Test Lab
Cert 2951.01

FCC TEST REPORT

(WIFI + BT LE)

Product:	LTE/CDMA Multi-Mode Digital Mobile Phone
Model Name:	Z862VL
FCC ID:	SRQ-Z862VL
Applicant:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China
Manufacturer:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China
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Report No.:	RF160419W002-2
Received Date:	Apr. 22, 2016
Test Date:	Apr. 23, 2016 ~ May 24, 2016
Issued Date:	May 25, 2016

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF160419W002-2	Original release	May 25, 2016

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1 CERTIFICATION

PRODUCT:	LTE/CDMA Multi-Mode Digital Mobile Phone
BRAND NAME:	ZTE
MODEL NAME:	Z862VL
APPLICANT:	ZTE Corporation
TESTED:	Apr. 23, 2016 ~ May 24, 2016
TEST SAMPLE:	Identical Prototype
STANDARDS:	**FCC Part 15, Subpart C. Section 15.247** ANSI C63.10-2013

The above equipment has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** May 25, 2016
(Amyee Qian / Engineer)

APPROVED BY : _____ , **DATE:** May 25, 2016
(William Chung / Manager)

2 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. Minimum passing margin is 14.18dB at 0.532000MHz.
15.205 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 2483.50MHz.
15.247(d)	Out of band Emission 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

2.1 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	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.74dB
	30MHz ~ 1GMHz	3.55dB
	1GHz ~ 18GHz	4.84dB
	18GHz ~ 40GHz	1.94dB

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	LTE/CDMA Multi-Mode Digital Mobile Phone
MODEL NAME	Z862VL
NOMINAL VOLTAGE	5.0Vdc (adapter or host equipment) 3.85Vdc dc (Li-ion, battery)
MODULATION TECHNOLOGY	DSSS, OFDM, DTS
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM BT-LE(GFSK) for DTS
TRANSMISSION RATE	802.11b: 11/ 5.5/ 2.0 / 1.0 Mbps 802.11g: 54/ 48/ 36 / 24 / 18 / 9/ 6 Mbps 802.11n: up to 135 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11b/g/n(HT40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 129.420mW (Maximum) BT-LE: 8.872mW (Maximum)
ANTENNA TYPE	internal Antenna with 0dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: shielded, detachable, 1.0meter

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT was powered by the following adapters:

ADAPTER 1	
BRAND:	ZTE
MODEL:	STC-A51A-Z
INPUT:	AC 100-240V, 250mA
OUTPUT:	DC 5V, 1000mA

ADAPTER 2	
BRAND:	ZTE
MODEL:	STC-A51A-Z
INPUT:	AC 100-240V, 400mA
OUTPUT:	DC 5V, 2100mA

3. The EUT matched the following USB cable:

USB CABLE	
BRAND:	ZTE
MODEL:	USB-MU5-B-100-L
SIGNAL LINE:	1.0 METER

4. The EUT incorporates a SISO function. Physically, the EUT provides one transmitter and one receiver.

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX /1RX
802.11g	1TX /1RX
802.11n (20MHz)	1TX /1RX
802.11n (40MHz)	1TX /1RX

5. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

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 and antenna ports
The worst case was found when positioned on Y 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	
-	√	√	√	√	-

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

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1	CCK	DBPSK	1.0
BT-LE	0 to 39	39	DTS	GFSK	1

For the test results, only the worst case was shown in test report.

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.

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

POWER LINE CONDUCTED EMISSION TEST:

The EUT was tested with the following mode

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

BANDEDGE MEASUREMENT:

☒ 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.

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

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.

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	22deg. C, 54%RH	DC 5V from adaptor	Alex Chen
RE≥1G	22deg. C, 54%RH	DC 5V from adaptor	Alex Chen
PLC	25deg. C, 60%RH	DC 5V from adaptor	Yuqiang Yin
APCM	25deg. C, 60%RH	3.85Vdc from battery	Yuqiang Yin

3.3 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 DTS Meas Guidance v03r04

ANSI C63.10-2013

Note：

1. All test items have been performed and recorded as per the above standards.
2. The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Verification). The test report has been issued separately.

3.4 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	DC source	LONG WEI	PS-6403D	010934269	N/A
2	PC	HP	A6608CN	3CR83825X3	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	AC Line: Unshielded, Detachable 1.5m

4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	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	100340	May 11,15	May 10,17
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 04,16	Mar. 03,17
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 05,16	Apr. 04,17
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Jan. 08,16	Jan. 07,17
Test software	ADT	ADT_Cond_V7.3.7	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, GRGT/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.

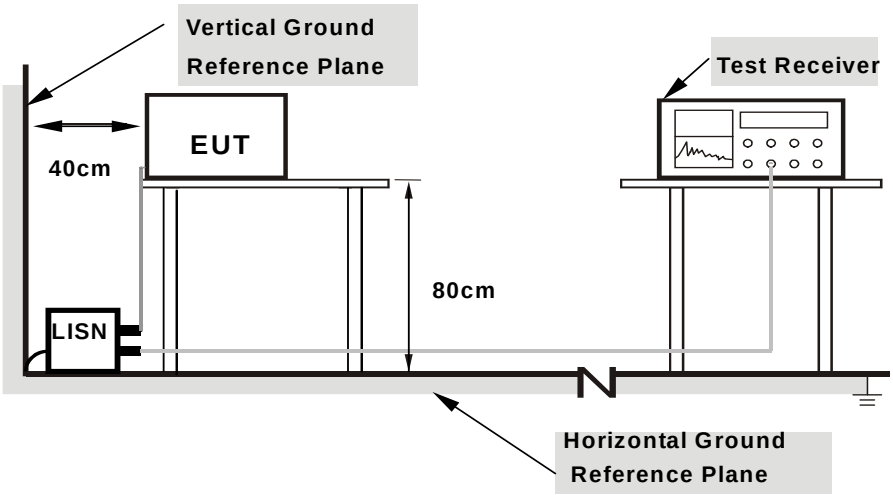
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

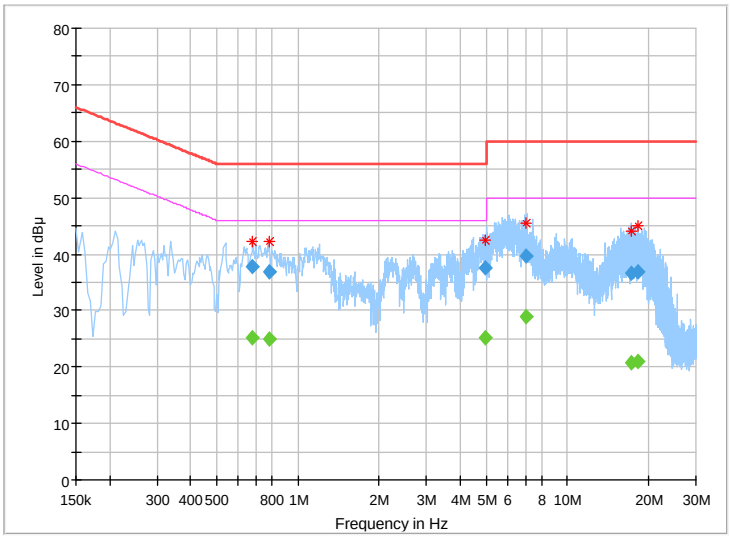
CONDUCTED WORST-CASE DATA:

Phase	Line (L)	**Detector Function**	Quasi-Peak (QP) / Average (AV)

Frequency (MHz)	QuasiPeak (dB¦ÌV)	CAverage (dB¦ÌV)	Limit (dB¦ÌV)	Margin (dB)	Line	Filter	Corr. (dB)
0.680000	---	25.20	46.00	20.80	L	ON	9.7
0.680000	37.86	---	56.00	18.14	L	ON	9.7
0.784000	---	24.87	46.00	21.13	L	ON	9.7
0.784000	36.76	---	56.00	19.24	L	ON	9.7
4.960000	---	25.15	46.00	20.85	L	ON	9.7
4.960000	37.53	---	56.00	18.47	L	ON	9.7
7.068000	---	28.88	50.00	21.12	L	ON	9.8
7.068000	39.64	---	60.00	20.36	L	ON	9.8
17.300000	---	20.83	50.00	29.17	L	ON	10.0
17.300000	36.57	---	60.00	23.43	L	ON	10.0
18.260000	---	20.91	50.00	29.09	L	ON	9.9
18.260000	36.82	---	60.00	23.18	L	ON	9.9

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.

Full Spectrum

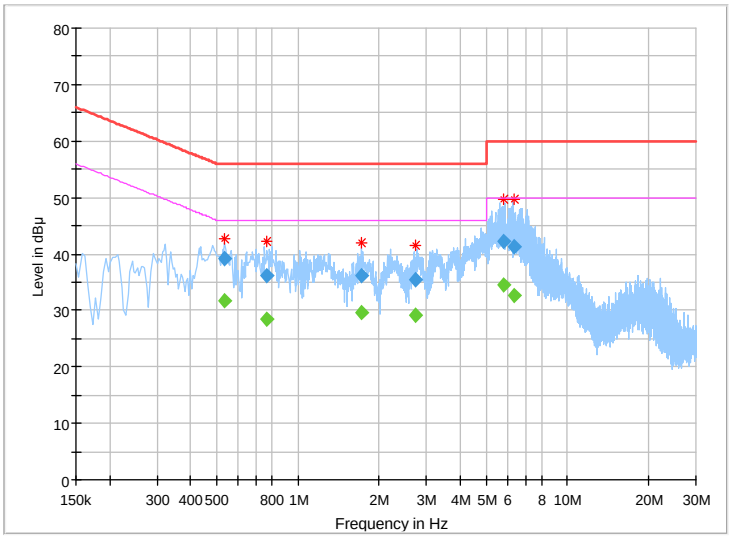


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.532000	**---**	**31.82**	**46.00**	**14.18**	**N**	**ON**	**10.1**
0.532000	39.14	---	56.00	16.86	N	ON	10.1
0.764000	---	28.53	46.00	17.47	N	ON	10.0
0.764000	36.20	---	56.00	19.80	N	ON	10.0
1.732000	---	29.67	46.00	16.33	N	ON	9.8
1.732000	36.11	---	56.00	19.89	N	ON	9.8
2.732000	---	29.05	46.00	16.95	N	ON	9.8
2.732000	35.54	---	56.00	20.46	N	ON	9.8
5.784000	---	34.58	50.00	15.42	N	ON	9.8
5.784000	42.27	---	60.00	17.73	N	ON	9.8
6.340000	---	32.73	50.00	17.27	N	ON	9.8
6.340000	41.21	---	60.00	18.79	N	ON	9.8

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.

Full Spectrum



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	ESR7	101494	Apr. 05,16	Apr. 04,17
Bilog Antenna	Teseq	CBL 6111D	30643	Jul. 16, 15	Jul. 15, 16
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 30, 15	May 29, 17
Amplifier	Burgeon	BPA-530	100220	Apr. 05,16	Apr. 04,17
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 20,15	Nov. 19,17
Pre-Amplifier	HP	8449B	3008A00409	Apr. 25,15	Apr. 24,17
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 08, 14	Aug. 07, 16
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 12,16	Mar. 11,18
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 966 Chamber.
3. The FCC Site Registration No. is 502831.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 1.5 meters 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. The antenna is a broadband 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. 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.

