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Test Report No.: W7L-220503W001RF02



VARIANT FCC TEST REPORT

(Part 15, Subpart C)

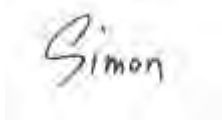
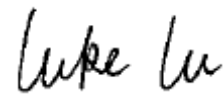
Applicant:	COOSEA GROUP (HK) COMPANY LIMITED
Address:	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA

Manufacturer or Supplier:	COOSEA GROUP (HK) COMPANY LIMITED
Address:	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA
Product:	LTE Smartphone
Brand Name:	Cricket
Model Name:	SL100EA
FCC ID:	2A28USL100EA
Date of tests:	Oct. 27, 2021 ~ Jun. 08, 2022

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

- FCC Part 15, Subpart C, Section 15.247
- ANSI C63.10-2013

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
 Date: Jun. 08, 2022	 Date: Jun. 08, 2022

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P21100025RF02	Original release	Dec. 24, 2021
W7L-220503W001RF02	Based on the original report W7L-P21100025RF02 changing SW version and adding 3G function. Verify the RSE worst case.	Jun. 08, 2022



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)		
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT
15.207	AC Power Conducted Emission	Compliance
15.205 15.209	Radiated Emissions	Compliance
15.247(d)	Out of band Emission Measurement	Compliance
15.247(a)(2)	6dB bandwidth	Compliance
15.247(b)	Conducted Output power	Compliance
15.247(e)	Power Spectral Density	Compliance
15.203	Antenna Requirement	Compliance

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

1.1 MEASUREMENT UNCERTAINTY

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

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

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



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE Smartphone
BRAND NAME	Cricket
MODEL NAME	SL100EA
NOMINAL VOLTAGE	5.0Vdc(adapter or host equipment) 3.85Vdc (Li-ion, battery)
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 65 Mbps 802.11n40: up to 135 Mbps BT_LE: 0.125 Mbps /0.5 Mbps /1 Mbps/2 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/ HT40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 304.09mW (Maximum) BT-LE: 0.622mW (Maximum)
ANTENNA TYPE	PIFA Antenna with 2.7dBi gain
HW VERSION	1.0
SW VERSION	SL100EAC20101
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: unshielded without ferrite, 1.0meter

NOTE:

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



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

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

- 3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- 4. In the finger plate, dial the code for entering Engineer mode: `***#3646633#**`
 EngineerMode->CONNECTIVITY->Wifi->Tx

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	COOSEA	ZHONGSHAN TIANMAO BATTERY CO., LTD	BL-A32CT	Capacity : 3.85 Vdc, 3450mAh
AC Adapter	COOSEA	Guangdong Beicom Electronics Co., Ltd.	U312E0A05020 0	I/P:100-240V,50/60Hz,0.35A, O/P: 5.0V,2.0A 10.0W
USB Cable	COOSEA	Wivtak	TP-C0028-B3	Signal Line, 1.0meter



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

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

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



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	0	GFSK	2.0



RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

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

POWER LINE CONDUCTED EMISSION TEST

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

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

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



ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC 5V By Adapter	Star Le
RE≥1G	23deg. C, 70%RH	DC5V By Adapter	Star Le
PLC	25deg. C, 52%RH	DC5V By Adapter	Carl xie
APCM	25deg. C, 60%RH	DC 3.85V By Battery	Carl xie



2.3 Duty Cycle of Test Signal

Please Refer to AppendixA/B Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT1
WIFI 2.4GHz	11B	100.00
	11G	100.00
	11N20	96.73
	11N40	93.64
BT LE	BT4.0	84.99
	BT5.0	57.01
	BTS2	90.94
	BTS8	97.41

Note:

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



2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C, Section 15.247

KDB 558074 D01 DTS Meas Guidance v05r02

ANSI C63.10-2013

Note :

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

2.5 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Desktop	Lenovo	M73 SFF	PC04GRQV	N/A
2	Desktop	Lenovo	M73 SFF	PC06CS27	N/A
3	Laptop	Lenovo	Thnikpad T450	PC-049PT1	N/A

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



3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

3.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Mar. 03,21	Mar. 02,22
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Mar. 02,22	Mar. 01,23
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Feb. 25,21	Feb. 24,22
LISN network	Rohde&Schwarz	ENV216	101922	Feb. 24,22	Feb. 23,23

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



3.1.3 TEST PROCEDURES

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

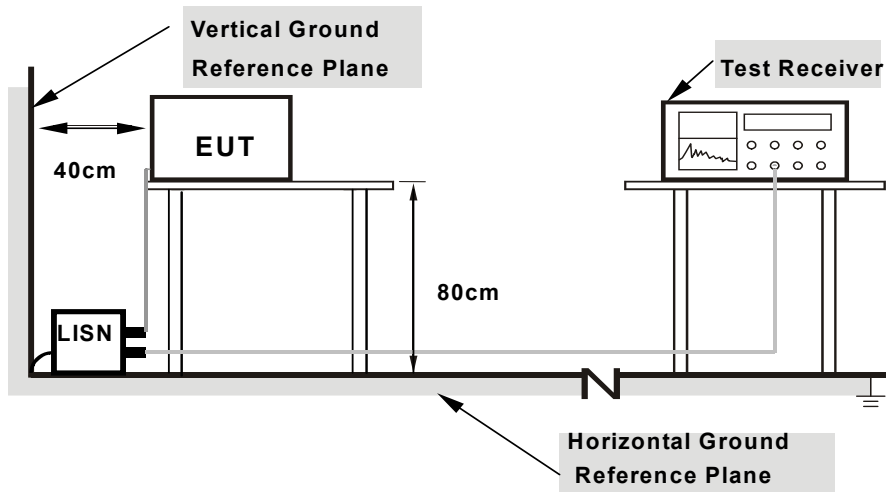
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.



3.1.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm 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

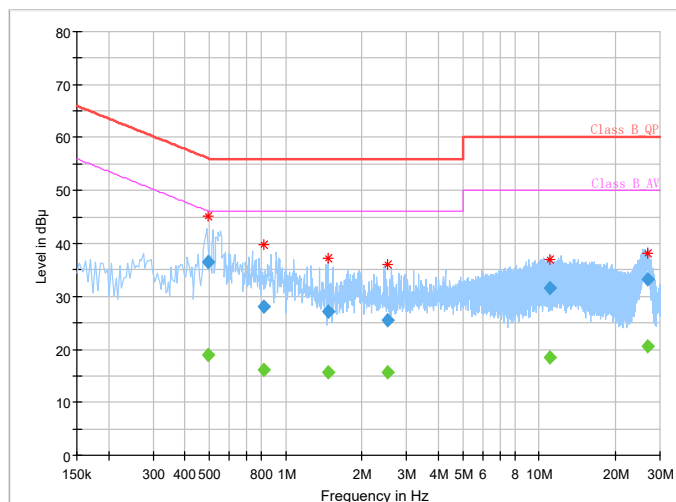
CONDUCTED WORST-CASE DATA:

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)
0.492000	---	18.91	46.13	27.22	L1	ON	9.7
0.492000	36.48	---	56.13	19.65	L1	ON	9.7
0.824000	---	16.21	46.00	29.79	L1	ON	9.7
0.824000	28.09	---	56.00	27.91	L1	ON	9.7
1.476000	---	15.69	46.00	30.31	L1	ON	9.7
1.476000	27.08	---	56.00	28.92	L1	ON	9.7
2.536000	---	15.57	46.00	30.43	L1	ON	9.7
2.536000	25.40	---	56.00	30.60	L1	ON	9.7
11.008000	---	18.56	50.00	31.44	L1	ON	9.8
11.008000	31.49	---	60.00	28.51	L1	ON	9.8
26.824000	---	20.62	50.00	29.38	L1	ON	9.8
26.824000	33.24	---	60.00	26.76	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





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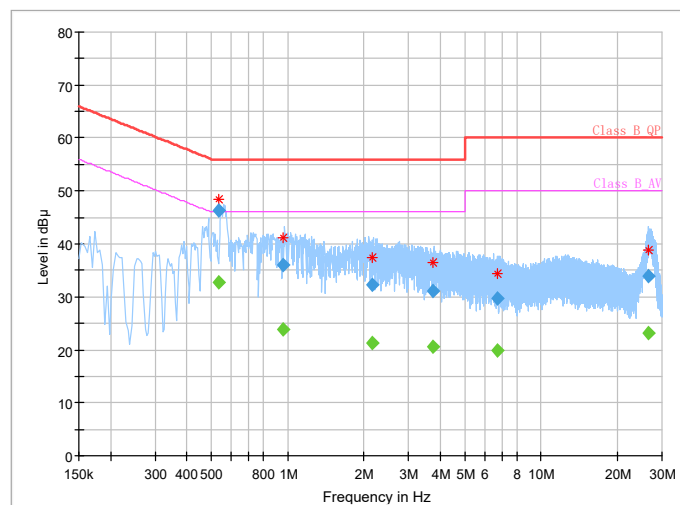
Test Report No.: W7L-220503W001RF02

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)
0.532000	---	32.64	46.00	13.36	N	ON	9.7
0.532000	46.25	---	56.00	9.75	N	ON	9.7
0.960000	---	23.94	46.00	22.06	N	ON	9.7
0.960000	35.96	---	56.00	20.04	N	ON	9.7
2.162000	---	21.29	46.00	24.71	N	ON	9.8
2.162000	32.18	---	56.00	23.82	N	ON	9.8
3.764000	---	20.70	46.00	25.30	N	ON	9.8
3.764000	31.09	---	56.00	24.91	N	ON	9.8
6.752000	---	19.93	50.00	30.07	N	ON	9.8
6.752000	29.62	---	60.00	30.38	N	ON	9.8
26.472000	---	23.10	50.00	26.90	N	ON	9.9
26.472000	33.97	---	60.00	26.03	N	ON	9.9

