VARIANT FCC TEST REPORT

(Part 15, Subpart C)

Applicant:	Lenovo (Shanghai) Electronics Technology Co., Ltd.
Address:	Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

Manufacturer or Supplier:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong, China
Product:	Portable Tablet Computer
Brand Name:	Lenovo
Model Name:	TB132FU
FCC ID:	O57TB132FU
Date of tests:	Mar. 21, 2022 ~ May. 24, 2022

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

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

☒ **ANSI C63.10-2013**

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Simon Date: May. 24, 2022	Luke Lu Date: May. 24, 2022

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P22030011RF02	Original release	Apr. 06, 2022
W7L-P22030011-1RF02	Based on the original report W7L-P22030011RF02 add to 2nd the antenna, Verify the RSE worst case.	May. 24, 2022

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**
15.207	AC Power Conducted Emission	Compliance
15.205 15.209	Radiated Emissions	Compliance
15.247(d)	Out of band Emission Measurement	Compliance
15.247(a)(2)	6dB bandwidth	Compliance
15.247(b)	Conducted Output power	Compliance
15.247(e)	Power Spectral Density	Compliance
15.203	Antenna Requirement	Compliance

Note：1.Except RSE，other data please refer to Appendix 1 (for WIFI-2.4G) and Appendix 2 (for BLE)

2. WLAN(normal mode& RU-OFDMA)2.4G supports SISO&MIMO mode，the whole testing have assessed the MIMO mode by referring to their maximum conducted power

3.For 11n HT20/ ax HE20 and HT40 /ax HE40 mode ,the whole testing have assessed only 11n HT20/HT40 by referring to their maximum conducted power.

4. Only the worse data were report

1.1 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	UNCERTAINTY
AC Power Conducted emissions	±2.70dB
Radiated emissions (30MHz~1GMHz)	±4.98dB
Radiated emissions (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Power Spectral Density	±0.85 dB

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

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Portable Tablet Computer	
BRAND NAME	Lenovo	
MODEL NAME	TB132FU	
NOMINAL VOLTAGE	3.87Vdc (Li-ion, battery) 10Vdc (adapter)	
MODULATION	DSSS, OFDM, GFSK	
TRANSMISSION RATE	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps 802.11ax: up to 573.5Mbps BT_LE: 0.125 Mbps /0.5 Mbps /1 Mbps/2 Mbps	
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/40) /ax(HE20/40) 2402-2480MHz for BT-LE(GFSK)	
MAX. OUTPUT POWER	WLAN: 787.05mW (Maximum) BT-LE: 2.89mW (Maximum)	
ANTENNA TYPE	2.4G WIFI	ANT0: PIFA Antenna with 1.0dBi gain ANT1: PIFA Antenna with -2.0dBi gain
	BT_LE	Ant 0: PIFA Antenna with 1.0dBi gain
HW VERSION	Lenovo Tablet TB132FU	
SW VERSION	Lenovo TB132FU_RF01_220315	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable 1: non-shielded cable, with w/o ferrite core, 1.5 meter USB cable 2: non-shielded cable, with w/o ferrite core, 1.5 mete	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. The EUT incorporates a MIMO function. Physically, the EUT provides two transmitter and two receiver.

MODULATION MODE	TX/RX FUNCTION
802.11b	2TX /2RX
802.11g	2TX /2RX
802.11n (20MHz)	2TX /2RX
802.11ax (20MHz)	2TX /2RX
802.11n (40MHz)	2TX /2RX
802.11ax (40MHz)	2TX /2RX
BT_LE(1MHz)	1TX /1RX
BT_LE(2MHz)	1TX /1RX
BT_LE(S2)	1TX /1RX
BT_LE(S8)	1TX /1RX

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

List of Accessory:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
AC Adapter 1	Chengyang	MC-201	I/P: 100-240Vac, 0.7A, O/P: 10.0Vdc, 2.0A
AC Adapter 2	Acbel	MC-201	I/P: 100-240Vac, 0.7A, O/P: 10.0Vdc, 2.0A
USB Cable 1	Jieye	JY-C03-408	Signal Line, 1.5meter
USB Cable 2	Saibao	SLQ-A195A	Signal Line, 1.5meter
Keyboard	Lenovo	KB686U	/
Stylus Pen	Lenovo	Lenovo BTP-131	/
Battery 1	Lenovo/SCUD	L22D2P31	3.87VDC,8200 mAh
Battery 2	Lenovo/Sunwoda	L22D2P31	3.87VDC,8200 mAh
Type C audio line	Saibao	SLQ-A197A	0.1m

NOTE：

BLE&WIFI test in the engineer mode,power setting at " MAXIMUM CONDUCTED OUTPUT POWER", the steps for entering engineering mode are as follows:

1. In the finger plate, dial the code for entering Engineer mode: *#*#3646633#*#*
2. EngineerMode->CONNECTIVITY->Wifi->Tx or->BT->LE TX

2.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20), 802.11ax20 (HE20):

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), 802.11ax40 (HE40):

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

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

2.2.1 CONFIGURATION OF SYSTEM UNDER TEST

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

2.2.2 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 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	DATA RATE (Mbps)
802.11n HT40	3 to 9	9	OFDM	MCS0
BT-LE	0 to 39	19	GFSK	1.0

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 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	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11n HT40	3 to 9	9	OFDM	MCS0

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	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

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	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC10V By Adapter	Carl Xie
RE≥1G	23deg. C, 70%RH	DC10V By Adapter	Carl Xie
PLC	25deg. C, 52%RH	DC10V By Adapter	Lily Zhao
APCM	25deg. C, 60%RH	DC 3.87V By Battery	Lily Zhao

2.3 Duty Cycle of Test Signal

Please Refer to Appendix1/2 Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT0+1
WIFI 2.4GHz	11B	100.00
	11G	100.00
	11N20	100.00
	11N40	100.00
BT LE	BT4.0	84.80
	BT5.0	56.38
	BTS2	90.80
	BTS8	97.20

Note:
Duty cycle of test signal is < 98%, duty factor shall be considered.

2.4 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 DTS Meas Guidance v05r02

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 (Certification). The test report has been issued separately.

2.5 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	Desktop	Lenovo	M73 SFF	PC04GRQV	N/A
2	Desktop	Lenovo	M73 SFF	PC06CS27	N/A
3	Laptop	Lenovo	Thnikpad T450	PC-049PT1	N/A

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

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 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.

3.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Feb. 15,22	Feb. 14,23
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Mar. 04,22	Mar. 03,23

NOTE:

1. The test was performed in CE shielded 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.

3.1.3 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.

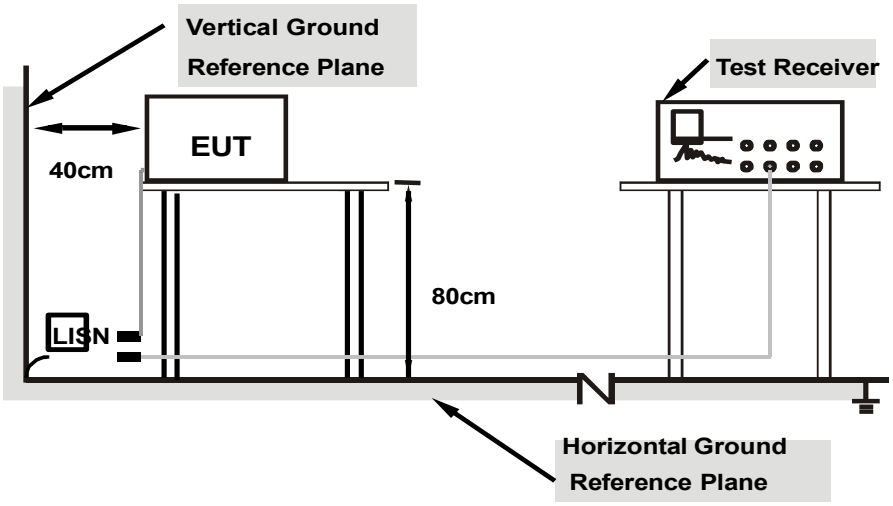
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.

3.1.5 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).

3.1.6 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.

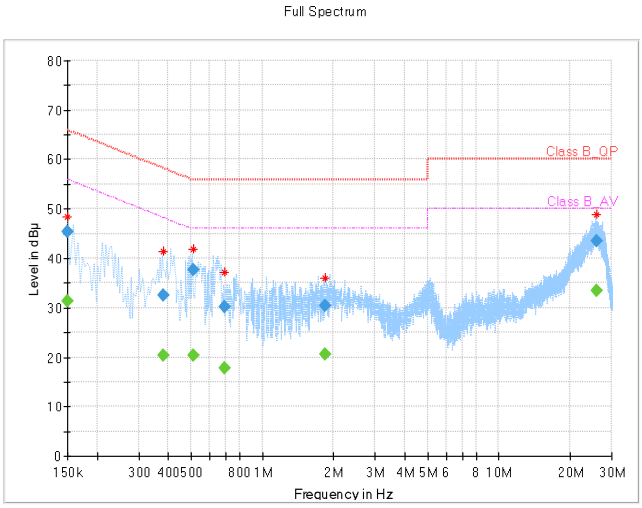
3.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25deg. C, 55%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	31.38	56.00	24.62	L1	ON	9.7
0.150000	45.48	---	66.00	20.52	L1	ON	9.7
0.380000	---	20.37	48.28	27.91	L1	ON	9.7
0.380000	32.49	---	58.28	25.79	L1	ON	9.7
0.512000	---	20.45	46.00	25.55	L1	ON	9.7
0.512000	37.63	---	56.00	18.37	L1	ON	9.7
0.696000	---	17.79	46.00	28.21	L1	ON	9.7
0.696000	30.22	---	56.00	25.78	L1	ON	9.7
1.848000	---	20.66	46.00	25.34	L1	ON	9.7
1.848000	30.36	---	56.00	25.64	L1	ON	9.7
25.792000	---	33.41	50.00	16.59	L1	ON	9.8
25.792000	43.48	---	60.00	16.52	L1	ON	9.8

