

TEST REPORT

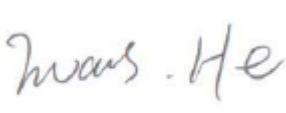
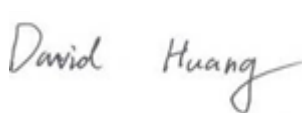
Applicant	Earda Technologies Co.,Ltd
Address	A,LianFeng Creative Industry Park,2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou,China

Manufacturer or Supplier	Earda Technologies Co.,Ltd
Address	A,LianFeng Creative Industry Park,2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou,China
Product	Smart Dimmer Switch
Brand Name	Eardatek
Model	EDM-1WAA-US
Additional Model & Model Difference	EDM-1WAB-US
Date of tests	Oct. 30, 2020~ Nov. 12, 2020

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart C, Section 15.247**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Evans He Project Engineer/ EMC Department	Approved by David Huang Supervisor / EMC Department
	
	Date: Nov. 13, 2020

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Test Report No.: RF2010WSZ0078

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2010WSZ0078	Original release	Nov. 13, 2020

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used

2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.70dB
Radiated emissions	9KHz ~ 30MHz	2.16dB
	30MHz ~ 1GMHz	3.74dB
	1GHz ~ 18GHz	4.66dB
	18GHz ~ 40GHz	4.67dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart Dimmer Switch
MODEL NO.	EDM-1WAA-US
ADDITIONAL MODEL	EDM-1WAB-US
FCC ID	2AMM6-DM1WA
NOMINAL VOLTAGE	AC 120V 60Hz
MODULATION TECHNOLOGY	DSSS, OFDM, GFSK
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM BT-LE for DTS
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40) 2402-2480MHz for BT-LE(GFSK)
PEAK OUTPUT POWER	WLAN: 21.50dBm (Maximum) BT-LE: 4.59dBm (Maximum)
ANTENNA TYPE	WLAN: PCB Antenna, 2.3dBi Gain BT-LE: PCB Antenna, 2.3dBi Gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A
RF POWER SETTING IN TEST SW	Please see NOTE 6

NOTE:

1. The EUT incorporates a SIMO function. Physically, the EUT provides one transmitter and one receiver.

MODULATION MODE	FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (HT20)	1TX/1RX
802.11n (HT40)	1TX/1RX
BT-LE	1TX/1RX

2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Please refer to the EUT photo document (Reference No.: 2010WSZ0078) for detailed product photo.

5. Additional models (see about table) are identical with the test model EDM-1WAA-US except it has no blue signal line welded, which is used to detect whether the external mechanical switch is triggered.
6. By means of test software which provided by manufacture, the power levels during the tests were set according to the following codes:

802.11b		802.11g		802.11n(HT20)		802.11n (HT40)	
FREQUENCY	POWER SETTING	FREQUENCY	POWER SETTING	FREQUENCY	POWER SETTING	FREQUENCY	POWER SETTING
2412	13	2412	17	2412	16	2422	14
2437	12	2437	14	2437	13	2437	12
2462	11	2462	11	2462	11	2452	12

BT-LE (GFSK)	
FREQUENCY	POWER SETTING
2402	13
2440	13
2480	13

3.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11b, 802.11g and 802.11n(HT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

40 channels are provided for BT-LE(GFSK):

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Please see section 5 photographs of the test configuration for reference.

3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, power supply voltage range and antenna ports. The worst case was found when positioned on X axis for radiated emission. Following test modes were selected for the final test, and the final worst case is marked in boldface and recorded in the report:

EUT CONFIGURE MODE	APPLICABLE TO				MODE
	RE<1G	RE≥1G	PLC	APCM	
A	√	√	√	√	AC 120V 60Hz

Where **RE<1G**: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

POWER LINE CONDUCTED EMISSION TEST:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CONDITION
-	BT Link+ WIFI (2.4G) Link

RADIATED EMISSION TEST (BELOW 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11b	1 to 11	1	DSSS	DBPSK	6.0	X
A	BT-LE	0 to 39	39	DTS	BT-LE	1.0	X

RADIATED EMISSION TEST (ABOVE 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	X
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	X
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5	X
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5	X
A	BT-LE	0 to 39	0,19, 39	DTS	BT-LE	1.0	X

ANTENNA PORT CONDUCTED MEASUREMENT:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5
A	BT-LE	0 to 39	0,19, 39	DTS	BT-LE	1.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	26deg. C, 50%RH	AC 120V 60Hz	Aaron Liang
RE≥1G	26deg. C, 50%RH	AC 120V 60Hz	Aaron Liang
PLC	25deg. C, 60%RH	AC 120V 60Hz	Aaron Liang
APCM	20deg. C, 55%RH	AC 120V 60Hz	Aaron Liang

3.3 ON TIME AND DUTY CYCLE

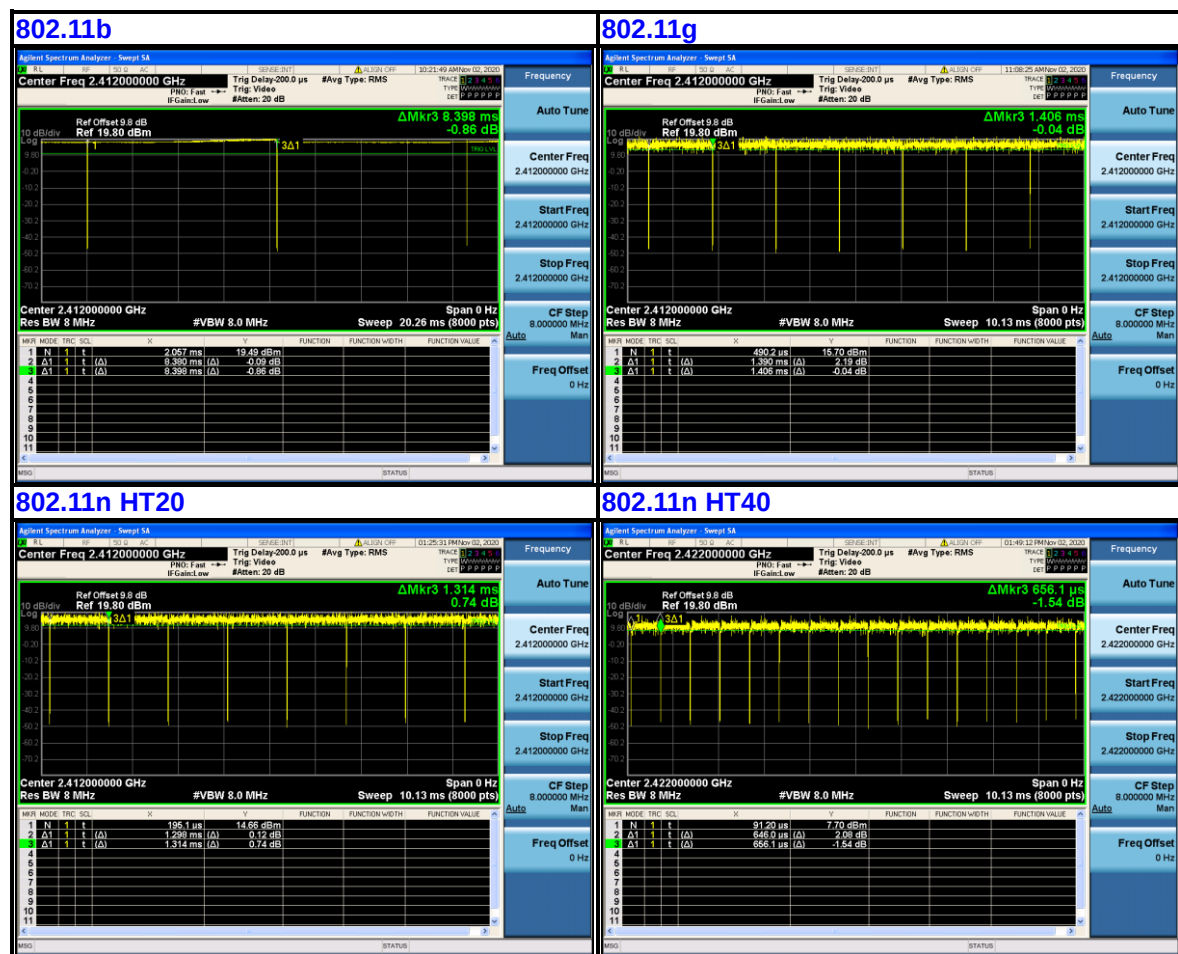
WIFI 2.4GHz

802.11b: Duty cycle > 98%, Duty factor =0

802.11g: Duty cycle > 98%, Duty factor = 0

802.11n (HT20): Duty cycle > 98%, Duty factor =0

802.11n (HT40): Duty cycle > 98%, Duty factor =0



3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C, Section 15.247

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3.5 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Phone	BLU	J2 LTE	K1952B1X79060115	N/A
2	Incandescent lamp	Lu Ning	N/A	N/A	N/A
3	Incandescent lamp base	N/A	N/A	N/A	N/A
4	Computer	lenove	E40-30	MP05R4Z1	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC line: unshielded, detachable 1.4m
2	AC line: unshielded, detachable 0.45m*2

4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCS30	8471241027	Mar. 24, 20	Mar. 24, 21
Artificial Mains Network	SCHWARZBECK	8127	8127713	Mar. 24, 20	Mar. 24, 21
ISN	Com-Power	ISN T800	34373	Mar. 24, 20	Mar. 24, 21
Test software	EZ-EMC	ICP-03A1	N/A	N/A	N/A

- NOTE:**
1. The test was performed in shielded room 553.
 2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GREGT/CHINA and NIM/CHINA.

