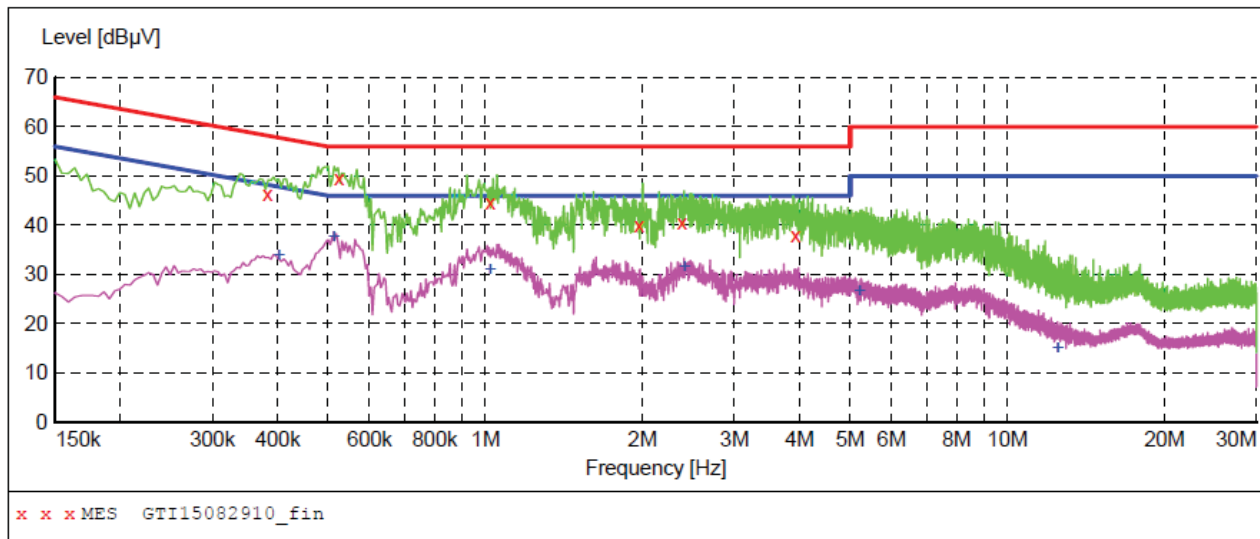
SeeSwitch 4S/SmartPanel 42

LINE

L

SCAN TABLE: "Vo1 (9K-30M) FIN-N"

Short Description: 150K-30M Voltage


MEASUREMENT RESULT: "GTI15082910_fin"

8/29/2015 2:54PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.382000	46.20	9.8	58	12.0	QP	L1	GND
0.524000	49.50	9.8	56	6.5	QP	L1	GND
1.022000	44.50	10.0	56	11.5	QP	L1	GND
1.970000	39.80	10.3	56	16.2	QP	L1	GND
2.378000	40.40	10.3	56	15.6	QP	L1	GND
3.920000	37.90	10.4	56	18.1	QP	L1	GND

MEASUREMENT RESULT: "GTI15082910_fin2"

8/29/2015 2:54PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.402000	33.80	9.8	48	14.0	AV	L1	GND
0.512000	37.50	9.8	46	8.5	AV	L1	GND
1.022000	31.00	10.0	46	15.0	AV	L1	GND
2.408000	31.50	10.3	46	14.5	AV	L1	GND
5.204000	26.70	10.4	50	23.3	AV	L1	GND
12.506000	15.10	10.6	50	34.9	AV	L1	GND

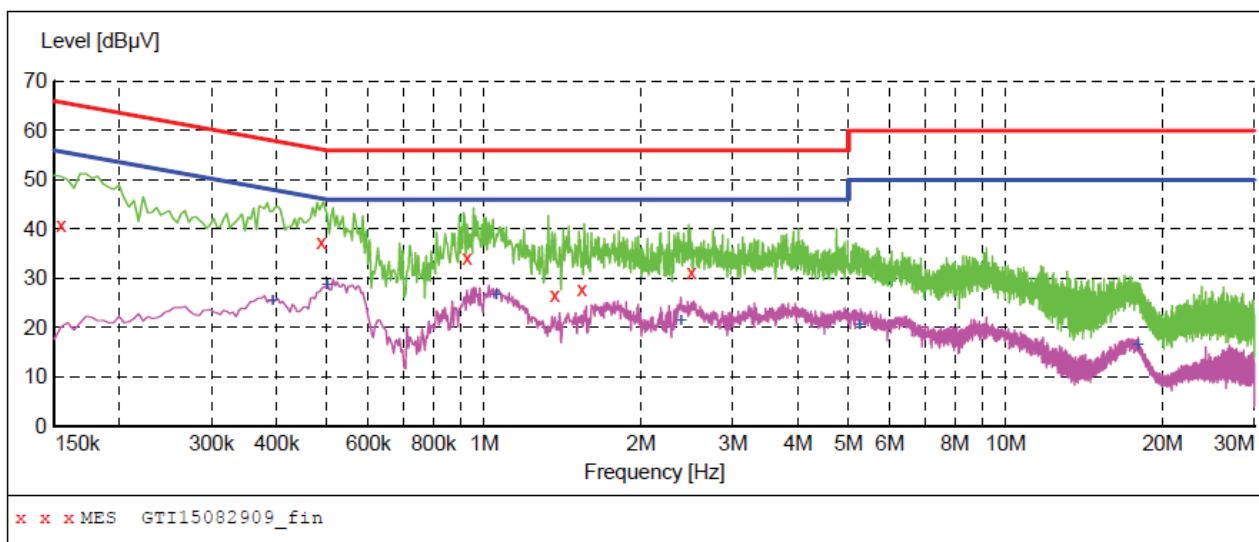
LINE

N

SCAN TABLE: "Vol (9K-30M) FIN-N"

Short Description:

150K-30M Voltage


MEASUREMENT RESULT: "GTI15082909_fin"

8/29/2015 2:49PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.154500	40.80	9.5	66	25.0	QP	N	GND
0.487500	37.40	9.5	56	18.8	QP	N	GND
0.927500	34.00	9.7	56	22.0	QP	N	GND
1.364000	26.60	9.9	56	29.4	QP	N	GND
1.539500	27.60	9.9	56	28.4	QP	N	GND
2.498000	31.30	10.1	56	24.7	QP	N	GND

MEASUREMENT RESULT: "GTI15082909_fin2"

8/29/2015 2:49PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.393000	25.50	9.5	48	22.5	AV	N	GND
0.500000	28.70	9.5	46	17.3	AV	N	GND
1.053500	26.50	9.8	46	19.5	AV	N	GND
2.385500	21.40	10.1	46	24.6	AV	N	GND
5.256500	20.50	10.2	50	29.5	AV	N	GND
17.951000	16.40	10.4	50	33.6	AV	N	GND

3.2. Radiated Emission

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emission not reported are much lower than the prescribed limits. Set the RBW=1MHz, VBW=3MHz for Peak Detector for PK and RMS for AV Value, Readings are both peak and average values. The pre-test have done for the EUT in three axes and found the worst emission at position shown in test setup photos.

Frequency (MHz)	Distance (Meters)	Radiated (dBuV/m)	Radiated (μV/m)
0.009-0.49	3	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	$2400/F(\text{KHz})$
0.49-1.705	3	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	$24000/F(\text{KHz})$
1.705-30	3	$20\log(30)+40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane..
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.

Field Strength Calculation

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:

$$FS = RA + AF + CL - AG$$

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

For example

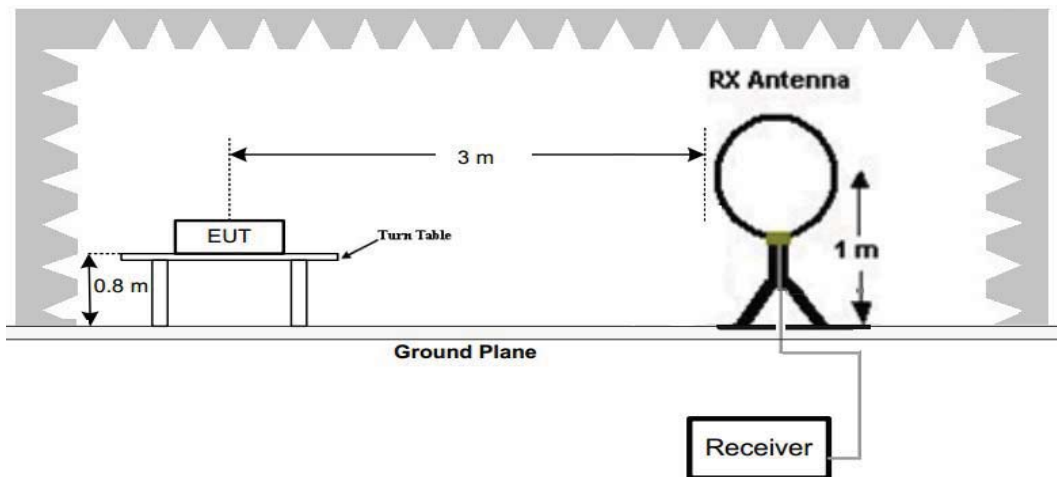
Frequency (MHz)	FS (dBμV/m)	RA (dBμV/m)	AF (dB)	CL (dB)	AG (dB)	Transd (dB)
150.00	40	58.1	12.2	1.6	31.90	-18.1

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

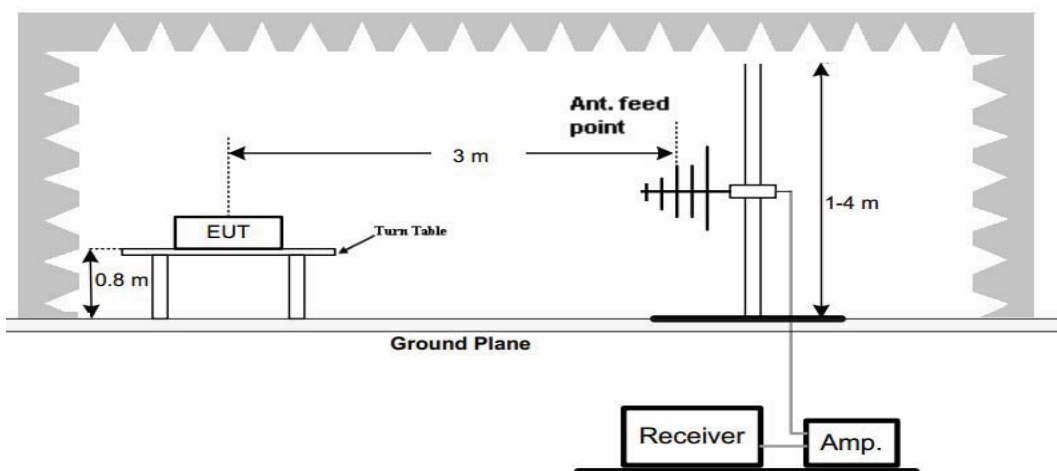
Test Configuration

For the actual test configuration, please refer to the related Item –EUT Test Photos.

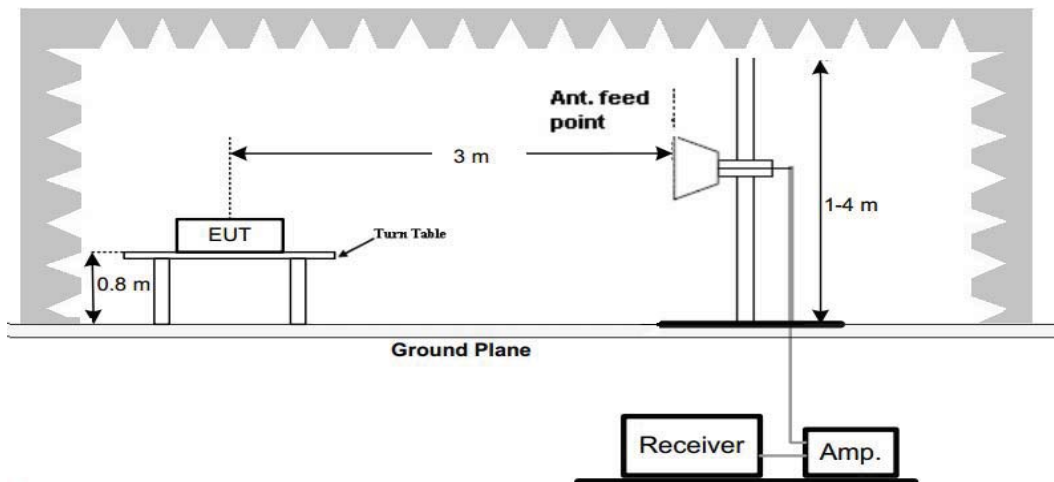
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz-25GHz



Test Results

Remark:

1. We tested three channels for each mode and recorded worst case at low channel of 802.11b, ZigBee and BT 4.0 mode from 30MHz to 1GHz.
2. We tested three channels for each mode and recorded worst case at low channel of 802.11b mode for below 30MHz;

A. SeeSwitch 5S/SmartPanel 52

For 9 KHz-30MHz

For 802.11B Low Channel

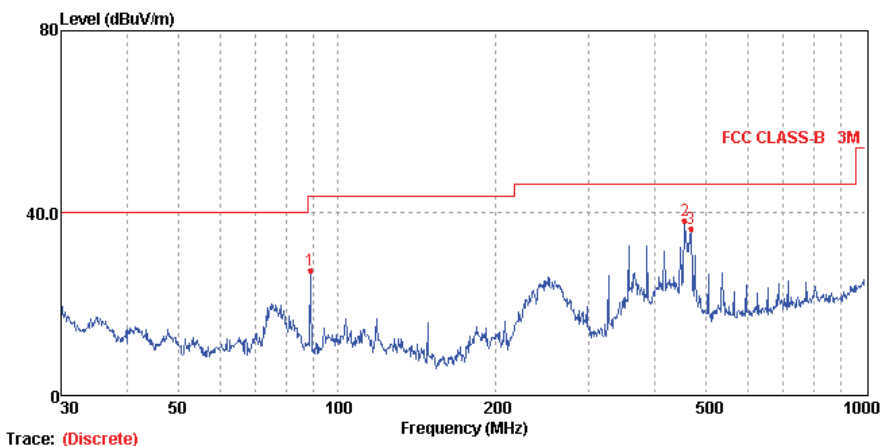
Frequency (MHz)	Corrected Reading (dBuV/m)@3m	FCC Limit (dBuV/m) @3m	Margin (dB)	Detector	Result
0.23	55.58	100.37	44.79	Peak	PASS
1.64	46.95	63.31	16.36	QP	PASS
12.47	31.24	69.54	38.30	QP	PASS
24.66	48.02	69.54	21.52	QP	PASS

For 30MHz-1GHz

For 802.11B Low Channel(The worst case)

Horizontal

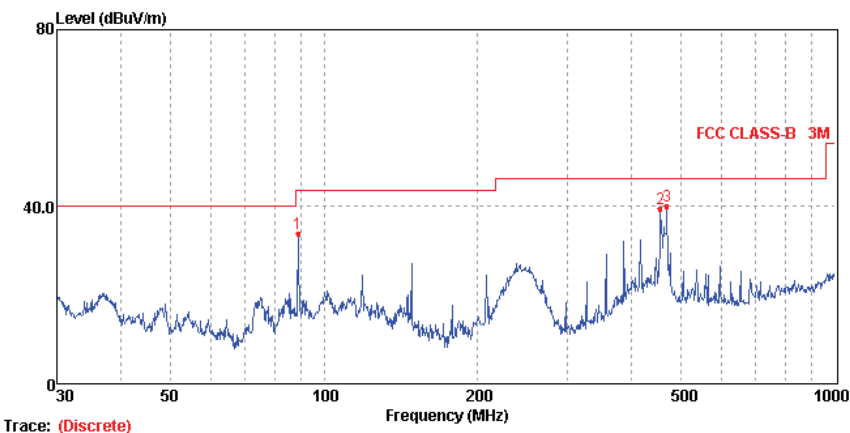
Data: 34



Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	88.96	26.97	-20.37	47.34	43.50	16.53	HORIZONTAL	Peak
2	455.91	38.03	-12.27	50.30	46.00	7.97	HORIZONTAL	Peak
3	467.24	36.41	-12.08	48.49	46.00	9.59	HORIZONTAL	Peak

Vertical

Data: 33

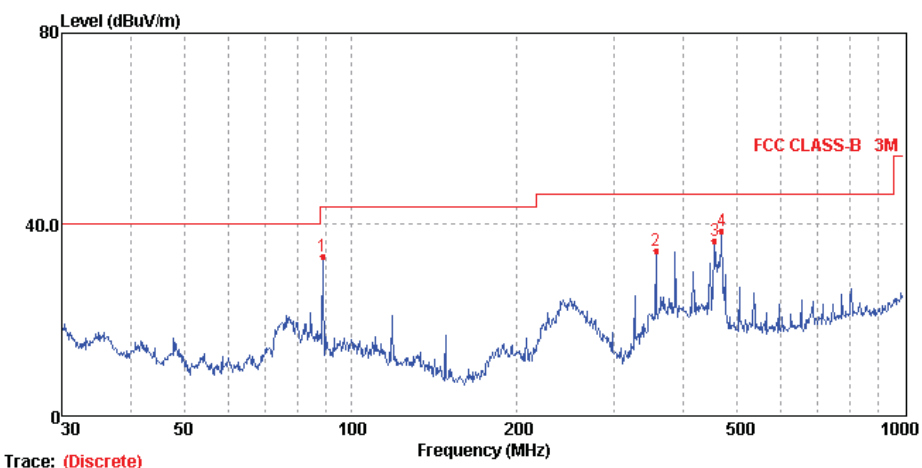


Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	88.96	33.52	-20.37	53.89	43.50	9.98	VERTICAL	Peak
2	455.91	39.28	-12.27	51.55	46.00	6.72	VERTICAL	Peak
3	468.88	39.81	-12.07	51.88	46.00	6.19	VERTICAL	Peak

For BT 4.0 Low Channel

Horizontal

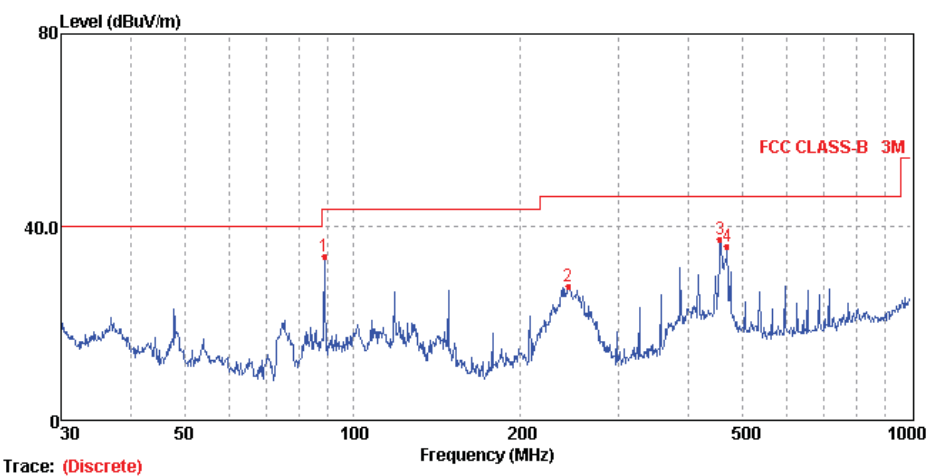
Data: 26



Mark	Frequency MHz	Level dBUV/m	Factor dB/m	Reading dBUV	Limit dBUV/m	Margin dB	Polarization	Detector
1	88.96	33.09	-20.37	53.46	43.50	10.41	HORIZONTAL	Peak
2	356.68	34.32	-14.97	49.29	46.00	11.68	HORIZONTAL	Peak
3	455.91	36.14	-12.27	48.41	46.00	9.86	HORIZONTAL	Peak
4	468.88	38.47	-12.07	50.54	46.00	7.53	HORIZONTAL	Peak

Vertical

Data: 22

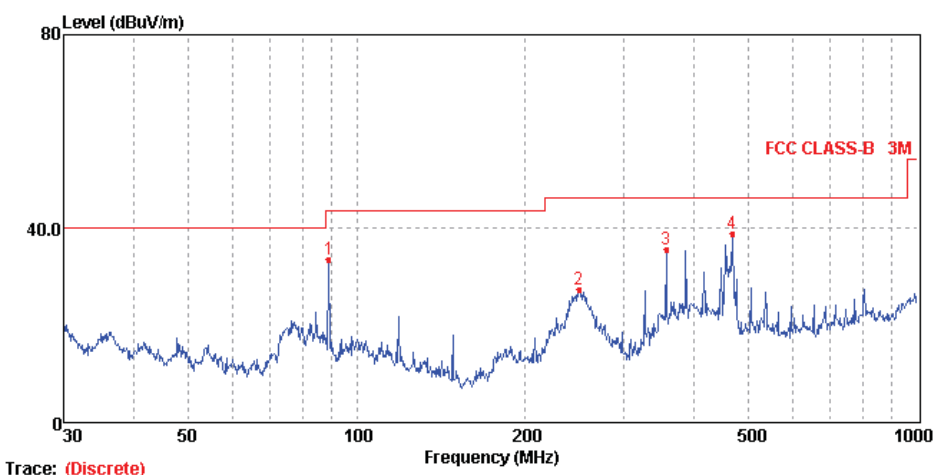


Mark	Frequency MHz	Level dBUV/m	Factor dB/m	Reading dBUV	Limit dBUV/m	Margin dB	Polarization	Detector
1	88.96	33.66	-20.37	54.03	43.50	9.84	VERTICAL	Peak
2	243.38	27.39	-17.63	45.02	46.00	18.61	VERTICAL	Peak
3	455.91	37.14	-12.27	49.41	46.00	8.86	VERTICAL	Peak
4	468.88	35.84	-12.07	47.91	46.00	10.16	VERTICAL	Peak

For ZigBee Low Channel

Horizontal

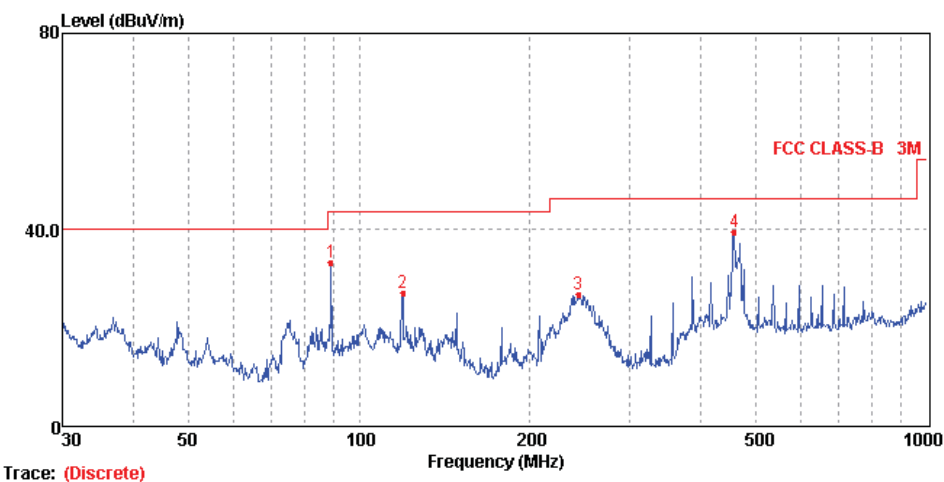
Data: 31



Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	89.28	33.33	-20.37	53.70	43.50	10.17	HORIZONTAL	Peak
2	249.43	27.04	-17.59	44.63	46.00	18.96	HORIZONTAL	Peak
3	356.68	35.32	-14.97	50.29	46.00	10.68	HORIZONTAL	Peak
4	467.24	38.54	-12.08	50.62	46.00	7.46	HORIZONTAL	Peak

Vertical

Data: 30



Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	89.28	32.97	-20.37	53.34	43.50	10.53	VERTICAL	Peak
2	119.44	26.69	-18.70	45.39	43.50	16.81	VERTICAL	Peak
3	243.38	26.39	-17.63	44.02	46.00	19.61	VERTICAL	Peak
4	457.51	39.39	-12.25	51.64	46.00	6.61	VERTICAL	Peak



For 1GHz to 25GHz

802.11b Mode (above 1GHz)

Frequency(MHz):				2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	50.15	PK	74.00	23.85	1.00	65	48.05	31.6	7.00	36.5	2.10
1	4824	44.22	AV	54.00	9.78	1.00	65	42.12	31.6	7.00	36.5	2.10
2	7236	43.42	PK	74.00	30.58	1.00	65	32.49	37.33	8.90	35.3	10.93
2	7236	36.81	AV	54.00	17.19	1.00	65	25.88	37.33	8.90	35.3	10.93

Frequency(MHz):				2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	50.07	PK	74.00	23.93	1.00	190	47.97	31.60	7.00	36.50	2.10
1	4824	44.99	AV	54.00	9.01	1.00	190	42.89	31.60	7.00	36.50	2.10
2	7236	40.89	PK	74.00	33.11	1.00	190	29.96	37.33	8.90	35.30	10.93
2	7236	35.12	AV	54.00	18.88	1.00	190	24.19	37.33	8.90	35.30	10.93

Frequency(MHz):				2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	49.26	PK	74.00	24.74	1.00	59	47.14	31.02	7.60	36.5	2.12
1	4874.00	44.86	AV	54.00	9.14	1.00	59	42.74	31.02	7.60	36.5	2.12
2	7311.00	43.85	PK	74.00	30.15	1.00	59	32.77	37.28	8.60	34.8	11.08
2	7311.00	36.93	AV	54.00	17.07	1.00	59	25.85	37.28	8.60	34.8	11.08

Frequency(MHz):				2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	50.92	PK	74.00	23.08	1.00	200	48.80	31.02	7.60	36.5	2.12
1	4874.00	43.81	AV	54.00	10.19	1.00	200	41.69	31.02	7.60	36.5	2.12
2	7311.00	42.67	PK	74.00	31.33	1.00	200	31.59	37.28	8.60	34.8	11.08
2	7311.00	37.00	AV	54.00	17.00	1.00	200	25.92	37.28	8.60	34.8	11.08

Frequency(MHz):				2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	49.40	PK	74.00	24.60	1.00	77	46.20	31.58	7.82	36.2	3.20
1	4924.00	44.62	AV	54.00	9.38	1.00	77	41.42	31.58	7.82	36.2	3.20
2	7386.00	43.85	PK	74.00	30.15	1.00	77	31.91	38.51	8.73	35.3	11.94
2	7386.00	35.94	AV	54.00	18.06	1.00	77	24.00	38.51	8.73	35.3	11.94

Frequency(MHz):				2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.22	PK	74.00	23.78	1.00	186	47.02	31.58	7.82	36.2	3.20
1	4924.00	44.32	AV	54.00	9.68	1.00	186	41.12	31.58	7.82	36.2	3.20
2	7386.00	41.92	PK	74.00	32.08	1.00	186	29.98	38.51	8.73	35.3	11.94
2	7386.00	36.43	AV	54.00	17.57	1.00	186	24.49	38.51	8.73	35.3	11.94

802.11g Mode (above 1GHz)

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	48.33 PK	74.00	25.67	1.00	65	46.23	31.6	7.00	36.5	2.10
1	4824	41.95 AV	54.00	12.05	1.00	65	39.85	31.6	7.00	36.5	2.10
2	7236	44.12 PK	74.00	29.88	1.00	65	33.19	37.33	8.90	35.3	10.93
2	7236	35.01 AV	54.00	18.99	1.00	65	24.08	37.33	8.90	35.3	10.93

Frequency(MHz):			2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	50.27 PK	74.00	23.73	1.00	190	48.17	31.60	7.00	36.50	2.10
1	4824	40.33 AV	54.00	13.67	1.00	190	38.23	31.60	7.00	36.50	2.10
2	7236	44.17 PK	74.00	29.83	1.00	190	33.24	37.33	8.90	35.30	10.93
2	7236	35.79 AV	54.00	18.21	1.00	190	24.86	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	49.44 PK	74.00	24.56	1.00	59	47.32	31.02	7.60	36.5	2.12
1	4874.00	41.90 AV	54.00	12.10	1.00	59	39.78	31.02	7.60	36.5	2.12
2	7311.00	44.70 PK	74.00	29.30	1.00	59	33.62	37.28	8.60	34.8	11.08
2	7311.00	34.66 AV	54.00	19.34	1.00	59	23.58	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	50.94 PK	74.00	23.06	1.00	200	48.82	31.02	7.60	36.5	2.12
1	4874.00	41.02 AV	54.00	12.98	1.00	200	38.90	31.02	7.60	36.5	2.12
2	7311.00	43.22 PK	74.00	30.78	1.00	200	32.14	37.28	8.60	34.8	11.08
2	7311.00	32.88 AV	54.00	21.12	1.00	200	21.80	37.28	8.60	34.8	11.08

Frequency(MHz):			2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.28 PK	74.00	23.72	1.00	200	47.08	31.58	7.82	36.2	3.20
1	4924.00	40.43 AV	54.00	13.57	1.00	200	37.23	31.58	7.82	36.2	3.20
2	7386.00	43.44 PK	74.00	30.56	1.00	200	31.50	38.51	8.73	35.3	11.94
2	7386.00	34.12 AV	54.00	19.88	1.00	200	22.18	38.51	8.73	35.3	11.94

Frequency(MHz):			2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.31 PK	74.00	23.69	1.00	186	47.11	31.58	7.82	36.2	3.20
1	4924.00	40.08 AV	54.00	13.92	1.00	186	36.88	31.58	7.82	36.2	3.20
2	7386.00	42.94 PK	74.00	31.06	1.00	186	31.00	38.51	8.73	35.3	11.94
2	7386.00	33.41 AV	54.00	20.59	1.00	186	21.47	38.51	8.73	35.3	11.94

802.11n20 Mode (above 1GHz)

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	47.62 PK	74.00	26.38	1.00	65	45.52	31.6	7.00	36.5	2.10
1	4824	41.73 AV	54.00	12.27	1.00	65	39.63	31.6	7.00	36.5	2.10
2	7236	43.29 PK	74.00	30.71	1.00	65	32.36	37.33	8.90	35.3	10.93
2	7236	34.15 AV	54.00	19.85	1.00	65	23.22	37.33	8.90	35.3	10.93

Frequency(MHz):			2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	49.38 PK	74.00	24.62	1.00	165	47.28	31.60	7.00	36.50	2.10
1	4824	38.98 AV	54.00	15.02	1.00	165	36.88	31.60	7.00	36.50	2.10
2	7236	43.27 PK	74.00	30.73	1.00	165	32.34	37.33	8.90	35.30	10.93
2	7236	35.93 AV	54.00	18.07	1.00	165	25.00	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	46.78 PK	74.00	27.22	1.00	65	44.66	31.02	7.60	36.5	2.12
1	4874.00	39.81 AV	54.00	14.19	1.00	65	37.69	31.02	7.60	36.5	2.12
2	7311.00	42.55 PK	74.00	31.45	1.00	65	31.47	37.28	8.60	34.8	11.08
2	7311.00	33.66 AV	54.00	20.34	1.00	65	22.58	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	48.77 PK	74.00	25.23	1.00	195	46.65	31.02	7.60	36.5	2.12
1	4874.00	39.15 AV	54.00	14.85	1.00	195	37.03	31.02	7.60	36.5	2.12
2	7311.00	41.10 PK	74.00	32.90	1.00	195	30.02	37.28	8.60	34.8	11.08
2	7311.00	33.71 AV	54.00	20.29	1.00	195	22.63	37.28	8.60	34.8	11.08

Frequency(MHz):			2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	49.02 PK	74.00	24.98	1.00	200	45.82	31.58	7.82	36.2	3.20
1	4924.00	41.17 AV	54.00	12.83	1.00	200	37.97	31.58	7.82	36.2	3.20
2	7386.00	43.37 PK	74.00	30.63	1.00	200	31.43	38.51	8.73	35.3	11.94
2	7386.00	33.36 AV	54.00	20.64	1.00	200	21.42	38.51	8.73	35.3	11.94

Frequency(MHz):			2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.81 PK	74.00	23.19	1.00	170	47.61	31.58	7.82	36.2	3.20
1	4924.00	39.02 AV	54.00	14.98	1.00	170	35.82	31.58	7.82	36.2	3.20
2	7386.00	43.75 PK	74.00	30.25	1.00	170	31.81	38.51	8.73	35.3	11.94
2	7386.00	34.41 AV	54.00	19.59	1.00	170	22.47	38.51	8.73	35.3	11.94

802.11n40 Mode (above 1GHz)

