FCC TEST REPORT

(Part 15, Subpart C)

Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo,Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo,Finland
Product:	Tablet PC
Brand Name:	NOKIA
Model Name:	TA-1472
FCC ID:	2AJOTTA-1472
Date of tests:	May. 15, 2022 ~ May. 31, 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	Approved by Luke Lu
Engineer / Mobile Department	Manager / Mobile Department
Date: Jun. 07, 2022	Date: Jun. 07, 2022

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P22050003RF02	Original release	Jun. 07, 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. Only the worse data were report

3. This report refers to the data of W7L-P22050002RF02（FCC ID: 2AJOTTA-1462, model:TA-1462）except to RSE and CE, the difference of TA-1462 and TA-1472 is remove WWAN components, change model name. In this report verify conducted power, CE and RSE. the verify results of conducted power are similar or lower. So this report replaces worst case of RSE and CE. Detailed differences and validation are listed as below

Quoted FCC ID	Quoted Report Number	Difference	Spot-Check	Replace data
2AJOTTA-1462	W7L-P22050002RF02	Remove WWAN	Conducted power &CE&RSE Worset Case	CE RSE : 802.11g/802.11n40 mode

Test Lab Information Reference:

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Lab Address:

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Accredited Test Lab Cert 3939.01

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	Tablet PC
BRAND NAME	NOKIA
MODEL NAME	TA-1472
NOMINAL VOLTAGE	3.8Vdc (Li-ion, battery) 5Vdc (adapter)
MODULATION	DSSS, OFDM, GFSK
TRANSMISSION RATE	802.11b: 11/ 5.5/ 2.0 / 1.0 Mbps 802.11g: 54/ 48/ 36 / 24 / 18 / 9/ 6 Mbps 802.11n20: up to 72.2 Mbps 802.11n40: up to 150 Mbps BT_LE: 0.125 Mbps /0.5 Mbps /1 Mbps/2 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 304.09mW (Maximum) BT-LE: 2.75mW (Maximum)
ANTENNA TYPE	PIFA Antenna with -0.5dBi gain
HW VERSION	V0.2
SW VERSION	00WW_0_190
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: non-shielded cable, with w/o ferrite core, 1 meter Earphone: non-shielded cable, with w/o ferrite core, 1.5 meter

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 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
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	MANUFACTURER	MODEL	SPECIFICATION
Battery	NOKIA	HUNAN GAOYUAN BATTERY CO.,LTD	WWT50	Capacity：3.8 Vdc, 5100mAh
AC Adapter	NOKIA	ShenZhenBaiJunDaElectronic CO., LTD.	AD-010U	I/P: 110-240Vac, 0.35A, O/P: 5.0Vdc, 2.0A
Earphone	NOKIA	HUIZHOU JUWEI ELECTRONICS CO.,LTD	JWEP1237-W27H	Signal Line, 1.5meter
USB Cable	Saibao	Saibao(Jiangxi) Communication Industrial Co.,Ltd	SWT-A116A	Signal Line, 1.0meter
LCD Panel 1	HUAXIAN	China display Optoelectronics Technology (Huizhou) Company Limited	8019-3	LCD, 8",800 * 1280, Add-on,α-Si, Non-airgap, A3
LCD Panel 2	COE	CHONG QIAN COE DISPLAY TECHNOLOGY CO., LTD.	T080ET011-HD1-QT	LCD, 8",800 * 1280,
Front Camera 1	C&T	SHENZHEN C&T TECHNOLOGY CO.,LTD	BC12715 V0	2M
Rear Camera 1	C&T	SHENZHEN C&T TECHNOLOGY CO.,LTD	BB18716 V0	8M

2.2 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	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	3	OFDM	MCS0
BT-LE	0 to 39	19	GFSK	2.0

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	DC 5V By Adapter	Carl Xie
RE≥1G	23deg. C, 70%RH	DC 5V By Adapter	Carl Xie
PLC	25deg. C, 52%RH	DC 5V By Adapter	Lily Zhao
APCM	25deg. C, 60%RH	DC 3.8V 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	99.04
	11G	95.14
	11N20	93.50
	11N40	89.23
BT LE	BT4.0	87.23
	BT5.0	65.60
	BTS2	81.28
	BTS8	94.76

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.

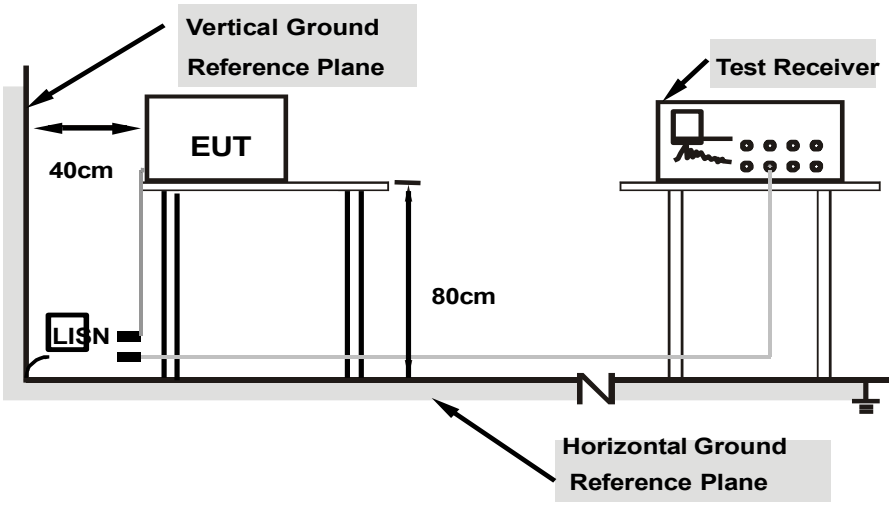
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

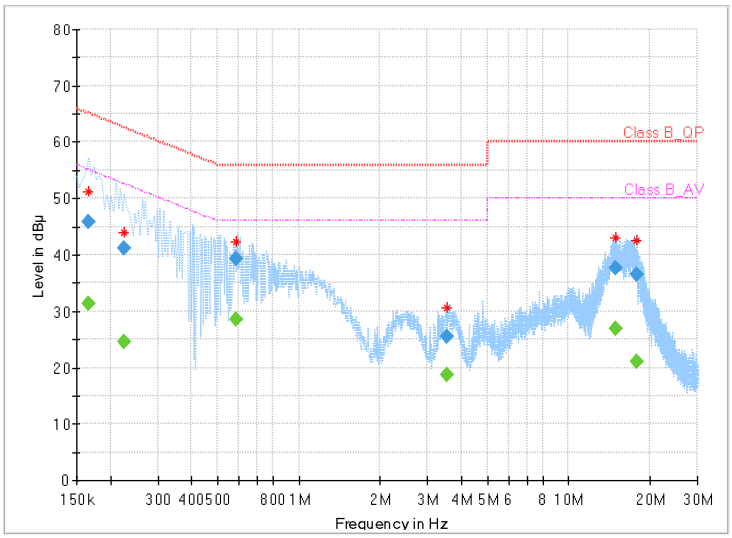
CONDUCTED WORST-CASE DATA:

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)
0.166000	---	31.31	55.16	23.85	L1	ON	9.7
0.166000	45.90	---	65.16	19.26	L1	ON	9.7
0.224000	---	24.56	52.67	28.11	L1	ON	9.7
0.224000	41.09	---	62.67	21.58	L1	ON	9.7
0.584000	---	28.43	46.00	17.57	L1	ON	9.7
0.584000	39.25	---	56.00	16.75	L1	ON	9.7
3.536000	---	18.75	46.00	27.25	L1	ON	9.7
3.536000	25.53	---	56.00	30.47	L1	ON	9.7
14.920000	---	26.80	50.00	23.20	L1	ON	9.8
14.920000	37.57	---	60.00	22.43	L1	ON	9.8
17.860000	---	20.96	50.00	29.04	L1	ON	9.8
17.860000	36.48	---	60.00	23.52	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.

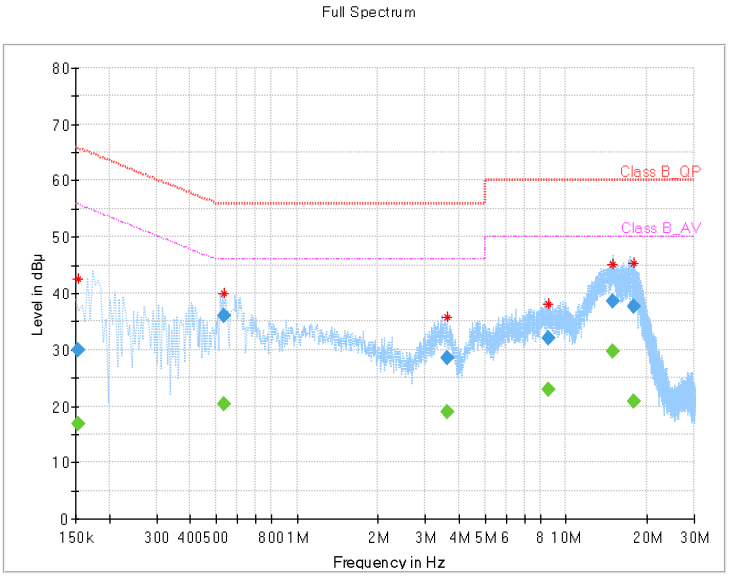
Full Spectrum



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)
0.154000	---	16.88	55.78	38.90	N	ON	9.7
0.154000	29.88	---	65.78	35.90	N	ON	9.7
0.532000	---	20.24	46.00	25.76	N	ON	9.7
0.532000	35.98	---	56.00	20.02	N	ON	9.7
3.612000	---	19.02	46.00	26.98	N	ON	9.8
3.612000	28.55	---	56.00	27.45	N	ON	9.8
8.592000	---	22.83	50.00	27.17	N	ON	9.8
8.592000	32.05	---	60.00	27.95	N	ON	9.8
14.888000	---	29.70	50.00	20.30	N	ON	9.8
14.888000	38.68	---	60.00	21.32	N	ON	9.8
17.788000	---	20.89	50.00	29.11	N	ON	9.9
17.788000	37.63	---	60.00	22.37	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	00161965	Mar. 06,22	Mar. 05,23
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	JS1120-3	3.2.06	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	Feb. 18,22	Feb. 17,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 21,22	Feb.20,23
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. 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:

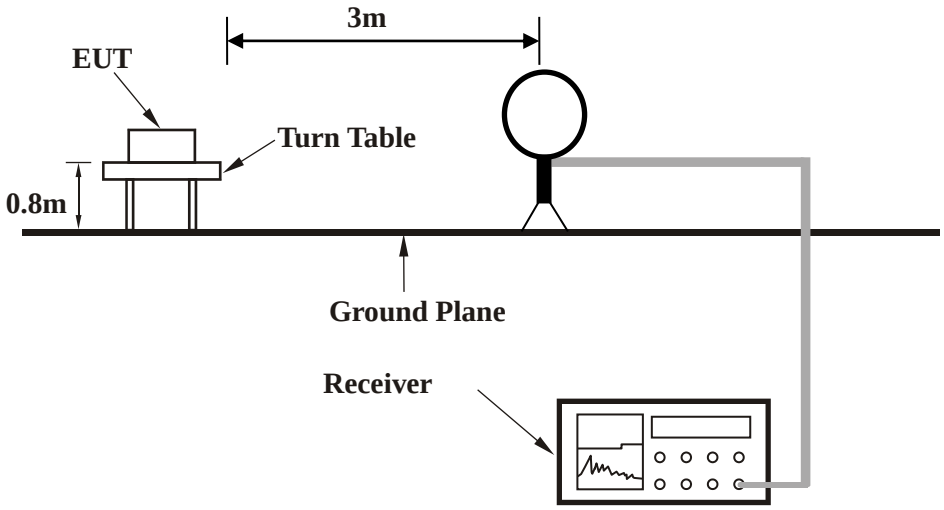
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