4.1.3 TEST PROCEDURES

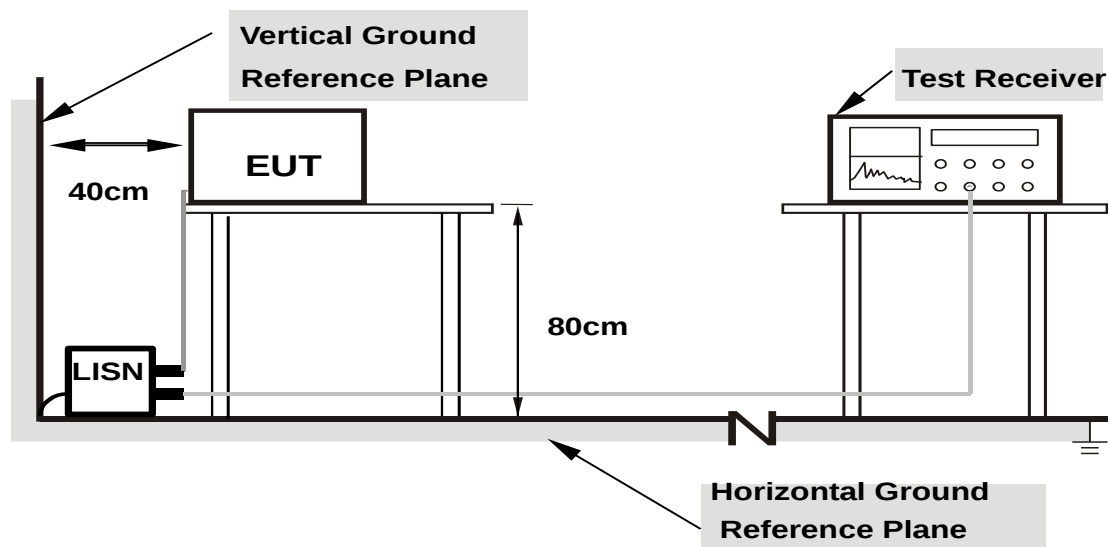
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

- a. Turned on the power and connected of all equipment.
- b. EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

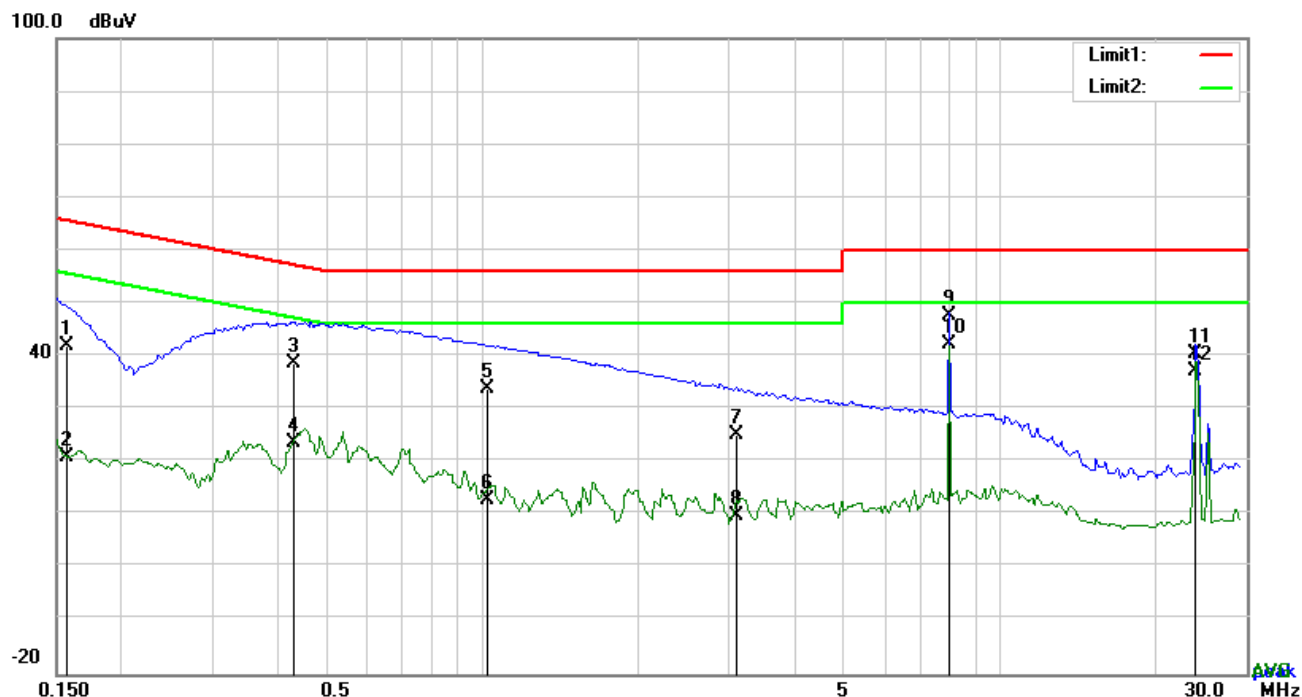
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: BT+WIFI

PHASE	Line	6dB BANDWIDTH	9kHz
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NO.	P/L	FREQUENCY (MHZ)	READING (DBUV)	DETECTOR	CORRECTED (DB)	RESULT (DBUV)	LIMIT (DBUV)	MARGIN (DB)
1	L1	0.1578	31.93	QP	10.17	42.10	65.58	-23.48
2	L1	0.1578	10.92	AVG	10.17	21.09	55.58	-34.49
3	L1	0.4308	28.52	QP	10.17	38.69	57.24	-18.55
4	L1	0.4308	13.55	AVG	10.17	23.72	47.24	-23.52
5	L1	1.0211	23.65	QP	10.20	33.85	56.00	-22.15
6	L1	1.0211	2.63	AVG	10.20	12.83	46.00	-33.17
7	L1	3.0975	14.82	QP	10.26	25.08	56.00	-30.92
8	L1	3.0975	-0.30	AVG	10.26	9.96	46.00	-36.04
9	L1	8.0037	37.08	QP	10.44	47.52	60.00	-12.48
10	L1	8.0037	31.85	AVG	10.44	42.29	50.00	-7.71
11	L1	24.0132	29.42	QP	10.92	40.34	60.00	-19.66
12	L1	24.0132	26.24	AVG	10.92	37.16	50.00	-12.84