Frequency(MHz):			2422			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4844.00	48.15 PK	74.00	25.85	1.00	87	46.05	31.6	7.00	36.5	2.10
1	4844.00	37.67 AV	54.00	16.33	1.00	87	35.57	31.6	7.00	36.5	2.10
2	7266.00	41.34 PK	74.00	32.66	1.00	87	30.41	37.33	8.90	35.3	10.93
2	7266.00	41.96 AV	54.00	12.04	1.00	87	31.03	37.33	8.90	35.3	10.93

Frequency(MHz):			2422			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4844.00	46.96 PK	74.00	27.04	1.00	185	44.86	31.60	7.00	36.50	2.10
1	4844.00	39.91 AV	54.00	14.09	1.00	185	37.81	31.60	7.00	36.50	2.10
2	7266.00	42.58 PK	74.00	31.42	1.00	185	31.65	37.33	8.90	35.30	10.93
2	7266.00	34.99 AV	54.00	19.01	1.00	185	24.06	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	46.56 PK	74.00	27.44	1.00	67	44.44	31.02	7.60	36.5	2.12
1	4874.00	37.29 AV	54.00	16.71	1.00	67	35.17	31.02	7.60	36.5	2.12
2	7311.00	41.49 PK	74.00	32.51	1.00	67	30.41	37.28	8.60	34.8	11.08
2	7311.00	35.02 AV	54.00	18.98	1.00	67	23.94	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	46.57 PK	74.00	27.43	1.00	205	44.45	31.02	7.60	36.5	2.12
1	4874.00	41.73 AV	54.00	12.27	1.00	205	39.61	31.02	7.60	36.5	2.12
2	7311.00	44.73 PK	74.00	29.27	1.00	205	33.65	37.28	8.60	34.8	11.08
2	7311.00	34.83 AV	54.00	19.17	1.00	205	23.75	37.28	8.60	34.8	11.08

Frequency(MHz):			2452			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4904.00	48.50 PK	74.00	25.50	1.00	190	45.30	31.58	7.82	36.2	3.20
1	4904.00	39.73 AV	54.00	14.27	1.00	190	36.53	31.58	7.82	36.2	3.20
2	7356.00	43.17 PK	74.00	30.83	1.00	190	31.23	38.51	8.73	35.3	11.94
2	7356.00	35.47 AV	54.00	18.53	1.00	190	23.53	38.51	8.73	35.3	11.94

Frequency(MHz):			2452			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4904.00	48.70 PK	74.00	25.30	1.00	176	45.50	31.58	7.82	36.2	3.20
1	4904.00	40.71 AV	54.00	13.29	1.00	176	37.51	31.58	7.82	36.2	3.20
2	7356.00	45.28 PK	74.00	28.72	1.00	176	33.34	38.51	8.73	35.3	11.94
2	7356.00	33.49 AV	54.00	20.51	1.00	176	21.55	38.51	8.73	35.3	11.94

BT4.0 Mode (above 1GHz)

Frequency(MHz):				2402			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4804.00	45.26	PK	74.00	28.74	1.00	128	43.36	31.42	6.98	36.5	1.90
1	4804.00	36.01	AV	54.00	17.99	1.00	128	34.11	31.42	6.98	36.5	1.90
2	7206.00	38.13	PK	74.00	35.87	1.00	128	27.53	37.03	8.87	35.3	10.60
2	7206.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2402			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4804.00	45.49	PK	74.00	28.51	1.00	173	43.59	31.42	6.98	36.5	1.90
1	4804.00	34.48	AV	54.00	19.52	1.00	173	32.58	31.42	6.98	36.5	1.90
2	7206.00	37.30	PK	74.00	36.70	1.00	173	26.7	37.03	8.87	35.3	10.60
2	7206.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	44.18	PK	74.00	29.82	1.00	128	42.12	30.98	7.58	36.5	2.06
1	4880.00	34.53	AV	54.00	19.47	1.00	128	32.47	30.98	7.58	36.5	2.06
2	7320.00	38.01	PK	74.00	35.99	1.00	128	27.09	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	47.46	PK	74.00	26.54	1.00	173	45.4	30.98	7.58	36.5	2.06
1	4880.00	38.41	AV	54.00	15.59	1.00	173	36.35	30.98	7.58	36.5	2.06
2	7320.00	41.46	PK	74.00	32.54	1.00	173	30.54	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	46.44	PK	74.00	27.56	1.00	128	43.37	31.47	7.80	36.2	3.07
1	4960.00	35.13	AV	54.00	18.87	1.00	128	32.06	31.47	7.80	36.2	3.07
2	7340.00	39.31	PK	74.00	34.69	1.00	128	27.57	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	46.66	PK	74.00	27.34	1.00	173	43.59	31.47	7.80	36.2	3.07
1	4960.00	36.28	AV	54.00	17.72	1.00	173	33.21	31.47	7.80	36.2	3.07
2	7340.00	38.95	PK	74.00	35.05	1.00	173	27.21	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

ZigBee Mode (above 1GHz)

Frequency(MHz):				2405			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4810.00	45.02	PK	74.00	28.98	1.00	120	43.12	31.42	6.98	36.5	1.90
1	4810.00	33.91	AV	54.00	20.09	1.00	120	32.01	31.42	6.98	36.5	1.90
2	7215.00	38.52	PK	74.00	35.48	1.00	120	27.92	37.03	8.87	35.3	10.60
2	7215.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2405			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4810.00	46.94	PK	74.00	27.06	1.00	165	45.04	31.42	6.98	36.5	1.90
1	4810.00	36.58	AV	54.00	17.42	1.00	165	34.68	31.42	6.98	36.5	1.90
2	7215.00	40.71	PK	74.00	33.29	1.00	165	30.11	37.03	8.87	35.3	10.60
2	7215.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	45.68	PK	74.00	28.32	1.00	120	43.62	30.98	7.58	36.5	2.06
1	4880.00	35.78	AV	54.00	18.22	1.00	120	33.72	30.98	7.58	36.5	2.06
2	7320.00	38.03	PK	74.00	35.97	1.00	120	27.11	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	45.72	PK	74.00	28.28	1.00	165	43.66	30.98	7.58	36.5	2.06
1	4880.00	34.63	AV	54.00	19.37	1.00	165	32.57	30.98	7.58	36.5	2.06
2	7320.00	39.08	PK	74.00	34.92	1.00	165	28.16	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	44.37	PK	74.00	29.63	1.00	120	41.30	31.47	7.80	36.2	3.07
1	4960.00	35.96	AV	54.00	18.04	1.00	120	32.89	31.47	7.80	36.2	3.07
2	7340.00	39.01	PK	74.00	34.99	1.00	120	27.27	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	46.73	PK	74.00	27.27	1.00	165	43.66	31.47	7.80	36.2	3.07
1	4960.00	35.96	AV	54.00	18.04	1.00	165	32.89	31.47	7.80	36.2	3.07
2	7340.00	39.54	PK	74.00	34.46	1.00	165	27.8	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

REMARKS:

1. Emission level (dBUV/m) = Raw Value (dBUV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
3. Margin value = Limit value - Emission level.
4. -- Mean the PK detector measured value is below average limit.
5. The other emission levels were very low against the limit.

B. SeeSwitch 4S/SmartPanel 42

For 9 KHz-30MHz

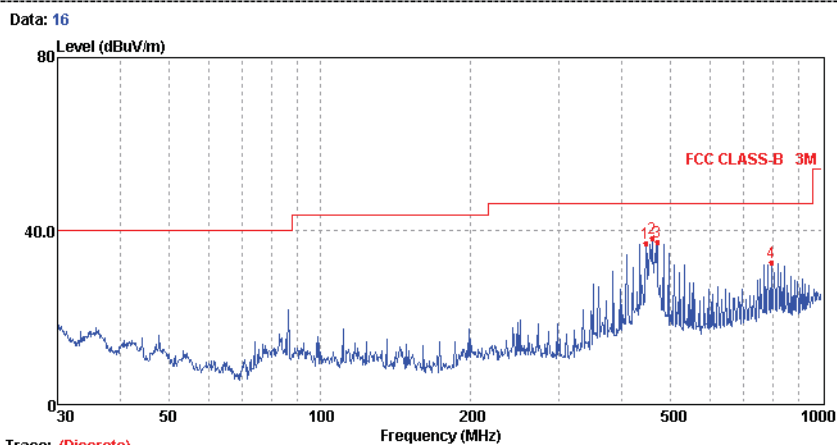
For 802.11B Low Channel

Frequency (MHz)	Corrected Reading (dBuV/m)@3m	FCC Limit (dBuV/m) @3m	Margin (dB)	Detector	Result
0.25	54.02	99.65	45.63	Peak	PASS
1.58	47.11	63.63	16.52	QP	PASS
12.44	32.07	69.54	37.47	QP	PASS
24.09	47.85	69.54	21.69	QP	PASS

For 30MHz-1GHz

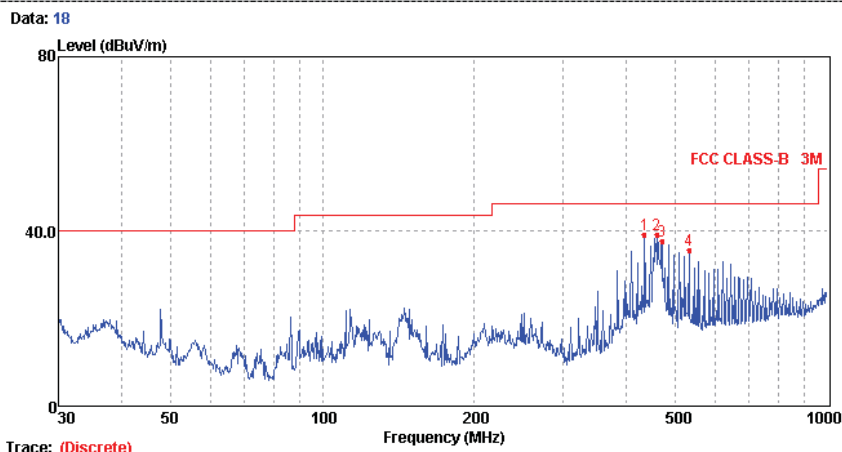
For 802.11B Low Channel(The worst case)

Horizontal



Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	446.41	36.99	-12.44	49.43	46.00	9.01	HORIZONTAL	Peak
2	459.11	38.07	-12.23	50.30	46.00	7.93	HORIZONTAL	Peak
3	470.52	37.19	-12.04	49.23	46.00	8.81	HORIZONTAL	Peak
4	793.40	32.46	-7.39	39.85	46.00	13.54	HORIZONTAL	Peak

Vertical

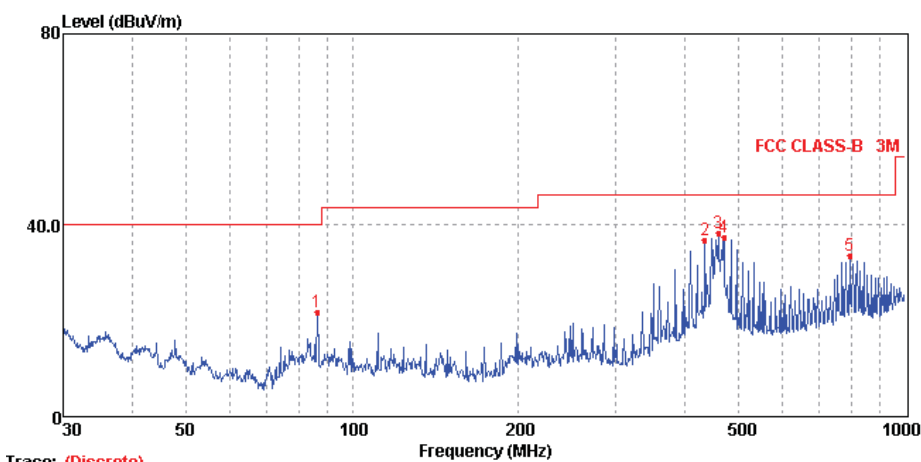


Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	434.07	39.03	-12.63	51.66	46.00	6.97	VERTICAL	Peak
2	459.11	39.10	-12.23	51.33	46.00	6.90	VERTICAL	Peak
3	470.52	37.57	-12.04	49.61	46.00	8.43	VERTICAL	Peak
4	531.96	35.38	-11.09	46.47	46.00	10.62	VERTICAL	Peak

For BT 4.0 Low Channel

Horizontal

Data: 17

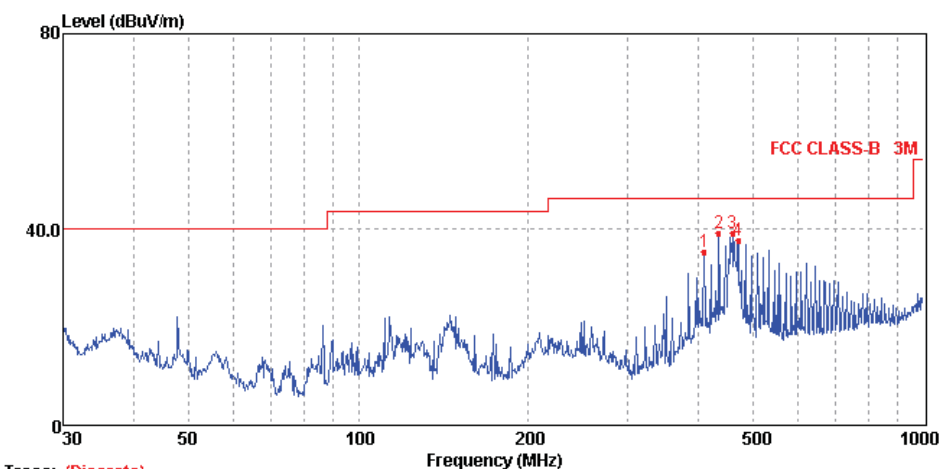


Trace: (Discrete)

Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	86.50	21.44	-20.80	42.24	40.00	18.56	HORIZONTAL	Peak
2	434.07	36.68	-12.63	49.31	46.00	9.32	HORIZONTAL	Peak
3	459.11	38.07	-12.23	50.30	46.00	7.93	HORIZONTAL	Peak
4	470.52	37.19	-12.04	49.23	46.00	8.81	HORIZONTAL	Peak
5	793.40	33.17	-7.39	40.56	46.00	12.83	HORIZONTAL	Peak

Vertical

Data: 19



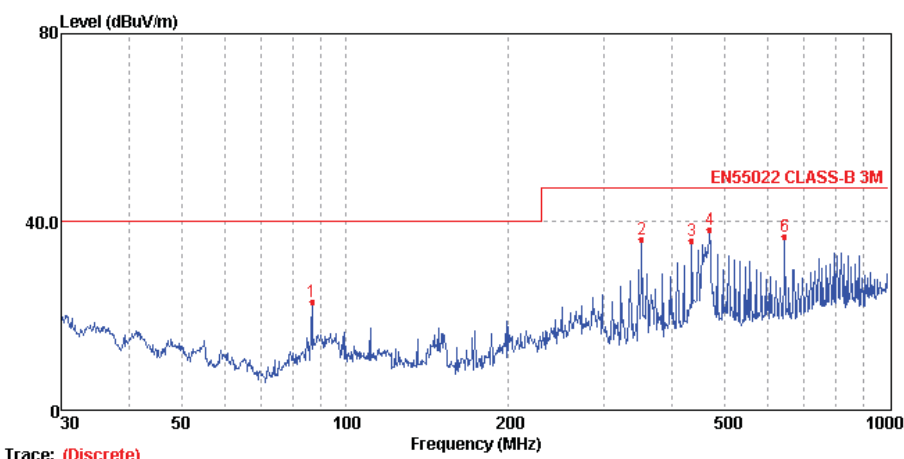
Trace: (Discrete)

Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	408.95	35.11	-13.05	48.16	46.00	10.89	VERTICAL	Peak
2	434.07	39.03	-12.63	51.66	46.00	6.97	VERTICAL	Peak
3	459.11	39.10	-12.23	51.33	46.00	6.90	VERTICAL	Peak
4	470.52	37.57	-12.04	49.61	46.00	8.43	VERTICAL	Peak

For ZigBee Low Channel

Horizontal

Data: 33

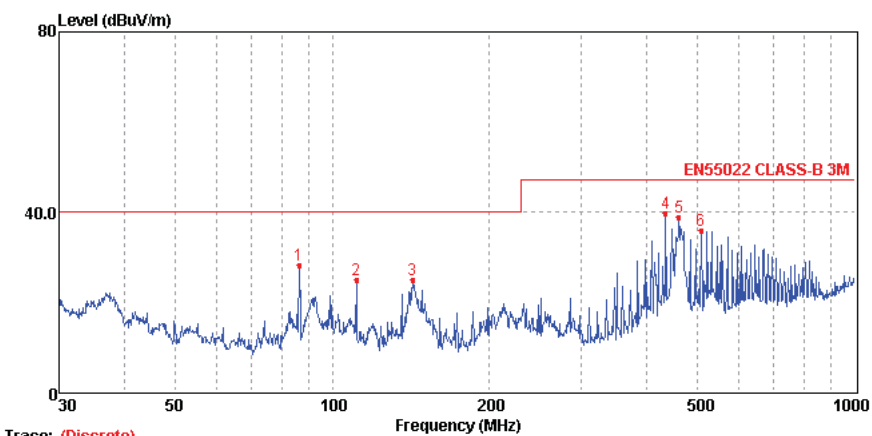


Trace: (Discrete)

Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	86.81	22.66	-20.66	43.32	40.00	17.34	HORIZONTAL	Peak
2	351.71	36.06	-15.17	51.23	47.00	10.94	HORIZONTAL	Peak
3	434.07	35.63	-12.63	48.26	47.00	11.37	HORIZONTAL	Peak
4	468.88	37.94	-12.07	50.01	47.00	9.06	HORIZONTAL	Peak
6	645.12	36.56	-9.80	46.36	47.00	10.44	HORIZONTAL	Peak

Vertical

Data: 32



Trace: (Discrete)

Mark	Frequency MHz	Level dBuV/m	Factor dB/m	Reading dBuV	Limit dBuV/m	Margin dB	Polarization	Detector
1	86.50	27.81	-20.80	48.61	40.00	12.19	VERTICAL	Peak
2	111.35	24.74	-18.98	43.72	40.00	15.26	VERTICAL	Peak
3	142.32	24.59	-19.21	43.80	40.00	15.41	VERTICAL	Peak
4	434.07	39.41	-12.63	52.04	47.00	7.59	VERTICAL	Peak
5	460.73	38.80	-12.20	51.00	47.00	8.20	VERTICAL	Peak
6	508.26	35.66	-11.43	47.09	47.00	11.34	VERTICAL	Peak



For 1GHz to 25GHz

802.11b Mode (above 1GHz)

Frequency(MHz):				2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	49.68	PK	74.00	24.32	1.00	72	47.58	31.6	7.00	36.5	2.10
1	4824	44.30	AV	54.00	9.70	1.00	72	42.20	31.6	7.00	36.5	2.10
2	7236	43.55	PK	74.00	30.45	1.00	72	32.62	37.33	8.90	35.3	10.93
2	7236	35.91	AV	54.00	18.09	1.00	72	24.98	37.33	8.90	35.3	10.93

Frequency(MHz):				2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	49.65	PK	74.00	24.35	1.00	185	47.55	31.60	7.00	36.50	2.10
1	4824	43.54	AV	54.00	10.46	1.00	185	41.44	31.60	7.00	36.50	2.10
2	7236	40.67	PK	74.00	33.33	1.00	185	29.74	37.33	8.90	35.30	10.93
2	7236	34.74	AV	54.00	19.26	1.00	185	23.81	37.33	8.90	35.30	10.93

Frequency(MHz):				2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	50.10	PK	74.00	23.90	1.00	66	47.98	31.02	7.60	36.5	2.12
1	4874.00	43.06	AV	54.00	10.94	1.00	66	40.94	31.02	7.60	36.5	2.12
2	7311.00	43.80	PK	74.00	30.20	1.00	66	32.72	37.28	8.60	34.8	11.08
2	7311.00	35.53	AV	54.00	18.47	1.00	66	24.45	37.28	8.60	34.8	11.08

Frequency(MHz):				2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	49.71	PK	74.00	24.29	1.00	195	47.59	31.02	7.60	36.5	2.12
1	4874.00	44.80	AV	54.00	9.20	1.00	195	42.68	31.02	7.60	36.5	2.12
2	7311.00	43.39	PK	74.00	30.61	1.00	195	32.31	37.28	8.60	34.8	11.08
2	7311.00	35.53	AV	54.00	18.47	1.00	195	24.45	37.28	8.60	34.8	11.08

Frequency(MHz):				2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	49.88	PK	74.00	24.12	1.00	84	46.68	31.58	7.82	36.2	3.20
1	4924.00	43.11	AV	54.00	10.89	1.00	84	39.91	31.58	7.82	36.2	3.20
2	7386.00	42.36	PK	74.00	31.64	1.00	84	30.42	38.51	8.73	35.3	11.94
2	7386.00	35.11	AV	54.00	18.89	1.00	84	23.17	38.51	8.73	35.3	11.94

Frequency(MHz):				2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.79	PK	74.00	23.21	1.00	181	47.59	31.58	7.82	36.2	3.20
1	4924.00	42.49	AV	54.00	11.51	1.00	181	39.29	31.58	7.82	36.2	3.20
2	7386.00	42.34	PK	74.00	31.66	1.00	181	30.40	38.51	8.73	35.3	11.94
2	7386.00	35.34	AV	54.00	18.66	1.00	181	23.40	38.51	8.73	35.3	11.94

802.11g Mode (above 1GHz)

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	48.53 PK	74.00	25.47	1.00	72	46.43	31.6	7.00	36.5	2.10
1	4824	43.02 AV	54.00	10.98	1.00	72	40.92	31.6	7.00	36.5	2.10
2	7236	42.97 PK	74.00	31.03	1.00	72	32.04	37.33	8.90	35.3	10.93
2	7236	33.52 AV	54.00	20.48	1.00	72	22.59	37.33	8.90	35.3	10.93

Frequency(MHz):			2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	51.55 PK	74.00	22.45	1.00	185	49.45	31.60	7.00	36.50	2.10
1	4824	39.61 AV	54.00	14.39	1.00	185	37.51	31.60	7.00	36.50	2.10
2	7236	42.06 PK	74.00	31.94	1.00	185	31.13	37.33	8.90	35.30	10.93
2	7236	36.81 AV	54.00	17.19	1.00	185	25.88	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	50.13 PK	74.00	23.87	1.00	66	48.01	31.02	7.60	36.5	2.12
1	4874.00	40.84 AV	54.00	13.16	1.00	66	38.72	31.02	7.60	36.5	2.12
2	7311.00	44.65 PK	74.00	29.35	1.00	66	33.57	37.28	8.60	34.8	11.08
2	7311.00	32.84 AV	54.00	21.16	1.00	66	21.76	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	50.34 PK	74.00	23.66	1.00	195	48.22	31.02	7.60	36.5	2.12
1	4874.00	39.53 AV	54.00	14.47	1.00	195	37.41	31.02	7.60	36.5	2.12
2	7311.00	42.93 PK	74.00	31.07	1.00	195	31.85	37.28	8.60	34.8	11.08
2	7311.00	33.06 AV	54.00	20.94	1.00	195	21.98	37.28	8.60	34.8	11.08

Frequency(MHz):			2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	48.55 PK	74.00	25.45	1.00	195	45.35	31.58	7.82	36.2	3.20
1	4924.00	40.41 AV	54.00	13.59	1.00	195	37.21	31.58	7.82	36.2	3.20
2	7386.00	42.50 PK	74.00	31.50	1.00	195	30.56	38.51	8.73	35.3	11.94
2	7386.00	34.35 AV	54.00	19.65	1.00	195	22.41	38.51	8.73	35.3	11.94

Frequency(MHz):			2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	50.13 PK	74.00	23.87	1.00	181	46.93	31.58	7.82	36.2	3.20
1	4924.00	40.72 AV	54.00	13.28	1.00	181	37.52	31.58	7.82	36.2	3.20
2	7386.00	44.81 PK	74.00	29.19	1.00	181	32.87	38.51	8.73	35.3	11.94
2	7386.00	33.76 AV	54.00	20.24	1.00	181	21.82	38.51	8.73	35.3	11.94

802.11n20 Mode (above 1GHz)

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	49.12 PK	74.00	24.88	1.00	165	47.02	31.6	7.00	36.5	2.10
1	4824	42.72 AV	54.00	11.28	1.00	165	40.62	31.6	7.00	36.5	2.10
2	7236	43.10 PK	74.00	30.90	1.00	165	32.17	37.33	8.90	35.3	10.93
2	7236	36.25 AV	54.00	17.75	1.00	165	25.32	37.33	8.90	35.3	10.93

Frequency(MHz):			2412			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4824	46.89 PK	74.00	27.11	1.00	68	44.77	31.60	7.00	36.50	2.10
1	4824	40.49 AV	54.00	13.51	1.00	68	38.37	31.60	7.00	36.50	2.10
2	7236	42.81 PK	74.00	31.19	1.00	68	31.73	37.33	8.90	35.30	10.93
2	7236	33.79 AV	54.00	20.21	1.00	68	22.71	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	46.97 PK	74.00	27.03	1.00	195	44.85	31.02	7.60	36.5	2.12
1	4874.00	40.70 AV	54.00	13.30	1.00	195	38.58	31.02	7.60	36.5	2.12
2	7311.00	42.56 PK	74.00	31.44	1.00	195	31.48	37.28	8.60	34.8	11.08
2	7311.00	35.84 AV	54.00	18.16	1.00	195	24.76	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	47.78 PK	74.00	26.22	1.00	200	44.58	31.02	7.60	36.5	2.12
1	4874.00	41.59 AV	54.00	12.41	1.00	200	38.39	31.02	7.60	36.5	2.12
2	7311.00	44.16 PK	74.00	29.84	1.00	200	32.22	37.28	8.60	34.8	11.08
2	7311.00	36.83 AV	54.00	17.17	1.00	200	24.89	37.28	8.60	34.8	11.08

Frequency(MHz):			2462			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	48.68 PK	74.00	25.32	1.00	170	45.48	31.58	7.82	36.2	3.20
1	4924.00	42.32 AV	54.00	11.68	1.00	170	39.12	31.58	7.82	36.2	3.20
2	7386.00	46.42 PK	74.00	27.58	1.00	170	34.48	38.51	8.73	35.3	11.94
2	7386.00	35.42 AV	54.00	18.58	1.00	170	23.48	38.51	8.73	35.3	11.94

Frequency(MHz):			2462			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4924.00	47.85 PK	74.00	26.15	1.00	176	44.65	31.58	7.82	36.2	3.20
1	4924.00	39.91 AV	54.00	14.09	1.00	176	36.71	31.58	7.82	36.2	3.20
2	7386.00	44.04 PK	74.00	29.96	1.00	176	32.10	38.51	8.73	35.3	11.94
2	7386.00	32.97 AV	54.00	21.03	1.00	176	21.03	38.51	8.73	35.3	11.94

802.11n40 Mode (above 1GHz)

Frequency(MHz):			2422			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4844.00	46.18 PK	74.00	27.82	1.00	90	44.08	31.6	7.00	36.5	2.10
1	4844.00	38.56 AV	54.00	15.44	1.00	90	36.46	31.6	7.00	36.5	2.10
2	7266.00	42.89 PK	74.00	31.11	1.00	90	31.96	37.33	8.90	35.3	10.93
2	7266.00	41.38 AV	54.00	12.62	1.00	90	30.45	37.33	8.90	35.3	10.93

Frequency(MHz):			2422			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4844.00	47.95 PK	74.00	26.05	1.00	185	45.85	31.60	7.00	36.50	2.10
1	4844.00	38.50 AV	54.00	15.50	1.00	185	36.40	31.60	7.00	36.50	2.10
2	7266.00	41.38 PK	74.00	32.62	1.00	185	30.45	37.33	8.90	35.30	10.93
2	7266.00	34.85 AV	54.00	19.15	1.00	185	23.92	37.33	8.90	35.30	10.93

Frequency(MHz):			2437			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	47.76 PK	74.00	26.24	1.00	70	45.64	31.02	7.60	36.5	2.12
1	4874.00	38.92 AV	54.00	15.08	1.00	70	36.80	31.02	7.60	36.5	2.12
2	7311.00	41.43 PK	74.00	32.57	1.00	70	30.35	37.28	8.60	34.8	11.08
2	7311.00	32.87 AV	54.00	21.13	1.00	70	21.79	37.28	8.60	34.8	11.08

Frequency(MHz):			2437			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4874.00	48.23 PK	74.00	25.77	1.00	205	46.11	31.02	7.60	36.5	2.12
1	4874.00	40.40 AV	54.00	13.60	1.00	205	38.28	31.02	7.60	36.5	2.12
2	7311.00	42.86 PK	74.00	31.14	1.00	205	31.78	37.28	8.60	34.8	11.08
2	7311.00	33.49 AV	54.00	20.51	1.00	205	22.41	37.28	8.60	34.8	11.08

Frequency(MHz):			2452			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4904.00	47.27 PK	74.00	26.73	1.00	190	44.07	31.58	7.82	36.2	3.20
1	4904.00	40.72 AV	54.00	13.28	1.00	190	37.52	31.58	7.82	36.2	3.20
2	7356.00	41.66 PK	74.00	32.34	1.00	190	29.72	38.51	8.73	35.3	11.94
2	7356.00	33.78 AV	54.00	20.22	1.00	190	21.84	38.51	8.73	35.3	11.94

Frequency(MHz):			2452			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4904.00	47.65 PK	74.00	26.35	1.00	176	44.45	31.58	7.82	36.2	3.20
1	4904.00	40.52 AV	54.00	13.48	1.00	176	37.32	31.58	7.82	36.2	3.20
2	7356.00	44.51 PK	74.00	29.49	1.00	176	32.57	38.51	8.73	35.3	11.94
2	7356.00	33.64 AV	54.00	20.36	1.00	176	21.70	38.51	8.73	35.3	11.94

BT4.0 Mode (above 1GHz)

Frequency(MHz):				2402			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4804.00	45.19	PK	74.00	28.81	1.00	120	43.29	31.42	6.98	36.5	1.90
1	4804.00	35.67	AV	54.00	18.33	1.00	120	33.77	31.42	6.98	36.5	1.90
2	7206.00	38.33	PK	74.00	35.67	1.00	120	27.73	37.03	8.87	35.3	10.60
2	7206.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2402			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4804.00	46.37	PK	74.00	27.63	1.00	165	44.47	31.42	6.98	36.5	1.90
1	4804.00	36.84	AV	54.00	17.16	1.00	165	34.94	31.42	6.98	36.5	1.90
2	7206.00	39.08	PK	74.00	34.92	1.00	165	28.48	37.03	8.87	35.3	10.60
2	7206.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	44.70	PK	74.00	29.30	1.00	120	42.64	30.98	7.58	36.5	2.06
1	4880.00	36.08	AV	54.00	17.92	1.00	120	34.02	30.98	7.58	36.5	2.06
2	7320.00	37.46	PK	74.00	36.54	1.00	120	26.54	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4882.00	45.50	PK	74.00	28.50	1.00	165	43.44	30.98	7.58	36.5	2.06
1	4882.00	35.57	AV	54.00	18.43	1.00	165	33.51	30.98	7.58	36.5	2.06
2	7323.00	37.88	PK	74.00	36.12	1.00	165	26.96	37.66	8.56	35.3	10.92
2	7323.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	46.02	PK	74.00	27.98	1.00	120	42.95	31.47	7.80	36.2	3.07
1	4960.00	36.15	AV	54.00	17.85	1.00	120	33.08	31.47	7.80	36.2	3.07
2	7340.00	39.01	PK	74.00	34.99	1.00	120	27.27	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	46.51	PK	74.00	27.49	1.00	165	43.44	31.47	7.80	36.2	3.07
1	4960.00	36.89	AV	54.00	17.11	1.00	165	33.82	31.47	7.80	36.2	3.07
2	7340.00	38.36	PK	74.00	35.64	1.00	165	26.62	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

ZigBee Mode (above 1GHz)

Frequency(MHz):				2405			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4810.00	45.21	PK	74.00	28.79	1.00	115	43.31	31.42	6.98	36.5	1.90
1	4810.00	35.51	AV	54.00	18.49	1.00	115	33.61	31.42	6.98	36.5	1.90
2	7215.00	37.89	PK	74.00	36.11	1.00	115	27.29	37.03	8.87	35.3	10.60
2	7215.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2405			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4810.00	46.42	PK	74.00	27.58	1.00	160	44.52	31.42	6.98	36.5	1.90
1	4810.00	37.00	AV	54.00	17.00	1.00	160	35.10	31.42	6.98	36.5	1.90
2	7215.00	39.56	PK	74.00	34.44	1.00	160	28.96	37.03	8.87	35.3	10.60
2	7215.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	45.68	PK	74.00	28.32	1.00	120	43.62	30.98	7.58	36.5	2.06
1	4880.00	35.78	AV	54.00	18.22	1.00	120	33.72	30.98	7.58	36.5	2.06
2	7320.00	38.03	PK	74.00	35.97	1.00	120	27.11	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2440			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4880.00	44.25	PK	74.00	29.75	1.00	115	42.19	30.98	7.58	36.5	2.06
1	4880.00	35.62	AV	54.00	18.38	1.00	115	33.56	30.98	7.58	36.5	2.06
2	7320.00	38.62	PK	74.00	35.38	1.00	115	27.7	37.66	8.56	35.3	10.92
2	7320.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	45.74	PK	74.00	28.26	1.00	115	42.67	31.47	7.80	36.2	3.07
1	4960.00	36.33	AV	54.00	17.67	1.00	115	33.26	31.47	7.80	36.2	3.07
2	7340.00	37.60	PK	74.00	36.40	1.00	115	25.86	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

Frequency(MHz):				2480			Polarity:			VERTICAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	4960.00	45.10	PK	74.00	28.90	1.00	160	42.03	31.47	7.80	36.2	3.07
1	4960.00	35.40	AV	54.00	18.60	1.00	160	32.33	31.47	7.80	36.2	3.07
2	7340.00	37.05	PK	74.00	36.95	1.00	160	25.31	38.32	8.72	35.3	11.74
2	7340.00	--	AV	--	--	--	--	--	--	--	--	--

REMARKS:

6. Emission level (dBUV/m) = Raw Value (dBUV) + Correction Factor (dB/m)
7. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
8. Margin value = Limit value - Emission level.
9. -- Mean the PK detector measured value is below average limit.
10. The other emission levels were very low against the limit.