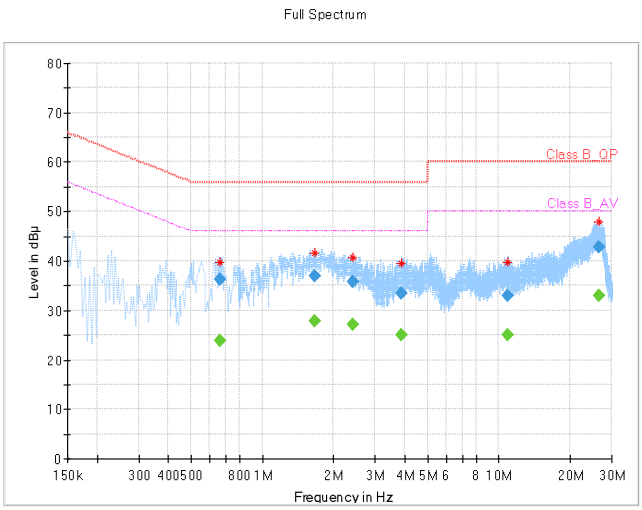
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Limit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



Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25deg. C, 55%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.660000	---	23.80	46.00	22.20	N	ON	9.7
0.660000	36.34	---	56.00	19.66	N	ON	9.7
1.668000	---	27.83	46.00	18.17	N	ON	9.8
1.668000	37.07	---	56.00	18.93	N	ON	9.8
2.404000	---	27.06	46.00	18.94	N	ON	9.8
2.404000	35.77	---	56.00	20.23	N	ON	9.8
3.888000	---	24.97	46.00	21.03	N	ON	9.8
3.888000	33.39	---	56.00	22.61	N	ON	9.8
10.928000	---	24.97	50.00	25.03	N	ON	9.8
10.928000	33.09	---	60.00	26.91	N	ON	9.8
26.524000	---	32.95	50.00	17.05	N	ON	9.9
26.524000	42.77	---	60.00	17.23	N	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 = Limit value -Emission level
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 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.

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Bilog Antenna	ETS-LINDGREN	3143B	00161964	Feb. 24,22	Feb. 23,23
Horn Antenna	ETS-LINDGREN	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 27,21	Apr. 26,22
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 26,22	Apr. 25,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 30,21	Apr. 29,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 29,22	Apr. 28,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 25,21	Aug. 24,22
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
Power Sensor	Anritsu	MA2411B	1339352	May. 07,21	May. 06,22
Power Sensor	Anritsu	MA2411B	1339352	May. 06,22	May. 05,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.05,21	Sep.04,22

NOTE: 1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Chamber.

3. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

3.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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:

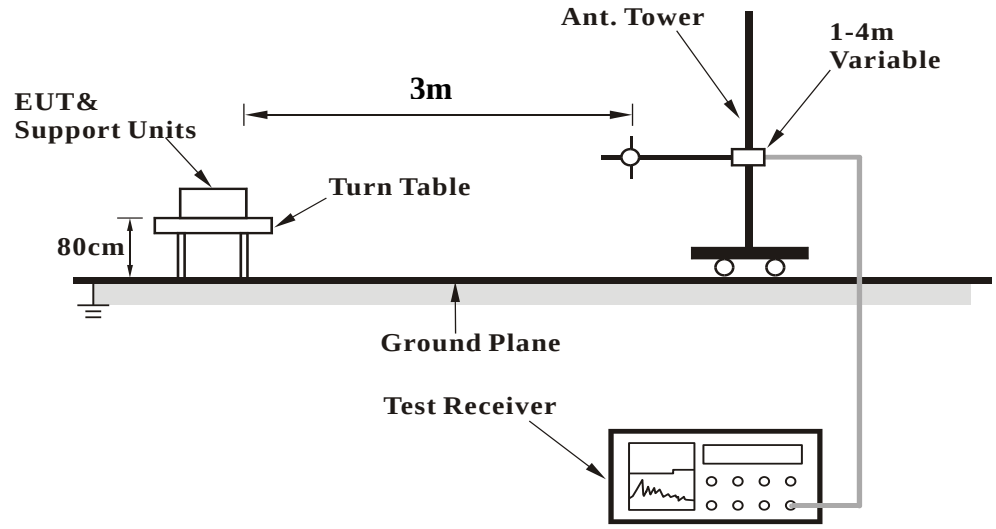
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

3.2.4 DEVIATION FROM TEST STANDARD

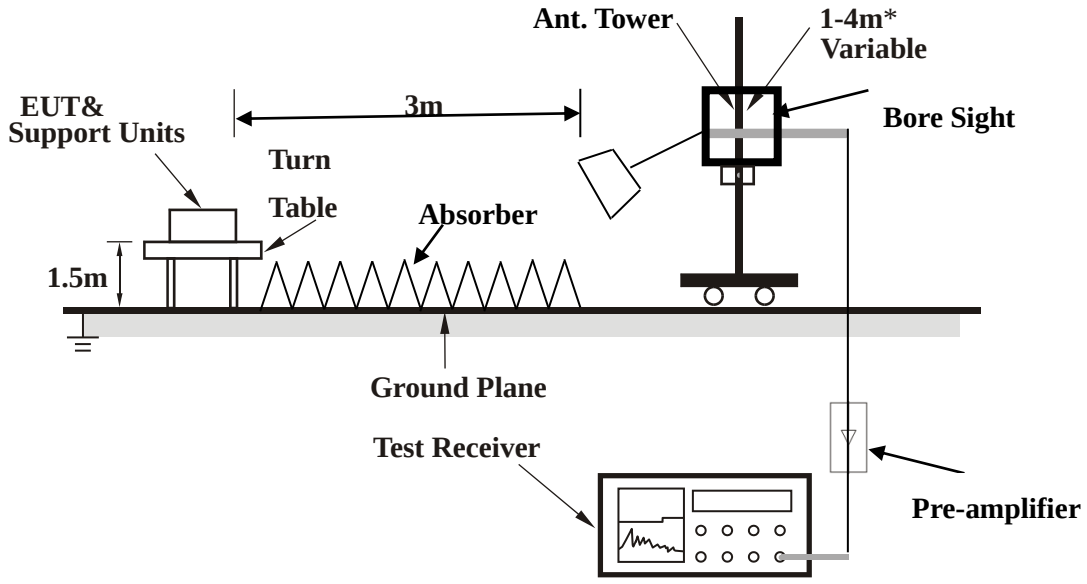
No deviation

3.2.5 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.2.6 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.

3.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

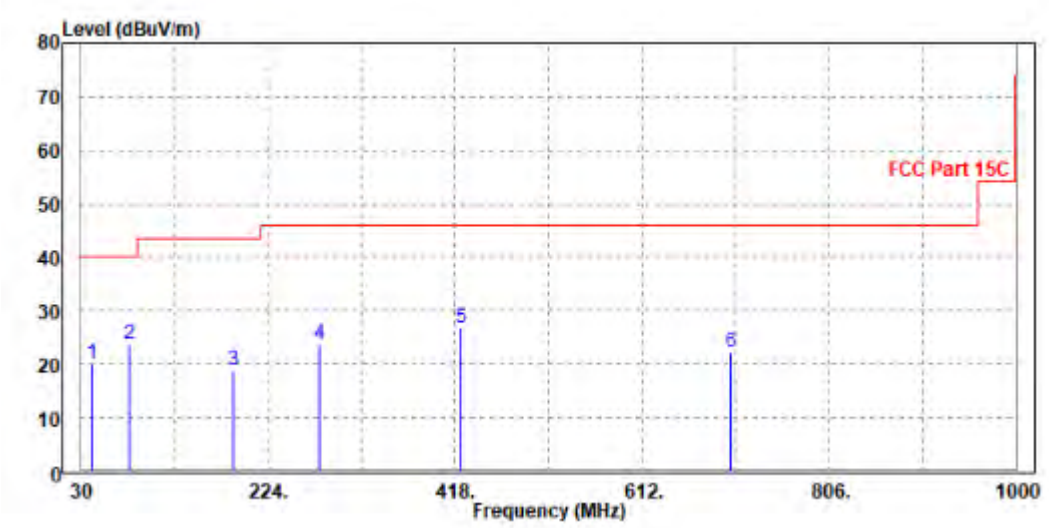
802.11n (40MHz)

CHANNEL	TX Channel 9	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
41.64	20.14	45.76	40	-19.86	12.25	0.37	38.24	200	360	QP
79.47	23.68	53.14	40	-16.32	7.7	0.49	37.65	200	360	QP
188.11	18.93	44.3	43.5	-24.57	11.36	0.72	37.45	200	360	QP
276.38	23.66	46.28	46	-22.34	13.76	0.87	37.25	200	360	QP
423.82	26.74	46.36	46	-19.26	16.65	1.11	37.38	200	360	QP
703.18	22.35	37.42	46	-23.65	21.63	1.48	38.18	200	360	QP

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.