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

Full Spectrum





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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



3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 04,22	Mar. 03,23
Horn Antenna	ETS-LINDGREN	3117	00168728	Apr. 02, 21	Apr. 01, 22
Horn Antenna	ETS-LINDGREN	3117	00168728	Apr. 01, 22	Mar. 31, 23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 02,22	Jun. 01,23
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 27,21	Apr. 26,22
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 26,22	Apr. 25,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 01,22	May. 31,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 01,22	May. 31,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 30,21	Apr. 29,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 29,22	Apr. 28,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 25,21	Aug. 24,22
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 24,22	Aug. 23,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 25,21	Feb. 24,22
Power Meter	Anritsu	ML2495A	1506002	Feb. 24,22	Feb. 23,23
Power Sensor	Anritsu	MA2411B	1339352	Feb. 25,21	Feb. 24,22
Power Sensor	Anritsu	MA2411B	1339352	Feb. 24,22	Feb. 23,23
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-051	Feb 14,20	Feb. 13,23

- 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 ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

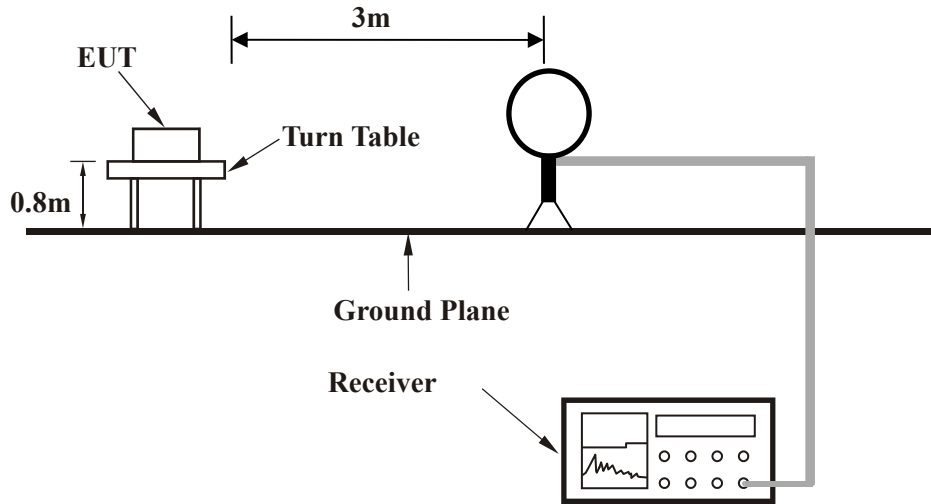
3.2.4 DEVIATION FROM TEST STANDARD

No deviation

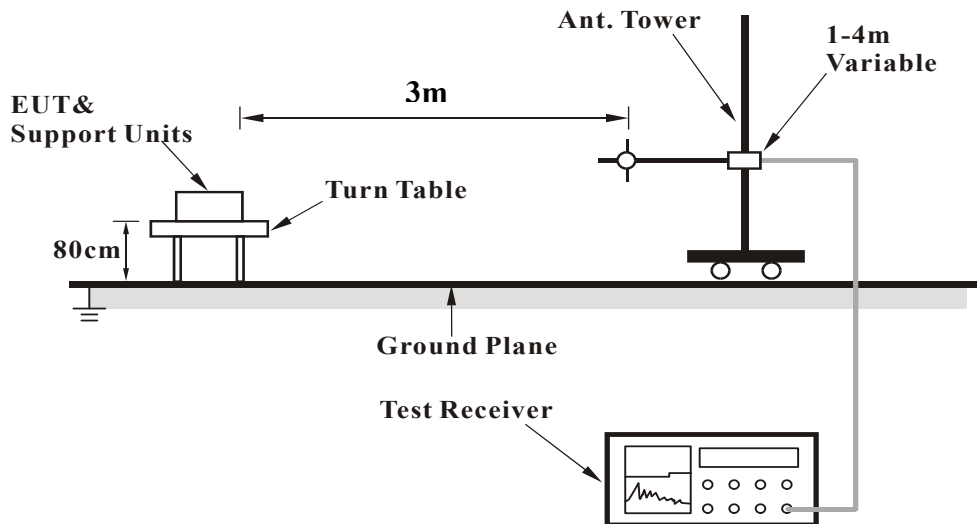


3.2.5 TEST SETUP

<Frequency Range 9KHz~30MHz >

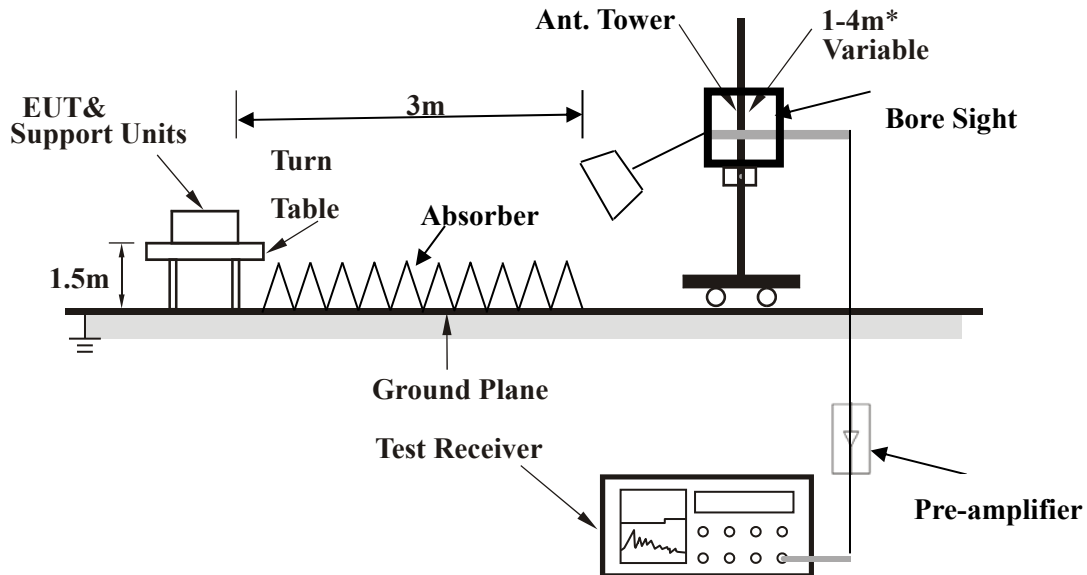


< Frequency Range 30MHz~1GHz >





<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

BELOW 1GHz WORST-CASE DATA :

30 MHz – 1GHz data:

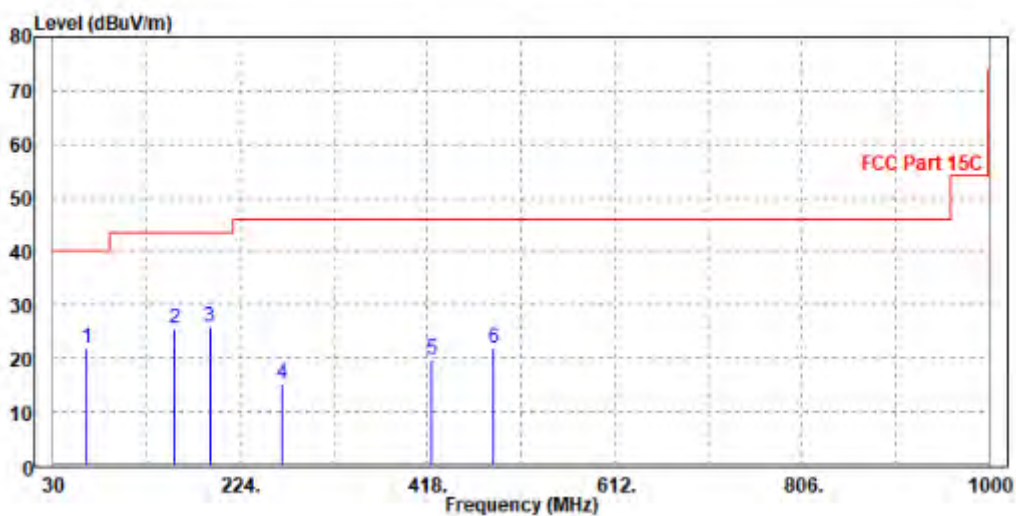
802.11n (40MHz)

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
64.92	22.03	50.92	40	-17.97	8.46	0.46	37.81	125	149	QP
155.13	25.41	52.05	43.5	-18.09	10.32	0.67	37.63	185	74	QP
191.99	25.77	51.13	43.5	-17.73	11.34	0.72	37.42	199	286	QP
266.68	15.21	37.95	46	-30.79	13.67	0.86	37.27	111	294	QP
422.85	19.65	39.29	46	-26.35	16.63	1.11	37.38	179	165	QP
486.87	21.86	40.31	46	-24.14	17.85	1.2	37.5	132	354	QP

REMARKS:

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



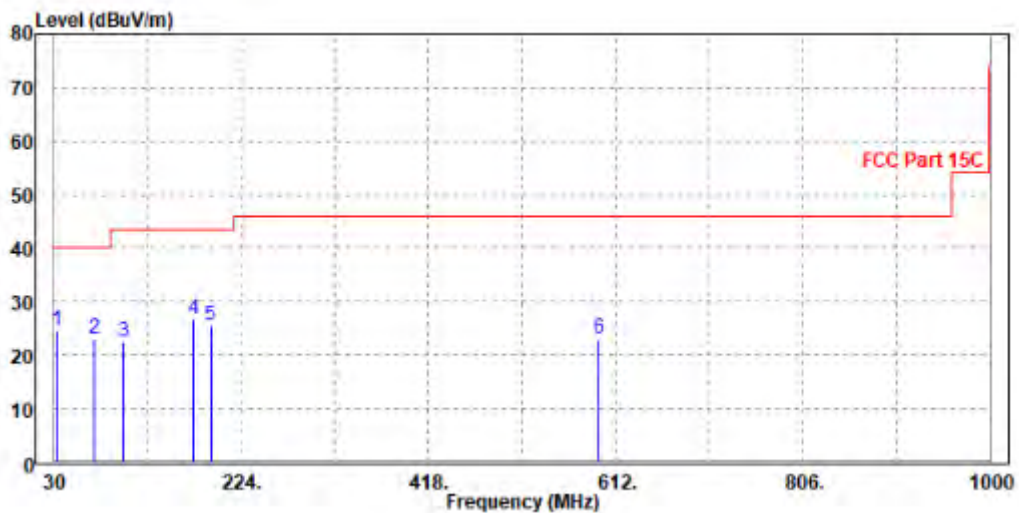


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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
31.94	24.58	42.95	40	-15.42	19.33	0.32	38.02	146	101	QP
71.71	23.24	52.41	40	-16.76	8.01	0.47	37.65	113	159	QP
101.78	22.4	50.75	43.5	-21.1	9.05	0.53	37.93	175	18	QP
174.53	26.76	52.46	43.5	-16.74	11.12	0.7	37.52	143	273	QP
191.99	25.52	50.84	43.5	-17.98	11.38	0.72	37.42	175	328	QP
594.54	23.26	40.23	46	-22.74	19.49	1.35	37.81	175	96	QP

REMARKS:

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





ABOVE 1GHz WORST-CASE DATA:

Note: For higher frequency, the emission is too low to be detected.

802.11b:

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	52.84	61.6	74	-21.16	31.75	5.86	46.37	163	180	Peak
2390	45.91	54.67	54	-8.09	31.75	5.86	46.37	163	180	Average
2412	105.73	114.39	/	/	31.82	5.89	46.37	163	180	Peak
2412	104.53	113.19	/	/	31.82	5.89	46.37	163	180	Average
2483.5	52.18	60.51	74	-21.82	32.05	5.99	46.37	163	180	Peak
2483.5	44.28	52.61	54	-9.72	32.05	5.99	46.37	163	180	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	52.25	60.62	74	-21.75	32.14	5.86	46.37	103	220	Peak
2390	45.46	53.83	54	-8.54	32.14	5.86	46.37	103	220	Average
2412	103.42	111.71	/	/	32.19	5.89	46.37	103	220	Peak
2412	102.28	110.57	/	/	32.19	5.89	46.37	103	220	Average
2483.5	51.95	59.97	74	-22.05	32.36	5.99	46.37	103	220	Peak
2483.5	44.66	52.68	54	-9.34	32.36	5.99	46.37	103	220	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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	50.86	59.62	74	-23.14	31.75	5.86	46.37	163	180	Peak
2390	45	53.76	54	-9	31.75	5.86	46.37	163	180	Average
2437	106.24	114.78	/	/	31.9	5.93	46.37	163	180	Peak
2437	104.9	113.44	/	/	31.9	5.93	46.37	163	180	Average
2483.5	52.46	60.79	74	-21.54	32.05	5.99	46.37	163	180	Peak
2483.5	44.73	53.06	54	-9.27	32.05	5.99	46.37	163	180	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	52.6	60.97	74	-21.4	32.14	5.86	46.37	103	220	Peak
2390	45.09	53.46	54	-8.91	32.14	5.86	46.37	103	220	Average
2437	102	110.19	/	/	32.25	5.93	46.37	103	220	Peak
2437	100.53	108.72	/	/	32.25	5.93	46.37	103	220	Average
2483.5	54.01	62.03	74	-19.99	32.36	5.99	46.37	103	220	Peak
2483.5	44.72	52.74	54	-9.28	32.36	5.99	46.37	103	220	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.77	60.53	74	-22.23	31.75	5.86	46.37	155	8	Peak
2390	44.39	53.15	54	-9.61	31.75	5.86	46.37	155	8	Average
2462	106.88	115.31	/	/	31.98	5.96	46.37	155	8	Peak
2462	105.42	113.85	/	/	31.98	5.96	46.37	155	8	Average
2483.5	53.06	61.39	74	-20.94	32.05	5.99	46.37	155	8	Peak
2483.5	45.61	53.94	54	-8.39	32.05	5.99	46.37	155	8	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	52.15	60.52	74	-21.85	32.14	5.86	46.37	100	225	Peak
2390	44.96	53.33	54	-9.04	32.14	5.86	46.37	100	225	Average
2462	102.65	110.75	/	/	32.31	5.96	46.37	100	225	Peak
2462	101.48	109.58	/	/	32.31	5.96	46.37	100	225	Average
2483.5	52.33	60.35	74	-21.67	32.36	5.99	46.37	100	225	Peak
2483.5	45.37	53.39	54	-8.63	32.36	5.99	46.37	100	225	Average

REMARKS:

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



802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	64.32	73.08	74	-9.68	31.75	5.86	46.37	155	8	Peak
2390	50.74	59.5	54	-3.26	31.75	5.86	46.37	155	8	Average
2412	107.32	115.98	/	/	31.82	5.89	46.37	155	8	Peak
2412	99.77	108.43	/	/	31.82	5.89	46.37	155	8	Average
2483.5	52.24	60.57	74	-21.76	32.05	5.99	46.37	155	8	Peak
2483.5	44.49	52.82	54	-9.51	32.05	5.99	46.37	155	8	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	57.47	65.84	74	-16.53	32.14	5.86	46.37	100	275	Peak
2390	48.51	56.88	54	-5.49	32.14	5.86	46.37	100	275	Average
2412	102.89	111.18	/	/	32.19	5.89	46.37	100	275	Peak
2412	95.43	103.72	/	/	32.19	5.89	46.37	100	275	Average
2483.5	52.51	60.53	74	-21.49	32.36	5.99	46.37	100	275	Peak
2483.5	45.26	53.28	54	-8.74	32.36	5.99	46.37	100	275	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.23	60.99	74	-21.77	31.75	5.86	46.37	200	210	Peak
2390	46.14	54.9	54	-7.86	31.75	5.86	46.37	200	210	Average
2437	106.77	115.31	/	/	31.9	5.93	46.37	200	210	Peak
2437	99.85	108.39	/	/	31.9	5.93	46.37	200	210	Average
2483.5	52.47	60.8	74	-21.53	32.05	5.99	46.37	200	210	Peak
2483.5	45.16	53.49	54	-8.84	32.05	5.99	46.37	200	210	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	54.08	62.45	74	-19.92	32.14	5.86	46.37	100	275	Peak
2390	45.58	53.95	54	-8.42	32.14	5.86	46.37	100	275	Average
2437	102.42	110.61	/	/	32.25	5.93	46.37	100	275	Peak
2437	96.04	104.23	/	/	32.25	5.93	46.37	100	275	Average
2483.5	53.13	61.15	74	-20.87	32.36	5.99	46.37	100	275	Peak
2483.5	45.38	53.4	54	-8.62	32.36	5.99	46.37	100	275	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.77	60.53	74	-22.23	31.75	5.86	46.37	200	240	Peak
2390	44.73	53.49	54	-9.27	31.75	5.86	46.37	200	240	Average
2462	103.45	111.88	/	/	31.98	5.96	46.37	200	240	Peak
2462	96.31	104.74	/	/	31.98	5.96	46.37	200	240	Average
2483.5	56.19	64.52	74	-17.81	32.05	5.99	46.37	200	240	Peak
2483.5	48.47	56.8	54	-5.53	32.05	5.99	46.37	200	240	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	52.13	60.5	74	-21.87	32.14	5.86	46.37	100	315	Peak
2390	45.52	53.89	54	-8.48	32.14	5.86	46.37	100	315	Average
2462	102.83	110.93	/	/	32.31	5.96	46.37	100	315	Peak
2462	95.86	103.96	/	/	32.31	5.96	46.37	100	315	Average
2483.5	54.19	62.21	74	-19.81	32.36	5.99	46.37	100	315	Peak
2483.5	46.79	54.81	54	-7.21	32.36	5.99	46.37	100	315	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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	61.97	70.73	74	-12.03	31.75	5.86	46.37	100	100	Peak
2390	49.76	58.52	54	-4.24	31.75	5.86	46.37	100	100	Average
2412	103.84	112.5	/	/	31.82	5.89	46.37	100	100	Peak
2412	96.58	105.24	/	/	31.82	5.89	46.37	100	100	Average
2483.5	53.35	61.68	74	-20.65	32.05	5.99	46.37	100	100	Peak
2483.5	44.99	53.32	54	-9.01	32.05	5.99	46.37	100	100	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	57.3	65.67	74	-16.7	32.14	5.86	46.37	100	220	Peak
2390	47.61	55.98	54	-6.39	32.14	5.86	46.37	100	220	Average
2412	102.01	110.3	/	/	32.19	5.89	46.37	100	220	Peak
2412	94.86	103.15	/	/	32.19	5.89	46.37	100	220	Average
2483.5	52.7	60.72	74	-21.3	32.36	5.99	46.37	100	220	Peak
2483.5	45.23	53.25	54	-8.77	32.36	5.99	46.37	100	220	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.85	60.61	74	-22.15	31.75	5.86	46.37	100	100	Peak
2390	44.97	53.73	54	-9.03	31.75	5.86	46.37	100	100	Average
2437	102.89	111.43	/	/	31.9	5.93	46.37	100	100	Peak
2437	94.91	103.45	/	/	31.9	5.93	46.37	100	100	Average
2483.5	52.94	61.27	74	-21.06	32.05	5.99	46.37	100	100	Peak
2483.5	45.6	53.93	54	-8.4	32.05	5.99	46.37	100	100	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.57	61.94	74	-20.43	32.14	5.86	46.37	100	170	Peak
2390	45.55	53.92	54	-8.45	32.14	5.86	46.37	100	170	Average
2437	102.98	111.17	/	/	32.25	5.93	46.37	100	170	Peak
2437	95.98	104.17	/	/	32.25	5.93	46.37	100	170	Average
2483.5	53.63	61.65	74	-20.37	32.36	5.99	46.37	100	170	Peak
2483.5	45.42	53.44	54	-8.58	32.36	5.99	46.37	100	170	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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	52.15	60.91	74	-21.85	31.75	5.86	46.37	105	310	Peak
2390	44.99	53.75	54	-9.01	31.75	5.86	46.37	105	310	Average
2462	106.66	115.09	/	/	31.98	5.96	46.37	105	310	Peak
2462	99.64	108.07	/	/	31.98	5.96	46.37	105	310	Average
2483.5	59.18	67.51	74	-14.82	32.05	5.99	46.37	105	310	Peak
2483.5	50.43	58.76	54	-3.57	32.05	5.99	46.37	105	310	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	52.88	61.25	74	-21.12	32.14	5.86	46.37	100	310	Peak
2390	45.23	53.6	54	-8.77	32.14	5.86	46.37	100	310	Average
2462	102.42	110.52	/	/	32.31	5.96	46.37	100	310	Peak
2462	95.23	103.33	/	/	32.31	5.96	46.37	100	310	Average
2483.5	54.09	62.11	74	-19.91	32.36	5.99	46.37	100	310	Peak
2483.5	46.74	54.76	54	-7.26	32.36	5.99	46.37	100	310	Average