3.3. Maximum Conducted Output Power

Limit

30dBm for digital modulation systems.

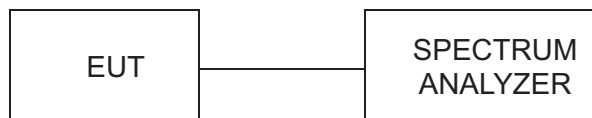
Test Procedure

- For Maximum conducted (average) output power
 1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the SPECTRUM.
 2. Ensure EUT transmitting with a duty cycle $\geq 98\%$.
 3. Set SA as follow:
 - a) Center frequency: frequency to be tested.
 - b) Span: ≥ 1.5 times the OBW.
 - c) RBW: $= 1\text{-}5\%$ of the OBW, not to exceed 1 MHz.
 - d) VBW: $\geq 3 \times$ RBW.
 - e) Sweep points: 8001
 - f) Sweep time: auto
 - g) Detector: RMS
 - h) Trace: Average(100 traces)
 4. Allow trace to fully stabilize
 5. Use instrument's band power measurement function to integrate power in this band across a bandwidth OBW.
- Maximum peak conducted output power
 1. Set the RBW $\geq$ DTS bandwidth
 2. Set VBW $\geq 3 \times$ RBW.
 3. Set span $\geq 3 \times$ RBW
 4. Sweep time = auto couple.
 5. Detector = peak.
 6. Trace mode = max hold.
 7. Allow trace to fully stabilize.
 8. Use peak marker function to determine the peak amplitude level

Note: WIFI: Use the maximum (average) conducted output power test procedure

BT4.0/ZigBee: Use the maximum peak conducted output power test procedure

- For Maximum conducted (average) output power



Test Results

WIFI

Type	Channel	Output power AV(dBm)	Limit (dBm)	Result
802.11b	01	13.34	30.00	Pass
	06	13.40		
	11	13.32		
802.11g	01	13.13	30.00	Pass
	06	13.13		
	11	13.09		
802.11n(H20)	01	11.22	30.00	Pass
	06	11.77		
	11	11.26		
802.11n(H40)	03	10.70	30.00	Pass
	06	10.84		
	09	10.62		

Note: 1.The test results including the cable lose.

BT4.0

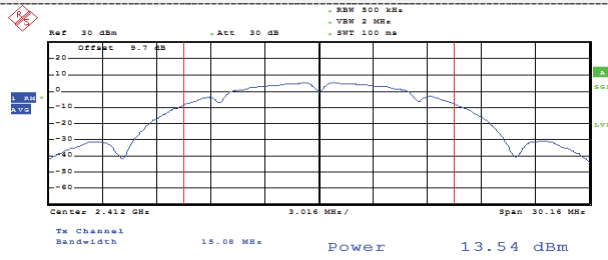
Type	Channel	Output power PK(dBm)	Limit (dBm)	Result
GFSK	00	3.24	30.00	Pass
	19	3.60		
	39	2.43		

ZigBee

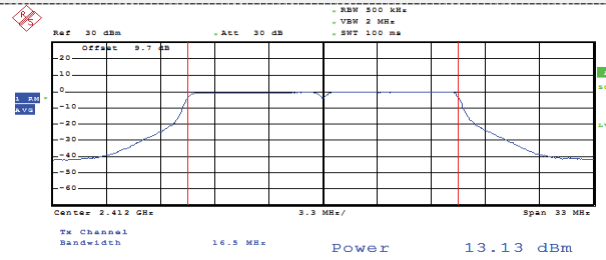
Type	Channel	Output power PK(dBm)	Limit (dBm)	Result
O-QPSK	00	-1.23	30.00	Pass
	07	-1.14		
	15	-2.22		

Note: The test results including the cable loss.

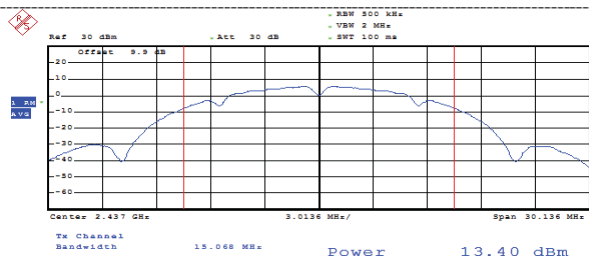
802.11b



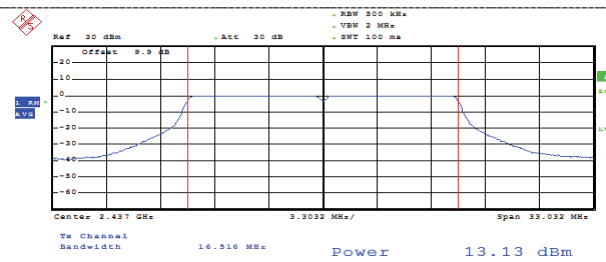
802.11g



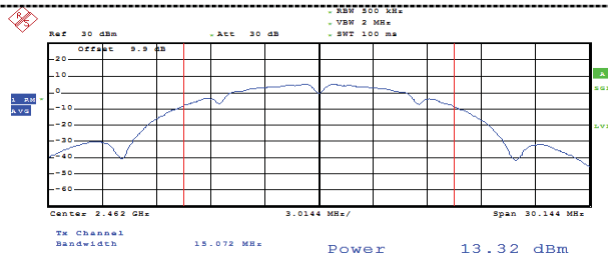
CH01



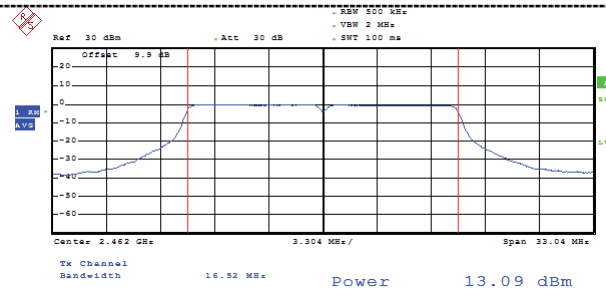
CH01



CH06



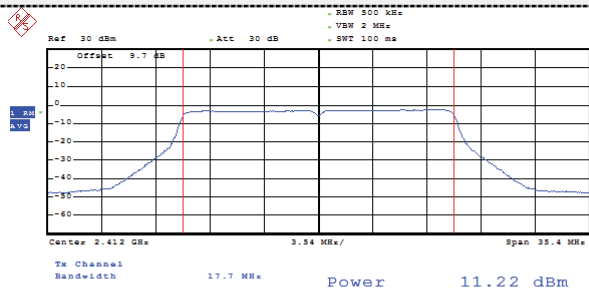
CH06



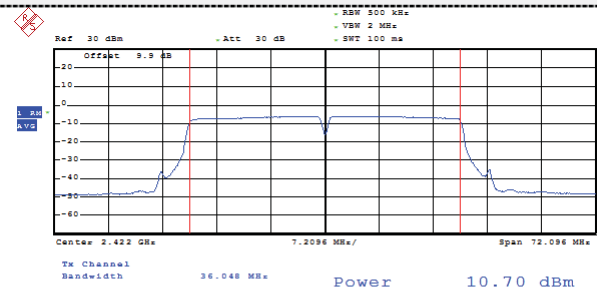
CH11

CH11

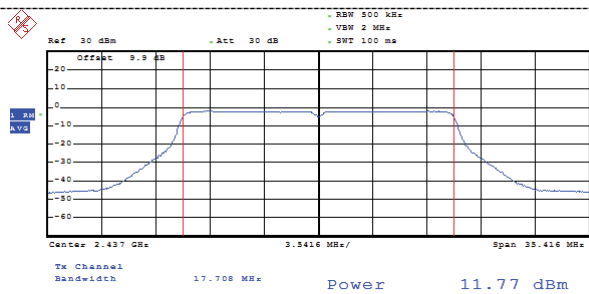
802.11n(HT20)



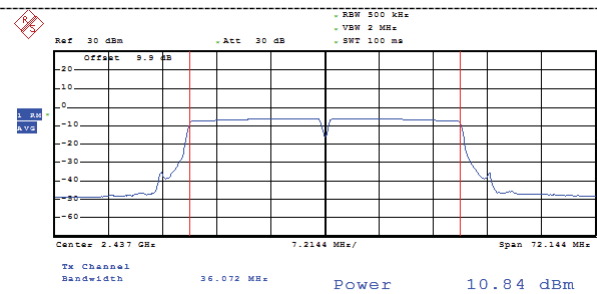
802.11n(HT40)



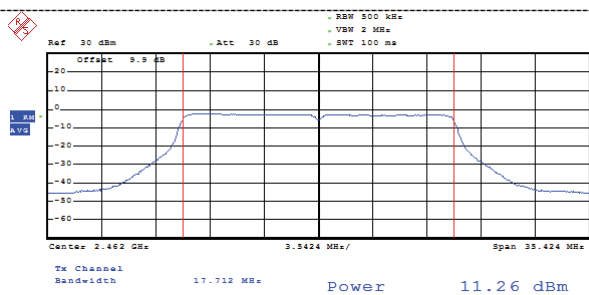
CH01



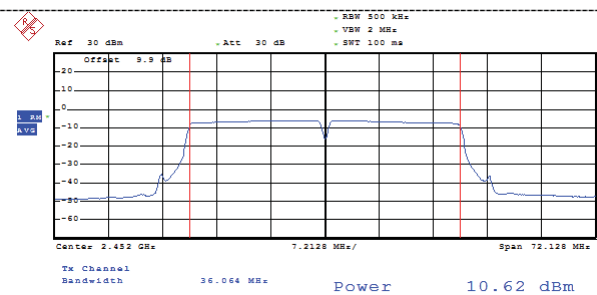
CH03



CH06



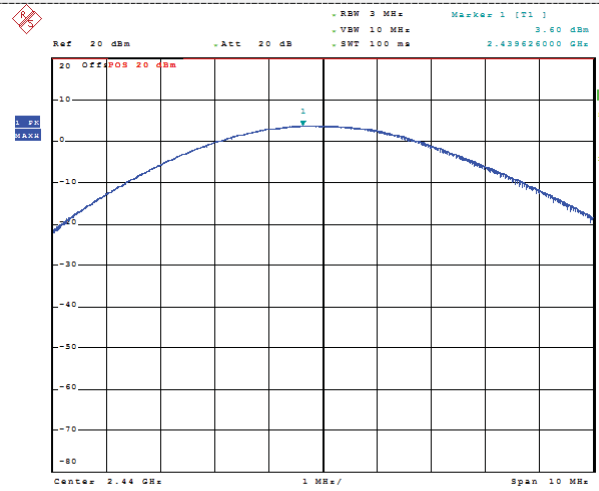
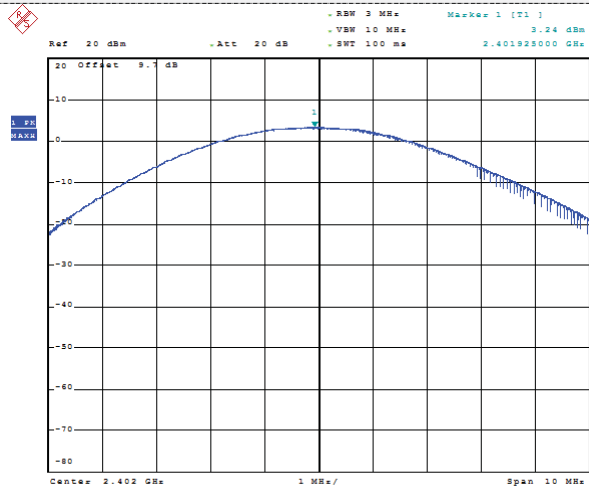
CH06



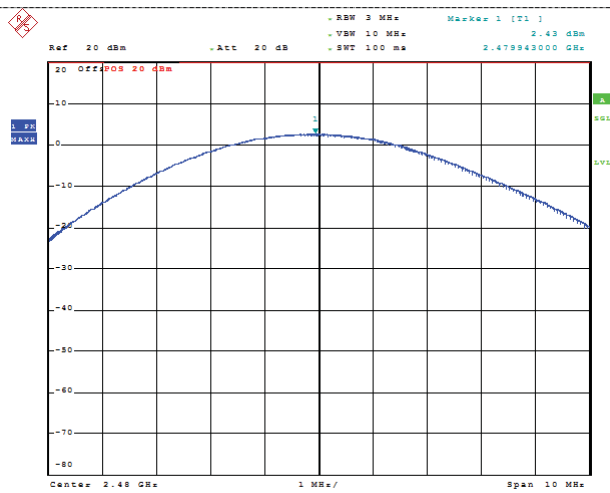
CH11

CH09

BT4.0



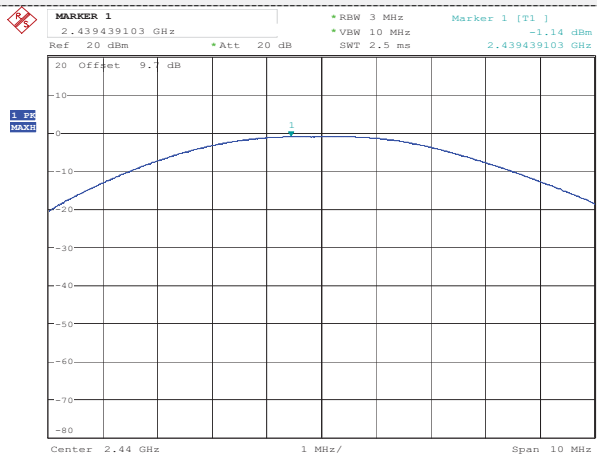
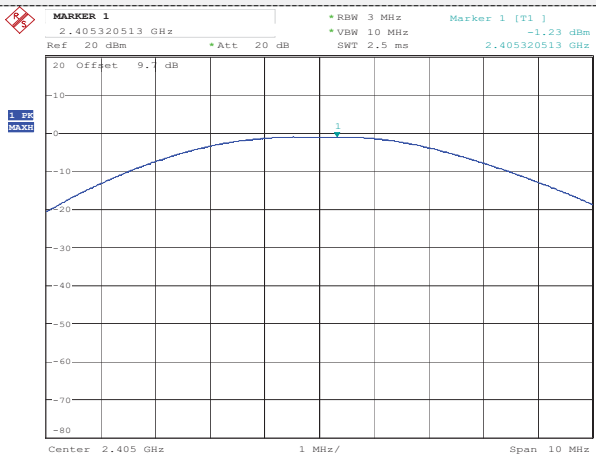
CH00



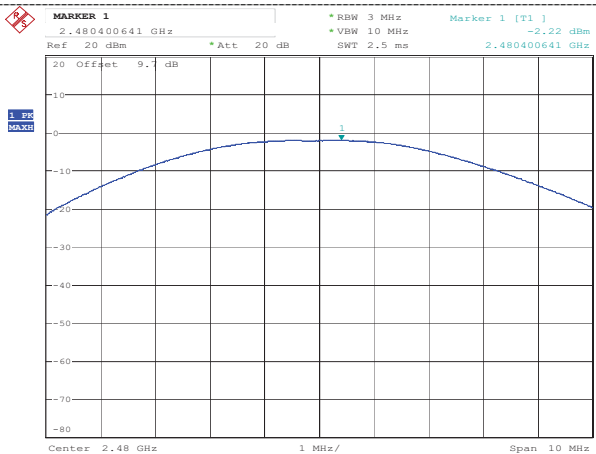
CH19

CH39

ZigBee



CH00



CH07

CH15

3.4. Power Spectral Density

Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Procedure

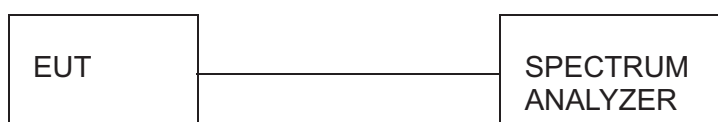
1. Use this procedure when the maximum (average) conducted output power was used to demonstrate compliance to the output power limit.
 - a) Set analyzer center frequency to DTS channel center frequency.
 - b) Set span to at least 1.5 times the OBW
 - c) RBW: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
 - d) VBW: $\geq 3 \times \text{RBW}$.
 - e) Detector: power averaging (RMS)
 - f) Sweep time: Auto couple.
 - g) Swoop points: $\geq 2 \times \text{span} / \text{RBW}$.
 - h) Trace mode = Average (100 traces)
 - i) Use the peak marker function to determine the maximum power level.
 - j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Note: This test procedure is used for WIFI in this report

2. This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance to the output power limit.
 - a) Set analyzer center frequency to DTS channel center frequency.
 - b) Set the span to 1.5 times the DTS bandwidth.
 - c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
 - d) Set the VBW $\geq 3 \times \text{RBW}$.
 - e) Detector = peak.
 - f) Sweep time = auto couple.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum amplitude level within the RBW.
 - j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat

Note: This test procedure is used for bt 4.0/ZigBee in this report

Test Configuration



Test Results

WIFI

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-6.74	8.00	Pass
	06	-6.43		
	11	-7.19		
802.11g	01	-10.85	8.00	Pass
	06	-10.67		
	11	-10.21		
802.11n(HT20)	01	-12.92	8.00	Pass
	06	-12.12		
	11	-13.88		
802.11n(HT40)	03	-16.86	8.00	Pass
	06	-15.96		
	09	-16.63		

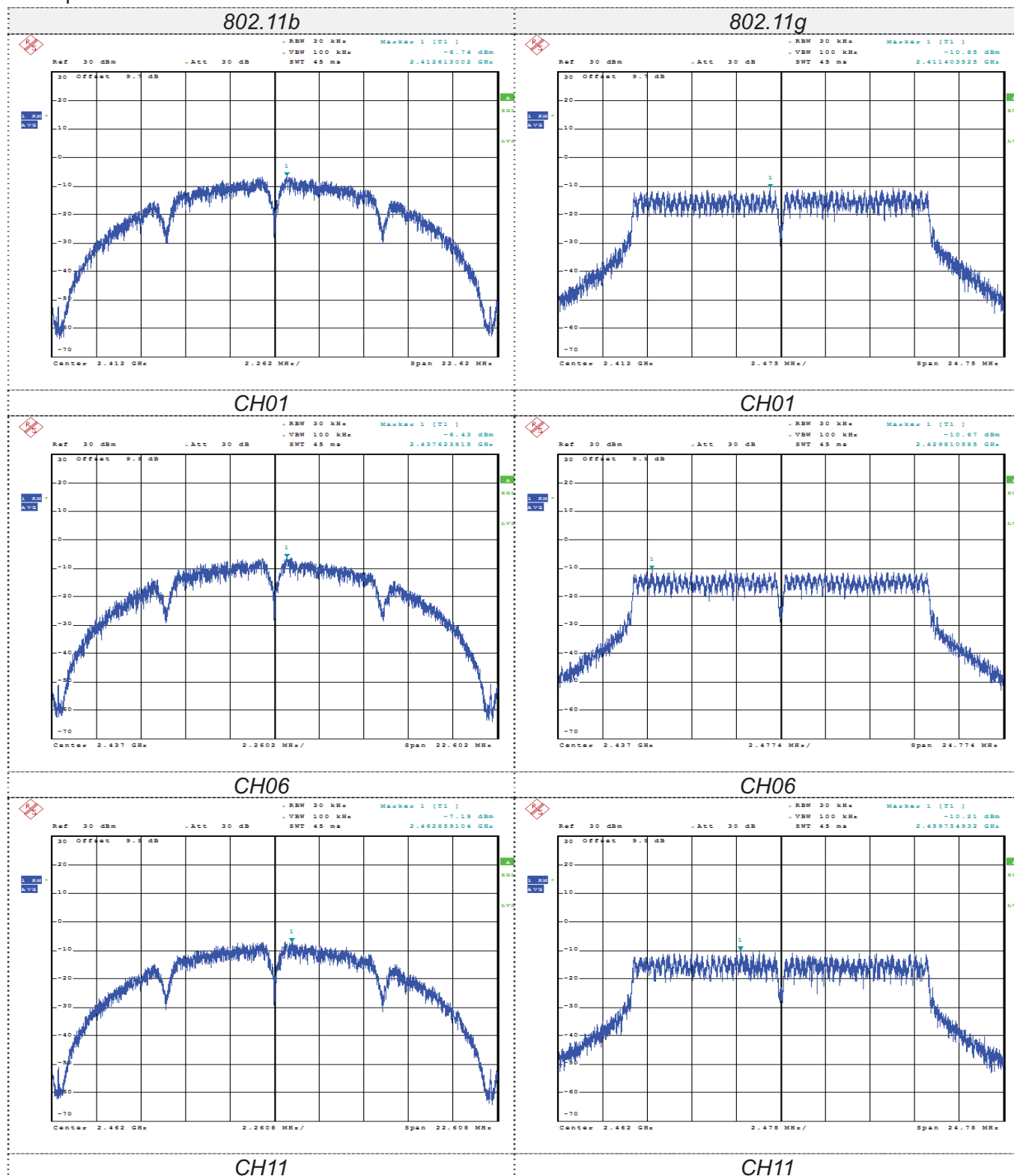
BT4.0

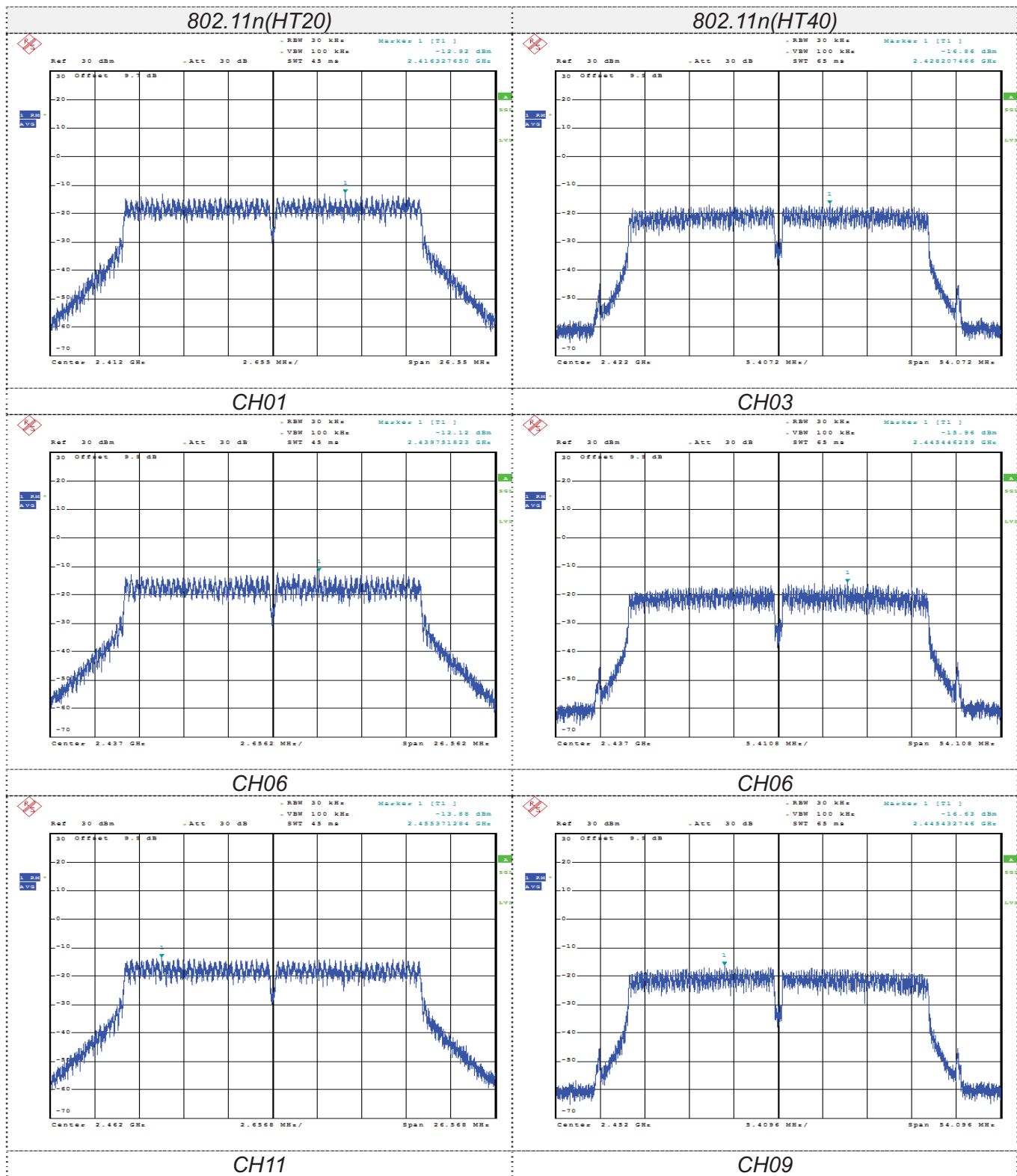
Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
GFSK	00	0.16	8.00	Pass
	19	0.35		
	39	-0.84		

ZigBee

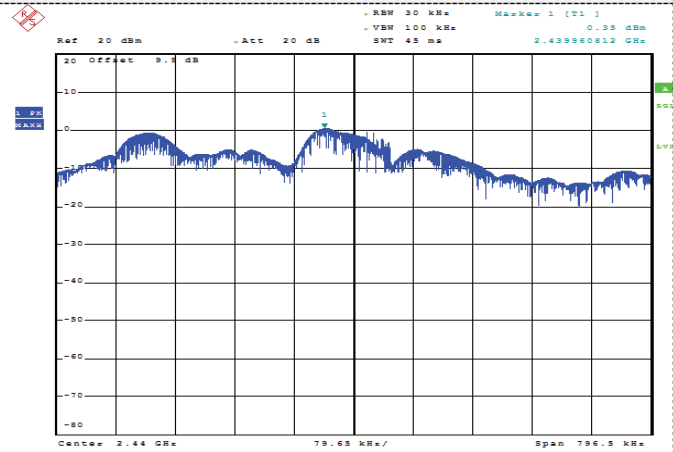
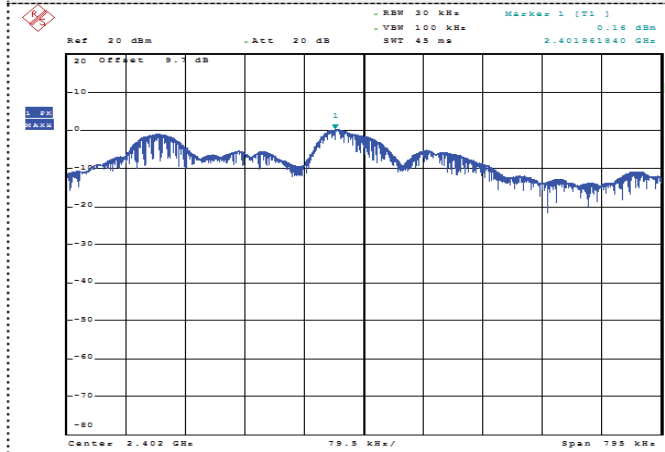
Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
O-QPSK	00	-8.36	8.00	Pass
	07	-8.39		
	15	-9.68		

Test plot as follows:

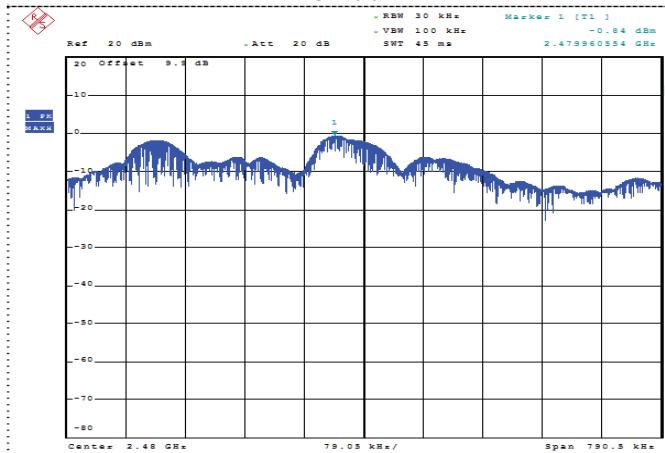




BT4.0



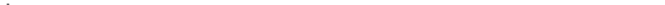
CH00



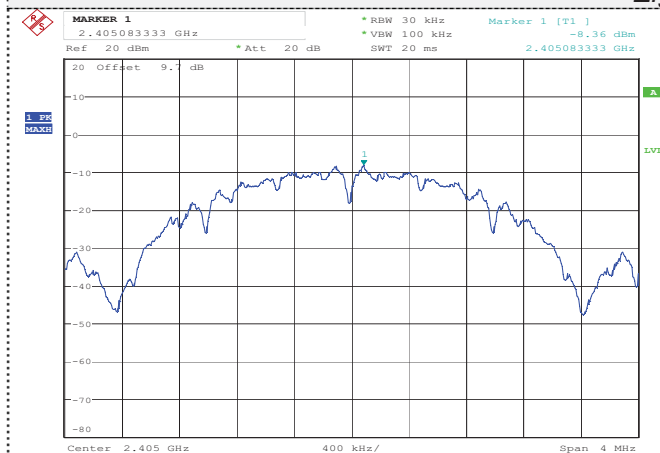
CH19



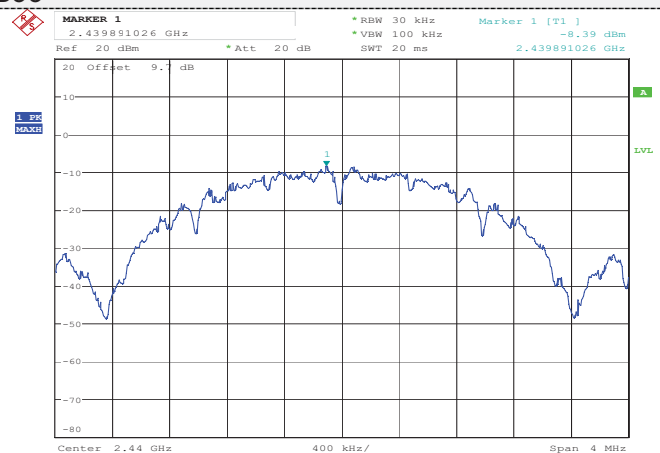
CH39



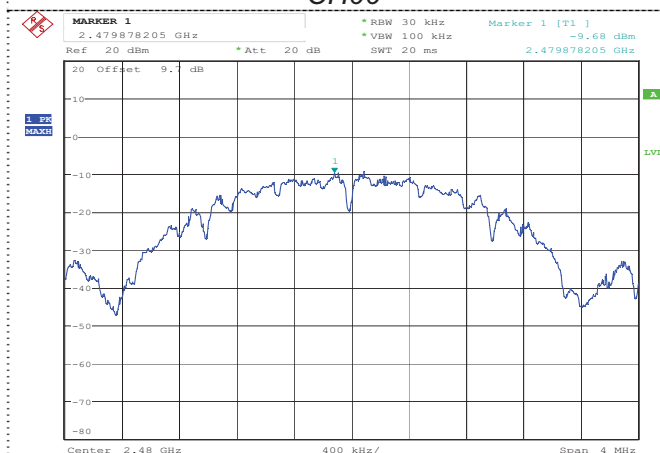
ZigBee



CH00



CH07



CH15

3.5. 6dB Bandwidth

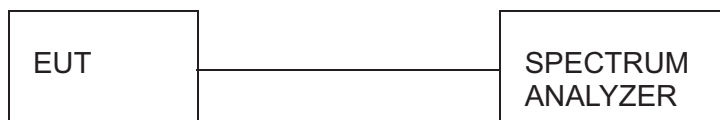
Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