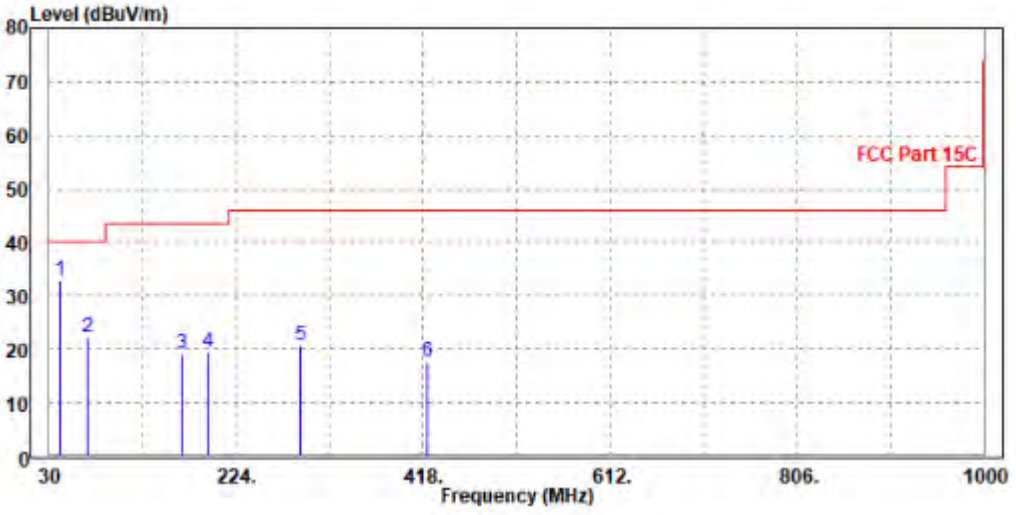


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
41.64	32.78	58.68	40	-7.22	11.97	0.37	38.24	200	0	QP
69.77	22.27	51.35	40	-17.73	8.11	0.47	37.66	200	0	QP
167.74	19.13	44.98	43.5	-24.37	11.02	0.69	37.56	200	0	QP
194.9	19.34	44.6	43.5	-24.16	11.42	0.73	37.41	200	0	QP
290.93	20.73	43.31	46	-25.27	13.75	0.9	37.23	200	0	QP
422.85	17.67	37.34	46	-28.33	16.6	1.11	37.38	200	0	QP

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.



ABOVE 1GHz WORST-CASE DATA:

Note: 1. For radiated emissions testing，the full testing range of different modes have been scanned，only the worst case harmonic data is reported in the sheet.

2. All other emissions were greater than 20dB below the limit was not recorded

802.11b:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.46	62.22	74	-20.54	31.75	5.86	46.37	190	215	Peak
2390	45	53.76	54	-9	31.75	5.86	46.37	190	215	Average
2412	108.1	116.76	/	/	31.82	5.89	46.37	190	215	Peak
2412	105.98	114.64	/	/	31.82	5.89	46.37	190	215	Average
2483.5	52.49	60.82	74	-21.51	32.05	5.99	46.37	190	215	Peak
2483.5	43.45	51.78	54	-10.55	32.05	5.99	46.37	190	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.78	60.15	74	-22.22	32.14	5.86	46.37	100	155	Peak
2390	43.71	52.08	54	-10.29	32.14	5.86	46.37	100	155	Average
2412	104.15	112.44	/	/	32.19	5.89	46.37	100	155	Peak
2412	101.8	110.09	/	/	32.19	5.89	46.37	100	155	Average
2483.5	52.64	60.66	74	-21.36	32.36	5.99	46.37	100	155	Peak
2483.5	43.62	51.64	54	-10.38	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.52	60.28	74	-22.48	31.75	5.86	46.37	100	215	Peak
2390	43.4	52.16	54	-10.6	31.75	5.86	46.37	100	215	Average
2437	107.53	116.07	/	/	31.9	5.93	46.37	100	215	Peak
2437	105.16	113.7	/	/	31.9	5.93	46.37	100	215	Average
2483.5	52.19	60.52	74	-21.81	32.05	5.99	46.37	100	215	Peak
2483.5	43.42	51.75	54	-10.58	32.05	5.99	46.37	100	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.42	59.79	74	-22.58	32.14	5.86	46.37	100	188	Peak
2390	43.59	51.96	54	-10.41	32.14	5.86	46.37	100	188	Average
2437	102.72	110.91	/	/	32.25	5.93	46.37	100	188	Peak
2437	100.5	108.69	/	/	32.25	5.93	46.37	100	188	Average
2483.5	52.33	60.35	74	-21.67	32.36	5.99	46.37	100	188	Peak
2483.5	43.69	51.71	54	-10.31	32.36	5.99	46.37	100	188	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
   2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.8	60.56	74	-22.2	31.75	5.86	46.37	128	260	Peak
2390	43.04	51.8	54	-10.96	31.75	5.86	46.37	128	260	Average
2462	109.79	118.22	/	/	31.98	5.96	46.37	128	260	Peak
2462	107.71	116.14	/	/	31.98	5.96	46.37	128	260	Average
2483.5	54.14	62.47	74	-19.86	32.05	5.99	46.37	128	260	Peak
2483.5	44.15	52.48	54	-9.85	32.05	5.99	46.37	128	260	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.03	60.4	74	-21.97	32.14	5.86	46.37	100	188	Peak
2390	43.46	51.83	54	-10.54	32.14	5.86	46.37	100	188	Average
2462	102.67	110.77	/	/	32.31	5.96	46.37	100	188	Peak
2462	100.25	108.35	/	/	32.31	5.96	46.37	100	188	Average
2483.5	52.84	60.86	74	-21.16	32.36	5.99	46.37	100	188	Peak
2483.5	44.22	52.24	54	-9.78	32.36	5.99	46.37	100	188	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2462MHz: 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										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	61.83	70.59	74	-12.17	31.75	5.86	46.37	190	210	Peak
2390	50.08	58.84	54	-3.92	31.75	5.86	46.37	190	210	Average
2412	108.69	117.35	/	/	31.82	5.89	46.37	190	210	Peak
2412	101.5	110.16	/	/	31.82	5.89	46.37	190	210	Average
2483.5	52.95	61.28	74	-21.05	32.05	5.99	46.37	190	210	Peak
2483.5	43.59	51.92	54	-10.41	32.05	5.99	46.37	190	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	57.85	66.22	74	-16.15	32.14	5.86	46.37	100	150	Peak
2390	46.01	54.38	54	-7.99	32.14	5.86	46.37	100	150	Average
2412	102.03	110.32	/	/	32.19	5.89	46.37	100	150	Peak
2412	95.36	103.65	/	/	32.19	5.89	46.37	100	150	Average
2483.5	51.99	60.01	74	-22.01	32.36	5.99	46.37	100	150	Peak
2483.5	43.96	51.98	54	-10.04	32.36	5.99	46.37	100	150	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	54.43	63.19	74	-19.57	31.75	5.86	46.37	180	210	Peak
2390	45.42	54.18	54	-8.58	31.75	5.86	46.37	180	210	Average
2437	110	118.54	/	/	31.9	5.93	46.37	180	210	Peak
2437	102.95	111.49	/	/	31.9	5.93	46.37	180	210	Average
2483.5	54.04	62.37	74	-19.96	32.05	5.99	46.37	180	210	Peak
2483.5	45.41	53.74	54	-8.59	32.05	5.99	46.37	180	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.85	61.22	74	-21.15	32.14	5.86	46.37	100	150	Peak
2390	44.34	52.71	54	-9.66	32.14	5.86	46.37	100	150	Average
2437	105.34	113.53	/	/	32.25	5.93	46.37	100	150	Peak
2437	98.19	106.38	/	/	32.25	5.93	46.37	100	150	Average
2483.5	52.06	60.08	74	-21.94	32.36	5.99	46.37	100	150	Peak
2483.5	44.28	52.3	54	-9.72	32.36	5.99	46.37	100	150	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
   2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.44	60.2	74	-22.56	31.75	5.86	46.37	115	210	Peak
2390	43.45	52.21	54	-10.55	31.75	5.86	46.37	115	210	Average
2462	107.76	116.19	/	/	31.98	5.96	46.37	115	210	Peak
2462	100.92	109.35	/	/	31.98	5.96	46.37	115	210	Average
2483.5	61.06	69.39	74	-12.94	32.05	5.99	46.37	115	210	Peak
2483.5	50.25	58.58	54	-3.75	32.05	5.99	46.37	115	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.31	61.68	74	-20.69	32.14	5.86	46.37	100	155	Peak
2390	43.76	52.13	54	-10.24	32.14	5.86	46.37	100	155	Average
2462	102.18	110.28	/	/	32.31	5.96	46.37	100	155	Peak
2462	94.88	102.98	/	/	32.31	5.96	46.37	100	155	Average
2483.5	53.61	61.63	74	-20.39	32.36	5.99	46.37	100	155	Peak
2483.5	45.27	53.29	54	-8.73	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2462MHz: Fundamental frequency.

