FCC TEST REPORT

(Part 15, Subpart C)

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour, Hong Kong China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	401 and 402, Building 3, Shenzhen Software Park, Nanshan District, Shenzhen City, Guangdong Province, P.R.C
Product:	Smart Desktop Terminal
Brand Name:	PAX
Model Name:	A8500P, A8500N
FCC ID:	V5PA85004G
Date of tests:	May. 5, 2023 ~ May. 29, 2023

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
Simon Wang	Luke Lu
Date: May. 29, 2023	Date: May. 29, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23050004RF02	Original release	May. 29, 2023

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.

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 (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±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	Smart Desktop Terminal
BRAND NAME	PAX
MODEL NAME	A8500P, A8500N
NOMINAL VOLTAGE	5.0/9.0Vdc(adapter or host equipment)
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: 1 Mbps/2 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 351.56mW (Maximum) BT-LE: 6.97mW (Maximum)
ANTENNA TYPE	PIFA Antenna with 0.9dBi gain
HW VERSION	A8500P A8500N
SW VERSION	V0.0.0.1
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: non-shielded cable, with w/o ferrite core, 1.0 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

3. For the test results, the EUT had been tested with all conditions. But only the worst case (A8500P) was shown in test report.

4. The difference of A8500N and A8500P is on below:

Object	A8500P	A8500N
Printer	Support	NO support
Adapter 1	Model Name : SW-0396A I/P: 100-240Vac,800mA, O/P: 9.0Vdc, 1000mA	Model Name: SW-0983 I/P: 100-240Vac, 500mA, O/P: 5.0Vdc,2000mA
Adapter 2	Model Name: G024A090100ZZUD I/P: 100-240Vac,800mA, O/P: 9.0Vdc, 1000mA	Model Name: GLH50E2000HW I/P: 100-240Vac, 500mA, O/P: 5.0Vdc,2000mA
LCD Panel 1	Supplier : Hubei Yiou Electronics Co., Ltd Model Name: YH-500BSC046C0-19A00-PTM0 Specifications : 5.0 inch/ 720*RGB*1280 Pixel	
LCD Panel 2	Supplier : Shenzhen Hongzhan Optoelectronics Co., Ltd Model Name: F6050812B-04 Specifications :5.0 inch/ 720*RGB*1280 Pixel	
Automatic operating voltage	Minimum voltage: 8.55V	Minimum voltage: 5.25V
	Normal voltage: 9V	Normal voltage: 5V
	Maximum voltage: 9.9V	Maximum voltage: 4.75V
Note：When the operating voltage changes, It does not affect RF baseband module		

List of Accessory:

A8500N

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter 1	PAX	XIAMEN KELI ELECTRONICS Co.,Ltd.	SW-0983	I/P: 100-240Vac, 0.5A, O/P: 5.0Vdc, 2A
AC Adapter 2	PAX	Shenzhen Sorghum Red Electronic Technology Co., Ltd	GLH50E2000HW	I/P: 100-240Vac, 0.4A, O/P: 5.0Vdc, 2A
USB Cable	N/A	N/A	N/A	Signal Line,1.0meter

A8500P

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter 1	PAX	XIAMEN KELI ELECTRONICS Co.,Ltd.	SW-0396A	I/P: 100-240Vac, 0.5A, O/P: 9.0Vdc, 1A
AC Adapter 2	PAX	Shenzhen Sorghum Red Electronic Technology Co., Ltd	G024A090100ZZ UD	I/P: 100-240Vac, 0.8A, O/P: 9.0Vdc, 1A

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	9	OFDM	MCS0
BT-LE	0 to 39	39	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	1
BT-LE	1 to 38	1,19, 38	GFSK	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	1
BT-LE	1 to 38	1,19, 38	GFSK	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	1
BT-LE	1 to 38	1,19, 38	GFSK	2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 56%RH	DC 5/9V By Adapter	Jace Hu
RE≥1G	23deg. C, 56%RH	DC 5/9V By Adapter	Jace Hu
PLC	25deg. C, 52%RH	DC 5/9V By Adapter	Carl Xie
APCM	25deg. C, 60%RH	DC 5/9V By Adapter	James Fu

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 [%]
		ANT1
WIFI 2.4GHz	11B	98.21
	11G	90.73
	11N20	90.14
	11N40	80.77
BT LE	BT4.0	61.90
	BT5.0	31.75

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	Thinkpad 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. 14,23	Feb. 13,24
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Mar. 10,23	Mar. 09,24

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.

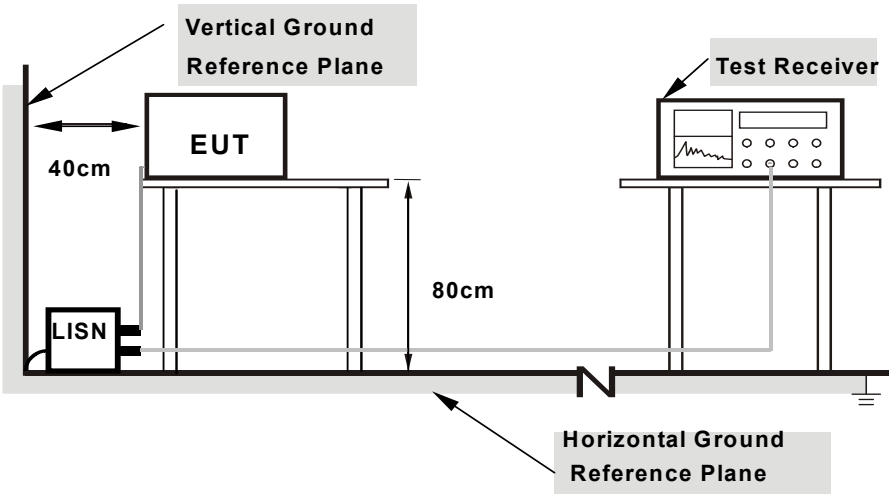
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

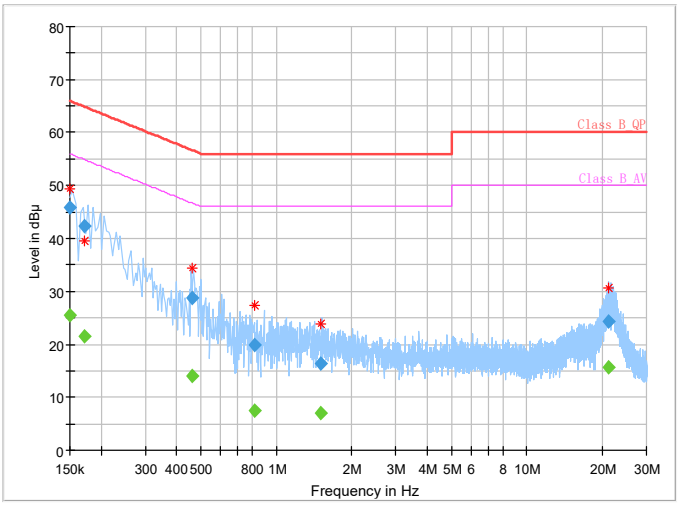
CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	25.40	56.00	30.60	L1	ON	9.7
0.150000	45.94	---	66.00	20.06	L1	ON	9.7
0.172000	---	21.62	54.86	33.24	L1	ON	9.7
0.172000	42.37	---	64.86	22.49	L1	ON	9.7
0.464000	---	14.07	46.62	32.55	L1	ON	9.7
0.464000	28.75	---	56.62	27.87	L1	ON	9.7
0.816000	---	7.45	46.00	38.55	L1	ON	9.7
0.816000	19.81	---	56.00	36.19	L1	ON	9.7
1.500000	---	6.91	46.00	39.09	L1	ON	9.7
1.500000	16.27	---	56.00	39.73	L1	ON	9.7
21.276000	---	15.64	50.00	34.36	L1	ON	9.8
21.276000	24.29	---	60.00	35.71	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.

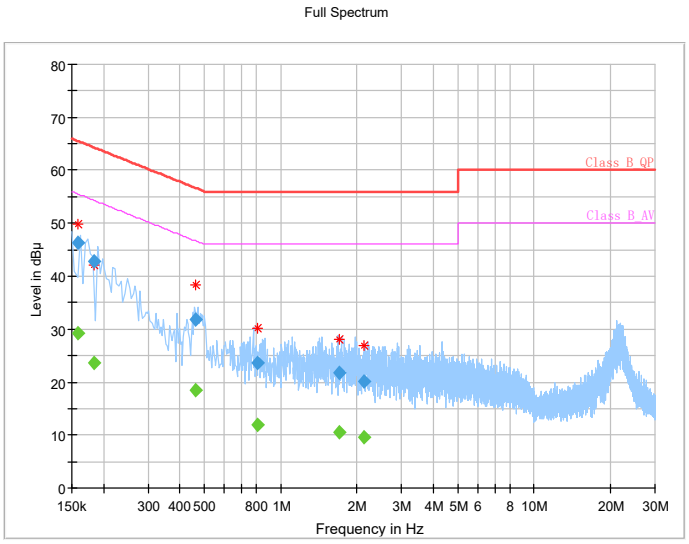
Full Spectrum



Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.158000	---	29.12	55.57	26.45	N	ON	9.7
0.158000	46.36	---	65.57	19.21	N	ON	9.7
0.184000	---	23.72	54.30	30.58	N	ON	9.7
0.184000	42.71	---	64.30	21.59	N	ON	9.7
0.464000	---	18.51	46.62	28.11	N	ON	9.7
0.464000	31.93	---	56.62	24.69	N	ON	9.7
0.812000	---	12.00	46.00	34.00	N	ON	9.7
0.812000	23.67	---	56.00	32.33	N	ON	9.7
1.708000	---	10.53	46.00	35.47	N	ON	9.8
1.708000	21.74	---	56.00	34.26	N	ON	9.8
2.136000	---	9.66	46.00	36.34	N	ON	9.8
2.136000	20.13	---	56.00	35.87	N	ON	9.8

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = 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
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 18,23	May. 17,26
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 18,23	Feb. 17,24
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 18,23	Feb. 17,24
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.04, 22	Sep.03, 23
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	N/A	May. 07,22	May. 06,23
10dB Attenuator	JFW/USA	50HF-010-SMA	N/A	May. 06,23	May. 05,24
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 28,23	Mar. 27,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 07,22	May. 06,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,23	May. 05,24
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.11,23	May.10,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb. 16,24
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 12,22	Aug. 11,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,22	Sep.02,23

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:

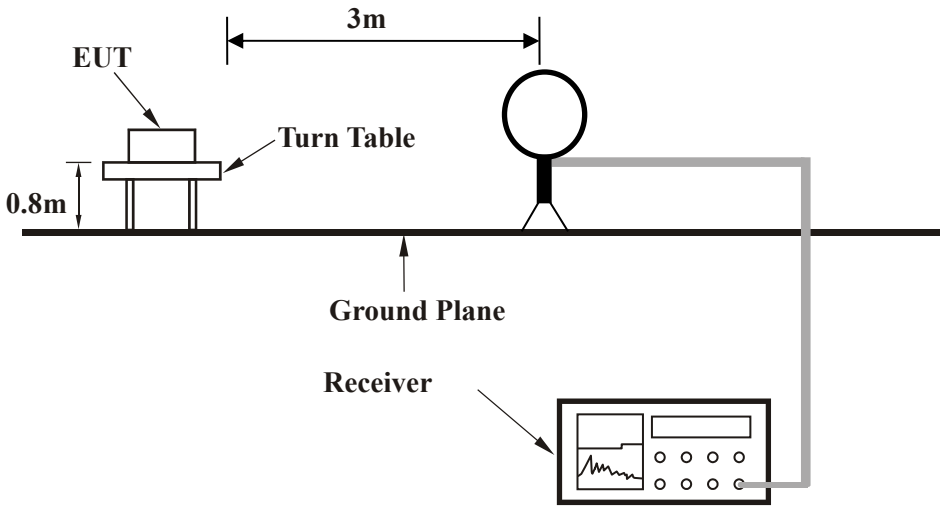
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

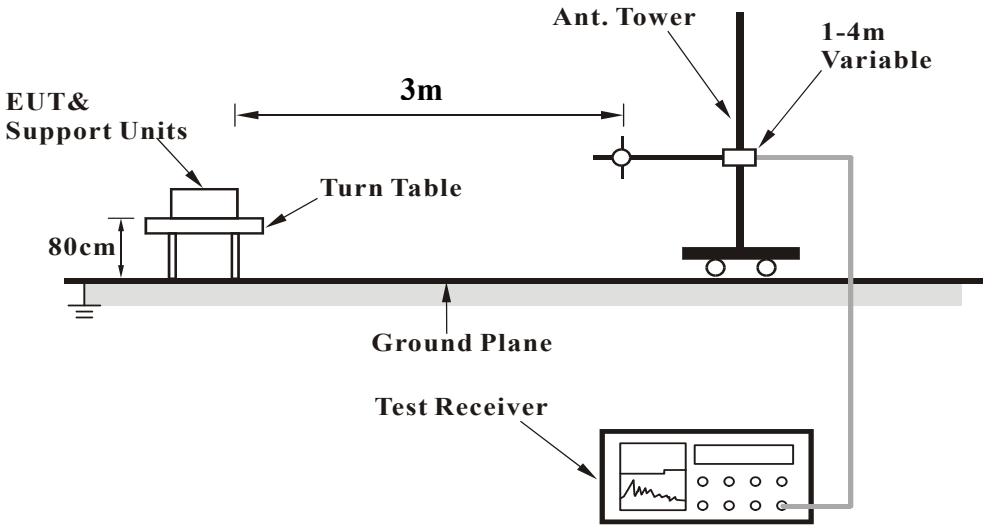
No deviation

3.2.5 TEST SETUP

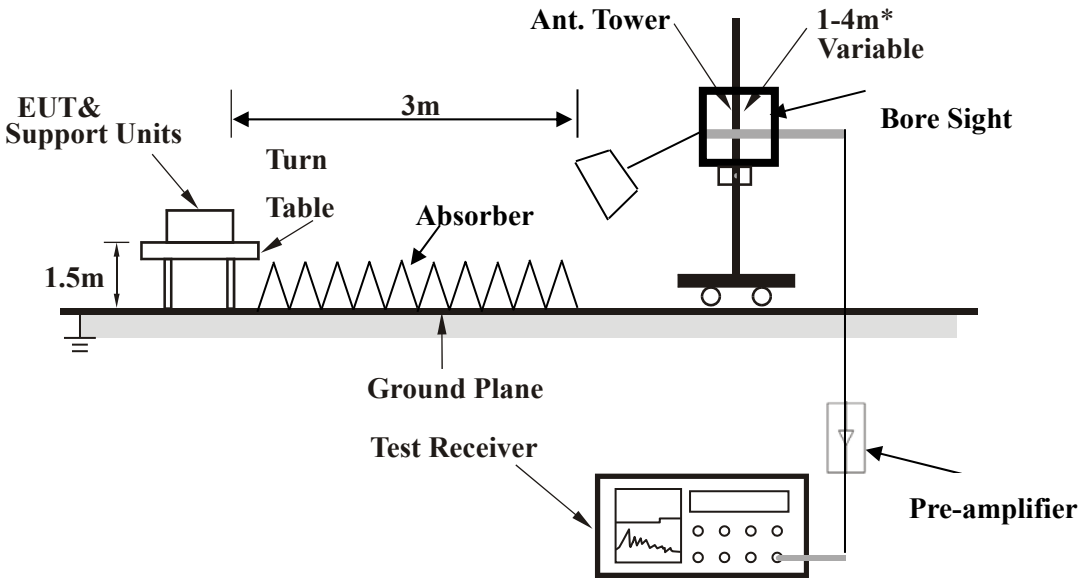
<Frequency Range 9KHz~30MHz >



< 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 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

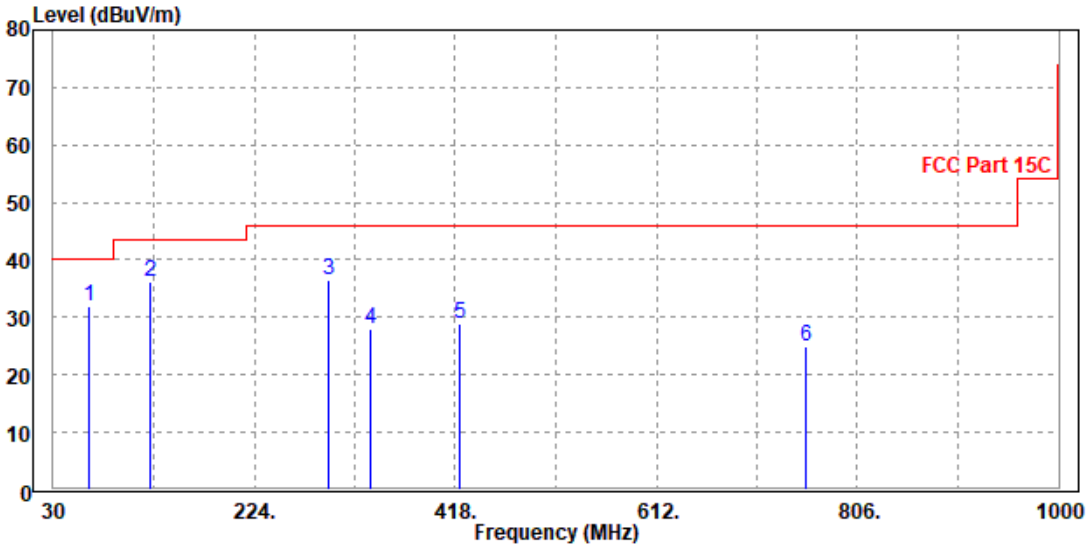
802.11n (40MHz)

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
63.950	31.87	59.76	40.00	-8.13	8.61	0.45	36.95	150	17	QP
124.090	36.21	63.25	43.50	-7.29	9.07	0.59	36.70	148	47	QP
295.780	36.38	57.78	46.00	-9.62	13.96	0.90	36.26	158	40	QP
335.550	28.02	48.59	46.00	-17.98	14.78	0.97	36.32	144	30	QP
422.850	28.90	47.63	46.00	-17.10	16.63	1.11	36.47	179	32	QP
756.530	25.01	38.62	46.00	-20.99	22.05	1.54	37.20	191	109	QP

REMARKS:

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

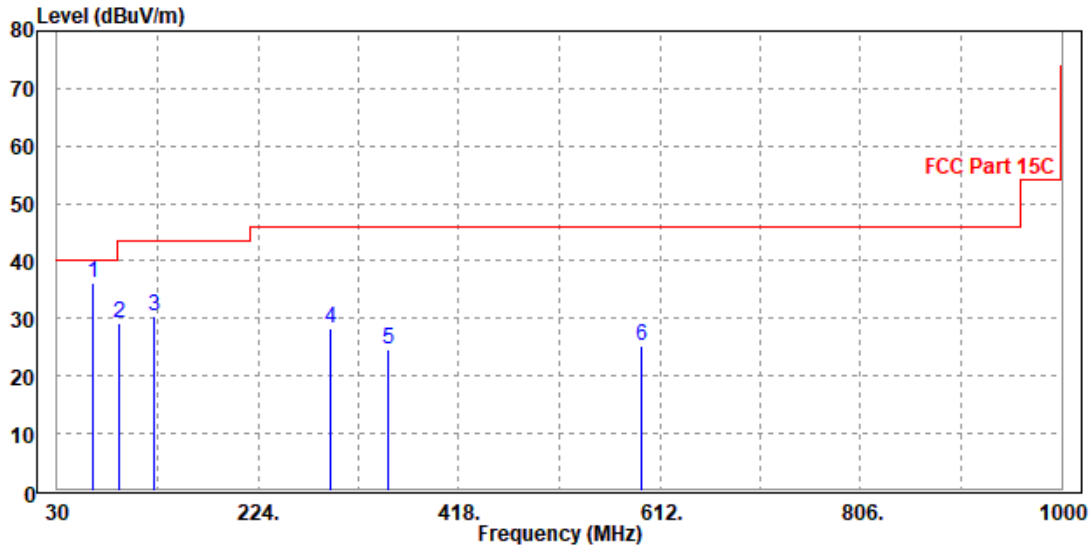


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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
63.950	36.05	64.15	40.00	-3.95	8.40	0.45	36.95	145	211	QP
89.170	29.28	57.17	43.50	-14.22	8.52	0.51	36.92	131	241	QP
124.090	30.51	58.24	43.50	-12.99	8.38	0.59	36.70	145	35	QP
293.840	28.20	49.73	46.00	-17.80	13.83	0.90	36.26	157	304	QP
350.100	24.57	44.77	46.00	-21.43	15.15	0.99	36.34	180	356	QP
594.540	25.29	41.29	46.00	-20.71	19.49	1.35	36.84	194	139	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	50.60	58.64	74.00	-23.40	31.75	6.18	45.97	160	85	Peak
2390	42.55	50.59	54.00	-11.45	31.75	6.18	45.97	160	85	Average
2412	98.79	106.72	/	/	31.82	6.21	45.96	160	85	Peak
2412	97.51	105.44	/	/	31.82	6.21	45.96	160	85	Average
2483.5	50.18	57.75	74.00	-23.82	32.05	6.31	45.93	160	85	Peak
2483.5	42.57	50.14	54.00	-11.43	32.05	6.31	45.93	160	85	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	50.94	58.59	74.00	-23.06	32.14	6.18	45.97	100	335	Peak
2390	43.38	51.03	54.00	-10.62	32.14	6.18	45.97	100	335	Average
2412	99.74	107.30	/	/	32.19	6.21	45.96	100	335	Peak
2412	98.75	106.31	/	/	32.19	6.21	45.96	100	335	Average
2483.5	50.74	58.00	74.00	-23.26	32.36	6.31	45.93	100	335	Peak
2483.5	41.94	49.20	54.00	-12.06	32.36	6.31	45.93	100	335	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	49.56	57.60	74.00	-24.44	31.75	6.18	45.97	160	85	Peak
2390	42.04	50.08	54.00	-11.96	31.75	6.18	45.97	160	85	Average
2437	99.64	107.45	/	/	31.90	6.24	45.95	160	85	Peak
2437	98.42	106.23	/	/	31.90	6.24	45.95	160	85	Average
2483.5	49.54	57.11	74.00	-24.46	32.05	6.31	45.93	160	85	Peak
2483.5	42.74	50.31	54.00	-11.26	32.05	6.31	45.93	160	85	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	50.25	57.90	74.00	-23.75	32.14	6.18	45.97	100	335	Peak
2390	42.67	50.32	54.00	-11.33	32.14	6.18	45.97	100	335	Average
2437	100.99	108.45	/	/	32.25	6.24	45.95	100	335	Peak
2437	100.08	107.54	/	/	32.25	6.24	45.95	100	335	Average
2483.5	50.26	57.52	74.00	-23.74	32.36	6.31	45.93	100	335	Peak
2483.5	42.60	49.86	54.00	-11.40	32.36	6.31	45.93	100	335	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	49.23	57.27	74.00	-24.77	31.75	6.18	45.97	160	85	Peak
2390	42.05	50.09	54.00	-11.95	31.75	6.18	45.97	160	85	Average
2462	101.32	109.00	/	/	31.98	6.28	45.94	160	85	Peak
2462	100.29	107.97	/	/	31.98	6.28	45.94	160	85	Average
2483.5	51.46	59.03	74.00	-22.54	32.05	6.31	45.93	160	85	Peak
2483.5	42.98	50.55	54.00	-11.02	32.05	6.31	45.93	160	85	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	49.83	57.48	74.00	-24.17	32.14	6.18	45.97	100	330	Peak
2390	42.61	50.26	54.00	-11.39	32.14	6.18	45.97	100	330	Average
2462	101.06	108.41	/	/	32.31	6.28	45.94	100	330	Peak
2462	99.81	107.16	/	/	32.31	6.28	45.94	100	330	Average
2483.5	51.35	58.61	74.00	-22.65	32.36	6.31	45.93	100	330	Peak
2483.5	43.63	50.89	54.00	-10.37	32.36	6.31	45.93	100	330	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) 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	57.92	65.96	74.00	-16.08	31.75	6.18	45.97	160	85	Peak
2390	44.49	52.53	54.00	-9.51	31.75	6.18	45.97	160	85	Average
2412	97.39	105.32	/	/	31.82	6.21	45.96	160	85	Peak
2412	89.53	97.46	/	/	31.82	6.21	45.96	160	85	Average
2483.5	48.96	56.53	74.00	-25.04	32.05	6.31	45.93	160	85	Peak
2483.5	42.48	50.05	54.00	-11.52	32.05	6.31	45.93	160	85	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	59.15	66.80	74.00	-14.85	32.14	6.18	45.97	100	335	Peak
2390	45.54	53.19	54.00	-8.46	32.14	6.18	45.97	100	335	Average
2412	98.14	105.70	/	/	32.19	6.21	45.96	100	335	Peak
2412	89.65	97.21	/	/	32.19	6.21	45.96	100	335	Average
2483.5	50.48	57.74	74.00	-23.52	32.36	6.31	45.93	100	335	Peak
2483.5	42.33	49.59	54.00	-11.67	32.36	6.31	45.93	100	335	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	49.60	57.64	74.00	-24.40	31.75	6.18	45.97	160	85	Peak
2390	40.83	48.87	54.00	-13.17	31.75	6.18	45.97	160	85	Average
2437	98.06	105.87	/	/	31.90	6.24	45.95	160	85	Peak
2437	89.84	97.65	/	/	31.90	6.24	45.95	160	85	Average
2483.5	52.18	59.75	74.00	-21.82	32.05	6.31	45.93	160	85	Peak
2483.5	41.63	49.20	54.00	-12.37	32.05	6.31	45.93	160	85	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	49.68	57.33	74.00	-24.32	32.14	6.18	45.97	100	335	Peak
2390	42.38	50.03	54.00	-11.62	32.14	6.18	45.97	100	335	Average
2437	99.26	106.72	/	/	32.25	6.24	45.95	100	335	Peak
2437	91.72	99.18	/	/	32.25	6.24	45.95	100	335	Average
2483.5	49.56	56.82	74.00	-24.44	32.36	6.31	45.93	100	335	Peak
2483.5	42.77	50.03	54.00	-11.23	32.36	6.31	45.93	100	335	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	49.38	57.42	74.00	-24.62	31.75	6.18	45.97	85	160	Peak
2390	41.98	50.02	54.00	-12.02	31.75	6.18	45.97	85	160	Average
2462	99.21	106.89	/	/	31.98	6.28	45.94	85	160	Peak
2462	91.33	99.01	/	/	31.98	6.28	45.94	85	160	Average
2483.5	57.66	65.23	74.00	-16.34	32.05	6.31	45.93	85	160	Peak
2483.5	46.83	54.40	54.00	-7.17	32.05	6.31	45.93	85	160	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	49.26	56.91	74.00	-24.74	32.14	6.18	45.97	100	335	Peak
2390	42.02	49.67	54.00	-11.98	32.14	6.18	45.97	100	335	Average
2462	99.22	106.57	/	/	32.31	6.28	45.94	100	335	Peak
2462	91.06	98.41	/	/	32.31	6.28	45.94	100	335	Average
2483.5	61.18	68.44	74.00	-12.82	32.36	6.31	45.93	100	335	Peak
2483.5	46.76	54.02	54.00	-7.24	32.36	6.31	45.93	100	335	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	61.85	69.89	74.00	-12.15	31.75	6.18	45.97	160	85	Peak
2390	47.46	55.50	54.00	-6.54	31.75	6.18	45.97	160	85	Average
2412	98.02	105.95	/	/	31.82	6.21	45.96	160	85	Peak
2412	90.38	98.31	/	/	31.82	6.21	45.96	160	85	Average
2483.5	50.69	58.26	74.00	-23.31	32.05	6.31	45.93	160	85	Peak
2483.5	41.78	49.35	54.00	-12.22	32.05	6.31	45.93	160	85	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	63.47	71.12	74.00	-10.53	32.14	6.18	45.97	100	330	Peak
2390	47.64	55.29	54.00	-6.36	32.14	6.18	45.97	100	330	Average
2412	98.44	106.00	/	/	32.19	6.21	45.96	100	330	Peak
2412	89.77	97.33	/	/	32.19	6.21	45.96	100	330	Average
2483.5	50.98	58.24	74.00	-23.02	32.36	6.31	45.93	100	330	Peak
2483.5	42.27	49.53	54.00	-11.73	32.36	6.31	45.93	100	330	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	50.21	58.25	74.00	-23.79	31.75	6.18	45.97	160	85	Peak
2390	42.31	50.35	54.00	-11.69	31.75	6.18	45.97	160	85	Average
2437	98.43	106.24	/	/	31.90	6.24	45.95	160	85	Peak
2437	91.83	99.64	/	/	31.90	6.24	45.95	160	85	Average
2483.5	50.11	57.68	74.00	-23.89	32.05	6.31	45.93	160	85	Peak
2483.5	42.58	50.15	54.00	-11.42	32.05	6.31	45.93	160	85	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	50.22	57.87	74.00	-23.78	32.14	6.18	45.97	100	335	Peak
2390	42.97	50.62	54.00	-11.03	32.14	6.18	45.97	100	335	Average
2437	100.97	108.43	/	/	32.25	6.24	45.95	100	335	Peak
2437	93.36	100.82	/	/	32.25	6.24	45.95	100	335	Average
2483.5	50.53	57.79	74.00	-23.47	32.36	6.31	45.93	100	335	Peak
2483.5	43.00	50.26	54.00	-11.00	32.36	6.31	45.93	100	335	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	49.77	57.81	74.00	-24.23	31.75	6.18	45.97	160	85	Peak
2390	41.62	49.66	54.00	-12.38	31.75	6.18	45.97	160	85	Average
2462	100.87	108.55	/	/	31.98	6.28	45.94	160	85	Peak
2462	92.58	100.26	/	/	31.98	6.28	45.94	160	85	Average
2483.5	63.71	71.28	74.00	-10.29	32.05	6.31	45.93	160	85	Peak
2483.5	49.39	56.96	54.00	-4.61	32.05	6.31	45.93	160	85	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	42.72	50.37	74.00	-31.28	32.14	6.18	45.97	100	335	Peak
2390	42.26	49.91	54.00	-11.74	32.14	6.18	45.97	100	335	Average
2462	100.18	107.53	/	/	32.31	6.28	45.94	100	335	Peak
2462	93.08	100.43	/	/	32.31	6.28	45.94	100	335	Average
2483.5	64.66	71.92	74.00	-9.34	32.36	6.31	45.93	100	335	Peak
2483.5	49.23	56.49	54.00	-4.77	32.36	6.31	45.93	100	335	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	63.48	71.52	74.00	-10.52	31.75	6.18	45.97	160	85	Peak
2390	49.46	57.50	54.00	-4.54	31.75	6.18	45.97	160	85	Average
2422	97.65	105.54	/	/	31.85	6.22	45.96	160	85	Peak
2422	90.38	98.27	/	/	31.85	6.22	45.96	160	85	Average
2483.5	51.59	59.16	74.00	-22.41	32.05	6.31	45.93	160	85	Peak
2483.5	42.52	50.09	54.00	-11.48	32.05	6.31	45.93	160	85	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	62.46	70.11	74.00	-11.54	32.14	6.18	45.97	100	330	Peak
2390	49.00	56.65	54.00	-5.00	32.14	6.18	45.97	100	330	Average
2422	97.83	105.36	/	/	32.21	6.22	45.96	100	330	Peak
2422	89.41	96.94	/	/	32.21	6.22	45.96	100	330	Average
2483.5	50.40	57.66	74.00	-23.60	32.36	6.31	45.93	100	330	Peak
2483.5	42.01	49.27	54.00	-11.99	32.36	6.31	45.93	100	330	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	53.70	61.74	74.00	-20.30	31.75	6.18	45.97	160	85	Peak
2390	43.74	51.78	54.00	-10.26	31.75	6.18	45.97	160	85	Average
2437	97.74	105.55	/	/	31.90	6.24	45.95	160	85	Peak
2437	90.31	98.12	/	/	31.90	6.24	45.95	160	85	Average
2483.5	51.23	58.80	74.00	-22.77	32.05	6.31	45.93	160	85	Peak
2483.5	44.25	51.82	54.00	-9.75	32.05	6.31	45.93	160	85	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	52.22	59.87	74.00	-21.78	32.14	6.18	45.97	100	330	Peak
2390	43.36	51.01	54.00	-10.64	32.14	6.18	45.97	100	330	Average
2437	98.59	106.05	/	/	32.25	6.24	45.95	100	330	Peak
2437	90.91	98.37	/	/	32.25	6.24	45.95	100	330	Average
2483.5	52.52	59.78	74.00	-21.48	32.36	6.31	45.93	100	330	Peak
2483.5	43.93	51.19	54.00	-10.07	32.36	6.31	45.93	100	330	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	49.76	57.80	74.00	-24.24	31.75	6.18	45.97	100	340	Peak
2390	41.16	49.20	54.00	-12.84	31.75	6.18	45.97	100	340	Average
2452	97.25	104.99	/	/	31.95	6.26	45.95	100	340	Peak
2452	88.92	96.66	/	/	31.95	6.26	45.95	100	340	Average
2483.5	63.64	71.21	74.00	-10.36	32.05	6.31	45.93	100	340	Peak
2483.5	49.88	57.45	54.00	-4.12	32.05	6.31	45.93	100	340	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	49.53	57.18	74.00	-24.47	32.14	6.18	45.97	100	330	Peak
2390	41.65	49.30	54.00	-12.35	32.14	6.18	45.97	100	330	Average
2452	97.98	105.39	/	/	32.28	6.26	45.95	100	330	Peak
2452	89.29	96.70	/	/	32.28	6.26	45.95	100	330	Average
2483.5	62.04	69.30	74.00	-11.96	32.36	6.31	45.93	100	330	Peak
2483.5	50.95	58.21	54.00	-3.05	32.36	6.31	45.93	100	330	Average

REMARKS:

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

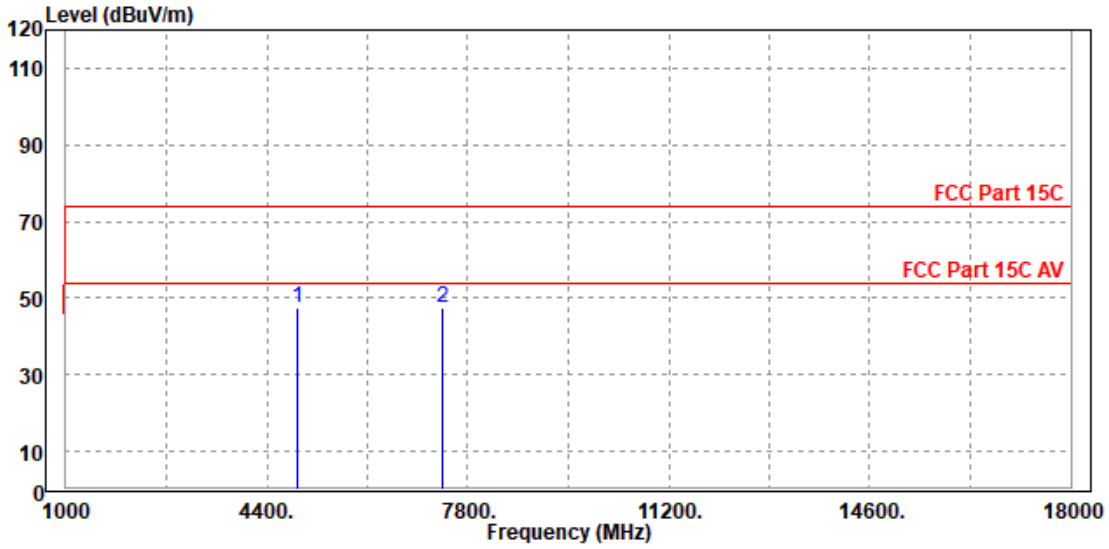
Worst case harmonic:

802.11n (40MHz)

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

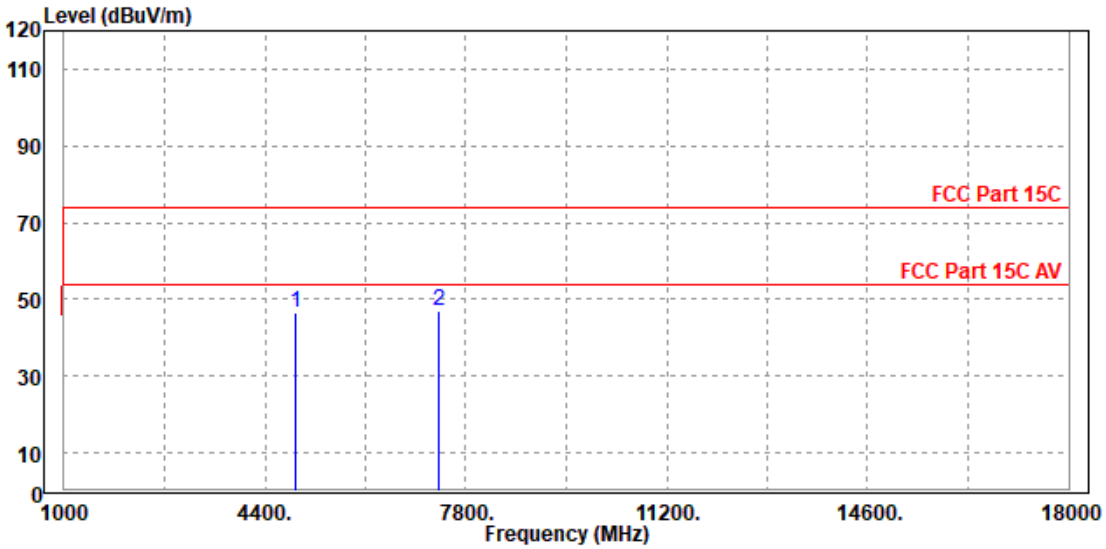
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4904.000	47.55	48.84	74.00	-26.45	-1.29	Peak	Horizontal
2 PP	7358.000	47.61	45.71	74.00	-26.39	1.90	Peak	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	46.65	47.73	74.00	-27.35	-1.08	Peak	Vertical
2 PP	7356.000	46.86	44.90	74.00	-27.14	1.96	Peak	Vertical



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

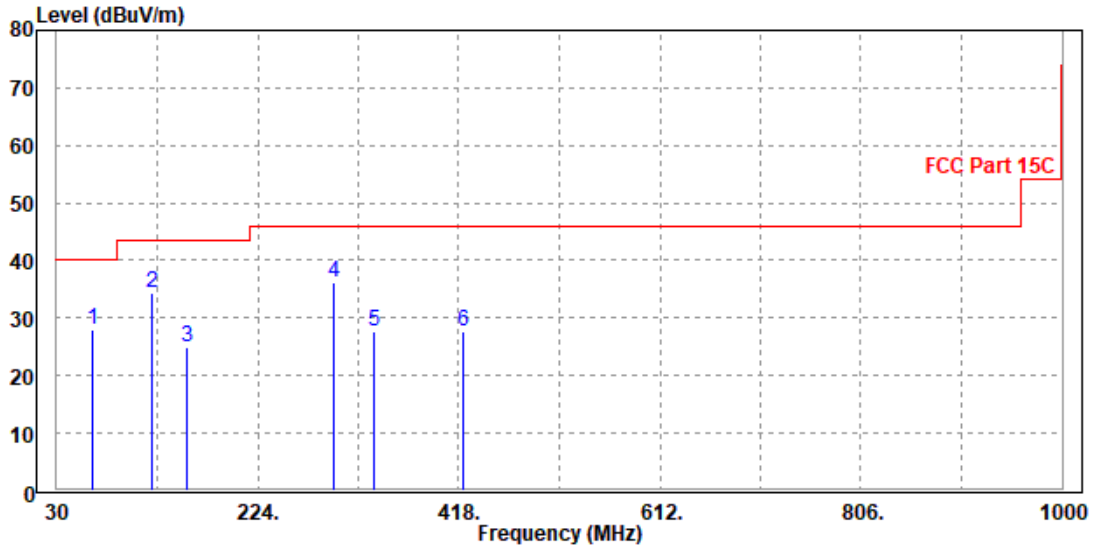
BT-LE _1M

CHANNEL	TX Channel 39	**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
63.950	27.96	55.85	40.00	-12.04	8.61	0.45	36.95	179	277	QP
122.150	34.44	61.33	43.50	-9.06	9.23	0.59	36.71	171	148	QP
155.130	24.82	50.36	43.50	-18.68	10.32	0.67	36.53	194	3	QP
296.750	36.30	57.69	46.00	-9.70	13.97	0.90	36.26	184	232	QP
336.520	27.60	48.15	46.00	-18.40	14.80	0.97	36.32	148	335	QP
422.850	27.69	46.42	46.00	-18.31	16.63	1.11	36.47	134	243	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

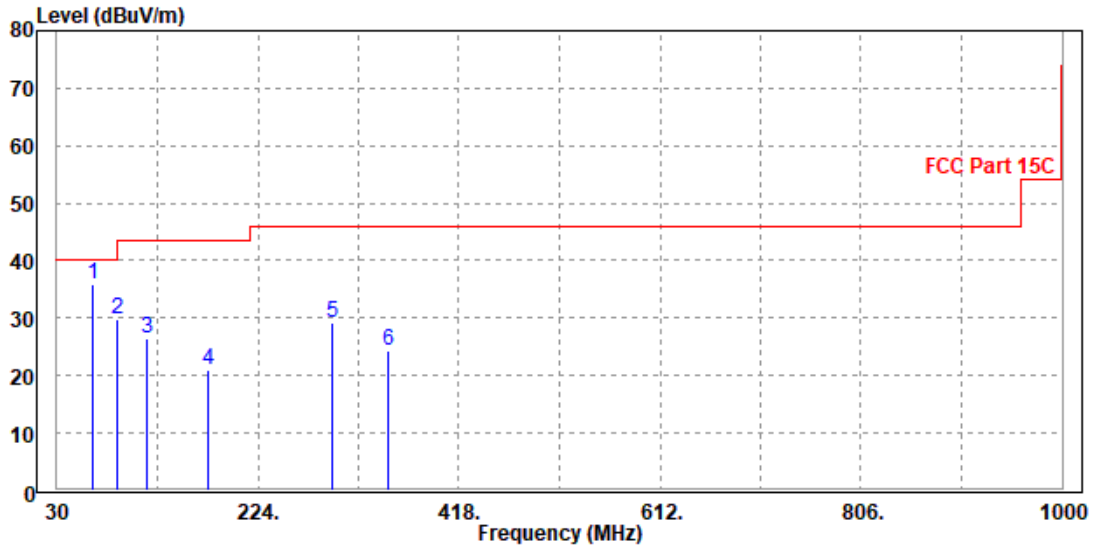


CHANNEL	TX Channel 39	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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
63.950	35.75	63.85	40.00	-4.25	8.40	0.45	36.95	198	194	QP
88.200	29.85	57.85	43.50	-13.65	8.42	0.51	36.93	184	1	QP
117.300	26.39	53.97	43.50	-17.11	8.58	0.58	36.74	116	121	QP
175.500	21.11	45.70	43.50	-22.39	11.13	0.70	36.42	177	254	QP
295.780	29.15	50.63	46.00	-16.85	13.88	0.90	36.26	177	112	QP
350.100	24.20	44.40	46.00	-21.80	15.15	0.99	36.34	136	95	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	58.12	66.16	74.00	-15.88	31.75	6.18	45.97	105	332	Peak
2390	43.33	51.37	54.00	-10.67	31.75	6.18	45.97	105	332	Average
2402	103.44	111.43	/	/	31.79	6.19	45.97	105	332	Peak
2402	102.92	110.91	/	/	31.79	6.19	45.97	105	332	Average
2483.5	49.67	57.24	74.00	-24.33	32.05	6.31	45.93	105	332	Peak
2483.5	42.80	50.37	54.00	-11.20	32.05	6.31	45.93	105	332	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	57.41	65.06	74.00	-16.59	32.14	6.18	45.97	100	135	Peak
2390	43.28	50.93	54.00	-10.72	32.14	6.18	45.97	100	135	Average
2402	102.43	110.05	/	/	32.16	6.19	45.97	100	135	Peak
2402	101.90	109.52	/	/	32.16	6.19	45.97	100	135	Average
2483.5	50.41	57.67	74.00	-23.59	32.36	6.31	45.93	100	135	Peak
2483.5	42.69	49.95	54.00	-11.31	32.36	6.31	45.93	100	135	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	49.22	57.26	74.00	-24.78	31.75	6.18	45.97	105	332	Peak
2390	42.21	50.25	54.00	-11.79	31.75	6.18	45.97	105	332	Average
2440	102.94	110.73	/	/	31.91	6.25	45.95	105	332	Peak
2440	101.84	109.63	/	/	31.91	6.25	45.95	105	332	Average
2483.5	49.45	57.02	74.00	-24.55	32.05	6.31	45.93	105	332	Peak
2483.5	41.93	49.50	54.00	-12.07	32.05	6.31	45.93	105	332	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	50.07	57.72	74.00	-23.93	32.14	6.18	45.97	180	60	Peak
2390	42.49	50.14	54.00	-11.51	32.14	6.18	45.97	180	60	Average
2440	102.25	109.69	/	/	32.26	6.25	45.95	180	60	Peak
2440	101.78	109.22	/	/	32.26	6.25	45.95	180	60	Average
2483.5	50.14	57.40	74.00	-23.86	32.36	6.31	45.93	180	60	Peak
2483.5	42.79	50.05	54.00	-11.21	32.36	6.31	45.93	180	60	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	49.46	57.50	74.00	-24.54	31.75	6.18	45.97	190	33	Peak
2390	41.71	49.75	54.00	-12.29	31.75	6.18	45.97	190	33	Average
2480	101.75	109.34	/	/	32.04	6.30	45.93	190	33	Peak
2480	101.27	108.86	/	/	32.04	6.30	45.93	190	33	Average
2483.5	62.93	70.50	74.00	-11.07	32.05	6.31	45.93	190	33	Peak
2483.5	46.73	54.30	54.00	-7.27	32.05	6.31	45.93	190	33	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	50.36	58.01	74.00	-23.64	32.14	6.18	45.97	100	65	Peak
2390	42.35	50.00	54.00	-11.65	32.14	6.18	45.97	100	65	Average
2480	103.51	110.79	/	/	32.35	6.30	45.93	100	65	Peak
2480	103.06	110.34	/	/	32.35	6.30	45.93	100	65	Average
2483.5	60.55	67.81	74.00	-13.45	32.36	6.31	45.93	100	65	Peak
2483.5	46.94	54.20	54.00	-7.06	32.36	6.31	45.93	100	65	Average

REMARKS:

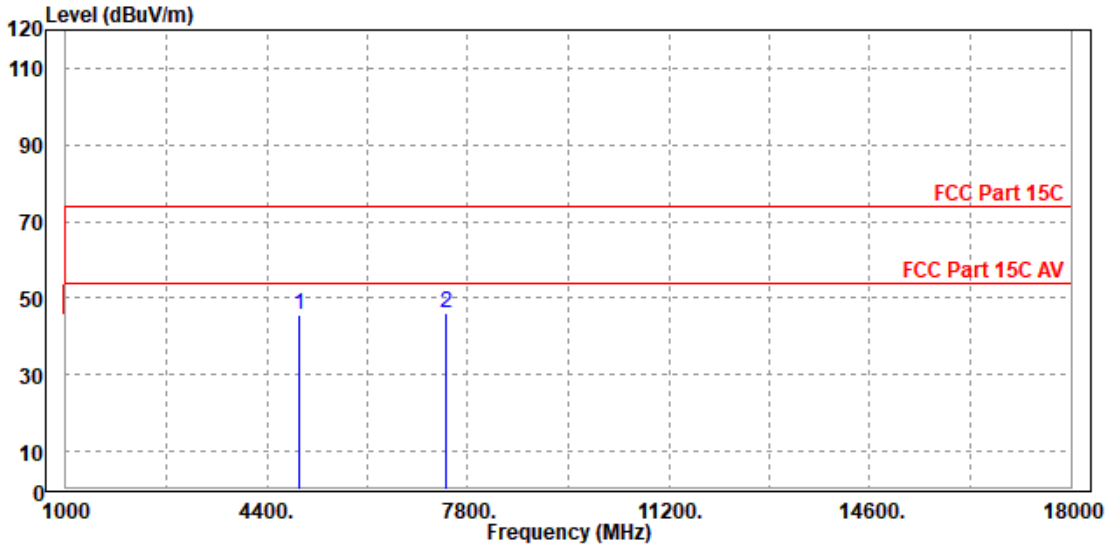
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Worst case harmonic:

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

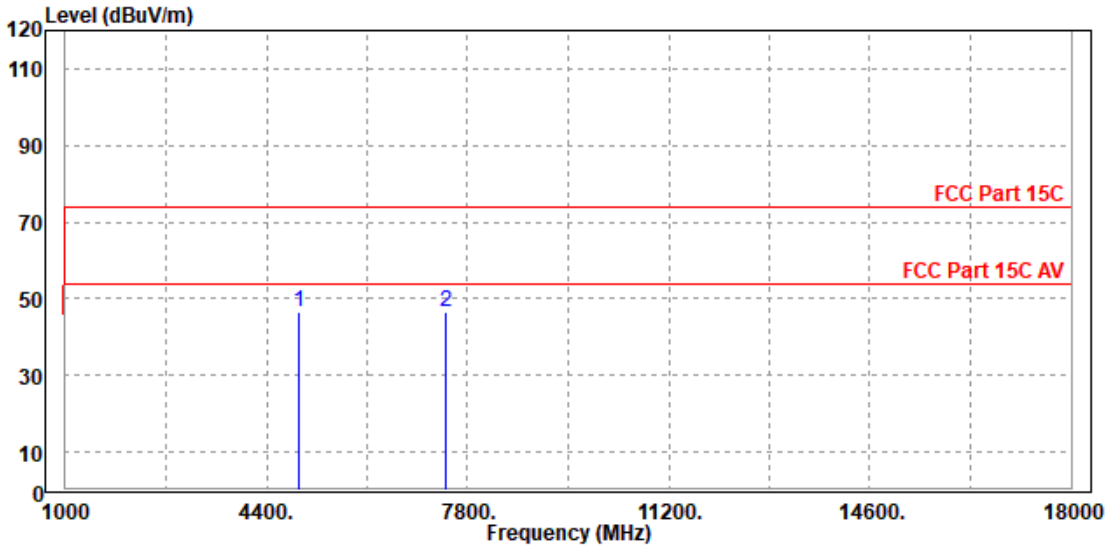
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4961.000	45.53	46.72	74.00	-28.47	-1.19	Peak	Horizontal
2 PP	7440.000	46.19	44.21	74.00	-27.81	1.98	Peak	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	46.37	47.36	74.00	-27.63	-0.99	Peak	Vertical
2 PP	7443.000	46.60	44.60	74.00	-27.40	2.00	Peak	Vertical