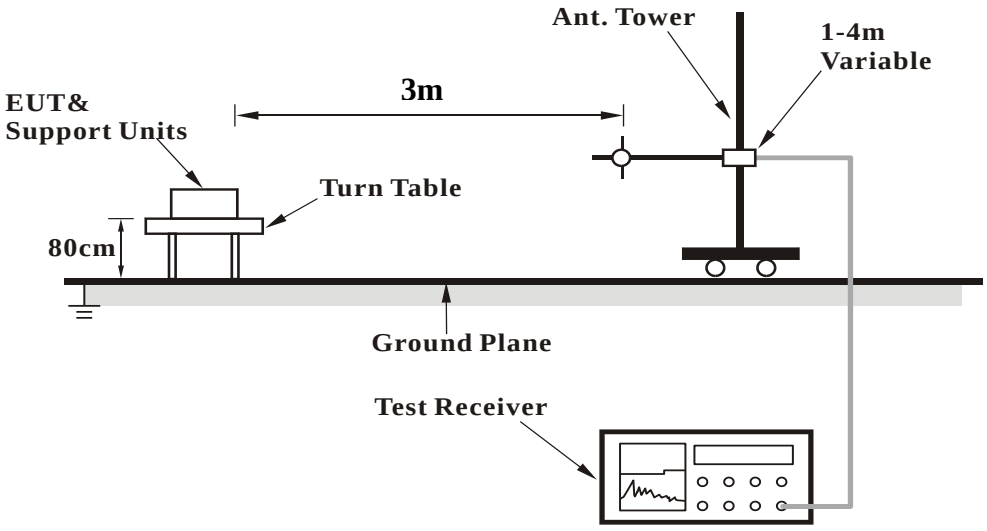
No deviation

3.2.5 TEST SETUP

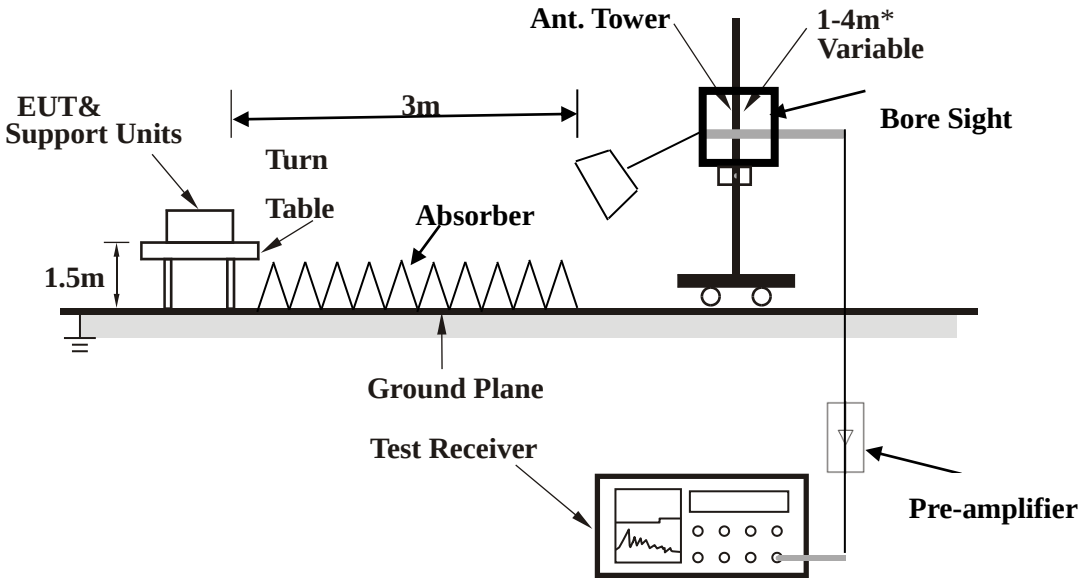
<Frequency Range 9KHz~30MHz >



< 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

NOTE : The 9KHz~30MHz amplitude of spurious emissions are more than 20 dB below the limit is not record in the report.

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

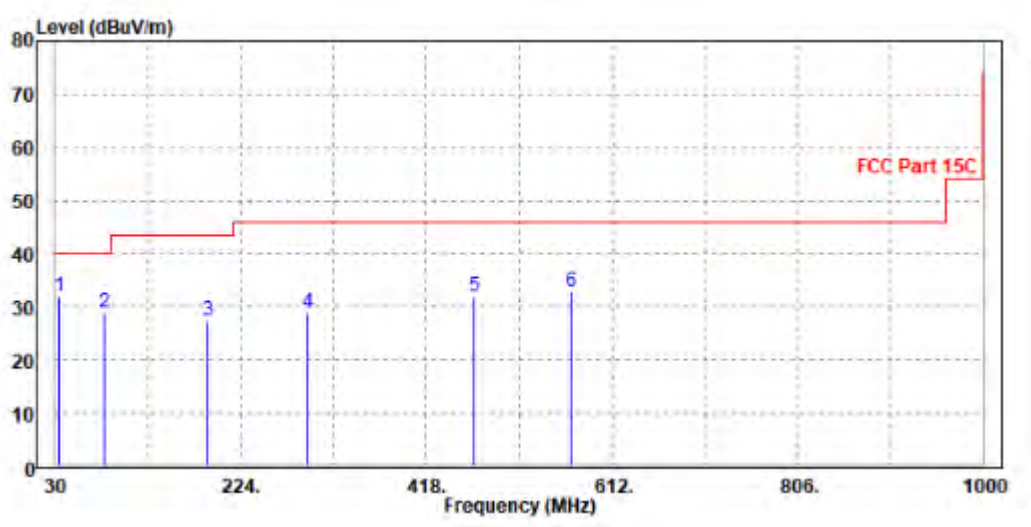
802.11n (40MHz)

CHANNEL	TX Channel 3	**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
33.88	31.98	50.11	40	-8.02	19.07	0.33	37.53	200	67	QP
81.41	29.04	58.01	40	-10.96	7.87	0.49	37.33	200	62	QP
189.08	27.47	52	43.5	-16.03	11.35	0.72	36.6	300	140	QP
294.81	28.96	50.85	46	-17.04	13.95	0.9	36.74	300	136	QP
467.47	31.9	50.19	46	-14.1	17.48	1.17	36.94	200	188	QP
568.35	32.74	49.48	46	-13.26	19.19	1.32	37.25	200	180	QP

REMARKS:

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

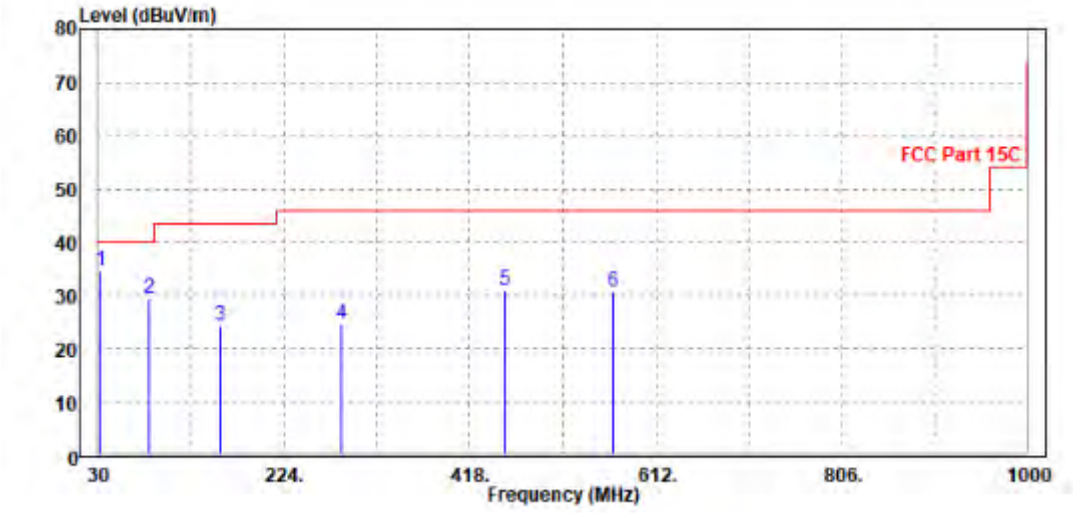


CHANNEL	TX Channel 3	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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
32.91	34.67	52.98	40	-5.33	18.84	0.32	37.47	150	233	QP
82.38	29.46	58.44	40	-10.54	7.84	0.5	37.32	150	228	QP
157.07	24.23	49.54	43.5	-19.27	10.78	0.67	36.76	200	345	QP
283.17	24.49	46.8	46	-21.51	13.53	0.88	36.72	200	342	QP
454.86	31.14	49.89	46	-14.86	17.01	1.16	36.92	100	266	QP
567.38	30.60	47.58	46	-15.4	18.95	1.32	37.25	100	262	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 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	52.81	61.57	74	-21.19	31.75	5.86	46.37	100	161	Peak
2390	43.54	52.3	54	-10.46	31.75	5.86	46.37	100	161	Average
2412	101.32	109.98	/	/	31.82	5.89	46.37	200	176	Peak
2412	98.49	107.15	/	/	31.82	5.89	46.37	200	176	Average
2483.5	53.59	61.92	74	-20.41	32.05	5.99	46.37	150	189	Peak
2483.5	43.82	52.15	54	-10.18	32.05	5.99	46.37	150	189	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	46	Peak
2390	43.89	52.26	54	-10.11	32.14	5.86	46.37	100	46	Average
2412	98.75	107.04	/	/	32.19	5.89	46.37	150	103	Peak
2412	95.87	104.16	/	/	32.19	5.89	46.37	150	103	Average
2483.5	52.55	60.57	74	-21.45	32.36	5.99	46.37	200	169	Peak
2483.5	44.17	52.19	54	-9.83	32.36	5.99	46.37	200	169	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	150	155	Peak
2390	43.16	51.92	54	-10.84	31.75	5.86	46.37	150	155	Average
2437	103.19	111.73	/	/	31.9	5.93	46.37	100	109	Peak
2437	101.22	109.76	/	/	31.9	5.93	46.37	100	109	Average
2483.5	52.52	60.85	74	-21.48	32.05	5.99	46.37	150	107	Peak
2483.5	43.91	52.24	54	-10.09	32.05	5.99	46.37	150	107	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	52.23	60.6	74	-21.77	32.14	5.86	46.37	100	84	Peak
2390	43.65	52.02	54	-10.35	32.14	5.86	46.37	100	84	Average
2437	97.83	106.02	/	/	32.25	5.93	46.37	100	183	Peak
2437	95.82	104.01	/	/	32.25	5.93	46.37	100	183	Average
2483.5	52.5	60.52	74	-21.5	32.36	5.99	46.37	150	161	Peak
2483.5	44.13	52.15	54	-9.87	32.36	5.99	46.37	150	161	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	51.35	60.11	74	-22.65	31.75	5.86	46.37	150	150	Peak
2390	43.31	52.07	54	-10.69	31.75	5.86	46.37	150	150	Average
2462	101.59	110.02	/	/	31.98	5.96	46.37	200	176	Peak
2462	99.62	108.05	/	/	31.98	5.96	46.37	200	176	Average
2483.5	52.69	61.02	74	-21.31	32.05	5.99	46.37	100	141	Peak
2483.5	44.23	52.56	54	-9.77	32.05	5.99	46.37	100	141	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	52.09	60.46	74	-21.91	32.14	5.86	46.37	100	67	Peak
2390	43.98	52.35	54	-10.02	32.14	5.86	46.37	100	67	Average
2462	98.12	106.22	/	/	32.31	5.96	46.37	200	107	Peak
2462	96.31	104.41	/	/	32.31	5.96	46.37	200	107	Average
2483.5	53.28	61.3	74	-20.72	32.36	5.99	46.37	100	106	Peak
2483.5	44.25	52.27	54	-9.75	32.36	5.99	46.37	100	106	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	56.46	65.22	74	-17.54	31.75	5.86	46.37	150	163	Peak
2390	48.03	56.79	54	-5.97	31.75	5.86	46.37	150	163	Average
2412	101.22	109.88	/	/	31.82	5.89	46.37	100	131	Peak
2412	93.64	102.3	/	/	31.82	5.89	46.37	100	131	Average
2483.5	51.42	59.75	74	-22.58	32.05	5.99	46.37	200	170	Peak
2483.5	43.53	51.86	54	-10.47	32.05	5.99	46.37	200	170	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	52.79	61.16	74	-21.21	32.14	5.86	46.37	150	137	Peak
2390	44.32	52.69	54	-9.68	32.14	5.86	46.37	150	137	Average
2412	95.07	103.36	/	/	32.19	5.89	46.37	100	150	Peak
2412	88.05	96.34	/	/	32.19	5.89	46.37	100	150	Average
2483.5	52	60.02	74	-22	32.36	5.99	46.37	150	192	Peak
2483.5	43.29	51.31	54	-10.71	32.36	5.99	46.37	150	192	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) 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	50.28	59.04	74	-23.72	31.75	5.86	46.37	100	62	Peak
2390	43.34	52.1	54	-10.66	31.75	5.86	46.37	100	62	Average
2437	103.57	112.11	/	/	31.9	5.93	46.37	150	104	Peak
2437	96.36	104.9	/	/	31.9	5.93	46.37	150	104	Average
2483.5	50.36	58.69	74	-23.64	32.05	5.99	46.37	200	125	Peak
2483.5	43.81	52.14	54	-10.19	32.05	5.99	46.37	200	125	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	51.24	59.61	74	-22.76	32.14	5.86	46.37	100	270	Peak
2390	43.24	51.61	54	-10.76	32.14	5.86	46.37	100	270	Average
2437	98.89	107.08	/	/	32.25	5.93	46.37	150	124	Peak
2437	91.37	99.56	/	/	32.25	5.93	46.37	150	124	Average
2483.5	50.99	59.01	74	-23.01	32.36	5.99	46.37	100	188	Peak
2483.5	43.4	51.42	54	-10.6	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	49.55	58.31	74	-24.45	31.75	5.86	46.37	200	49	Peak
2390	43.45	52.21	54	-10.55	31.75	5.86	46.37	200	49	Average
2462	98.9	107.33	/	/	31.98	5.96	46.37	100	105	Peak
2462	92.06	100.49	/	/	31.98	5.96	46.37	100	105	Average
2483.5	57.85	66.18	74	-16.15	32.05	5.99	46.37	200	132	Peak
2483.5	47.66	55.99	54	-6.34	32.05	5.99	46.37	200	132	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	50.59	58.96	74	-23.41	32.14	5.86	46.37	200	126	Peak
2390	43.2	51.57	54	-10.8	32.14	5.86	46.37	200	126	Average
2462	96.23	104.33	/	/	32.31	5.96	46.37	150	169	Peak
2462	88.97	97.07	/	/	32.31	5.96	46.37	150	169	Average
2483.5	54.48	62.5	74	-19.52	32.36	5.99	46.37	150	134	Peak
2483.5	44.22	52.24	54	-9.78	32.36	5.99	46.37	150	134	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	59.21	67.97	74	-14.79	31.75	5.86	46.37	200	320	Peak
2390	48.18	56.94	54	-5.82	31.75	5.86	46.37	200	320	Average
2412	100.24	108.9	/	/	31.82	5.89	46.37	150	320	Peak
2412	91.81	100.47	/	/	31.82	5.89	46.37	150	320	Average
2483.5	52.21	60.54	74	-21.79	32.05	5.99	46.37	100	320	Peak
2483.5	44.13	52.46	54	-9.87	32.05	5.99	46.37	100	320	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	55.45	63.82	74	-18.55	32.14	5.86	46.37	200	110	Peak
2390	45.77	54.14	54	-8.23	32.14	5.86	46.37	200	110	Average
2412	96.93	105.22	/	/	32.19	5.89	46.37	150	111	Peak
2412	88.85	97.14	/	/	32.19	5.89	46.37	150	111	Average
2483.5	52.1	60.12	74	-21.9	32.36	5.99	46.37	100	149	Peak
2483.5	43.63	51.65	54	-10.37	32.36	5.99	46.37	100	149	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	51.93	60.69	74	-22.07	31.75	5.86	46.37	200	204	Peak
2390	44.09	52.85	54	-9.91	31.75	5.86	46.37	200	204	Average
2437	101.18	109.72	/	/	31.9	5.93	46.37	150	181	Peak
2437	92.44	100.98	/	/	31.9	5.93	46.37	150	181	Average
2483.5	52.24	60.57	74	-21.76	32.05	5.99	46.37	150	107	Peak
2483.5	44.69	53.02	54	-9.31	32.05	5.99	46.37	150	107	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	53.12	61.49	74	-20.88	32.14	5.86	46.37	100	263	Peak
2390	44.37	52.74	54	-9.63	32.14	5.86	46.37	100	263	Average
2437	97.8	105.99	/	/	32.25	5.93	46.37	150	110	Peak
2437	89.82	98.01	/	/	32.25	5.93	46.37	150	110	Average
2483.5	52.83	60.85	74	-21.17	32.36	5.99	46.37	100	195	Peak
2483.5	44.85	52.87	54	-9.15	32.36	5.99	46.37	100	195	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	50.95	59.71	74	-23.05	31.75	5.86	46.37	150	236	Peak
2390	43.82	52.58	54	-10.18	31.75	5.86	46.37	150	236	Average
2462	100.67	109.1	/	/	31.98	5.96	46.37	100	176	Peak
2462	93.33	101.76	/	/	31.98	5.96	46.37	100	176	Average
2483.5	57	65.33	74	-17	32.05	5.99	46.37	200	102	Peak
2483.5	47.96	56.29	54	-6.04	32.05	5.99	46.37	200	102	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	52.09	60.46	74	-21.91	32.14	5.86	46.37	150	200	Peak
2390	44.13	52.5	54	-9.87	32.14	5.86	46.37	150	200	Average
2462	98	106.1	/	/	32.31	5.96	46.37	100	168	Peak
2462	89.08	97.18	/	/	32.31	5.96	46.37	100	168	Average
2483.5	56.1	64.12	74	-17.9	32.36	5.99	46.37	100	167	Peak
2483.5	46.7	54.72	54	-7.3	32.36	5.99	46.37	100	167	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	63.59	72.35	74	-10.41	31.75	5.86	46.37	100	198	Peak
2390	50.76	59.52	54	-3.24	31.75	5.86	46.37	100	198	Average
2422	100.7	109.31	/	/	31.85	5.91	46.37	200	316	Peak
2422	91.7	100.31	/	/	31.85	5.91	46.37	200	316	Average
2483.5	52.53	60.86	74	-21.47	32.05	5.99	46.37	200	149	Peak
2483.5	43.59	51.92	54	-10.41	32.05	5.99	46.37	200	149	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	59.59	67.96	74	-14.41	32.14	5.86	46.37	100	197	Peak
2390	47.05	55.42	54	-6.95	32.14	5.86	46.37	100	197	Average
2422	96.91	105.16	/	/	32.21	5.91	46.37	150	67	Peak
2422	87.73	95.98	/	/	32.21	5.91	46.37	150	67	Average
2483.5	52.03	60.05	74	-21.97	32.36	5.99	46.37	100	188	Peak
2483.5	43.62	51.64	54	-10.38	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. 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	55.33	64.09	74	-18.67	31.75	5.86	46.37	200	66	Peak
2390	47.2	55.96	54	-6.8	31.75	5.86	46.37	200	66	Average
2437	100.77	109.31	/	/	31.9	5.93	46.37	100	101	Peak
2437	92.13	100.67	/	/	31.9	5.93	46.37	100	101	Average
2483.5	57.58	65.91	74	-16.42	32.05	5.99	46.37	150	152	Peak
2483.5	49.41	57.74	54	-4.59	32.05	5.99	46.37	150	152	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	51.55	59.92	74	-22.45	32.14	5.86	46.37	100	111	Peak
2390	44.58	52.95	54	-9.42	32.14	5.86	46.37	100	111	Average
2437	95.71	103.9	/	/	32.25	5.93	46.37	150	120	Peak
2437	87.31	95.5	/	/	32.25	5.93	46.37	150	120	Average
2483.5	54.63	62.65	74	-19.37	32.36	5.99	46.37	200	140	Peak
2483.5	45.95	53.97	54	-8.05	32.36	5.99	46.37	200	140	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	50.56	59.32	74	-23.44	31.75	5.86	46.37	200	70	Peak
2390	41.66	50.42	54	-12.34	31.75	5.86	46.37	200	70	Average
2452	99.05	107.52	/	/	31.95	5.95	46.37	100	187	Peak
2452	89.69	98.16	/	/	31.95	5.95	46.37	100	187	Average
2483.5	64.11	72.44	74	-9.89	32.05	5.99	46.37	200	104	Peak
2483.5	50.89	59.22	54	-3.11	32.05	5.99	46.37	200	104	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	50.38	58.75	74	-23.62	32.14	5.86	46.37	100	179	Peak
2390	43.44	51.81	54	-10.56	32.14	5.86	46.37	100	179	Average
2452	94.53	102.67	/	/	32.28	5.95	46.37	150	132	Peak
2452	86.79	94.93	/	/	32.28	5.95	46.37	150	132	Average
2483.5	57.31	65.33	74	-16.69	32.36	5.99	46.37	100	116	Peak
2483.5	49.12	57.14	54	-4.88	32.36	5.99	46.37	100	116	Average

REMARKS:

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

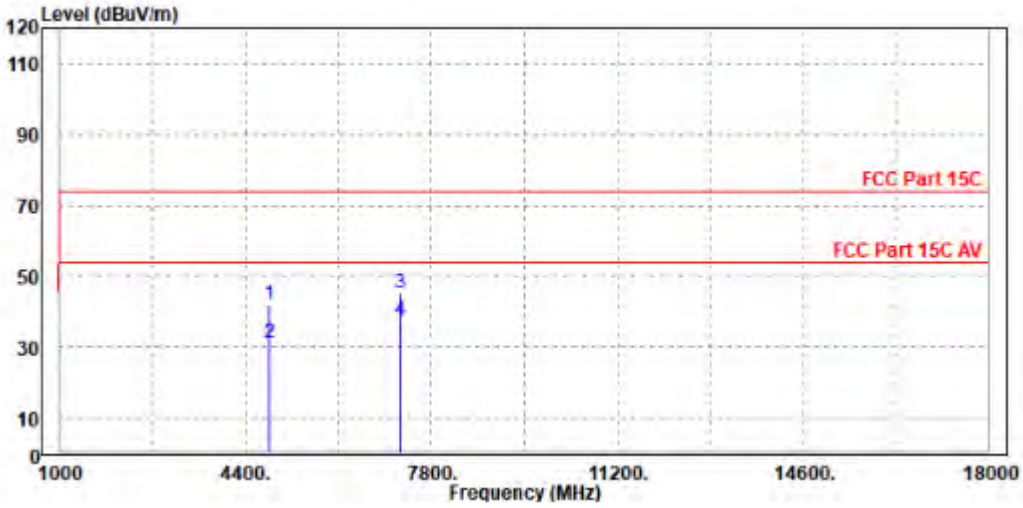
Worst case harmonic:

802.11g

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

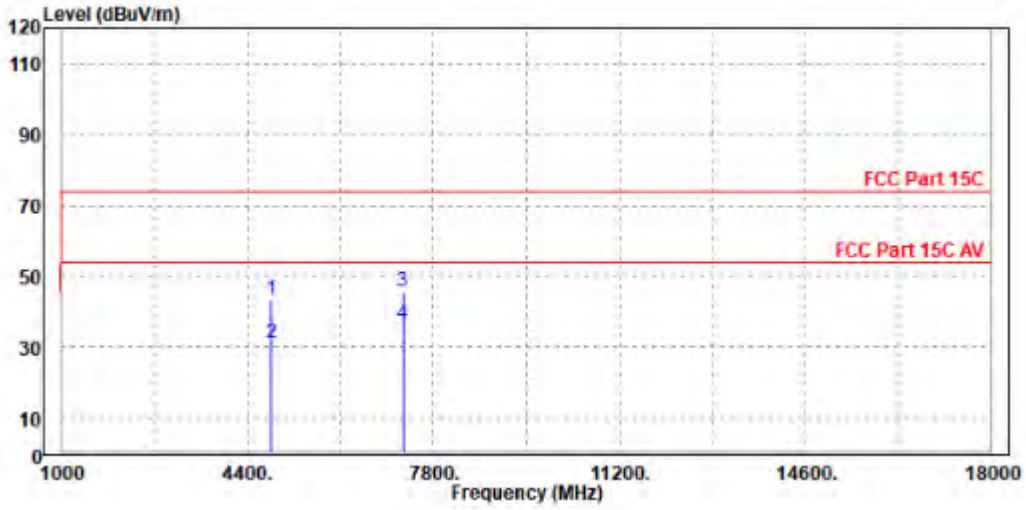
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4825.000	41.90	45.22	74.00	-32.10	-3.32	Peak	Horizontal
2		4825.000	31.04	34.36	54.00	-22.96	-3.32	Average	Horizontal
3	PK	7236.000	45.21	43.18	74.00	-28.79	2.03	Peak	Horizontal
4	PP	7236.000	37.20	35.17	54.00	-16.80	2.03	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	4824.000	43.38	46.50	74.00	-30.62	-3.12	Peak	Vertical
2	4824.000	30.94	34.06	54.00	-23.06	-3.12	Average	Vertical
3 PK	7239.000	45.83	43.69	74.00	-28.17	2.14	Peak	Vertical
4 PP	7239.000	36.40	34.26	54.00	-17.60	2.14	Average	Vertical



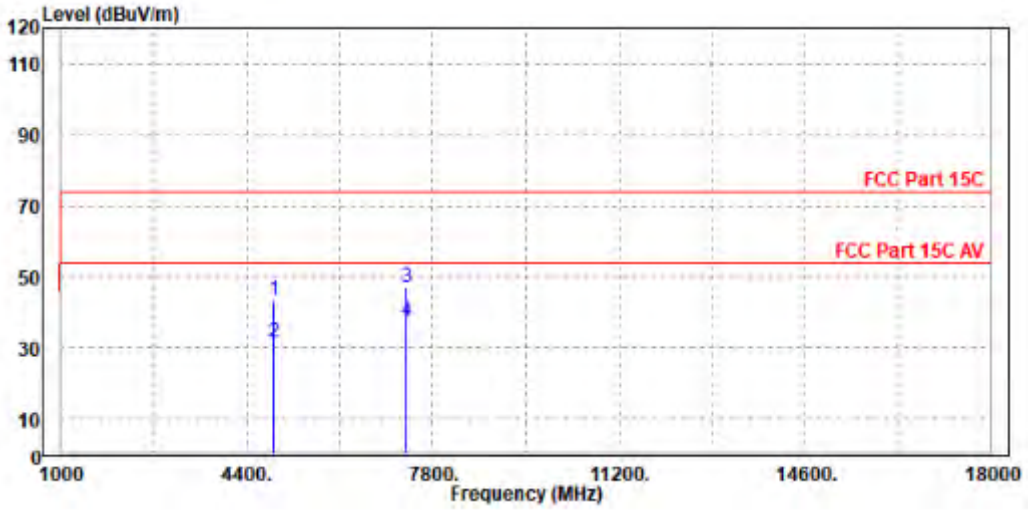
REMARKS:

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

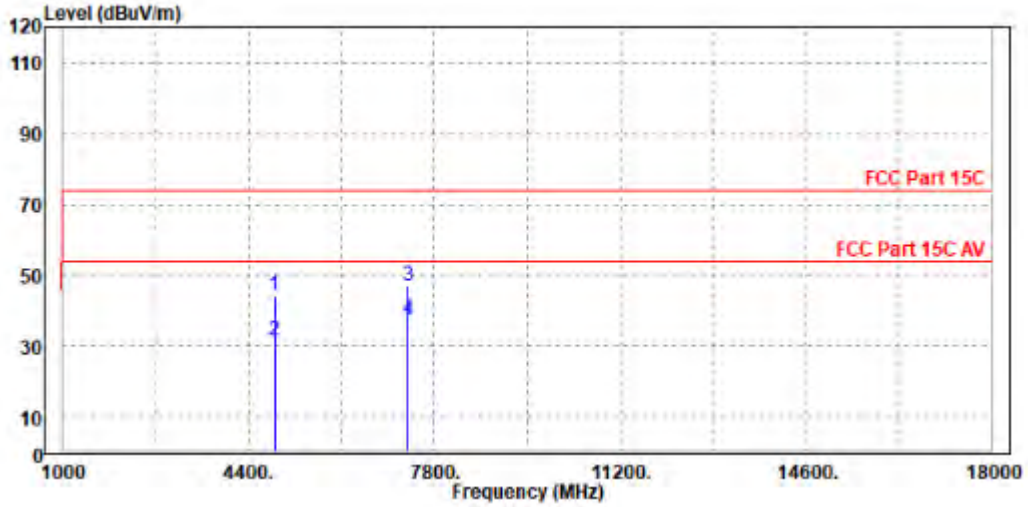
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4876.000	43.50	46.67	74.00	-30.50	-3.17	Peak	Horizontal
2	4876.000	31.51	34.68	54.00	-22.49	-3.17	Average	Horizontal
3 PK	7311.000	46.80	44.72	74.00	-27.20	2.08	Peak	Horizontal
4 PP	7311.000	37.21	35.13	54.00	-16.79	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		4874.000	44.29	47.26	74.00	-29.71	-2.97	Peak	Vertical
2		4874.000	31.57	34.54	54.00	-22.43	-2.97	Average	Vertical
3	PK	7307.000	46.90	44.74	74.00	-27.10	2.16	Peak	Vertical
4	PP	7307.000	37.44	35.28	54.00	-16.56	2.16	Average	Vertical



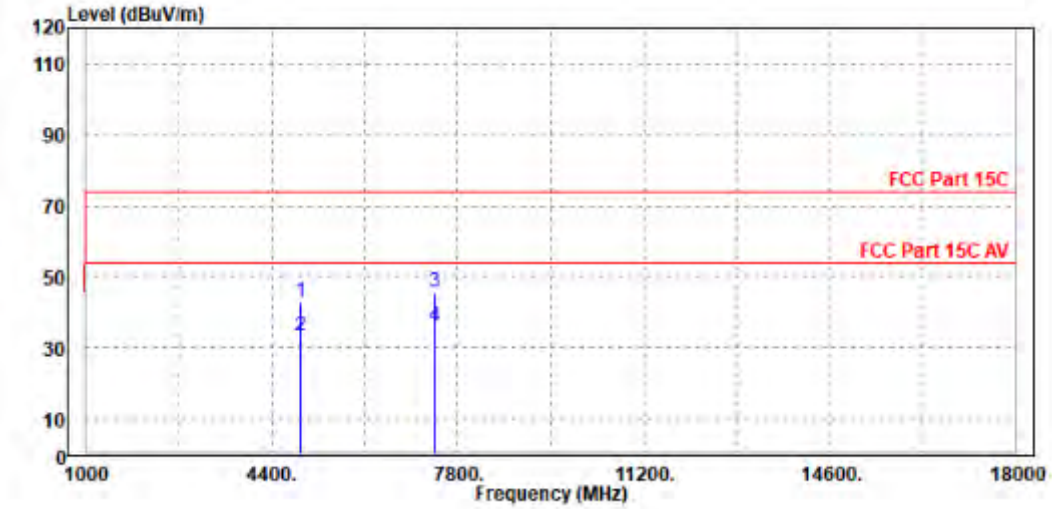
REMARKS:

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		

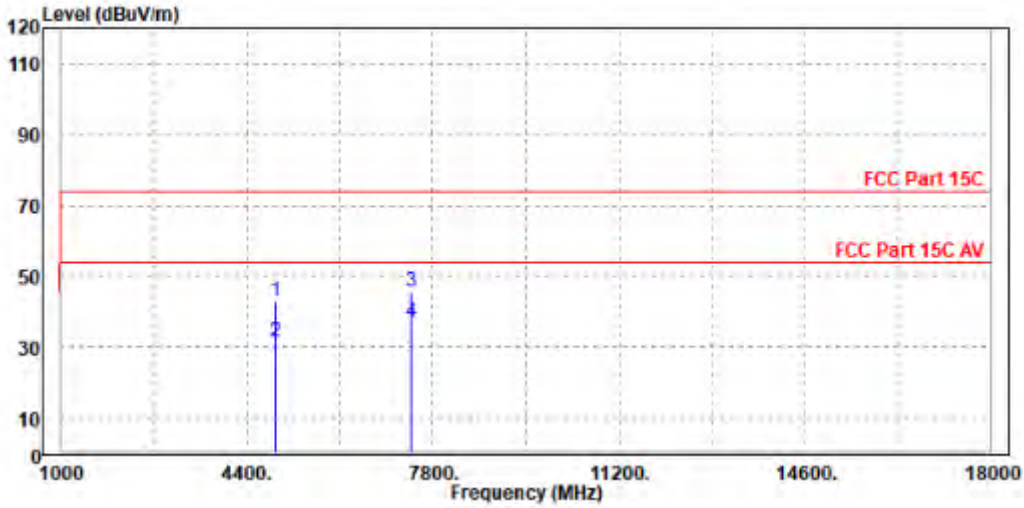
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4927.000	42.96	45.98	74.00	-31.04	-3.02	Peak	Horizontal
2		4927.000	33.30	36.32	54.00	-20.70	-3.02	Average	Horizontal
3	PK	7386.000	45.52	43.40	74.00	-28.48	2.12	Peak	Horizontal
4	PP	7386.000	36.23	34.11	54.00	-17.77	2.12	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	4924.000	42.69	45.51	74.00	-31.31	-2.82	Peak	Vertical
2	4924.000	31.26	34.08	54.00	-22.74	-2.82	Average	Vertical
3 PK	7392.000	45.62	43.46	74.00	-28.38	2.16	Peak	Vertical
4 PP	7392.000	37.13	34.97	54.00	-16.87	2.16	Average	Vertical



REMARKS:

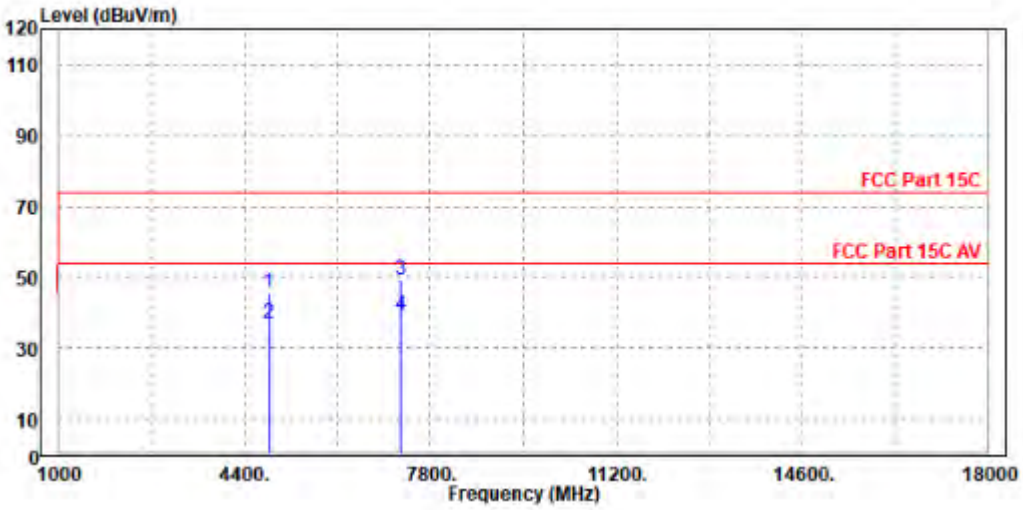
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2462MHz: Fundamental frequency.

802.11n (40MHz)

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

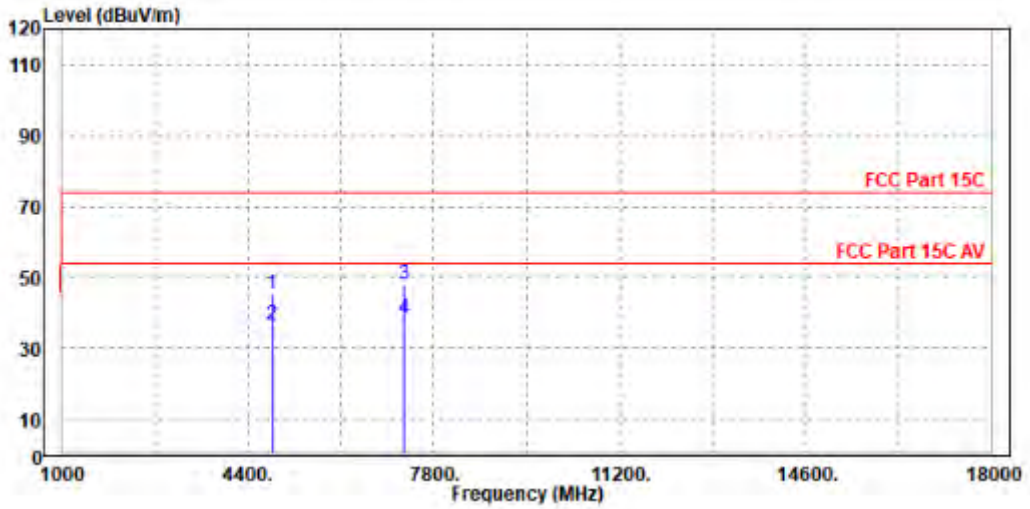
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4844.000	45.75	49.01	74.00	-28.25	-3.26	Peak	Horizontal
2	4844.000	36.99	40.25	54.00	-17.01	-3.26	Average	Horizontal
3 PK	7266.000	49.48	47.44	74.00	-24.52	2.04	Peak	Horizontal
4 PP	7266.000	39.36	37.32	54.00	-14.64	2.04	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		4844.000	45.16	48.22	74.00	-28.84	-3.06	Peak	Vertical
2		4844.000	36.51	39.57	54.00	-17.49	-3.06	Average	Vertical
3	PK	7266.000	47.89	45.76	74.00	-26.11	2.13	Peak	Vertical
4	PP	7266.000	38.43	36.30	54.00	-15.57	2.13	Average	Vertical



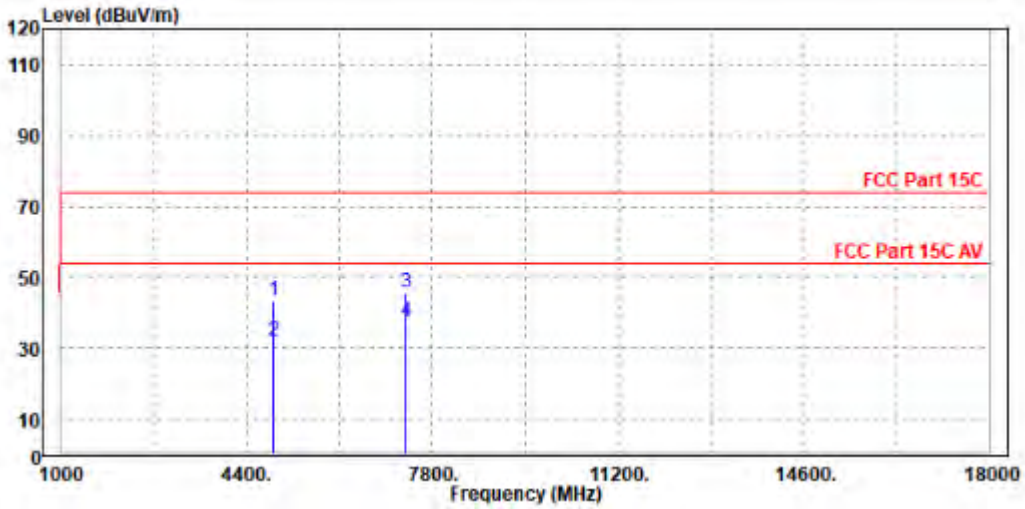
REMARKS:

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		

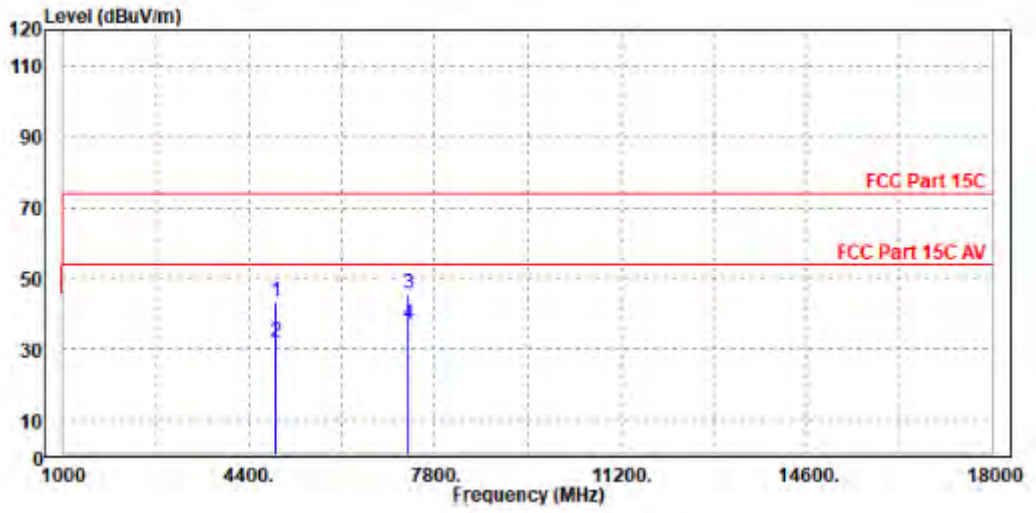
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4876.000	43.14	46.31	74.00	-30.86	-3.17	Peak	Horizontal
2	4876.000	31.72	34.89	54.00	-22.28	-3.17	Average	Horizontal
3 PK	7311.000	45.84	43.76	74.00	-28.16	2.08	Peak	Horizontal
4 PP	7311.000	37.58	35.50	54.00	-16.42	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		4876.000	43.19	46.16	74.00	-30.81	-2.97	Peak	Vertical
2		4876.000	31.75	34.72	54.00	-22.25	-2.97	Average	Vertical
3	PK	7311.000	45.56	43.41	74.00	-28.44	2.15	Peak	Vertical
4	PP	7311.000	37.17	35.02	54.00	-16.83	2.15	Average	Vertical



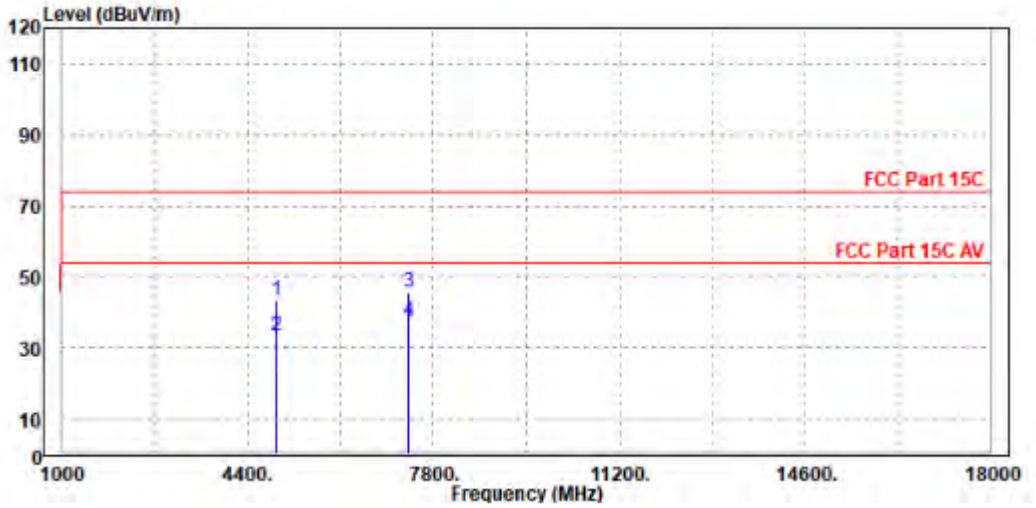
REMARKS:

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		

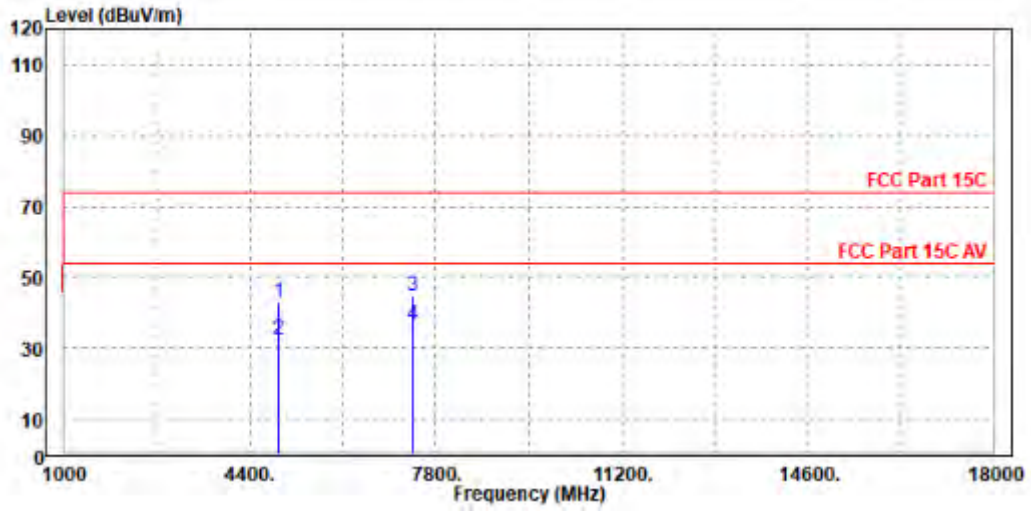
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4910.000	43.16	46.22	74.00	-30.84	-3.06	Peak	Horizontal
2		4910.000	33.13	36.19	54.00	-20.87	-3.06	Average	Horizontal
3	PK	7356.000	45.71	43.61	74.00	-28.29	2.10	Peak	Horizontal
4	PP	7356.000	37.59	35.49	54.00	-16.41	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		4904.000	43.04	45.92	74.00	-30.96	-2.88	Peak	Vertical
2		4904.000	32.38	35.26	54.00	-21.62	-2.88	Average	Vertical
3	PK	7358.000	44.89	42.73	74.00	-29.11	2.16	Peak	Vertical
4	PP	7358.000	36.44	34.28	54.00	-17.56	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:

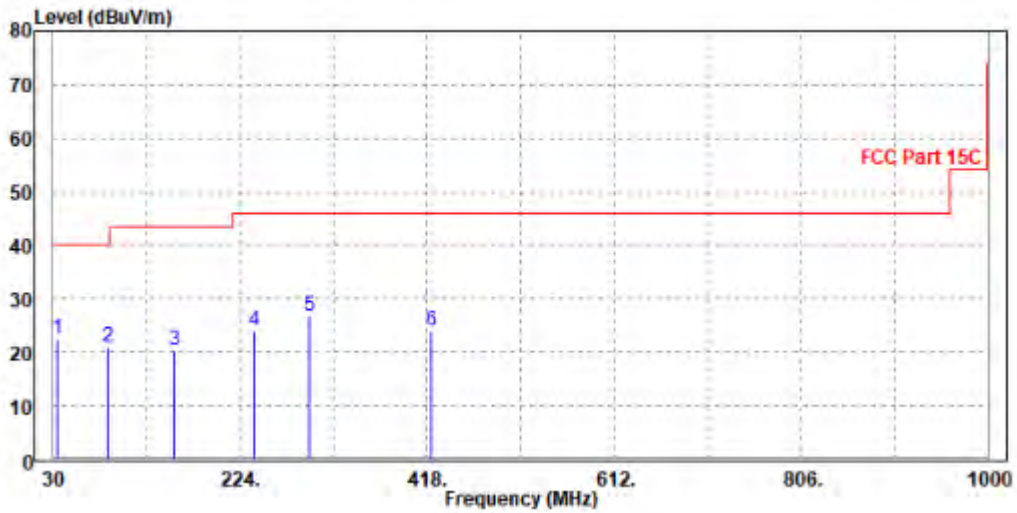
BT-LE _2M

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	22.45	40.58	40	-17.55	19.07	0.33	37.53	200	149	QP
86.26	20.99	49.32	40	-19.01	8.45	0.5	37.28	100	110	QP
156.1	20.41	46.08	43.5	-23.09	10.43	0.67	36.77	150	344	QP
237.58	23.94	46.81	46	-22.06	12.95	0.81	36.63	200	7	QP
295.78	26.71	48.59	46	-19.29	13.96	0.9	36.74	100	260	QP
422.85	23.92	43.05	46	-22.08	16.63	1.11	36.87	150	199	QP

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

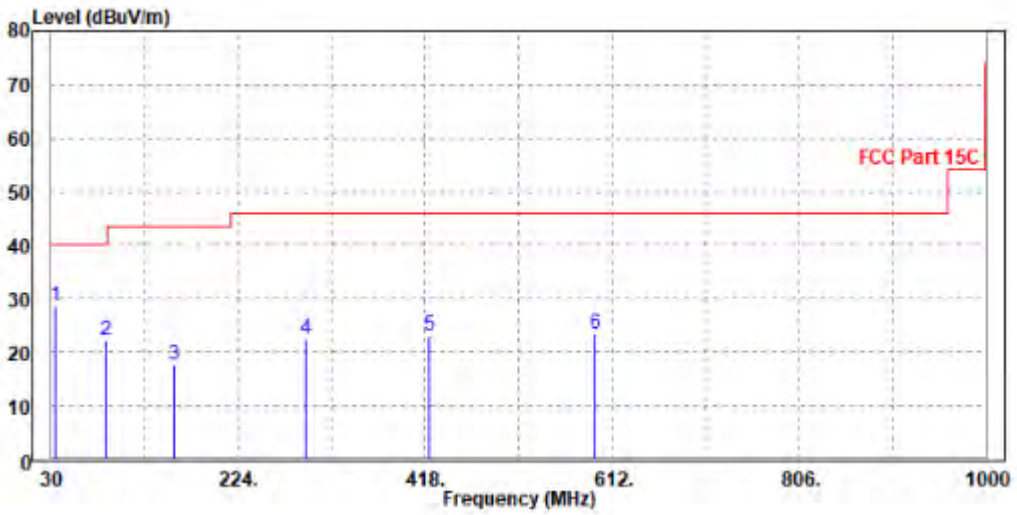


CHANNEL	TX Channel 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	28.54	47.38	40	-11.46	18.36	0.33	37.53	150	79	QP
86.26	22.29	50.84	40	-17.71	8.23	0.5	37.28	100	50	QP
158.04	17.71	42.97	43.5	-25.79	10.82	0.67	36.75	200	14	QP
294.81	22.41	44.4	46	-23.59	13.85	0.9	36.74	200	121	QP
422.85	23.2	42.36	46	-22.8	16.6	1.11	36.87	100	36	QP
594.54	23.42	39.93	46	-22.58	19.49	1.35	37.35	200	352	QP

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	50.74	59.5	74	-23.26	31.75	5.86	46.37	200	225	Peak
2390	44.03	52.79	54	-9.97	31.75	5.86	46.37	200	225	Average
2402	91.46	100.16	/	/	31.79	5.88	46.37	100	198	Peak
2402	90.99	99.69	/	/	31.79	5.88	46.37	100	198	Average
2483.5	51.36	59.69	74	-22.64	32.05	5.99	46.37	150	106	Peak
2483.5	44.17	52.5	54	-9.83	32.05	5.99	46.37	150	106	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	52.27	60.64	74	-21.73	32.14	5.86	46.37	150	93	Peak
2390	43.9	52.27	54	-10.1	32.14	5.86	46.37	150	93	Average
2402	87.81	96.14	/	/	32.16	5.88	46.37	200	173	Peak
2402	86.86	95.19	/	/	32.16	5.88	46.37	200	173	Average
2483.5	51.8	59.82	74	-22.2	32.36	5.99	46.37	150	167	Peak
2483.5	44.82	52.84	54	-9.18	32.36	5.99	46.37	150	167	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	50.57	59.33	74	-23.43	31.75	5.86	46.37	100	117	Peak
2390	43.91	52.67	54	-10.09	31.75	5.86	46.37	100	117	Average
2440	93.84	102.37	/	/	31.91	5.93	46.37	200	110	Peak
2440	91.61	100.14	/	/	31.91	5.93	46.37	200	110	Average
2483.5	51.67	60	74	-22.33	32.05	5.99	46.37	100	195	Peak
2483.5	44.74	53.07	54	-9.26	32.05	5.99	46.37	100	195	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	52.24	60.61	74	-21.76	32.14	5.86	46.37	150	260	Peak
2390	44.28	52.65	54	-9.72	32.14	5.86	46.37	150	260	Average
2440	87.25	95.43	/	/	32.26	5.93	46.37	200	183	Peak
2440	86.89	95.07	/	/	32.26	5.93	46.37	200	183	Average
2483.5	51.46	59.48	74	-22.54	32.36	5.99	46.37	100	131	Peak
2483.5	44.43	52.45	54	-9.57	32.36	5.99	46.37	100	131	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	51.15	59.91	74	-22.85	31.75	5.86	46.37	150	73	Peak
2390	43.98	52.74	54	-10.02	31.75	5.86	46.37	150	73	Average
2480	90.77	99.12	/	/	32.04	5.98	46.37	100	160	Peak
2480	90.29	98.64	/	/	32.04	5.98	46.37	100	160	Average
2483.5	51.33	59.66	74	-22.67	32.05	5.99	46.37	100	198	Peak
2483.5	44.35	52.68	54	-9.65	32.05	5.99	46.37	100	198	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	150	177	Peak
2390	44.73	53.1	54	-9.27	32.14	5.86	46.37	150	177	Average
2480	87.98	96.02	/	/	32.35	5.98	46.37	150	165	Peak
2480	86.33	94.37	/	/	32.35	5.98	46.37	150	165	Average
2483.5	52.09	60.11	74	-21.91	32.36	5.99	46.37	100	179	Peak
2483.5	44.83	52.85	54	-9.17	32.36	5.99	46.37	100	179	Average