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	61.71	70.47	74	-12.29	31.75	5.86	46.37	190	210	Peak
2390	49.15	57.91	54	-4.85	31.75	5.86	46.37	190	210	Average
2412	107.67	116.33	/	/	31.82	5.89	46.37	190	210	Peak
2412	100.25	108.91	/	/	31.82	5.89	46.37	190	210	Average
2483.5	51.9	60.23	74	-22.1	32.05	5.99	46.37	190	210	Peak
2483.5	44.16	52.49	54	-9.84	32.05	5.99	46.37	190	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	62.06	70.43	74	-11.94	32.14	5.86	46.37	100	155	Peak
2390	46.19	54.56	54	-7.81	32.14	5.86	46.37	100	155	Average
2412	101.8	110.09	/	/	32.19	5.89	46.37	100	155	Peak
2412	94.4	102.69	/	/	32.19	5.89	46.37	100	155	Average
2483.5	52.61	60.63	74	-21.39	32.36	5.99	46.37	100	155	Peak
2483.5	43.71	51.73	54	-10.29	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.19	60.95	74	-21.81	31.75	5.86	46.37	120	210	Peak
2390	43.59	52.35	54	-10.41	31.75	5.86	46.37	120	210	Average
2437	108.68	117.22	/	/	31.9	5.93	46.37	120	210	Peak
2437	101.56	110.1	/	/	31.9	5.93	46.37	120	210	Average
2483.5	53.13	61.46	74	-20.87	32.05	5.99	46.37	120	210	Peak
2483.5	43.92	52.25	54	-10.08	32.05	5.99	46.37	120	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.71	61.08	74	-21.29	32.14	5.86	46.37	100	155	Peak
2390	43.58	51.95	54	-10.42	32.14	5.86	46.37	100	155	Average
2437	102.33	110.52	/	/	32.25	5.93	46.37	100	155	Peak
2437	95.55	103.74	/	/	32.25	5.93	46.37	100	155	Average
2483.5	53.52	61.54	74	-20.48	32.36	5.99	46.37	100	155	Peak
2483.5	43.98	52	54	-10.02	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
   2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.01	61.77	74	-20.99	31.75	5.86	46.37	115	210	Peak
2390	43.32	52.08	54	-10.68	31.75	5.86	46.37	115	210	Average
2462	106.67	115.1	/	/	31.98	5.96	46.37	115	210	Peak
2462	99.72	108.15	/	/	31.98	5.96	46.37	115	210	Average
2483.5	66.22	74.55	74	-7.78	32.05	5.99	46.37	115	210	Peak
2483.5	50.85	59.18	54	-3.15	32.05	5.99	46.37	115	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.96	60.33	74	-22.04	32.14	5.86	46.37	100	155	Peak
2390	43.98	52.35	54	-10.02	32.14	5.86	46.37	100	155	Average
2462	100.23	108.33	/	/	32.31	5.96	46.37	100	155	Peak
2462	93.35	101.45	/	/	32.31	5.96	46.37	100	155	Average
2483.5	58.95	66.97	74	-15.05	32.36	5.99	46.37	100	155	Peak
2483.5	45.27	53.29	54	-8.73	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2462MHz: 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										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	63.09	71.85	74	-10.91	31.75	5.86	46.37	110	210	Peak
2390	50.26	59.02	54	-3.74	31.75	5.86	46.37	110	210	Average
2422	101.51	110.12	/	/	31.85	5.91	46.37	110	210	Peak
2422	94.91	103.52	/	/	31.85	5.91	46.37	110	210	Average
2483.5	52.98	61.31	74	-21.02	32.05	5.99	46.37	110	210	Peak
2483.5	43.64	51.97	54	-10.36	32.05	5.99	46.37	110	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.58	61.95	74	-20.42	32.14	5.86	46.37	100	155	Peak
2390	44.24	52.61	54	-9.76	32.14	5.86	46.37	100	155	Average
2422	95.47	103.72	/	/	32.21	5.91	46.37	100	155	Peak
2422	88.13	96.38	/	/	32.21	5.91	46.37	100	155	Average
2483.5	52.3	60.32	74	-21.7	32.36	5.99	46.37	100	155	Peak
2483.5	43.92	51.94	54	-10.08	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2422MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	60	68.76	74	-14	31.75	5.86	46.37	118	210	Peak
2390	48.48	57.24	54	-5.52	31.75	5.86	46.37	118	210	Average
2437	107	115.54	/	/	31.9	5.93	46.37	118	210	Peak
2437	99.85	108.39	/	/	31.9	5.93	46.37	118	210	Average
2483.5	61.93	70.26	74	-12.07	32.05	5.99	46.37	118	210	Peak
2483.5	48.34	56.67	54	-5.66	32.05	5.99	46.37	118	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	55.59	63.96	74	-18.41	32.14	5.86	46.37	100	155	Peak
2390	45.02	53.39	54	-8.98	32.14	5.86	46.37	100	155	Average
2437	101.23	109.42	/	/	32.25	5.93	46.37	100	155	Peak
2437	93.8	101.99	/	/	32.25	5.93	46.37	100	155	Average
2483.5	56.04	64.06	74	-17.96	32.36	5.99	46.37	100	155	Peak
2483.5	45.35	53.37	54	-8.65	32.36	5.99	46.37	100	155	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
   2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.13	60.89	74	-21.87	31.75	5.86	46.37	100	215	Peak
2390	44.89	53.65	54	-9.11	31.75	5.86	46.37	100	215	Average
2452	101.49	109.96	/	/	31.95	5.95	46.37	100	215	Peak
2452	94.71	103.18	/	/	31.95	5.95	46.37	100	215	Average
2483.5	57.16	65.49	74	-16.84	32.05	5.99	46.37	100	215	Peak
2483.5	50.43	58.76	54	-3.57	32.05	5.99	46.37	100	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.11	61.48	74	-20.89	32.14	5.86	46.37	100	160	Peak
2390	44.48	52.85	54	-9.52	32.14	5.86	46.37	100	160	Average
2452	94.53	102.67	/	/	32.28	5.95	46.37	100	160	Peak
2452	88.2	96.34	/	/	32.28	5.95	46.37	100	160	Average
2483.5	52.94	60.96	74	-21.06	32.36	5.99	46.37	100	160	Peak
2483.5	46.09	54.11	54	-7.91	32.36	5.99	46.37	100	160	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4910.000	45.56	48.62	74.00	-28.44	-3.06	Peak	Horizontal
2	4910.000	33.31	36.37	54.00	-20.69	-3.06	Average	Horizontal
3 PK	7356.000	48.41	46.31	74.00	-25.59	2.10	Peak	Horizontal
4 PP	7356.000	37.62	35.52	54.00	-16.38	2.10	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4910.000	46.14	49.00	74.00	-27.86	-2.86	Peak	Vertical
2	4910.000	34.83	37.69	54.00	-19.17	-2.86	Average	Vertical
3 PK	7358.000	48.49	46.33	74.00	-25.51	2.16	Peak	Vertical
4 PP	7358.000	39.01	36.85	54.00	-14.99	2.16	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

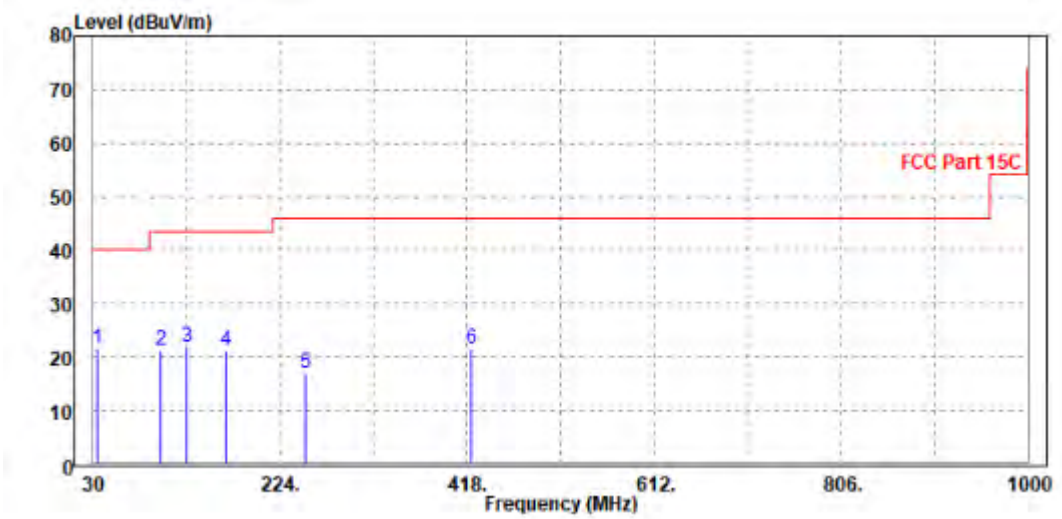
BT-LE _1M

CHANNEL	TX Channel 19	**0DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
33.88	21.65	39.71	40	-18.35	19.14	0.33	37.53	300	0	Peak
100.81	21.36	49.8	43.5	-22.14	8.19	0.53	37.16	300	0	Peak
127	21.9	50.77	43.5	-21.6	7.55	0.6	37.02	300	0	Peak
166.77	21.22	46.57	43.5	-22.28	10.66	0.69	36.7	300	0	Peak
250.19	16.95	39.57	46	-29.05	13.2	0.83	36.65	300	0	Peak
422.85	21.47	39.92	46	-24.53	17.31	1.11	36.87	300	0	Peak

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

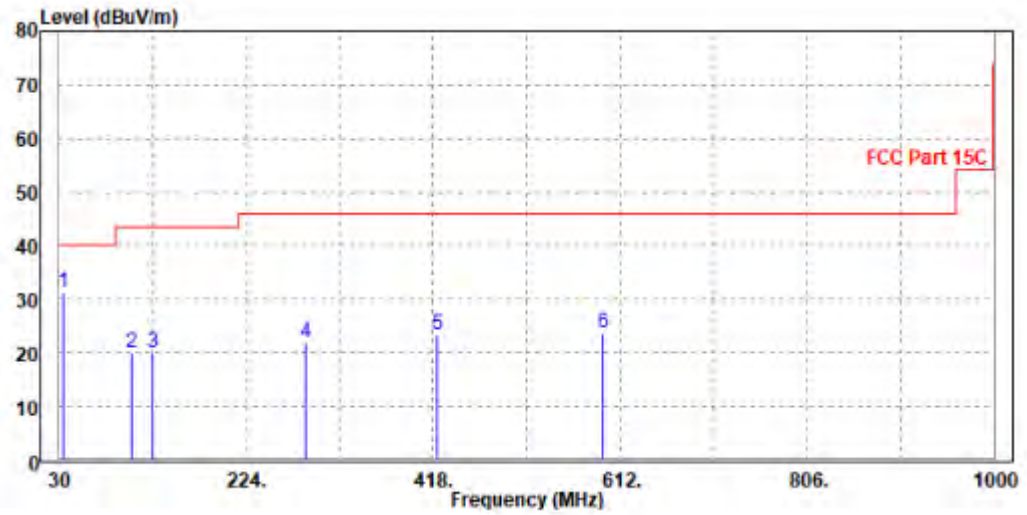


CHANNEL	TX Channel 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
33.88	31.19	49.9	40	-8.81	18.49	0.33	37.53	200	360	Peak
105.66	19.96	48.24	43.5	-23.54	8.32	0.54	37.14	200	360	Peak
127	20.18	48.78	43.5	-23.32	7.82	0.6	37.02	200	360	Peak
286.08	21.92	43.08	46	-24.08	14.67	0.89	36.72	200	360	Peak
422.85	23.41	41.54	46	-22.59	17.63	1.11	36.87	200	360	Peak
594.54	23.81	39.01	46	-22.19	20.8	1.35	37.35	200	360	Peak

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

Note: 1. For radiated emissions testing，the full testing range of different modes have been scanned，only the worst case harmonic data is reported in the sheet.