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

BT-LE _2M

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	55.27	63.31	74.00	-18.73	31.75	6.18	45.97	105	332	Peak
2390	42.76	50.80	54.00	-11.24	31.75	6.18	45.97	105	332	Average
2404	103.09	111.07	/	/	31.79	6.20	45.97	105	332	Peak
2404	101.26	109.24	/	/	31.79	6.20	45.97	105	332	Average
2483.5	50.28	57.85	74.00	-23.72	32.05	6.31	45.93	105	332	Peak
2483.5	42.54	50.11	54.00	-11.46	32.05	6.31	45.93	105	332	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	56.19	63.84	74.00	-17.81	32.14	6.18	45.97	100	60	Peak
2390	42.76	50.41	54.00	-11.24	32.14	6.18	45.97	100	60	Average
2404	103.07	110.67	/	/	32.17	6.20	45.97	100	60	Peak
2404	100.73	108.33	/	/	32.17	6.20	45.97	100	60	Average
2483.5	50.81	58.07	74.00	-23.19	32.36	6.31	45.93	100	60	Peak
2483.5	42.77	50.03	54.00	-11.23	32.36	6.31	45.93	100	60	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2404MHz: 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	49.55	57.59	74.00	-24.45	31.75	6.18	45.97	105	332	Peak
2390	42.09	50.13	54.00	-11.91	31.75	6.18	45.97	105	332	Average
2440	101.83	109.62	/	/	31.91	6.25	45.95	105	332	Peak
2440	99.82	107.61	/	/	31.91	6.25	45.95	105	332	Average
2483.5	53.58	61.15	74.00	-20.42	32.05	6.31	45.93	105	332	Peak
2483.5	42.79	50.36	54.00	-11.21	32.05	6.31	45.93	105	332	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	49.90	57.55	74.00	-24.10	32.14	6.18	45.97	100	60	Peak
2390	42.72	50.37	54.00	-11.28	32.14	6.18	45.97	100	60	Average
2440	101.23	108.67	/	/	32.26	6.25	45.95	100	60	Peak
2440	99.42	106.86	/	/	32.26	6.25	45.95	100	60	Average
2483.5	50.66	57.92	74.00	-23.34	32.36	6.31	45.93	100	60	Peak
2483.5	43.17	50.43	54.00	-10.83	32.36	6.31	45.93	100	60	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 38	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	49.80	57.84	74.00	-24.20	31.75	6.18	45.97	105	332	Peak
2390	42.16	50.20	54.00	-11.84	31.75	6.18	45.97	105	332	Average
2478	100.85	108.45	/	/	32.03	6.30	45.93	105	332	Peak
2478	98.72	106.32	/	/	32.03	6.30	45.93	105	332	Average
2483.5	59.75	67.32	74.00	-14.25	32.05	6.31	45.93	105	332	Peak
2483.5	44.26	51.83	54.00	-9.74	32.05	6.31	45.93	105	332	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	58.73	74.00	-22.92	32.14	6.18	45.97	100	60	Peak
2390	42.61	50.26	54.00	-11.39	32.14	6.18	45.97	100	60	Average
2478	103.36	110.64	/	/	32.35	6.30	45.93	100	60	Peak
2478	100.86	108.14	/	/	32.35	6.30	45.93	100	60	Average
2483.5	63.45	70.71	74.00	-10.55	32.36	6.31	45.93	100	60	Peak
2483.5	46.06	53.32	54.00	-7.94	32.36	6.31	45.93	100	60	Average

REMARKS:

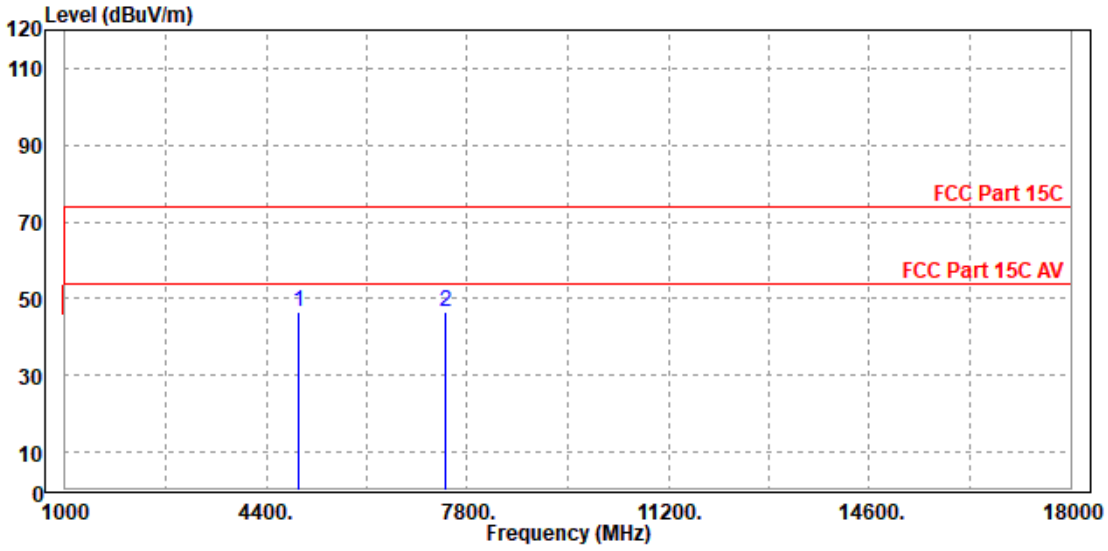
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2478MHz: Fundamental frequency.

Worst case harmonic:

CHANNEL	TX Channel 38	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

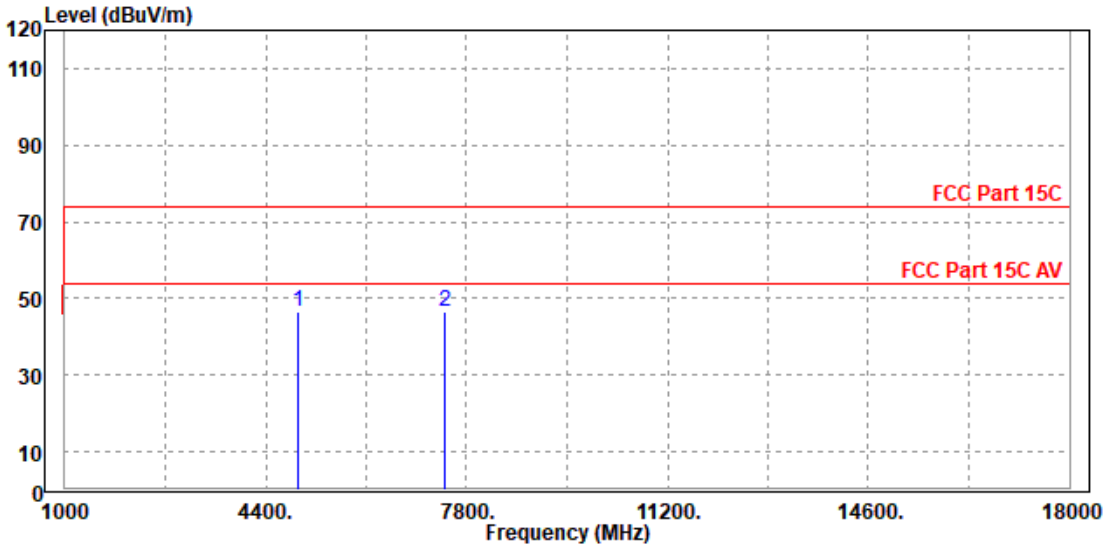
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4956.000	46.50	47.70	74.00	-27.50	-1.20	Peak	Horizontal
2 PP	7426.000	46.54	44.57	74.00	-27.46	1.97	Peak	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	PP	4961.000	46.63	47.62	74.00	-27.37	-0.99	Peak	Vertical
2		7434.000	46.51	44.51	74.00	-27.49	2.00	Peak	Vertical



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 2478MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

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. 14,23	Feb. 13,24
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510523	Feb. 14,23	Feb. 13,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.14,22	May.13,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.13,23	May.12,24
Power Sensor	ANRITSU	MA2411B	1339352	Feb. 14,23	Feb. 13,24

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.

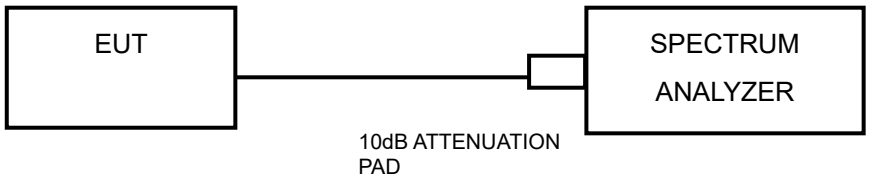
3.3.3 TEST PROCEDURE

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

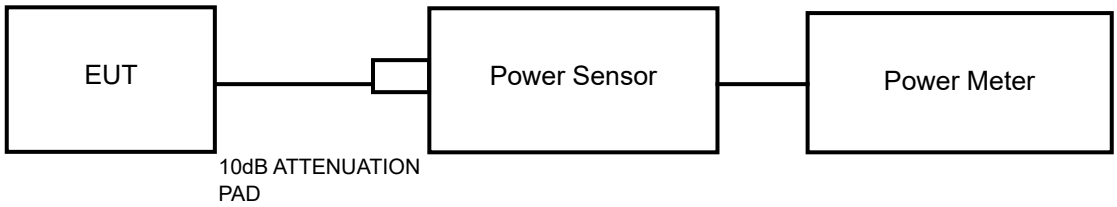
Please Refer to Appendix1/2 Of this test report.

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.

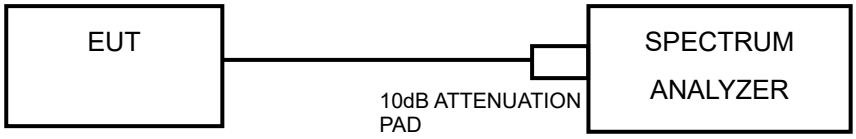
Please Refer to Appendix1/2 Of this test report.

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

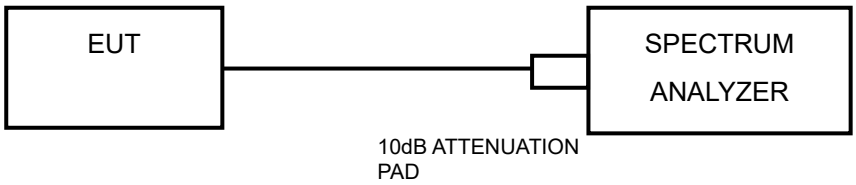
Please Refer to Appendix1/2 Of this test report.

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.

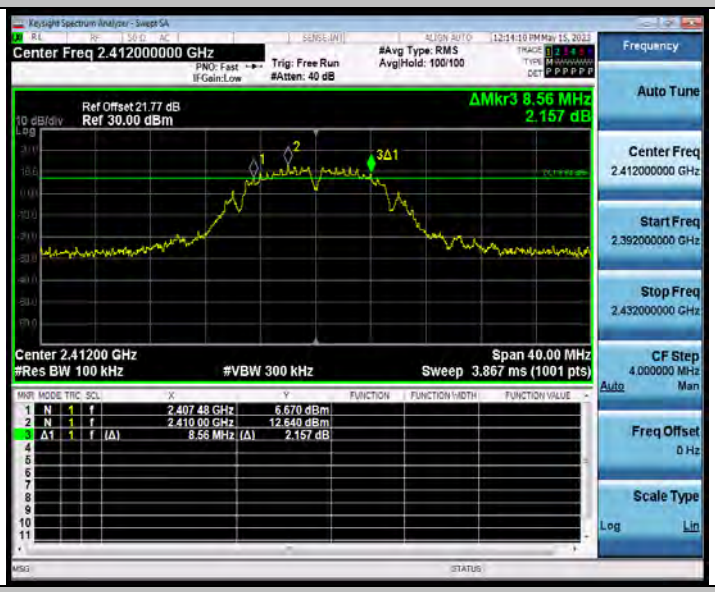
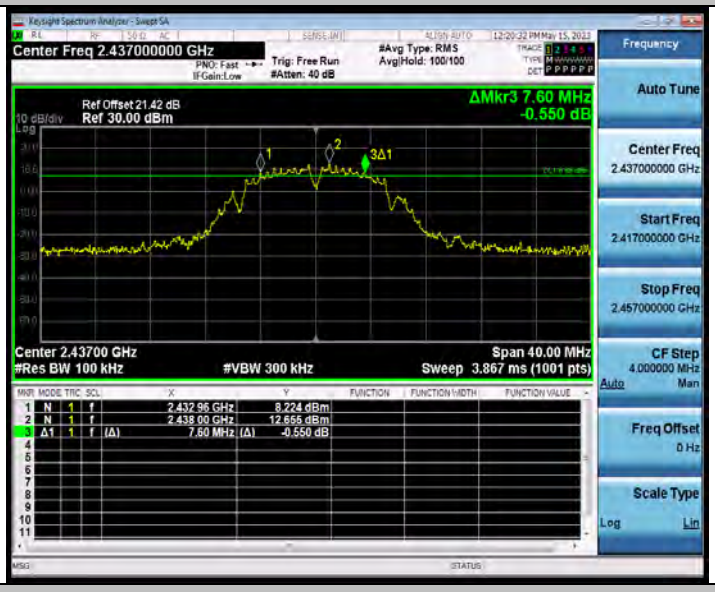
6 Appendix 1: 2.4G WLAN

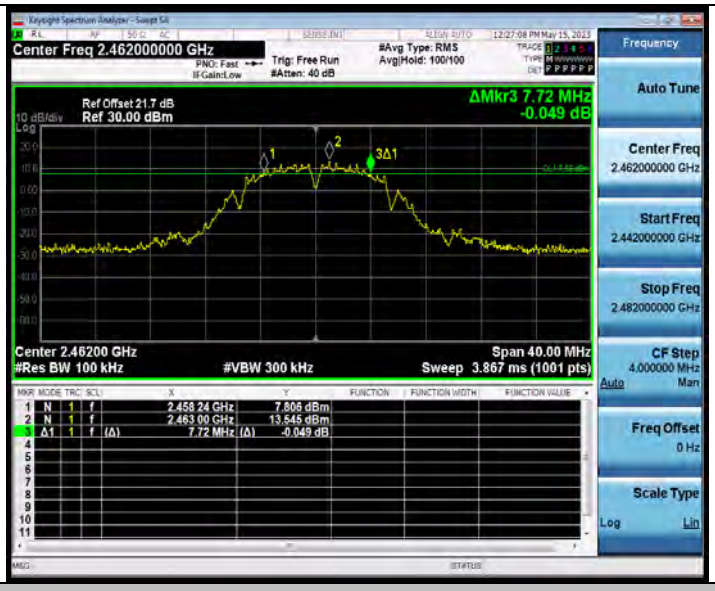
DTS BANDWIDTH

TEST RESULT

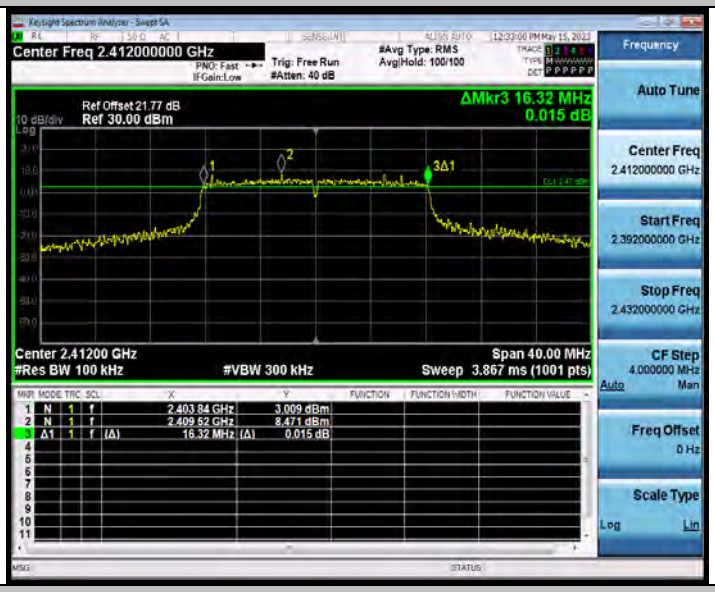
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.560	2407.480	2416.040	0.5	PASS
		2437	7.600	2432.960	2440.560	0.5	PASS
		2462	7.720	2458.240	2465.960	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.320	2428.840	2445.160	0.5	PASS
		2462	16.320	2453.840	2470.160	0.5	PASS
11N20SISO	Ant1	2412	16.920	2403.600	2420.520	0.5	PASS
		2437	16.280	2429.080	2445.360	0.5	PASS
		2462	16.640	2453.760	2470.400	0.5	PASS
11N40SISO	Ant1	2422	35.760	2404.080	2439.840	0.5	PASS
		2437	35.360	2419.400	2454.760	0.5	PASS
		2452	35.760	2434.160	2469.920	0.5	PASS

TEST GRAPHS

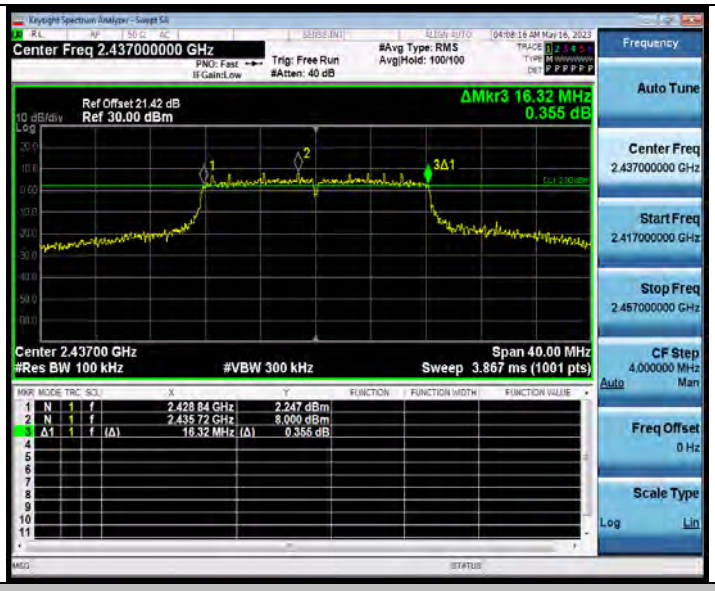
11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462