REMARKS:

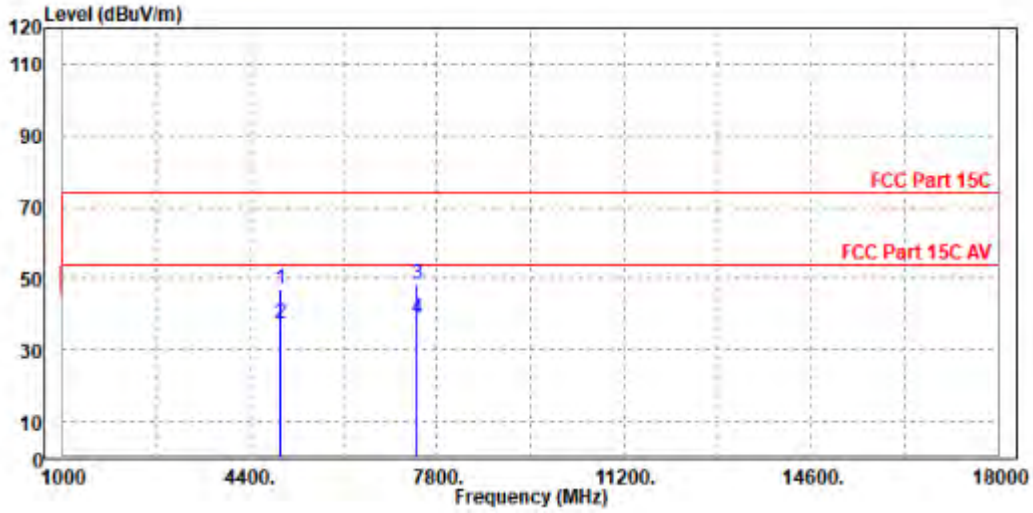
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

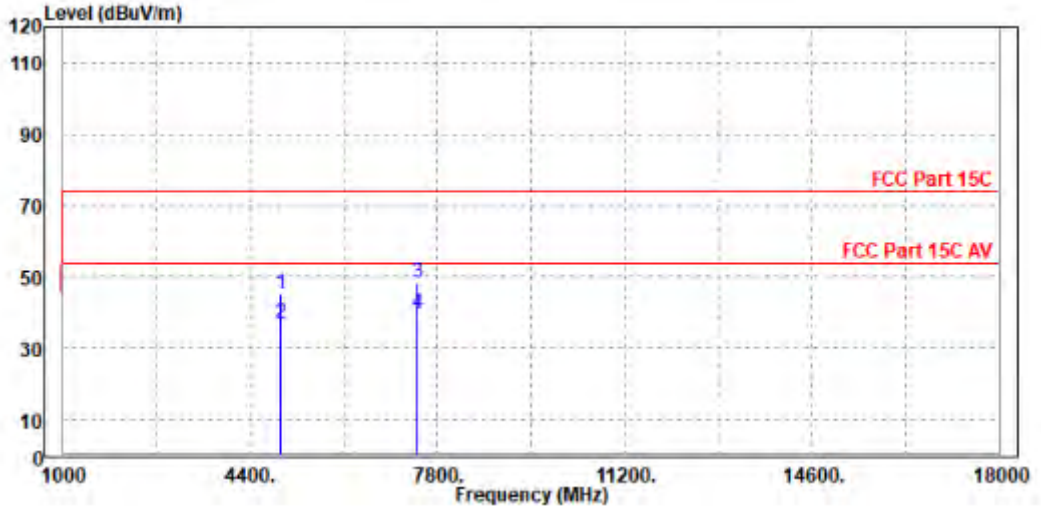
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4960.000	46.83	49.74	74.00	-27.17	-2.91	Peak	Horizontal
2		4960.000	37.37	40.28	54.00	-16.63	-2.91	Average	Horizontal
3	PK	7440.000	48.35	46.20	74.00	-25.65	2.15	Peak	Horizontal
4	PP	7440.000	38.77	36.62	54.00	-15.23	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	45.39	48.10	74.00	-28.61	-2.71	Peak	Vertical
2		4960.000	36.98	39.69	54.00	-17.02	-2.71	Average	Vertical
3	PK	7440.000	48.24	46.06	74.00	-25.76	2.18	Peak	Vertical
4	PP	7440.000	39.80	37.62	54.00	-14.20	2.18	Average	Vertical



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	51.37	60.13	74	-22.63	31.75	5.86	46.37	150	257	Peak
2390	43.99	52.75	54	-10.01	31.75	5.86	46.37	150	257	Average
2402	90.84	99.54	/	/	31.79	5.88	46.37	300	127	Peak
2402	90.42	99.12	/	/	31.79	5.88	46.37	300	127	Average
2483.5	51.13	59.46	74	-22.87	32.05	5.99	46.37	150	187	Peak
2483.5	43.8	52.13	54	-10.2	32.05	5.99	46.37	150	187	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	52.48	60.85	74	-21.52	32.14	5.86	46.37	150	52	Peak
2390	44.17	52.54	54	-9.83	32.14	5.86	46.37	150	52	Average
2402	87.07	95.4	/	/	32.16	5.88	46.37	150	101	Peak
2402	86.17	94.5	/	/	32.16	5.88	46.37	150	101	Average
2483.5	51.54	59.56	74	-22.46	32.36	5.99	46.37	200	197	Peak
2483.5	44.22	52.24	54	-9.78	32.36	5.99	46.37	200	197	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	51.97	60.73	74	-22.03	31.75	5.86	46.37	150	67	Peak
2390	44.01	52.77	54	-9.99	31.75	5.86	46.37	150	67	Average
2440	91.63	100.16	/	/	31.91	5.93	46.37	200	133	Peak
2440	91.23	99.76	/	/	31.91	5.93	46.37	200	133	Average
2483.5	55.82	64.15	74	-18.18	32.05	5.99	46.37	200	128	Peak
2483.5	45.52	53.85	54	-8.48	32.05	5.99	46.37	200	128	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	53.87	62.24	74	-20.13	32.14	5.86	46.37	150	35	Peak
2390	44.49	52.86	54	-9.51	32.14	5.86	46.37	150	35	Average
2440	87.99	96.17	/	/	32.26	5.93	46.37	100	114	Peak
2440	86.96	95.14	/	/	32.26	5.93	46.37	100	114	Average
2483.5	52.51	60.53	74	-21.49	32.36	5.99	46.37	200	100	Peak
2483.5	45.17	53.19	54	-8.83	32.36	5.99	46.37	200	100	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	51.37	60.13	74	-22.63	31.75	5.86	46.37	339	128	Peak
2390	43.73	52.49	54	-10.27	31.75	5.86	46.37	100	128	Average
2480	90.59	98.94	/	/	32.04	5.98	46.37	337	198	Peak
2480	90.19	98.54	/	/	32.04	5.98	46.37	99	198	Average
2483.5	55.64	63.97	74	-18.36	32.05	5.99	46.37	272	179	Peak
2483.5	44.16	52.49	54	-9.84	32.05	5.99	46.37	64	179	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	51.55	59.92	74	-22.45	32.14	5.86	46.37	200	165	Peak
2390	44.15	52.52	54	-9.85	32.14	5.86	46.37	200	165	Average
2480	87.26	95.3	/	/	32.35	5.98	46.37	100	114	Peak
2480	86.17	94.21	/	/	32.35	5.98	46.37	100	114	Average
2483.5	52.71	60.73	74	-21.29	32.36	5.99	46.37	200	197	Peak
2483.5	44.3	52.32	54	-9.7	32.36	5.99	46.37	200	197	Average

REMARKS:

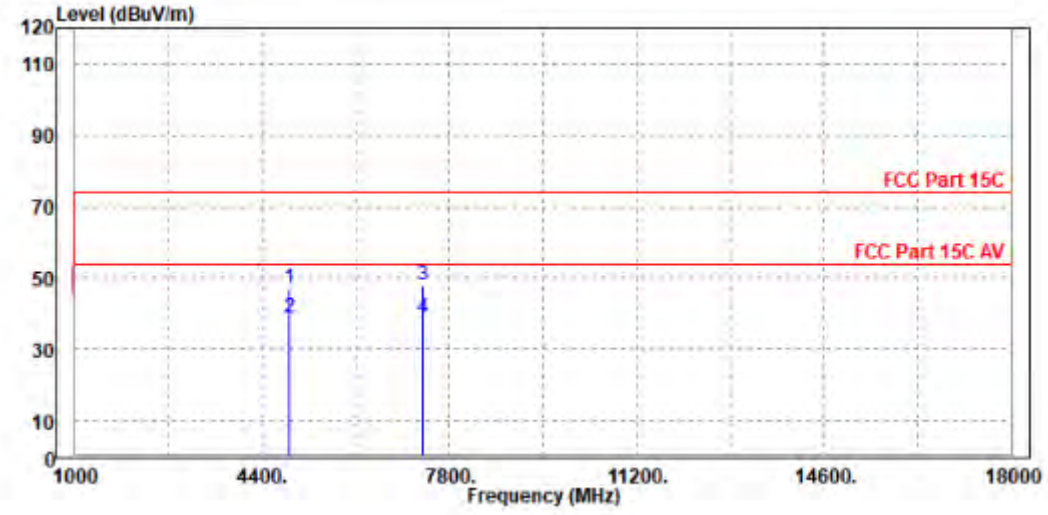
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

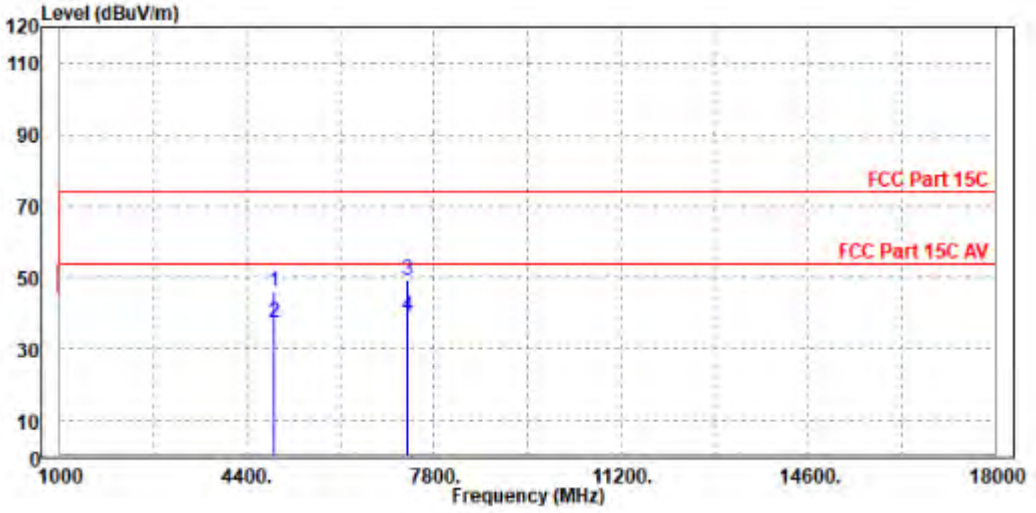
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4880.000	47.01	50.16	74.00	-26.99	-3.15	Peak	Horizontal
2 PP	4880.000	38.68	41.83	54.00	-15.32	-3.15	Average	Horizontal
3 PK	7320.000	48.02	45.94	74.00	-25.98	2.08	Peak	Horizontal
4	7320.000	38.67	36.59	54.00	-15.33	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	46.22	49.17	74.00	-27.78	-2.95	Peak	Vertical
2		4880.000	37.37	40.32	54.00	-16.63	-2.95	Average	Vertical
3	PK	7320.000	49.20	47.05	74.00	-24.80	2.15	Peak	Vertical
4	PP	7320.000	39.43	37.28	54.00	-14.57	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.