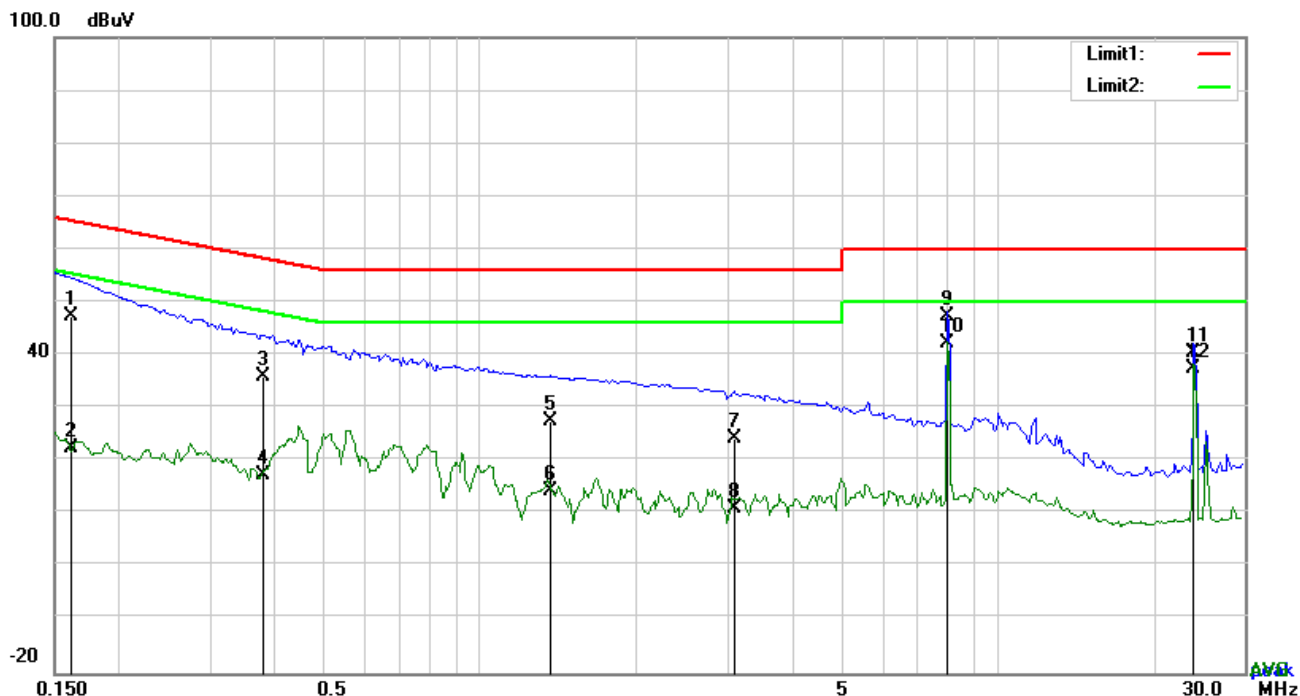
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



PHASE	Neutral	6dB BANDWIDTH	9kHz
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NO.	P/L	FREQUENCY (MHZ)	READING (DBUV)	DETECTOR	CORRECTED (DB}	RESULT (DBUV)	LIMIT (DBUV)	MARGIN (DB)
1	N	0.1617	37.30	QP	10.14	47.44	65.38	-17.94
2	N	0.1617	12.17	AVG	10.14	22.31	55.38	-33.07
3	N	0.3801	25.68	QP	10.16	35.84	58.28	-22.44
4	N	0.3801	7.28	AVG	10.16	17.44	48.28	-30.84
5	N	1.3707	17.21	QP	10.25	27.46	56.00	-28.54
6	N	1.3707	4.00	AVG	10.25	14.25	46.00	-31.75
7	N	3.1053	13.91	QP	10.33	24.24	56.00	-31.76
8	N	3.1053	0.63	AVG	10.33	10.96	46.00	-35.04
9	N	8.0037	36.82	QP	10.56	47.38	60.00	-12.62
10	N	8.0037	31.67	AVG	10.56	42.23	50.00	-7.77
11	N	24.0132	29.55	QP	11.05	40.60	60.00	-19.40
12	N	24.0132	26.40	AVG	11.05	37.45	50.00	-12.55

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESL6	1300.5001K06 -100262-eQ	Mar. 24, 20	Mar. 24, 21
Bilog Antenna	Sunol Sciences	JB6	A110712	Jul. 21, 20	Jul. 21, 21
Active Antenna	CMO-POWER	AL-130	121031	Jun. 30, 20	Jun. 30, 21
Signal Amplifier	HP	8447E	443008	Mar. 24, 20	Mar. 24, 21
Signal and Spectrum Analyzer	R&S	FSV40	101094	Mar. 19, 20	Mar. 19, 21
MXA signal analyzer	Agilent	N9020A	MY49100060	Mar. 24, 20	Mar. 24, 21
Horn Antenna	COM-POWER	AH-118	71259	Apr. 17, 20	Apr. 17, 21
Horn Antenna	COM-POWER	AH-118	71283	Jul. 21, 20	Jul. 21, 21
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170147	May 10, 20	May 10, 21
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170242	May 10, 20	May 10, 21
AMPLIFIER	EM Electornic Corporation	EM01G26G	60613	Mar. 24, 20	Mar. 24, 21
Pre-amplifier	Rohde&Schwarz	SCU40	100437	Oct. 17, 20	Oct. 16, 21
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Oct. 18,18	Oct. 17, 21
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A

NOTE:

1. The test was performed in 966 Chamber.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GREGT/CHINA and NIM/CHINA.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 535293.

4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. For below 1GHz was used bilog antenna, and above 1GHz was used horn antenna, and its 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- a. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

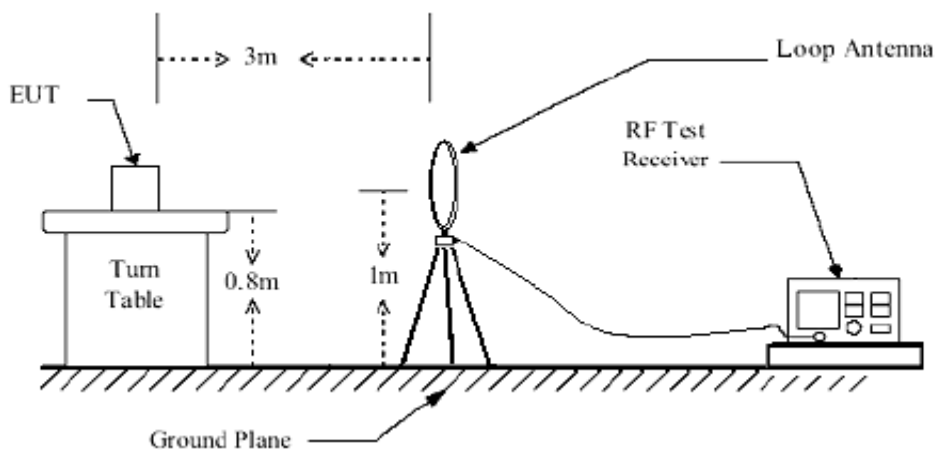
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes, the worst-case test configuration was reported on the file test setup photo.

4.2.4 DEVIATION FROM TEST STANDARD

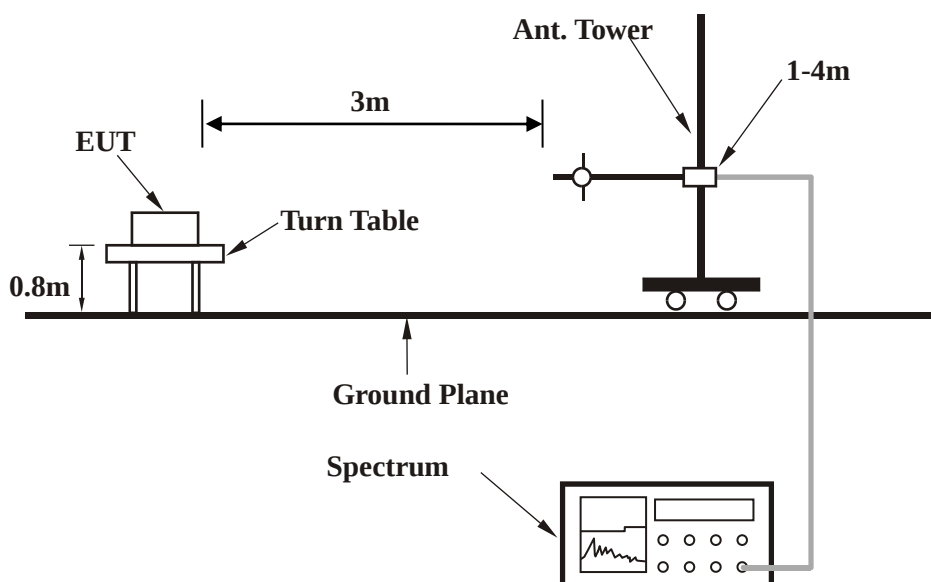
No deviation.

4.2.5 TEST SETUP

Below 30MHz test setup

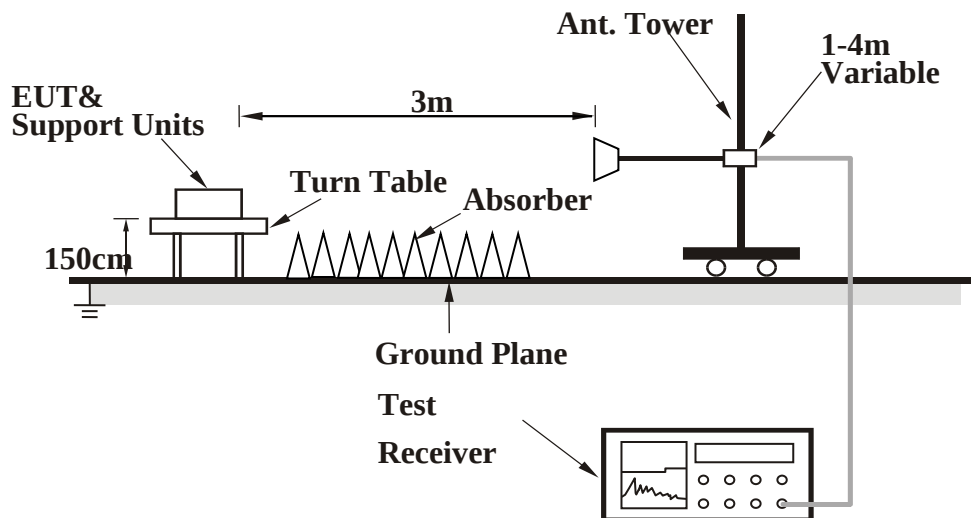


Below 1GHz test setup



Note: For the actual test configuration, please refer to the attached file (Test Setup Photo).