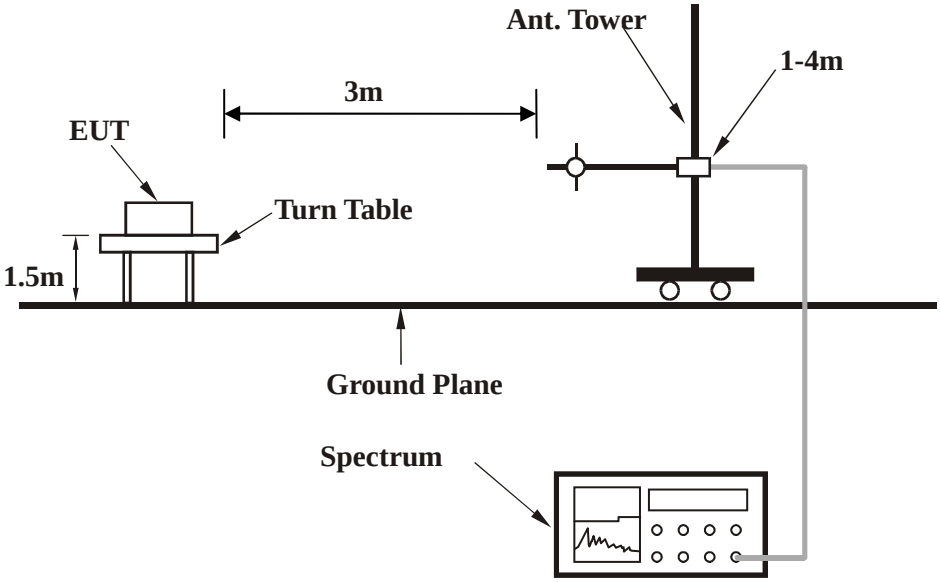
NOTE:

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 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

a. Set the EUT under full load condition and placed them on a testing table.

b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.

c. The necessary accessories enable the EUT in full functions.

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

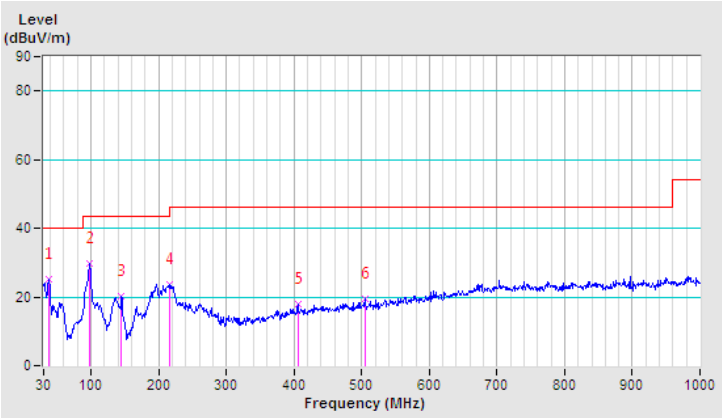
802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	36.79	25.2 QP	40.0	-14.8	1.00 H	0	48.05	-22.82
2	97.90	29.6 QP	43.5	-13.9	1.00 H	0	56.35	-26.79
3	144.46	20.2 QP	43.5	-23.3	1.00 H	0	45.80	-25.62
4	215.27	23.8 QP	43.5	-19.7	1.00 H	0	46.85	-23.02
5	405.39	17.7 QP	46.0	-28.3	1.00 H	0	33.72	-15.98
6	505.30	19.4 QP	46.0	-26.6	1.00 H	0	34.11	-14.70

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

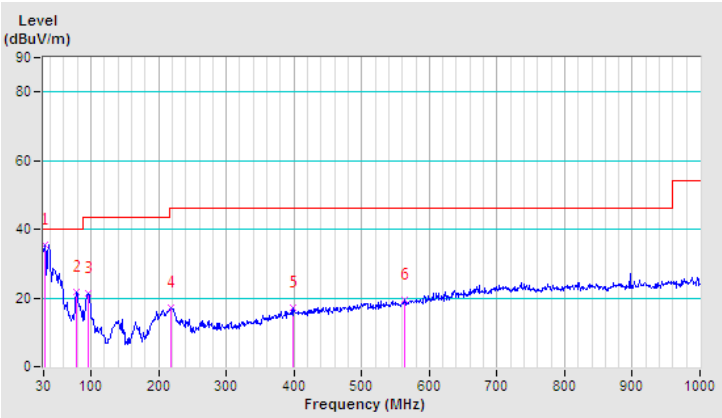


CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	31.94	35.4 QP	40.0	-4.6	1.00 V	0	54.91	-19.53
2	78.50	21.6 QP	40.0	-18.5	1.00 V	0	49.62	-28.07
3	94.99	21.2 QP	43.5	-22.3	1.00 V	0	48.37	-27.15
4	217.21	17.2 QP	46.0	-28.8	1.00 V	0	40.15	-22.92
5	398.60	17.1 QP	46.0	-28.9	1.00 V	0	33.20	-16.11
6	563.50	19.4 QP	46.0	-26.6	1.00 V	0	32.90	-13.48

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



ABOVE 1GHz DATA

802.11b

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

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	2390.00	45.3 PK	74.0	-28.7	1.95 H	148	53.14	-7.87
2	2390.00	34.2 AV	54.0	-19.8	1.95 H	148	42.07	-7.87
3	#2400.00	50.9 PK	76.4	-25.5	1.95 H	148	58.71	-7.84
4	#2400.00	44.0 AV	74.2	-30.2	1.95 H	148	51.82	-7.84
5	*2412.00	96.4 PK			1.95 H	148	104.23	-7.81
6	*2412.00	94.2 AV			1.95 H	148	101.97	-7.81
7	4824.00	57.7 PK	74.0	-16.3	1.00 H	338	59.66	-1.97
8	4824.00	52.7 AV	54.0	-1.3	1.00 H	338	54.67	-1.97
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	2390.00	47.2 PK	74.0	-26.8	1.55 V	275	55.09	-7.87
2	2390.00	38.0 AV	54.0	-16.0	1.55 V	275	45.85	-7.87
3	#2400.00	60.5 PK	81.3	-20.8	1.55 V	275	68.31	-7.84
4	#2400.00	54.0 AV	79.0	-25.0	1.55 V	275	61.87	-7.84
5	*2412.00	101.3 PK			1.55 V	275	109.14	-7.81
6	*2412.00	99.0 AV			1.55 V	275	106.85	-7.81
7	4824.00	57.2 PK	74.0	-16.8	1.00 V	294	59.19	-1.97
8	4824.00	52.0 AV	54.0	-2.0	1.00 V	294	53.94	-1.97

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(dB)
3. The other emission levels were very low 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	97.2 PK			1.92 H	140	104.90	-7.73
2	*2437.00	94.9 AV			1.92 H	140	102.64	-7.73
3	4874.00	54.4 PK	74.0	-19.6	1.00 H	336	56.23	-1.81
4	4874.00	45.3 AV	54.0	-8.7	1.00 H	336	47.12	-1.81
5	7311.00	53.3 PK	74.0	-20.7	1.00 H	298	50.58	2.75
6	7311.00	42.5 AV	54.0	-11.5	1.00 H	298	39.71	2.75
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	*2437.00	101.7 PK			1.25 V	278	109.45	-7.73
2	*2437.00	99.9 AV			1.25 V	278	107.58	-7.73
3	4874.00	54.7 PK	74.0	-19.3	1.01 V	328	56.47	-1.81
4	4874.00	46.8 AV	54.0	-7.2	1.01 V	328	48.62	-1.81
5	7311.00	55.2 PK	74.0	-18.9	1.00 V	48	52.40	2.75
6	7311.00	42.9 AV	54.0	-11.2	1.00 V	48	40.10	2.75

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	*2462.00	99.0 PK			1.41 H	229	106.68	-7.66
2	*2462.00	97.5 AV			1.41 H	229	105.20	-7.66
3	2483.50	49.2 PK	74.0	-24.9	1.41 H	229	56.75	-7.60
4	2483.50	41.8 AV	54.0	-12.2	1.41 H	229	49.38	-7.60
5	4924.00	53.0 PK	74.0	-21.0	1.00 H	132	54.67	-1.64
6	4924.00	43.4 AV	54.0	-10.6	1.00 H	132	45.07	-1.64
7	7386.00	55.2 PK	74.0	-18.8	1.00 H	290	52.34	2.87
8	7386.00	43.0 AV	54.0	-11.0	1.00 H	290	40.15	2.87
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	*2462.00	102.4 PK			1.24 V	277	110.07	-7.66
2	*2462.00	100.3 AV			1.24 V	277	107.96	-7.66
3	2483.50	51.2 PK	74.0	-22.8	1.24 V	277	58.77	-7.60
4	2483.50	44.9 AV	54.0	-9.1	1.24 V	277	52.47	-7.60
5	4924.00	52.3 PK	74.0	-21.7	1.00 V	328	53.92	-1.64
6	4924.00	44.2 AV	54.0	-9.9	1.00 V	328	45.79	-1.64
7	7386.00	54.2 PK	74.0	-19.8	1.00 V	46	51.34	2.87
8	7386.00	42.6 AV	54.0	-11.4	1.00 V	46	39.76	2.87

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(dB)
3. The other emission levels were very low 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	2390.00	59.3 PK	74.0	-14.7	1.95 H	146	67.20	-7.87
2	2390.00	42.4 AV	54.0	-11.6	1.95 H	146	50.28	-7.87
3	#2400.00	69.1 PK	78.8	-9.7	1.95 H	146	76.95	-7.84
4	#2400.00	53.0 AV	69.1	-16.1	1.95 H	146	60.81	-7.84
5	*2412.00	98.8 PK			1.95 H	146	106.62	-7.81
6	*2412.00	89.1 AV			1.95 H	146	96.95	-7.81
7	4824.00	52.6 PK	74.0	-21.4	1.00 H	338	54.57	-1.97
8	4824.00	41.5 AV	54.0	-12.5	1.00 H	338	43.49	-1.97
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	2390.00	67.8 PK	74.0	-6.2	1.53 V	275	75.67	-7.87
2	2390.00	52.4 AV	54.0	-1.6	1.53 V	275	60.30	-7.87
3	#2400.00	79.0 PK	83.3	-4.3	1.53 V	275	86.88	-7.84
4	#2400.00	63.9 AV	73.0	-9.1	1.53 V	275	71.71	-7.84
5	*2412.00	103.3 PK			1.53 V	275	111.08	-7.81
6	*2412.00	93.0 AV			1.53 V	275	100.76	-7.81
7	4824.00	51.7 PK	74.0	-22.3	1.00 V	329	53.66	-1.97
8	4824.00	40.8 AV	54.0	-13.3	1.00 V	329	42.72	-1.97

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(dB)
3. The other emission levels were very low 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	98.8 PK			1.92 H	139	106.55	-7.73
2	*2437.00	88.3 AV			1.92 H	139	96.00	-7.73
3	4874.00	50.5 PK	74.0	-23.5	1.00 H	336	52.27	-1.81
4	4874.00	40.1 AV	54.0	-13.9	1.00 H	336	41.93	-1.81
5	7311.00	56.7 PK	74.0	-17.4	1.00 H	298	53.90	2.75
6	7311.00	42.9 AV	54.0	-11.1	1.00 H	298	40.14	2.75
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	*2437.00	103.6 PK			1.26 V	278	111.32	-7.73
2	*2437.00	99.8 AV			1.26 V	278	107.51	-7.73
3	4874.00	50.4 PK	74.0	-23.6	1.00 V	328	52.24	-1.81
4	4874.00	39.2 AV	54.0	-14.8	1.00 V	328	40.98	-1.81
5	7311.00	53.8 PK	74.0	-20.2	1.00 V	48	51.01	2.75
6	7311.00	42.8 AV	54.0	-11.3	1.00 V	48	40.00	2.75