REMARKS:

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

**802.11n (40MHz)**

CHANNEL	TX Channel 3	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	61.22	69.98	74	-12.78	31.75	5.86	46.37	100	105	Peak
2390	50.25	59.01	54	-3.75	31.75	5.86	46.37	100	105	Average
2422	99.26	107.87	/	/	31.85	5.91	46.37	100	105	Peak
2422	92.16	100.77	/	/	31.85	5.91	46.37	100	105	Average
2483.5	52.29	60.62	74	-21.71	32.05	5.99	46.37	100	105	Peak
2483.5	45.21	53.54	54	-8.79	32.05	5.99	46.37	100	105	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	60.32	68.69	74	-13.68	32.14	5.86	46.37	100	290	Peak
2390	49.55	57.92	54	-4.45	32.14	5.86	46.37	100	290	Average
2422	98.39	106.64	/	/	32.21	5.91	46.37	100	290	Peak
2422	90.68	98.93	/	/	32.21	5.91	46.37	100	290	Average
2483.5	53.14	61.16	74	-20.86	32.36	5.99	46.37	100	290	Peak
2483.5	45.83	53.85	54	-8.17	32.36	5.99	46.37	100	290	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2422MHz: 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	58.51	67.27	74	-15.49	31.75	5.86	46.37	100	105	Peak
2390	48.07	56.83	54	-5.93	31.75	5.86	46.37	100	105	Average
2437	101.61	110.15	/	/	31.9	5.93	46.37	100	105	Peak
2437	94.1	102.64	/	/	31.9	5.93	46.37	100	105	Average
2483.5	55.19	63.52	74	-18.81	32.05	5.99	46.37	100	105	Peak
2483.5	47.15	55.48	54	-6.85	32.05	5.99	46.37	100	105	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	56.94	65.31	74	-17.06	32.14	5.86	46.37	100	190	Peak
2390	47.88	56.25	54	-6.12	32.14	5.86	46.37	100	190	Average
2437	100.13	108.32	/	/	32.25	5.93	46.37	100	190	Peak
2437	93.14	101.33	/	/	32.25	5.93	46.37	100	190	Average
2483.5	55.32	63.34	74	-18.68	32.36	5.99	46.37	100	190	Peak
2483.5	47.82	55.84	54	-6.18	32.36	5.99	46.37	100	190	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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52	60.76	74	-22	31.75	5.86	46.37	200	0	Peak
2390	44.35	53.11	54	-9.65	31.75	5.86	46.37	200	0	Average
2452	98.1	106.57	/	/	31.95	5.95	46.37	200	0	Peak
2452	89.25	97.72	/	/	31.95	5.95	46.37	200	0	Average
2483.5	55.82	64.15	74	-18.18	32.05	5.99	46.37	200	0	Peak
2483.5	46.77	55.1	54	-7.23	32.05	5.99	46.37	200	0	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.42	59.79	74	-22.58	32.14	5.86	46.37	100	190	Peak
2390	44.56	52.93	54	-9.44	32.14	5.86	46.37	100	190	Average
2452	93.51	101.65	/	/	32.28	5.95	46.37	100	190	Peak
2452	85.4	93.54	/	/	32.28	5.95	46.37	100	190	Average
2483.5	53.33	61.35	74	-20.67	32.36	5.99	46.37	100	190	Peak
2483.5	45	53.02	54	-9	32.36	5.99	46.37	100	190	Average

REMARKS:

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



BUREAU VERITAS Test Report No.: W7L-220503W001RF02

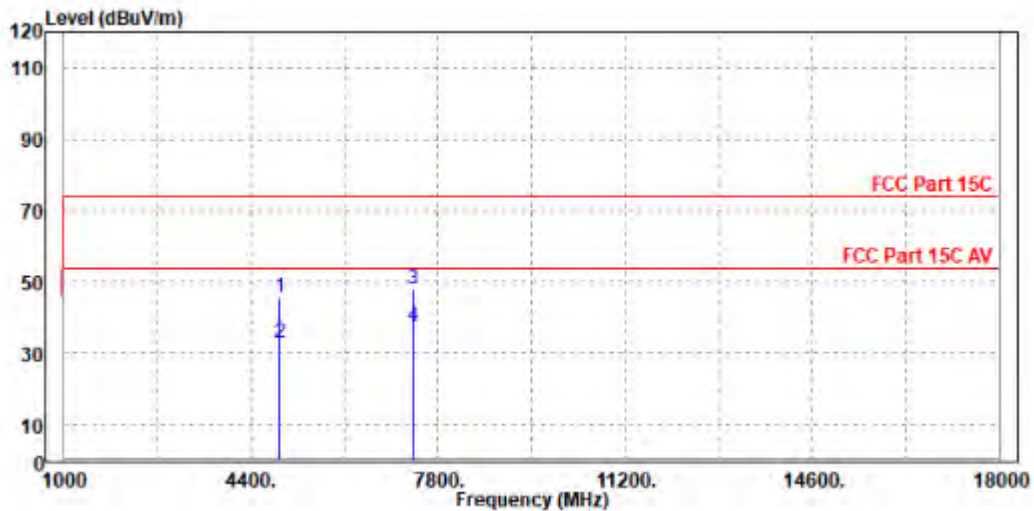
Worst case harmonic:

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4910.000	45.54	48.60	74.00	-28.46	-3.06	Peak	Horizontal
2	4910.000	32.81	35.87	54.00	-21.19	-3.06	Average	Horizontal
3 PK	7356.000	47.95	45.85	74.00	-26.05	2.10	Peak	Horizontal
4 PP	7356.000	37.34	35.24	54.00	-16.66	2.10	Average	Horizontal



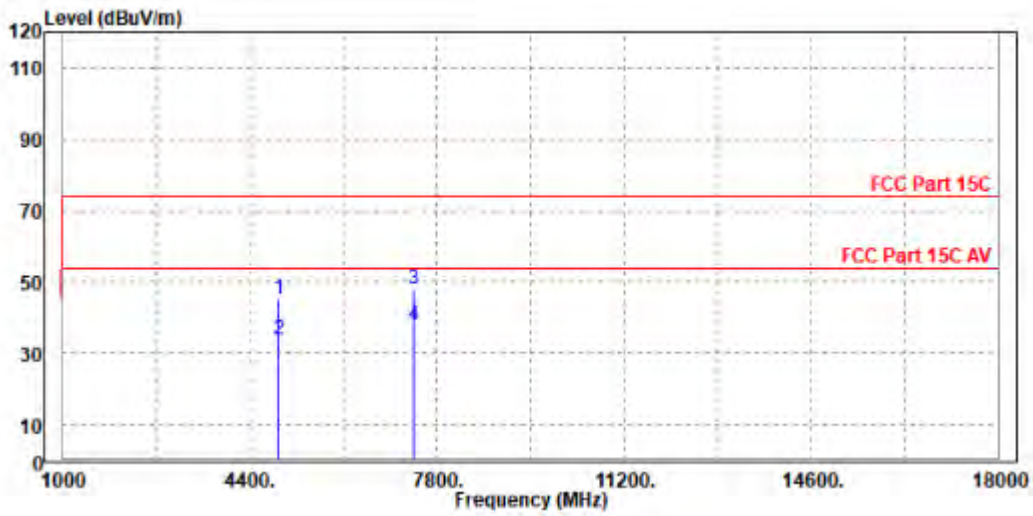


BUREAU VERITAS

Test Report No.: W7L-220503W001RF02

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	4904.000	44.97	47.85	74.00	-29.03	-2.88	Peak	Vertical
2	4904.000	33.99	36.87	54.00	-20.01	-2.88	Average	Vertical
3	PK 7358.000	47.80	45.64	74.00	-26.20	2.16	Peak	Vertical
4	PP 7358.000	37.78	35.62	54.00	-16.22	2.16	Average	Vertical