2. All other emissions were greater than 20dB below the limit was not recorded

BT-LE _1M

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.38	60.14	74	-22.62	31.75	5.86	46.37	108	215	Peak
2390	44.08	52.84	54	-9.92	31.75	5.86	46.37	108	215	Average
2402	99.96	108.66	/	/	31.79	5.88	46.37	108	215	Peak
2402	99.44	108.14	/	/	31.79	5.88	46.37	108	215	Average
2483.5	53.57	61.9	74	-20.43	32.05	5.99	46.37	108	215	Peak
2483.5	45.24	53.57	54	-8.76	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.07	60.44	74	-21.93	32.14	5.86	46.37	105	170	Peak
2390	44.28	52.65	54	-9.72	32.14	5.86	46.37	105	170	Average
2402	93.33	101.66	/	/	32.16	5.88	46.37	105	170	Peak
2402	92.03	100.36	/	/	32.16	5.88	46.37	105	170	Average
2483.5	51.8	59.82	74	-22.2	32.36	5.99	46.37	105	170	Peak
2483.5	44.61	52.63	54	-9.39	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.14	60.9	74	-21.86	31.75	5.86	46.37	108	215	Peak
2390	44.47	53.23	54	-9.53	31.75	5.86	46.37	108	215	Average
2440	100.27	108.8	/	/	31.91	5.93	46.37	108	215	Peak
2440	99.81	108.34	/	/	31.91	5.93	46.37	108	215	Average
2483.5	51.97	60.3	74	-22.03	32.05	5.99	46.37	108	215	Peak
2483.5	44.65	52.98	54	-9.35	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.58	59.95	74	-22.42	32.14	5.86	46.37	105	170	Peak
2390	44.67	53.04	54	-9.33	32.14	5.86	46.37	105	170	Average
2440	93.8	101.98	/	/	32.26	5.93	46.37	105	170	Peak
2440	92.87	101.05	/	/	32.26	5.93	46.37	105	170	Average
2483.5	52.26	60.28	74	-21.74	32.36	5.99	46.37	105	170	Peak
2483.5	46.46	54.48	54	-7.54	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2440MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4876.000	45.07	48.24	74.00	-28.93	-3.17	Peak	Horizontal
2		4876.000	35.18	38.35	54.00	-18.82	-3.17	Average	Horizontal
3	PK	7320.000	48.01	45.93	74.00	-25.99	2.08	Peak	Horizontal
4	PP	7320.000	38.44	36.36	54.00	-15.56	2.08	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4880.000	45.03	47.98	74.00	-28.97	-2.95	Peak	Vertical
2		4880.000	34.98	37.93	54.00	-19.02	-2.95	Average	Vertical
3	PK	7324.000	47.93	45.78	74.00	-26.07	2.15	Peak	Vertical
4	PP	7324.000	38.81	36.66	54.00	-15.19	2.15	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2440MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.58	61.34	74	-21.42	31.75	5.86	46.37	108	215	Peak
2390	44.03	52.79	54	-9.97	31.75	5.86	46.37	108	215	Average
2480	99	107.35	/	/	32.04	5.98	46.37	108	215	Peak
2480	98.12	106.47	/	/	32.04	5.98	46.37	108	215	Average
2483.5	53.28	61.61	74	-20.72	32.05	5.99	46.37	108	215	Peak
2483.5	44.57	52.9	54	-9.43	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.5	61.87	74	-20.5	32.14	5.86	46.37	105	170	Peak
2390	44.76	53.13	54	-9.24	32.14	5.86	46.37	105	170	Average
2480	93.28	101.32	/	/	32.35	5.98	46.37	105	170	Peak
2480	92.74	100.78	/	/	32.35	5.98	46.37	105	170	Average
2483.5	52.09	60.11	74	-21.91	32.36	5.99	46.37	105	170	Peak
2483.5	44.76	52.78	54	-9.24	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

BT-LE _2M

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.57	61.33	74	-21.43	31.75	5.86	46.37	108	215	Peak
2390	44.39	53.15	54	-9.61	31.75	5.86	46.37	108	215	Average
2402	99.92	108.62	/	/	31.79	5.88	46.37	108	215	Peak
2402	97.79	106.49	/	/	31.79	5.88	46.37	108	215	Average
2483.5	52.48	60.81	74	-21.52	32.05	5.99	46.37	108	215	Peak
2483.5	44.51	52.84	54	-9.49	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.86	60.23	74	-22.14	32.14	5.86	46.37	105	170	Peak
2390	44.65	53.02	54	-9.35	32.14	5.86	46.37	105	170	Average
2402	93.63	101.96	/	/	32.16	5.88	46.37	105	170	Peak
2402	90.95	99.28	/	/	32.16	5.88	46.37	105	170	Average
2483.5	52.16	60.18	74	-21.84	32.36	5.99	46.37	105	170	Peak
2483.5	44.59	52.61	54	-9.41	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.29	60.05	74	-22.71	31.75	5.86	46.37	108	215	Peak
2390	44.68	53.44	54	-9.32	31.75	5.86	46.37	108	215	Average
2440	100.2	108.73	/	/	31.91	5.93	46.37	108	215	Peak
2440	98.12	106.65	/	/	31.91	5.93	46.37	108	215	Average
2483.5	51.8	60.13	74	-22.2	32.05	5.99	46.37	108	215	Peak
2483.5	44.35	52.68	54	-9.65	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.62	59.99	74	-22.38	32.14	5.86	46.37	105	170	Peak
2390	44.81	53.18	54	-9.19	32.14	5.86	46.37	105	170	Average
2440	93.18	101.36	/	/	32.26	5.93	46.37	105	170	Peak
2440	91.26	99.44	/	/	32.26	5.93	46.37	105	170	Average
2483.5	52.61	60.63	74	-21.39	32.36	5.99	46.37	105	170	Peak
2483.5	44.82	52.84	54	-9.18	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2440MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.4	60.16	74	-22.6	31.75	5.86	46.37	108	215	Peak
2390	44.66	53.42	54	-9.34	31.75	5.86	46.37	108	215	Average
2480	98.75	107.1	/	/	32.04	5.98	46.37	108	215	Peak
2480	96.16	104.51	/	/	32.04	5.98	46.37	108	215	Average
2483.5	52.76	61.09	74	-21.24	32.05	5.99	46.37	108	215	Peak
2483.5	45.99	54.32	54	-8.01	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.14	60.51	74	-21.86	32.14	5.86	46.37	105	170	Peak
2390	45.04	53.41	54	-8.96	32.14	5.86	46.37	105	170	Average
2480	93.91	101.95	/	/	32.35	5.98	46.37	105	170	Peak
2480	90.17	98.21	/	/	32.35	5.98	46.37	105	170	Average
2483.5	52.75	60.77	74	-21.25	32.36	5.99	46.37	105	170	Peak
2483.5	44.64	52.66	54	-9.36	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4961.000	45.52	48.43	74.00	-28.48	-2.91	Peak	Horizontal
2		4961.000	34.71	37.62	54.00	-19.29	-2.91	Average	Horizontal
3	PK	7440.000	48.57	46.42	74.00	-25.43	2.15	Peak	Horizontal
4	PP	7440.000	39.44	37.29	54.00	-14.56	2.15	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4960.000	45.61	48.32	74.00	-28.39	-2.71	Peak	Vertical
2		4960.000	33.76	36.47	54.00	-20.24	-2.71	Average	Vertical
3	PK	7443.000	47.69	45.52	74.00	-26.31	2.17	Peak	Vertical
4	PP	7443.000	39.33	37.16	54.00	-14.67	2.17	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

BT-LE _S2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.18	59.94	74	-22.82	31.75	5.86	46.37	108	215	Peak
2390	44.25	53.01	54	-9.75	31.75	5.86	46.37	108	215	Average
2402	100.42	109.12	/	/	31.79	5.88	46.37	108	215	Peak
2402	99.28	107.98	/	/	31.79	5.88	46.37	108	215	Average
2483.5	52.36	60.69	74	-21.64	32.05	5.99	46.37	108	215	Peak
2483.5	44.66	52.99	54	-9.34	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.8	60.17	74	-22.2	32.14	5.86	46.37	105	170	Peak
2390	44.93	53.3	54	-9.07	32.14	5.86	46.37	105	170	Average
2402	94.37	102.7	/	/	32.16	5.88	46.37	105	170	Peak
2402	91.85	100.18	/	/	32.16	5.88	46.37	105	170	Average
2483.5	51.95	59.97	74	-22.05	32.36	5.99	46.37	105	170	Peak
2483.5	45.14	53.16	54	-8.86	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.59	60.35	74	-22.41	31.75	5.86	46.37	108	215	Peak
2390	44.59	53.35	54	-9.41	31.75	5.86	46.37	108	215	Average
2440	100.06	108.59	/	/	31.91	5.93	46.37	108	215	Peak
2440	99.78	108.31	/	/	31.91	5.93	46.37	108	215	Average
2483.5	51.95	60.28	74	-22.05	32.05	5.99	46.37	108	215	Peak
2483.5	45.08	53.41	54	-8.92	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.19	60.56	74	-21.81	32.14	5.86	46.37	105	170	Peak
2390	45.2	53.57	54	-8.8	32.14	5.86	46.37	105	170	Average
2440	93.07	101.25	/	/	32.26	5.93	46.37	105	170	Peak
2440	92.64	100.82	/	/	32.26	5.93	46.37	105	170	Average
2483.5	52.71	60.73	74	-21.29	32.36	5.99	46.37	105	170	Peak
2483.5	45.44	53.46	54	-8.56	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2440MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.02	59.78	74	-22.98	31.75	5.86	46.37	108	215	Peak
2390	44.35	53.11	54	-9.65	31.75	5.86	46.37	108	215	Average
2480	98.02	106.37	/	/	32.04	5.98	46.37	108	215	Peak
2480	97.94	106.29	/	/	32.04	5.98	46.37	108	215	Average
2483.5	53.33	61.66	74	-20.67	32.05	5.99	46.37	108	215	Peak
2483.5	45.11	53.44	54	-8.89	32.05	5.99	46.37	108	215	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.75	61.12	74	-21.25	32.14	5.86	46.37	105	170	Peak
2390	44.21	52.58	54	-9.79	32.14	5.86	46.37	105	170	Average
2480	91.94	99.98	/	/	32.35	5.98	46.37	105	170	Peak
2480	91.71	99.75	/	/	32.35	5.98	46.37	105	170	Average
2483.5	51.64	59.66	74	-22.36	32.36	5.99	46.37	105	170	Peak
2483.5	45.51	53.53	54	-8.49	32.36	5.99	46.37	105	170	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4961.000	46.61	49.52	74.00	-27.39	-2.91	Peak	Horizontal
2		4961.000	33.58	36.49	54.00	-20.42	-2.91	Average	Horizontal
3	PK	7440.000	48.05	45.90	74.00	-25.95	2.15	Peak	Horizontal
4	PP	7440.000	39.61	37.46	54.00	-14.39	2.15	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4944.000	46.88	49.65	74.00	-27.12	-2.77	Peak	Vertical
2		4944.000	37.55	40.32	54.00	-16.45	-2.77	Average	Vertical
3	PK	7440.000	48.46	46.28	74.00	-25.54	2.18	Peak	Vertical
4	PP	7440.000	39.49	37.31	54.00	-14.51	2.18	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