Test Procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Set SA as follow:
 - a) RBW: 100 kHz.
 - b) VBW: $\geq 3 \times$ RBW.
 - c) Detector: Peak.
 - d) Trace mode: max hold.
 - e) Sweep: auto couple.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Configuration



Test Results

WIFI					
Type	Channel	6dB Bandwidth (MHz)	99% OBW (MHz)	Limit (KHz)	Result
802.11b	01	10.068	15.080	≥ 500	Pass
	06	10.064	15.068		
	11	10.068	15.072		
802.11g	01	16.568	16.500	≥ 500	Pass
	06	16.584	16.516		
	11	16.564	16.520		
802.11n(HT20)	01	17.816	17.700	≥ 500	Pass
	06	17.800	17.708		
	11	17.800	17.712		
802.11n(HT40)	03	36.432	36.048	≥ 500	Pass
	06	36.376	36.072		
	09	36.360	36.064		

BT4.0

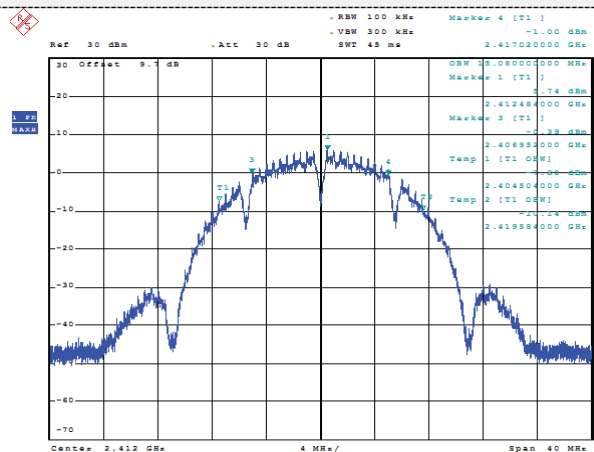
Type	Channel	6dB Bandwidth (MHz)	99% OBW (MHz)	Limit (KHz)	Result
GFSK	00	0.702	1.034	≥500	Pass
	19	0.716	1.029		
	39	0.716	1.029		

ZigBee

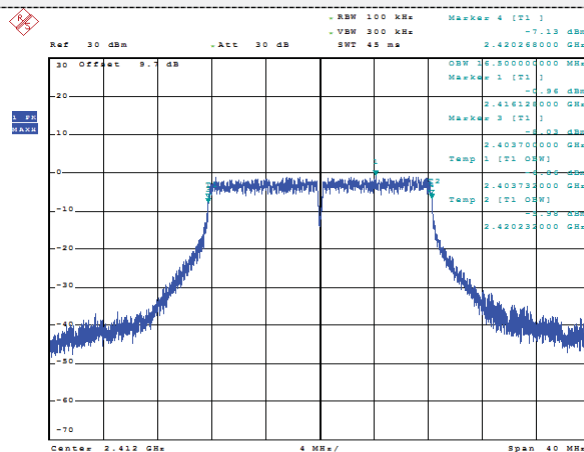
Type	Channel	6dB Bandwidth (MHz)	99% OBW (MHz)	Limit (KHz)	Result
O-QPSK	00	1.579	2.580	≥500	Pass
	07	1.739	2.580		
	15	1.691	2.580		

Test plot as follows:

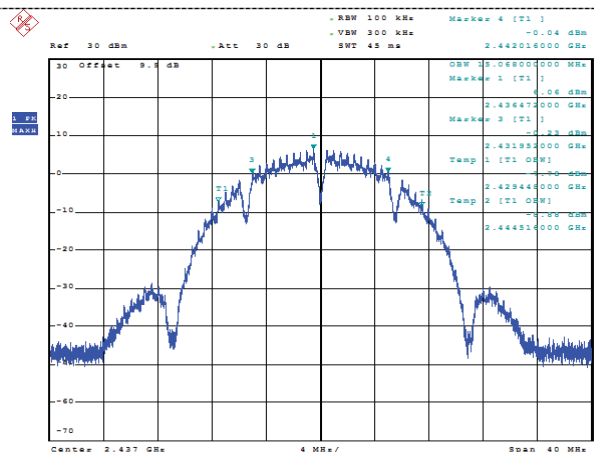
802.11b



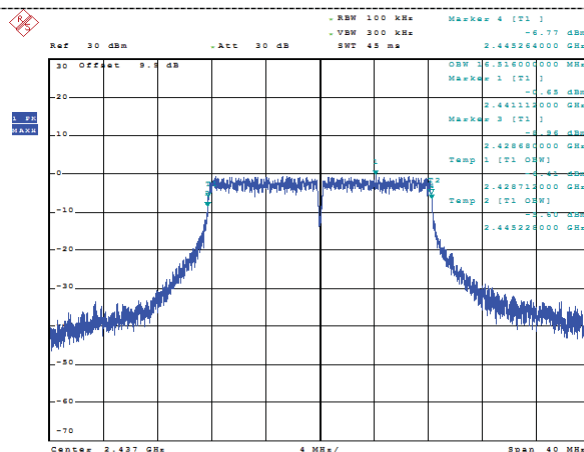
802.11g



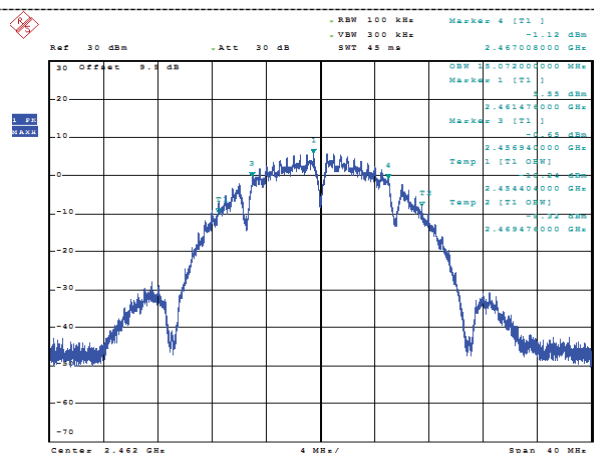
CH01



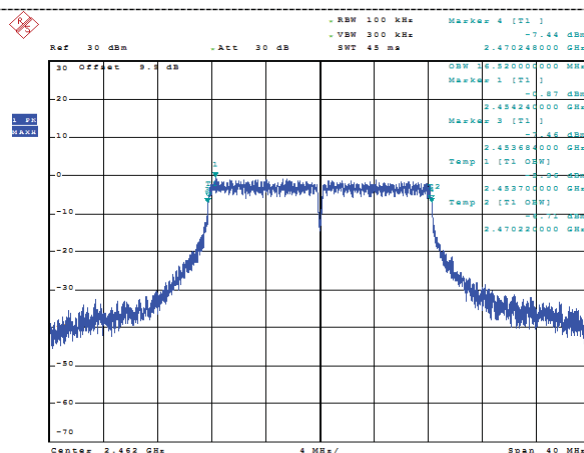
CH01



CH06



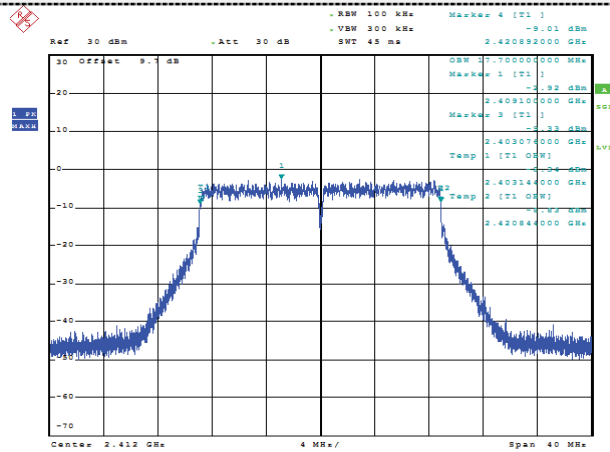
CH06



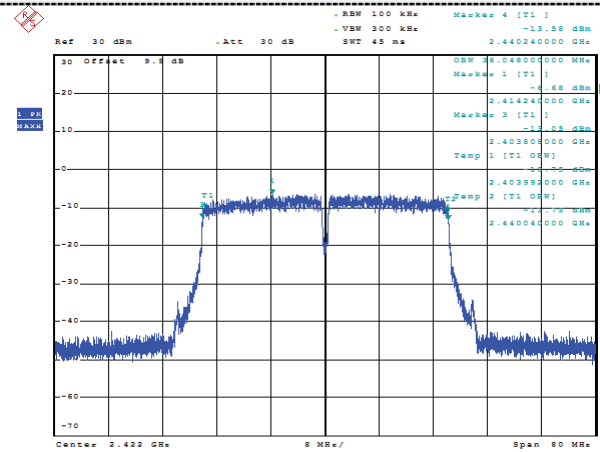
CH11

CH11

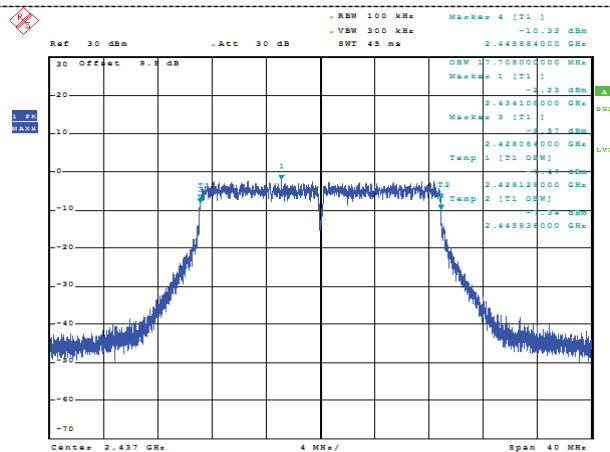
802.11n(HT20)



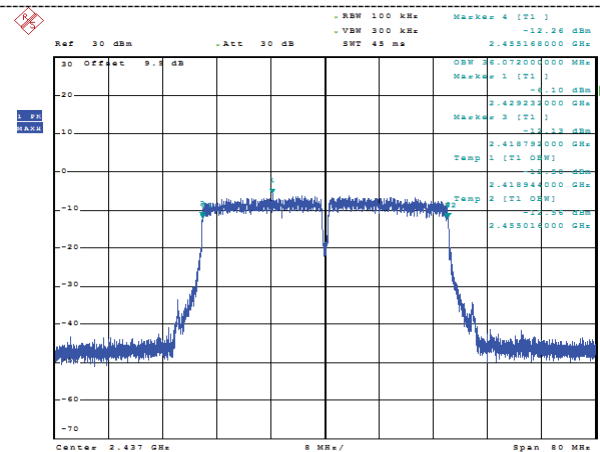
802.11n(HT40)



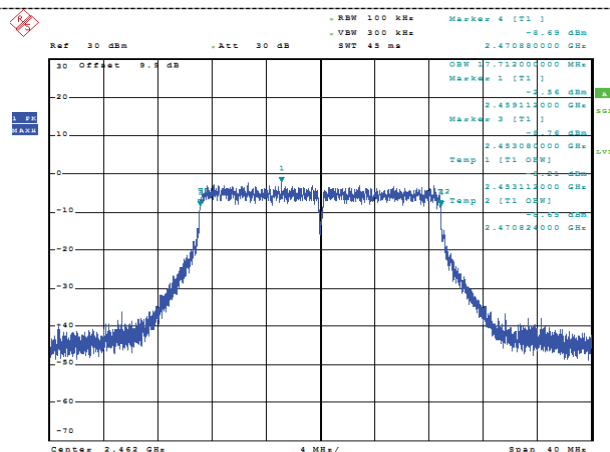
CH01



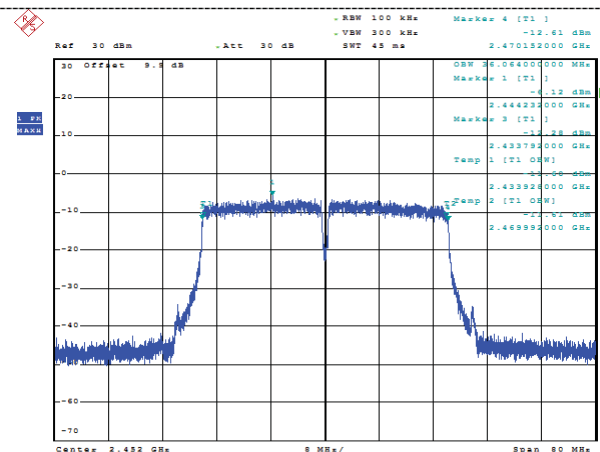
CH03



CH06



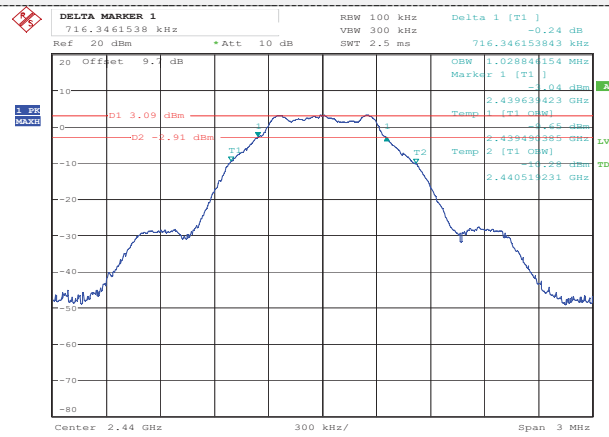
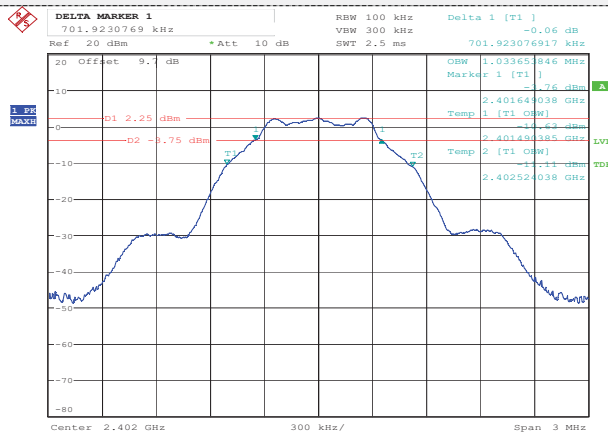
CH06



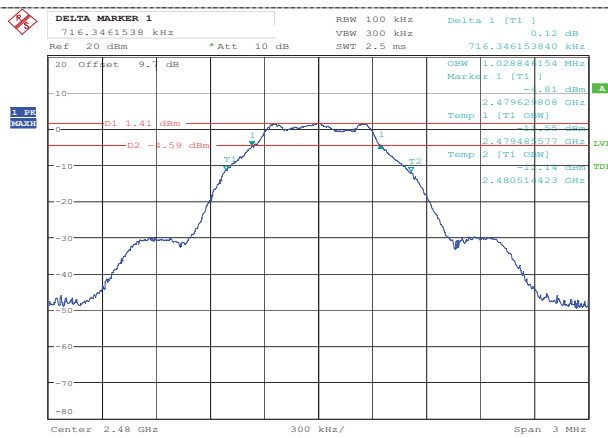
CH11

CH09

BT4.0



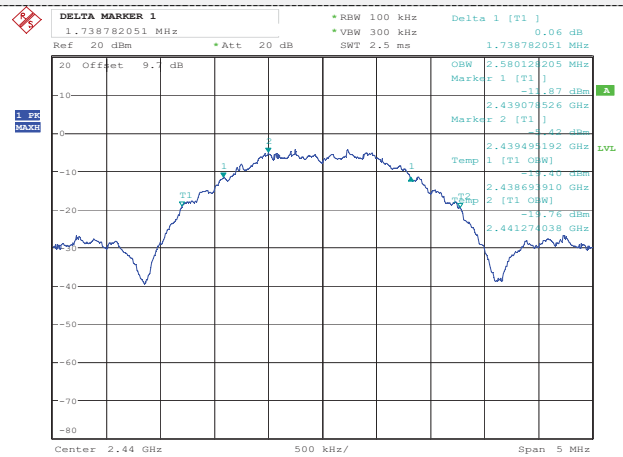
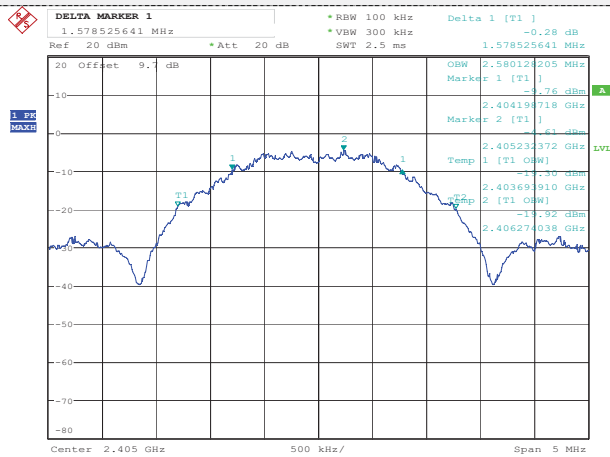
CH00



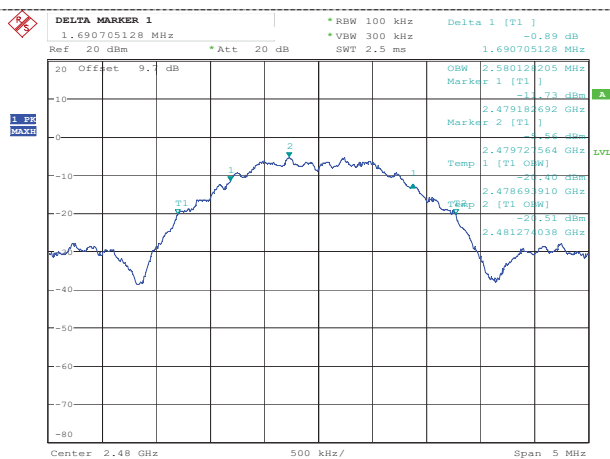
CH19

CH39

ZigBee



CH00



CH07

CH15

3.6. Band Edge Compliance of RF Emission

Limit

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)).

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)

Test Procedure

Test Procedure for conducted method

- Use this procedure when the maximum (average) conducted output power was used to demonstrate compliance to the output power limit.
 1. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a spectrum analyzer
 2. Turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
 3. Set spectrum analyzer RBW =100 kHz, VBW=300 kHz, Detector=RMS, Sweep point= $\geq 2 \times$ span / RBW, Sweep time=Auto, trace= Average(100 traces)
 4. Marker the highest point which fall into restricted frequency bands
 5. Repeat above procedures until all measured frequencies were complete.

Note: This test procedure is used for WIFI in this report

- This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance to the output power limit.
 1. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a spectrum analyzer
 2. Turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
 3. Set spectrum analyzer RBW =100 kHz, VBW=300 kHz, Detector=peak, Sweep time=Auto, trace=maxhold
 4. Marker the highest point which fall into restricted frequency bands
 5. Repeat above procedures until all measured frequencies were complete.

Note: This test procedure is used for BT4.0 in this report

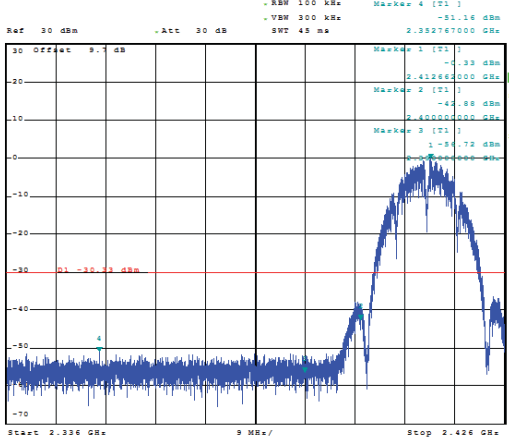
Test Procedure for radiated method

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
7. Test the EUT in the lowest channel, the highest channel
8. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
9. Repeat above procedures until all frequencies measured was complete.

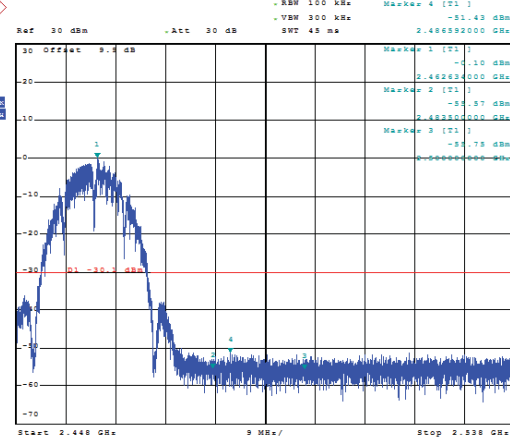
Test Results

A. Conducted measurements

802.11b			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2352.767	50.83	30	PASS
2486.592	51.32	30	PASS

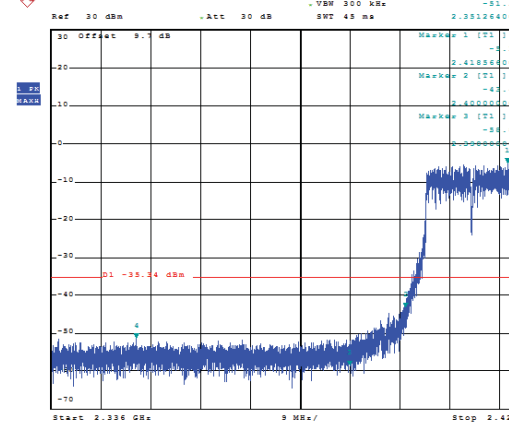


2412

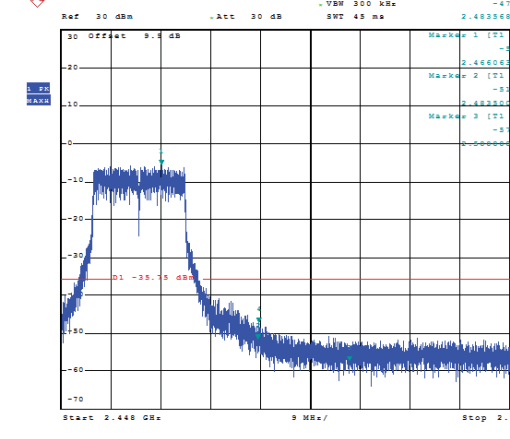


2462

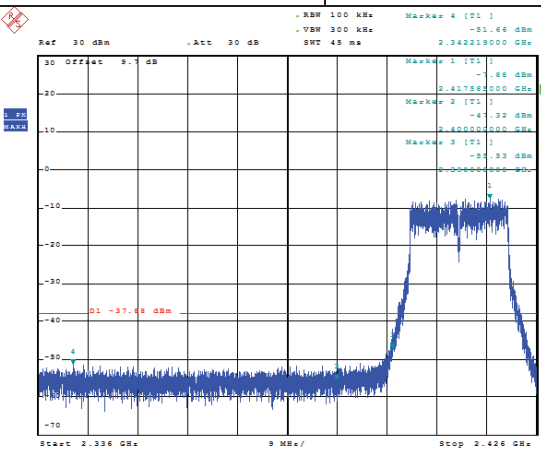
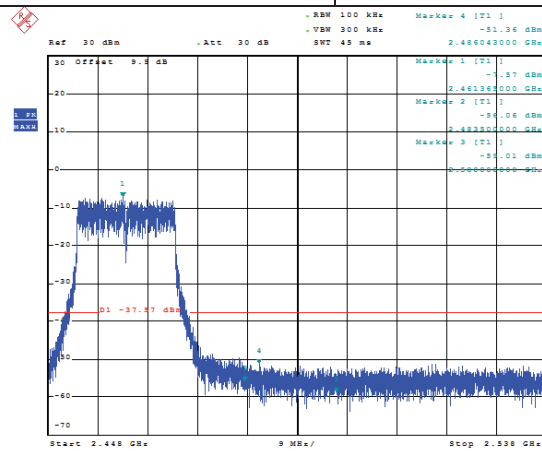
802.11g			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2351.264	46.23	30	PASS
2483.568	41.75	30	PASS

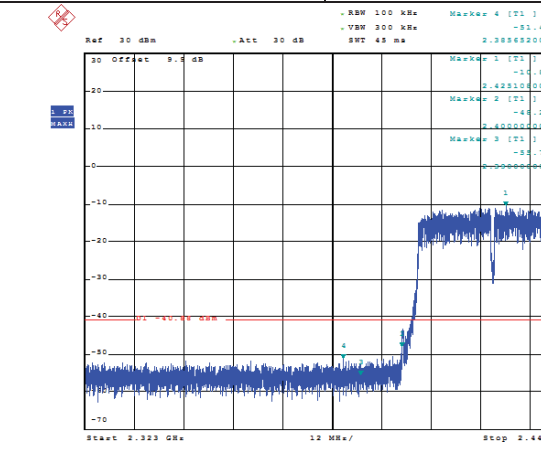
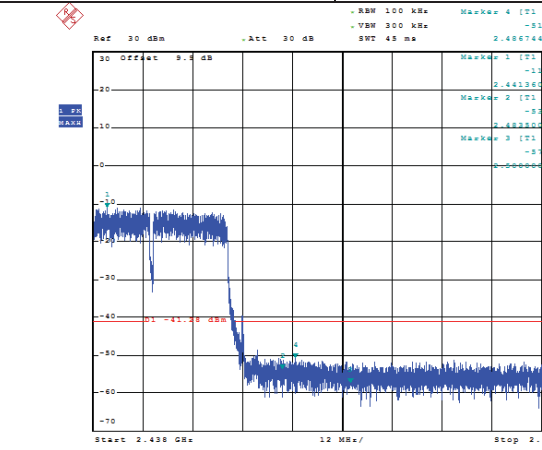


2412

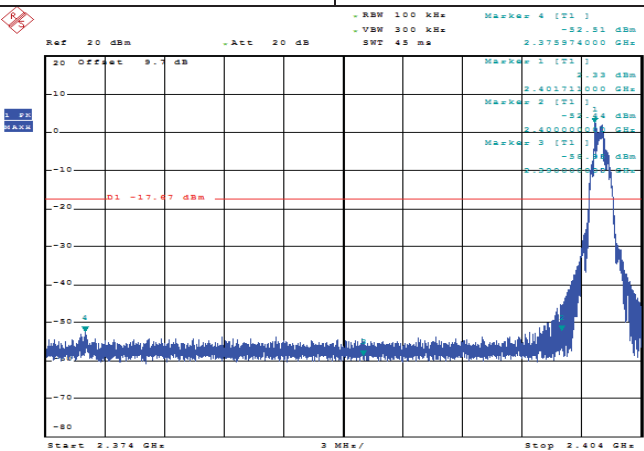


2462

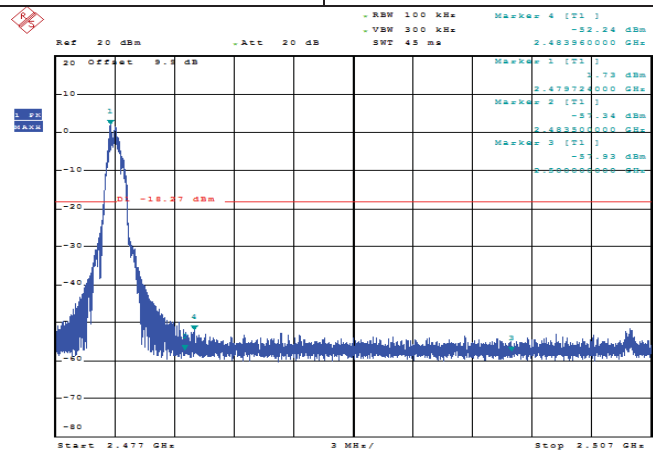
802.11n20			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2342.219	43.77	30	PASS
2486.043	43.79	30	PASS
			
2412		2462	

802.11n40			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2385.652	40.56	30	PASS
2486.744	39.76	30	PASS
			
2422		2452	

BT4.0			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2375.974	54.84	20	PASS
2483.960	53.96	20	PASS

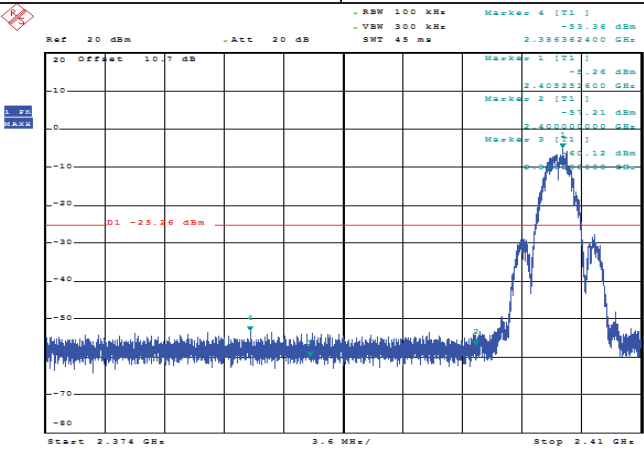


2402

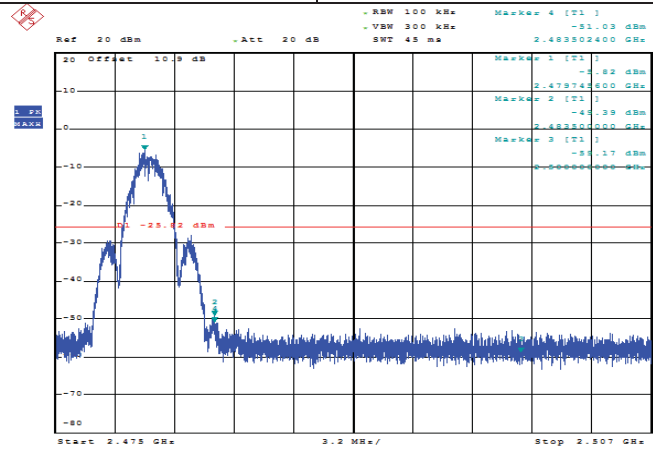


2480

ZigBee			
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict
2386.362	48.099	20	PASS
2483.500	45.207	20	PASS



2405



2480

B. Radiated measurements

1. SeeSwitch 5S/SmartPanel 52

802.11b

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	50.08	PK	74.00	23.92	1.00	105	55.39	27.49	3.32	36.12	-5.31
2390.00	42.29	AV	54.00	11.71	1.00	105	47.60	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	48.84	PK	74.00	25.16	1.00	200	54.15	27.49	3.32	36.12	-5.31
2390.00	38.47	AV	54.00	15.53	1.00	200	43.78	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	51.07	PK	74.00	22.93	1.00	110	56.79	27.45	3.38	36.55	-5.72
2483.50	40.77	AV	54.00	13.23	1.00	110	46.49	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	49.60	PK	74.00	24.40	1.00	190	55.32	27.45	3.38	36.55	-5.72
2483.50	38.82	AV	54.00	15.18	1.00	190	44.54	27.45	3.38	36.55	-5.72

802.11g

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	49.51	PK	74.00	24.49	1.00	100	54.82	27.49	3.32	36.12	-5.31
2390.00	40.24	AV	54.00	13.76	1.00	100	45.55	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	48.09	PK	74.00	25.91	1.00	195	53.40	27.49	3.32	36.12	-5.31
2390.00	39.80	AV	54.00	14.20	1.00	195	45.11	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	49.44	PK	74.00	24.56	1.00	110	55.16	27.45	3.38	36.55	-5.72
2483.50	37.92	AV	54.00	16.08	1.00	110	43.64	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.93	PK	74.00	26.07	1.00	210	53.65	27.45	3.38	36.55	-5.72
2483.50	39.66	AV	54.00	14.34	1.00	210	45.38	27.45	3.38	36.55	-5.72