Above 1GHz test setup



Note: For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT OPERATING CONDITIONS

- Set the EUT under full load condition and placed them on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

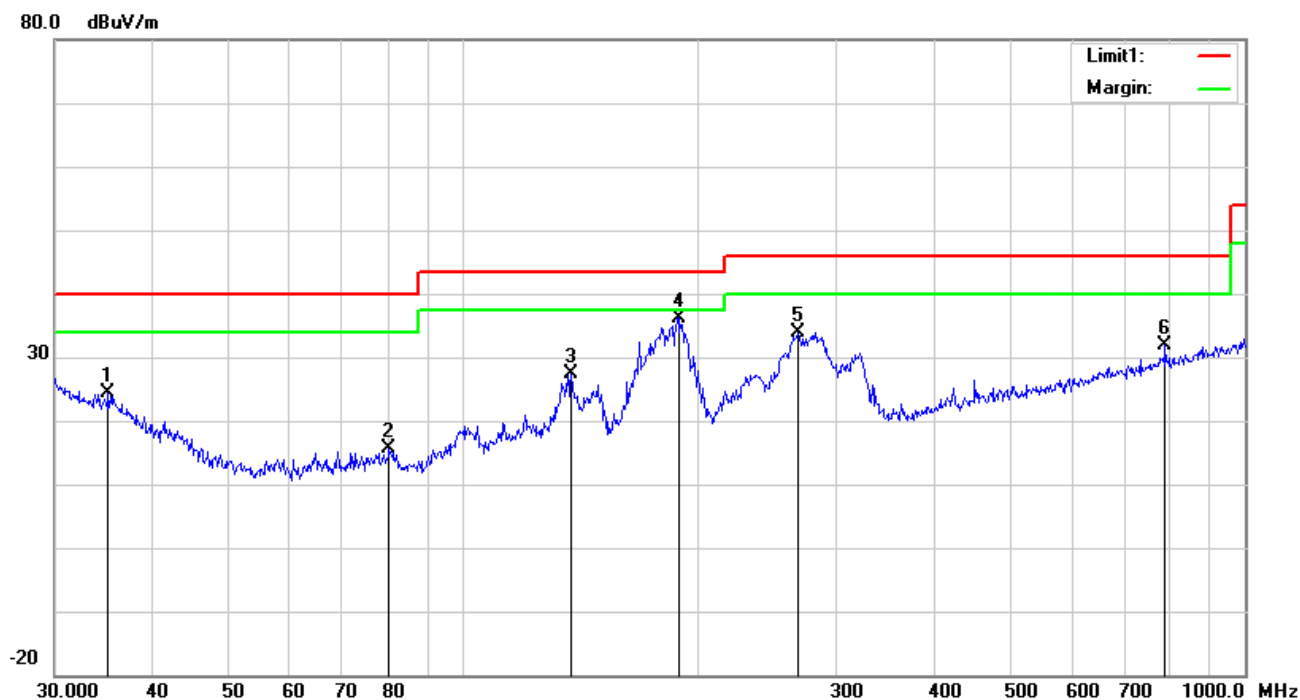
802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	35.1278	27.65	17.61	21.62	0.65	24.29	40.00	-15.71	169	271
2	80.3619	28.94	7.39	21.61	0.92	15.64	40.00	-24.36	167	285
3	137.4202	34.92	13.05	21.68	1.17	27.46	43.50	-16.04	136	236
4	188.4125	44.43	12.14	21.78	1.35	36.14	43.50	-7.36	149	335
5	268.4853	41.36	12.80	21.93	1.63	33.86	46.00	-12.14	163	195
6	790.6188	29.56	21.27	21.72	2.67	31.78	46.00	-14.22	146	22

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.

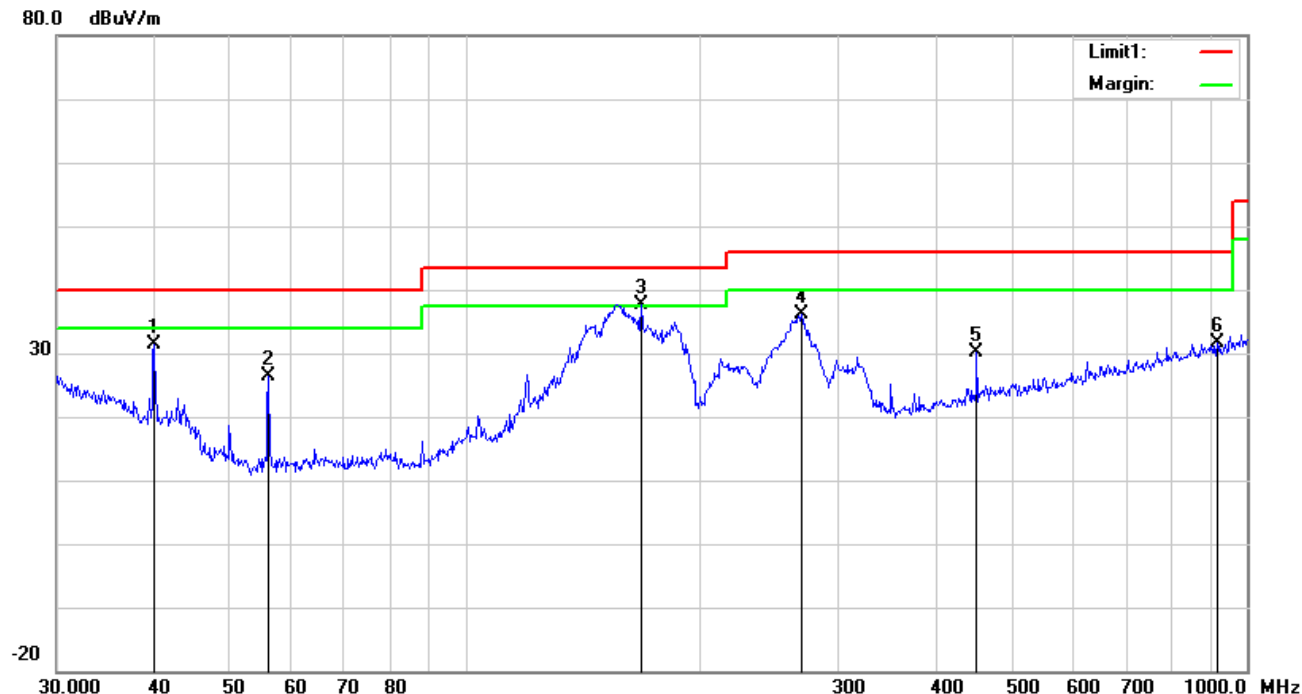


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	39.9942	38.23	14.20	21.62	0.68	31.49	40.00	-8.51	151	301
2	56.0007	39.91	7.34	21.62	0.78	26.41	40.00	-13.59	152	126
3	167.8243	46.30	11.82	21.74	1.28	37.66	43.50	-5.84	147	108
4	269.4284	43.44	12.88	21.93	1.63	36.02	46.00	-9.98	149	257
5	451.1350	33.27	16.92	22.02	2.03	30.20	46.00	-15.80	162	242
6	916.0687	27.65	22.50	21.51	2.91	31.55	46.00	-14.45	146	146

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.



ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2387.28	48.93 PK	74	-25.07	184	210	60.31	-11.38
2	2387.28	37.78 AV	54	-16.22	184	210	49.16	-11.38
3	*2412	100.27 PK			165	11	111.65	-11.38
4	*2412	94.27 AV			165	11	105.65	-11.38
5	4824	47.37 PK	74	-26.63	126	86	53.44	-6.07
6	4824	37.96 AV	54	-16.04	126	86	44.03	-6.07
7	7236	53.02 PK	74	-20.98	228	242	52.73	0.29
8	7236	41.68 AV	54	-12.32	228	242	41.39	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.56	46.98 PK	74	-27.02	150	67	58.36	-11.38
2	2333.56	33.84 AV	54	-20.16	150	67	45.22	-11.38
3	*2412	95.23 PK			236	94	106.61	-11.38
4	*2412	86.31 AV			236	94	97.69	-11.38
5	4824	45.83 PK	74	-28.17	236	353	51.9	-6.07
6	4824	36.73 AV	54	-17.27	236	353	42.8	-6.07
7	7236	53.23 PK	74	-20.77	243	203	52.94	0.29
8	7236	41.51 AV	54	-12.49	243	203	41.22	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	99.13 PK			209	343	110.51	-11.38
2	*2437	91.59 AV			209	343	102.97	-11.38
3	4874	47.69 PK	74	-26.31	209	82	53.76	-6.07
4	4874	35.73 AV	54	-18.27	209	82	41.8	-6.07
5	7311	52.67 PK	74	-21.33	220	324	52.38	0.29
6	7311	40.69 AV	54	-13.31	220	324	40.4	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	89.64 PK			105	286	101.02	-11.38
2	*2437	82.95 AV			105	286	94.33	-11.38
3	4874	43.24 PK	74	-30.76	110	328	49.31	-6.07
4	4874	35.47 AV	54	-18.53	110	328	41.54	-6.07
5	7311	51.11 PK	74	-22.89	166	191	50.82	0.29
6	7311	40.68 AV	54	-13.32	166	191	40.39	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2488.6	45.51 PK	74	-28.49	169	344	56.89	-11.38
2	2488.6	34.63 AV	54	-19.37	169	344	46.01	-11.38
3	*2462	94.88 PK			193	268	106.26	-11.38
4	*2462	88.93 AV			193	268	100.31	-11.38
5	4924	45.42 PK	74	-28.58	185	324	51.49	-6.07
6	4924	33.89 AV	54	-20.11	185	324	39.96	-6.07
7	7386	51.19 PK	74	-22.81	132	279	50.9	0.29
8	7386	39.71 AV	54	-14.29	132	279	39.42	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2489.08	44.92 PK	74	-29.08	234	348	56.3	-11.38
2	2489.08	30.85 AV	54	-23.15	234	348	42.23	-11.38
3	*2462	88.99 PK			152	72	100.37	-11.38
4	*2462	81.22 AV			152	72	92.6	-11.38
5	4924	45.58 PK	74	-28.42	229	326	51.65	-6.07
6	4924	34.76 AV	54	-19.24	229	326	40.83	-6.07
7	7386	51.6 PK	74	-22.4	222	208	51.31	0.29
8	7386	39.72 AV	54	-14.28	222	208	39.43	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2381.11	50.6 PK	74	-23.4	153	185	61.98	-11.38
2	2381.11	30 AV	54	-24	153	185	41.38	-11.38
3	*2412	91.51 PK			246	7	102.89	-11.38
4	*2412	76.59 AV			246	7	87.97	-11.38
5	4824	46.68 PK	74	-27.32	237	186	52.75	-6.07
6	4824	34.47 AV	54	-19.53	237	186	40.54	-6.07
7	7236	51.82 PK	74	-22.18	133	117	51.53	0.29
8	7236	40.49 AV	54	-13.51	133	117	40.2	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.95	49.43 PK	74	-24.57	169	1	60.81	-11.38
2	2389.95	33.51 AV	54	-20.49	169	1	44.89	-11.38
3	*2412	98.08 PK			112	326	109.46	-11.38
4	*2412	86.66 AV			112	326	98.04	-11.38
5	4824	46.09 PK	74	-27.91	165	355	52.16	-6.07
6	4824	34.45 AV	54	-19.55	165	355	40.52	-6.07
7	7236	51.01 PK	74	-22.99	169	140	50.72	0.29
8	7236	40.48 AV	54	-13.52	169	140	40.19	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	95.78 PK			185	9	107.16	-11.38
2	*2437	44.52 AV			185	9	55.9	-11.38
3	4874	46.19 PK	74	-27.81	184	69	52.26	-6.07
4	4874	34.34 AV	54	-19.66	184	69	40.41	-6.07
5	7311	50.9 PK	74	-23.1	179	220	50.61	0.29
6	7311	39.59 AV	54	-14.41	179	220	39.3	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	90.29 PK			209	246	101.67	-11.38
2	*2437	77.74 AV			209	246	89.12	-11.38
3	4874	45.96 PK	74	-28.04	180	302	52.03	-6.07
4	4874	34.54 AV	54	-19.46	180	302	40.61	-6.07
5	7311	51.04 PK	74	-22.96	116	349	50.75	0.29
6	7311	39.59 AV	54	-14.41	116	349	39.3	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2462.08	45.68 PK	74	-28.32	153	87	57.06	-11.38
2	2462.08	32.43 AV	54	-21.57	153	87	43.81	-11.38
3	*2462	93.24 PK			124	137	104.62	-11.38
4	*2462	80.63 AV			124	137	92.01	-11.38
5	4924	52.04 PK	74	-21.96	248	152	58.11	-6.07
6	4924	39.94 AV	54	-14.06	248	152	46.01	-6.07
7	7386	45.39 PK	74	-28.61	177	305	45.1	0.29
8	7386	34.19 AV	54	-19.81	177	305	33.9	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	45.62 PK	74	-28.38	153	116	57	-11.38
2	2483.5	66.93 AV	54	12.93	153	116	78.31	-11.38
3	*2462	86.3 PK			201	13	97.68	-11.38
4	*2462	31.58 AV			201	13	42.96	-11.38
5	4924	44.85 PK	74	-29.15	139	191	50.92	-6.07
6	4924	34.19 AV	54	-19.81	139	191	40.26	-6.07
7	7386	50.84 PK	74	-23.16	123	82	50.55	0.29
8	7386	39.93 AV	54	-14.07	123	82	39.64	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n HT20

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.69	49.11 PK	74	-24.89	149	337	60.49	-11.38
2	2389.69	33.98 AV	54	-20.02	149	337	45.36	-11.38
3	*2412	97.44 PK			208	135	108.82	-11.38
4	*2412	85.56 AV			208	135	96.94	-11.38
5	4824	51.8 PK	74	-22.2	103	87	57.87	-6.07
6	4824	40.38 AV	54	-13.62	103	87	46.45	-6.07
7	7236	45.89 PK	74	-28.11	209	171	45.6	0.29
8	7236	34.3 AV	54	-19.7	209	171	34.01	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2398.3	43.32 PK	74	-30.68	149	245	54.7	-11.38
2	2398.3	29.93 AV	54	-24.07	149	245	41.31	-11.38
3	*2412	88.9 PK			225	185	100.28	-11.38
4	*2412	74.46 AV			225	185	85.84	-11.38
5	4824	45.23 PK	74	-28.77	202	239	51.3	-6.07
6	4824	34.18 AV	54	-19.82	202	239	40.25	-6.07
7	7236	51.39 PK	74	-22.61	130	345	51.1	0.29
8	7236	40.44 AV	54	-13.56	130	345	40.15	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	93.12 PK			156	224	104.5	-11.38
2	*2437	83.19 AV			156	224	94.57	-11.38
3	4874	51.43 PK	74	-22.57	127	67	57.5	-6.07
4	4874	39.59 AV	54	-14.41	127	67	45.66	-6.07
5	7311	46.96 PK	74	-27.04	139	252	46.67	0.29
6	7311	34.42 AV	54	-19.58	139	252	34.13	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	87.52 PK			181	268	98.9	-11.38
2	*2437	76.72 AV			181	268	88.1	-11.38
3	4874	46.29 PK	74	-27.71	137	334	52.36	-6.07
4	4874	34.39 AV	54	-19.61	137	334	40.46	-6.07
5	7311	51.52 PK	74	-22.48	242	218	51.23	0.29
6	7311	39.55 AV	54	-14.45	242	218	39.26	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2484.55	46.32 PK	74	-27.68	182	188	57.7	-11.38
2	2484.55	32.24 AV	54	-21.76	182	188	43.62	-11.38
3	*2462	91.98 PK			146	212	103.36	-11.38
4	*2462	81.32 AV			146	212	92.7	-11.38
5	4924	52.12 PK	74	-21.88	134	234	58.19	-6.07
6	4924	40 AV	54	-14	134	234	46.07	-6.07
7	7386	45.76 PK	74	-28.24	100	153	45.47	0.29
8	7386	34.16 AV	54	-19.84	100	153	33.87	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2497.97	45.85 PK	74	-28.15	229	222	57.23	-11.38
2	2497.97	31.39 AV	54	-22.61	229	222	42.77	-11.38
3	*2462	84.29 PK			192	108	95.67	-11.38
4	*2462	69.89 AV			192	108	81.27	-11.38
5	4924	44.84 PK	74	-29.16	164	199	50.91	-6.07
6	4924	34.21 AV	54	-19.79	164	199	40.28	-6.07
7	7386	51.48 PK	74	-22.52	250	43	51.19	0.29
8	7386	40.02 AV	54	-13.98	250	43	39.73	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n HT40