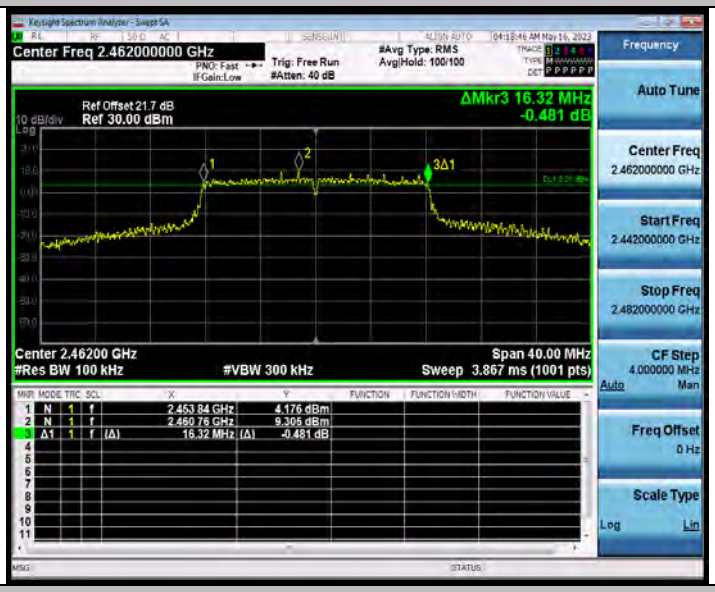
11G_Ant1_2412



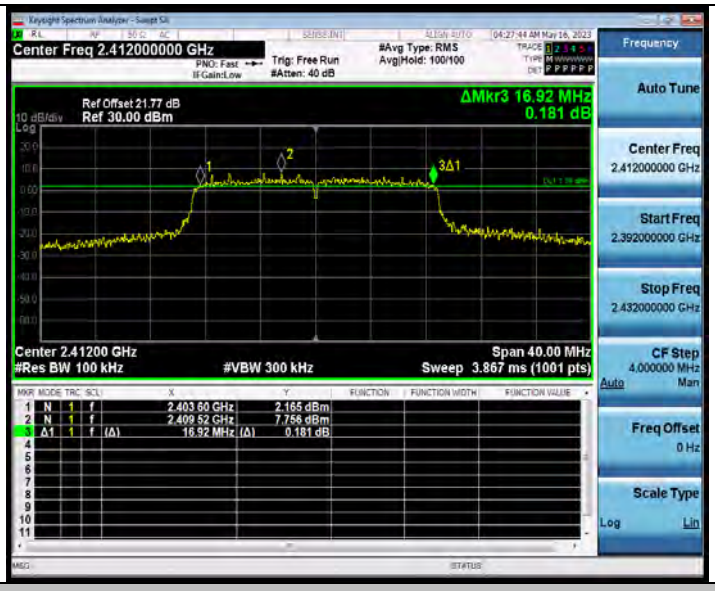
11G_Ant1_2437



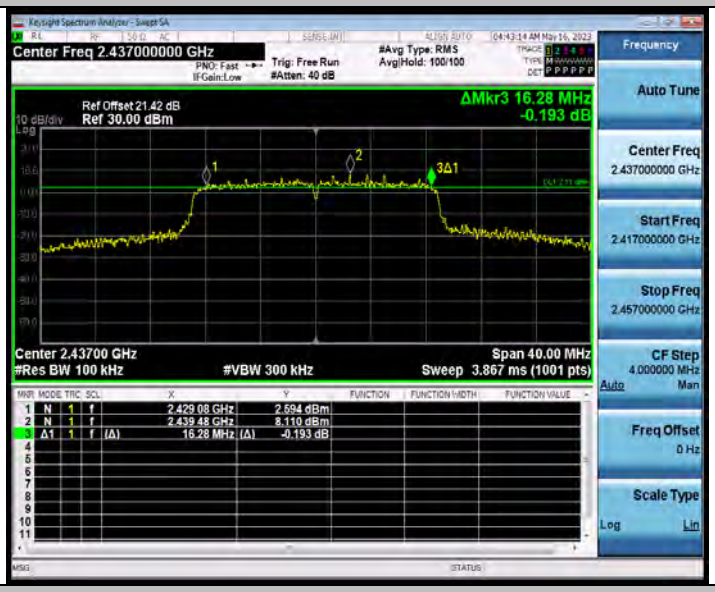
11G_Ant1_2462



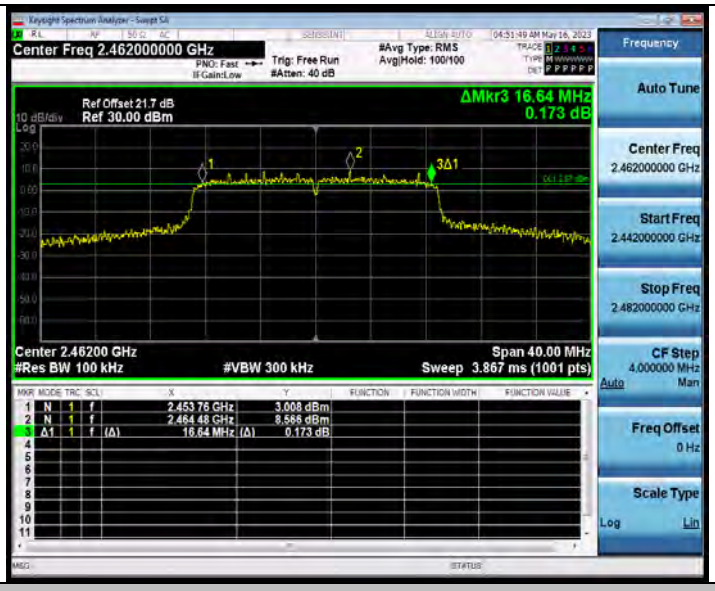
11N20SISO_Ant1_2412



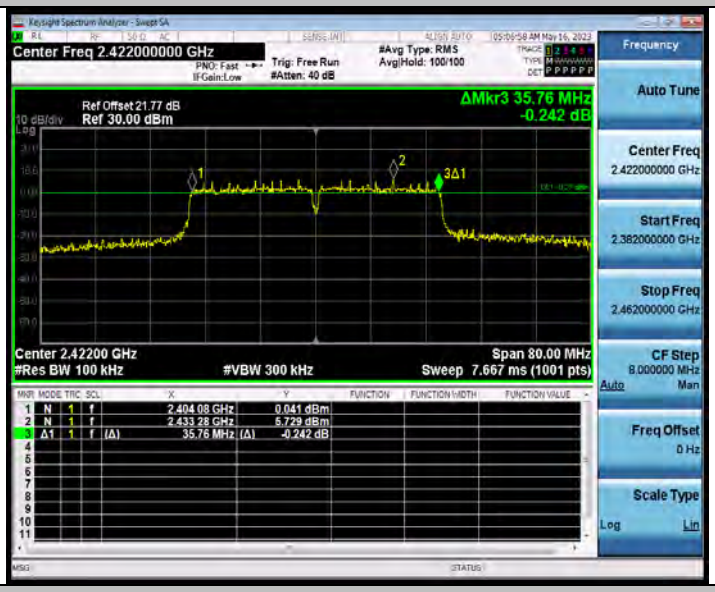
11N20SISO_Ant1_2437



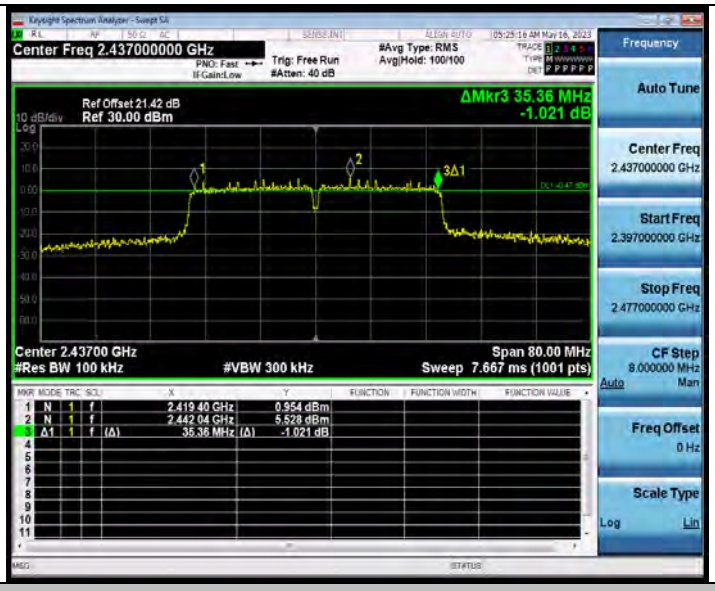
11N20SISO_Ant1_2462



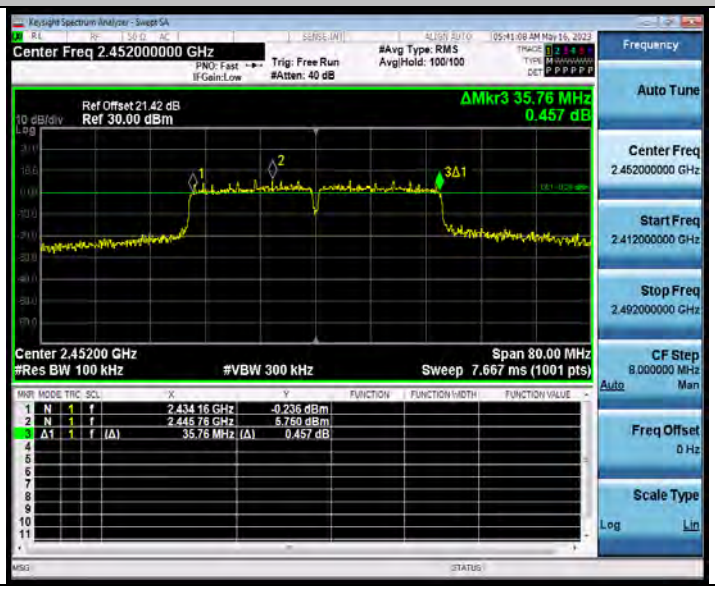
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452

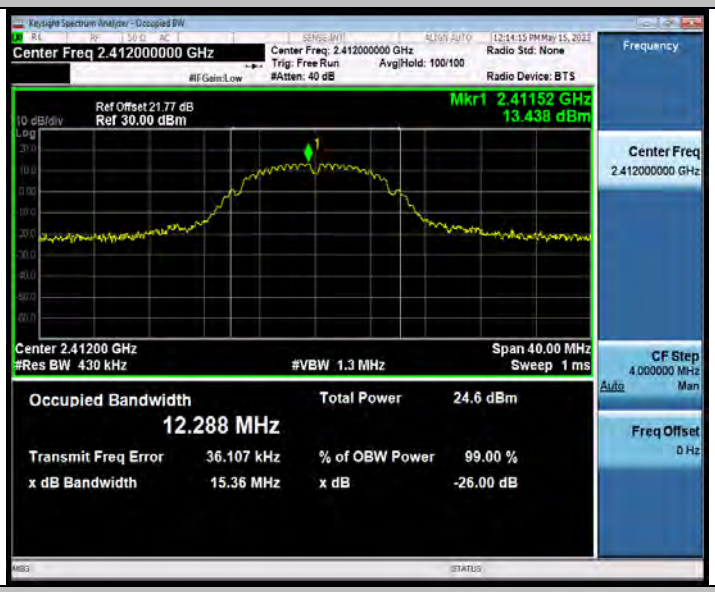


OCCUPIED CHANNEL BANDWIDTH

TEST RESULT

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.288	2405.8921	2418.1801	---	---
		2437	12.347	2430.8760	2443.2230	---	---
		2462	12.451	2455.8209	2468.2719	---	---
11G	Ant1	2412	17.152	2403.5463	2420.6983	---	---
		2437	17.289	2428.4926	2445.7816	---	---
		2462	17.729	2453.3151	2471.0441	---	---
11N20SISO	Ant1	2412	17.855	2403.1189	2420.9739	---	---
		2437	17.982	2428.0834	2446.0654	---	---
		2462	18.287	2452.9978	2471.2848	---	---
11N40SISO	Ant1	2422	36.751	2403.8536	2440.6046	---	---
		2437	36.802	2418.8139	2455.6159	---	---
		2452	37.023	2433.7742	2470.7972	---	---

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

11N20SISO_Ant1_2462

11N40SISO_Ant1_2422

11N40SISO_Ant1_2437

11N40SISO_Ant1_2452

MAXIMUM CONDUCTED OUTPUT POWER

TEST RESULT PEAK

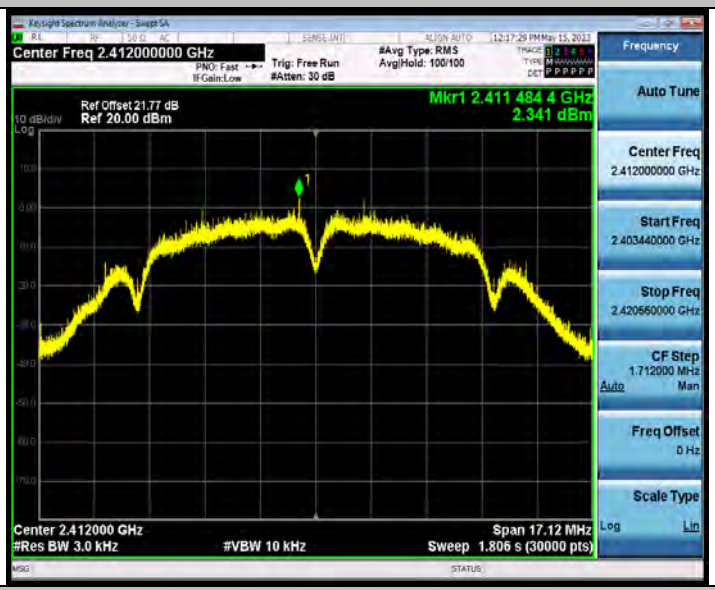
TestMode	Antenna	Freq. [MHz]	Average power [dBm]	Peak Power [dBm]	Peak Power [mw]	Conducted Limit [dBm]	EIRP [dBm]	EIRP [mw]	EIRP Limit [dBm]	Verdict	Power Setting
11B	Ant1	2412	20.23	23.46	221.82	≤30.00	24.36	272.90	≤36.00	PASS	Defult
		2437	20.56	23.9	245.47	≤30.00	24.8	302.00	≤36.00	PASS	Defult
		2462	21.35	24.49	281.19	≤30.00	25.39	345.94	≤36.00	PASS	Defult
11G	Ant1	2412	9.02	17.66	58.34	≤30.00	18.56	71.78	≤36.00	PASS	Defult
		2437	19.08	25.46	**351.56**	≤30.00	26.36	432.51	≤36.00	PASS	Defult
		2462	10.02	17.62	57.81	≤30.00	18.52	71.12	≤36.00	PASS	Defult
11N20SISO	Ant1	2412	10.41	18.11	64.71	≤30.00	19.01	79.62	≤36.00	PASS	Defult
		2437	18.65	25.23	333.43	≤30.00	26.13	410.20	≤36.00	PASS	Defult
		2462	11.43	19.03	79.98	≤30.00	19.93	98.40	≤36.00	PASS	Defult
11N40SISO	Ant1	2412	10.58	18.36	68.55	≤30.00	19.26	84.33	≤36.00	PASS	Defult
		2437	10.83	18.7	74.13	≤30.00	19.6	91.20	≤36.00	PASS	Defult
		2462	11.51	19.37	86.50	≤30.00	20.27	106.41	≤36.00	PASS	Defult
Note:EIRP=peak Power + Gain											

MAXIMUM POWER SPECTRAL DENSITY

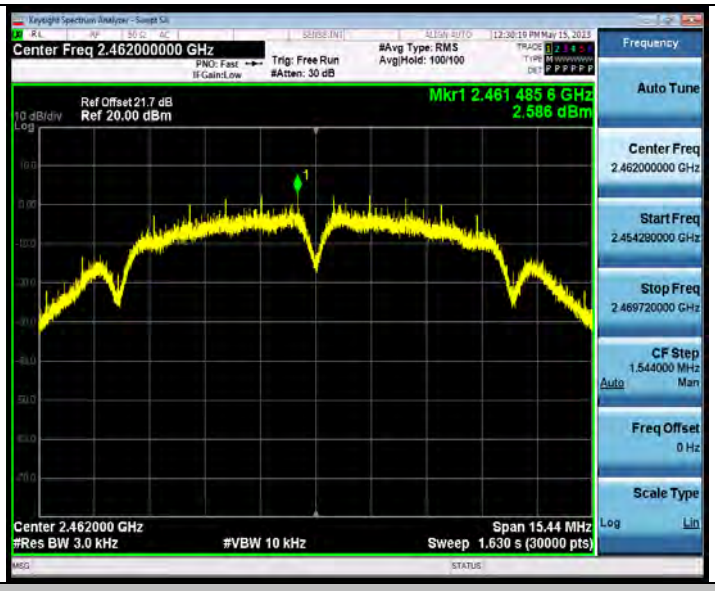
TEST RESULT

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	2.34	≤8.00	PASS
		2437	1.61	≤8.00	PASS
		2462	2.59	≤8.00	PASS
11G	Ant1	2412	-4.7	≤8.00	PASS
		2437	-5.34	≤8.00	PASS
		2462	-4.2	≤8.00	PASS
11N20SISO	Ant1	2412	-4.51	≤8.00	PASS
		2437	-5.22	≤8.00	PASS
		2462	-4.12	≤8.00	PASS
11N40SISO	Ant1	2422	-7.52	≤8.00	PASS
		2437	-7.7	≤8.00	PASS
		2452	-7.34	≤8.00	PASS

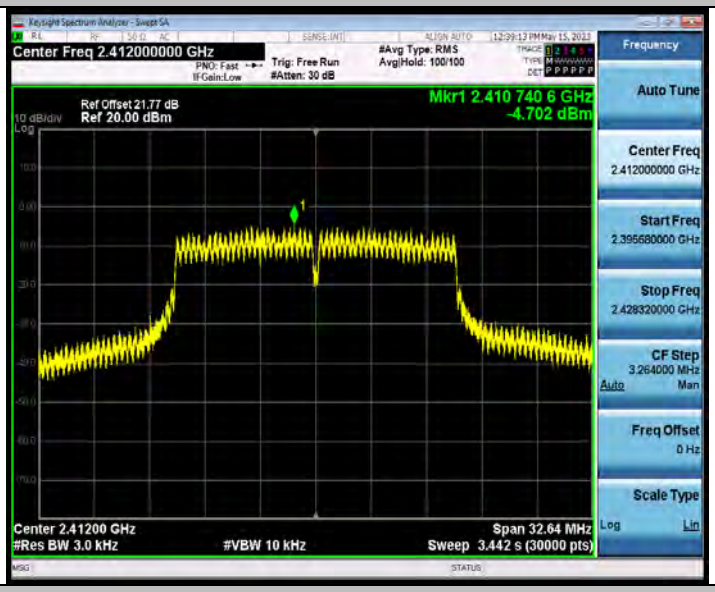
TEST GRAPHS

11B_Ant1_2412

11B_Ant1_2437

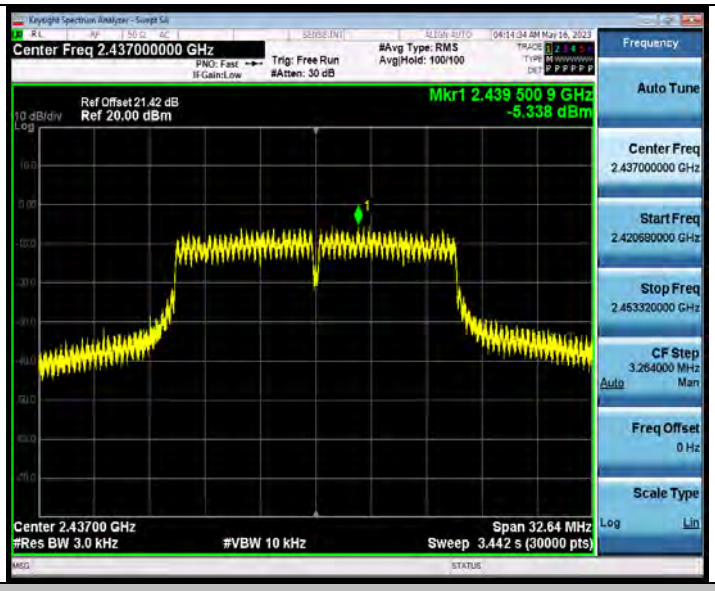
11B_Ant1_2462



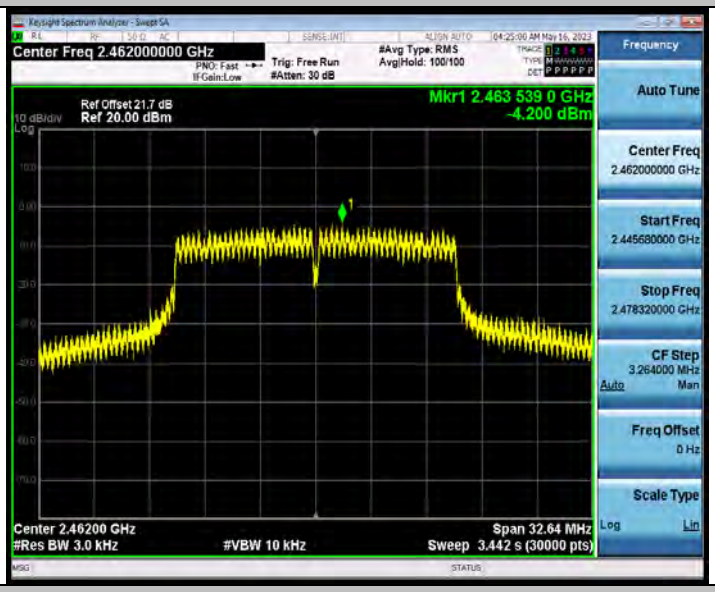
11G_Ant1_2412



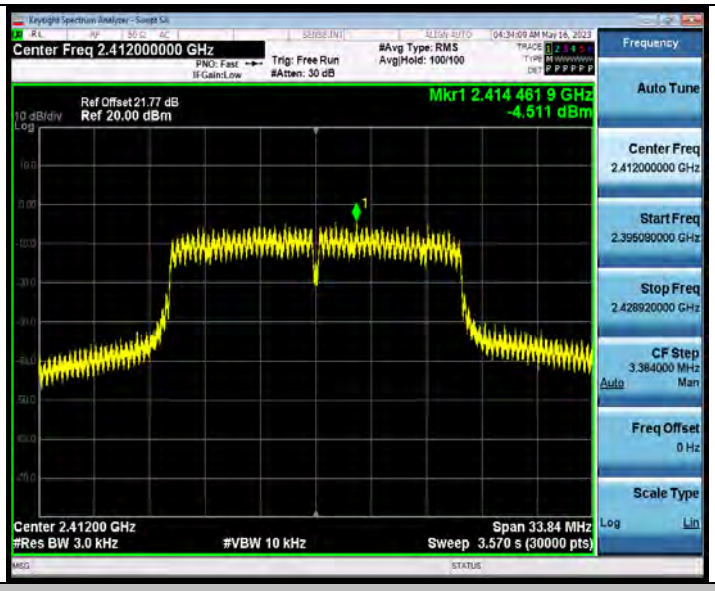
11G_Ant1_2437



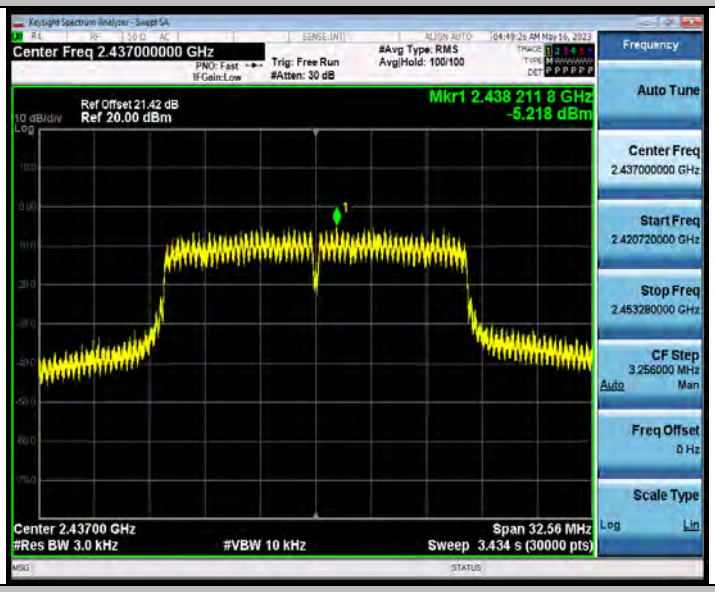
11G_Ant1_2462



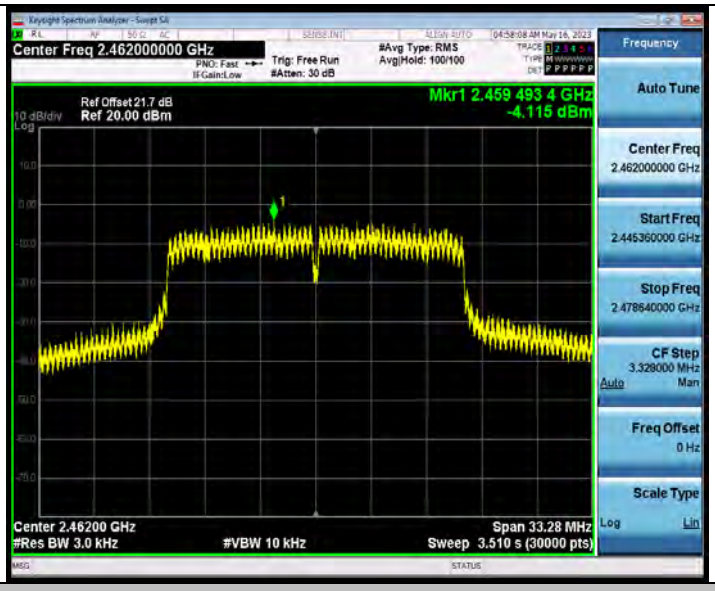
11N20SISO_Ant1_2412



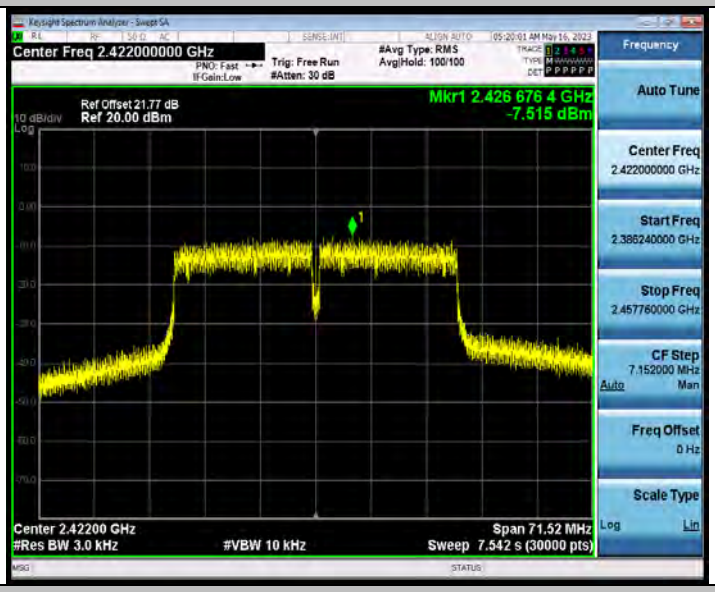
11N20SISO_Ant1_2437



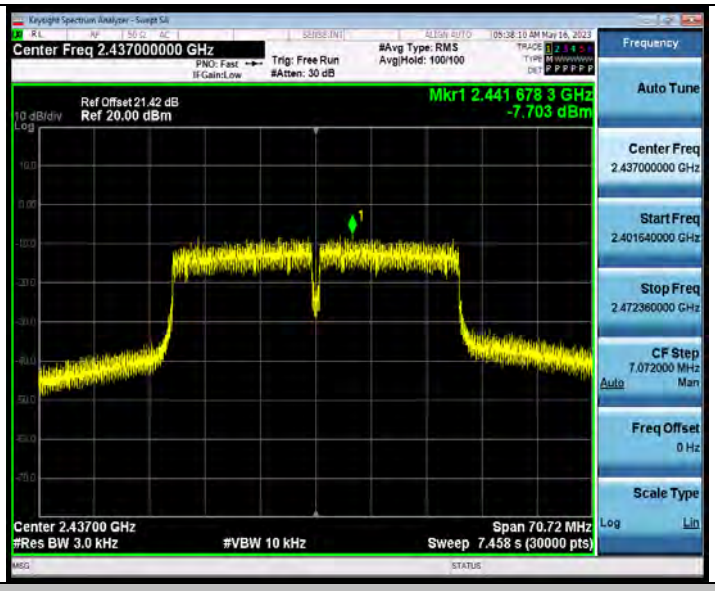
11N20SISO_Ant1_2462



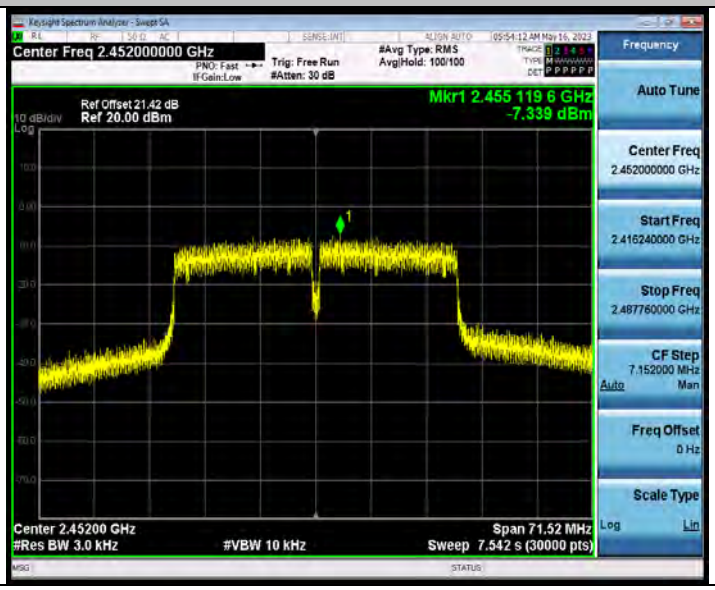
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