802.11n20

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	48.17	PK	74.00	25.83	1.00	125	53.48	27.49	3.32	36.12	-5.31
2390.00	39.61	AV	54.00	14.39	1.00	125	44.92	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	49.43	PK	74.00	24.57	1.00	212	54.74	27.49	3.32	36.12	-5.31
2390.00	38.34	AV	54.00	15.66	1.00	212	43.65	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	49.51	PK	74.00	24.49	1.00	120	55.23	27.45	3.38	36.55	-5.72
2483.50	39.19	AV	54.00	14.81	1.00	120	44.91	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	49.43	PK	74.00	24.57	1.00	220	55.15	27.45	3.38	36.55	-5.72
2483.50	39.25	AV	54.00	14.75	1.00	220	44.97	27.45	3.38	36.55	-5.72

802.11n40

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.91	PK	74.00	26.09	1.00	125	53.22	27.49	3.32	36.12	-5.31
2390.00	36.64	AV	54.00	17.36	1.00	125	41.95	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	46.32	PK	74.00	27.68	1.00	212	51.63	27.49	3.32	36.12	-5.31
2390.00	36.71	AV	54.00	17.29	1.00	212	42.02	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	46.64	PK	74.00	27.36	1.00	120	52.36	27.45	3.38	36.55	-5.72
2483.50	37.05	AV	54.00	16.95	1.00	120	42.77	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.27	PK	74.00	26.73	1.00	220	52.99	27.45	3.38	36.55	-5.72
2483.50	35.56	AV	54.00	18.44	1.00	220	41.28	27.45	3.38	36.55	-5.72

bt 4.0 GFSK

Frequency(MHz):			2402			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.00	PK	74.00	29.00	1.00	120	50.31	27.49	3.32	36.12	-5.31
2390.00	36.33	AV	54.00	17.67	1.00	120	41.64	27.49	3.32	36.12	-5.31
Frequency(MHz):			2402			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	46.97	PK	74.00	27.03	1.00	185	52.28	27.49	3.32	36.12	-5.31
2390.00	36.05	AV	54.00	17.95	1.00	185	41.36	27.49	3.32	36.12	-5.31
Frequency(MHz):			2480			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	45.70	PK	74.00	28.30	1.00	110	51.42	27.45	3.38	36.55	-5.72
2483.50	34.35	AV	54.00	19.65	1.00	110	40.07	27.45	3.38	36.55	-5.72
Frequency(MHz):			2480			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	46.14	PK	74.00	27.86	1.00	216	51.86	27.45	3.38	36.55	-5.72
2483.50	34.72	AV	54.00	19.28	1.00	216	40.44	27.45	3.38	36.55	-5.72

ZigBee

Frequency(MHz):			2405			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.23	PK	74.00	28.77	1.00	115	50.54	27.49	3.32	36.12	-5.31
2390.00	36.27	AV	54.00	17.73	1.00	115	41.58	27.49	3.32	36.12	-5.31
Frequency(MHz):			2405			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.01	PK	74.00	26.99	1.00	109	52.32	27.49	3.32	36.12	-5.31
2390.00	36.95	AV	54.00	17.05	1.00	109	42.26	27.49	3.32	36.12	-5.31
Frequency(MHz):			2480			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	44.91	PK	74.00	29.09	1.00	105	50.63	27.45	3.38	36.55	-5.72
2483.50	34.75	AV	54.00	19.25	1.00	105	40.47	27.45	3.38	36.55	-5.72
Frequency(MHz):			2480			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	46.86	PK	74.00	27.14	1.00	140	52.58	27.45	3.38	36.55	-5.72
2483.50	35.42	AV	54.00	18.58	1.00	140	41.14	27.45	3.38	36.55	-5.72

2. SeeSwitch 4S/SmartPanel 42

802.11b

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	49.85	PK	74.00	24.15	1.00	90	55.16	27.49	3.32	36.12	-5.31
2390.00	40.37	AV	54.00	13.63	1.00	90	45.68	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	50.02	PK	74.00	23.98	1.00	185	55.33	27.49	3.32	36.12	-5.31
2390.00	38.36	AV	54.00	15.64	1.00	185	43.67	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	48.96	PK	74.00	25.04	1.00	95	54.68	27.45	3.38	36.55	-5.72
2483.50	40.24	AV	54.00	13.76	1.00	95	45.96	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.89	PK	74.00	26.11	1.00	175	53.61	27.45	3.38	36.55	-5.72
2483.50	38.92	AV	54.00	15.08	1.00	175	44.64	27.45	3.38	36.55	-5.72

802.11g

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	48.27	PK	74.00	25.73	1.00	85	53.58	27.49	3.32	36.12	-5.31
2390.00	39.86	AV	54.00	14.14	1.00	85	45.17	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.74	PK	74.00	26.26	1.00	180	53.05	27.49	3.32	36.12	-5.31
2390.00	38.01	AV	54.00	15.99	1.00	180	43.32	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.79	PK	74.00	26.21	1.00	95	53.51	27.45	3.38	36.55	-5.72
2483.50	37.86	AV	54.00	16.14	1.00	95	43.58	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.83	PK	74.00	26.17	1.00	195	53.55	27.45	3.38	36.55	-5.72
2483.50	39.54	AV	54.00	14.46	1.00	195	45.26	27.45	3.38	36.55	-5.72

802.11n20

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	49.39	PK	74.00	24.61	1.00	110	54.70	27.49	3.32	36.12	-5.31
2390.00	38.81	AV	54.00	15.19	1.00	110	44.12	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.53	PK	74.00	26.47	1.00	197	52.84	27.49	3.32	36.12	-5.31
2390.00	38.05	AV	54.00	15.95	1.00	197	43.36	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	48.69	PK	74.00	25.31	1.00	105	54.41	27.45	3.38	36.55	-5.72
2483.50	39.02	AV	54.00	14.98	1.00	105	44.74	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	48.74	PK	74.00	25.26	1.00	205	54.46	27.45	3.38	36.55	-5.72
2483.50	37.81	AV	54.00	16.19	1.00	205	43.53	27.45	3.38	36.55	-5.72

802.11n40

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.38	PK	74.00	26.62	1.00	110	52.69	27.49	3.32	36.12	-5.31
2390.00	36.67	AV	54.00	17.33	1.00	110	41.98	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	47.75	PK	74.00	26.25	1.00	197	53.06	27.49	3.32	36.12	-5.31
2390.00	36.60	AV	54.00	17.40	1.00	197	41.91	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	46.71	PK	74.00	27.29	1.00	105	52.43	27.45	3.38	36.55	-5.72
2483.50	36.22	AV	54.00	17.78	1.00	105	41.94	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	47.11	PK	74.00	26.89	1.00	205	52.83	27.45	3.38	36.55	-5.72
2483.50	36.17	AV	54.00	17.83	1.00	205	41.89	27.45	3.38	36.55	-5.72

bt 4.0 GFSK

Frequency(MHz):			2402			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.85	PK	74.00	28.15	1.00	110	51.16	27.49	3.32	36.12	-5.31
2390.00	36.01	AV	54.00	17.99	1.00	110	41.32	27.49	3.32	36.12	-5.31
Frequency(MHz):			2402			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.62	PK	74.00	28.38	1.00	197	50.93	27.49	3.32	36.12	-5.31
2390.00	34.80	AV	54.00	19.20	1.00	197	40.11	27.49	3.32	36.12	-5.31
Frequency(MHz):			2480			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	44.87	PK	74.00	29.13	1.00	105	50.59	27.45	3.38	36.55	-5.72
2483.50	34.99	AV	54.00	19.01	1.00	105	40.71	27.45	3.38	36.55	-5.72
Frequency(MHz):			2480			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	45.44	PK	74.00	28.56	1.00	205	51.16	27.45	3.38	36.55	-5.72
2483.50	33.99	AV	54.00	20.01	1.00	205	39.71	27.45	3.38	36.55	-5.72

ZigBee

Frequency(MHz):			2405			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.02	PK	74.00	28.98	1.00	103	50.33	27.49	3.32	36.12	-5.31
2390.00	35.47	AV	54.00	18.53	1.00	103	40.78	27.49	3.32	36.12	-5.31
Frequency(MHz):			2405			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2390.00	45.24	PK	74.00	28.76	1.00	130	50.55	27.49	3.32	36.12	-5.31
2390.00	37.29	AV	54.00	16.71	1.00	130	42.60	27.49	3.32	36.12	-5.31
Frequency(MHz):			2480			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	45.77	PK	74.00	28.23	1.00	93	51.49	27.45	3.38	36.55	-5.72
2483.50	33.91	AV	54.00	20.09	1.00	93	39.63	27.45	3.38	36.55	-5.72
Frequency(MHz):			2480			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	46.64	PK	74.00	27.36	1.00	161	52.36	27.45	3.38	36.55	-5.72
2483.50	35.27	AV	54.00	18.73	1.00	161	40.99	27.45	3.38	36.55	-5.72

3.7. Spurious RF Conducted Emission

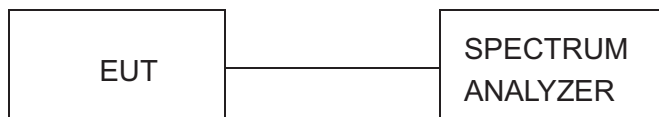
Limit

1. Below -20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

Test Procedure

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4-2009 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100 kHz and VBM= 300 KHz to measure the peak field strength, and measured frequency range from 30MHz to 26.5GHz.

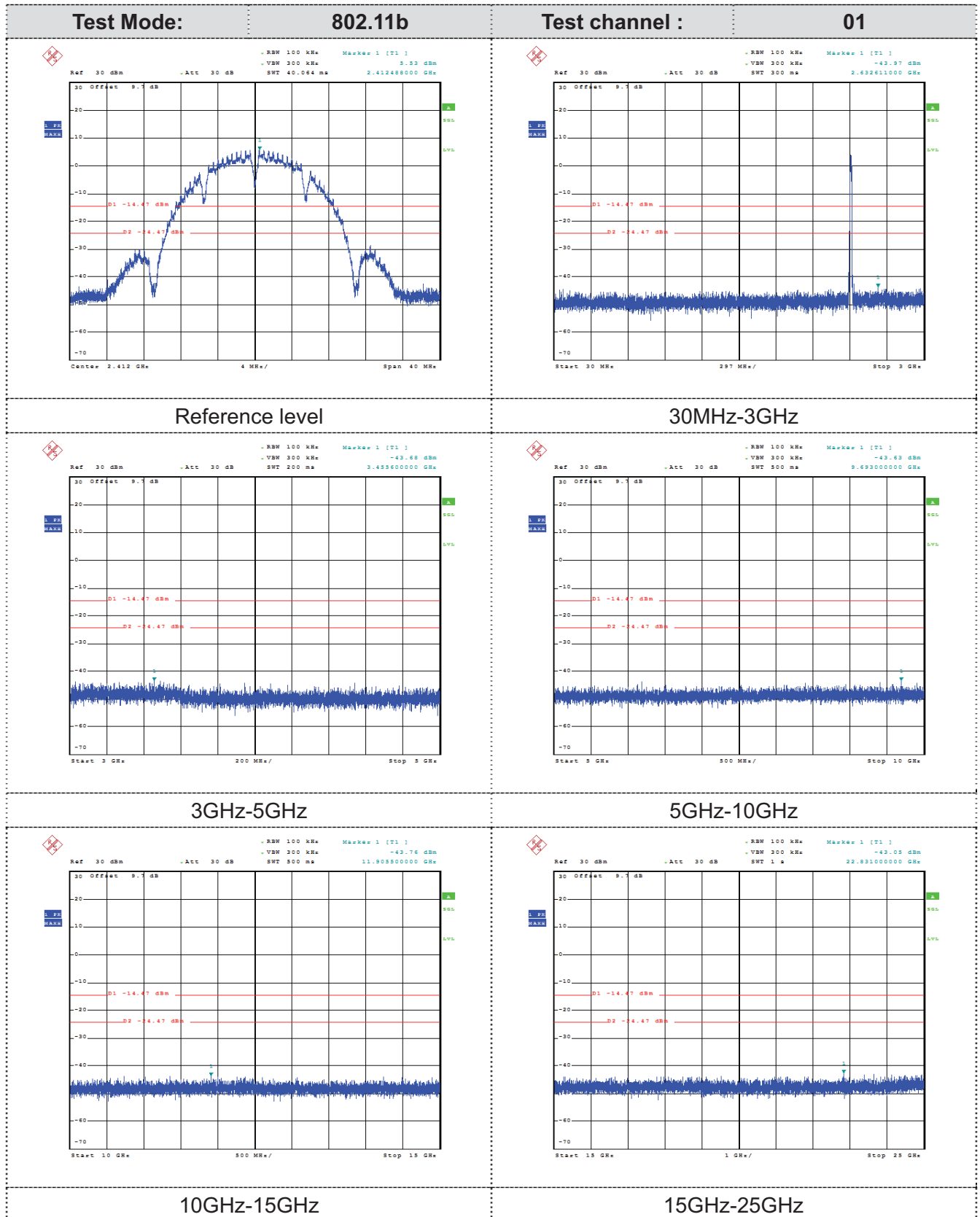
Test Configuration

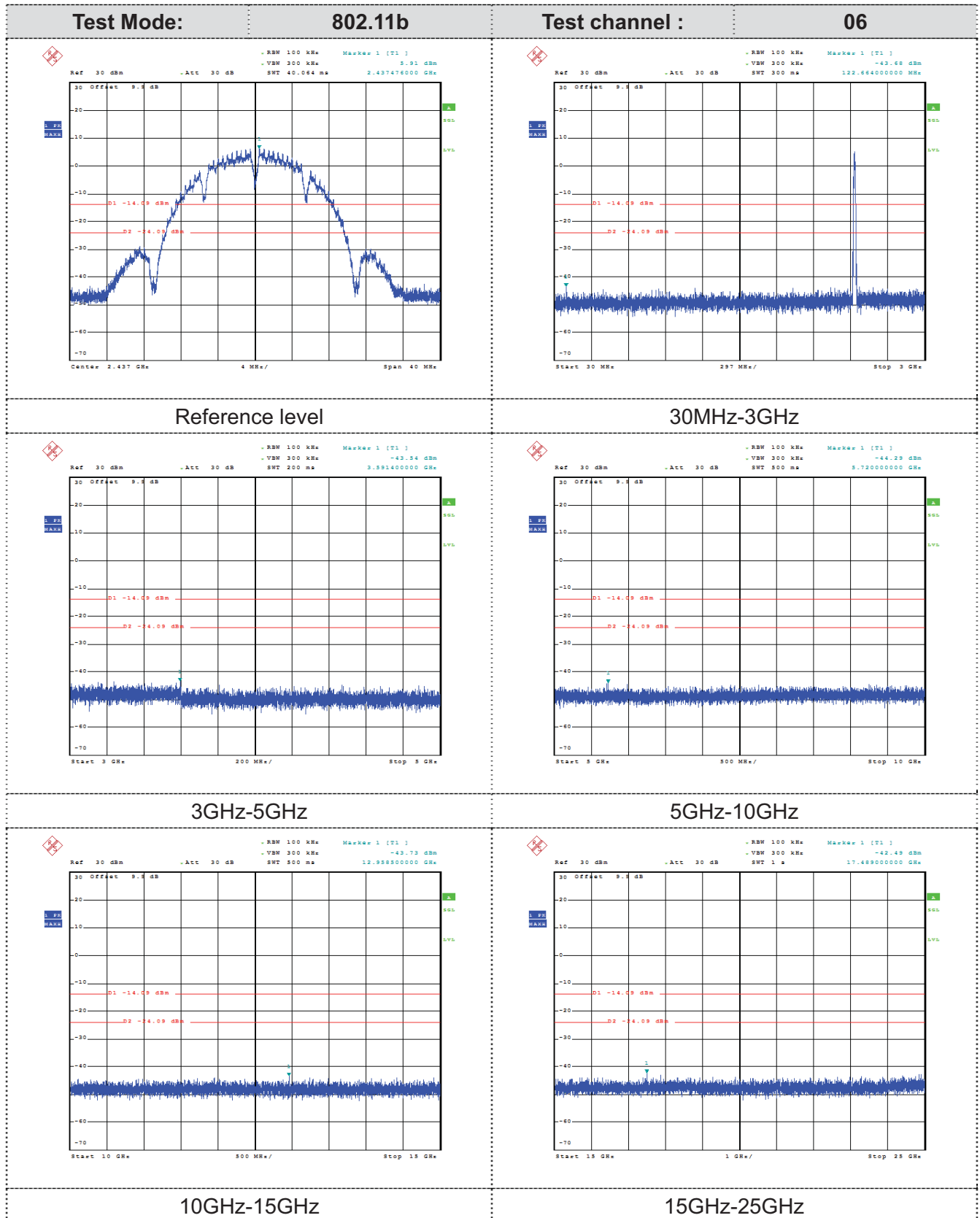


Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandage measurement data.

Test plot as follows:



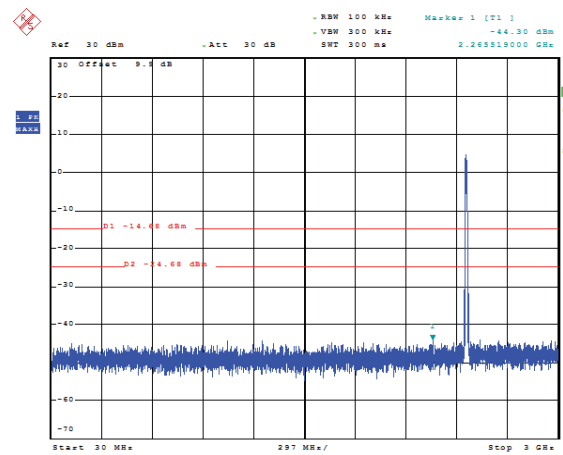
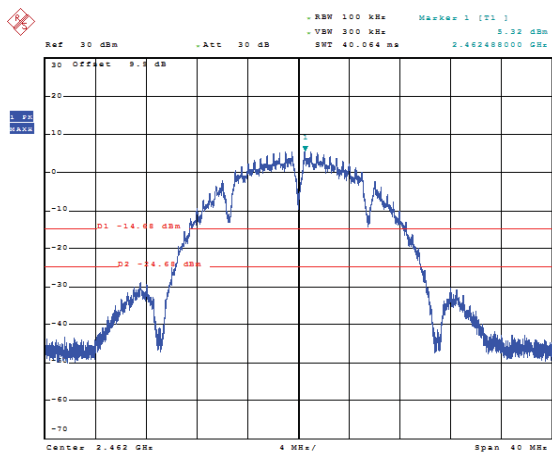


Test Mode:

802.11b

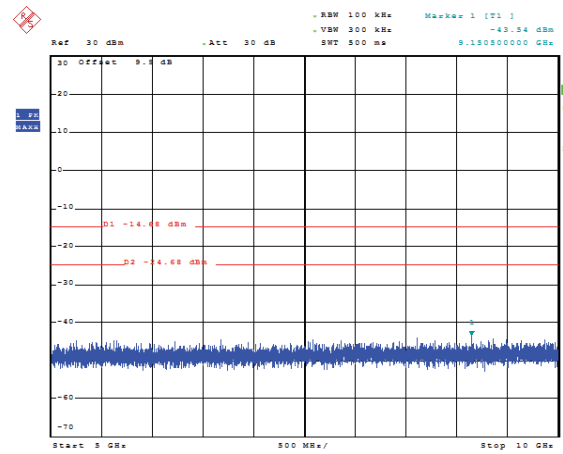
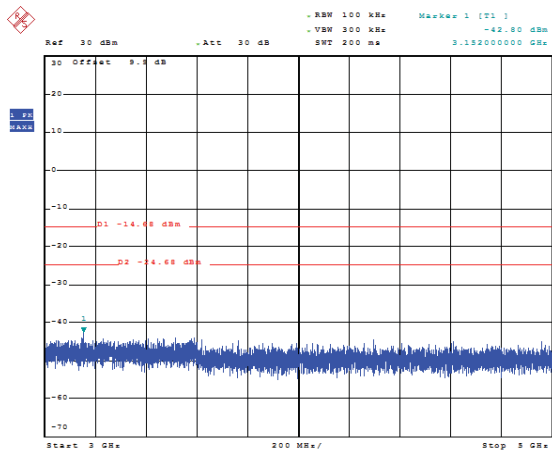
Test channel :

11



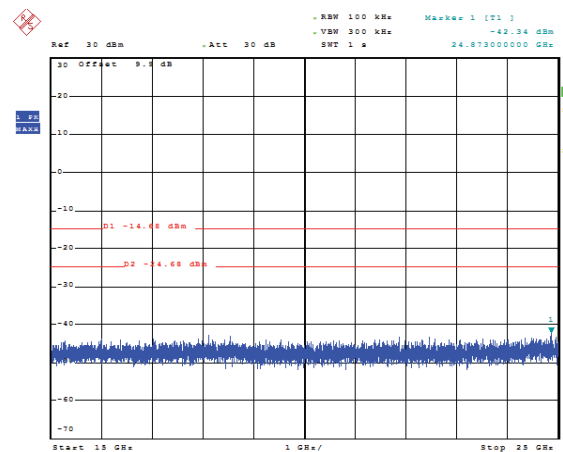
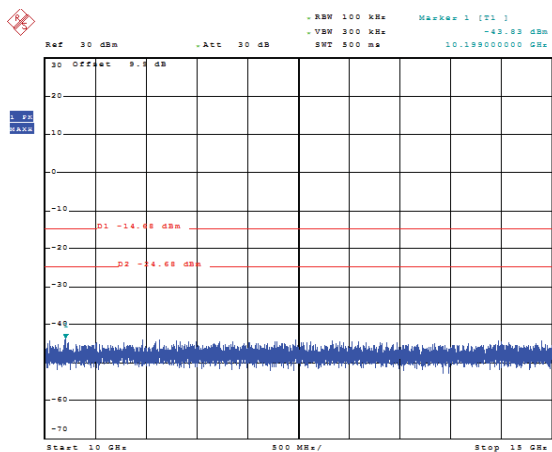
Reference level

30MHz-3GHz



3GHz-5GHz

5GHz-10GHz



10GHz-15GHz

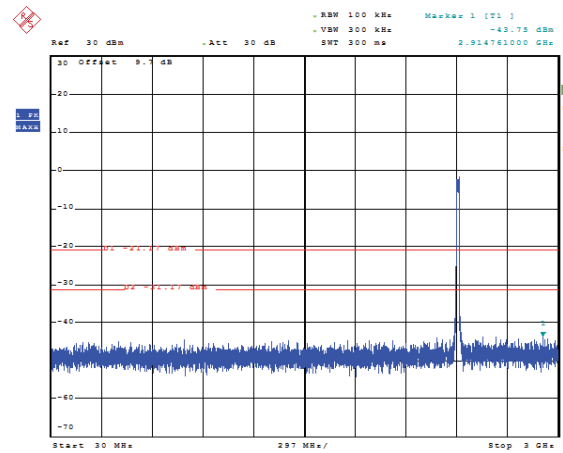
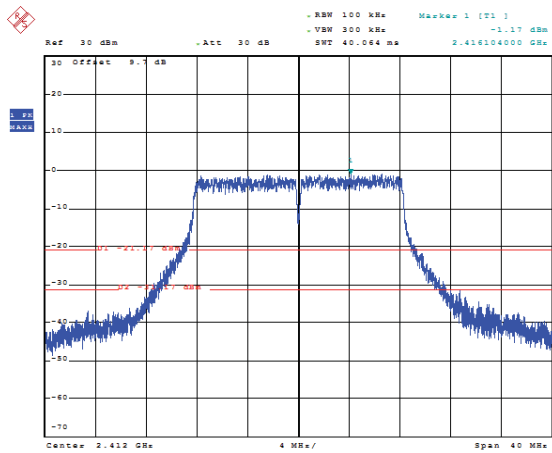
15GHz-25GHz

Test Mode:

802.11g

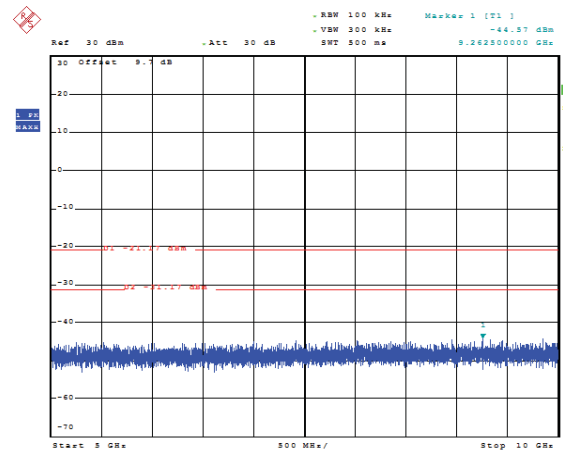
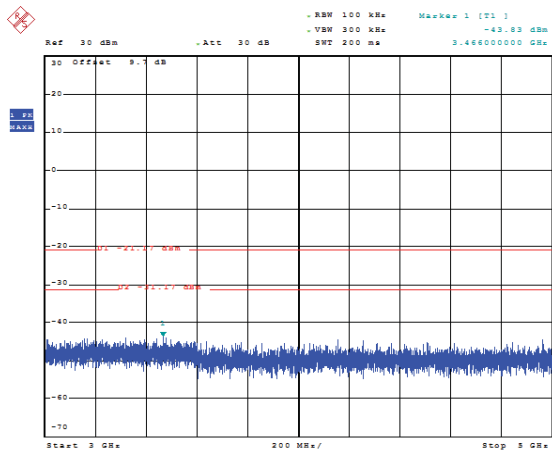
Test channel :

01



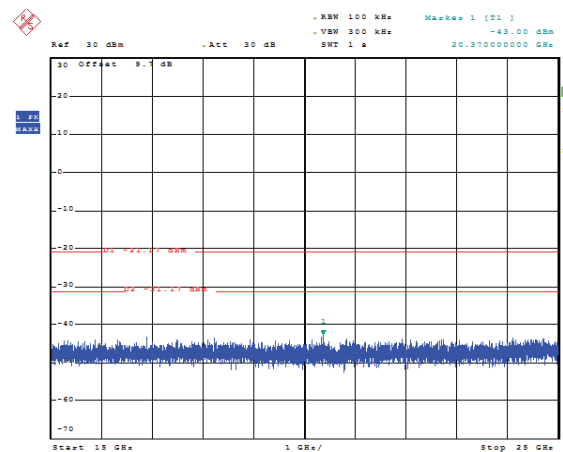
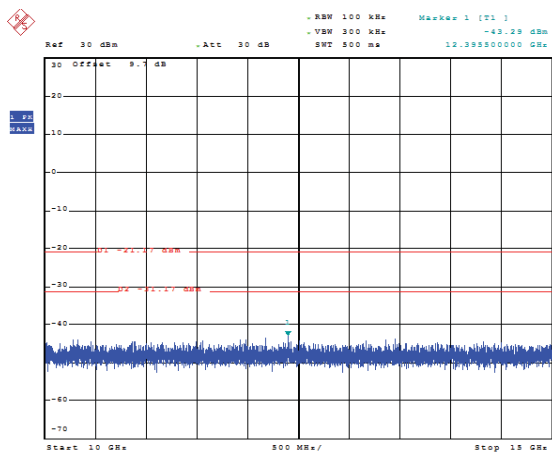
Reference level

30MHz-3GHz



3GHz-5GHz

5GHz-10GHz



10GHz-15GHz

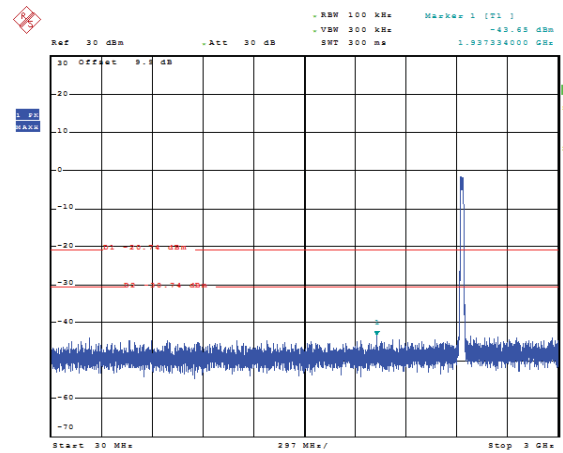
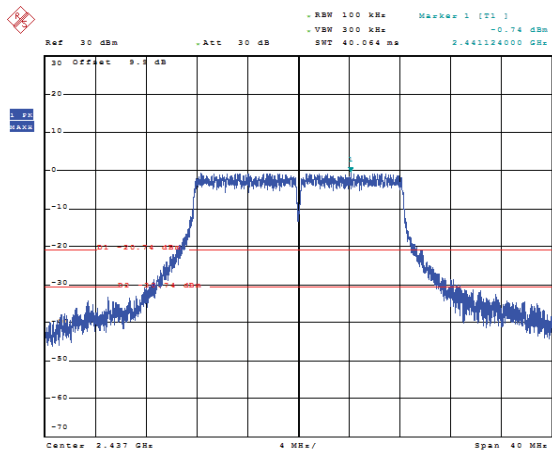
15GHz-25GHz

Test Mode:

802.11g

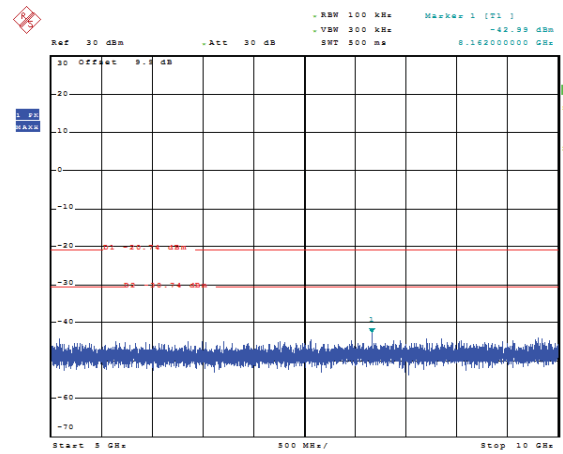
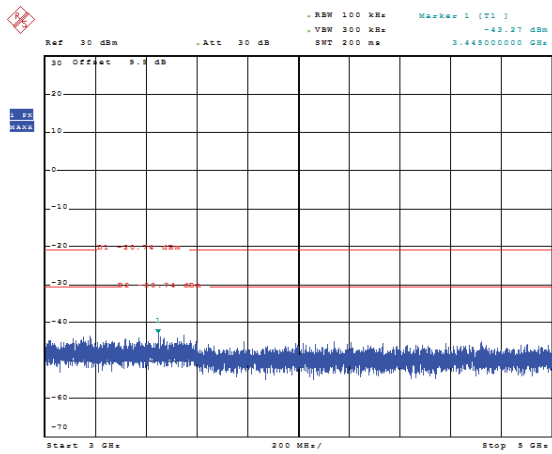
Test channel :

06



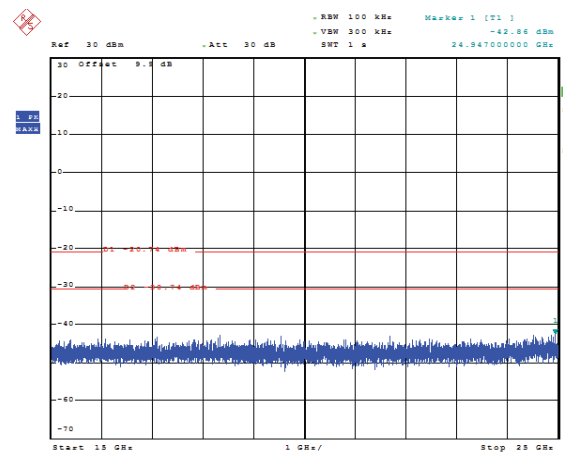
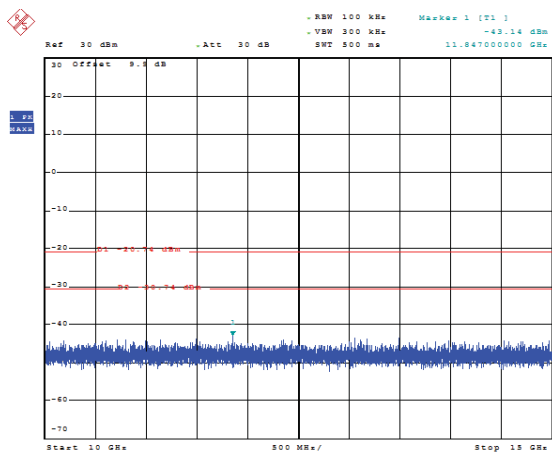
Reference level