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2387.7	60.3 PK	74	-13.7	246	237	71.68	-11.38
2	2387.7	38.02 AV	54	-15.98	246	237	49.4	-11.38
3	*2422	91.9 PK			159	140	103.28	-11.38
4	*2422	79.56 AV			159	140	90.94	-11.38
5	4844	46.52 PK	74	-27.48	156	146	52.59	-6.07
6	4844	34.41 AV	54	-19.59	156	146	40.48	-6.07
7	7266	50.79 PK	74	-23.21	140	222	50.5	0.29
8	7266	40.06 AV	54	-13.94	140	222	39.77	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390	45.81 PK	74	-28.19	199	34	57.19	-11.38
2	2390	31.16 AV	54	-22.84	199	34	42.54	-11.38
3	*2422	85.49 PK			158	41	96.87	-11.38
4	*2422	73.35 AV			158	41	84.73	-11.38
5	4844	45.18 PK	74	-28.82	105	284	51.25	-6.07
6	4844	34.41 AV	54	-19.59	105	284	40.48	-6.07
7	7266	51.16 PK	74	-22.84	153	66	50.87	0.29
8	7266	40.05 AV	54	-13.95	153	66	39.76	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	89.19 PK			178	279	100.57	-11.38
2	*2437	78.3 AV			178	279	89.68	-11.38
3	4874	50.77 PK	74	-23.23	193	250	56.84	-6.07
4	4874	39.58 AV	54	-14.42	193	250	45.65	-6.07
5	7311	45.29 PK	74	-28.71	186	56	45	0.29
6	7311	34.45 AV	54	-19.55	186	56	34.16	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437	84.21 PK			104	355	95.59	-11.38
2	*2437	73.36 AV			104	355	84.74	-11.38
3	4874	45.94 PK	74	-28.06	233	296	52.01	-6.07
4	4874	34.46 AV	54	-19.54	233	296	40.53	-6.07
5	7311	50.59 PK	74	-23.41	172	260	50.3	0.29
6	7311	39.56 AV	54	-14.44	172	260	39.27	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	54.58 PK	74	-19.42	145	100	65.96	-11.38
2	2483.5	34.51 AV	54	-19.49	145	100	45.89	-11.38
3	*2452	87.8 PK			172	12	99.18	-11.38
4	*2452	76.24 AV			172	12	87.62	-11.38
5	4904	45.3 PK	74	-28.7	231	282	51.37	-6.07
6	4904	34.35 AV	54	-19.65	231	282	40.42	-6.07
7	7356	52.91 PK	74	-21.09	238	168	52.62	0.29
8	7356	40.13 AV	54	-13.87	238	168	39.84	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	46.41 PK	74	-27.59	144	225	57.79	-11.38
2	2483.5	31.43 AV	54	-22.57	144	225	42.81	-11.38
3	*2452	83.19 PK			198	152	94.57	-11.38
4	*2452	70.38 AV			198	152	81.76	-11.38
5	4904	46 PK	74	-28	221	230	52.07	-6.07
6	4904	34.37 AV	54	-19.63	221	230	40.44	-6.07
7	7356	51.72 PK	74	-22.28	243	154	51.43	0.29
8	7356	40.16 AV	54	-13.84	243	154	39.87	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

BT-LE (GFSK)

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	34.2760	27.25	18.21	21.62	0.65	24.49	40.00	-15.51	169	290
2	189.7385	44.27	12.21	21.78	1.35	36.05	43.50	-7.45	170	291
3	212.2695	45.08	11.77	21.82	1.43	36.46	43.50	-7.04	133	43
4	286.9823	40.74	13.44	21.97	1.69	33.90	46.00	-12.10	140	247
5	451.1350	30.24	16.92	22.02	2.03	27.17	46.00	-18.83	170	9
6	903.3094	28.26	22.42	21.53	2.89	32.04	46.00	-13.96	164	165

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.

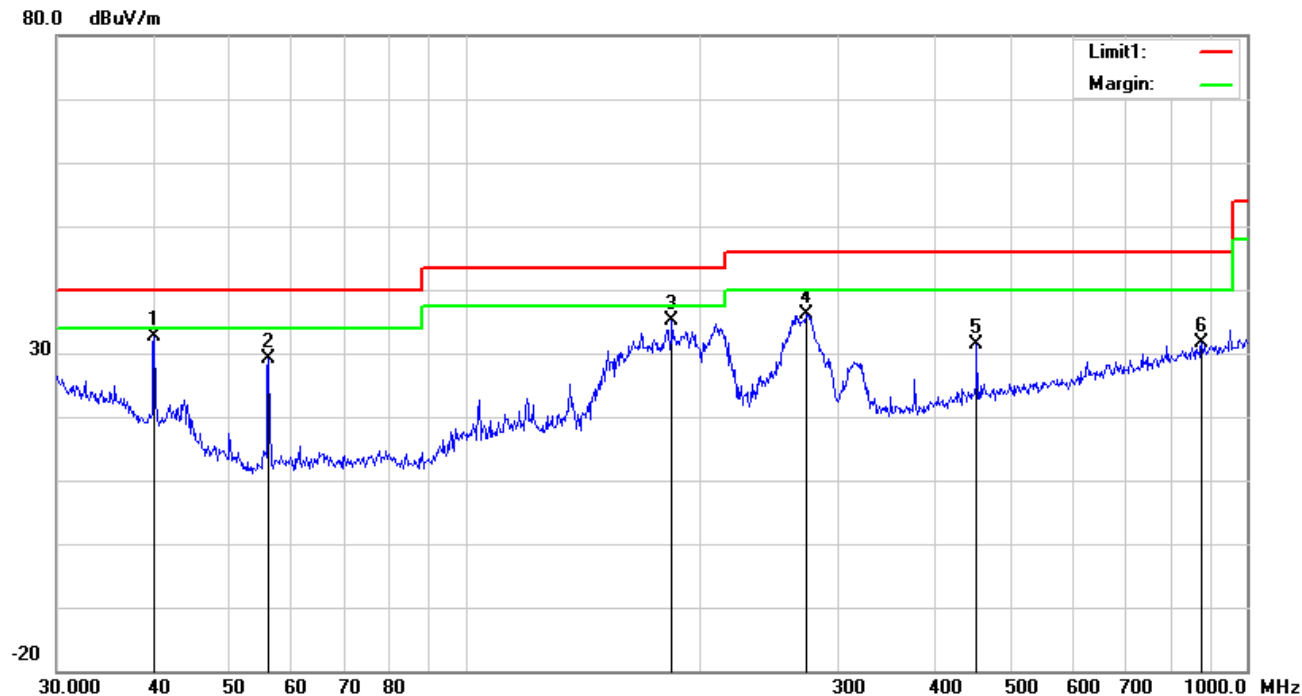


CHANNEL	TX Channel 39	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m										
No.	Frequency (MHz)	Reading (dBuV/m)	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	39.9942	39.27	14.20	21.62	0.68	32.53	40.00	-7.47	149	231
2	56.0007	42.56	7.34	21.62	0.78	29.06	40.00	-10.94	134	245
3	183.8440	43.64	11.92	21.77	1.33	35.12	43.50	-8.38	165	343
4	273.2341	43.21	13.17	21.94	1.65	36.09	46.00	-9.91	147	94
5	451.1350	34.49	16.92	22.02	2.03	31.42	46.00	-14.58	166	66
6	875.2470	28.24	22.15	21.58	2.83	31.64	46.00	-14.36	133	218

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.