REMARKS:

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



BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

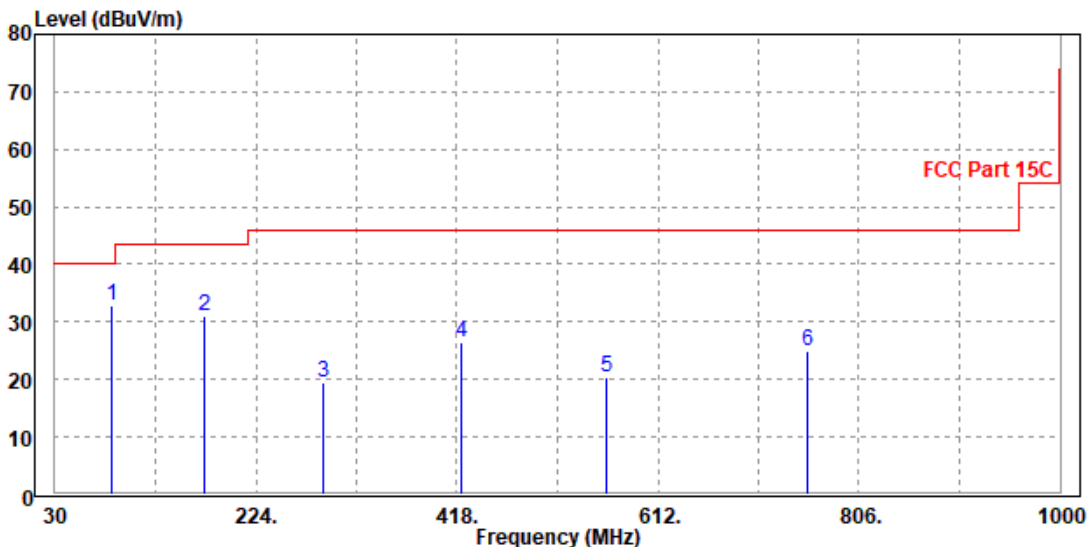
BT-LE _2M

CHANNEL	TX Channel 0	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
85.29	32.7	61.64	40	-7.3	7.85	0.5	37.29	200	0	Peak
174.53	30.99	56.56	43.5	-12.51	10.39	0.7	36.66	200	0	Peak
288.99	19.42	41.44	46	-26.58	13.82	0.89	36.73	200	0	Peak
422.85	26.49	44.94	46	-19.51	17.31	1.11	36.87	200	0	Peak
562.53	20.34	36.31	46	-25.66	19.95	1.31	37.23	200	0	Peak
756.53	24.83	37.82	46	-21.17	23.1	1.54	37.63	200	0	Peak

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





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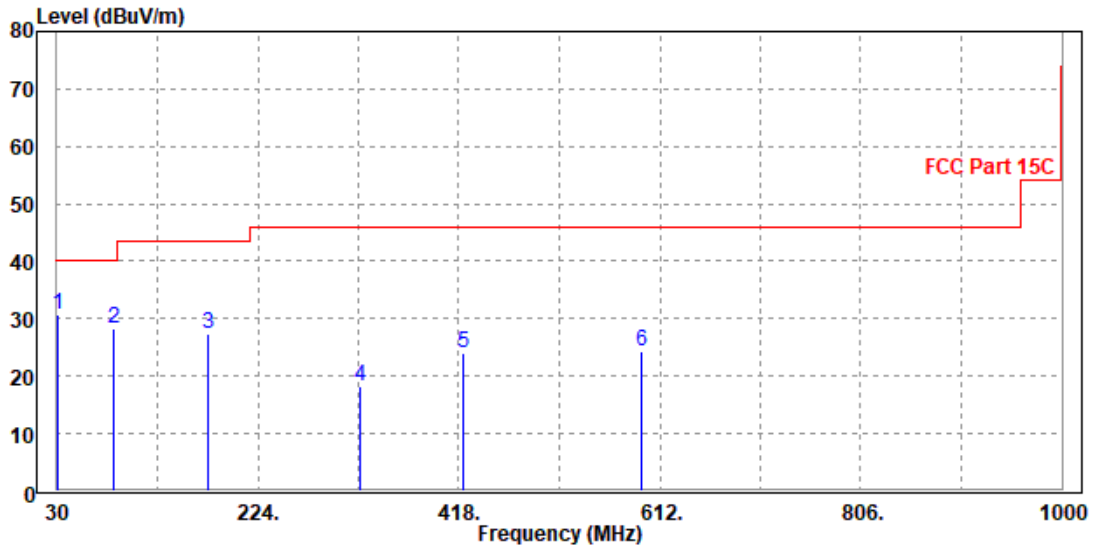
Test Report No.: W7L-220503W001RF02

CHANNEL	TX Channel 0	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
30.97	30.65	47.92	40	-9.35	19.77	0.32	37.36	300	0	Peak
85.29	28.22	56.6	40	-11.78	8.41	0.5	37.29	300	0	Peak
175.5	27.29	52.68	43.5	-16.21	10.57	0.7	36.66	300	0	Peak
322.94	18.18	38.5	46	-27.82	15.5	0.95	36.77	300	0	Peak
422.85	23.94	42.07	46	-22.06	17.63	1.11	36.87	300	0	Peak
594.54	24.43	39.63	46	-21.57	20.8	1.35	37.35	300	0	Peak

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





ABOVE 1GHz TEST DATA

Note: For higher frequency, the emission is too low to be detected.

BT-LE_1M

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.76	61.52	74	-21.24	31.75	5.86	46.37	113	180	Peak
2390	45.12	53.88	54	-8.88	31.75	5.86	46.37	113	180	Average
2402	94	102.7	/	/	31.79	5.88	46.37	113	180	Peak
2402	93.28	101.98	/	/	31.79	5.88	46.37	113	180	Average
2483.5	52.87	61.2	74	-21.13	32.05	5.99	46.37	113	180	Peak
2483.5	44.83	53.16	54	-9.17	32.05	5.99	46.37	113	180	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	52.57	60.94	74	-21.43	32.14	5.86	46.37	100	265	Peak
2390	44.87	53.24	54	-9.13	32.14	5.86	46.37	100	265	Average
2402	90.71	99.04	/	/	32.16	5.88	46.37	100	265	Peak
2402	89.66	97.99	/	/	32.16	5.88	46.37	100	265	Average
2483.5	53.15	61.17	74	-20.85	32.36	5.99	46.37	100	265	Peak
2483.5	45.06	53.08	54	-8.94	32.36	5.99	46.37	100	265	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.89	60.65	74	-22.11	31.75	5.86	46.37	210	200	Peak
2390	44.61	53.37	54	-9.39	31.75	5.86	46.37	210	200	Average
2440	94.62	103.15	/	/	31.91	5.93	46.37	210	200	Peak
2440	94	102.53	/	/	31.91	5.93	46.37	210	200	Average
2483.5	53.16	61.49	74	-20.84	32.05	5.99	46.37	210	200	Peak
2483.5	45.12	53.45	54	-8.88	32.05	5.99	46.37	210	200	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	51.89	60.26	74	-22.11	32.14	5.86	46.37	100	280	Peak
2390	44.83	53.2	54	-9.17	32.14	5.86	46.37	100	280	Average
2440	91.49	99.67	/	/	32.26	5.93	46.37	100	280	Peak
2440	90.65	98.83	/	/	32.26	5.93	46.37	100	280	Average
2483.5	53.68	61.7	74	-20.32	32.36	5.99	46.37	100	280	Peak
2483.5	45.03	53.05	54	-8.97	32.36	5.99	46.37	100	280	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.5	60.26	74	-22.5	31.75	5.86	46.37	120	303	Peak
2390	44.26	53.02	54	-9.74	31.75	5.86	46.37	120	303	Average
2480	94.08	102.43	/	/	32.04	5.98	46.37	120	303	Peak
2480	92.67	101.02	/	/	32.04	5.98	46.37	120	303	Average
2483.5	52.56	60.89	74	-21.44	32.05	5.99	46.37	120	303	Peak
2483.5	44.62	52.95	54	-9.38	32.05	5.99	46.37	120	303	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	52.06	60.43	74	-21.94	32.14	5.86	46.37	100	210	Peak
2390	44.98	53.35	54	-9.02	32.14	5.86	46.37	100	210	Average
2480	89.51	97.55	/	/	32.35	5.98	46.37	100	210	Peak
2480	88.66	96.7	/	/	32.35	5.98	46.37	100	210	Average
2483.5	53.62	61.64	74	-20.38	32.36	5.99	46.37	100	210	Peak
2483.5	45.11	53.13	54	-8.89	32.36	5.99	46.37	100	210	Average

REMARKS:

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



BT-LE_2M

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.16	60.92	74	-21.84	31.75	5.86	46.37	113	175	Peak
2390	45.2	53.96	54	-8.8	31.75	5.86	46.37	113	175	Average
2402	92.97	101.67	/	/	31.79	5.88	46.37	113	175	Peak
2402	90.72	99.42	/	/	31.79	5.88	46.37	113	175	Average
2483.5	52.14	60.47	74	-21.86	32.05	5.99	46.37	113	175	Peak
2483.5	44.96	53.29	54	-9.04	32.05	5.99	46.37	113	175	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	52.15	60.52	74	-21.85	32.14	5.86	46.37	100	265	Peak
2390	44.51	52.88	54	-9.49	32.14	5.86	46.37	100	265	Average
2402	90.64	98.97	/	/	32.16	5.88	46.37	100	265	Peak
2402	87.85	96.18	/	/	32.16	5.88	46.37	100	265	Average
2483.5	53.45	61.47	74	-20.55	32.36	5.99	46.37	100	265	Peak
2483.5	45.55	53.57	54	-8.45	32.36	5.99	46.37	100	265	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.55	60.31	74	-22.45	31.75	5.86	46.37	120	313	Peak
2390	44.67	53.43	54	-9.33	31.75	5.86	46.37	120	313	Average
2440	96.41	104.94	/	/	31.91	5.93	46.37	120	313	Peak
2440	94.36	102.89	/	/	31.91	5.93	46.37	120	313	Average
2483.5	52.43	60.76	74	-21.57	32.05	5.99	46.37	120	313	Peak
2483.5	45.44	53.77	54	-8.56	32.05	5.99	46.37	120	313	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	51.97	60.34	74	-22.03	32.14	5.86	46.37	100	280	Peak
2390	44.83	53.2	54	-9.17	32.14	5.86	46.37	100	280	Average
2440	90.93	99.11	/	/	32.26	5.93	46.37	100	280	Peak
2440	88.59	96.77	/	/	32.26	5.93	46.37	100	280	Average
2483.5	52.35	60.37	74	-21.65	32.36	5.99	46.37	100	280	Peak
2483.5	45.11	53.13	54	-8.89	32.36	5.99	46.37	100	280	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.93	60.69	74	-22.07	31.75	5.86	46.37	120	313	Peak
2390	44.87	53.63	54	-9.13	31.75	5.86	46.37	120	313	Average
2480	94.92	103.27	/	/	32.04	5.98	46.37	120	313	Peak
2480	92.66	101.01	/	/	32.04	5.98	46.37	120	313	Average
2483.5	52.12	60.45	74	-21.88	32.05	5.99	46.37	120	313	Peak
2483.5	44.77	53.1	54	-9.23	32.05	5.99	46.37	120	313	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	52.36	60.73	74	-21.64	32.14	5.86	46.37	100	225	Peak
2390	44.76	53.13	54	-9.24	32.14	5.86	46.37	100	225	Average
2480	89.3	97.34	/	/	32.35	5.98	46.37	100	225	Peak
2480	87.28	95.32	/	/	32.35	5.98	46.37	100	225	Average
2483.5	53.7	61.72	74	-20.3	32.36	5.99	46.37	100	225	Peak
2483.5	45.18	53.2	54	-8.82	32.36	5.99	46.37	100	225	Average

REMARKS:

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



BT-LE _S2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.72	60.48	74	-22.28	31.75	5.86	46.37	213	245	Peak
2390	44.3	53.06	54	-9.7	31.75	5.86	46.37	213	245	Average
2402	95.47	104.17	/	/	31.79	5.88	46.37	213	245	Peak
2402	95.02	103.72	/	/	31.79	5.88	46.37	213	245	Average
2483.5	51.86	60.19	74	-22.14	32.05	5.99	46.37	213	245	Peak
2483.5	44.04	52.37	54	-9.96	32.05	5.99	46.37	213	245	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.21	61.58	74	-20.79	32.14	5.86	46.37	105	285	Peak
2390	44.78	53.15	54	-9.22	32.14	5.86	46.37	105	285	Average
2402	90.27	98.6	/	/	32.16	5.88	46.37	105	285	Peak
2402	89.47	97.8	/	/	32.16	5.88	46.37	105	285	Average
2483.5	53.37	61.39	74	-20.63	32.36	5.99	46.37	105	285	Peak
2483.5	44.76	52.78	54	-9.24	32.36	5.99	46.37	105	285	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	52.08	60.84	74	-21.92	31.75	5.86	46.37	113	245	Peak
2390	44.72	53.48	54	-9.28	31.75	5.86	46.37	113	245	Average
2440	91.96	100.49	/	/	31.91	5.93	46.37	113	245	Peak
2440	91.53	100.06	/	/	31.91	5.93	46.37	113	245	Average
2483.5	51.87	60.2	74	-22.13	32.05	5.99	46.37	113	245	Peak
2483.5	44.85	53.18	54	-9.15	32.05	5.99	46.37	113	245	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	54.47	62.84	74	-19.53	32.14	5.86	46.37	105	285	Peak
2390	44.7	53.07	54	-9.3	32.14	5.86	46.37	105	285	Average
2440	92.44	100.62	/	/	32.26	5.93	46.37	105	285	Peak
2440	91.97	100.15	/	/	32.26	5.93	46.37	105	285	Average
2483.5	54.72	62.74	74	-19.28	32.36	5.99	46.37	105	285	Peak
2483.5	45.22	53.24	54	-8.78	32.36	5.99	46.37	105	285	Average

REMARKS:

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



CHANNEL	TX Channel 39	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	53.72	62.48	74	-20.28	31.75	5.86	46.37	113	245	Peak
2390	44.51	53.27	54	-9.49	31.75	5.86	46.37	113	245	Average
2480	96	104.35	/	/	32.04	5.98	46.37	113	245	Peak
2480	95.61	103.96	/	/	32.04	5.98	46.37	113	245	Average
2483.5	54.81	63.14	74	-19.19	32.05	5.99	46.37	113	245	Peak
2483.5	44.53	52.86	54	-9.47	32.05	5.99	46.37	113	245	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	53.56	61.93	74	-20.44	32.14	5.86	46.37	105	285	Peak
2390	44.2	52.57	54	-9.8	32.14	5.86	46.37	105	285	Average
2480	91.32	99.36	/	/	32.35	5.98	46.37	105	285	Peak
2480	91.01	99.05	/	/	32.35	5.98	46.37	105	285	Average
2483.5	54.52	62.54	74	-19.48	32.36	5.99	46.37	105	285	Peak
2483.5	44.91	52.93	54	-9.09	32.36	5.99	46.37	105	285	Average

REMARKS:

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



BT-LE_S8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.1	59.86	74	-22.9	31.75	5.86	46.37	113	245	Peak
2390	43.85	52.61	54	-10.15	31.75	5.86	46.37	113	245	Average
2402	94.56	103.26	/	/	31.79	5.88	46.37	113	245	Peak
2402	93.02	101.72	/	/	31.79	5.88	46.37	113	245	Average
2483.5	50.9	59.23	74	-23.1	32.05	5.99	46.37	113	245	Peak
2483.5	44.76	53.09	54	-9.24	32.05	5.99	46.37	113	245	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	51.48	59.85	74	-22.52	32.14	5.86	46.37	105	285	Peak
2390	44.19	52.56	54	-9.81	32.14	5.86	46.37	105	285	Average
2402	92.93	101.26	/	/	32.16	5.88	46.37	105	285	Peak
2402	92.54	100.87	/	/	32.16	5.88	46.37	105	285	Average
2483.5	52.25	60.27	74	-21.75	32.36	5.99	46.37	105	285	Peak
2483.5	45.19	53.21	54	-8.81	32.36	5.99	46.37	105	285	Average

REMARKS:

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



CHANNEL	TX Channel 19	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	53.08	61.84	74	-20.92	31.75	5.86	46.37	113	245	Peak
2390	43.91	52.67	54	-10.09	31.75	5.86	46.37	113	245	Average
2440	94.73	103.26	/	/	31.91	5.93	46.37	113	245	Peak
2440	94.33	102.86	/	/	31.91	5.93	46.37	113	245	Average
2483.5	52.53	60.86	74	-21.47	32.05	5.99	46.37	113	245	Peak
2483.5	44.52	52.85	54	-9.48	32.05	5.99	46.37	113	245	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	51.77	60.14	74	-22.23	32.14	5.86	46.37	105	285	Peak
2390	44.14	52.51	54	-9.86	32.14	5.86	46.37	105	285	Average
2440	92.47	100.65	/	/	32.26	5.93	46.37	105	285	Peak
2440	92.05	100.23	/	/	32.26	5.93	46.37	105	285	Average
2483.5	51.57	59.59	74	-22.43	32.36	5.99	46.37	105	285	Peak
2483.5	44.91	52.93	54	-9.09	32.36	5.99	46.37	105	285	Average

REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.12	59.88	74	-22.88	31.75	5.86	46.37	113	245	Peak
2390	43.7	52.46	54	-10.3	31.75	5.86	46.37	113	245	Average
2480	95.86	104.21	/	/	32.04	5.98	46.37	113	245	Peak
2480	95.51	103.86	/	/	32.04	5.98	46.37	113	245	Average
2483.5	54.43	62.76	74	-19.57	32.05	5.99	46.37	113	245	Peak
2483.5	45.16	53.49	54	-8.84	32.05	5.99	46.37	113	245	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	50.41	58.78	74	-23.59	32.14	5.86	46.37	105	285	Peak
2390	43.91	52.28	54	-10.09	32.14	5.86	46.37	105	285	Average
2480	94.53	102.57	/	/	32.35	5.98	46.37	105	285	Peak
2480	94.1	102.14	/	/	32.35	5.98	46.37	105	285	Average
2483.5	53.54	61.56	74	-20.46	32.36	5.99	46.37	105	285	Peak
2483.5	45.05	53.07	54	-8.95	32.36	5.99	46.37	105	285	Average

REMARKS:

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



3.3 6 dB BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

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

NOTE:

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

3.3.3 TEST PROCEDURE

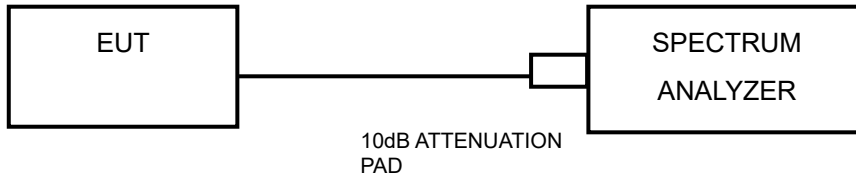
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

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



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

3.3.7 TEST RESULTS

Please Refer to Appendix A/B Of this test report.