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	*2462.00	101.0 PK			1.39 H	238	108.65	-7.66
2	*2462.00	90.8 AV			1.39 H	238	98.45	-7.66
3	2483.50	65.2 PK	74.0	-8.8	1.39 H	238	72.84	-7.60
4	2483.50	47.5 AV	54.0	-6.5	1.39 H	238	55.14	-7.60
5	4924.00	49.5 PK	74.0	-24.5	1.00 H	132	51.14	-1.64
6	4924.00	39.0 AV	54.0	-15.0	1.00 H	132	40.60	-1.64
7	7386.00	54.1 PK	74.0	-19.9	1.00 H	290	51.19	2.87
8	7386.00	42.6 AV	54.0	-11.4	1.00 H	290	39.71	2.87
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	*2462.00	102.9 PK			1.21 V	277	110.58	-7.66
2	*2462.00	93.1 AV			1.21 V	277	100.78	-7.66
3	2483.50	69.8 PK	74.0	-4.2	1.21 V	277	77.44	-7.60
4	2483.50	51.6 AV	54.0	-2.4	1.21 V	277	59.20	-7.60
5	4924.00	50.8 PK	74.0	-23.3	1.00 V	328	52.39	-1.64
6	4924.00	39.7 AV	54.0	-14.3	1.00 V	328	41.31	-1.64
7	7386.00	53.6 PK	74.0	-20.4	1.00 V	45	50.73	2.87
8	7386.00	42.7 AV	54.0	-11.3	1.00 V	45	39.85	2.87

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

802.11n (20MHz)

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

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	2390.00	68.3 PK	74.0	-5.7	1.64 H	122	76.14	-7.87
2	2390.00	51.2 AV	54.0	-2.8	1.64 H	122	59.07	-7.87
3	#2400.00	74.8 PK	78.5	-3.7	1.64 H	122	82.61	-7.84
4	#2400.00	60.3 AV	68.9	-8.6	1.64 H	122	68.17	-7.84
5	*2412.00	98.5 PK			1.64 H	122	106.26	-7.81
6	*2412.00	88.9 AV			1.64 H	122	96.67	-7.81
7	4824.00	50.1 PK	74.0	-23.9	1.00 H	340	52.09	-1.97
8	4824.00	39.9 AV	54.0	-14.1	1.00 H	340	41.86	-1.97
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	2390.00	67.3 PK	74.0	-6.8	1.53 V	289	75.12	-7.87
2	2390.00	52.5 AV	54.0	-1.5	1.53 V	289	60.40	-7.87
3	#2400.00	75.9 PK	82.6	-6.7	1.53 V	289	83.78	-7.84
4	#2400.00	61.0 AV	72.8	-11.8	1.53 V	289	68.79	-7.84
5	*2412.00	102.6 PK			1.53 V	289	110.43	-7.81
6	*2412.00	92.8 AV			1.53 V	289	100.59	-7.81
7	4824.00	50.0 PK	74.0	-24.0	1.00 V	330	51.99	-1.97
8	4824.00	40.3 AV	54.0	-13.7	1.00 V	330	42.23	-1.97

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(dB)
3. The other emission levels were very low 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	95.1 PK			1.92 H	140	102.83	-7.73
2	*2437.00	85.7 AV			1.92 H	140	93.38	-7.73
3	4874.00	51.4 PK	74.0	-22.6	1.00 H	336	53.24	-1.81
4	4874.00	40.1 AV	54.0	-13.9	1.00 H	336	41.95	-1.81
5	7311.00	55.0 PK	74.0	-19.0	1.00 H	290	52.28	2.75
6	7311.00	43.5 AV	54.0	-10.5	1.00 H	290	40.76	2.75
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	*2437.00	101.9 PK			1.49 V	278	109.61	-7.73
2	*2437.00	91.9 AV			1.49 V	278	99.58	-7.73
3	4874.00	50.8 PK	74.0	-23.3	1.00 V	328	52.56	-1.81
4	4874.00	40.2 AV	54.0	-13.8	1.00 V	328	41.98	-1.81
5	7311.00	55.0 PK	74.0	-19.0	1.00 V	48	52.23	2.75
6	7311.00	43.5 AV	54.0	-10.5	1.00 V	48	40.71	2.75

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	*2462.00	98.4 PK			1.36 H	238	106.10	-7.66
2	*2462.00	89.7 AV			1.36 H	238	97.39	-7.66
3	2483.50	66.7 PK	74.0	-7.3	1.36 H	238	74.3	-7.60
4	2483.50	52.4 AV	54.0	-1.6	1.36 H	238	60	-7.60
5	4924.00	51.6 PK	74.0	-22.4	1.00 H	132	53.24	-1.64
6	4924.00	39.6 AV	54.0	-14.4	1.00 H	132	41.24	-1.64
7	7386.00	54.0 PK	74.0	-20.0	1.00 H	290	51.17	2.87
8	7386.00	43.0 AV	54.0	-11.1	1.00 H	290	40.08	2.87
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	*2462.00	103.5 PK			1.45 V	270	111.20	-7.66
2	*2462.00	93.9 AV			1.45 V	270	101.59	-7.66
3	2483.50	68.6 PK	74.0	-5.4	1.45 V	270	76.17	-7.60
4	**2483.50**	**52.9 AV**	**54.0**	**-1.1**	**1.45 V**	**270**	**60.49**	**-7.60**
5	4924.00	50.9 PK	74.0	-23.1	1.00 V	328	52.51	-1.64
6	4924.00	40.4 AV	54.0	-13.6	1.00 V	328	42.07	-1.64
7	7386.00	53.7 PK	74.0	-20.3	1.00 V	45	50.81	2.87
8	7386.00	43.0 AV	54.0	-11.0	1.00 V	45	40.10	2.87

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

802.11n (40MHz)

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

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	2390.00	64.6 PK	74.0	-9.4	1.50 H	122	72.51	-7.87
2	2390.00	41.0 AV	54.0	-13.0	1.50 H	122	48.90	-7.87
3	#2400.00	67.6 PK	72.4	-4.8	1.50 H	122	75.43	-7.84
4	#2400.00	50.3 AV	61.4	-11.1	1.50 H	122	58.15	-7.84
5	*2422.00	92.4 PK			1.50 H	122	100.19	-7.78
6	*2422.00	81.4 AV			1.50 H	122	89.14	-7.78
7	4844.00	50.1 PK	74.0	-23.9	1.00 H	341	52.00	-1.91
8	4844.00	39.0 AV	54.0	-15.0	1.00 H	341	40.87	-1.91
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	2390.00	68.5 PK	74.0	-5.5	1.48 V	300	76.34	-7.87
2	2390.00	52.4 AV	54.0	-1.7	1.48 V	300	60.22	-7.87
3	#2400.00	73.6 PK	78.8	-5.2	1.48 V	300	81.47	-7.84
4	#2400.00	57.2 AV	68.0	-10.8	1.48 V	300	65.06	-7.84
5	*2422.00	98.8 PK			1.48 V	300	106.57	-7.78
6	*2422.00	88.0 AV			1.48 V	300	95.75	-7.78
7	4844.00	50.1 PK	74.0	-23.9	1.00 V	330	52.03	-1.91
8	4844.00	39.0 AV	54.0	-15.0	1.00 V	330	40.94	-1.91

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(dB)
3. The other emission levels were very low 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	93.2 PK			1.92 H	140	100.95	-7.73
2	*2437.00	83.1 AV			1.92 H	140	90.85	-7.73
3	4874.00	51.4 PK	74.0	-22.6	1.00 H	335	53.18	-1.81
4	4874.00	40.1 AV	54.0	-13.9	1.00 H	335	41.93	-1.81
5	7311.00	54.4 PK	74.0	-19.6	1.00 H	290	51.61	2.75
6	7311.00	43.5 AV	54.0	-10.5	1.00 H	290	40.72	2.75
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	*2437.00	99.0 PK			1.40 V	270	106.71	-7.73
2	*2437.00	88.5 AV			1.40 V	270	96.19	-7.73
3	4874.00	50.4 PK	74.0	-23.6	1.00 V	328	52.24	-1.81
4	4874.00	40.2 AV	54.0	-13.8	1.00 V	328	41.98	-1.81
5	7311.00	54.2 PK	74.0	-19.8	1.00 V	48	51.42	2.75
6	7311.00	43.5 AV	54.0	-10.5	1.00 V	48	40.77	2.75

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	*2452.00	94.3 PK			1.35 H	240	101.97	-7.69
2	*2452.00	82.5 AV			1.35 H	240	90.14	-7.69
3	2483.50	68.4 PK	74.0	-5.6	1.35 H	240	76	-7.60
4	2483.50	51.2 AV	54.0	-2.8	1.35 H	240	58.8	-7.60
5	4904.00	41.0 PK	74.0	-33.1	1.00 H	130	42.66	-1.71
6	4904.00	40.1 AV	54.0	-13.9	1.00 H	130	41.79	-1.71
7	7356.00	54.6 PK	74.0	-19.4	1.00 H	291	51.78	2.81
8	7356.00	43.6 AV	54.0	-10.4	1.00 H	291	40.80	2.81
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	*2452.00	98.2 PK			1.45 V	270	105.92	-7.69
2	*2452.00	88.0 AV			1.45 V	270	95.73	-7.69
3	2483.50	69.5 PK	74.0	-4.5	1.00 V	270	77.07	-7.60
4	2483.50	52.7 AV	54.0	-1.4	1.00 V	270	60.25	-7.60
5	4904.00	51.4 PK	74.0	-22.7	1.00 V	326	53.06	-1.71
6	4904.00	40.2 AV	54.0	-13.8	1.00 V	326	41.92	-1.71
7	7356.00	53.3 PK	74.0	-20.7	1.00 V	45	50.52	2.81
8	7356.00	43.6 AV	54.0	-10.4	1.00 V	45	40.78	2.81

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

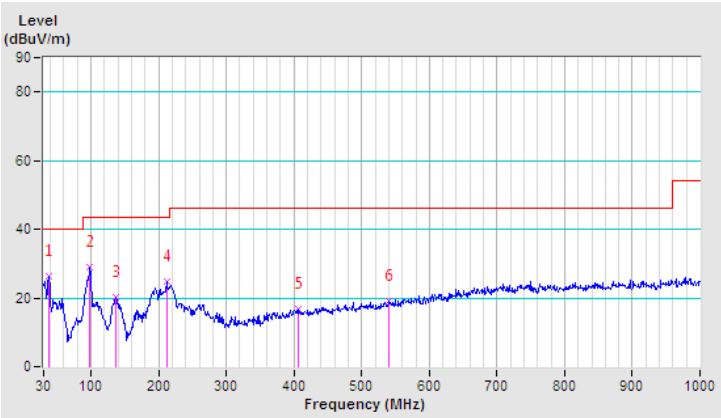
BT-LE (GFSK)

CHANNEL	TX Channel 39	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	36.79	26.2 QP	40.0	-13.9	1.00 H	0	48.97	-22.82
2	97.90	29.1 QP	43.5	-14.4	1.00 H	0	55.86	-26.79
3	136.70	20.2 QP	43.5	-23.3	1.00 H	0	46.49	-26.32
4	211.39	24.8 QP	43.5	-18.8	1.00 H	0	47.97	-23.22
5	405.39	16.8 QP	46.0	-29.2	1.00 H	0	32.75	-15.98
6	540.22	18.9 QP	46.0	-27.1	1.00 H	0	32.91	-13.97