BT-LE _S8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.38	60.14	74	-22.62	31.75	5.86	46.37	100	210	Peak
2390	43.77	52.53	54	-10.23	31.75	5.86	46.37	100	210	Average
2402	100.5	109.2	/	/	31.79	5.88	46.37	100	210	Peak
2402	98.49	107.19	/	/	31.79	5.88	46.37	100	210	Average
2483.5	51.4	59.73	74	-22.6	32.05	5.99	46.37	100	210	Peak
2483.5	43.7	52.03	54	-10.3	32.05	5.99	46.37	100	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.29	59.66	74	-22.71	32.14	5.86	46.37	100	175	Peak
2390	43.78	52.15	54	-10.22	32.14	5.86	46.37	100	175	Average
2402	92.41	100.74	/	/	32.16	5.88	46.37	100	175	Peak
2402	90.91	99.24	/	/	32.16	5.88	46.37	100	175	Average
2483.5	51.57	59.59	74	-22.43	32.36	5.99	46.37	100	175	Peak
2483.5	44.61	52.63	54	-9.39	32.36	5.99	46.37	100	175	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4808.000	44.15	47.52	74.00	-29.85	-3.37	Peak	Horizontal
2		4808.000	35.34	38.71	54.00	-18.66	-3.37	Average	Horizontal
3	PK	7206.000	48.54	46.53	74.00	-25.46	2.01	Peak	Horizontal
4	PP	7206.000	39.32	37.31	54.00	-14.68	2.01	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4808.000	43.84	47.01	74.00	-30.16	-3.17	Peak	Vertical
2		4808.000	33.99	37.16	54.00	-20.01	-3.17	Average	Vertical
3	PK	7206.000	48.62	46.49	74.00	-25.38	2.13	Peak	Vertical
4	PP	7206.000	37.61	35.48	54.00	-16.39	2.13	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.88	59.64	74	-23.12	31.75	5.86	46.37	108	210	Peak
2390	43.98	52.74	54	-10.02	31.75	5.86	46.37	108	210	Average
2440	101.99	110.52	/	/	31.91	5.93	46.37	108	210	Peak
2440	100.92	109.45	/	/	31.91	5.93	46.37	108	210	Average
2483.5	52.79	61.12	74	-21.21	32.05	5.99	46.37	108	210	Peak
2483.5	43.83	52.16	54	-10.17	32.05	5.99	46.37	108	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.23	61.6	74	-20.77	32.14	5.86	46.37	110	165	Peak
2390	44.56	52.93	54	-9.44	32.14	5.86	46.37	110	165	Average
2440	93.66	101.84	/	/	32.26	5.93	46.37	110	165	Peak
2440	92.74	100.92	/	/	32.26	5.93	46.37	110	165	Average
2483.5	51.93	59.95	74	-22.07	32.36	5.99	46.37	110	165	Peak
2483.5	44.37	52.39	54	-9.63	32.36	5.99	46.37	110	165	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2440MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.45	60.21	74	-22.55	31.75	5.86	46.37	108	210	Peak
2390	43.75	52.51	54	-10.25	31.75	5.86	46.37	108	210	Average
2480	98.54	106.89	/	/	32.04	5.98	46.37	108	210	Peak
2480	97.58	105.93	/	/	32.04	5.98	46.37	108	210	Average
2483.5	52.23	60.56	74	-21.77	32.05	5.99	46.37	108	210	Peak
2483.5	43.96	52.29	54	-10.04	32.05	5.99	46.37	108	210	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.08	59.45	74	-22.92	32.14	5.86	46.37	100	165	Peak
2390	43.7	52.07	54	-10.3	32.14	5.86	46.37	100	165	Average
2480	92.94	100.98	/	/	32.35	5.98	46.37	100	165	Peak
2480	91.26	99.3	/	/	32.35	5.98	46.37	100	165	Average
2483.5	51.69	59.71	74	-22.31	32.36	5.99	46.37	100	165	Peak
2483.5	44.52	52.54	54	-9.48	32.36	5.99	46.37	100	165	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

WIFI 2.4G_11n40_TX_CH 9 - BT 2.0 TX_8DPSK_Ch 39

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

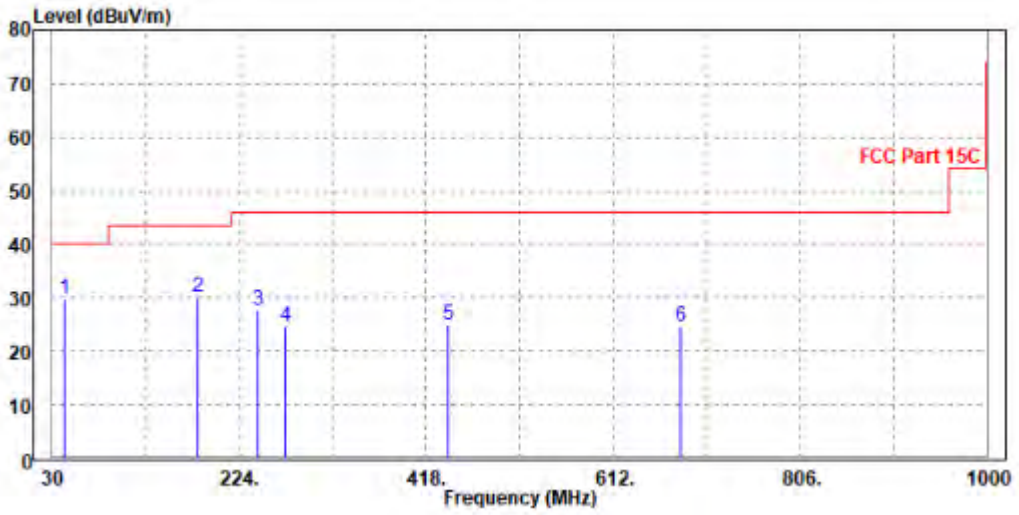
802.11n (40MHz)

CHANNEL	Channel 9	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
42.564	29.89	55.21	40	-10.11	11.77	0.37	37.46	300	0	Peak
180.548	29.97	54.5	43.5	-13.53	11.4	0.71	36.64	300	0	Peak
244.2	27.63	50.21	46	-18.37	13.24	0.82	36.64	300	0	Peak
272.64	24.78	46.88	46	-21.22	13.73	0.87	36.7	300	0	Peak
441.587	24.8	43.57	46	-21.2	16.99	1.14	36.9	300	0	Peak
682.4	24.49	39.26	46	-21.51	21.27	1.46	37.5	300	0	Peak

REMARKS:

1. Emission Level(dBuV/m) = Read Level(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

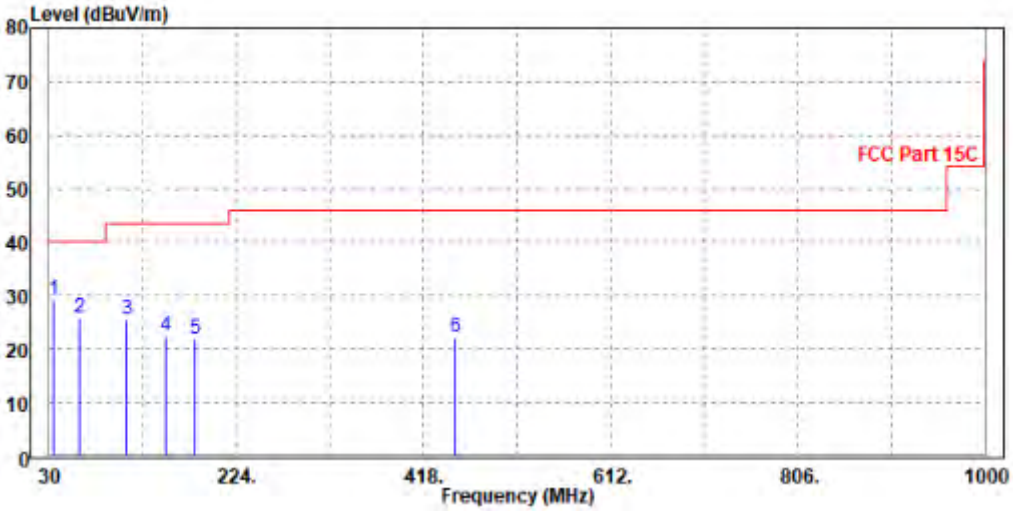


CHANNEL	Channel 9	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
34.85	29.25	48.63	40	-10.75	17.88	0.33	37.59	200	360	Peak
61.57	25.85	54.21	40	-14.15	8.52	0.45	37.33	200	360	Peak
110.524	25.43	53.21	43.5	-18.07	8.78	0.56	37.12	200	360	Peak
150.27	22.55	48.2	43.5	-20.95	10.51	0.66	36.82	200	360	Peak
180.24	21.94	46.67	43.5	-21.56	11.2	0.71	36.64	200	360	Peak
450.278	22.3	41.12	46	-23.7	16.95	1.15	36.92	200	360	Peak