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	51.36	60.12	74	-22.64	31.75	5.86	46.37	100	211	Peak
2390	43.81	52.57	54	-10.19	31.75	5.86	46.37	100	211	Average
2402	92.7	101.4	/	/	31.79	5.88	46.37	150	154	Peak
2402	90	98.7	/	/	31.79	5.88	46.37	150	154	Average
2483.5	52.37	60.7	74	-21.63	32.05	5.99	46.37	100	155	Peak
2483.5	44.6	52.93	54	-9.4	32.05	5.99	46.37	100	155	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	100	271	Peak
2390	44.3	52.67	54	-9.7	32.14	5.86	46.37	100	271	Average
2402	89.95	98.28	/	/	32.16	5.88	46.37	150	113	Peak
2402	87.53	95.86	/	/	32.16	5.88	46.37	150	113	Average
2483.5	52.04	60.06	74	-21.96	32.36	5.99	46.37	200	195	Peak
2483.5	45.07	53.09	54	-8.93	32.36	5.99	46.37	200	195	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	51.39	60.15	74	-22.61	31.75	5.86	46.37	100	210	Peak
2390	43.79	52.55	54	-10.21	31.75	5.86	46.37	100	210	Average
2440	92.83	101.36	/	/	31.91	5.93	46.37	200	119	Peak
2440	90.12	98.65	/	/	31.91	5.93	46.37	200	119	Average
2483.5	52.78	61.11	74	-21.22	32.05	5.99	46.37	100	101	Peak
2483.5	44.19	52.52	54	-9.81	32.05	5.99	46.37	100	101	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	52.46	60.83	74	-21.54	32.14	5.86	46.37	150	214	Peak
2390	44.05	52.42	54	-9.95	32.14	5.86	46.37	150	214	Average
2440	90.16	98.34	/	/	32.26	5.93	46.37	200	144	Peak
2440	88.13	96.31	/	/	32.26	5.93	46.37	200	144	Average
2483.5	52.7	60.72	74	-21.3	32.36	5.99	46.37	100	117	Peak
2483.5	45.06	53.08	54	-8.94	32.36	5.99	46.37	100	117	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	51.34	60.1	74	-22.66	31.75	5.86	46.37	100	139	Peak
2390	43.78	52.54	54	-10.22	31.75	5.86	46.37	100	139	Average
2480	93.91	102.26	/	/	32.04	5.98	46.37	150	117	Peak
2480	91.87	100.22	/	/	32.04	5.98	46.37	150	117	Average
2483.5	52.48	60.81	74	-21.52	32.05	5.99	46.37	100	163	Peak
2483.5	44.9	53.23	54	-9.1	32.05	5.99	46.37	100	163	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	51.76	60.13	74	-22.24	32.14	5.86	46.37	100	228	Peak
2390	44.52	52.89	54	-9.48	32.14	5.86	46.37	100	228	Average
2480	93.47	101.51	/	/	32.35	5.98	46.37	150	102	Peak
2480	90.11	98.15	/	/	32.35	5.98	46.37	150	102	Average
2483.5	52.55	60.57	74	-21.45	32.36	5.99	46.37	200	136	Peak
2483.5	44.77	52.79	54	-9.23	32.36	5.99	46.37	200	136	Average

REMARKS:

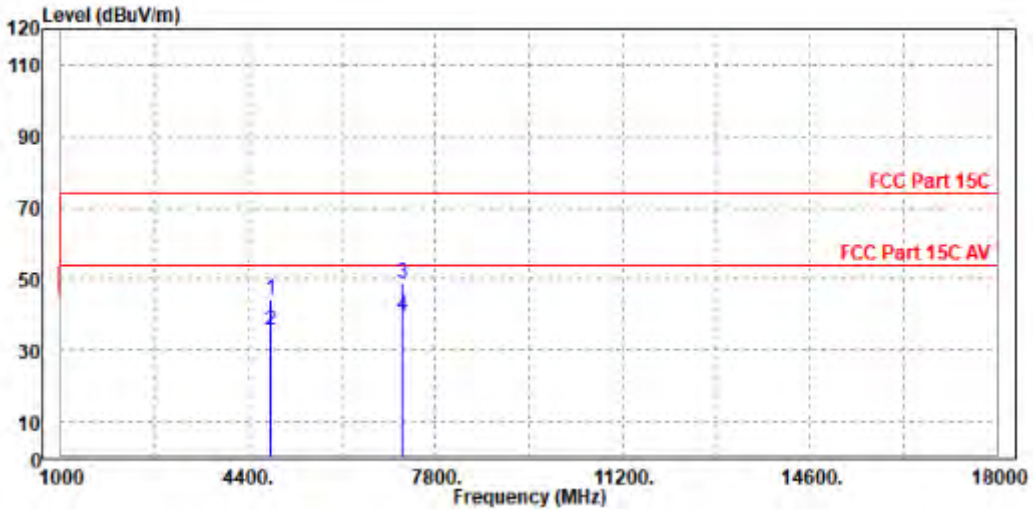
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

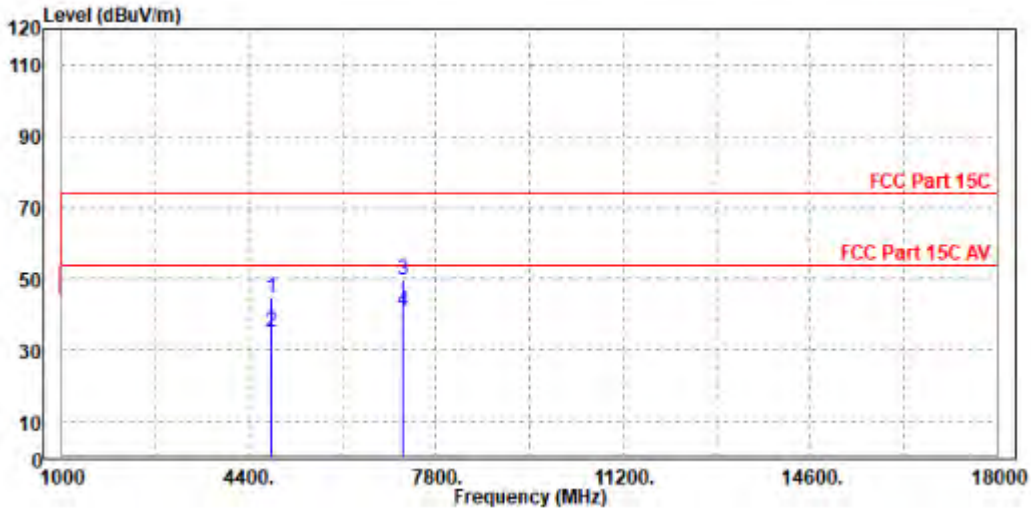
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4804.000	44.19	47.56	74.00	-29.81	-3.37	Peak	Horizontal
2		4804.000	35.45	38.82	54.00	-18.55	-3.37	Average	Horizontal
3	PK	7206.000	48.83	46.82	74.00	-25.17	2.01	Peak	Horizontal
4	PP	7206.000	39.63	37.62	54.00	-14.37	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		4804.000	44.51	47.68	74.00	-29.49	-3.17	Peak	Vertical
2		4804.000	35.05	38.22	54.00	-18.95	-3.17	Average	Vertical
3	PK	7206.000	49.74	47.61	74.00	-24.26	2.13	Peak	Vertical
4	PP	7206.000	41.05	38.92	54.00	-12.95	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.

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	51.26	60.02	74	-22.74	31.75	5.86	46.37	100	119	Peak
2390	43.76	52.52	54	-10.24	31.75	5.86	46.37	100	119	Average
2402	92.45	101.15	/	/	31.79	5.88	46.37	150	125	Peak
2402	90.04	98.74	/	/	31.79	5.88	46.37	150	125	Average
2483.5	52.33	60.66	74	-21.67	32.05	5.99	46.37	200	158	Peak
2483.5	44.53	52.86	54	-9.47	32.05	5.99	46.37	200	158	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	51.99	60.36	74	-22.01	32.14	5.86	46.37	100	127	Peak
2390	43.95	52.32	54	-10.05	32.14	5.86	46.37	100	127	Average
2402	90.43	98.76	/	/	32.16	5.88	46.37	150	190	Peak
2402	86.71	95.04	/	/	32.16	5.88	46.37	150	190	Average
2483.5	52.42	60.44	74	-21.58	32.36	5.99	46.37	200	126	Peak
2483.5	45.19	53.21	54	-8.81	32.36	5.99	46.37	200	126	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	51.77	60.53	74	-22.23	31.75	5.86	46.37	100	259	Peak
2390	43.79	52.55	54	-10.21	31.75	5.86	46.37	100	259	Average
2440	92.72	101.25	/	/	31.91	5.93	46.37	150	188	Peak
2440	90.39	98.92	/	/	31.91	5.93	46.37	150	188	Average
2483.5	52.38	60.71	74	-21.62	32.05	5.99	46.37	200	131	Peak
2483.5	44.61	52.94	54	-9.39	32.05	5.99	46.37	200	131	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	51.28	59.65	74	-22.72	32.14	5.86	46.37	150	189	Peak
2390	44.24	52.61	54	-9.76	32.14	5.86	46.37	150	189	Average
2440	90.46	98.64	/	/	32.26	5.93	46.37	150	128	Peak
2440	87.86	96.04	/	/	32.26	5.93	46.37	150	128	Average
2483.5	52.68	60.7	74	-21.32	32.36	5.99	46.37	200	199	Peak
2483.5	44.59	52.61	54	-9.41	32.36	5.99	46.37	200	199	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	52.91	61.67	74	-21.09	31.75	5.86	46.37	100	181	Peak
2390	43.98	52.74	54	-10.02	31.75	5.86	46.37	100	181	Average
2480	93.81	102.16	/	/	32.04	5.98	46.37	150	140	Peak
2480	90.49	98.84	/	/	32.04	5.98	46.37	150	140	Average
2483.5	51.45	59.78	74	-22.55	32.05	5.99	46.37	200	123	Peak
2483.5	44.42	52.75	54	-9.58	32.05	5.99	46.37	200	123	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	52.52	60.89	74	-21.48	32.14	5.86	46.37	100	221	Peak
2390	44.52	52.89	54	-9.48	32.14	5.86	46.37	100	221	Average
2480	91.7	99.74	/	/	32.35	5.98	46.37	150	154	Peak
2480	88.08	96.12	/	/	32.35	5.98	46.37	150	154	Average
2483.5	51.99	60.01	74	-22.01	32.36	5.99	46.37	150	179	Peak
2483.5	45.07	53.09	54	-8.93	32.36	5.99	46.37	150	179	Average

REMARKS:

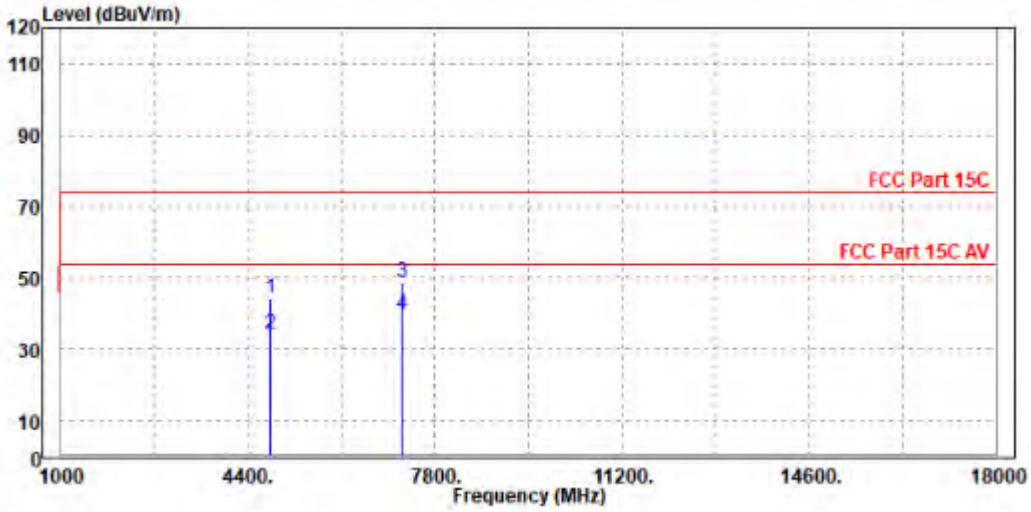
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

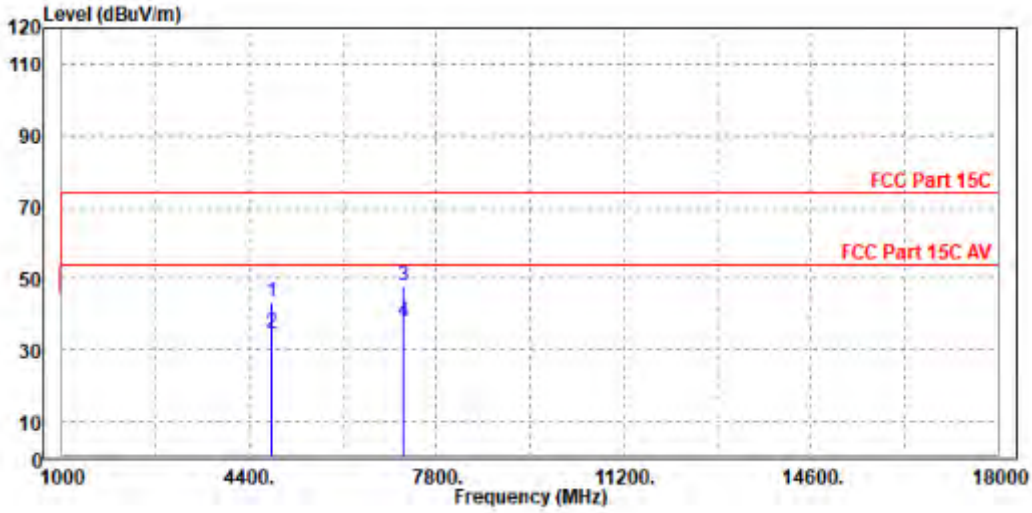
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1		4804.000	44.05	47.42	74.00	-29.95	-3.37	Peak	Horizontal
2		4804.000	34.00	37.37	54.00	-20.00	-3.37	Average	Horizontal
3	PK	7206.000	48.87	46.86	74.00	-25.13	2.01	Peak	Horizontal
4	PP	7206.000	39.60	37.59	54.00	-14.40	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		4804.000	43.45	46.62	74.00	-30.55	-3.17	Peak	Vertical
2		4804.000	34.82	37.99	54.00	-19.18	-3.17	Average	Vertical
3	PK	7206.000	48.06	45.93	74.00	-25.94	2.13	Peak	Vertical
4	PP	7206.000	37.75	35.62	54.00	-16.25	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.

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	Feb. 18,22	Feb. 17,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
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.