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

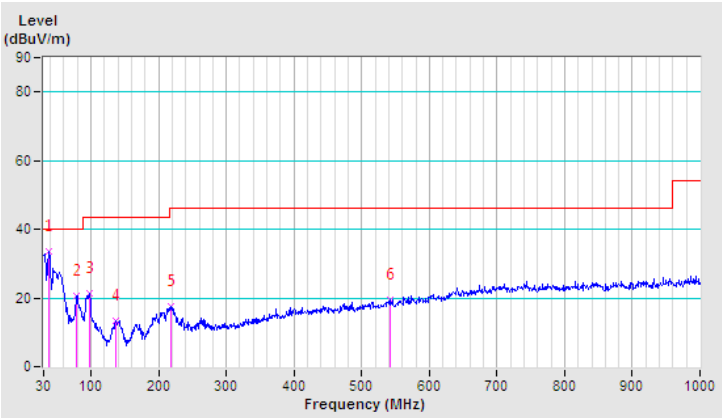


CHANNEL	TX Channel 39	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	37.76	33.4 QP	40.0	-6.6	1.00 V	0	56.87	-23.47
2	78.50	20.4 QP	40.0	-19.6	1.00 V	0	48.50	-28.07
3	97.90	21.5 QP	43.5	-22.0	1.00 V	0	48.25	-26.79
4	135.73	13.3 QP	43.5	-30.2	1.00 V	0	39.71	-26.37
5	217.21	17.6 QP	46.0	-28.5	1.00 V	0	40.47	-22.92
6	541.19	19.3 QP	46.0	-26.7	1.00 V	0	33.23	-13.95

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(dB)
3. The other emission levels were very low against the limit.
4. 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	2390.00	45.5 PK	74.0	-28.5	1.53 H	15	53.38	-7.87
2	2390.00	33.7 AV	54.0	-20.4	1.53 H	15	41.52	-7.87
3	#2400.00	59.8 PK	78.8	-19.0	1.53 H	15	67.65	-7.84
4	#2400.00	41.2 AV	73.9	-32.7	1.53 H	15	49.08	-7.84
5	*2402.00	98.8 PK			1.53 H	15	106.64	-7.84
6	*2402.00	93.9 AV			1.53 H	15	101.69	-7.84
7	4804.00	54.3 PK	74.0	-19.7	1.00 H	23	56.32	-2.04
8	4804.00	43.0 AV	54.0	-11.0	1.00 H	23	45.03	-2.04
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	2390.00	68.5 PK	74.0	-5.5	1.00 V	325	76.38	-7.87
2	2390.00	39.6 AV	54.0	-14.5	1.00 V	325	47.42	-7.87
3	#2400.00	64.6 PK	83.0	-18.4	1.00 V	325	72.42	-7.84
4	#2400.00	46.4 AV	78.5	-32.1	1.00 V	325	54.19	-7.84
5	*2402.00	103.0 PK			1.00 V	325	110.84	-7.84
6	*2402.00	98.5 AV			1.00 V	325	106.37	-7.84
7	4804.00	54.9 PK	74.0	-19.1	1.00 V	304	56.90	-2.04
8	4804.00	43.8 AV	54.0	-10.2	1.00 V	304	45.86	-2.04

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(dB)
3. The other emission levels were very low 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2440.00	99.8 PK			1.53 H	14	107.56	-7.73
2	*2440.00	95.0 AV			1.53 H	14	102.69	-7.73
3	4880.00	55.5 PK	74.0	-18.5	1.00 H	144	57.29	-1.78
4	4880.00	43.1 AV	54.0	-10.9	1.00 H	144	44.90	-1.78
5	7320.00	55.9 PK	74.0	-18.1	1.00 H	124	53.12	2.76
6	7320.00	43.9 AV	54.0	-10.1	1.00 H	124	41.12	2.76
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	*2440.00	106.1 PK			1.00 V	325	113.78	-7.73
2	*2440.00	101.1 AV			1.00 V	325	108.85	-7.73
3	4880.00	55.0 PK	74.0	-19.0	1.00 V	304	56.76	-1.78
4	4880.00	43.7 AV	54.0	-10.3	1.00 V	304	45.48	-1.78
5	7320.00	55.8 PK	74.0	-18.2	1.00 V	301	53.08	2.76
6	7320.00	43.9 AV	54.0	-10.2	1.00 V	301	41.09	2.76

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	*2480.00	99.5 PK			1.20 H	15	107.07	-7.61
2	*2480.00	94.4 AV			1.20 H	15	102.01	-7.61
3	2483.50	45.6 PK	74.0	-28.4	1.20 H	15	53.16	-7.60
4	2483.50	34.5 AV	54.0	-19.5	1.20 H	15	42.13	-7.60
5	4960.00	54.5 PK	74.0	-19.5	1.00 H	144	56.03	-1.52
6	4960.00	42.8 AV	54.0	-11.2	1.00 H	144	44.36	-1.52
7	7440.00	54.4 PK	74.0	-19.7	1.00 H	301	51.39	2.96
8	7440.00	44.7 AV	54.0	-9.3	1.00 H	301	41.77	2.96
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	*2480.00	103.9 PK			1.00 V	325	111.54	-7.61
2	*2480.00	98.9 AV			1.00 V	325	106.53	-7.61
3	2483.50	50.8 PK	74.0	-23.2	1.00 V	325	58.38	-7.60
4	2483.50	35.7 AV	54.0	-18.3	1.00 V	325	43.27	-7.60
5	4960.00	55.0 PK	74.0	-19.0	1.00 V	308	56.48	-1.52
6	4960.00	44.4 AV	54.0	-9.6	1.00 V	308	45.88	-1.52
7	7440.00	56.1 PK	74.0	-17.9	1.00 V	125	53.13	2.96
8	7440.00	45.7 AV	54.0	-8.3	1.00 V	125	42.77	2.96

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(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

4.3 6 dB 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.
Spectrum Analyzer (10Hz–40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 05,16	Apr. 04,17
Power Meter	Anritsu	ML2495A	1139001	Feb.19,16	Feb. 18,17
Power Sensor	Anritsu	MA2411B	1126068	Feb.19,16	Feb. 18,17
Power Sensor	Keysight	U2021XA	MY55060016	May 27,15	May 26,17
Power Sensor	Keysight	U2021XA	MY55060018	May 27,15	May 26,17
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16

NOTE:

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

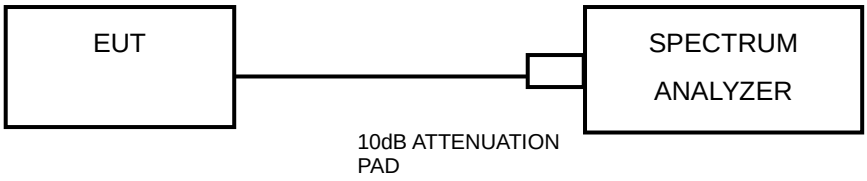
4.3.3 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. 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.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



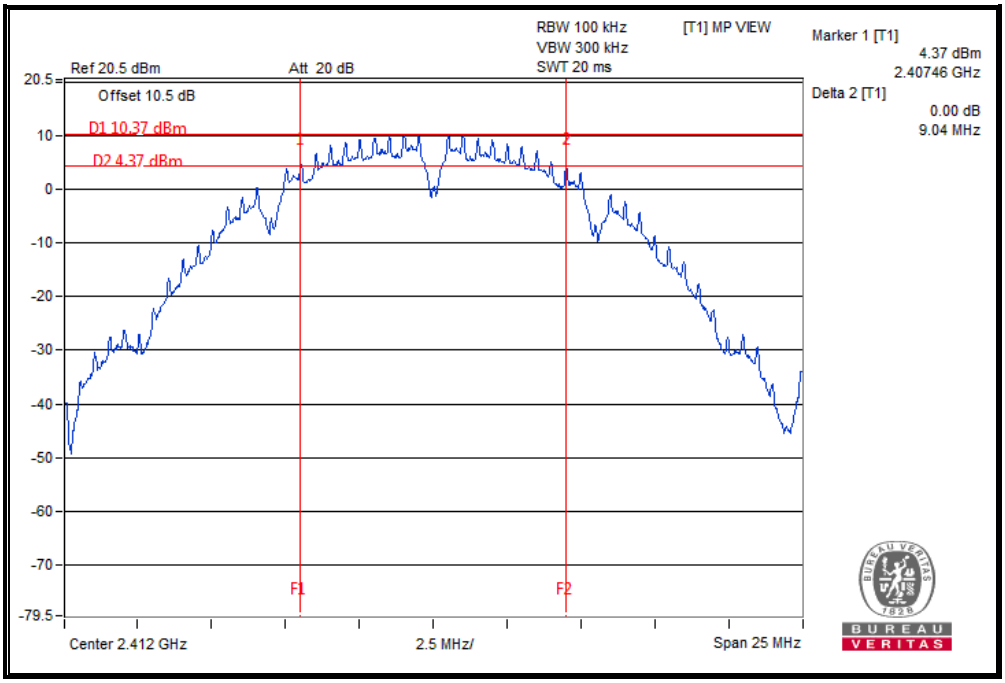
4.3.6 EUT OPERATING CONDITIONS

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

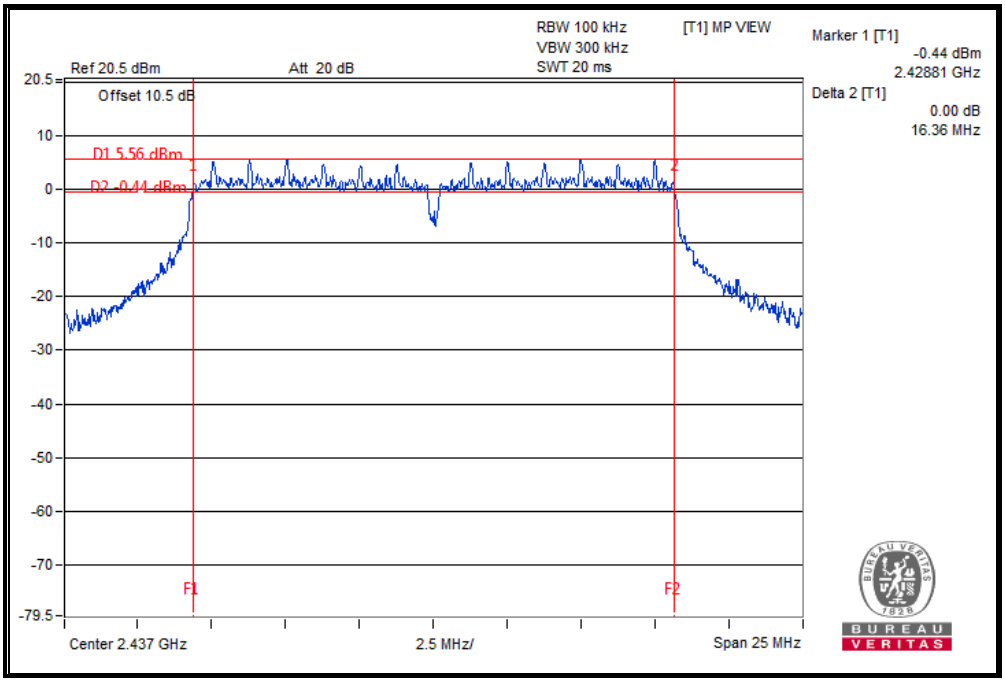
802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	9.04	0.5	PASS
6	2437	9.02	0.5	PASS
11	2462	9.04	0.5	PASS