30MHz-3GHz



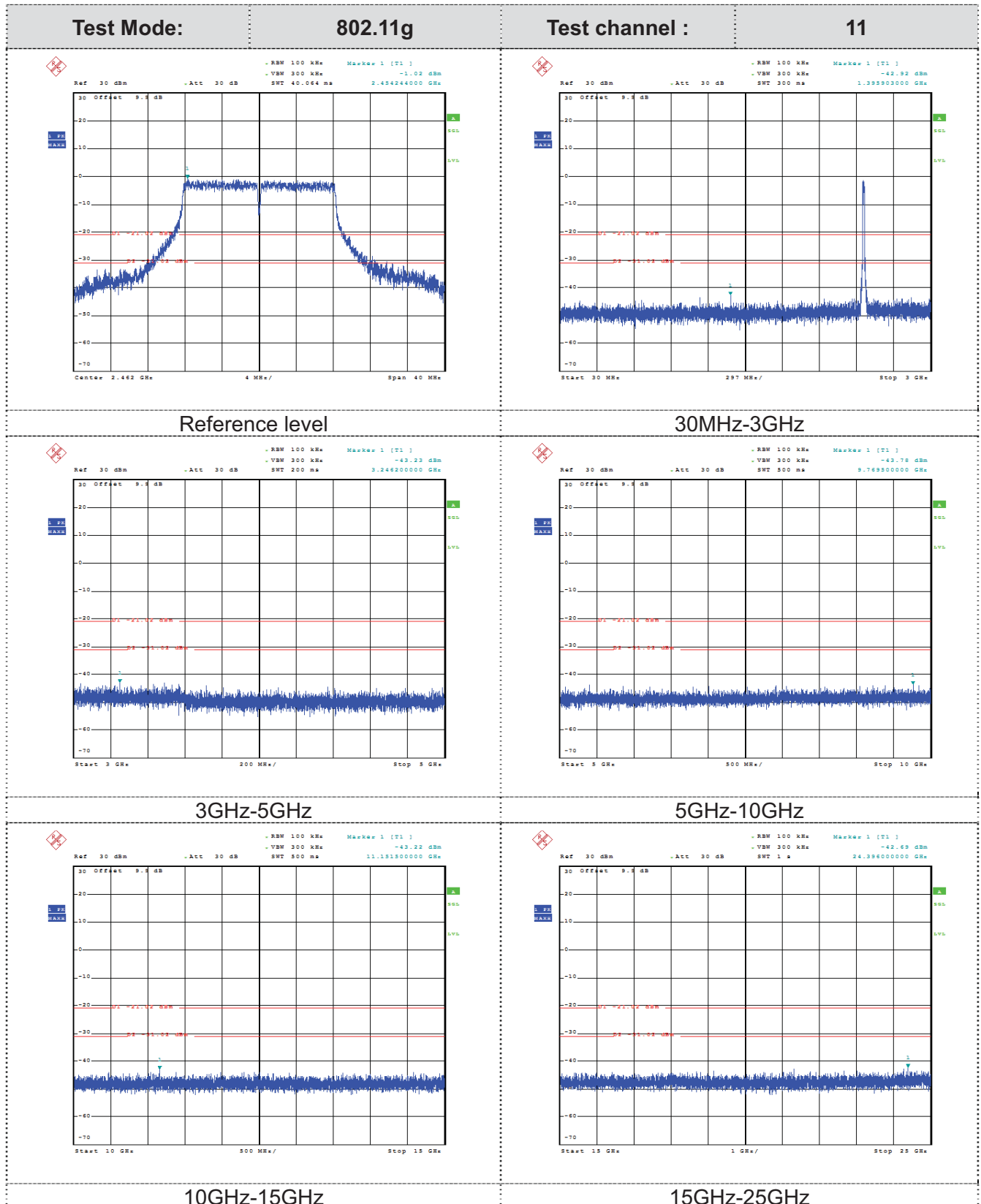
3GHz-5GHz

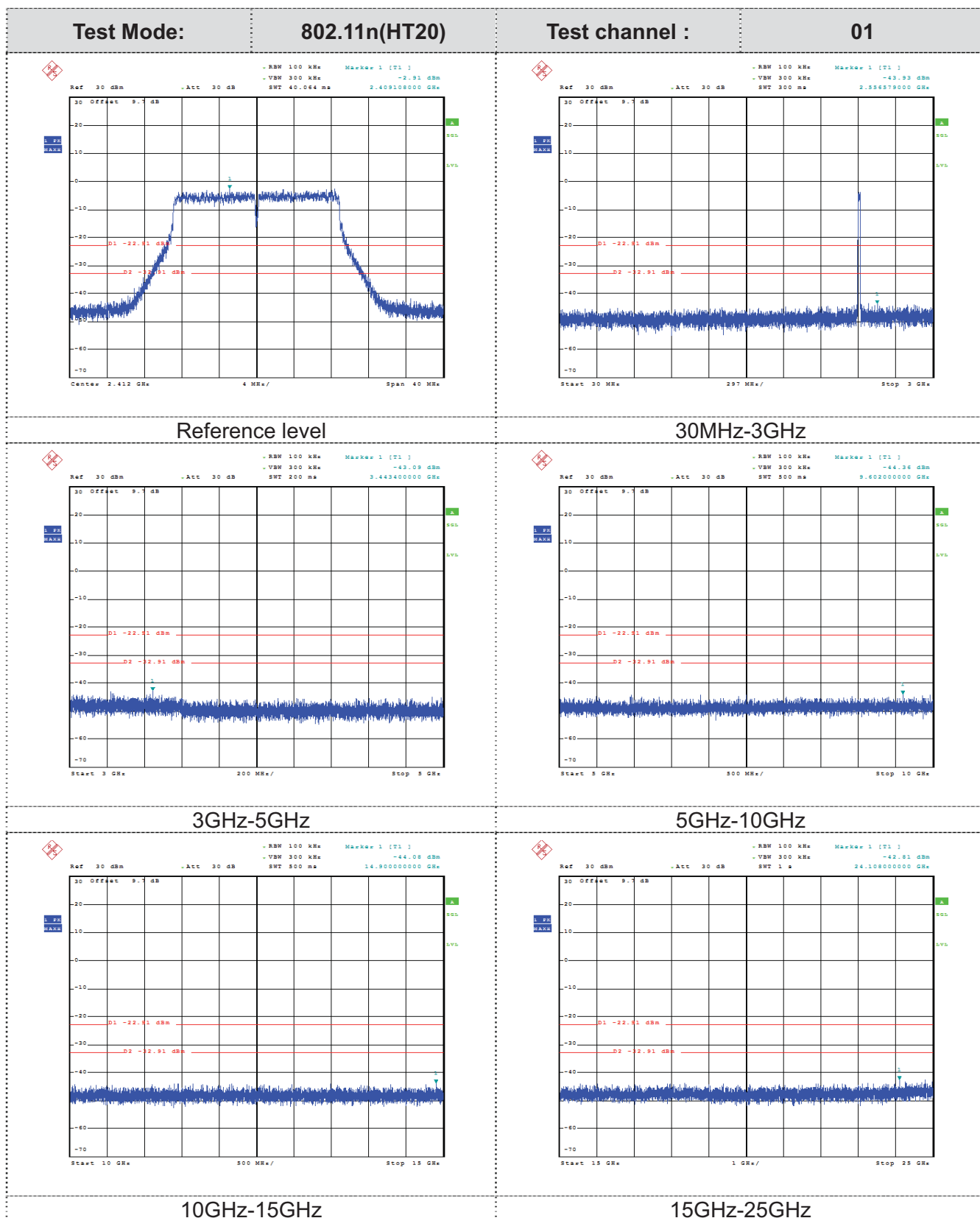
5GHz-10GHz

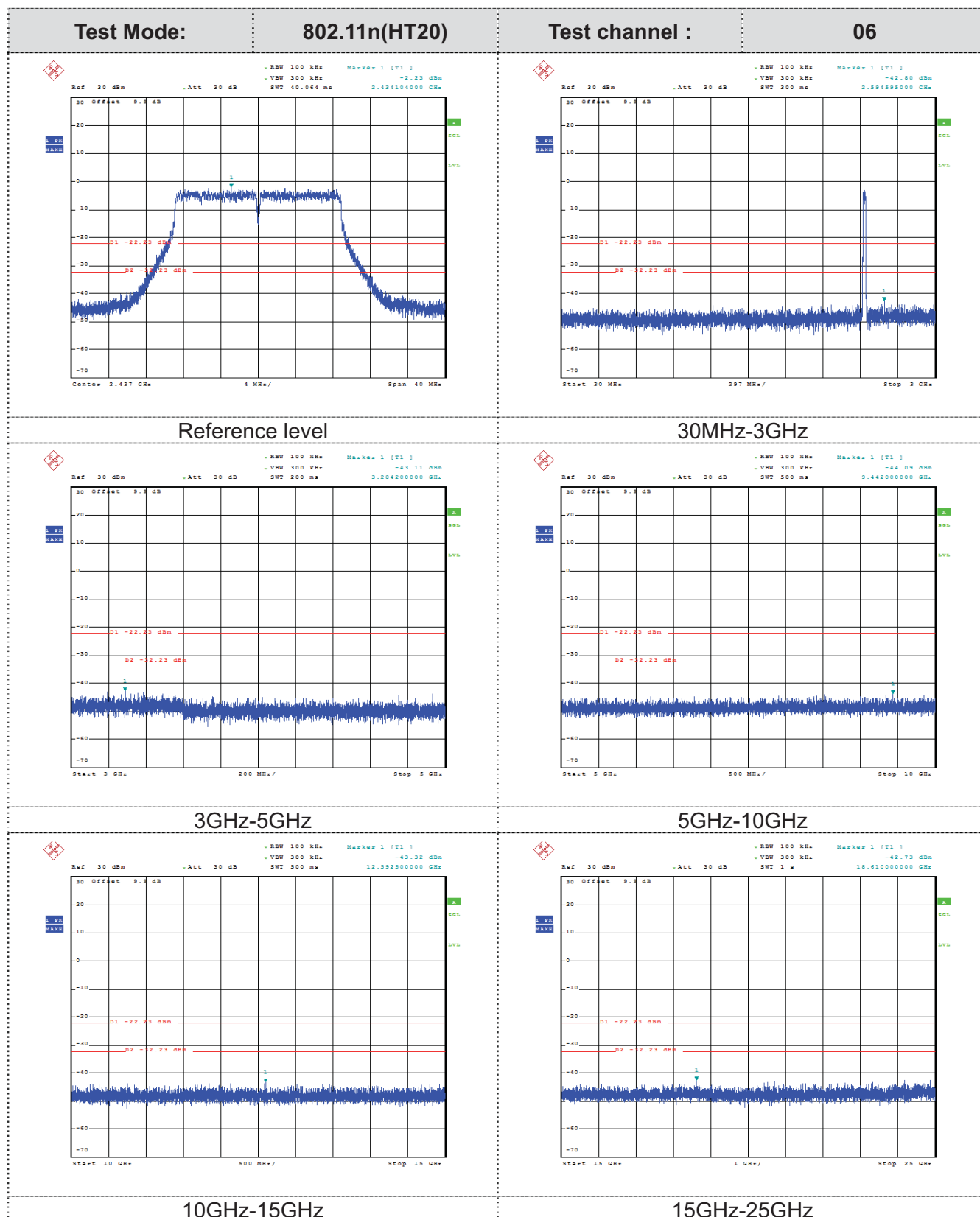


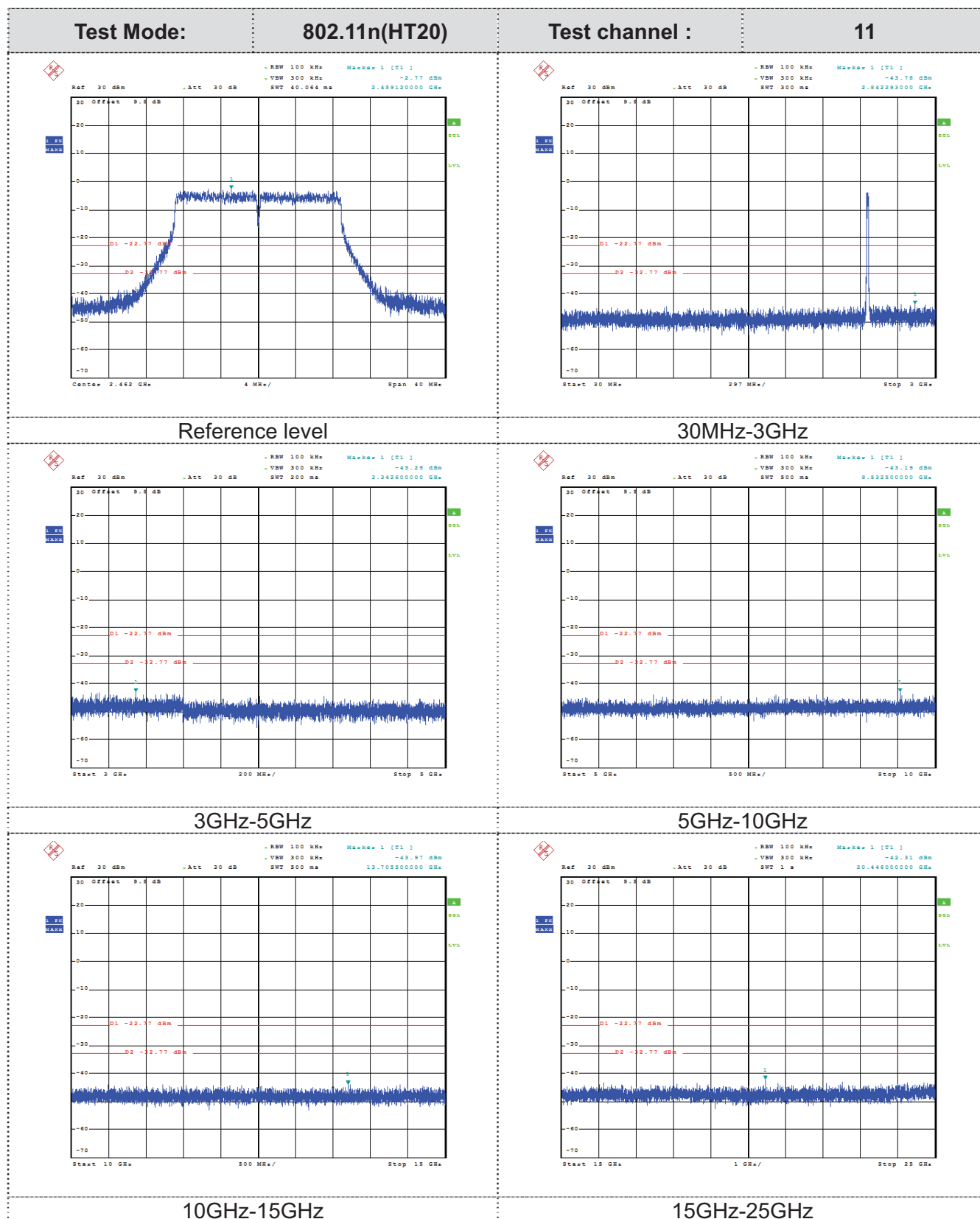
10GHz-15GHz

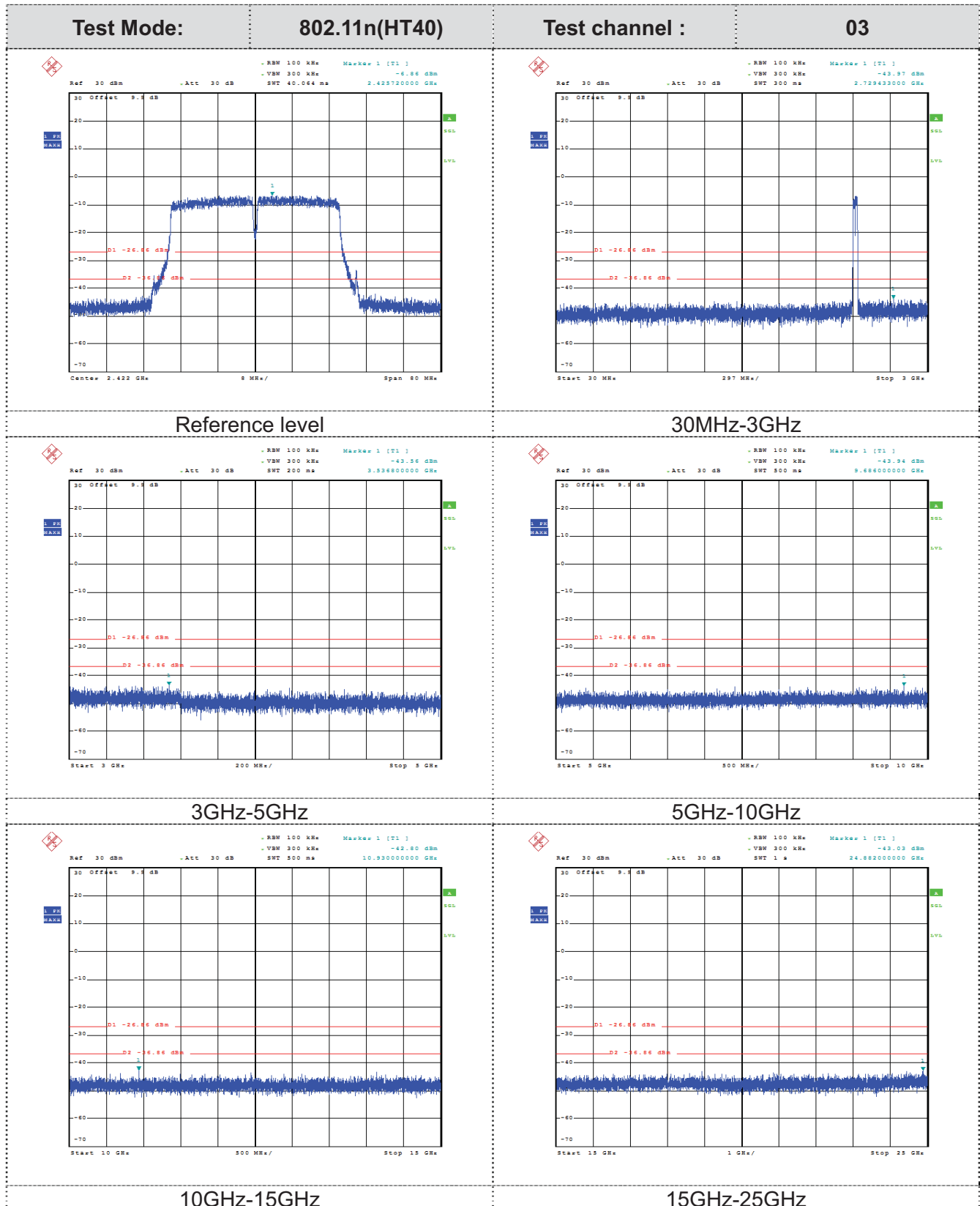
15GHz-25GHz

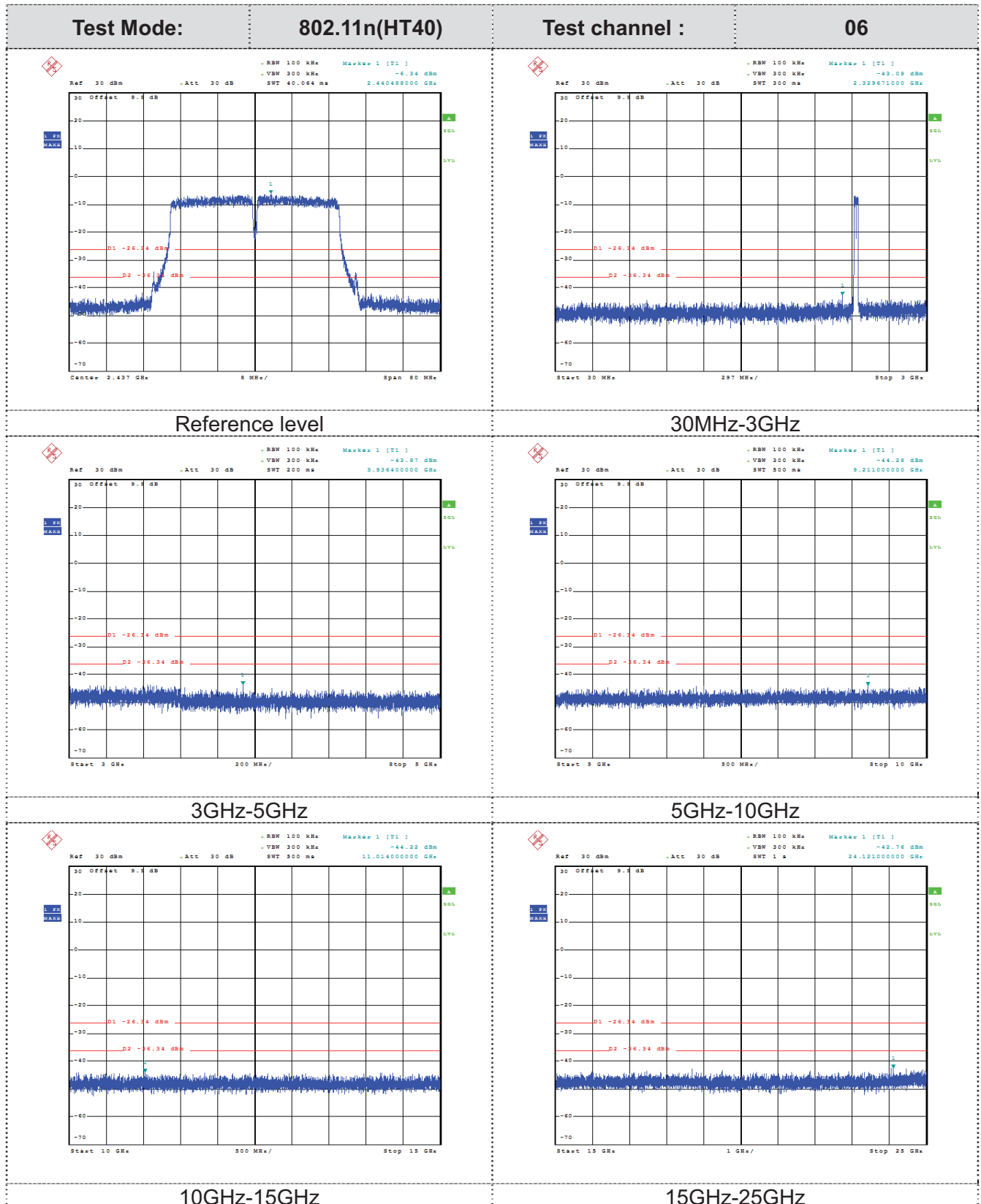


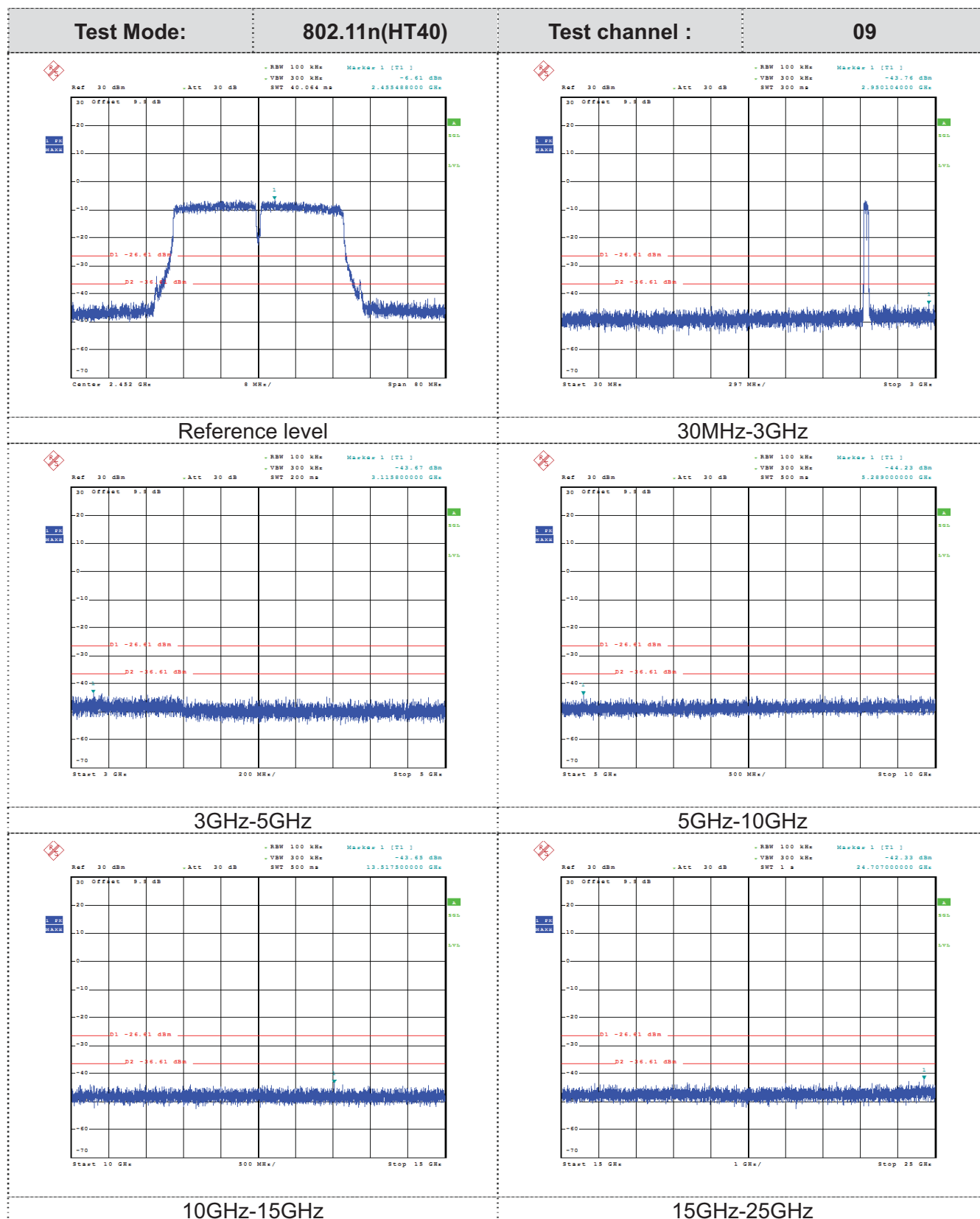


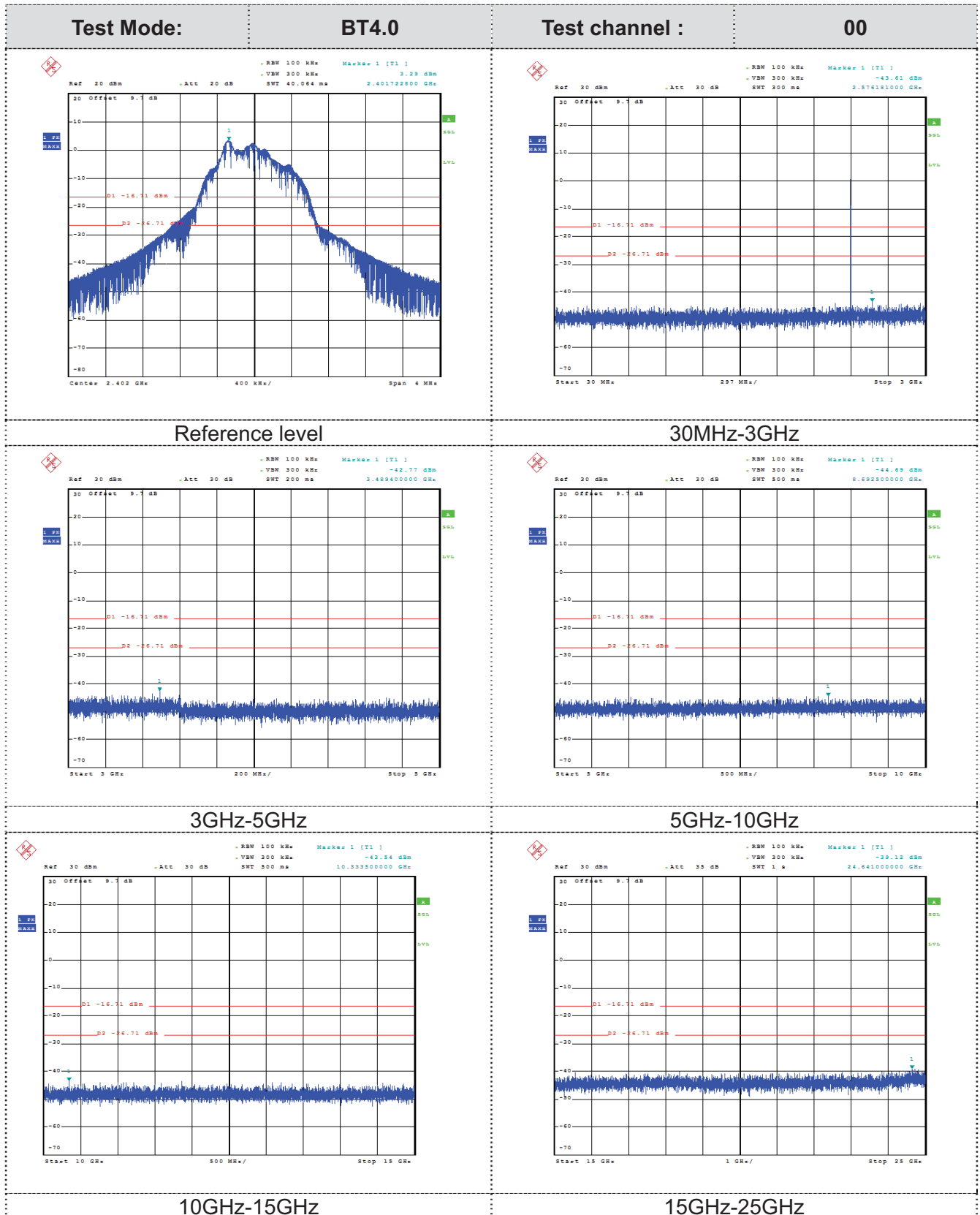


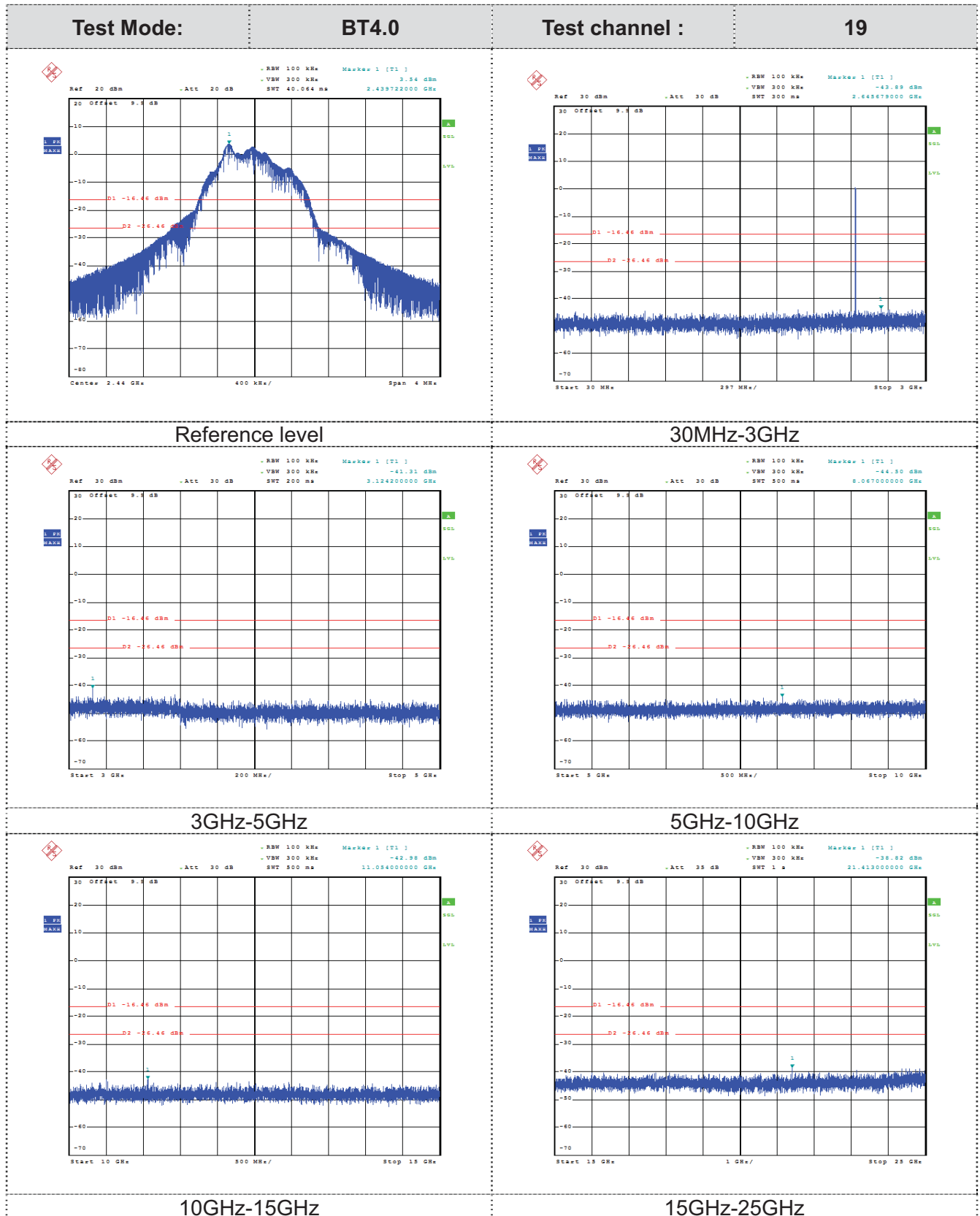


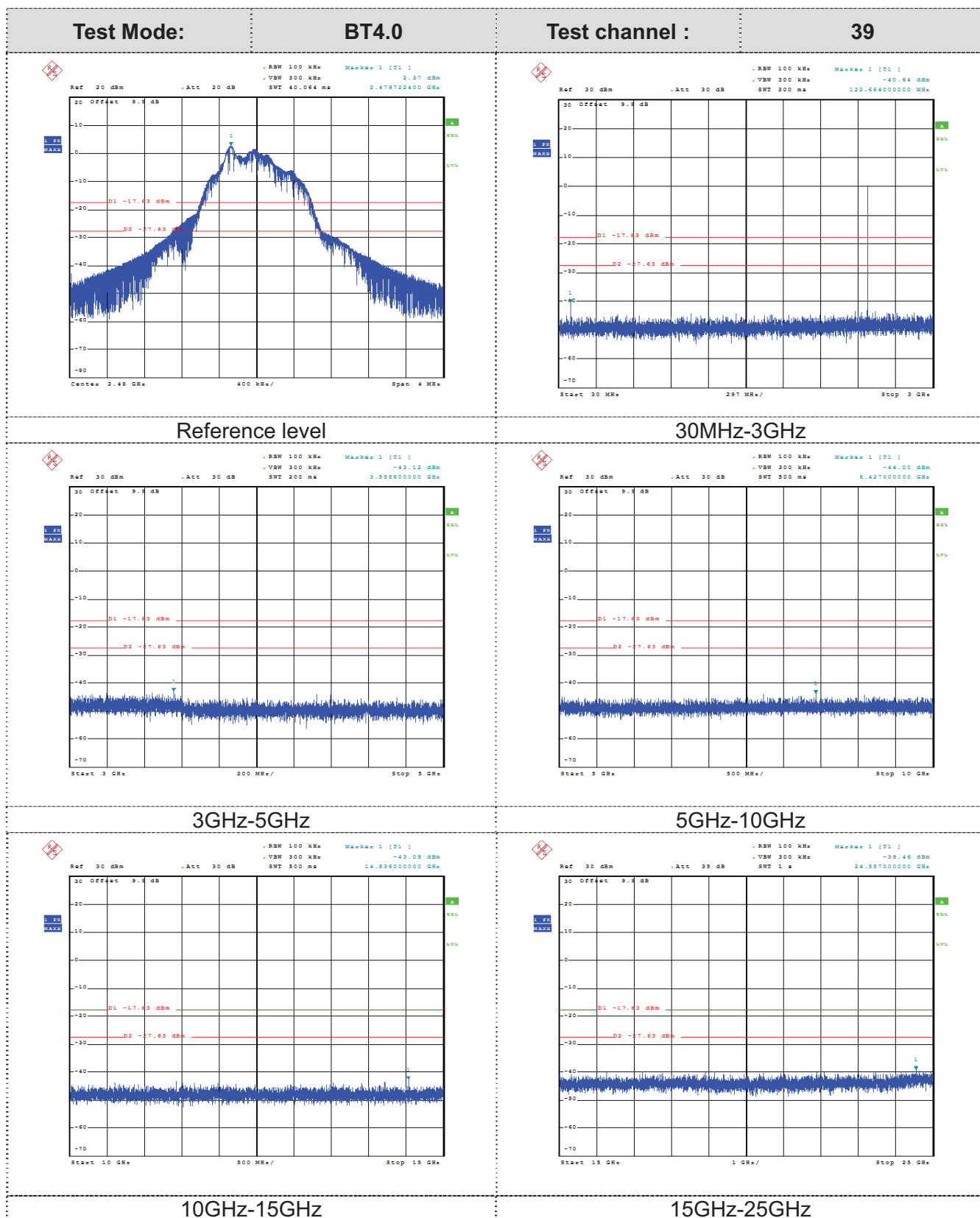


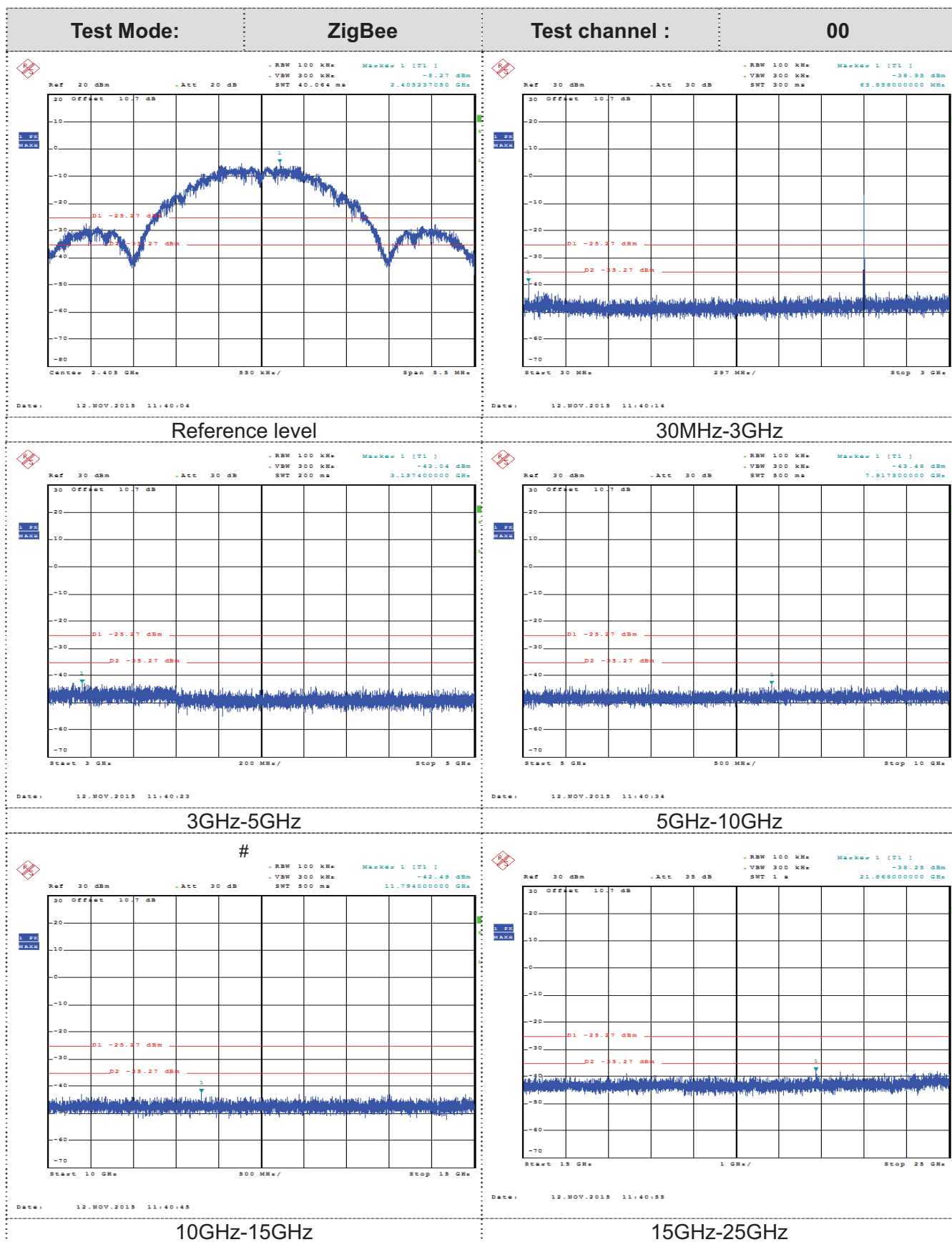


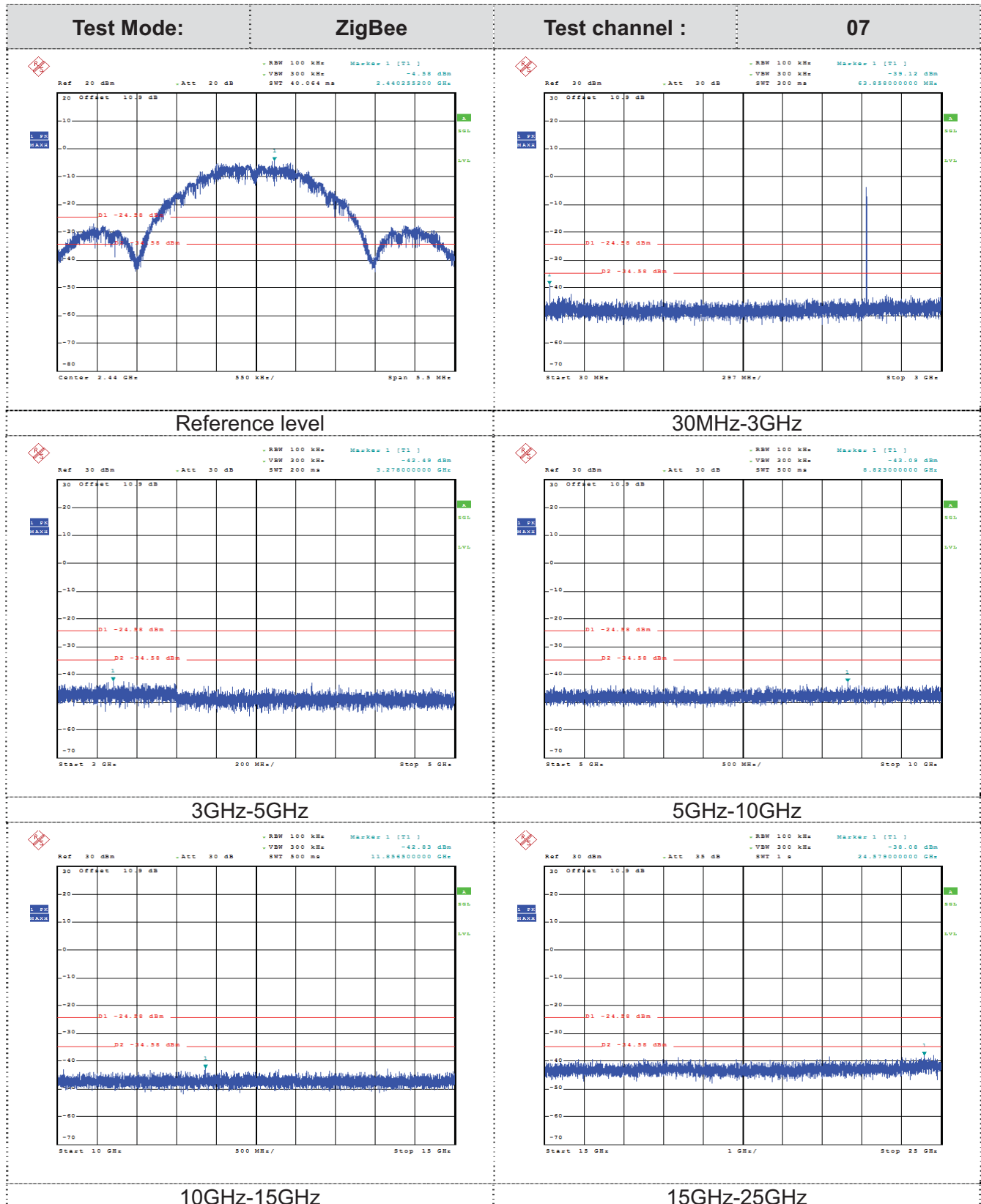


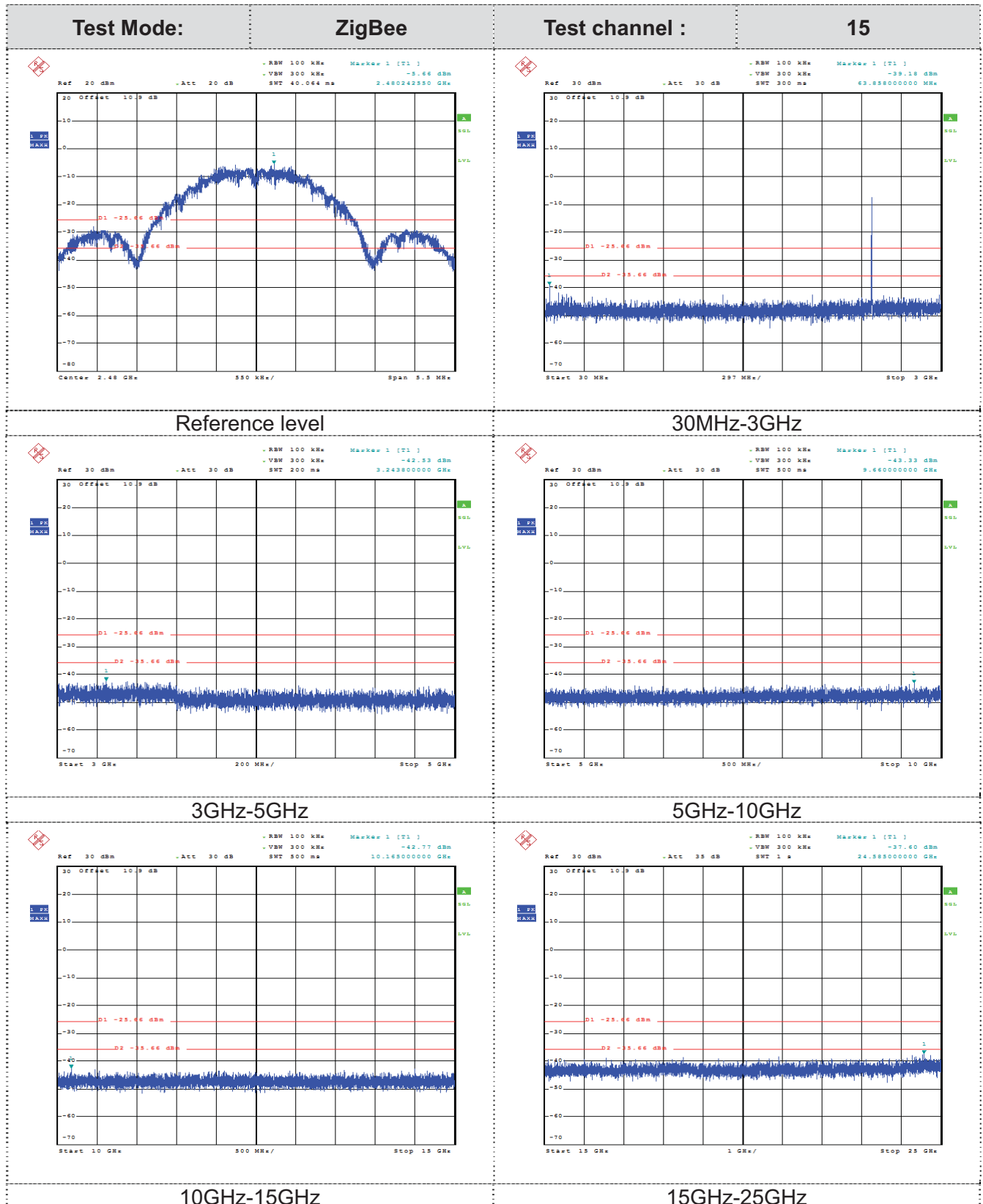












3.8. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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

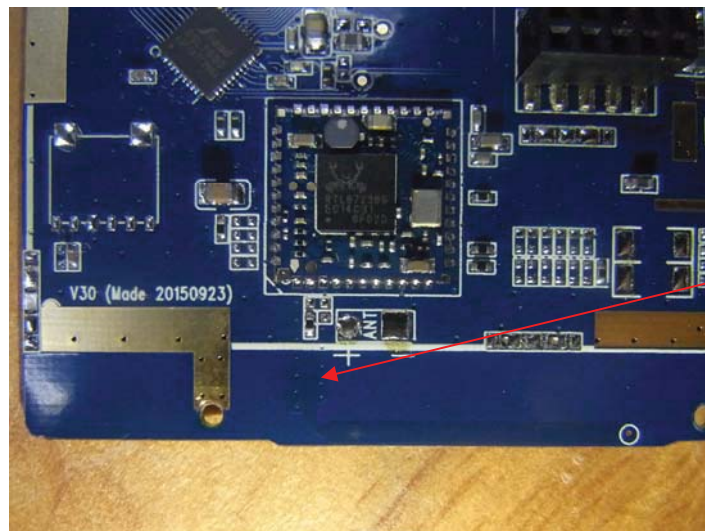
FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1) (I):

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