REMARKS:

1. Emission Level(dBuV/m) = Read Level(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 9	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.5	60.26	74	-22.5	31.75	5.86	46.37	118	345	Peak
2390	43.73	52.49	54	-10.27	31.75	5.86	46.37	118	345	Average
2452	102.28	110.75	/	/	31.95	5.95	46.37	118	345	Peak
2452	96.38	104.85	/	/	31.95	5.95	46.37	118	345	Average
2483.5	57.51	65.84	74	-16.49	32.05	5.99	46.37	118	345	Peak
2483.5	49.98	58.31	54	-4.02	32.05	5.99	46.37	118	345	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.87	61.24	74	-21.13	32.14	5.86	46.37	100	185	Peak
2390	43.79	52.16	54	-10.21	32.14	5.86	46.37	100	185	Average
2452	95.51	103.65	/	/	32.28	5.95	46.37	100	185	Peak
2452	87.04	95.18	/	/	32.28	5.95	46.37	100	185	Average
2483.5	55.33	63.35	74	-18.67	32.36	5.99	46.37	100	185	Peak
2483.5	46.94	54.96	54	-7.06	32.36	5.99	46.37	100	185	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4904.000	40.13	43.21	74.00	-33.87	-3.08	Peak	Horizontal
2		4904.000	30.85	33.93	54.00	-23.15	-3.08	Average	Horizontal
3	PK	7356.000	45.71	43.61	74.00	-28.29	2.10	Peak	Horizontal
4	PP	7356.000	36.93	34.83	54.00	-17.07	2.10	Average	Horizontal

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4910.000	42.52	45.38	74.00	-31.48	-2.86	Peak	Vertical
2		4910.000	31.76	34.62	54.00	-22.24	-2.86	Average	Vertical
3	PK	7356.000	44.35	42.19	74.00	-29.65	2.16	Peak	Vertical
4	PP	7356.000	35.48	33.32	54.00	-18.52	2.16	Average	Vertical

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.

3.3 6 dB BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	ANRITSU	ML2495A	1506002	Feb. 22,22	Feb. 21,23
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Apr. 26,21	Apr. 25,22
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Apr. 25,22	Apr. 24,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Feb. 24,22	Feb. 23,23
Power Sensor	ANRITSU	MA2411B	1339352	May. 07,21	May. 06,22
Power Sensor	ANRITSU	MA2411B	1339352	May. 06,22	May. 05,23

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.

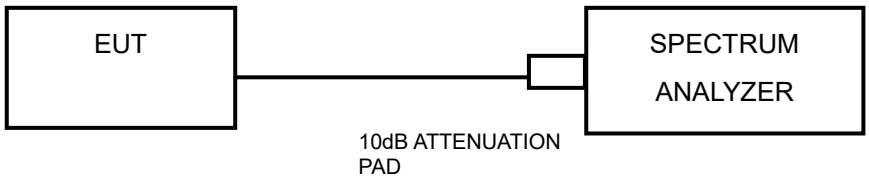
3.3.3 TEST PROCEDURE

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.

3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

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

3.3.7 TEST RESULTS

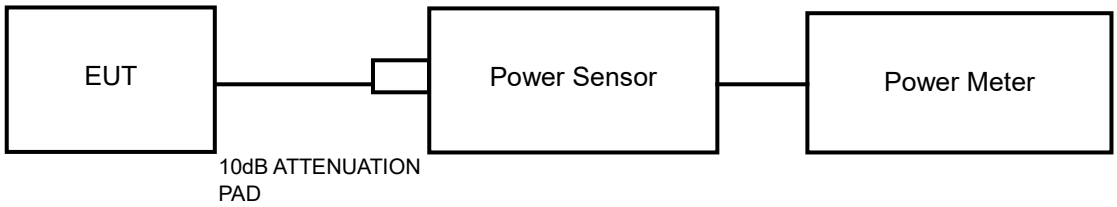
Please Refer to Appendix1/2 Of this test report.

3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.4.4 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. Record the power level.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

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

3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix1/2 Of this test report.

3.4.7.2 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.

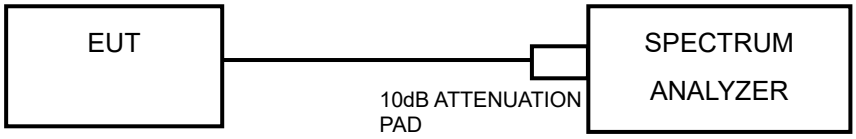
Please Refer to Appendix1/2 Of this test report.

3.5 POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

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

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.5.4 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.

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

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

3.5.7 TEST RESULTS

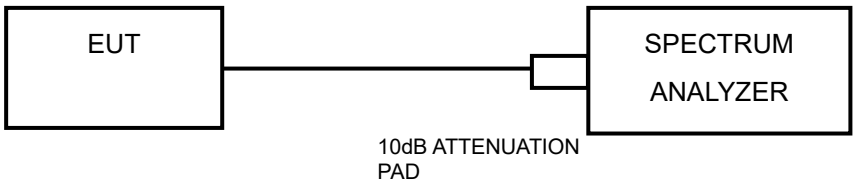
Please Refer to Appendix1/2 Of this test report.

3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

3.6.2 TEST SETUP



3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.6.4 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.

3.6.5 DEVIATION FROM TEST STANDARD

No deviation.

3.6.6 EUT OPERATING CONDITION

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

3.6.7 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.

Please Refer to Appendix1/2 Of this test report.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

5 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.

6 Appendix 1 WLAN 2.4G

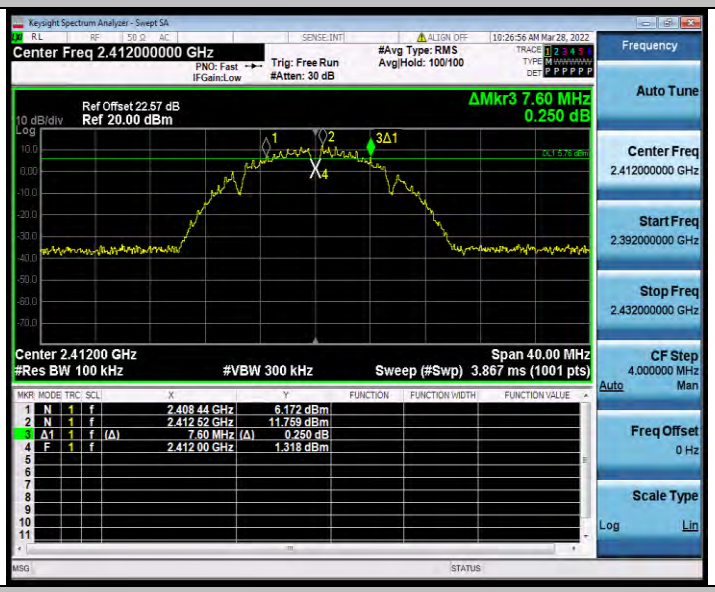
DTS BANDWIDTH

TEST RESULT

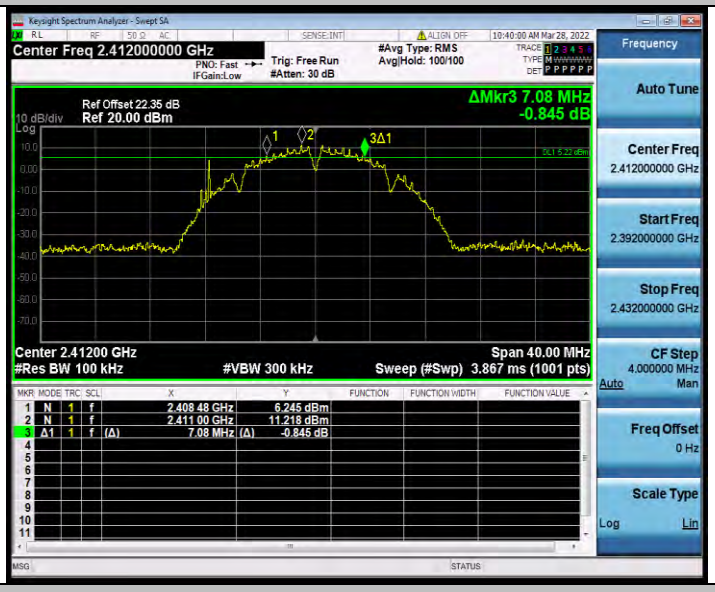
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant0	2412	7.600	2408.440	2416.040	0.5	PASS
	Ant1	2412	7.080	2408.480	2415.560	0.5	PASS
	Ant0	2437	7.120	2433.440	2440.560	0.5	PASS
	Ant1	2437	8.040	2433.480	2441.520	0.5	PASS
	Ant0	2462	8.040	2458.000	2466.040	0.5	PASS
	Ant1	2462	7.560	2458.440	2466.000	0.5	PASS
11G-CDD	Ant0	2412	16.360	2403.840	2420.200	0.5	PASS
	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
	Ant0	2437	16.320	2428.840	2445.160	0.5	PASS
	Ant1	2437	16.360	2428.840	2445.200	0.5	PASS
	Ant0	2462	16.320	2453.840	2470.160	0.5	PASS
	Ant1	2462	16.320	2453.840	2470.160	0.5	PASS
11N20MIMO	Ant0	2412	17.600	2403.200	2420.800	0.5	PASS
	Ant1	2412	17.560	2403.240	2420.800	0.5	PASS
	Ant0	2437	17.600	2428.200	2445.800	0.5	PASS
	Ant1	2437	17.600	2428.200	2445.800	0.5	PASS
	Ant0	2462	17.600	2453.200	2470.800	0.5	PASS
	Ant1	2462	17.560	2453.200	2470.760	0.5	PASS
11N40MIMO	Ant0	2422	36.320	2403.840	2440.160	0.5	PASS
	Ant1	2422	36.320	2403.840	2440.160	0.5	PASS
	Ant0	2437	35.920	2418.840	2454.760	0.5	PASS
	Ant1	2437	35.680	2418.840	2454.520	0.5	PASS
	Ant0	2452	36.000	2433.840	2469.840	0.5	PASS
	Ant1	2452	35.920	2434.240	2470.160	0.5	PASS