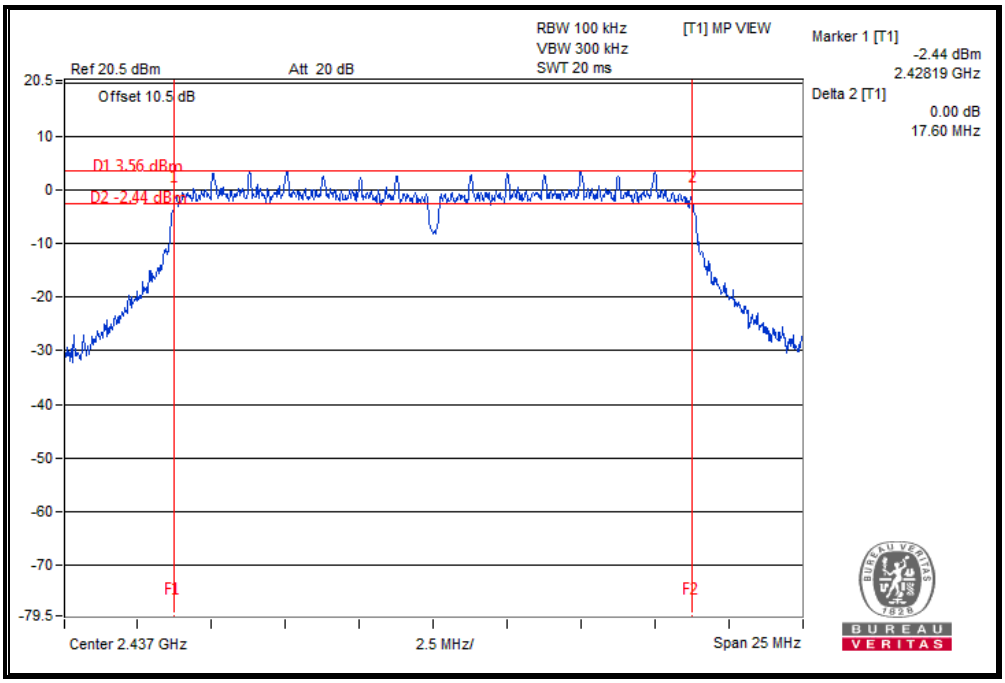
802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.35	0.5	PASS
6	2437	16.36	0.5	PASS
11	2462	16.35	0.5	PASS



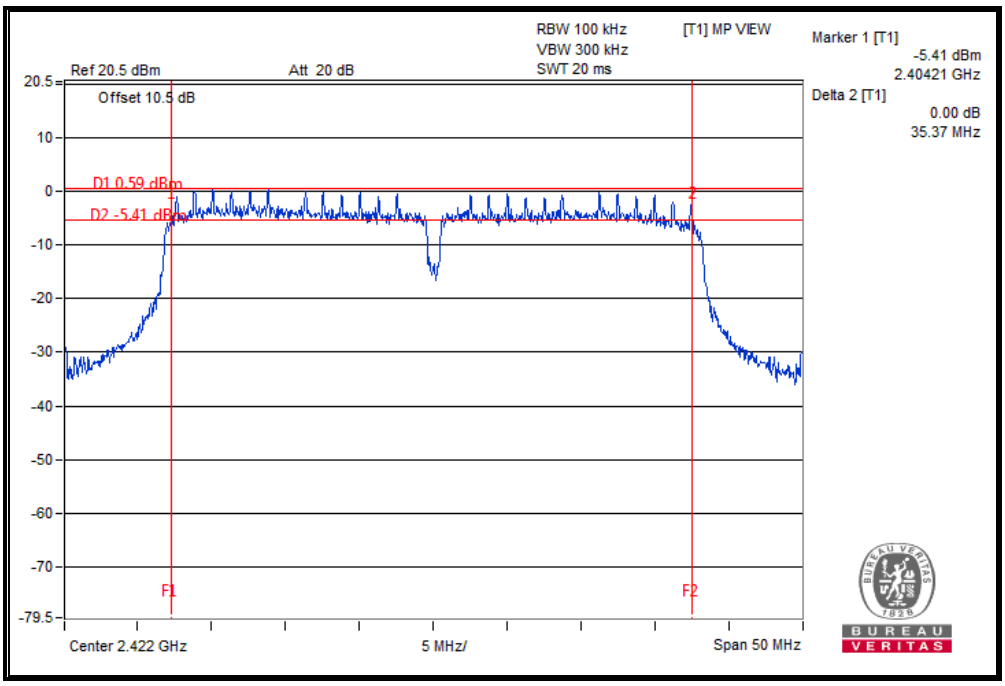
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.56	0.5	PASS
6	2437	17.60	0.5	PASS
11	2462	17.57	0.5	PASS



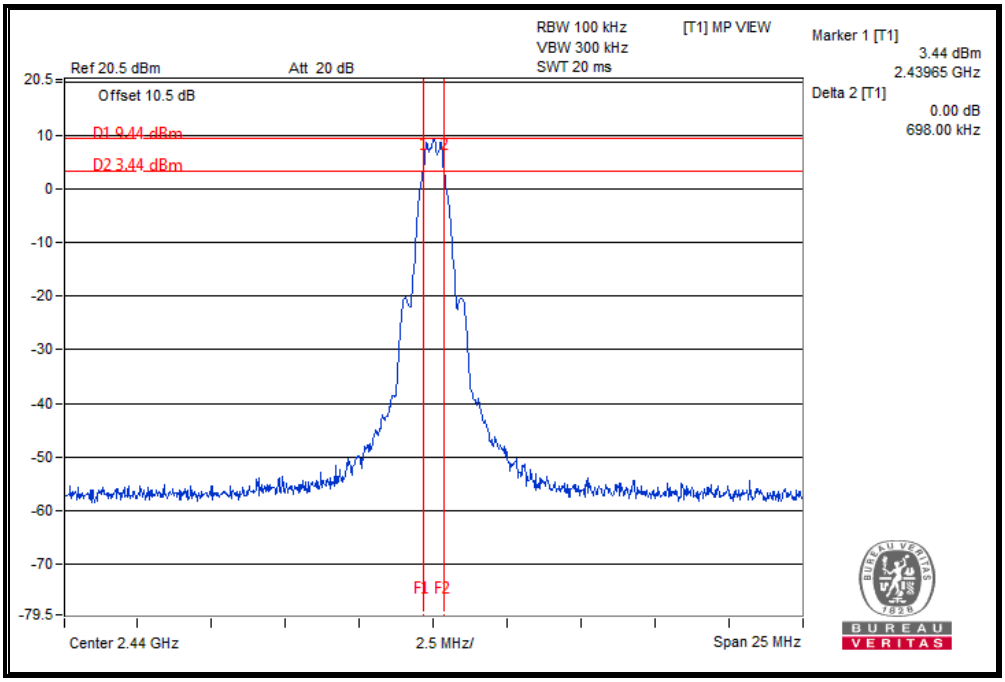
802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.37	0.5	PASS
6	2437	35.36	0.5	PASS
9	2452	35.15	0.5	PASS



BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	0.70	0.5	PASS
19	2440	0.70	0.5	PASS
39	2480	0.70	0.5	PASS

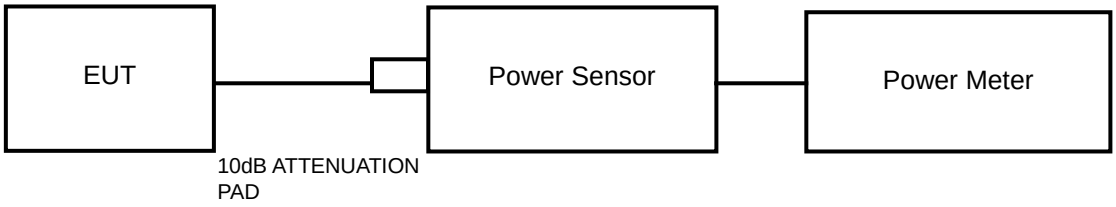


4.4 CONDUCTED OUTPUT POWER

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

Refer to section 4.3.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

A 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.

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

4.4.7.1 MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	20.06	101.391	1	PASS
6	2437	20.32	107.647	1	PASS
11	2462	19.78	95.060	1	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	20.81	120.504	1	PASS
6	2437	20.96	124.738	1	PASS
11	2462	20.62	115.345	1	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	20.73	118.304	1	PASS
6	2437	21.12	**129.420**	1	PASS
11	2462	20.45	110.917	1	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
3	2422	20.51	112.460	1	PASS
6	2437	20.66	116.413	1	PASS
9	2452	20.31	107.399	1	PASS

BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
0	2402	7.49	5.610	1	PASS
19	2440	9.48	**8.872**	1	PASS
39	2480	7.58	5.728	1	PASS

4.4.7.2 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)	PASS/FAIL
1	2412	17.60	N/A
6	2437	17.84	N/A
11	2462	17.52	N/A

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	15.78	N/A
6	2437	16.13	N/A
11	2462	15.40	N/A

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	13.80	N/A
6	2437	14.12	N/A
11	2462	13.58	N/A

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
3	2422	13.54	N/A
6	2437	14.02	N/A
9	2452	13.20	N/A

BT-LE (GFSK)

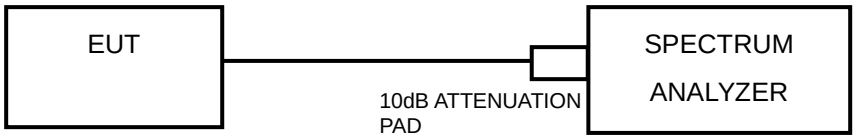
CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	7.14	N/A
19	2440	9.11	N/A
39	2480	7.22	N/A

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

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 3 kHz, VBW ≥ 3 x RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