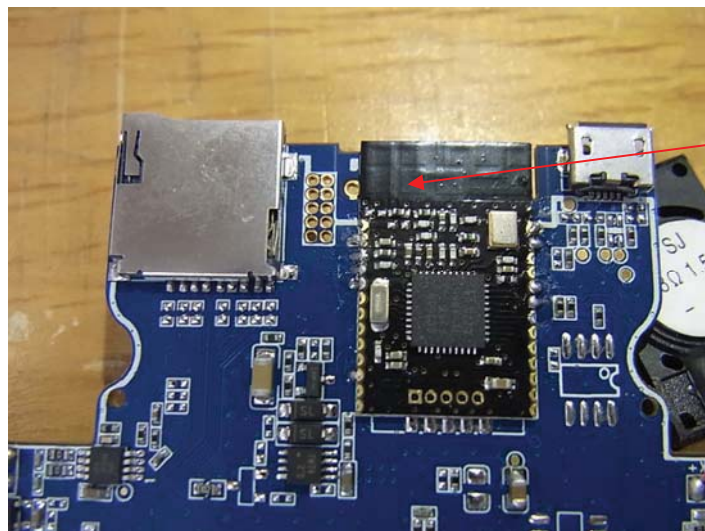
Test Result:

The antenna gain of WiFi/BT is 2.3dBi, ZigBee is 2.5dBi

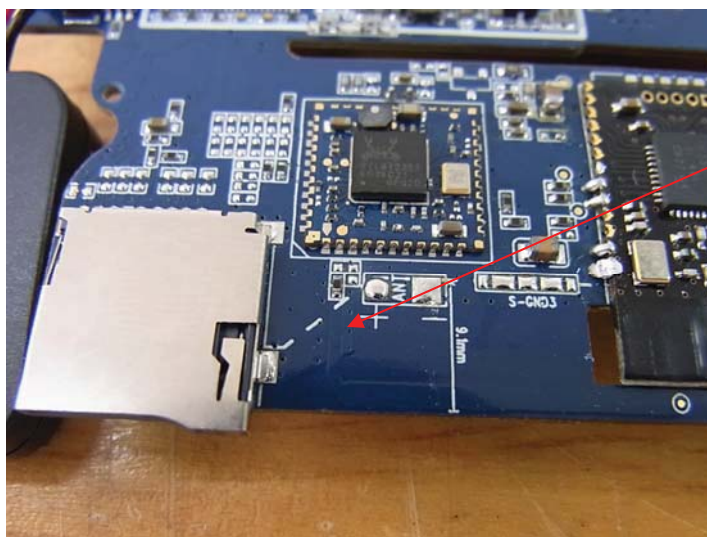
Antenna Photo as follows:



WiFi/BT Antenna
For SeeSwitch 5S/
SmartPanel 52



ZigBee Antenna
For SeeSwitch 5S/
SmartPanel 52



WIFI/BT Antenna
For SeeSwitch 4S/
SmartPanel 42



ZigBee Antenna
For SeeSwitch 4S/
SmartPanel 42

4. EUT TEST PHOTO

Radiated Emission (30MHz-1GHz)



Radiated Emission (1GHz-25GHz)



Conducted Emission



5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

5.1. External Photo

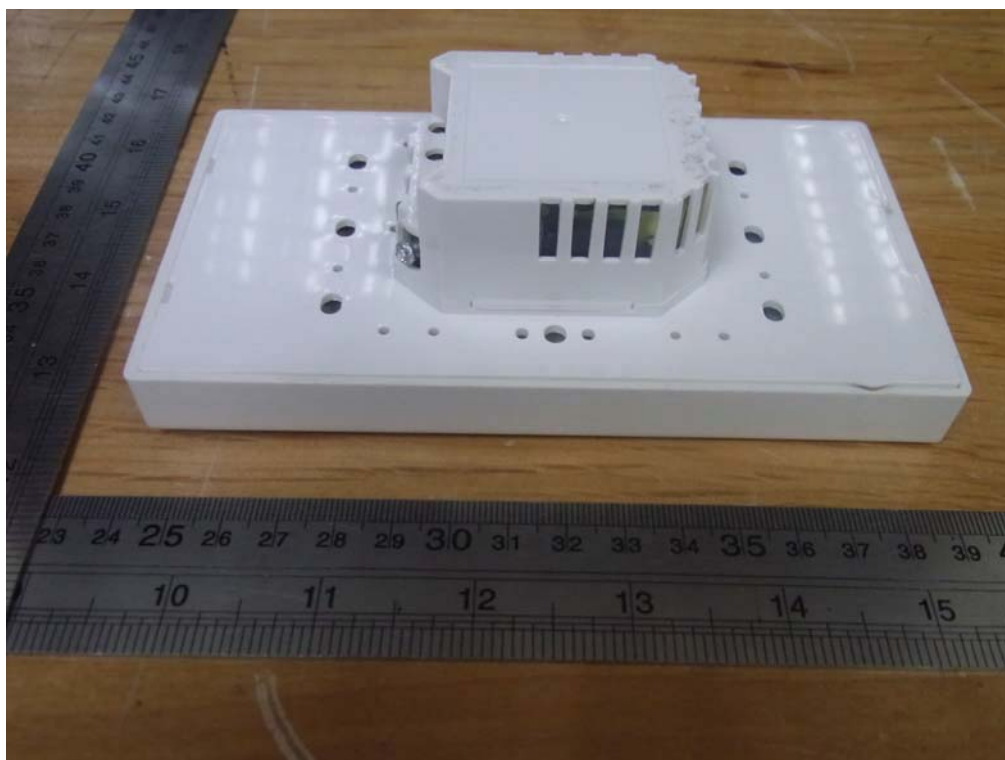
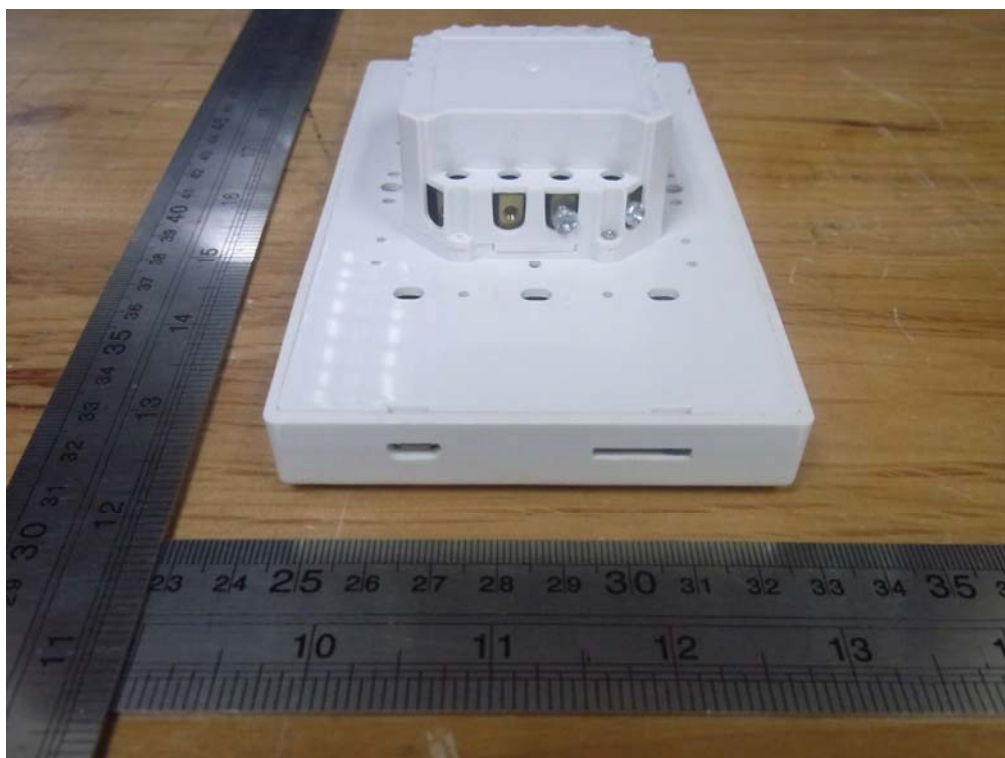


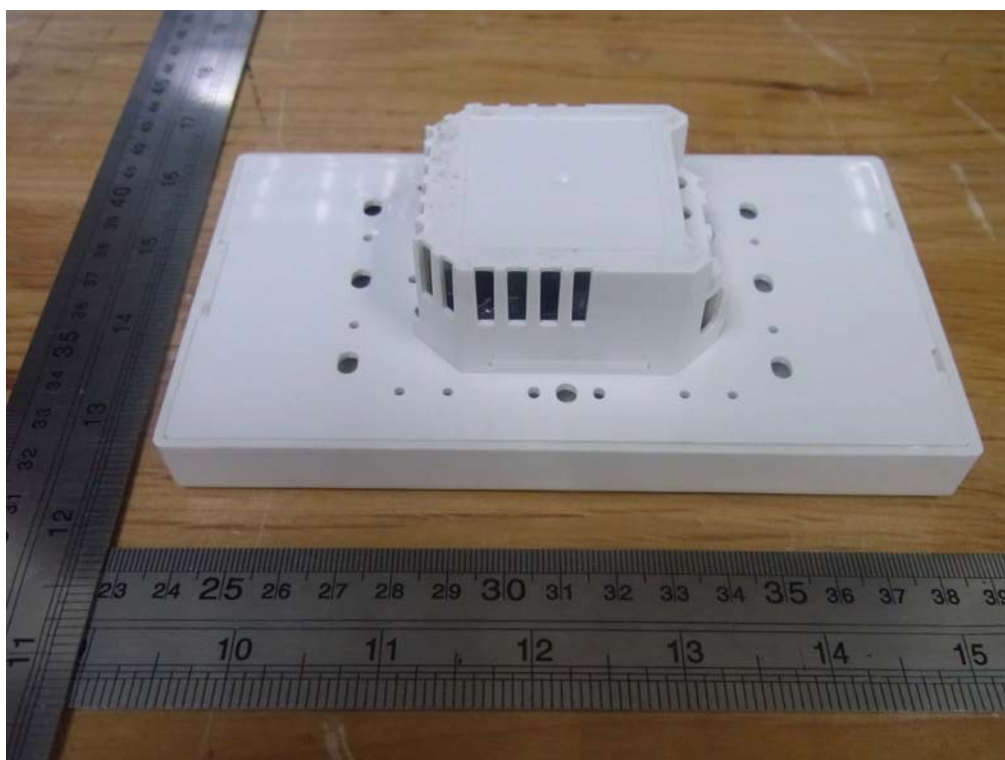
*Model: SeeSwitch 5S/
SmartPanel 52*

*Model: SeeSwitch 4S/
SmartPanel 42*

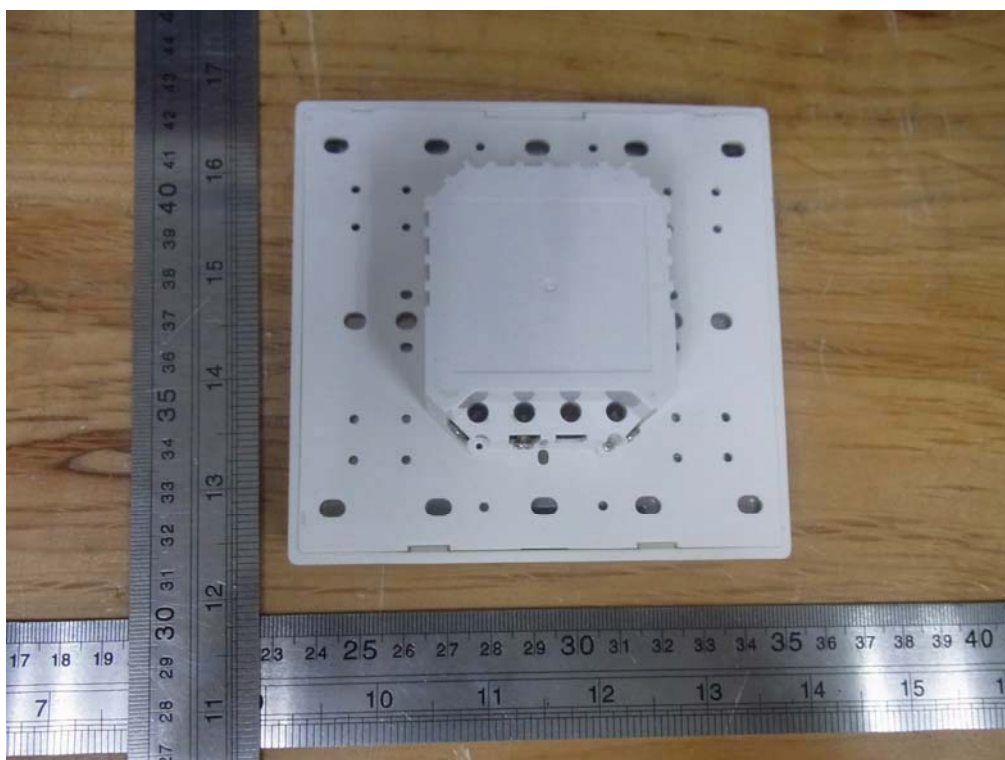
For Model: SeeSwitch 5S/SmartPanel 52

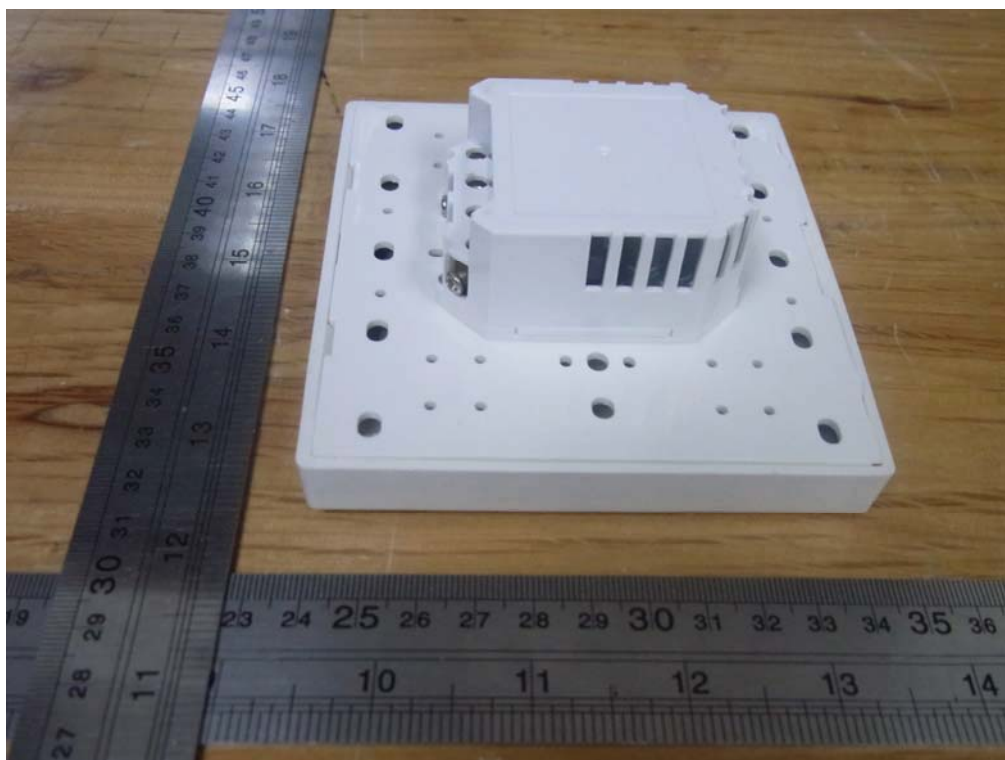
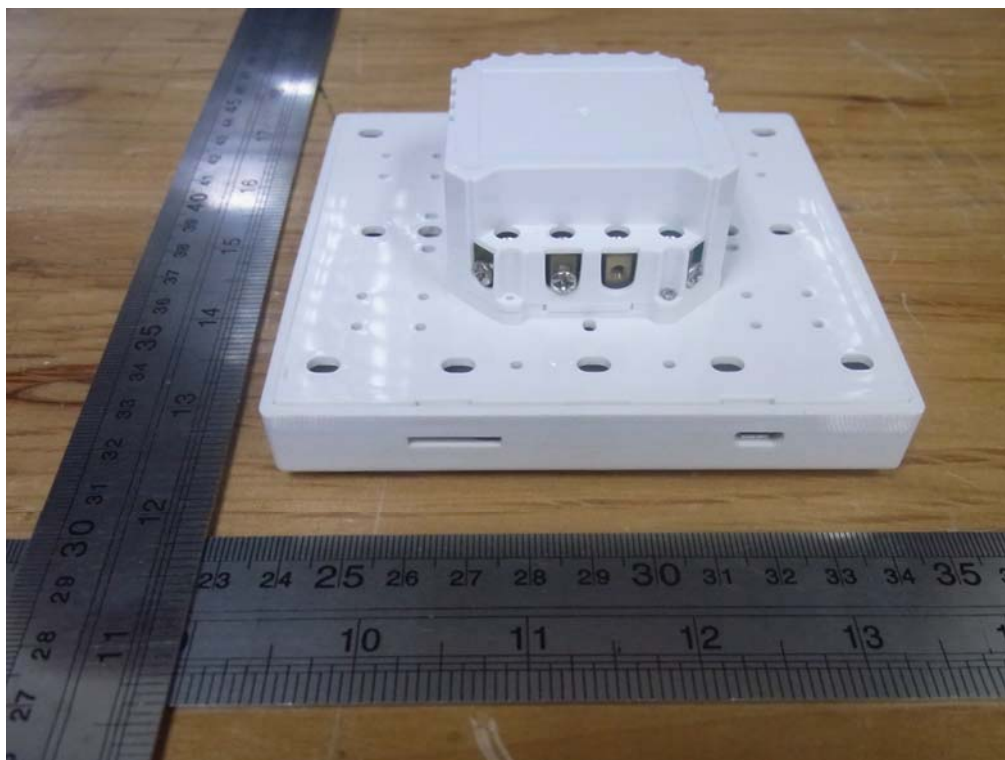