TEST GRAPHS

11B-CDD_Ant0_2412



11B-CDD_Ant1_2412



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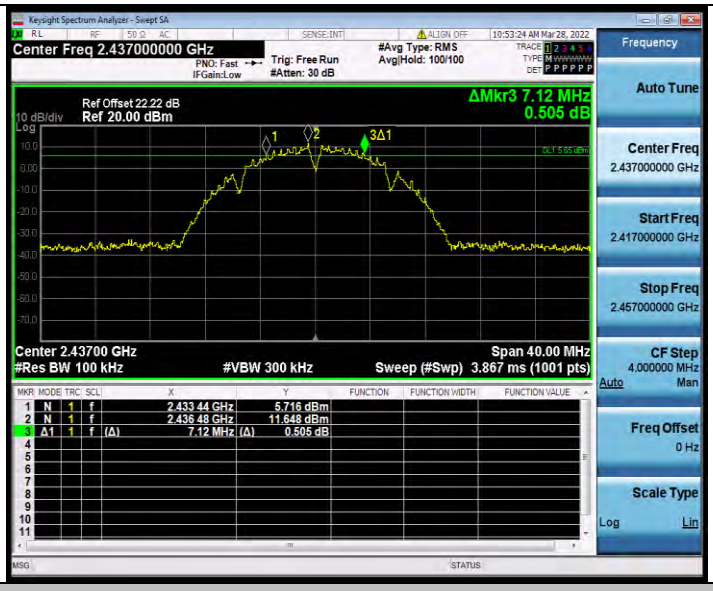
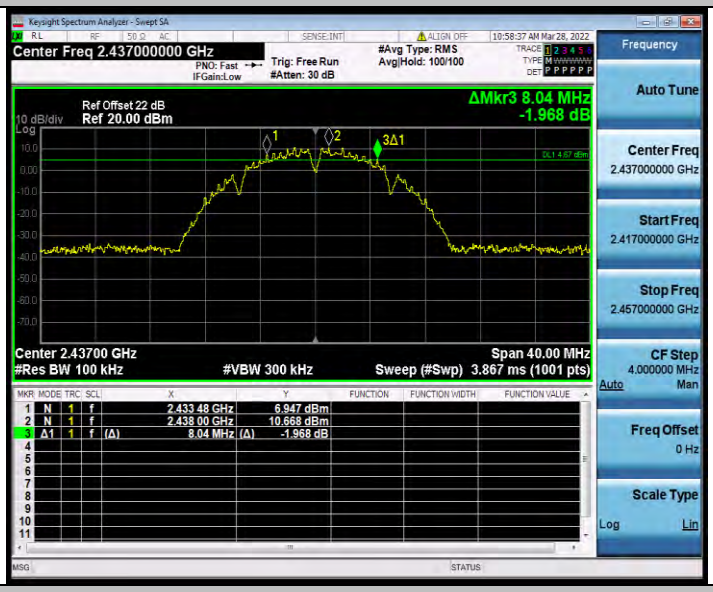
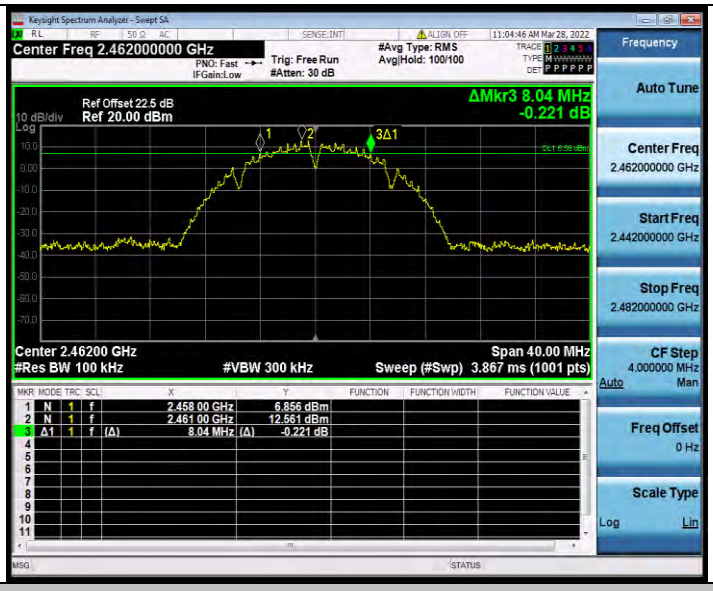


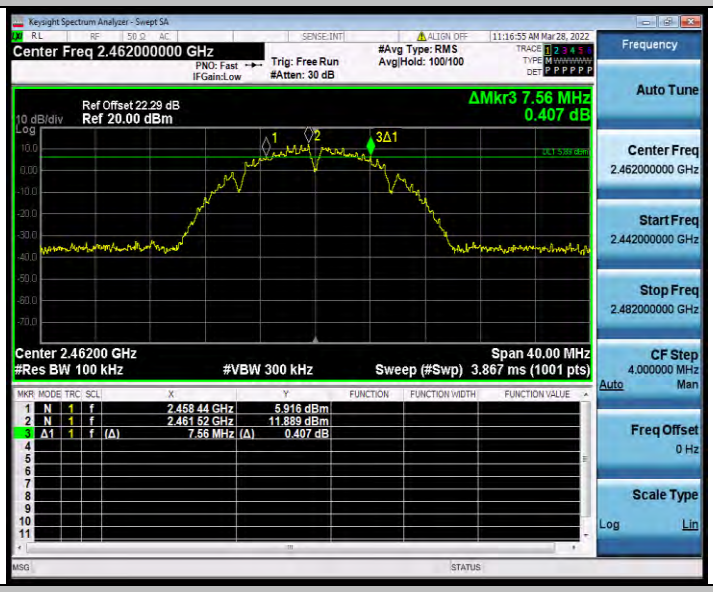
11B-CDD_Ant1_2437



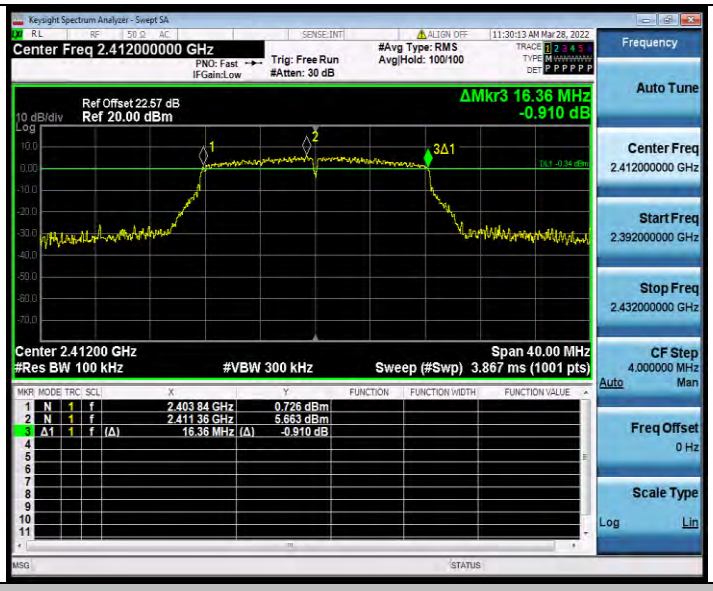
11B-CDD_Ant0_2462



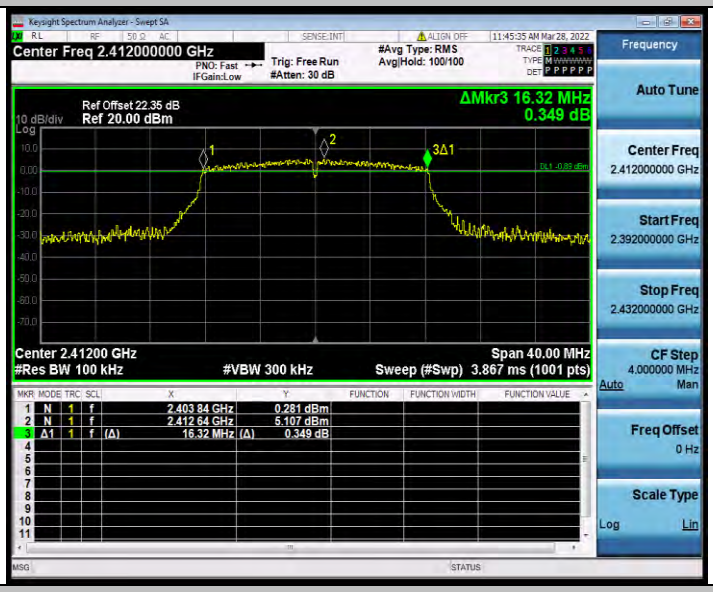
11B-CDD_Ant1_2462



11G-CDD_Ant0_2412



11G-CDD_Ant1_2412



11G-CDD_Ant0_2437