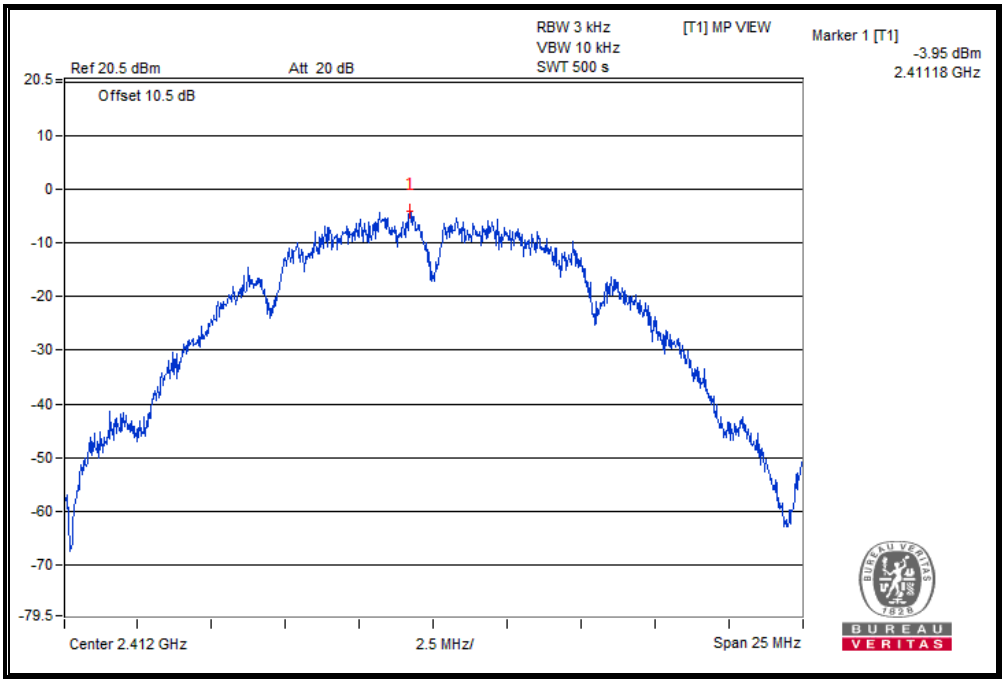
4.5.6 EUT OPERATING CONDITION

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

4.5.7 TEST RESULTS

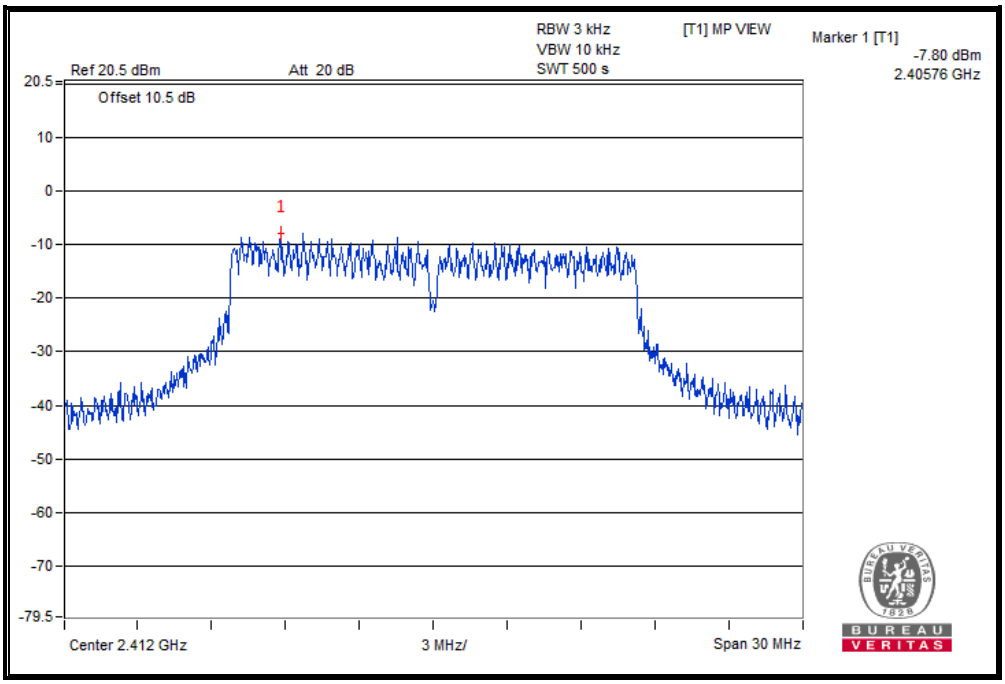
802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-3.95	8	PASS
6	2437	-4.82	8	PASS
11	2462	-4.19	8	PASS



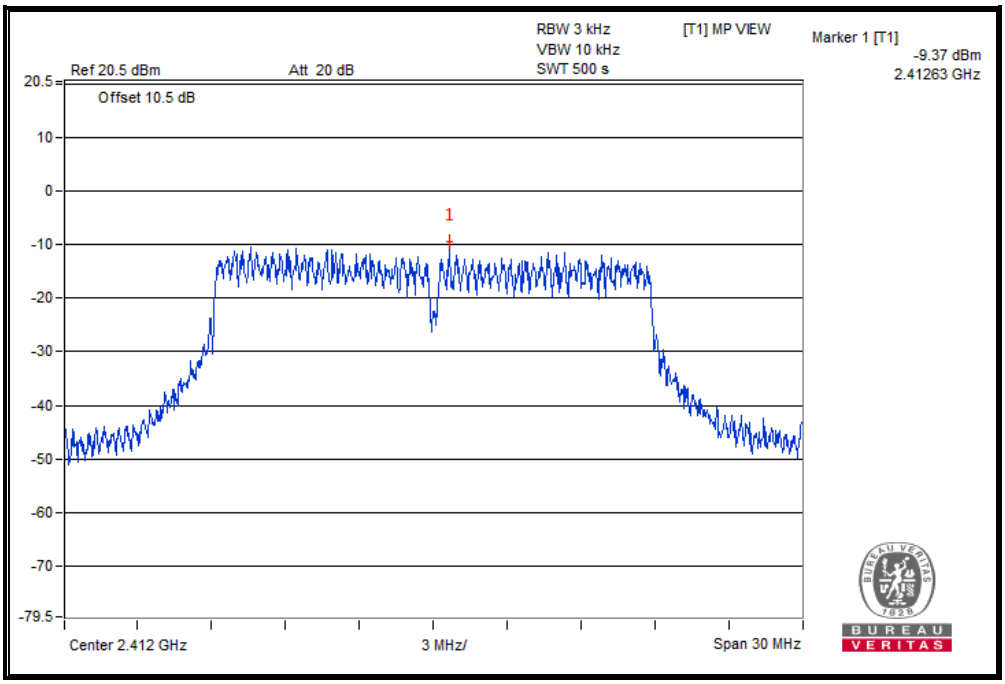
802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-7.80	8	PASS
6	2437	-8.26	8	PASS
11	2462	-9.24	8	PASS



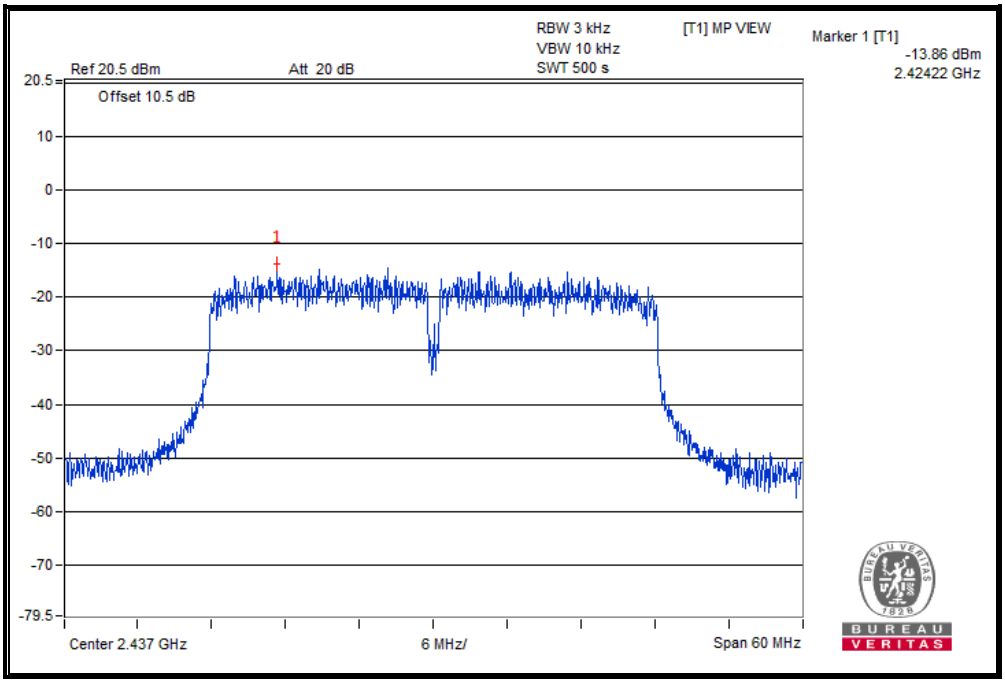
802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-9.37	8	PASS
6	2437	-9.61	8	PASS
11	2462	-10.72	8	PASS



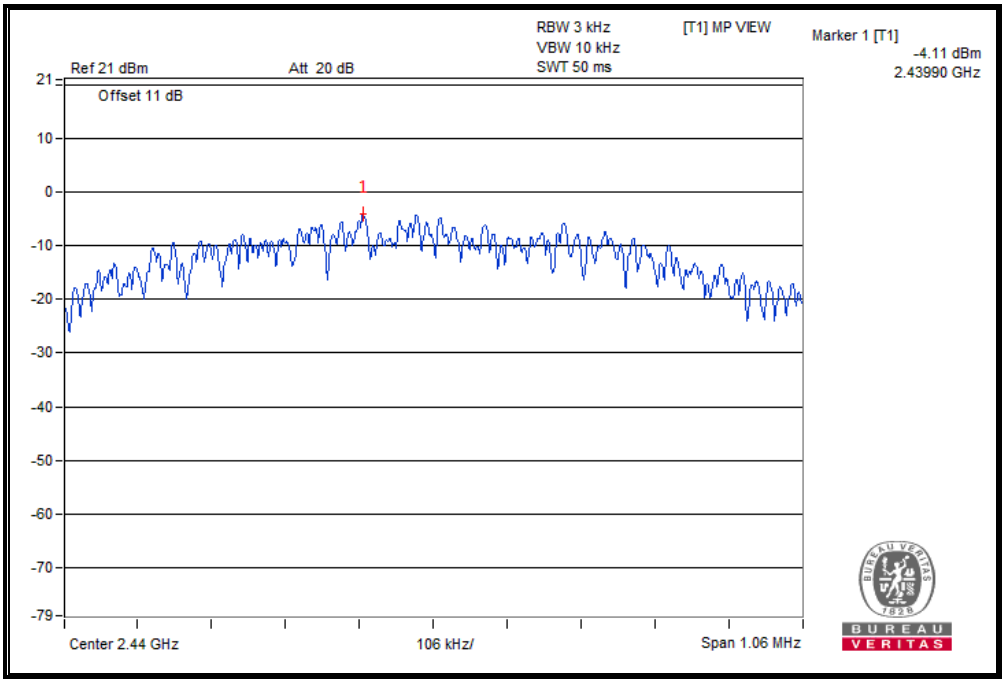
802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-14.40	8	PASS
6	2437	-13.86	8	PASS
9	2452	-14.51	8	PASS



BT-LE (GFSK)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-5.34	8	PASS
19	2440	-4.11	8	PASS
39	2480	-5.66	8	PASS

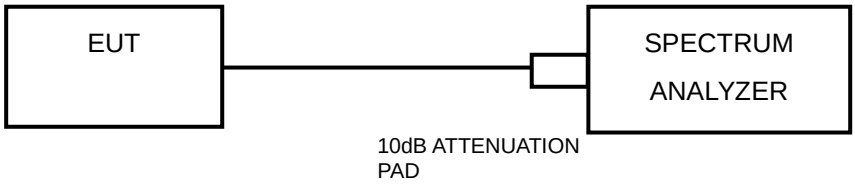


4.6 OUT OF BAND EMISSION MEASUREMENT

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 REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 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 OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 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

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

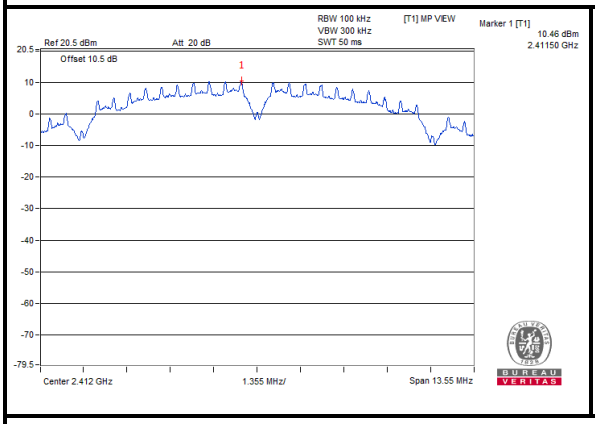
4.6.7 TEST RESULTS

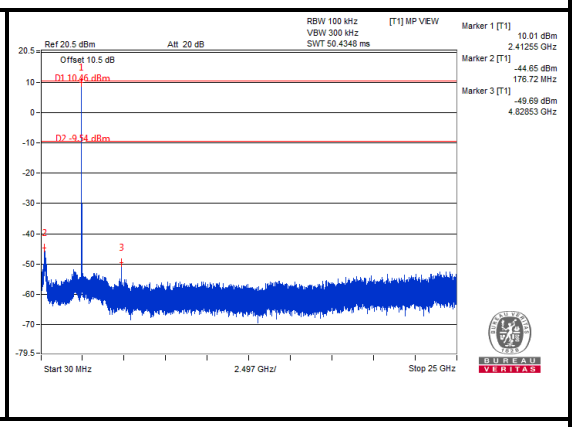
The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