ABOVE 1GHz TEST DATA:

BT-LE (GFSK)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2368.9	52.43 PK	74	-21.57	155	116	63.81	-11.38
2	2368.9	41.54 AV	54	-12.46	155	116	52.92	-11.38
3	*2402.00	93.34 PK			122	12	104.72	-11.38
4	*2402.00	92.9 AV			122	12	104.28	-11.38
5	4804.00	49.04 PK	74	-24.96	250	127	55.11	-6.07
6	4804.00	37.68 AV	54	-16.32	250	127	43.75	-6.07
7	#7206.00	55.12 PK	74	-18.88	136	226	54.83	0.29
8	#7206.00	42.76 AV	54	-11.24	136	226	42.47	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.37	52.7 PK	74	-21.3	159	34	64.08	-11.38
2	2388.37	41.56 AV	54	-12.44	159	34	52.94	-11.38
3	*2402.00	99.33 PK			111	156	110.71	-11.38
4	*2402.00	98.55 AV			111	156	109.93	-11.38
5	4804.00	48.6 PK	74	-25.4	240	350	54.67	-6.07
6	4804.00	37.65 AV	54	-16.35	240	350	43.72	-6.07
7	#7206.00	54.39 PK	74	-19.61	187	70	54.1	0.29
8	#7206.00	42.76 AV	54	-11.24	187	70	42.47	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440	92.98 PK			247	121	104.36	-11.38
2	*2440	91.12 AV			247	121	102.5	-11.38
3	4880	49.04 PK	74	-24.96	131	179	55.11	-6.07
4	4880	37.92 AV	54	-16.08	131	179	43.99	-6.07
5	7320	56.11 PK	74	-17.89	102	2	55.82	0.29
6	7320	43.53 AV	54	-10.47	102	2	43.24	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440	96.47 PK			181	278	107.85	-11.38
2	*2440	96.4 AV			181	278	107.78	-11.38
3	4880	49.03 PK	74	-24.97	191	354	55.1	-6.07
4	4880	37.91 AV	54	-16.09	191	354	43.98	-6.07
5	7320	54.45 PK	74	-19.55	240	17	54.16	0.29
6	7320	42.79 AV	54	-11.21	240	17	42.5	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	46.37 PK	74	-27.63	235	162	57.75	-11.38
2	2483.5	36.58 AV	54	-17.42	235	162	47.96	-11.38
3	*2480	89.5 PK			227	329	100.88	-11.38
4	*2480	87.54 AV			227	329	98.92	-11.38
5	4960	49.03 PK	74	-24.97	160	13	55.1	-6.07
6	4960	37.9 AV	54	-16.1	160	13	43.97	-6.07
7	7440	55.54 PK	74	-18.46	128	26	55.25	0.29
8	7440	43.63 AV	54	-10.37	128	26	43.34	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2483.5	49.63 PK	74	-24.37	138	31	61.01	-11.38
2	2483.5	38.28 AV	54	-15.72	138	31	49.66	-11.38
3	*2480	95.63 PK			144	253	107.01	-11.38
4	*2480	95.18 AV			144	253	106.56	-11.38
5	4960	49.54 PK	74	-24.46	142	237	55.61	-6.07
6	4960	37.8 AV	54	-16.2	142	237	43.87	-6.07
7	7440	55.51 PK	74	-18.49	202	114	55.22	0.29
8	7440	43.69 AV	54	-10.31	202	114	43.4	0.29

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) – Amplifier Gain(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Wireless Connectivity Tester	R&S	CMW270	1201.0002K75	Dec. 28, 19	Dec. 27, 20
MXA VEXTOR SIGNAL	Agilent	n5182a	MY50140530	Mar. 24, 20	Mar. 24, 21
MXA signal analyzer	Agilent	n9020a	MY49100060	Mar. 24, 20	Mar. 24, 21
RF Control Unit	Tonscend	JS0806-2	188060112	Mar. 24, 20	Mar. 24, 21
Signal Generation	Agilent	E4421B	US40051152	Dec. 18, 19	Dec. 17, 20
DC Power Supply	Agilent	E3640A	MY40004013	Mar. 30, 20	Mar. 30, 21
Programmable Temperature & Humidity Chamber	Hongjin	HYC-TH-225 DH	DG-180746	Mar. 24, 20	Mar. 24, 21
Test System	Tonscend	JS 1120-3	N/A	N/A	N/A
Power Splitter	Weinschel	1580-1	TL177	Mar. 27, 20	Mar. 27, 21

NOTE:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

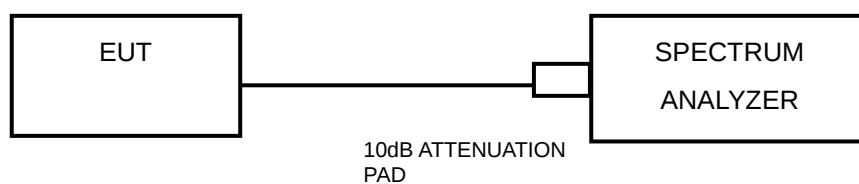
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100KHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	9.16	0.5	PASS
6	2437	9.60	0.5	PASS
11	2462	9.60	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.16	0.5	PASS
6	2437	8.88	0.5	PASS
11	2462	10.12	0.5	PASS

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.12	0.5	PASS
6	2437	11.36	0.5	PASS
11	2462	10.16	0.5	PASS

802.11n HT40

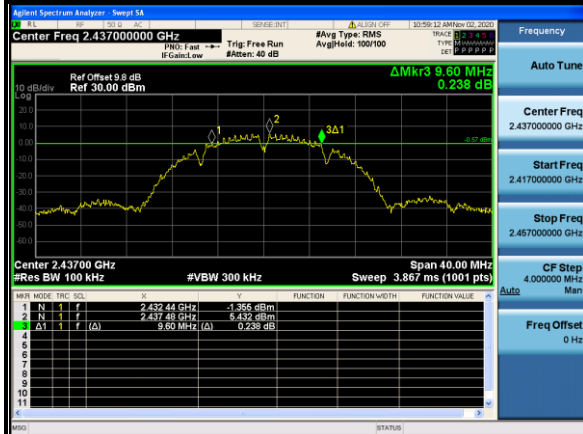
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	32.72	0.5	PASS
6	2437	28.96	0.5	PASS
9	2452	31.52	0.5	PASS

BT-LE (GFSK)

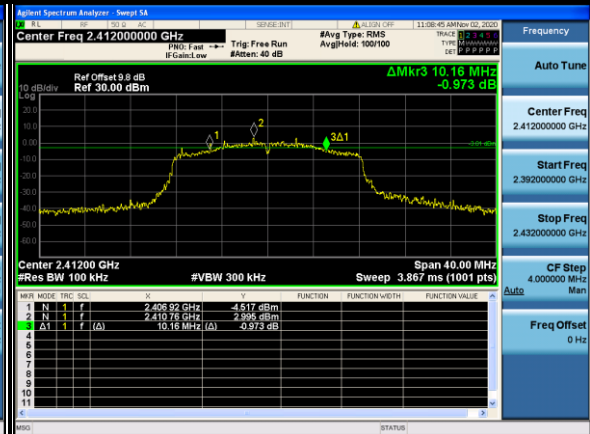
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	0.676	0.5	PASS
19	2440	0.680	0.5	PASS
39	2480	0.684	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

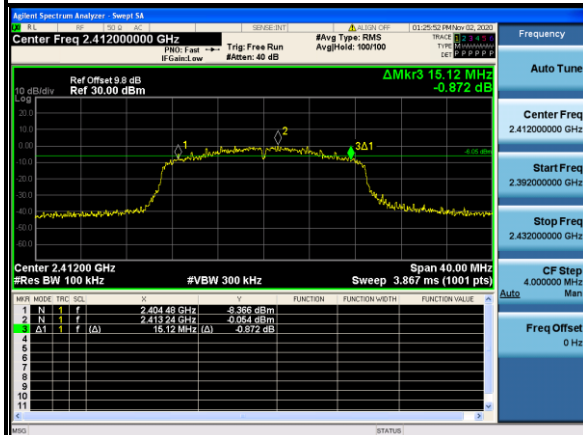
802.11b



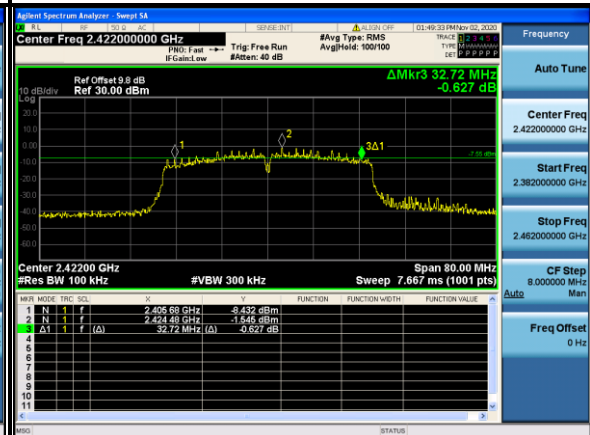
802.11g



802.11n HT20



802.11n HT40



BT-LE (GFSK)

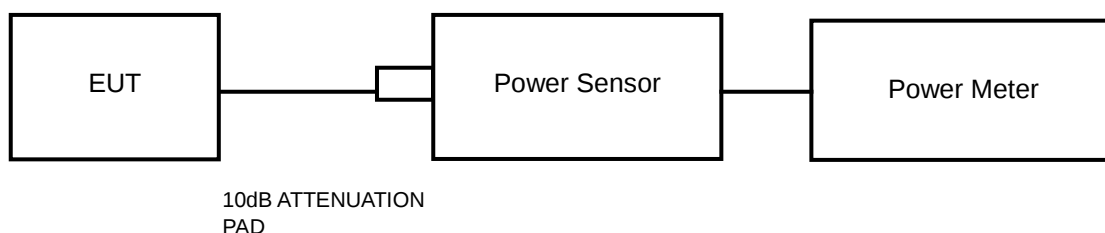


4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm).