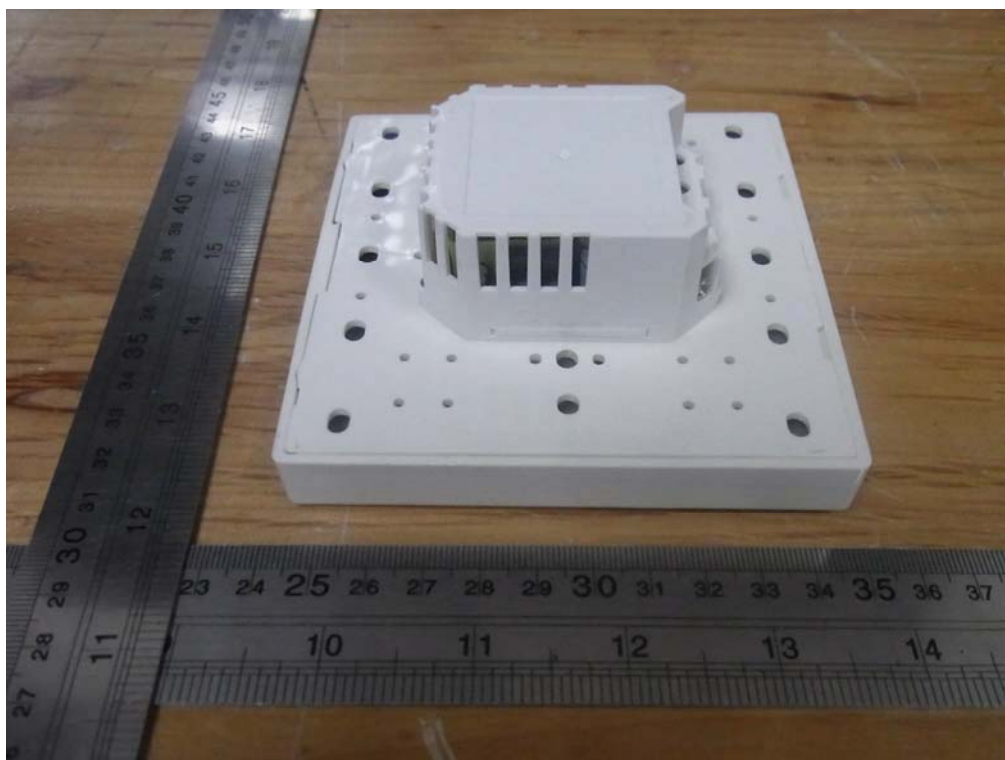




For Model: SeeSwitch 4S/SmartPanel 42

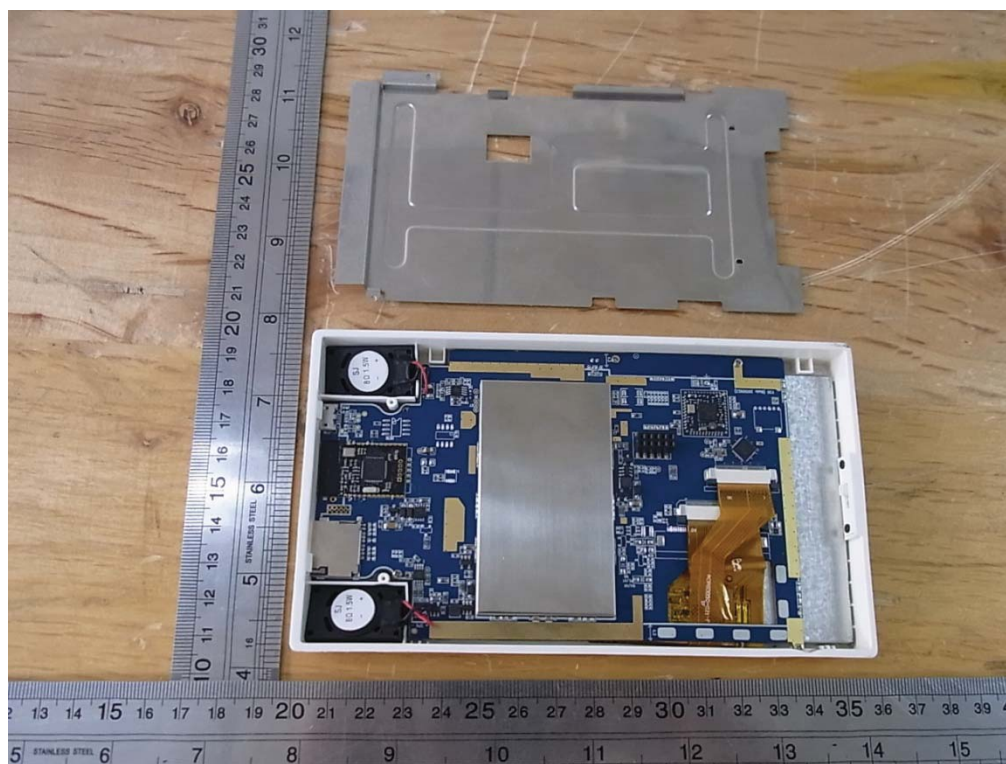


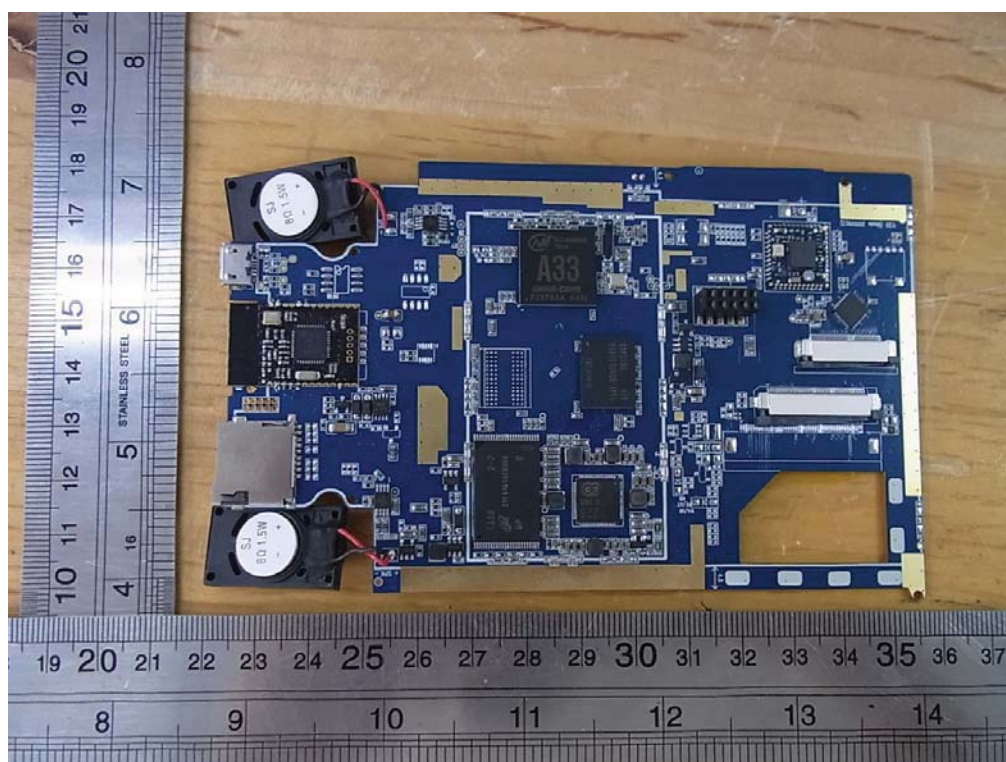
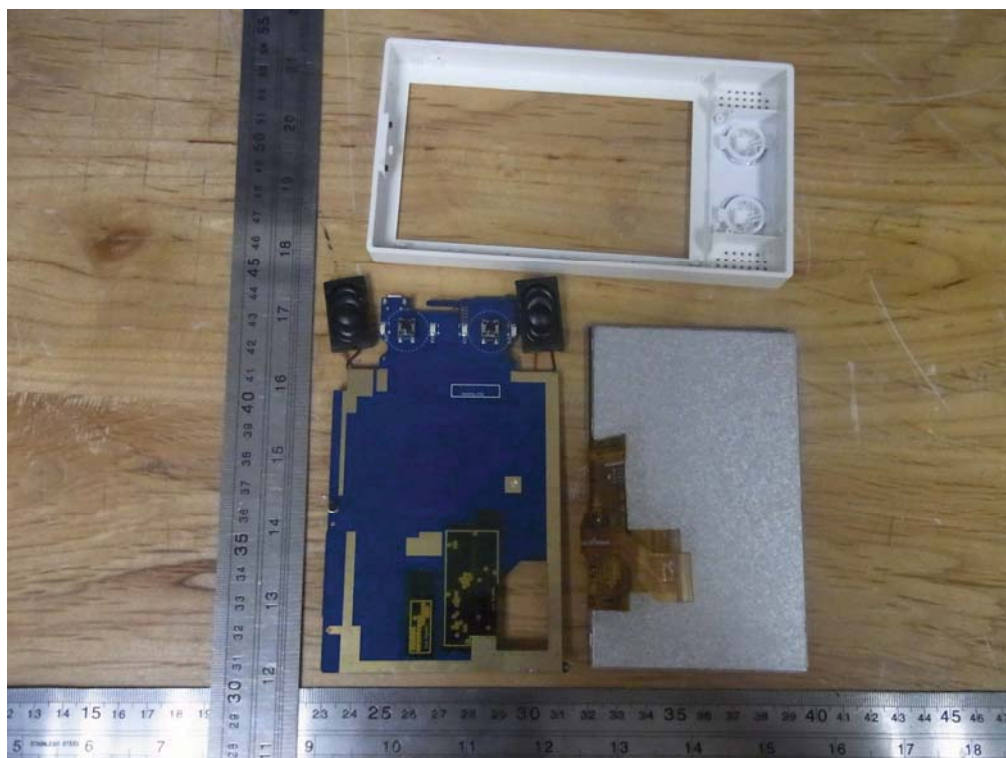


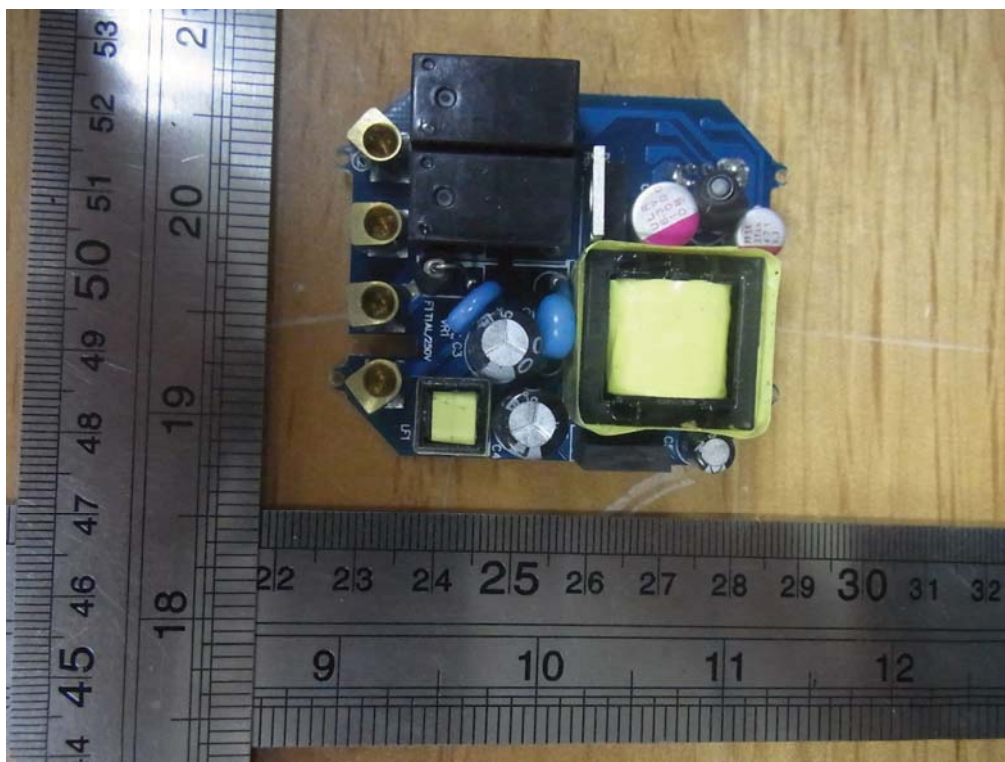
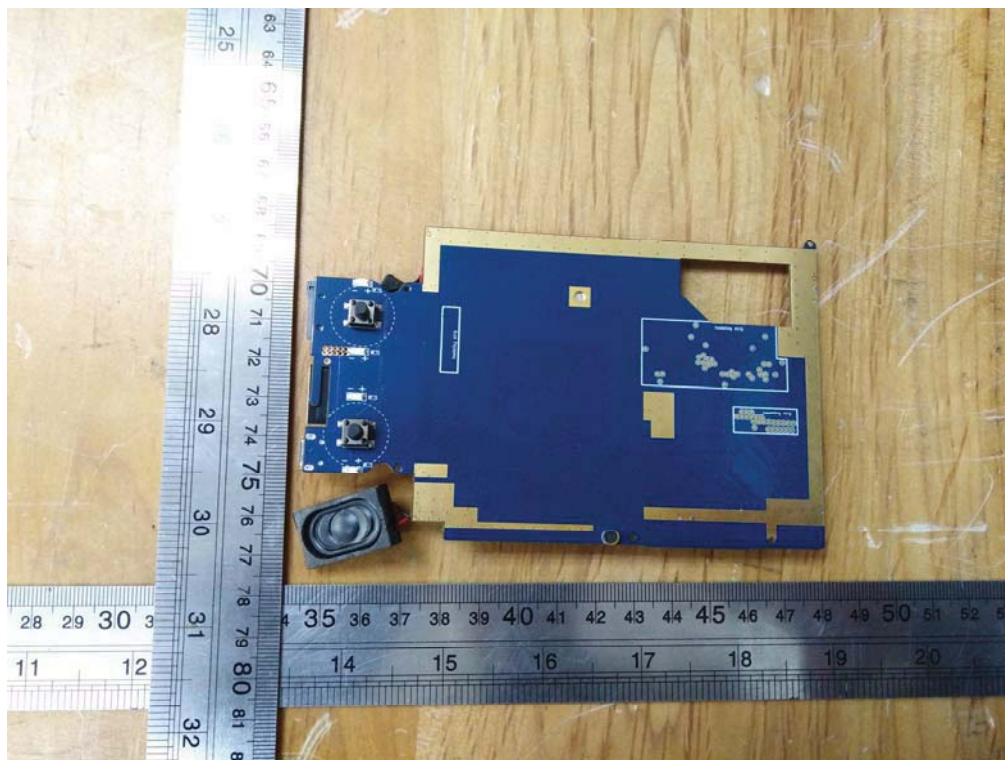


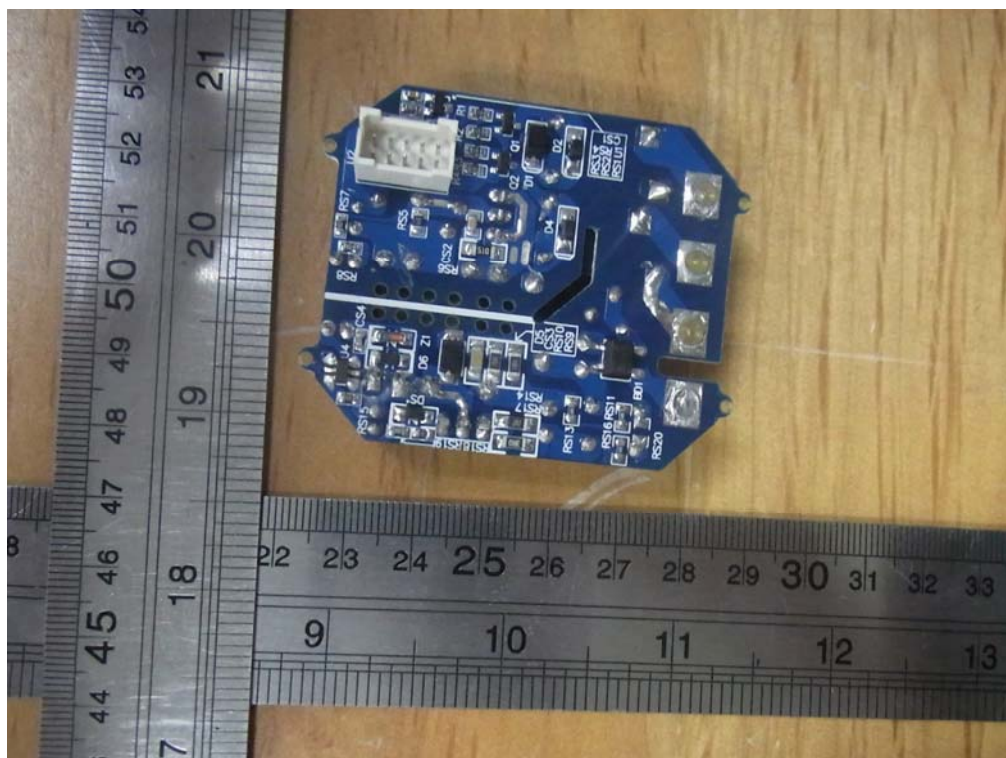
5.2. Internal Photo

For Model: SeeSwitch 5S/SmartPanel 52



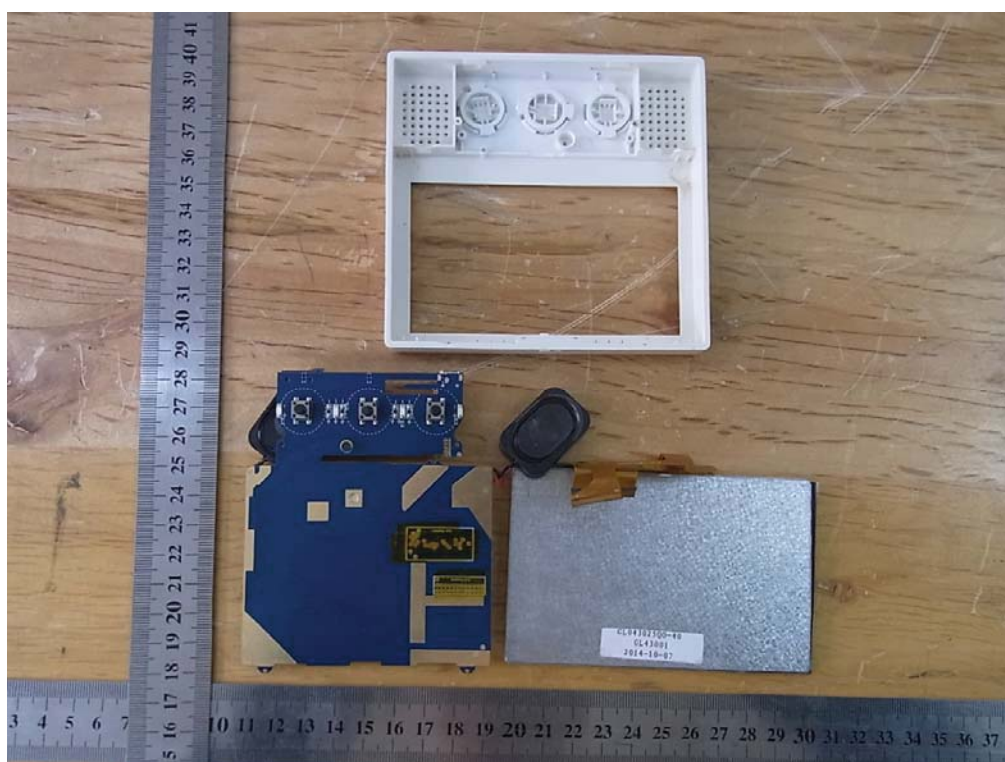


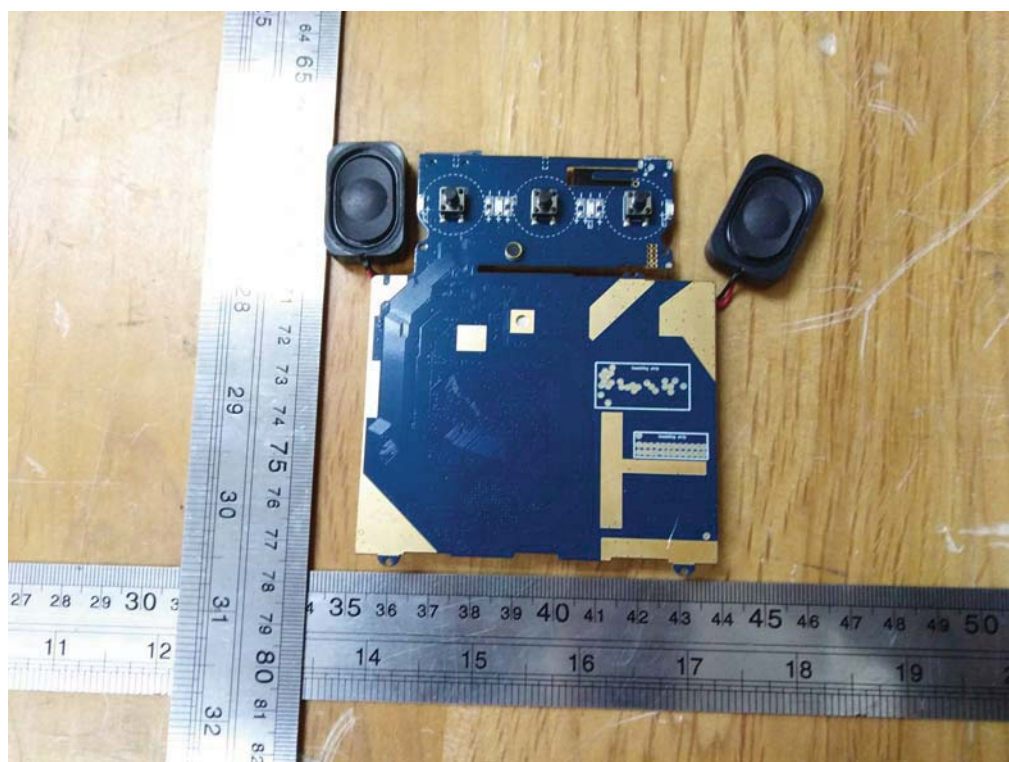
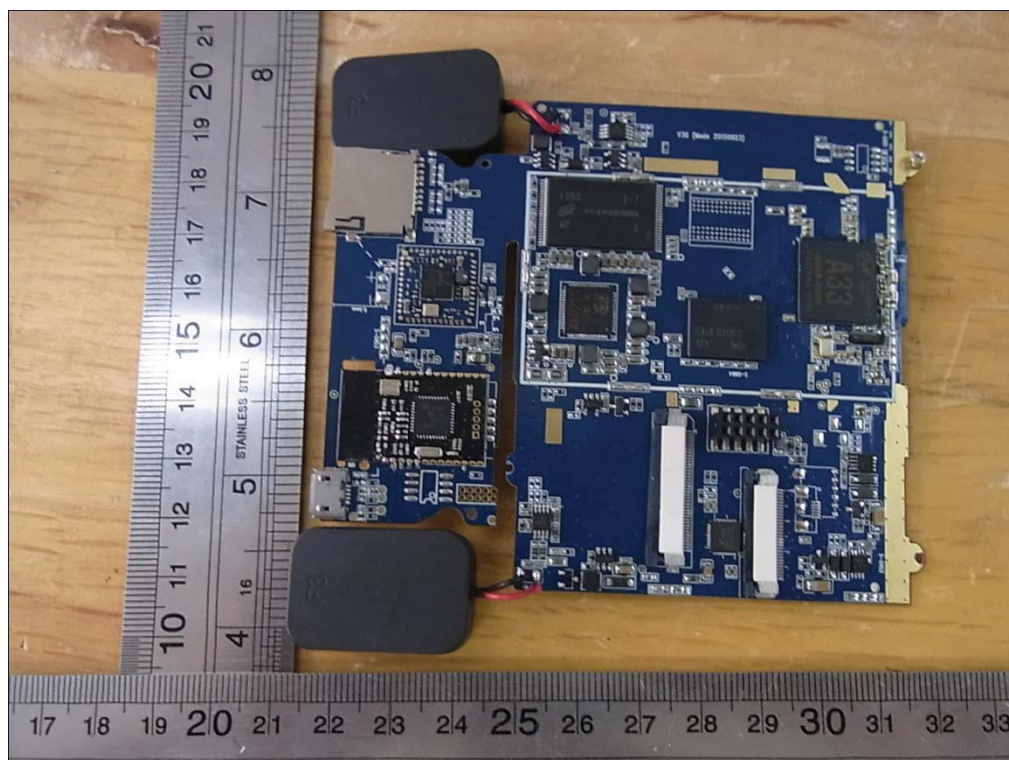


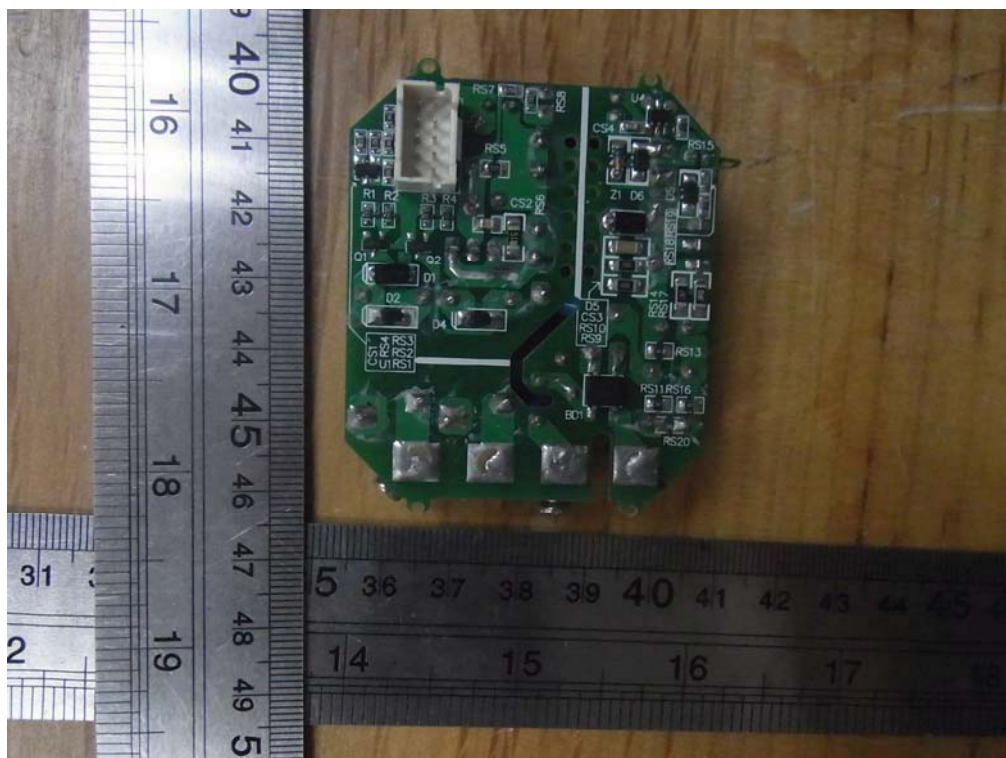
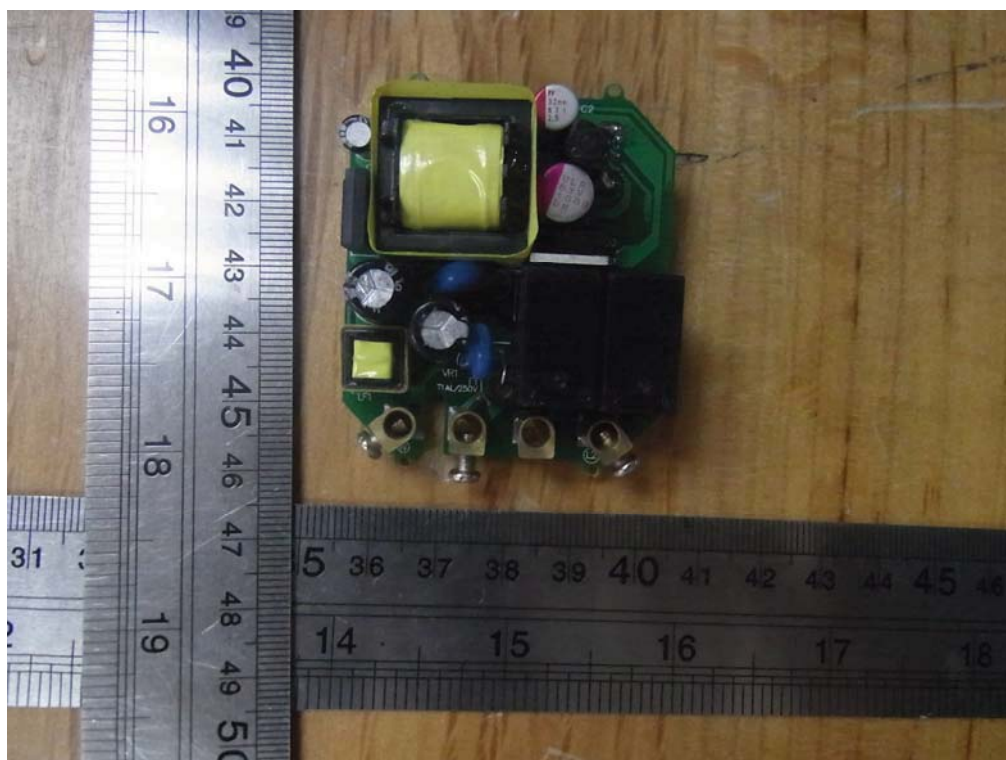


For Model: SeeSwitch 4S/SmartPanel 42









*****THE END*****