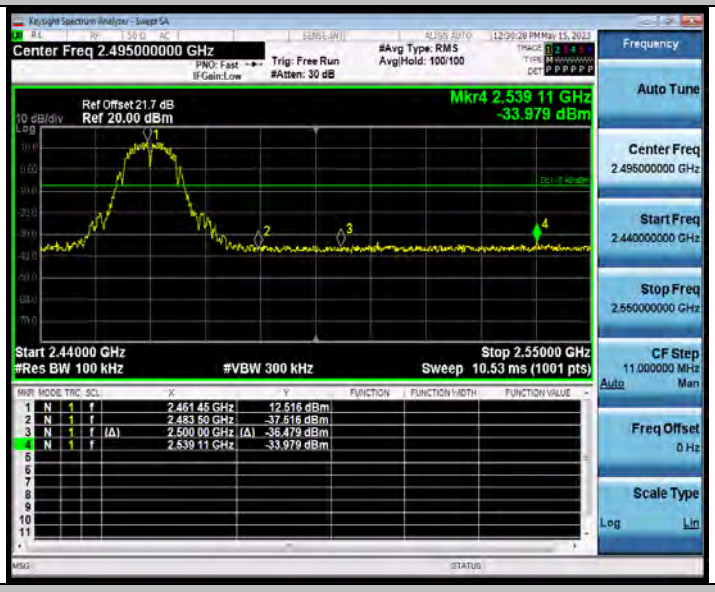
BAND EDGE MEASUREMENTS

TEST RESULT

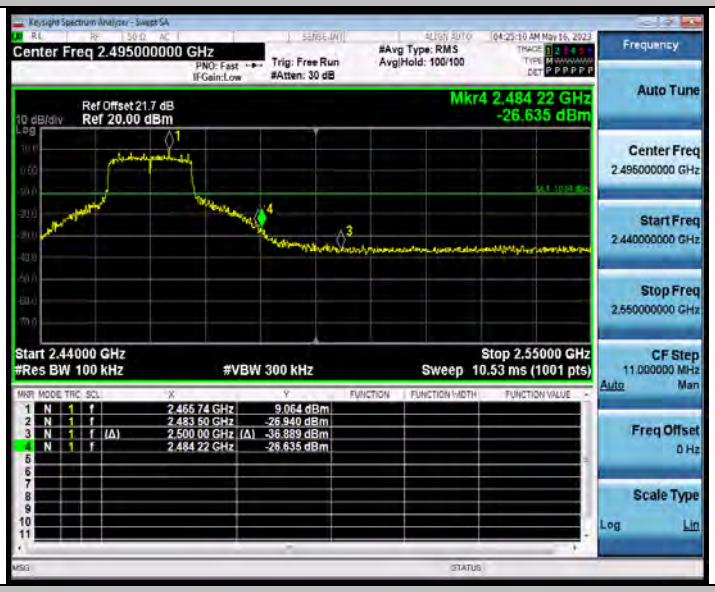
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	13.03	-28.23	≤-6.97	PASS
		High	2462	12.52	-33.98	≤-7.48	PASS
11G	Ant1	Low	2412	9.60	-17.02	≤-10.4	PASS
		High	2462	9.06	-26.64	≤-10.94	PASS
11N20SISO	Ant1	Low	2412	8.39	-20.15	≤-11.61	PASS
		High	2462	9.28	-25.09	≤-10.73	PASS
11N40SISO	Ant1	Low	2422	5.73	-22.26	≤-14.27	PASS
		High	2452	5.82	-18.65	≤-14.19	PASS

TEST GRAPHS

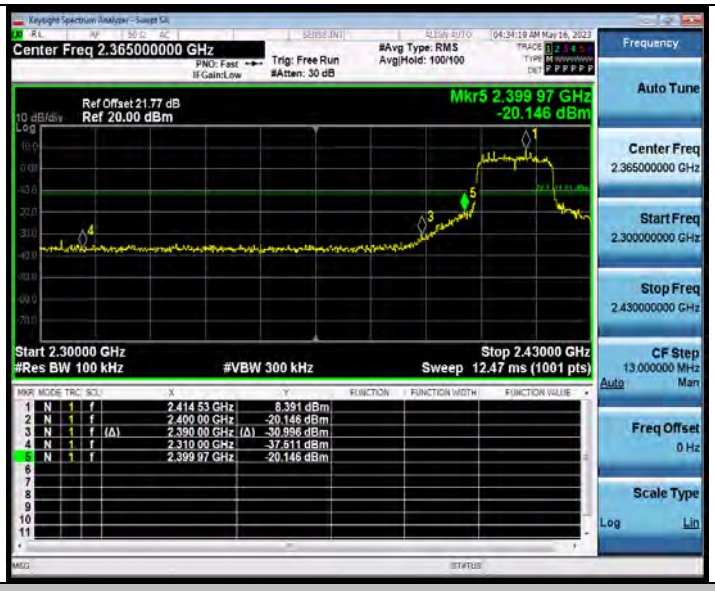
11B_Ant1_Low_2412

11B_Ant1_High_2462

11G_Ant1_Low_2412

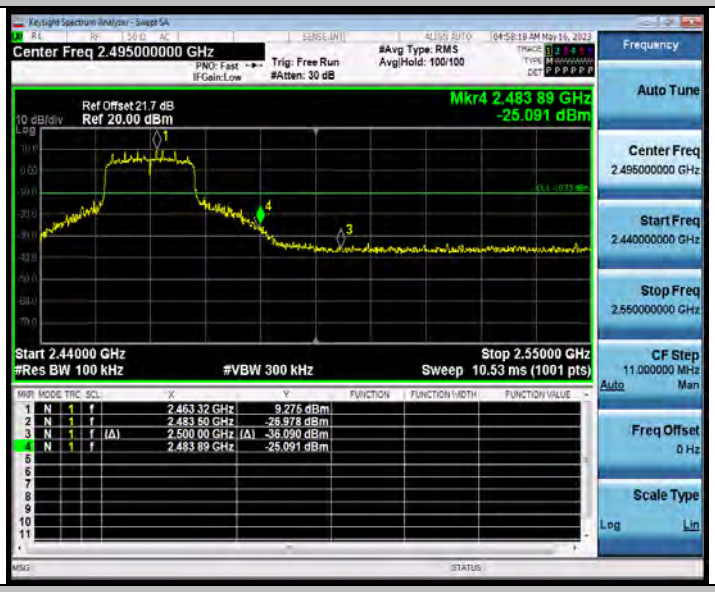
11G_Ant1_High_2462



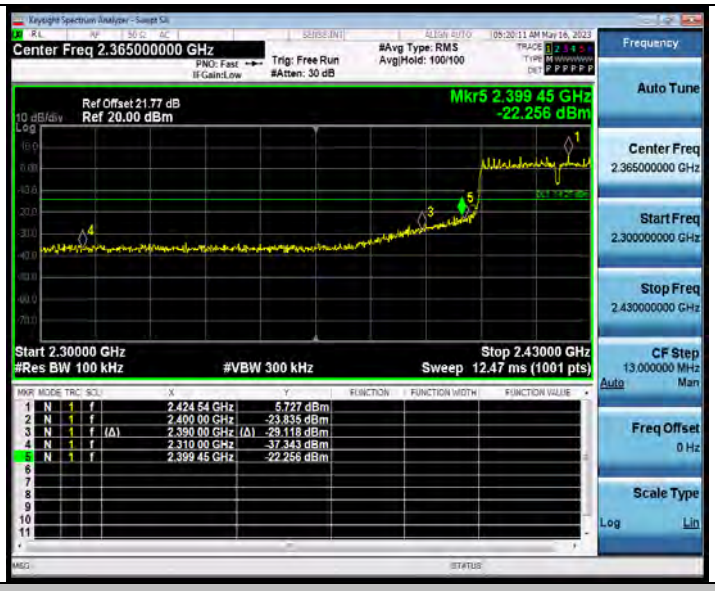
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452

CONDUCTED SPURIOUS EMISSION

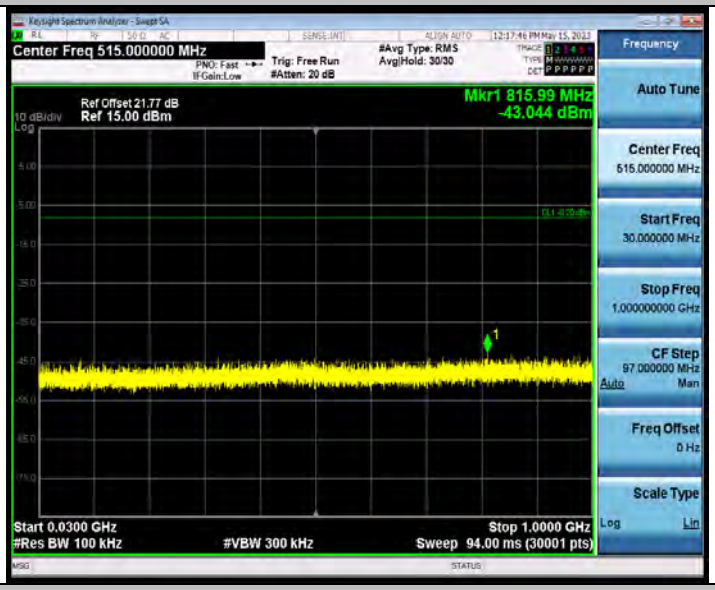
TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	11.80	11.80	---	PASS
			30~1000	11.80	-43.04	≤-8.2	PASS
			1000~26500	11.80	-23.48	≤-8.2	PASS
		2437	Reference	12.00	12.00	---	PASS
			30~1000	12.00	-43.64	≤-8	PASS
			1000~26500	12.00	-23.7	≤-8	PASS
		2462	Reference	13.30	13.30	---	PASS
			30~1000	13.30	-43.35	≤-6.7	PASS
			1000~26500	13.30	-24.11	≤-6.7	PASS
11G	Ant1	2412	Reference	6.47	6.47	---	PASS
			30~1000	6.47	-43.17	≤-13.53	PASS
			1000~26500	6.47	-23.66	≤-13.53	PASS
		2437	Reference	5.58	5.58	---	PASS
			30~1000	5.58	-43.48	≤-14.42	PASS
			1000~26500	5.58	-23.13	≤-14.42	PASS
		2462	Reference	8.31	8.31	---	PASS
			30~1000	8.31	-42.86	≤-11.69	PASS
			1000~26500	8.31	-23.98	≤-11.69	PASS
11N20SISO	Ant1	2412	Reference	5.34	5.34	---	PASS
			30~1000	5.34	-43.39	≤-14.66	PASS
			1000~26500	5.34	-23.25	≤-14.66	PASS
		2437	Reference	5.71	5.71	---	PASS
			30~1000	5.71	-43.63	≤-14.29	PASS
			1000~26500	5.71	-22.69	≤-14.29	PASS
		2462	Reference	8.68	8.68	---	PASS
			30~1000	8.68	-43.05	≤-11.32	PASS
			1000~26500	8.68	-23.51	≤-11.32	PASS
11N40SISO	Ant1	2422	Reference	4.42	4.42	---	PASS
			30~1000	4.42	-42.85	≤-15.58	PASS

			1000~26500	4.42	-23.5	≤-15.58	PASS
		2437	Reference	4.52	4.52	---	PASS
			30~1000	4.52	-43.69	≤-15.48	PASS
			1000~26500	4.52	-24.05	≤-15.48	PASS
		2452	Reference	5.61	5.61	---	PASS
			30~1000	5.61	-43.65	≤-14.39	PASS
			1000~26500	5.61	-24.12	≤-14.39	PASS

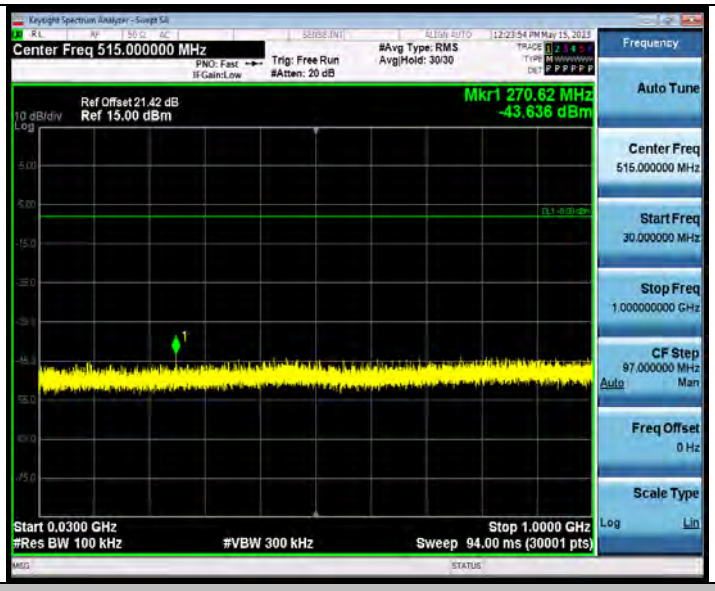
TEST GRAPHS

11B_Ant1_2412_0~Reference

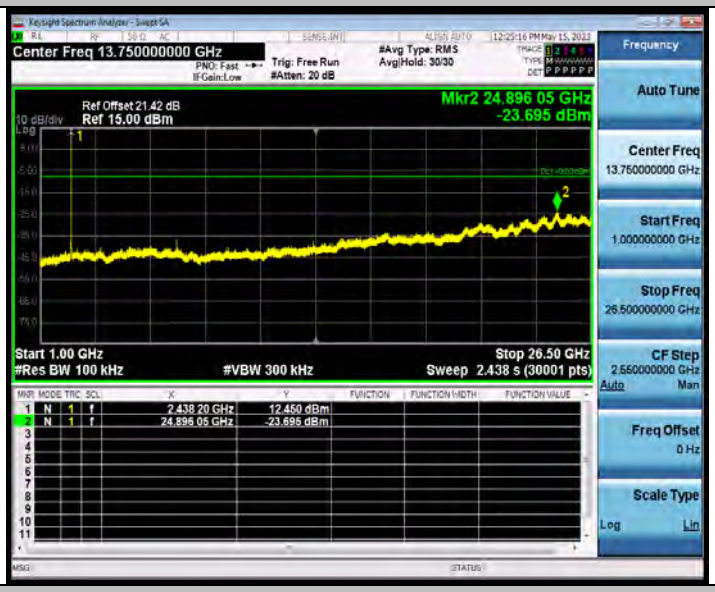
11B_Ant1_2412_30~1000

11B_Ant1_2412_1000~26500

11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000

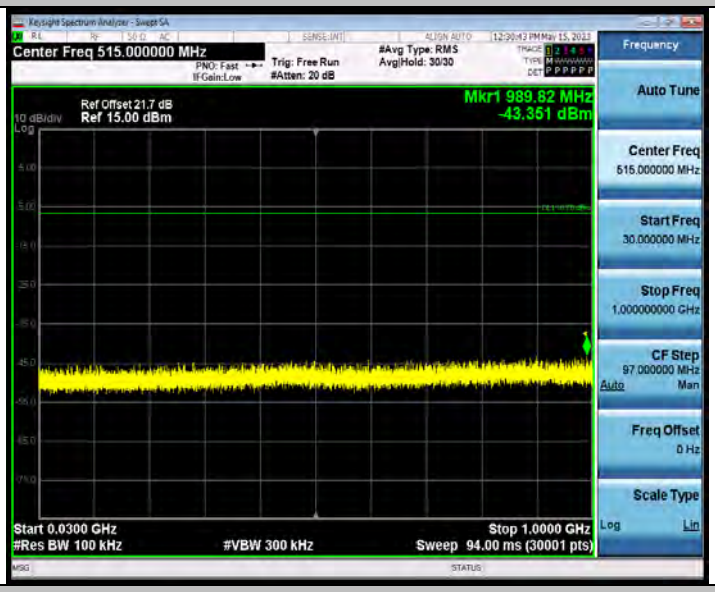


11B_Ant1_2437_1000~26500



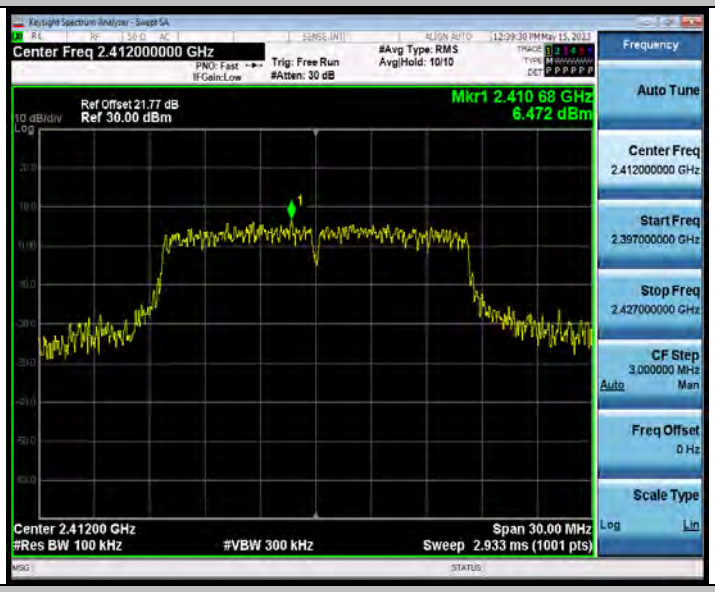
11B_Ant1_2462_0~Reference

11B_Ant1_2462_30~1000

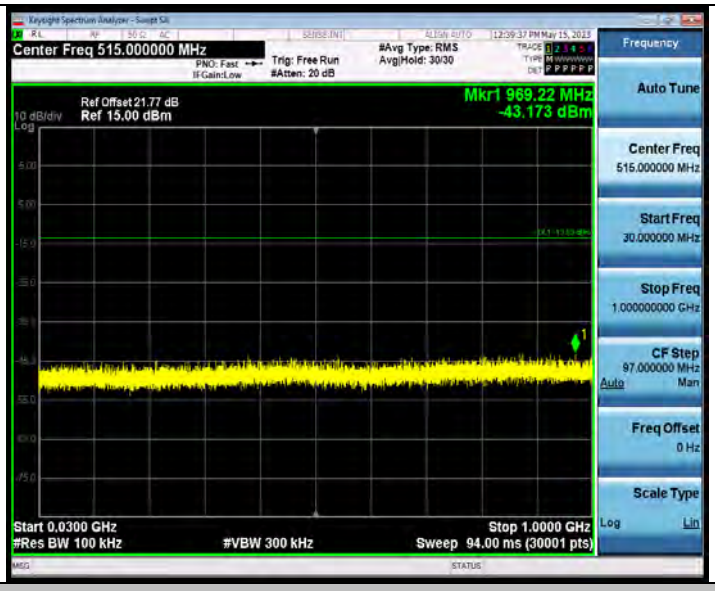


11B_Ant1_2462_1000~26500

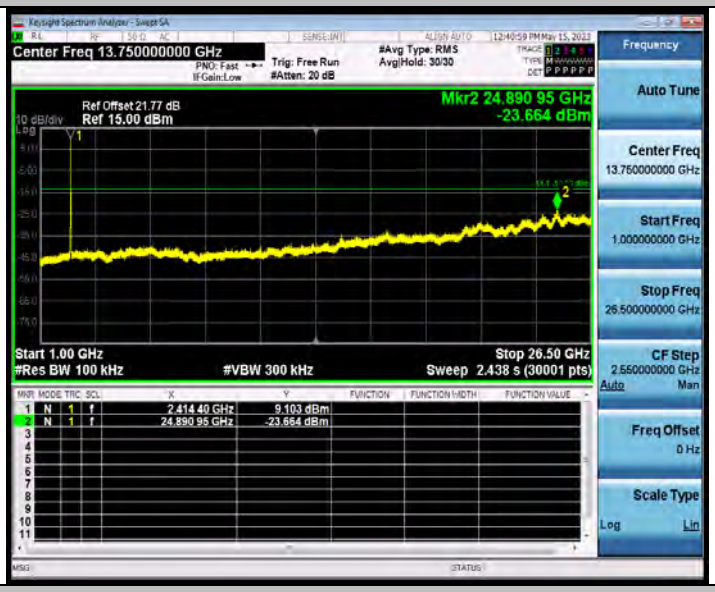
11G_Ant1_2412_0~Reference



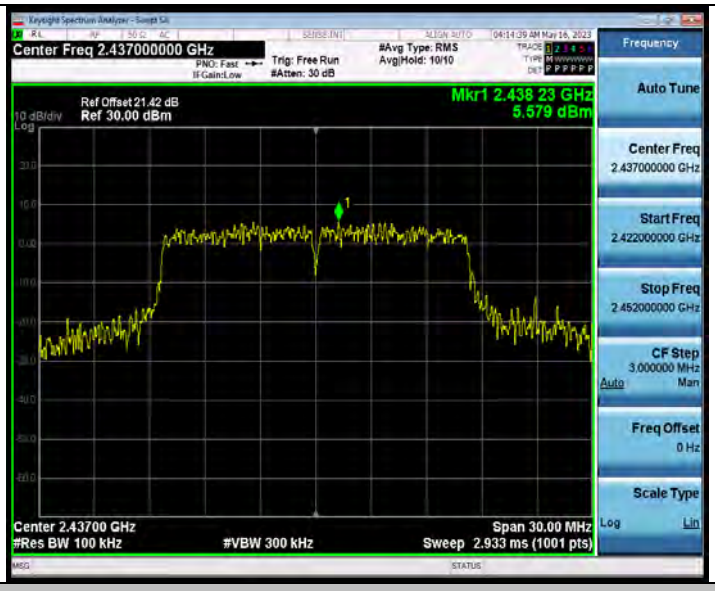
11G_Ant1_2412_30~1000



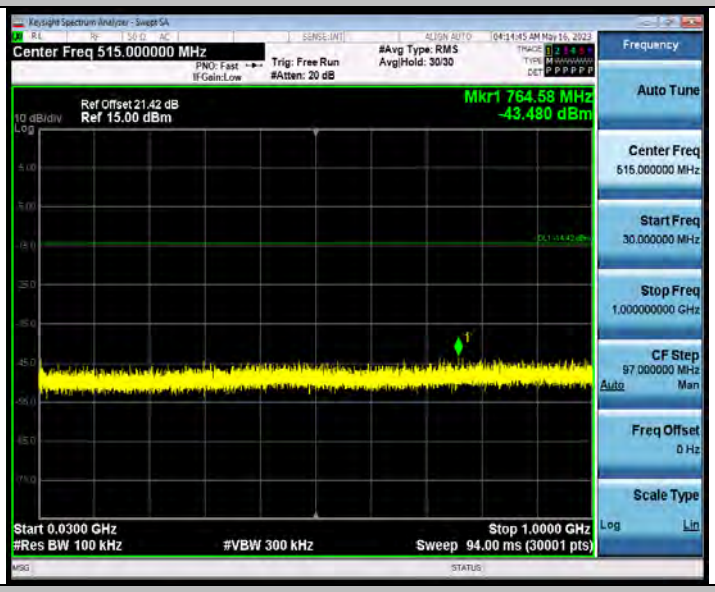
11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference



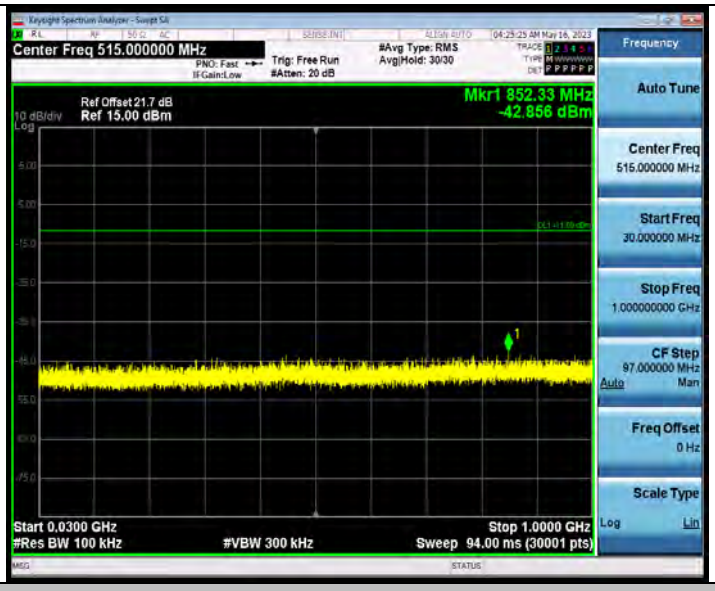
11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500