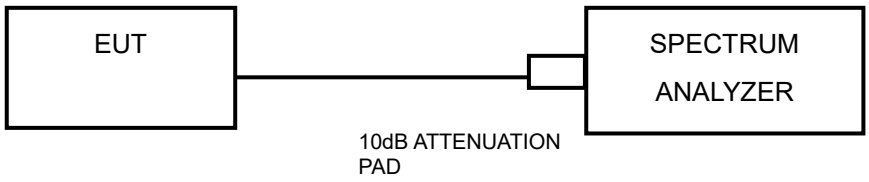
3.3.3 TEST PROCEDURE

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

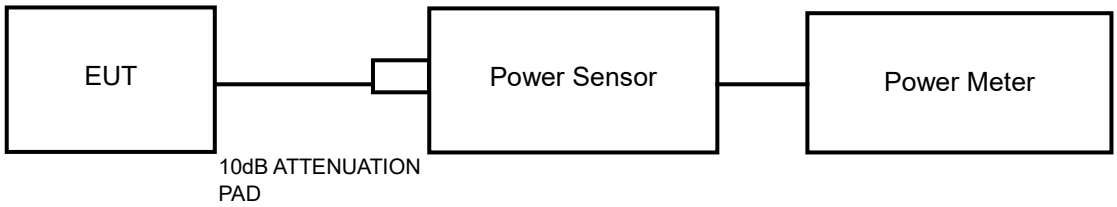
Please Refer to Appendix1/2 Of this test report.

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.

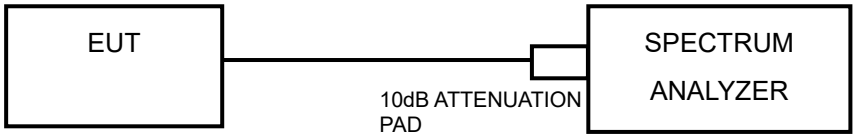
Please Refer to Appendix1/2 Of this test report.

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

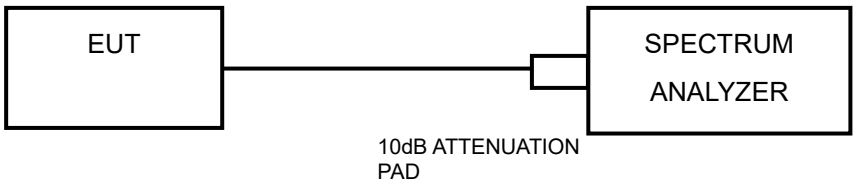
Please Refer to Appendix1/2 Of this test report.

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	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.520	2408.000	2416.520	0.5	PASS
		2437	8.560	2432.480	2441.040	0.5	PASS
		2462	8.520	2457.960	2466.480	0.5	PASS
11G	Ant1	2412	16.080	2404.080	2420.160	0.5	PASS
		2437	16.080	2428.840	2444.920	0.5	PASS
		2462	15.520	2454.640	2470.160	0.5	PASS
11N20SISO	Ant1	2412	16.880	2403.480	2420.360	0.5	PASS
		2437	17.280	2428.480	2445.760	0.5	PASS
		2462	16.800	2453.440	2470.240	0.5	PASS
11N40SISO	Ant1	2422	35.360	2404.240	2439.600	0.5	PASS
		2437	35.680	2419.400	2455.080	0.5	PASS
		2452	36.080	2434.080	2470.160	0.5	PASS

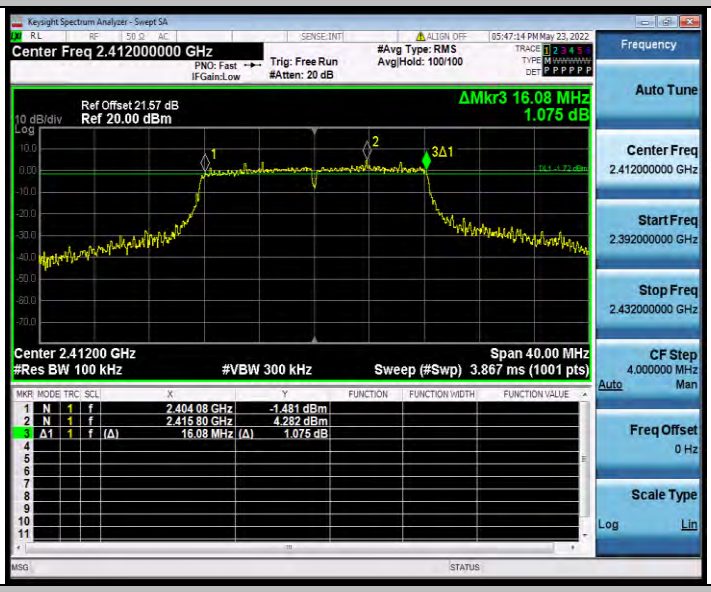
TEST GRAPHS

11B_Ant1_2412

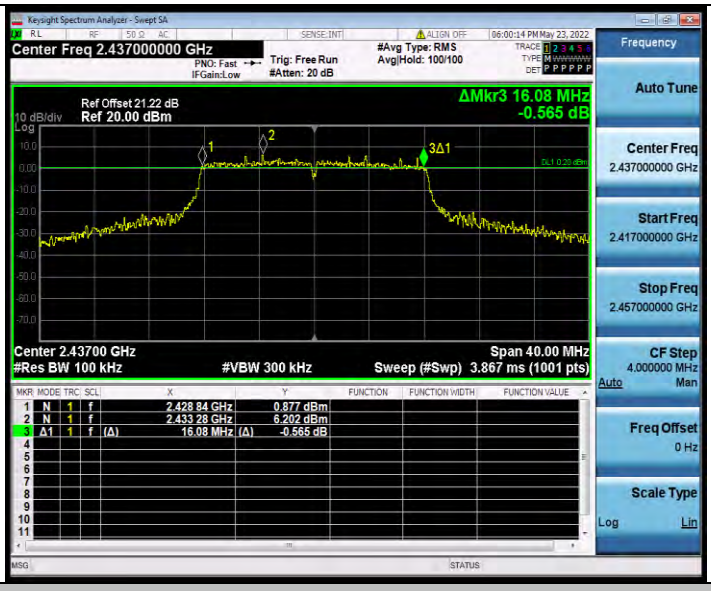
11B_Ant1_2437

11B_Ant1_2462

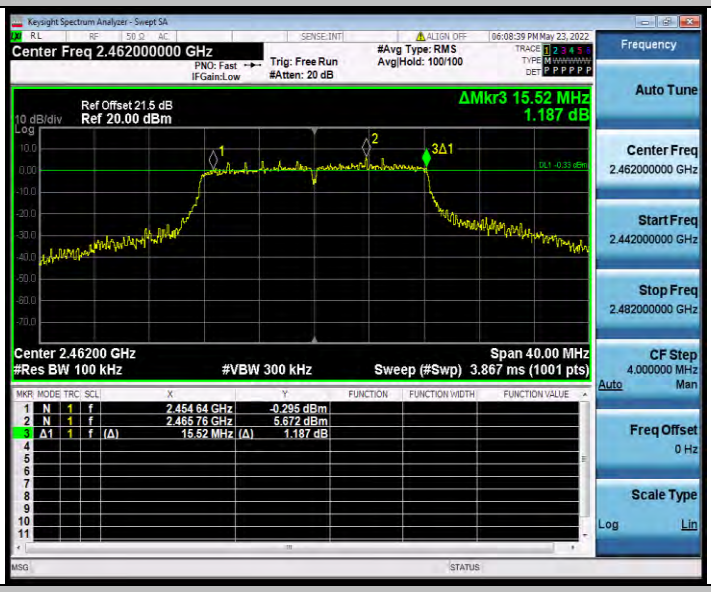
11G_Ant1_2412



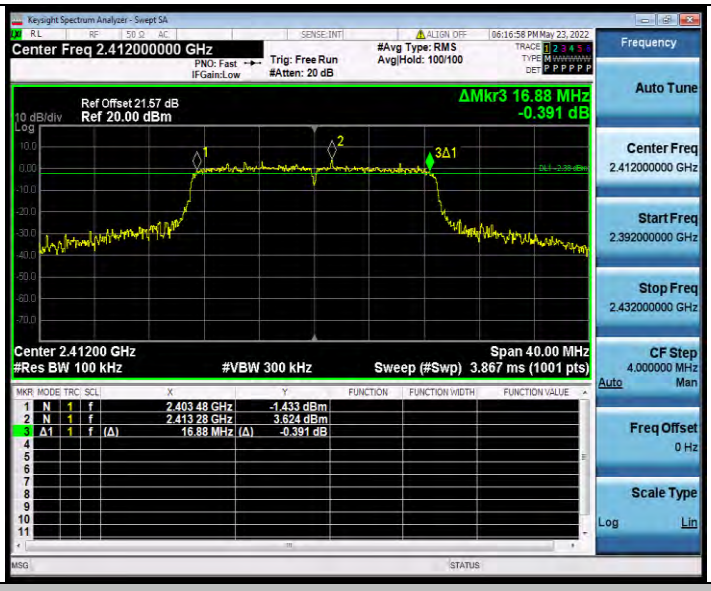
11G_Ant1_2437



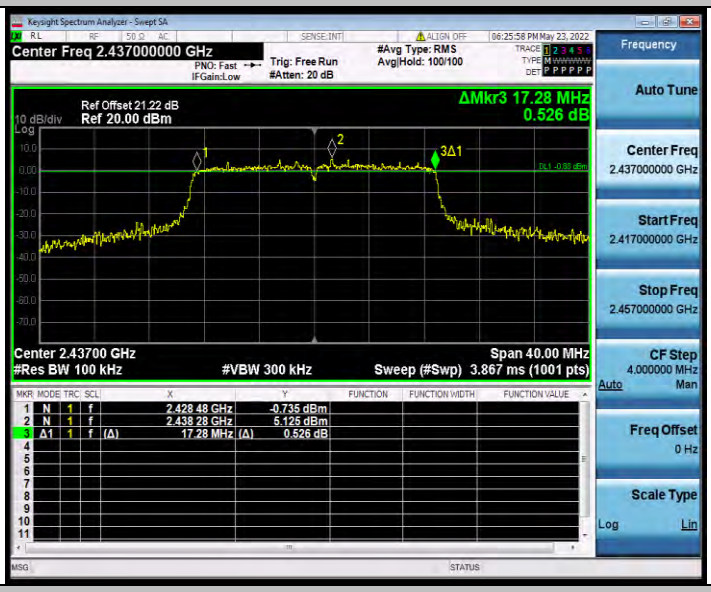
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



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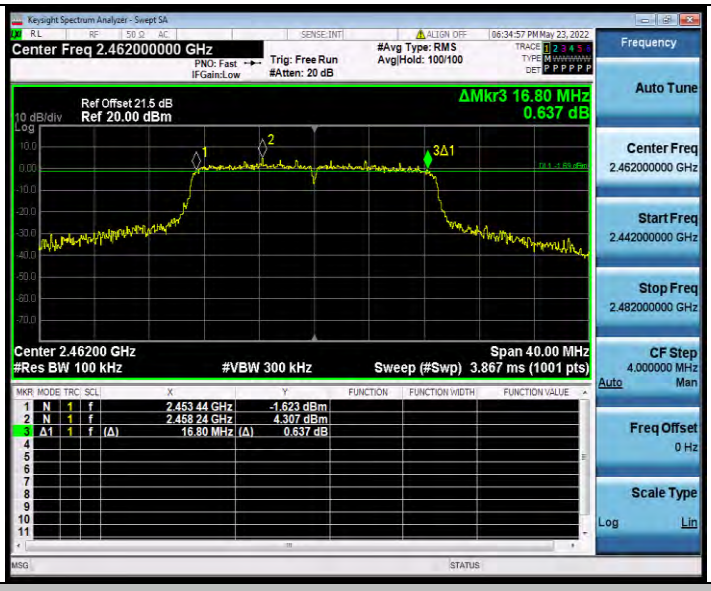

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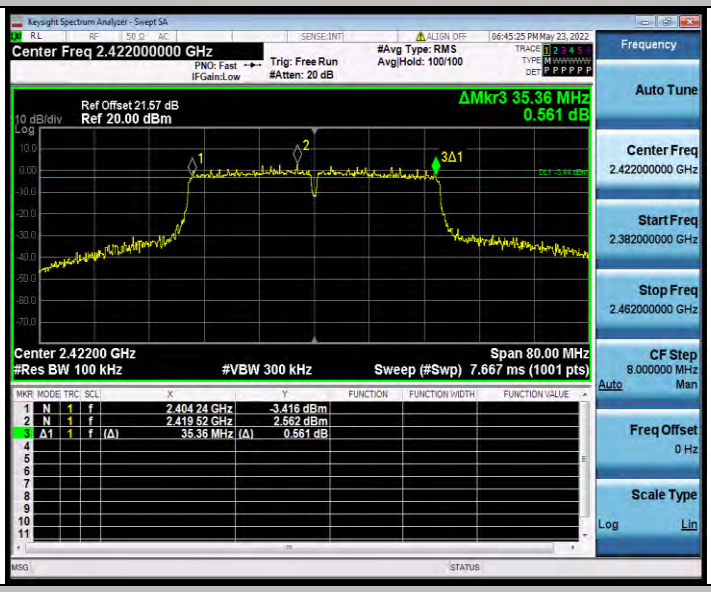

11N40SISO_Ant1_2437