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Wireless Connectivity Tester	R&S	CMW270	1201.0002K75	Dec. 28, 19	Dec. 27, 20
MXA VEXTOR SIGNAL	Agilent	n5182a	MY50140530	Mar. 24, 20	Mar. 24, 21
MXA signal analyzer	Agilent	n9020a	MY49100060	Mar. 24, 20	Mar. 24, 21
RF Control Unit	Tonscend	JS0806-2	188060112	Mar. 24, 20	Mar. 24, 21
Signal Generation	Agilent	E4421B	US40051152	Dec. 18, 19	Dec. 17, 20
DC Power Supply	Agilent	E3640A	MY40004013	Mar. 30, 20	Mar. 30, 21
Programmable Temperature & Humidity Chamber	Hongjin	HYC-TH-225 DH	DG-180746	Mar. 24, 20	Mar. 24, 21
Test System	Tonscend	JS 1120-3	N/A	N/A	N/A
Power Splitter	Weinschel	1580-1	TL177	Mar. 27, 20	Mar. 27, 21

NOTE:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

4.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor and set the detector to PEAK. Record the power level.

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor and set the detector to AVERAGE. Record the power level.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.7 TEST RESULTS

MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	18.72	74.473	1	PASS
6	2437	19.25	84.140	1	PASS
11	2462	19.60	91.201	1	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	21.00	125.893	1	PASS
6	2437	20.46	111.173	1	PASS
11	2462	20.61	115.08	1	PASS

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	20.51	112.46	1	PASS
6	2437	19.94	98.628	1	PASS
11	2462	20.04	100.925	1	PASS

802.11n HT40

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
3	2422	20.34	108.143	1	PASS
6	2437	19.77	94.842	1	PASS
9	2452	21.50	141.254	1	PASS

BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
0	2402	1.54	1.426	1	PASS
19	2440	3.35	2.163	1	PASS
39	2480	4.59	2.877	1	PASS

AVERAGE OUTPUT POWER (FOR REFERENCE)

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

802.11b

CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	16.24	42.073
6	2437	16.81	47.973
11	2462	16.68	46.559

802.11g

CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	14.55	28.51
6	2437	14.82	30.339
11	2462	14.83	30.409

802.11n HT20

CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	13.59	22.856
6	2437	13.85	24.266
11	2462	14.14	25.942

802.11n HT40

CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
3	2422	14.90	30.903
6	2437	13.74	23.659
9	2452	14.13	25.882

BT-LE (GFSK)

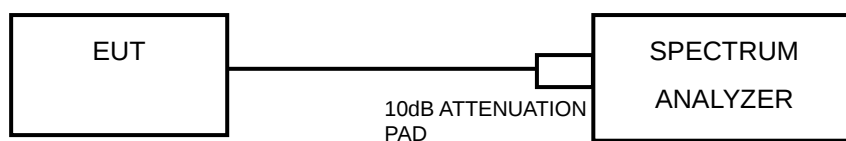
CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
0	2402	1.33	1.358
19	2440	3.17	2.075
39	2480	4.45	2.786

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.3.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

- Set instrument center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set RBW to: 3KHz
- Set VBW $\geq 3 \times$ RBW.
- Detector = peak
- Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
- Sweep time = auto couple.
- Use the peak marker function to determine the maximum amplitude level.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

4.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-14.49	8.00	PASS
6	2437	-14.00	8.00	PASS
11	2462	-15.02	8.00	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-15.65	8.00	PASS
6	2437	-15.90	8.00	PASS
11	2462	-14.11	8.00	PASS

802.11n HT20

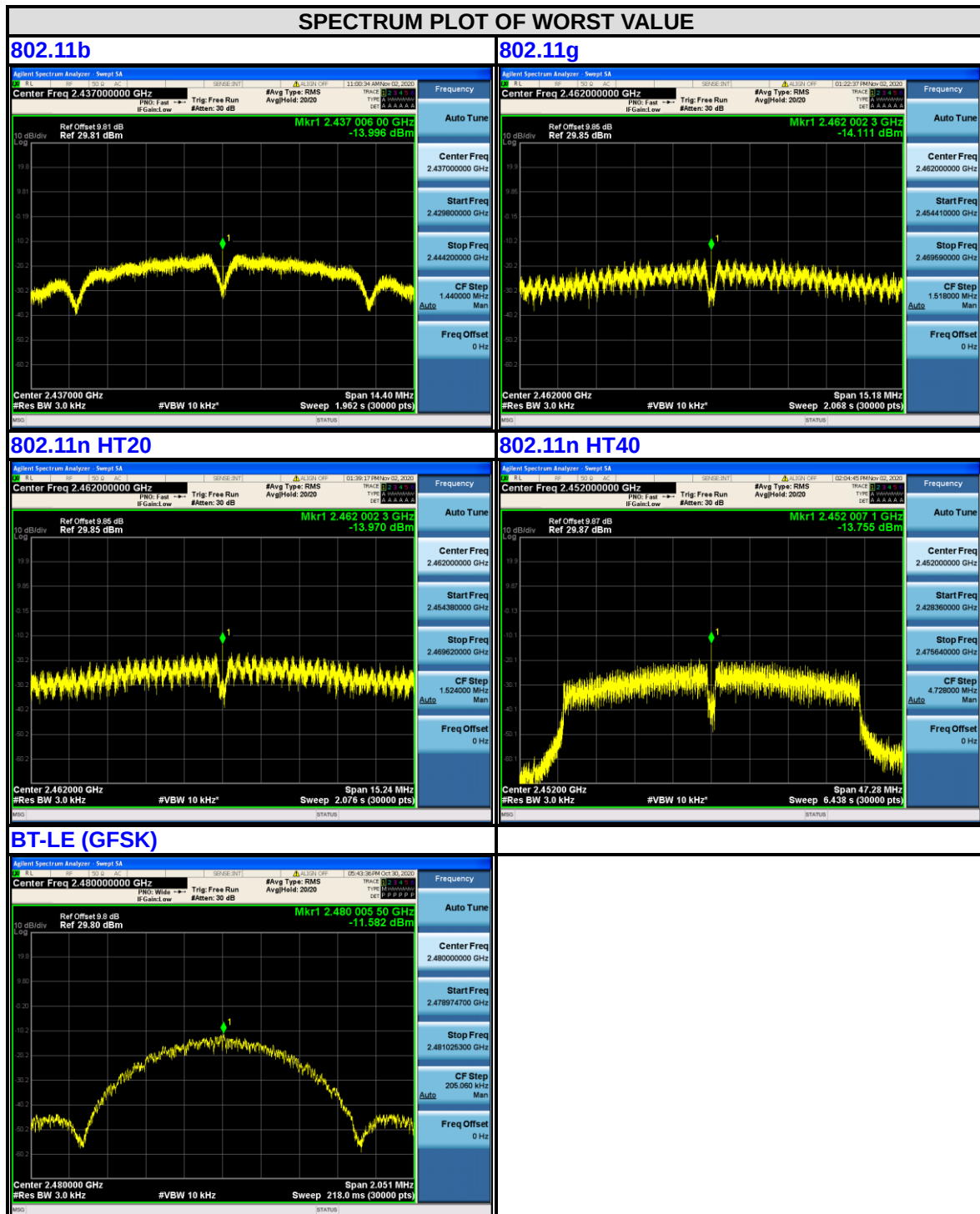
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-17.20	8.00	PASS
6	2437	-15.99	8.00	PASS
11	2462	-13.97	8.00	PASS

802.11n HT40

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-16.98	8.00	PASS
6	2437	-15.57	8.00	PASS
9	2452	-13.76	8.00	PASS

BT-LE (GFSK)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-14.27	8.00	PASS
19	2440	-12.84	8.00	PASS
39	2480	-11.58	8.00	PASS

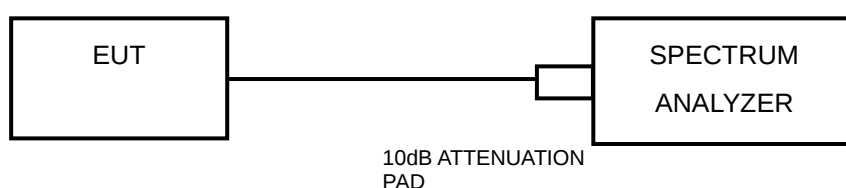


4.6 OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.3.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as item 4.3.6