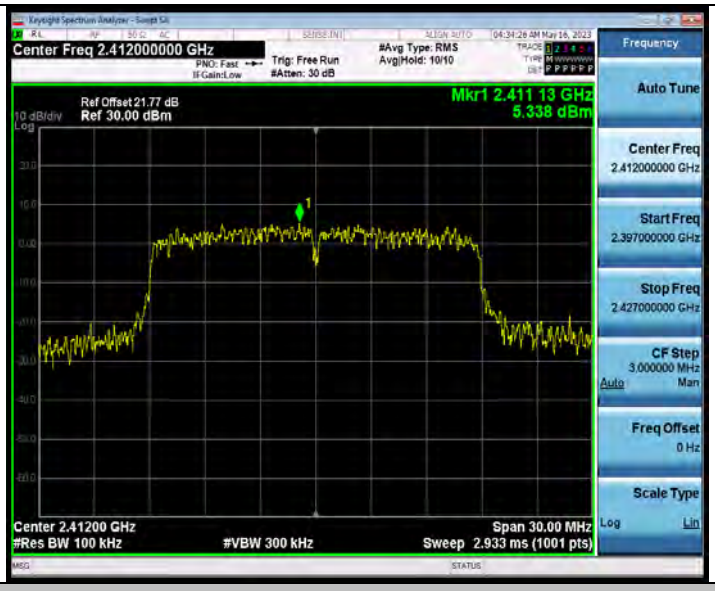
11G_Ant1_2462_0~Reference

11G_Ant1_2462_30~1000

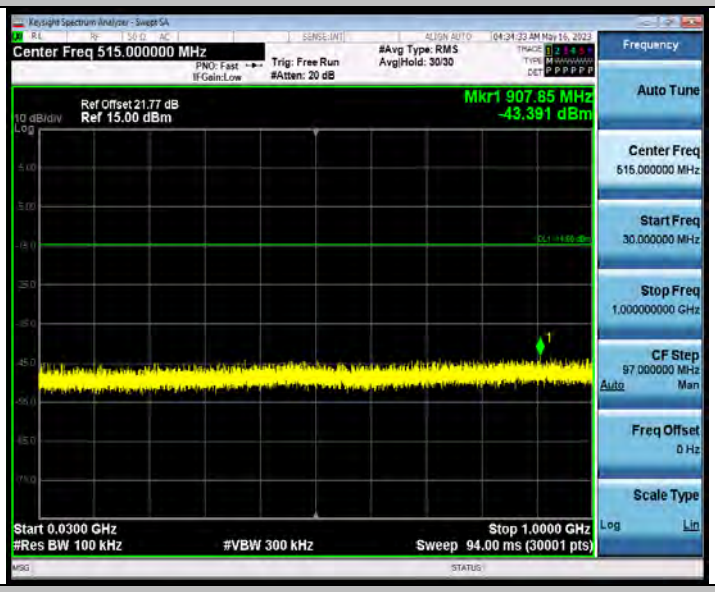


11G_Ant1_2462_1000~26500

11N20SISO_Ant1_2412_0~Reference



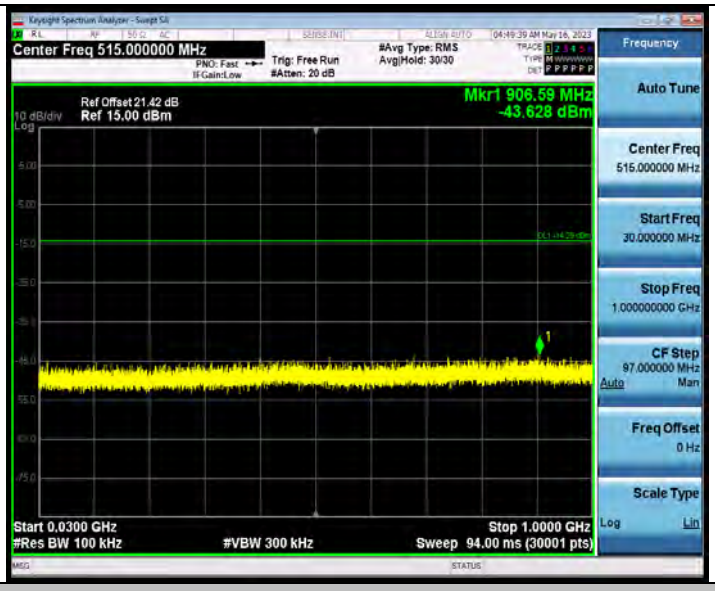
11N20SISO_Ant1_2412_30~1000



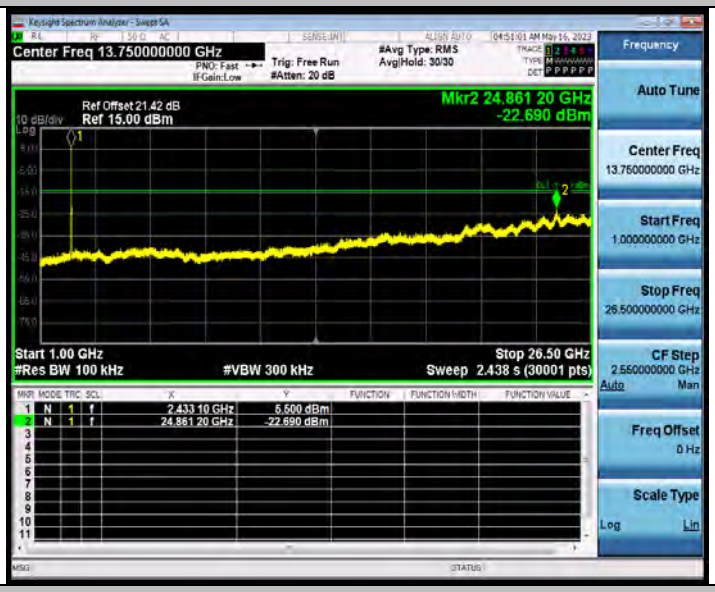
11N20SISO_Ant1_2412_1000~26500

11N20SISO_Ant1_2437_0~Reference

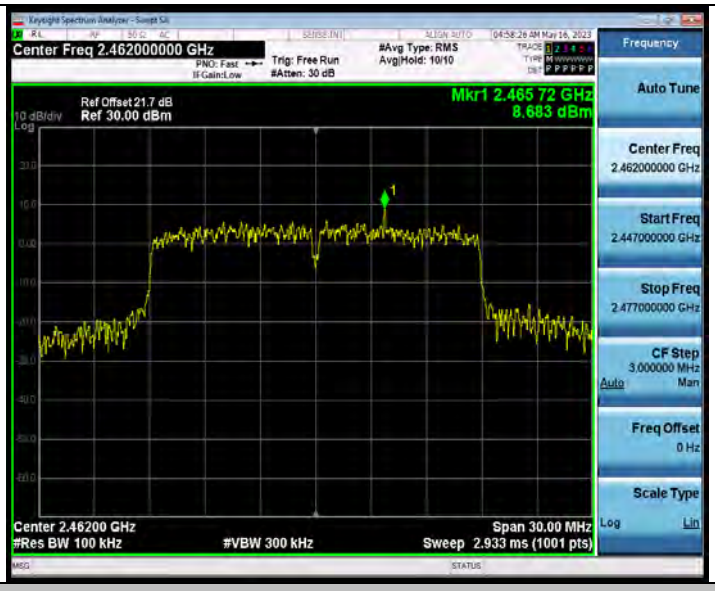
11N20SISO_Ant1_2437_30~1000



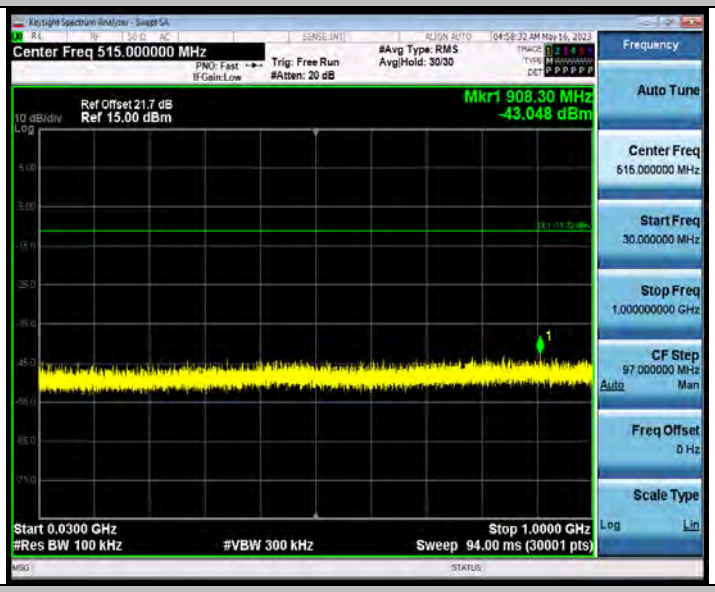
11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference

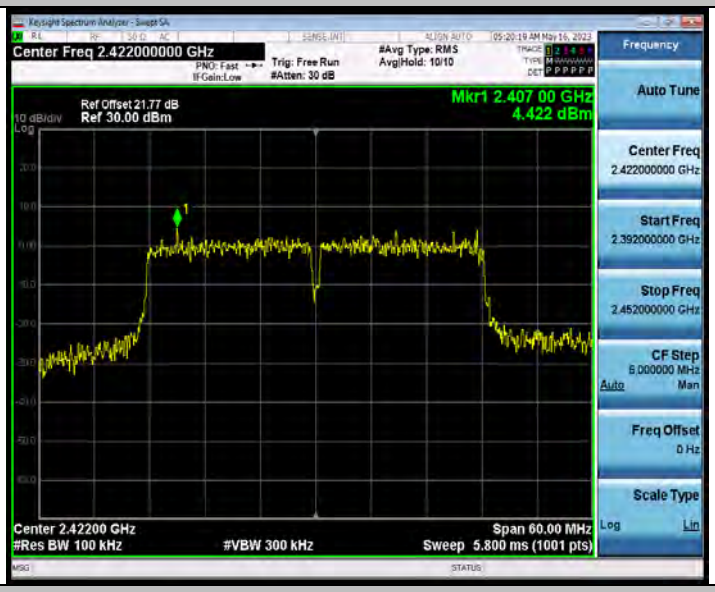


11N20SISO_Ant1_2462_30~1000

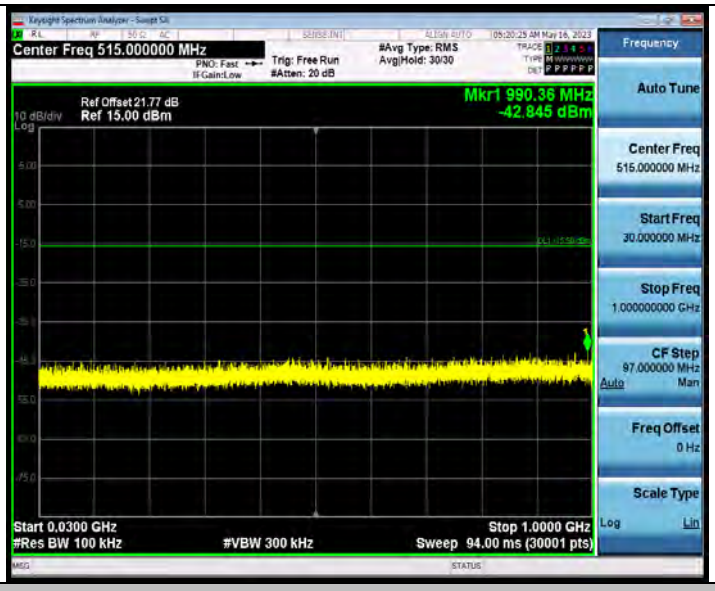


11N20SISO_Ant1_2462_1000~26500

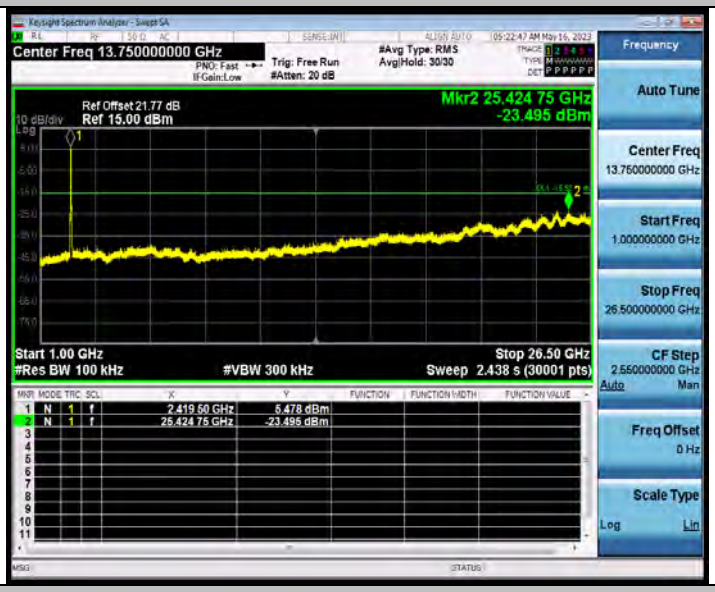
11N40SISO_Ant1_2422_0~Reference



11N40SISO_Ant1_2422_30~1000

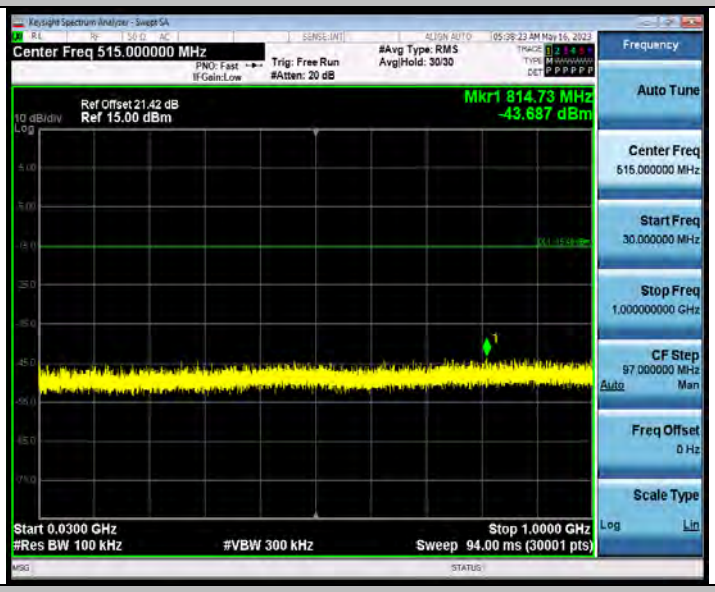


11N40SISO_Ant1_2422_1000~26500



11N40SISO_Ant1_2437_0~Reference

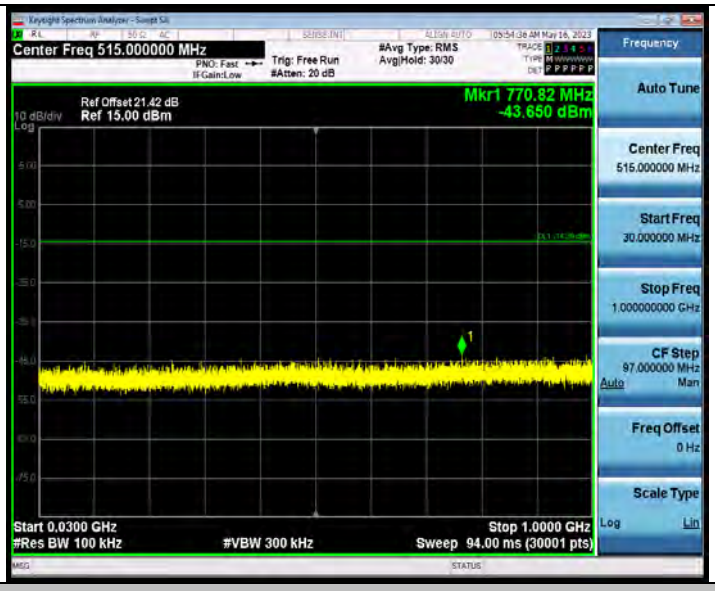
11N40SISO_Ant1_2437_30~1000



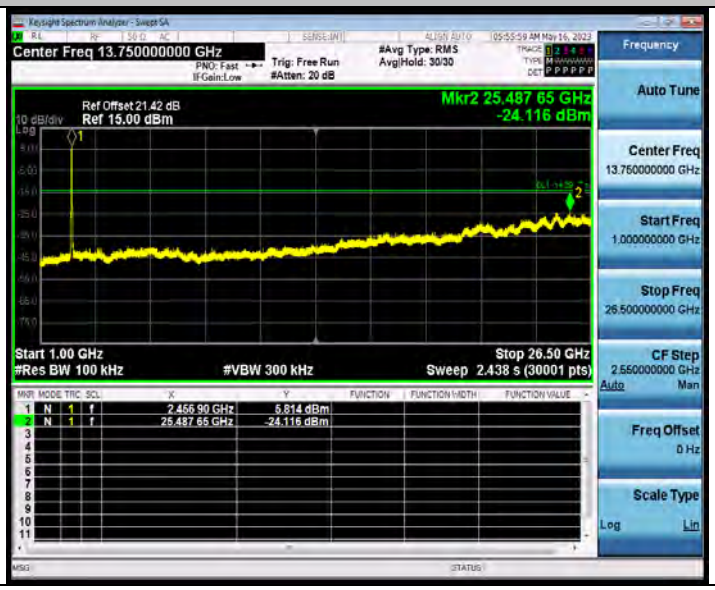
11N40SISO_Ant1_2437_1000~26500

11N40SISO_Ant1_2452_0~Reference

11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500

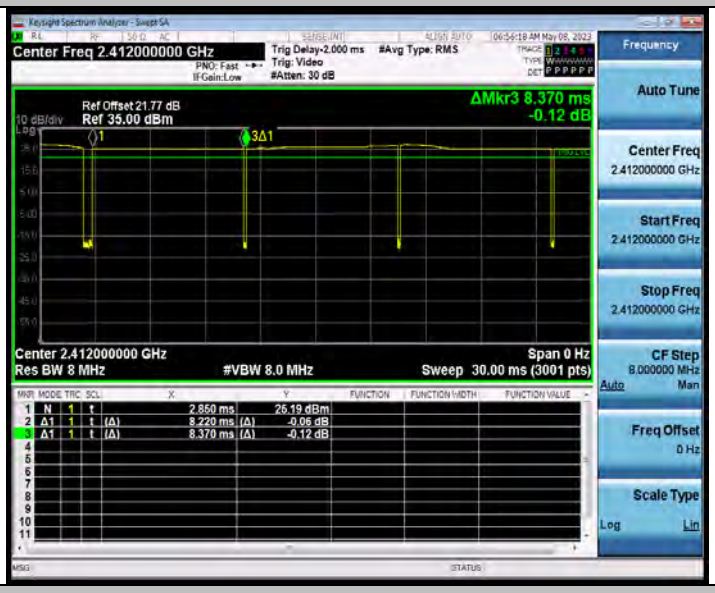
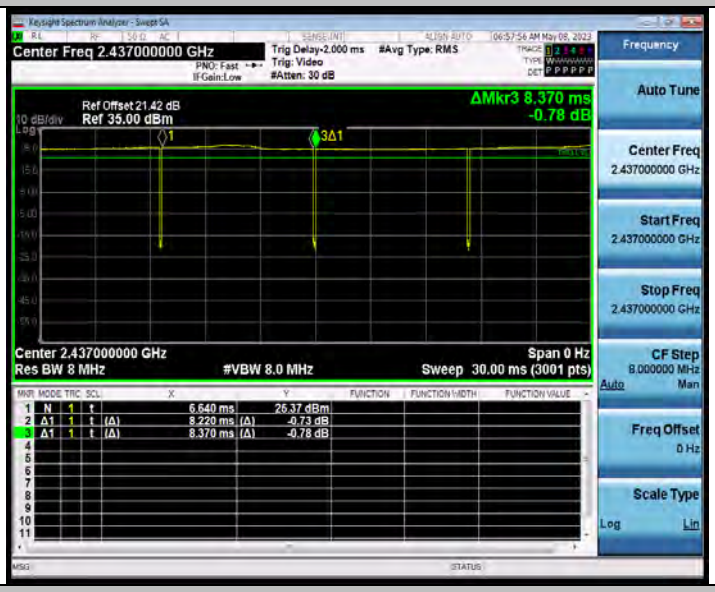


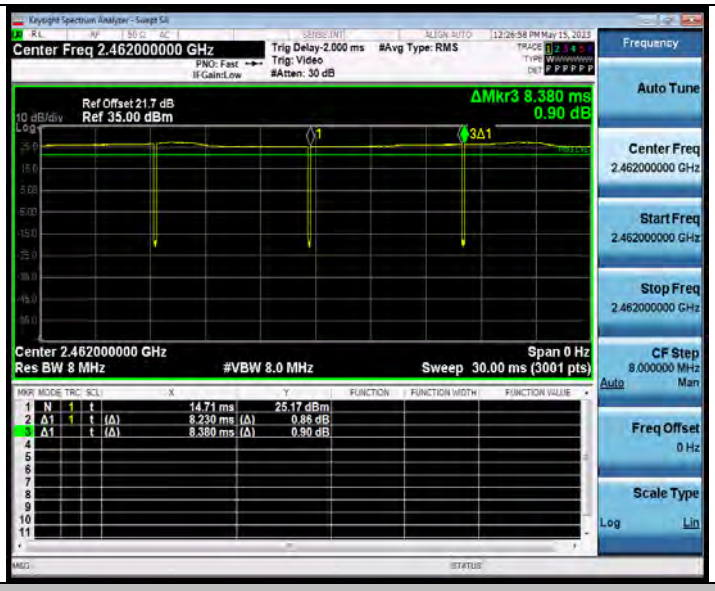
DUTY CYCLE

TEST RESULT

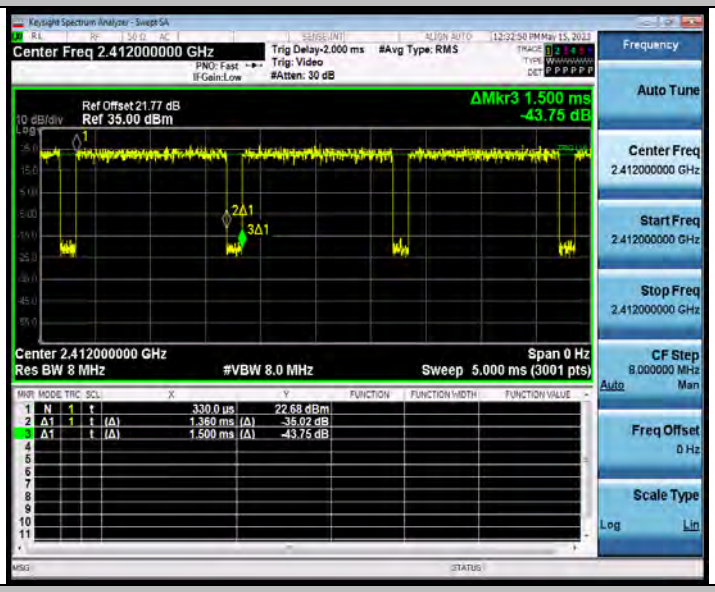
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.22	8.37	98.21	0.08
		2437	8.22	8.37	98.21	0.08
		2462	8.23	8.38	98.21	0.08
11G	Ant1	2412	1.36	1.50	90.67	0.43
		2437	1.36	1.50	90.67	0.43
		2462	1.37	1.51	90.73	0.42
11N20SISO	Ant1	2412	1.27	1.42	89.44	0.48
		2437	1.28	1.42	90.14	0.45
		2462	1.28	1.42	90.14	0.45
11N40SISO	Ant1	2422	0.63	0.78	80.77	0.93
		2437	0.64	0.80	80.00	0.97
		2452	0.63	0.78	80.77	0.93

TEST GRAPHS

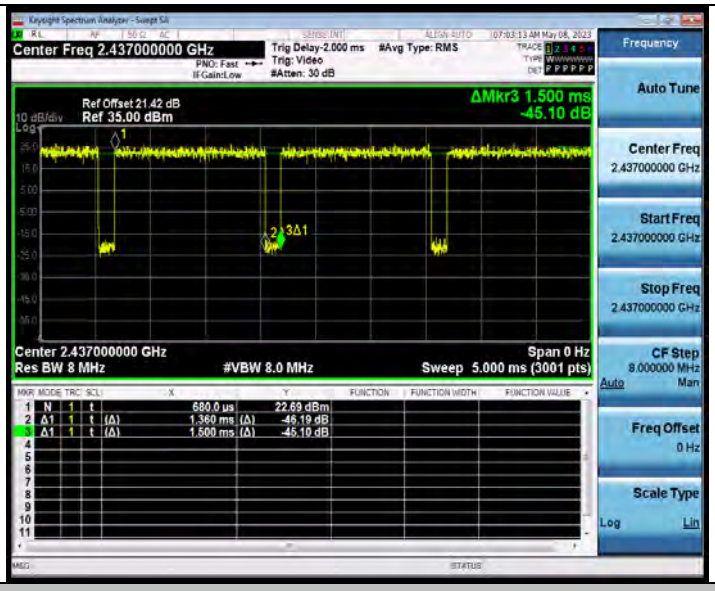
11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462