4.6.8 TEST RESULTS

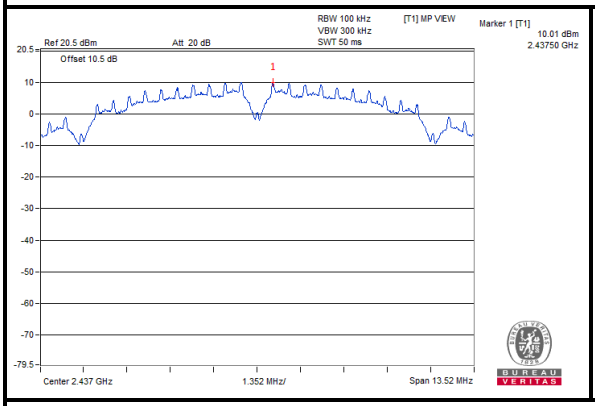
802.11b

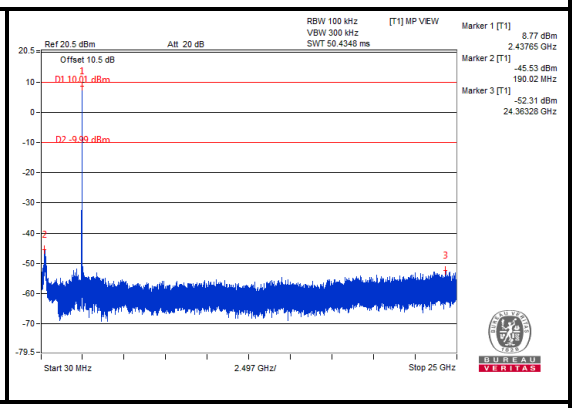
CH 1



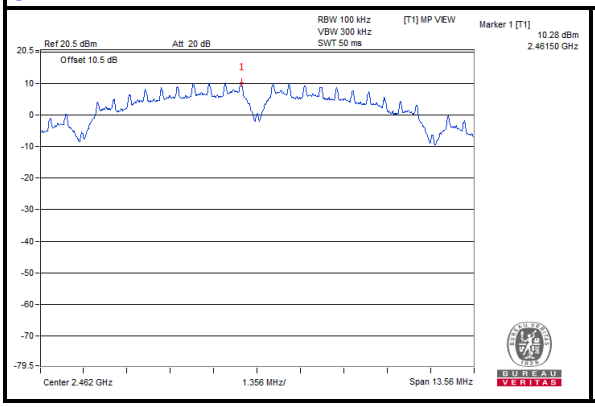


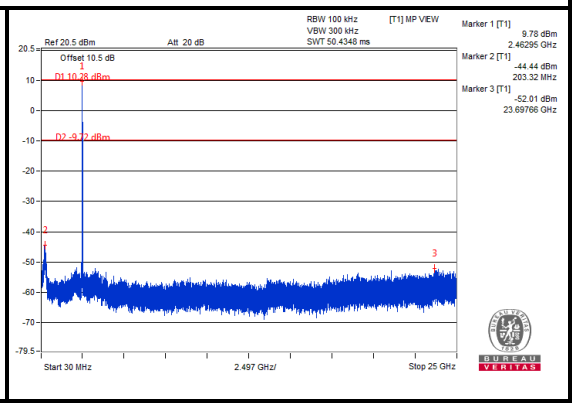
CH 6





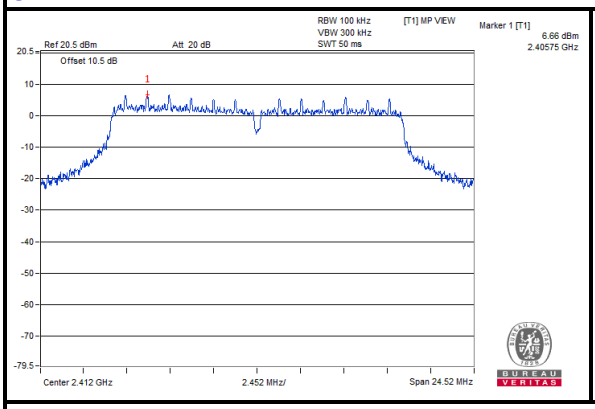
CH 11

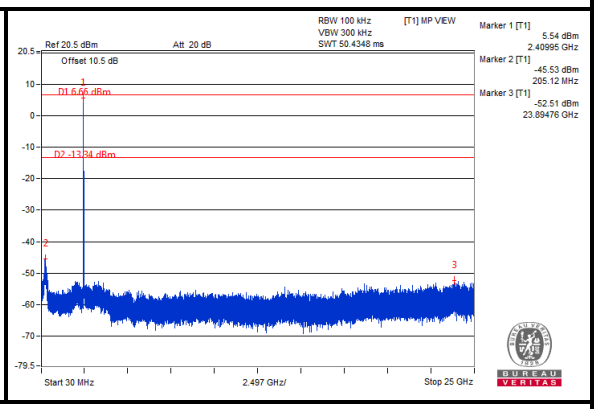




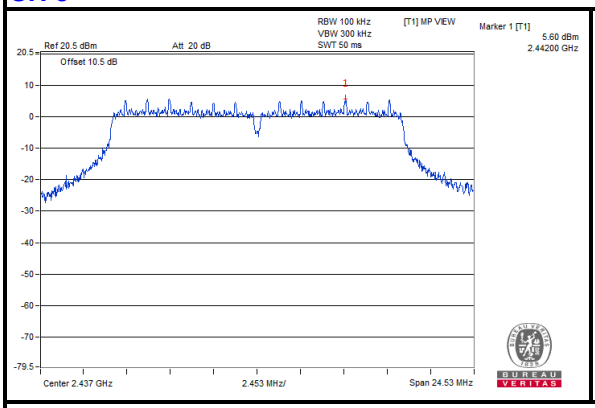
802.11g

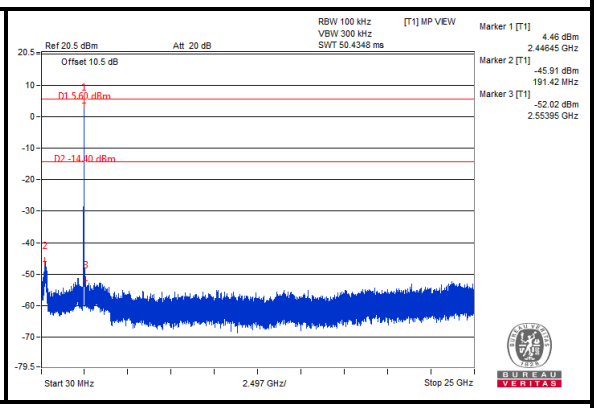
CH 1



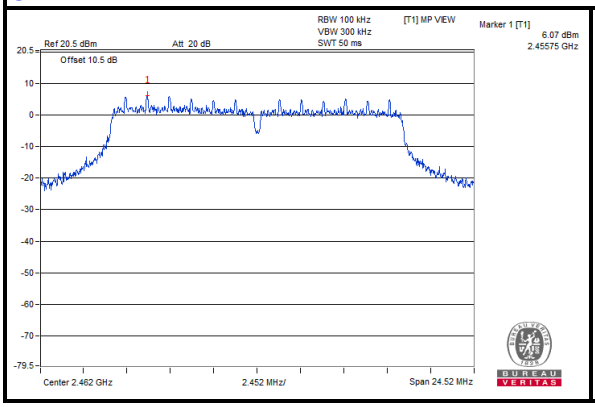


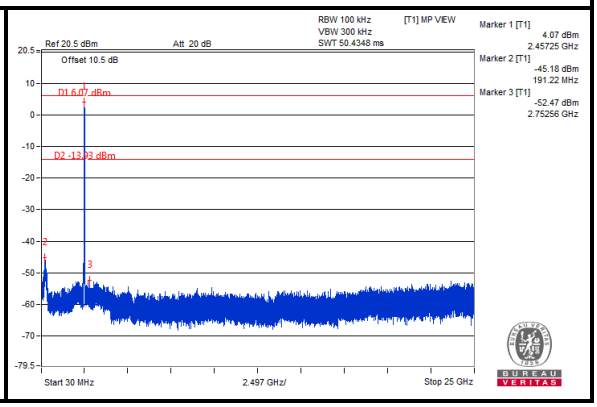
CH 6





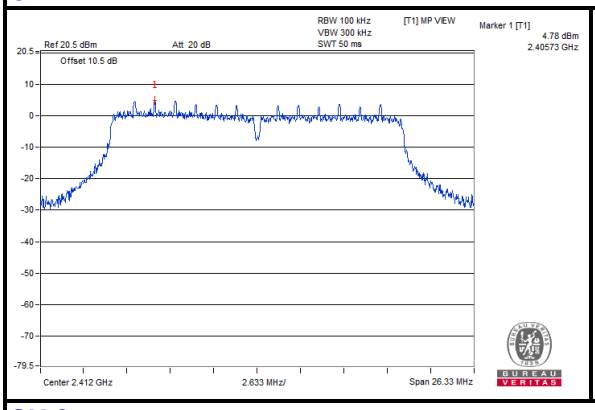
CH 11

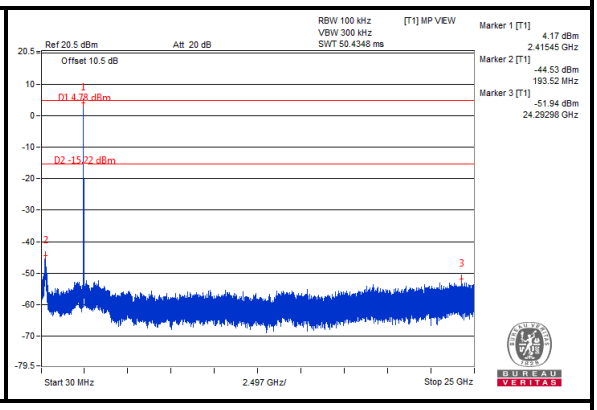




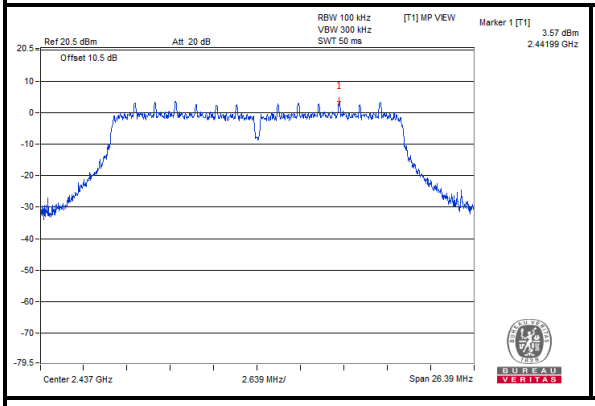
802.11n (20MHz)