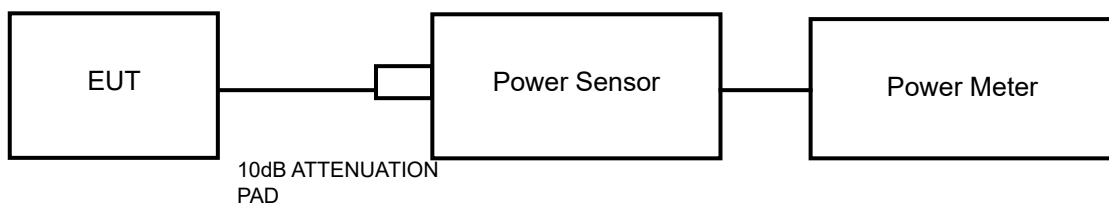
3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

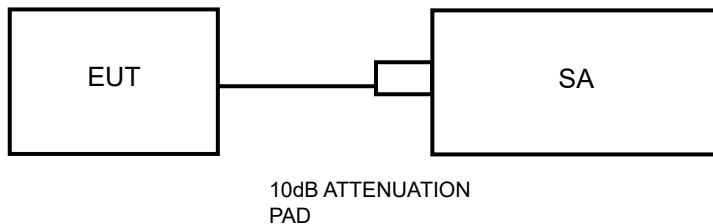
For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

3.4.2 TEST SETUP

BT:



2.4G wifi:



3.4.3 TEST INSTRUMENTS

Refer to section 3.2.2 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.



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3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix A/B Of this test report.



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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 Appendix A/B Of this test report.

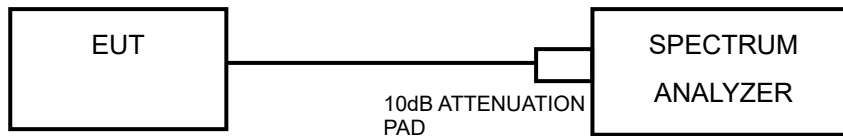


3.5 POWER SPECTRAL DENSITY MEASUREMENT

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 \geq 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.



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3.5.7 TEST RESULTS

Please Refer to Appendix A/B Of this test report.

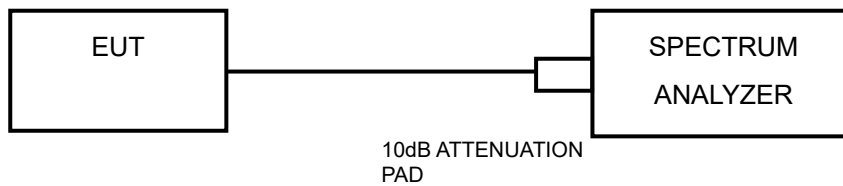


3.6 OUT OF BAND EMISSION MEASUREMENT

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



MEASUREMENT PROCEDURE OOB

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

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 Appendix A/B Of this test report.



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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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 A 2.4G WLAN

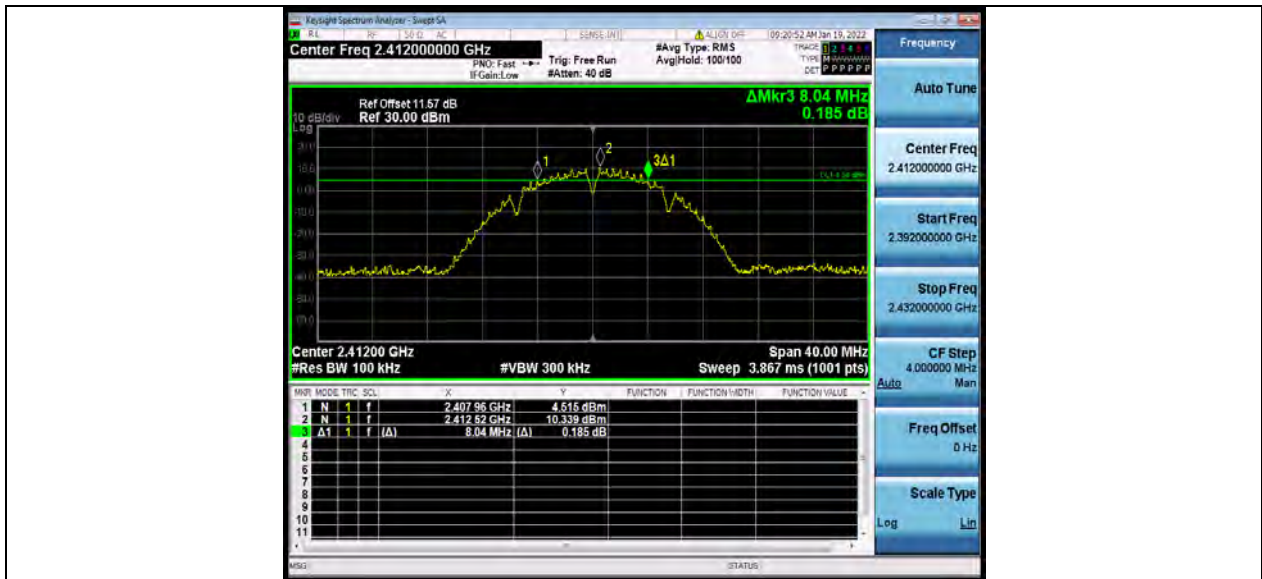
DTS BANDWIDTH

TEST RESULT

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.040	2407.960	2416.000	0.5	PASS
		2437	8.040	2432.960	2441.000	0.5	PASS
		2462	7.520	2458.440	2465.960	0.5	PASS
11G	Ant1	2412	14.240	2405.680	2419.920	0.5	PASS
		2437	15.680	2428.840	2444.520	0.5	PASS
		2462	12.000	2455.880	2467.880	0.5	PASS
11N20SISO	Ant1	2412	17.160	2403.640	2420.800	0.5	PASS
		2437	15.400	2429.120	2444.520	0.5	PASS
		2462	14.440	2454.440	2468.880	0.5	PASS
11N40SISO	Ant1	2422	33.840	2405.680	2439.520	0.5	PASS
		2437	35.120	2419.400	2454.520	0.5	PASS
		2452	35.040	2434.480	2469.520	0.5	PASS



TEST GRAPHS



11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



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11G_Ant1_2437



11G_Ant1_2462



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11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