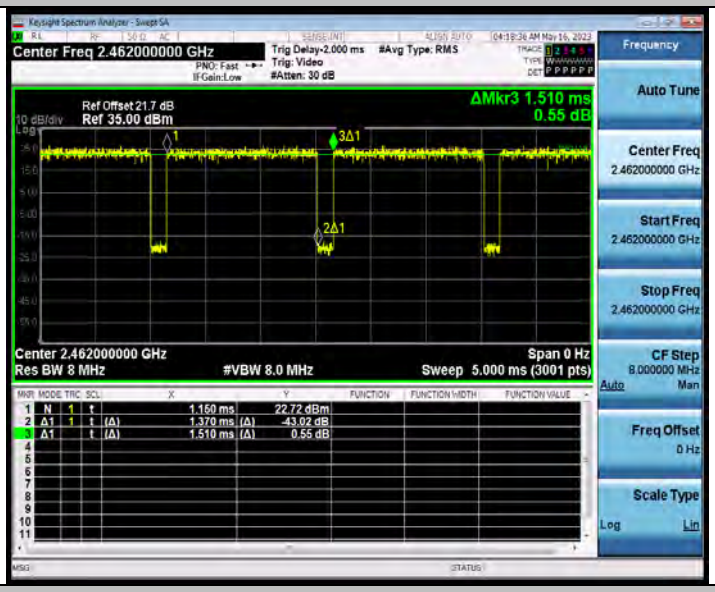
11G_Ant1_2412



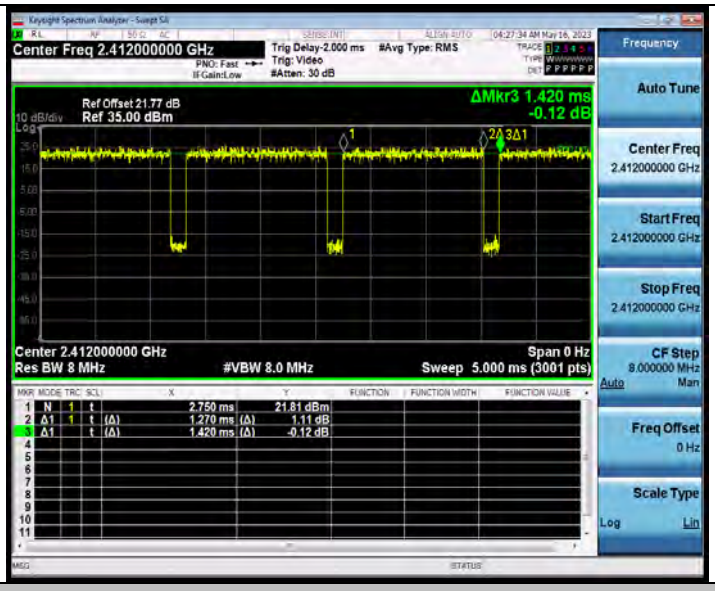
11G_Ant1_2437



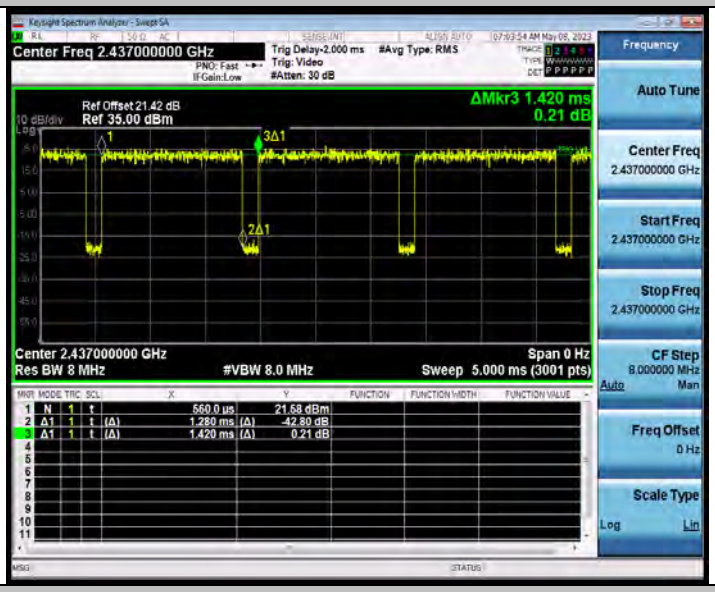
11G_Ant1_2462



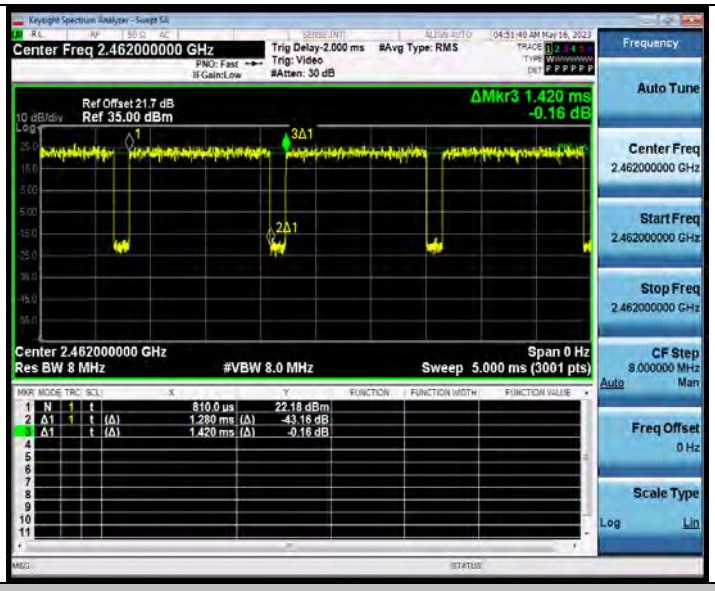
11N20SISO_Ant1_2412



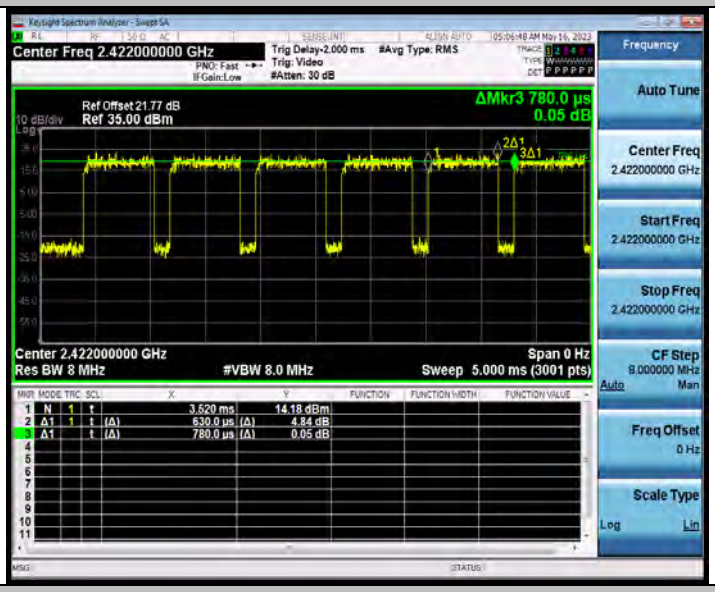
11N20SISO_Ant1_2437



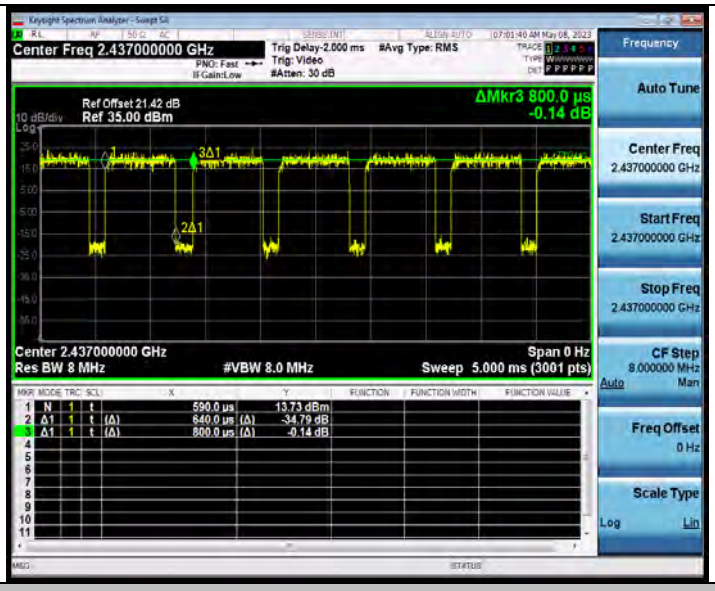
11N20SISO_Ant1_2462



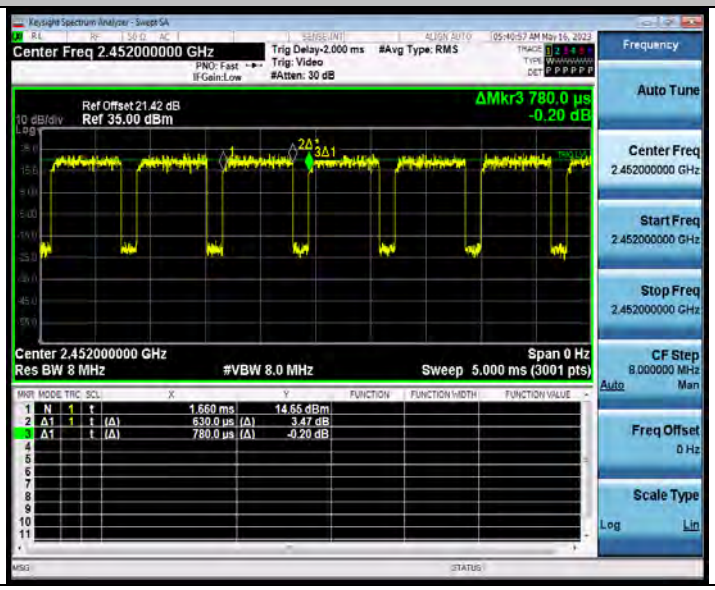
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



7 Appendix 2: BLE

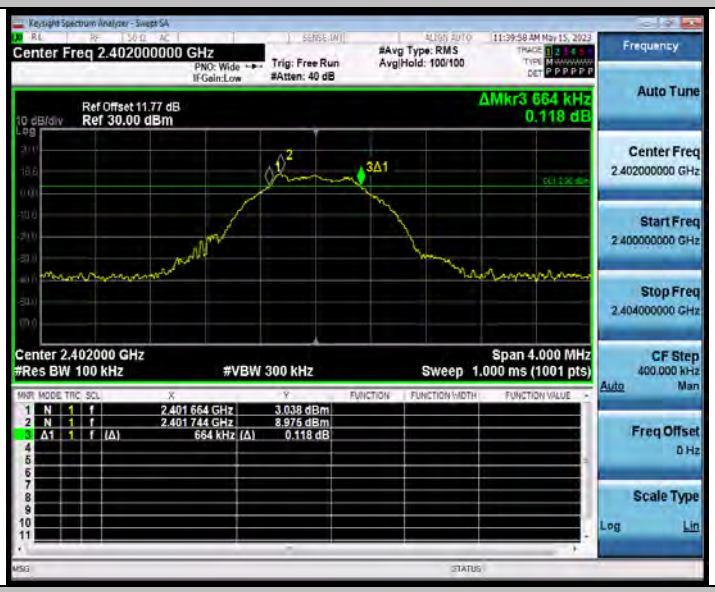
DTS BANDWIDTH

TEST RESULT

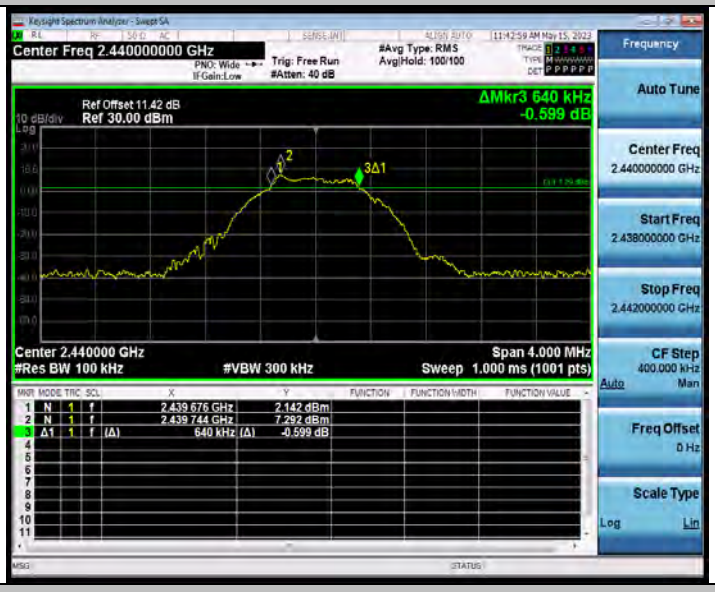
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.664	2402.328	0.5	PASS
		2440	0.640	2439.676	2440.316	0.5	PASS
		2480	0.656	2479.656	2480.312	0.5	PASS
BLE_2M	Ant1	2404	1.164	2403.396	2404.560	0.5	PASS
		2440	1.120	2439.416	2440.536	0.5	PASS
		2478	1.144	2477.408	2478.552	0.5	PASS

TEST GRAPHS

BLE_1M_Ant1_2402

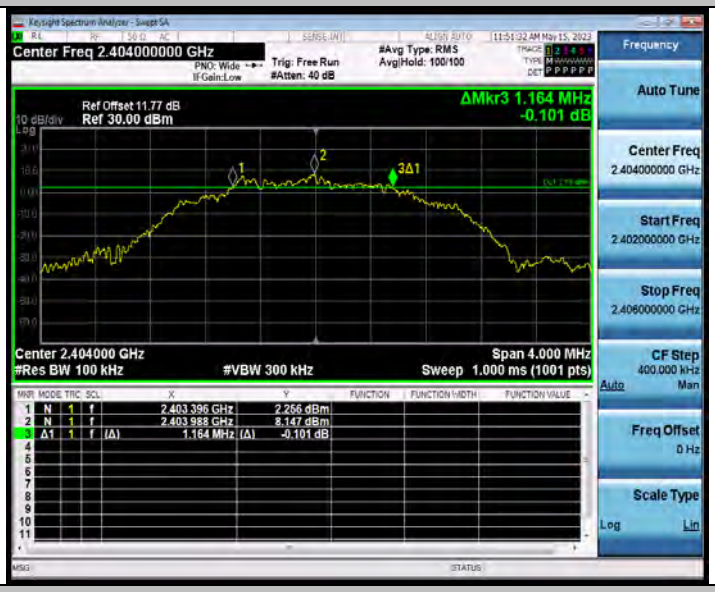


BLE_1M_Ant1_2440

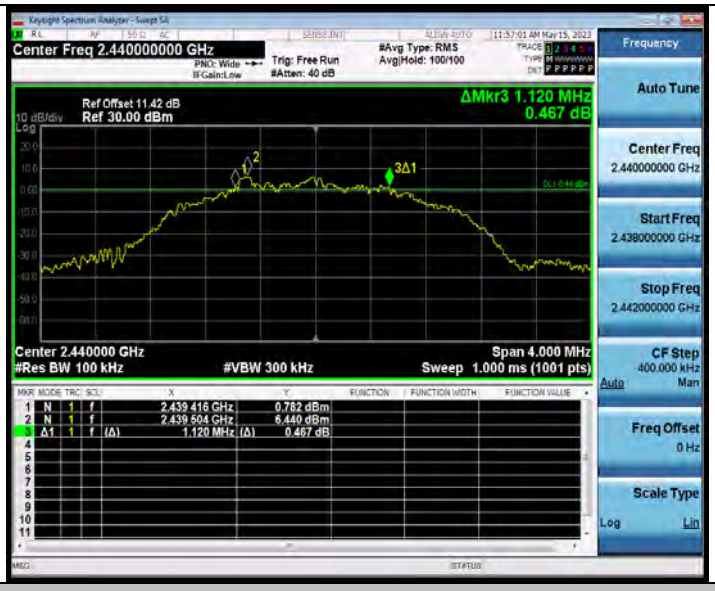


BLE_1M_Ant1_2480

BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



BLE_2M_Ant1_2478

OCCUPIED CHANNEL BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0118	2401.4967	2402.5085	---	---
		2440	1.0139	2439.4954	2440.5093	---	---
		2480	1.0229	2479.4917	2480.5146	---	---
BLE_2M	Ant1	2404	2.0495	2402.9932	2405.0427	---	---
		2440	2.0487	2438.9905	2441.0392	---	---
		2478	2.0184	2476.9948	2479.0132	---	---

TEST GRAPHS

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

BLE_2M_Ant1_2404

BLE_2M_Ant1_2440

BLE_2M_Ant1_2478

MAXIMUM CONDUCTED OUTPUT POWER

TEST RESULT

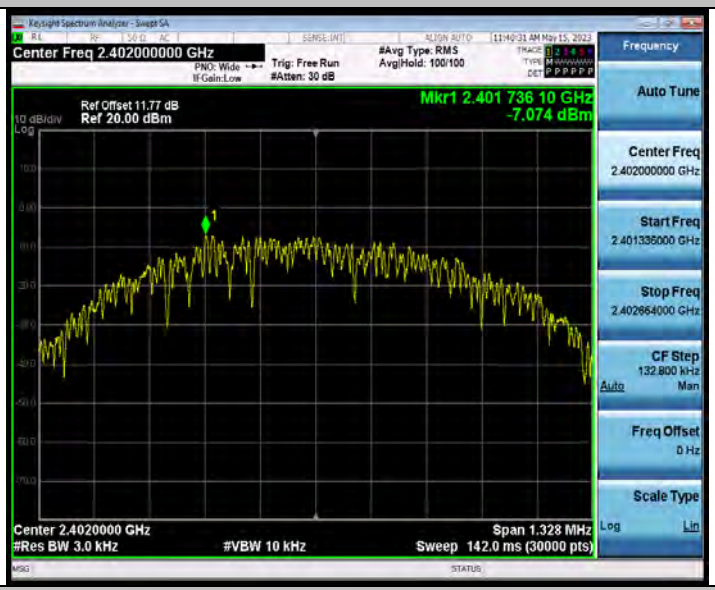
TestMode	Antenna	Channel	Average power [dBm]	Peak power [dBm]	Peak power [mw]	Conducted Limit [dBm]	EIRP [dBm]	EIRP [mw]	EIRP Limit [dBm]	Verdict	Power Setting
BLE_1M	Ant1	2402	8.17	8.43	**6.97**	≤30	9.33	8.57	≤36	PASS	Defult
		2440	7.14	7.46	5.57	≤30	8.36	6.85	≤36	PASS	Defult
		2480	7.81	8.12	6.49	≤30	9.02	7.98	≤36	PASS	Defult
BLE_2M	Ant1	2402	8.02	8.42	6.95	≤30	9.32	8.55	≤36	PASS	Defult
		2440	7.14	7.46	5.57	≤30	8.36	6.85	≤36	PASS	Defult
		2480	7.9	8.14	6.52	≤30	9.04	8.02	≤36	PASS	Defult
Note:EIRP=Peak Power+Gain											

MAXIMUM POWER SPECTRAL DENSITY

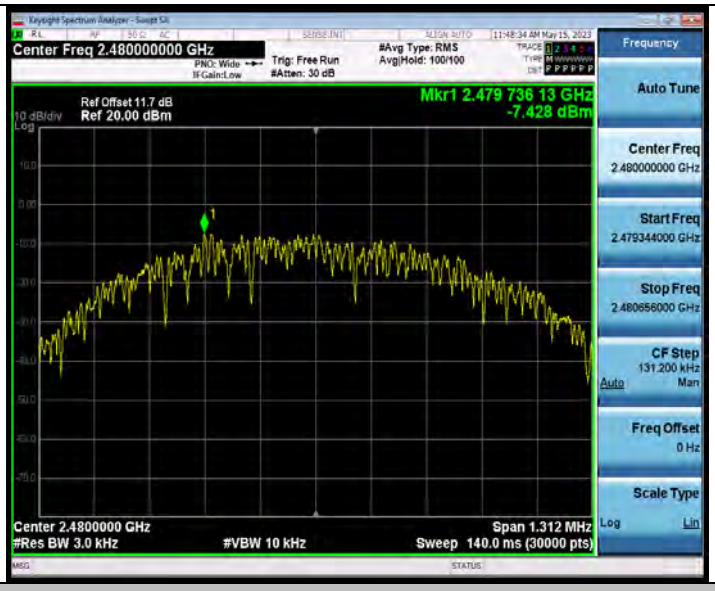
TEST RESULT

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.07	≤8.00	PASS
		2440	-8.82	≤8.00	PASS
		2480	-7.43	≤8.00	PASS
BLE_2M	Ant1	2404	-9.93	≤8.00	PASS
		2440	-11.63	≤8.00	PASS
		2478	-10.2	≤8.00	PASS

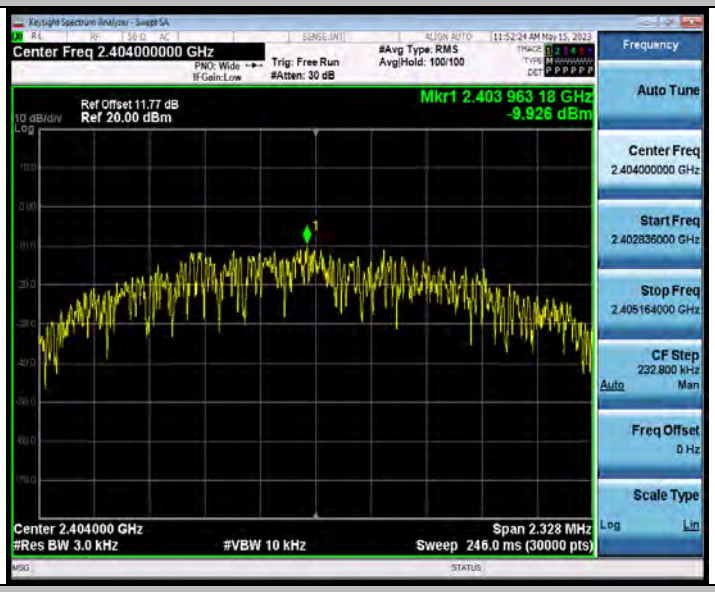
TEST GRAPHS

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

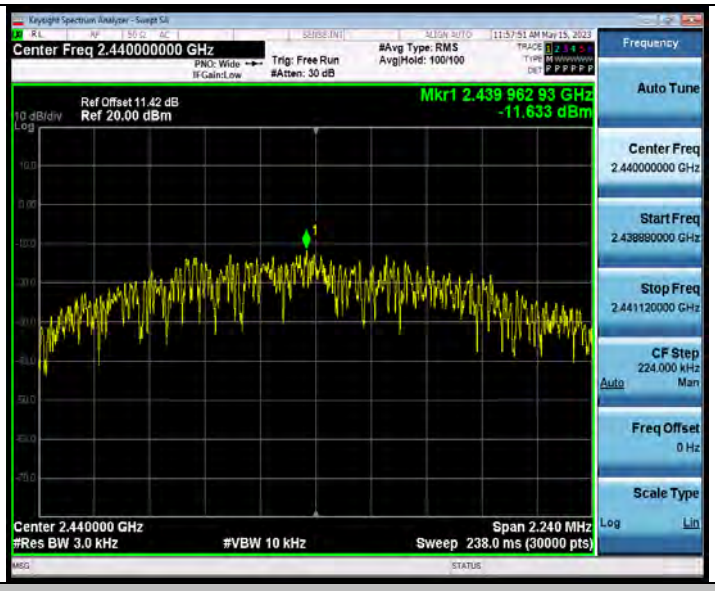
BLE_1M_Ant1_2480



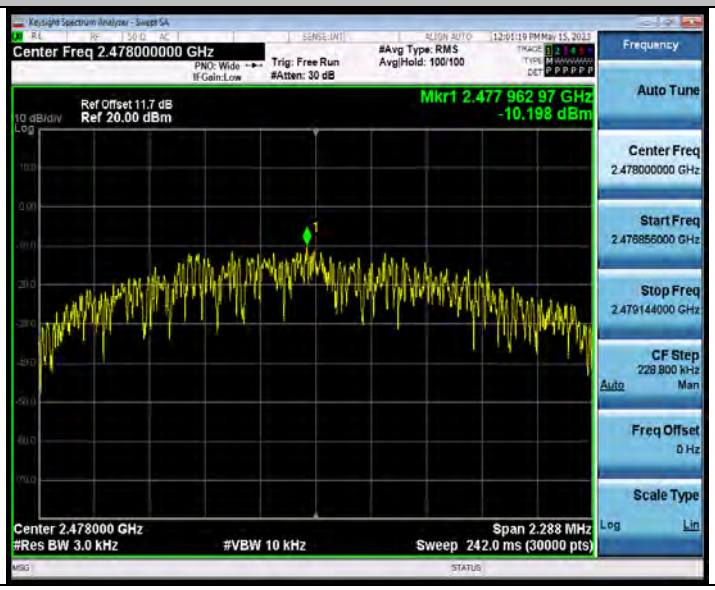
BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