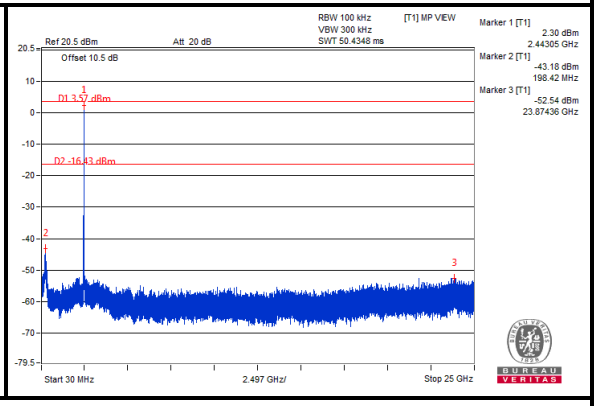
CH 1



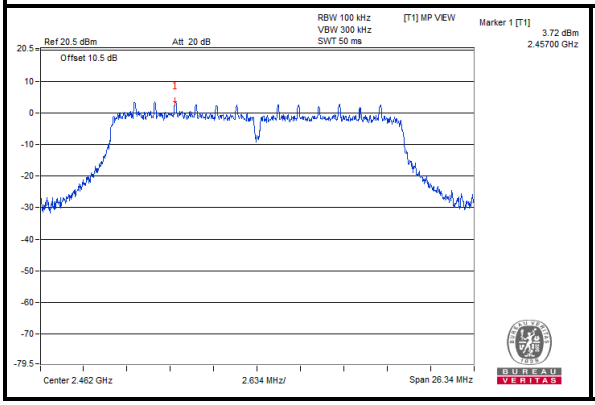


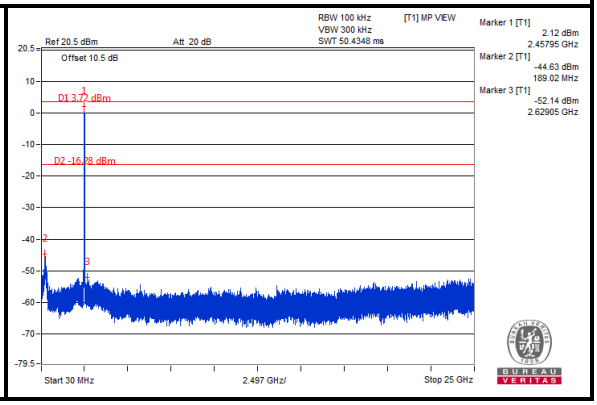
CH 6





CH 11





802.11n (40MHz)

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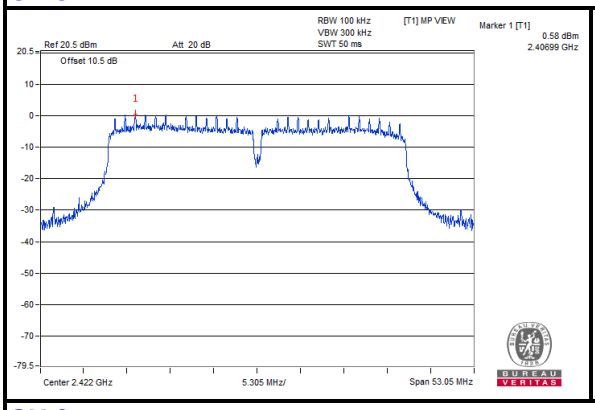

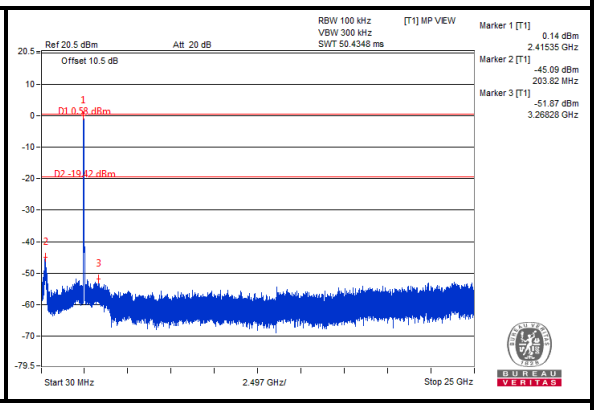

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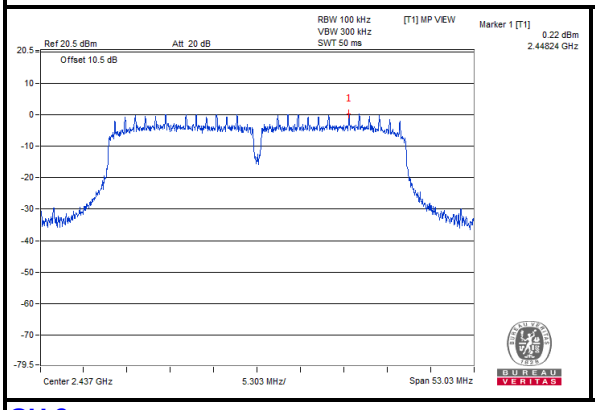

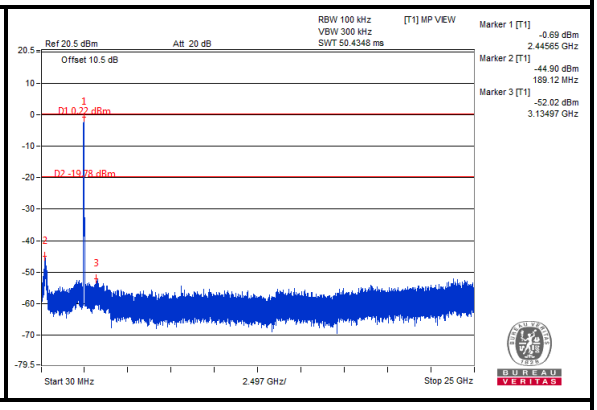

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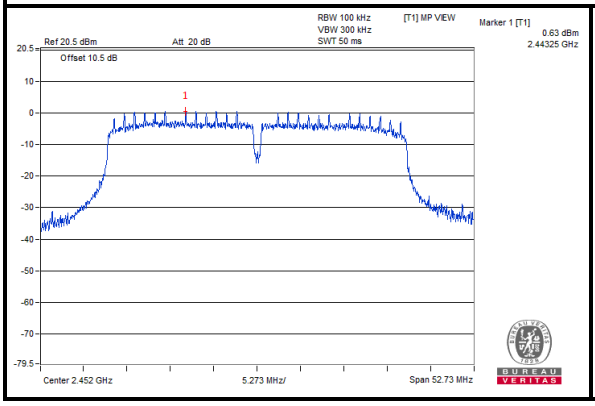
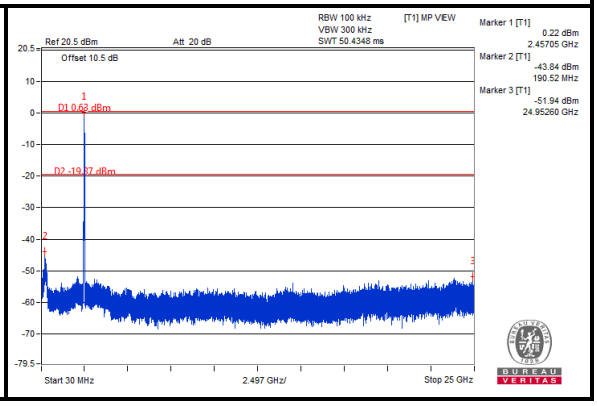
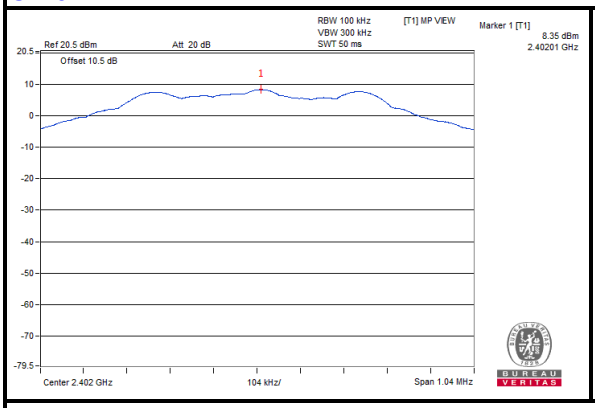
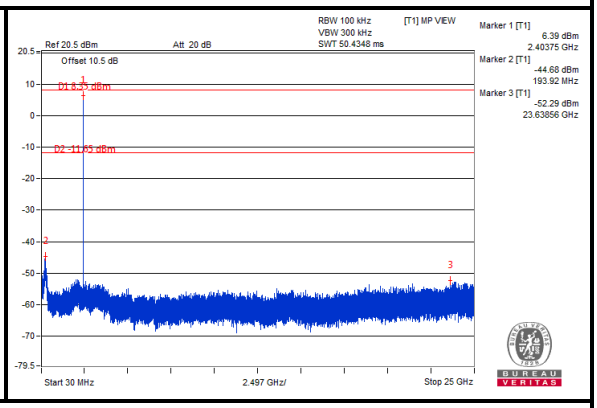




BT-LE (GFSK)

CH 0





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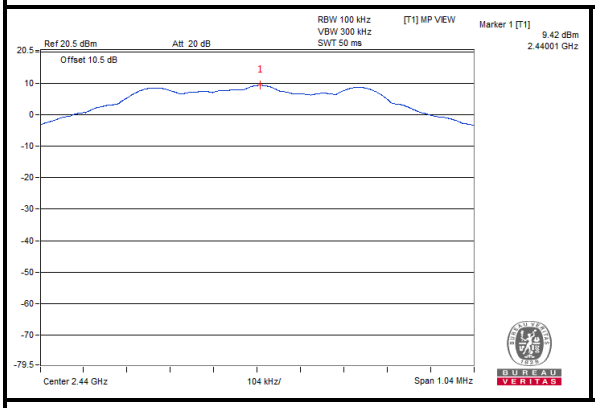
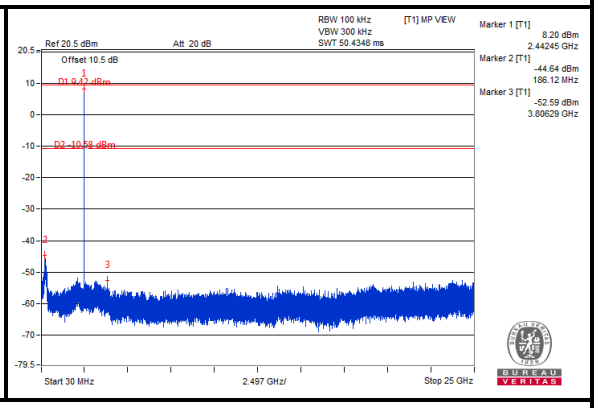
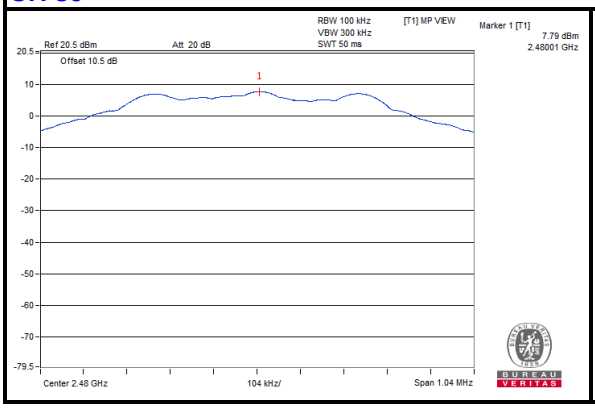
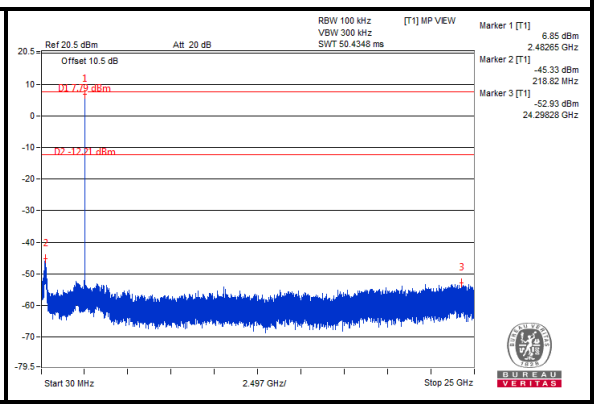




CH 39





5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---