BLE_2M_Ant1_2478



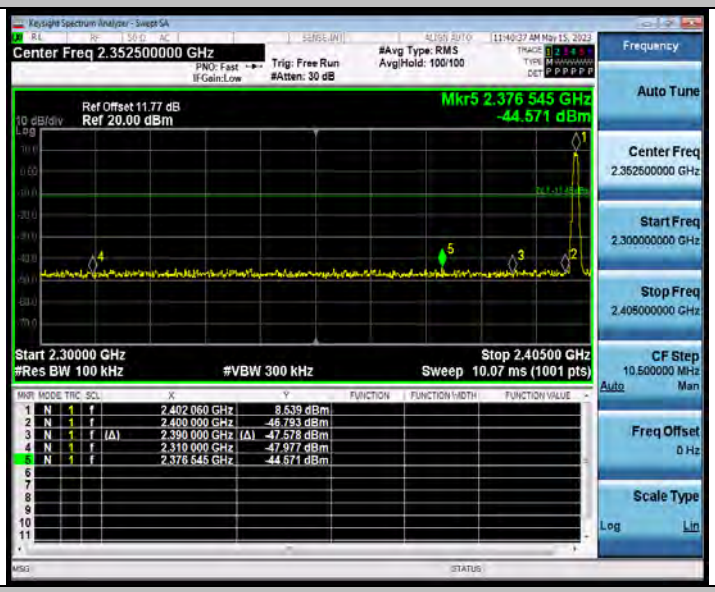
BAND EDGE MEASUREMENTS

TEST RESULT

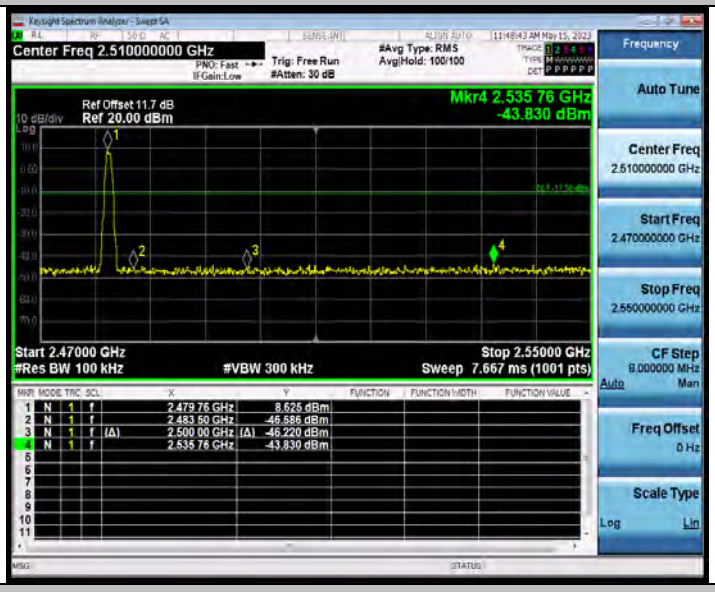
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	8.54	-44.57	≤-11.46	PASS
		High	2480	8.63	-43.83	≤-11.38	PASS
BLE_2M	Ant1	Low	2404	8.11	-44.19	≤-11.89	PASS
		High	2478	7.87	-43.83	≤-12.13	PASS

TEST GRAPHS

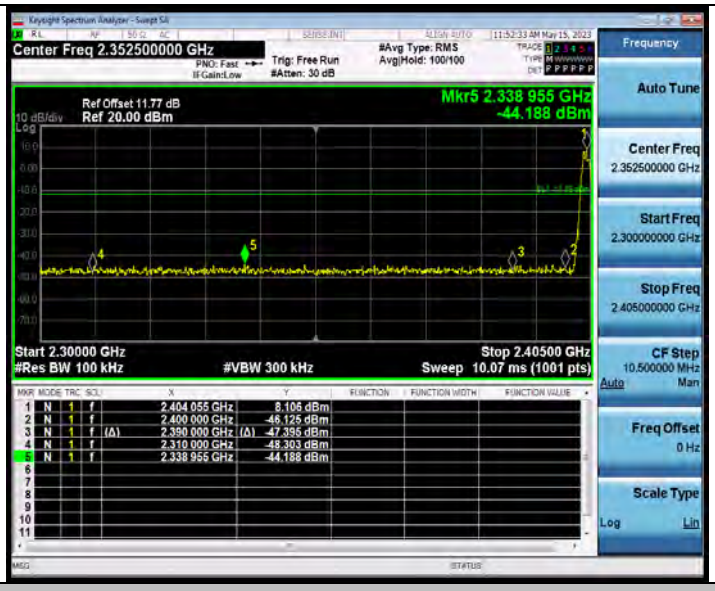
BLE_1M_Ant1_Low_2402



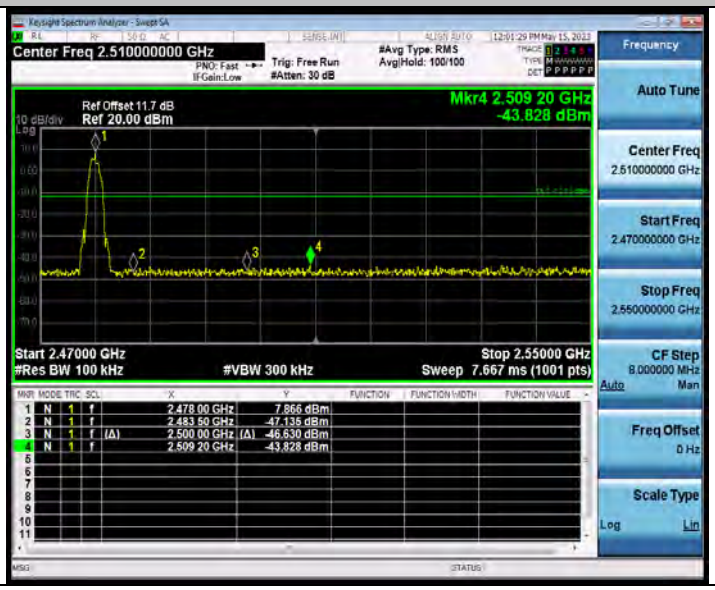
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2404



BLE_2M_Ant1_High_2478



CONDUCTED SPURIOUS EMISSION

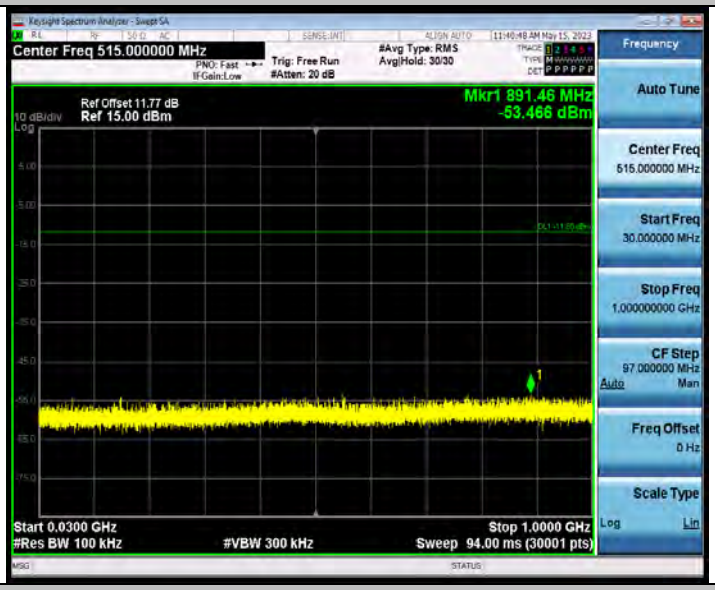
TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	8.20	8.20	---	PASS
			30~1000	8.20	-53.47	≤-11.8	PASS
			1000~26500	8.20	-33.65	≤-11.8	PASS
		2440	Reference	6.06	6.06	---	PASS
			30~1000	6.06	-53.7	≤-13.94	PASS
			1000~26500	6.06	-33.67	≤-13.94	PASS
		2480	Reference	8.30	8.30	---	PASS
			30~1000	8.30	-53.2	≤-11.7	PASS
			1000~26500	8.30	-33.93	≤-11.7	PASS
BLE_2M	Ant1	2404	Reference	6.38	6.38	---	PASS
			30~1000	6.38	-51.99	≤-13.62	PASS
			1000~26500	6.38	-33.99	≤-13.62	PASS
		2440	Reference	4.66	4.66	---	PASS
			30~1000	4.66	-53.7	≤-15.34	PASS
			1000~26500	4.66	-33.57	≤-15.34	PASS
		2478	Reference	6.87	6.87	---	PASS
			30~1000	6.87	-51.71	≤-13.13	PASS
			1000~26500	6.87	-33.99	≤-13.13	PASS

TEST GRAPHS

BLE_1M_Ant1_2402_0~Reference

BLE_1M_Ant1_2402_30~1000

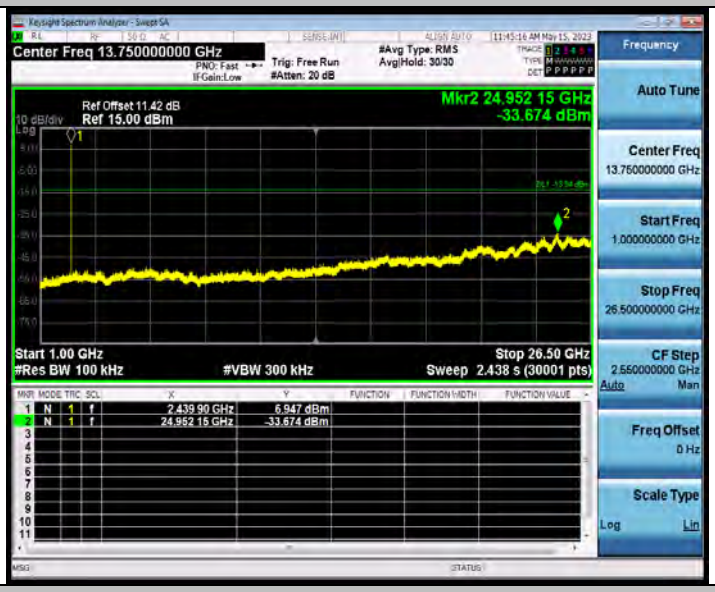


BLE_1M_Ant1_2402_1000~26500

BLE_1M_Ant1_2440_0~Reference

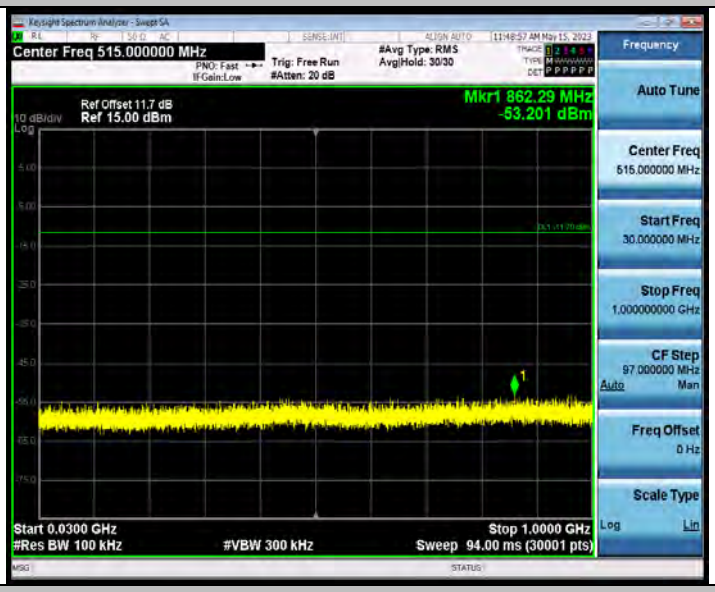
BLE_1M_Ant1_2440_30~1000

BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

BLE_1M_Ant1_2480_30~1000

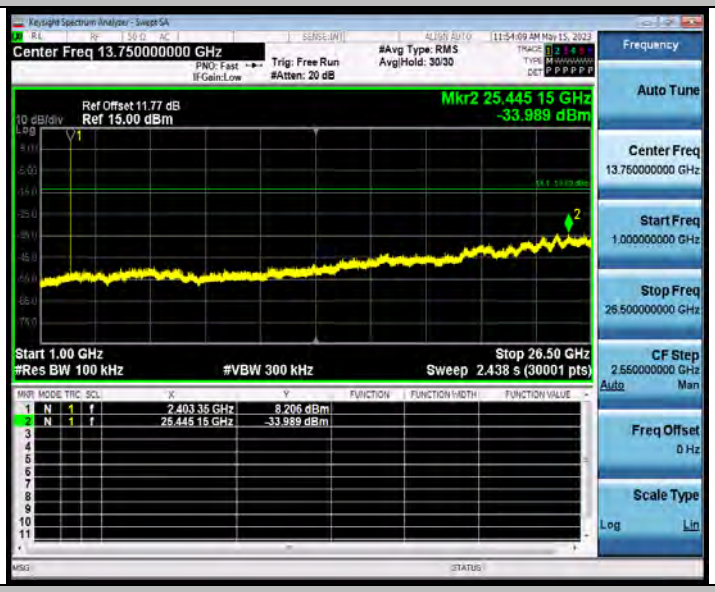


BLE_1M_Ant1_2480_1000~26500

BLE_2M_Ant1_2404_0~Reference

BLE_2M_Ant1_2404_30~1000

BLE_2M_Ant1_2404_1000~26500



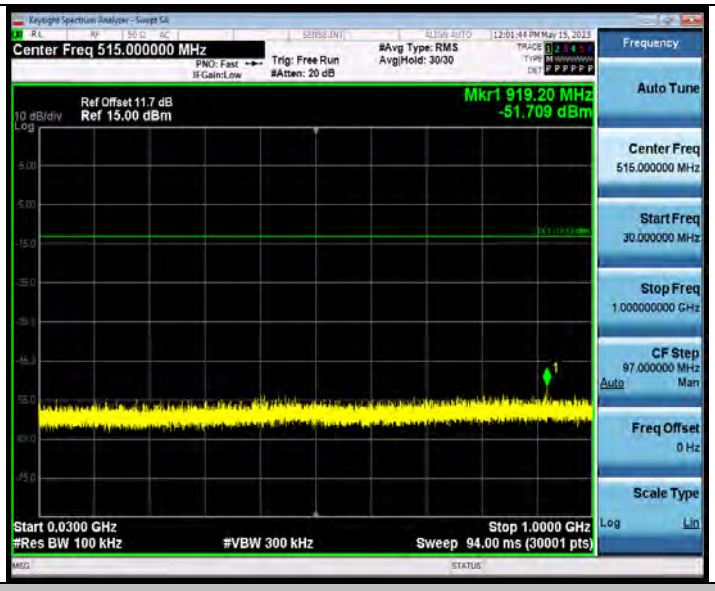
BLE_2M_Ant1_2440_0~Reference

BLE_2M_Ant1_2440_30~1000

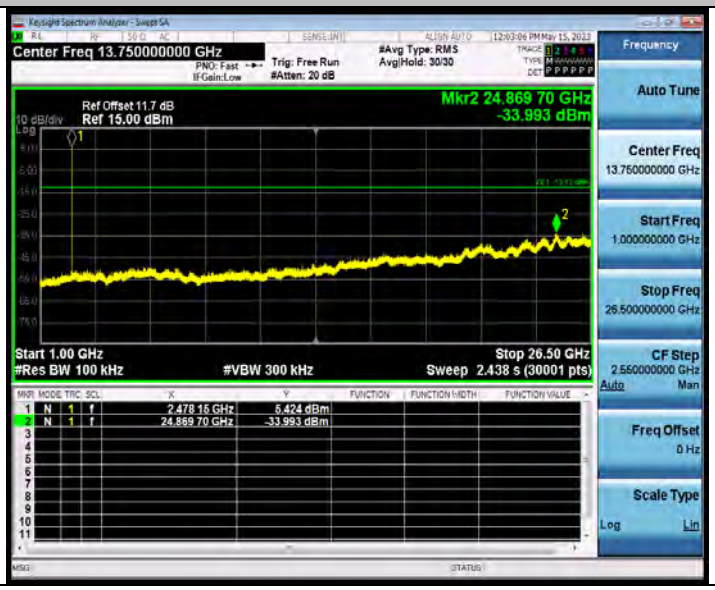
BLE_2M_Ant1_2440_1000~26500

BLE_2M_Ant1_2478_0~Reference

BLE_2M_Ant1_2478_30~1000



BLE_2M_Ant1_2478_1000~26500



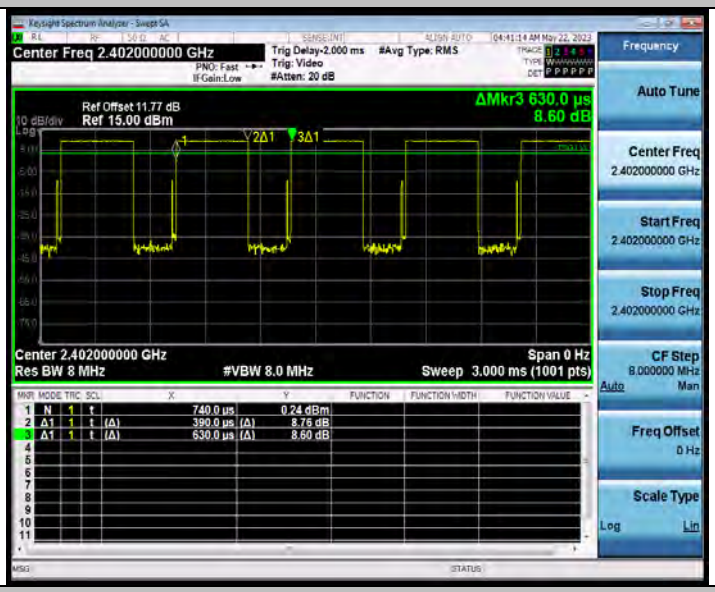
DUTY CYCLE

TEST RESULT

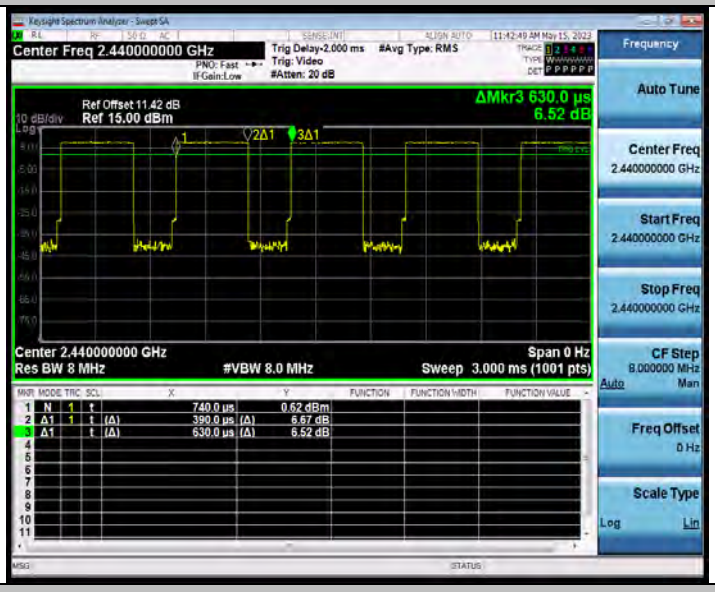
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.39	0.63	61.90	2.08
		2440	0.39	0.63	61.90	2.08
		2480	0.39	0.63	61.90	2.08
BLE_2M	Ant1	2404	0.20	0.63	31.75	4.98
		2440	0.20	0.63	31.75	4.98
		2478	0.19	0.62	30.65	5.14

TEST GRAPHS

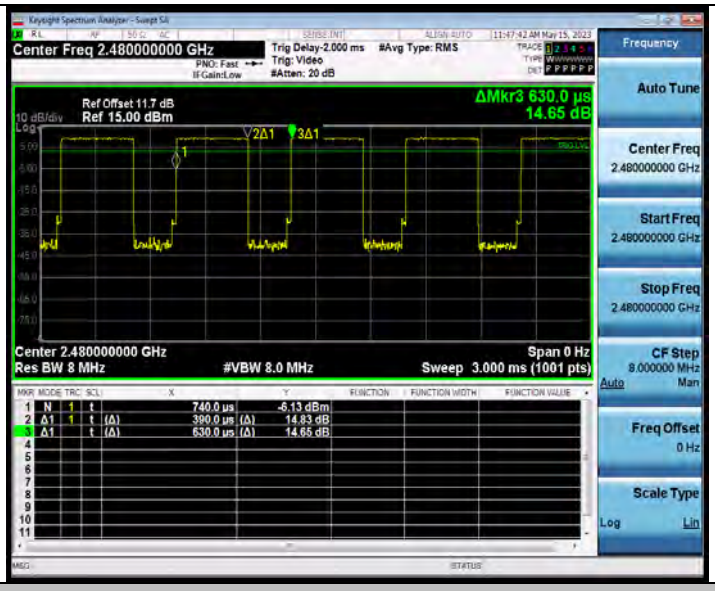
BLE_1M_Ant1_2402



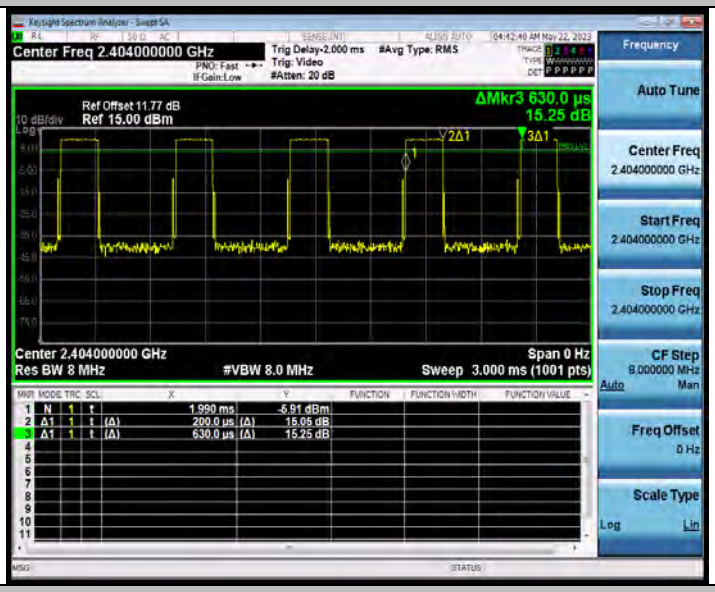
BLE_1M_Ant1_2440



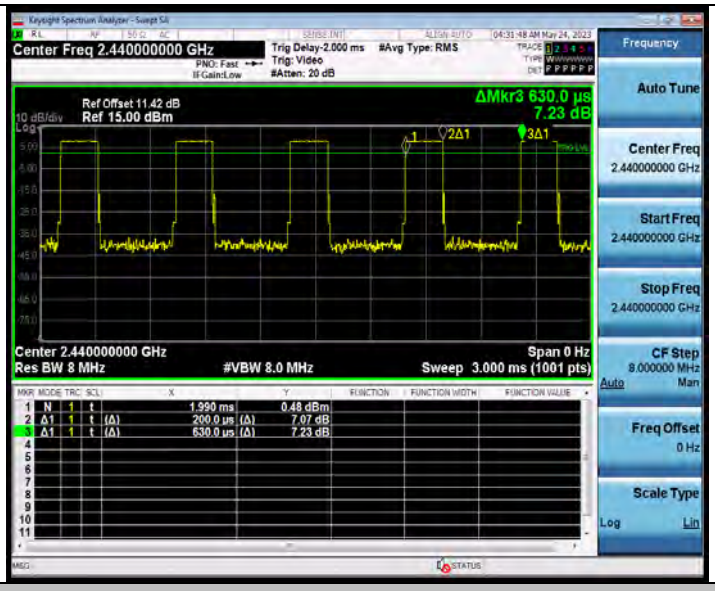
BLE_1M_Ant1_2480



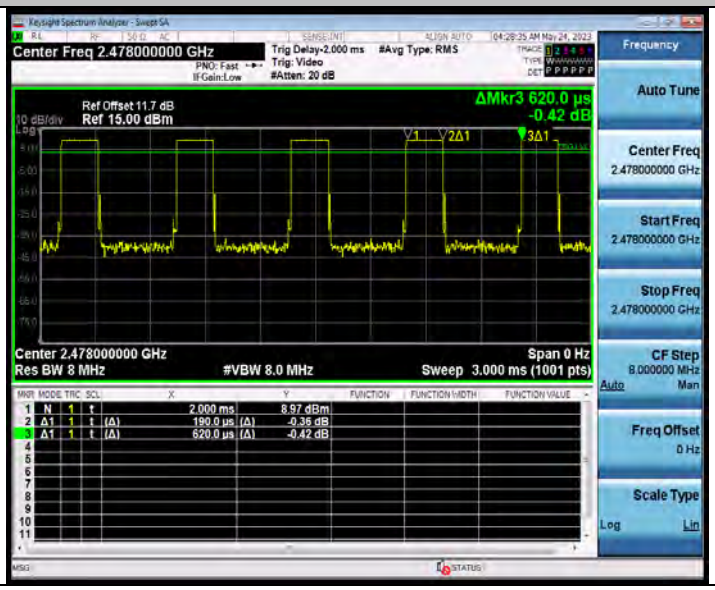
BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



BLE_2M_Ant1_2478



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