BUREAU VERITAS

Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2462

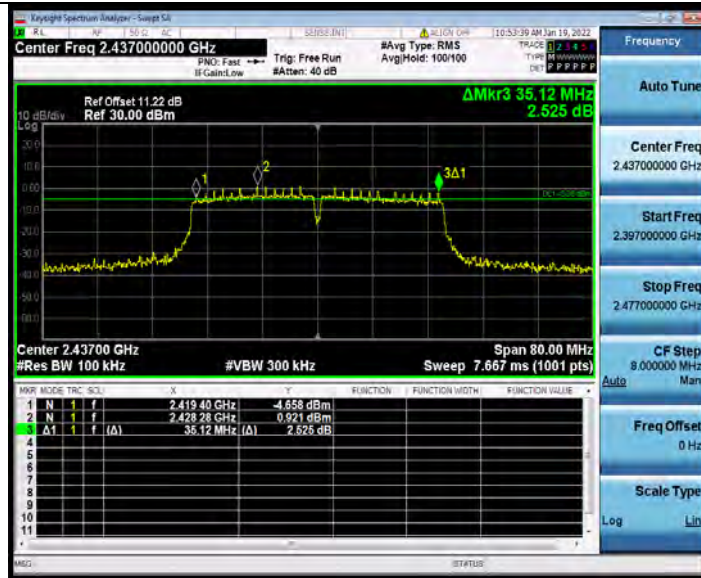


11N40SISO_Ant1_2422

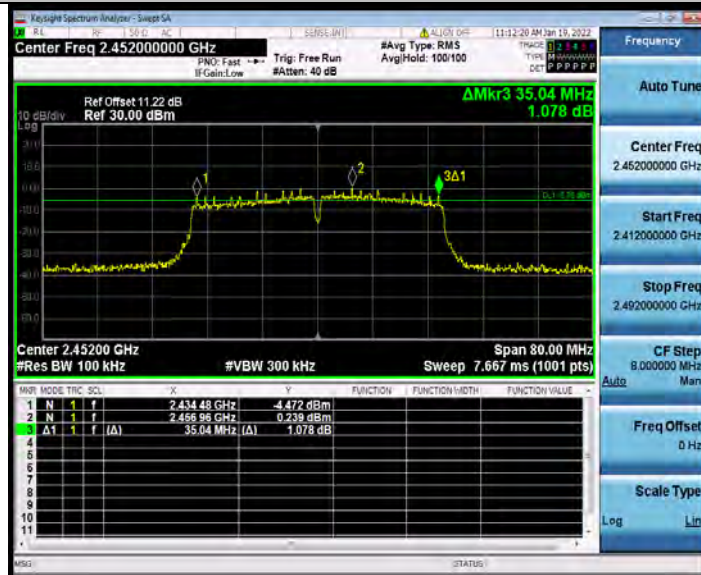


BUREAU VERITAS

Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452

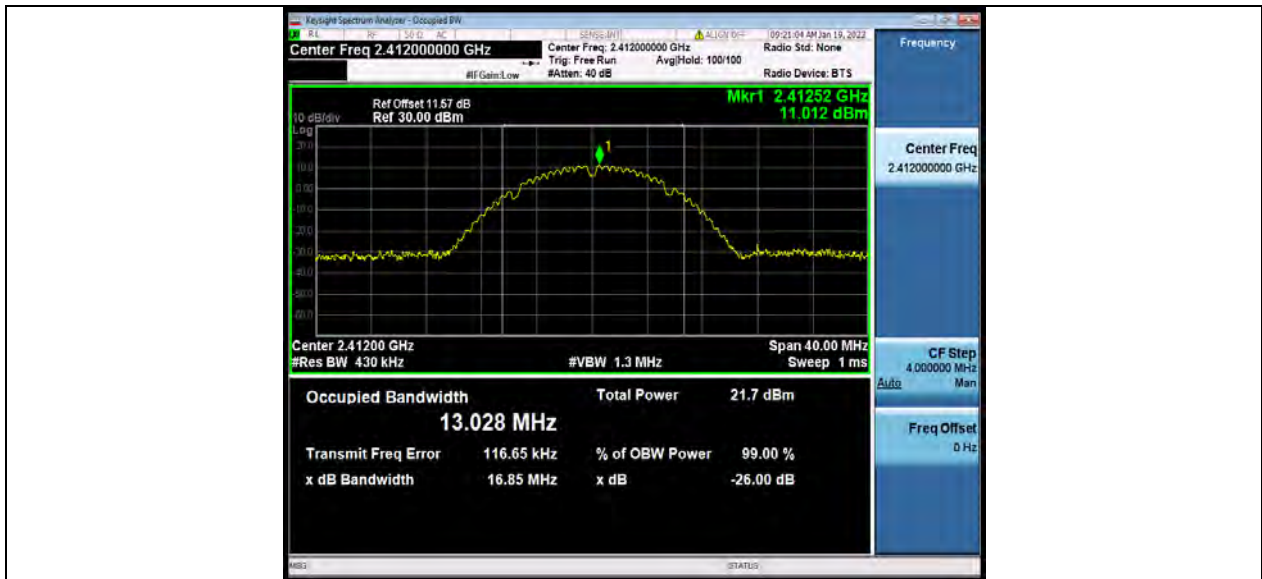


OCCUPIED CHANNEL BANDWIDTH TEST RESULT

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.028	2405.603	2418.631	---	PASS
		2437	13.263	2430.275	2443.538	---	PASS
		2462	13.015	2455.482	2468.497	---	PASS
11G	Ant1	2412	16.955	2403.620	2420.575	---	PASS
		2437	17.050	2428.373	2445.423	---	PASS
		2462	16.777	2453.587	2470.364	---	PASS
11N20SISO	Ant1	2412	17.897	2403.110	2421.007	---	PASS
		2437	17.997	2427.966	2445.963	---	PASS
		2462	17.707	2453.149	2470.856	---	PASS
11N40SISO	Ant1	2422	35.855	2404.068	2439.923	---	PASS
		2437	36.413	2418.796	2455.209	---	PASS
		2452	36.059	2433.969	2470.028	---	PASS



TEST GRAPHS



11B_Ant1_2412



11B_Ant1_2437



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02



11B_Ant1_2462



11G_Ant1_2412

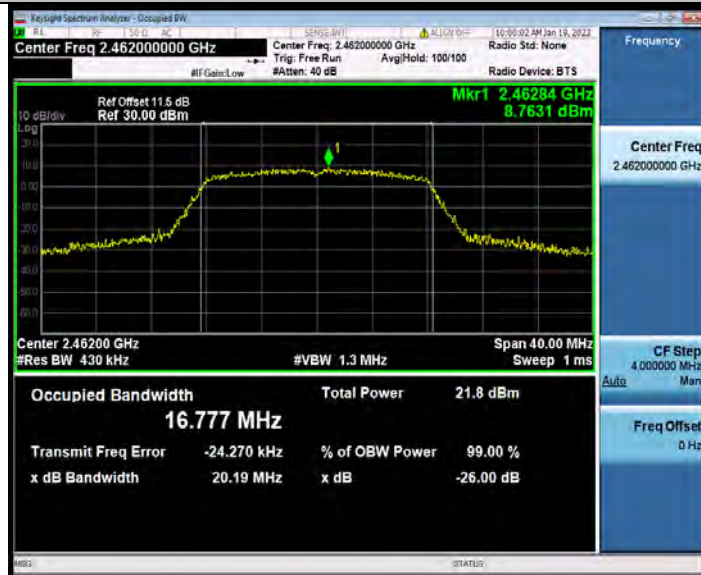


BUREAU VERITAS

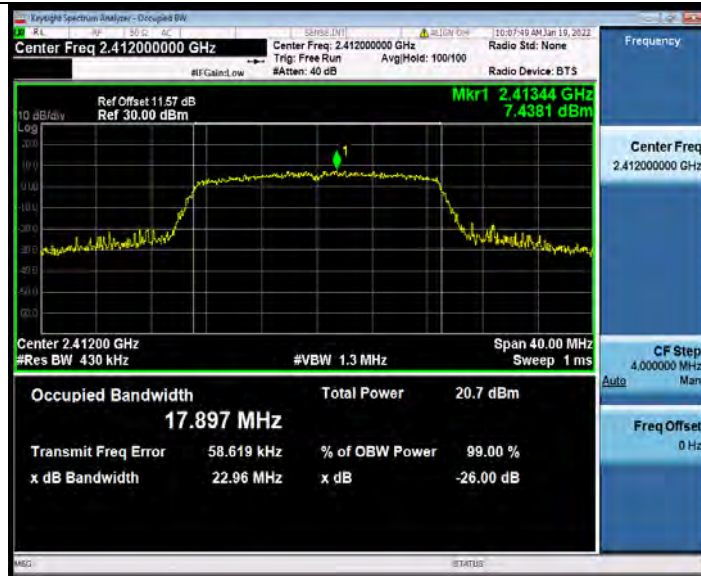
Test Report No.: W7L-220503W001RF02



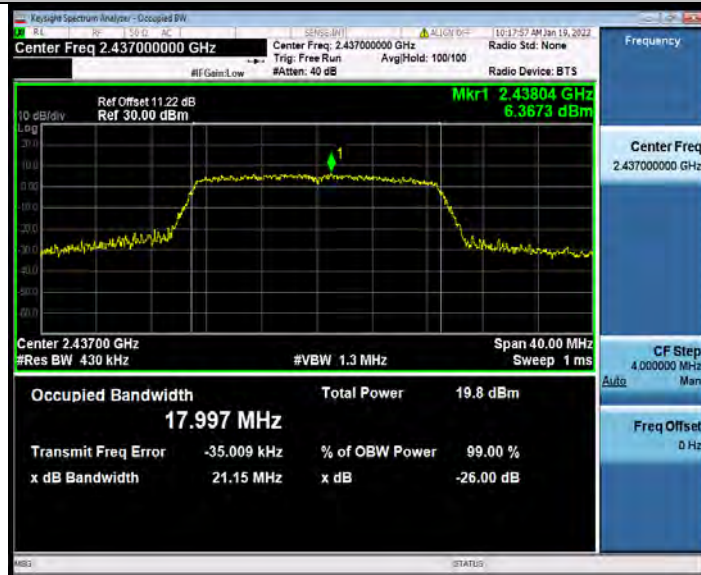
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437

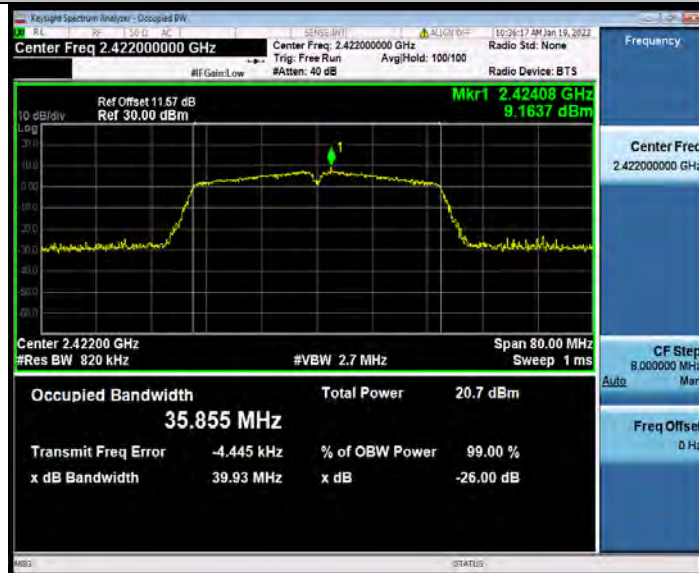


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VERITAS**

Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2462

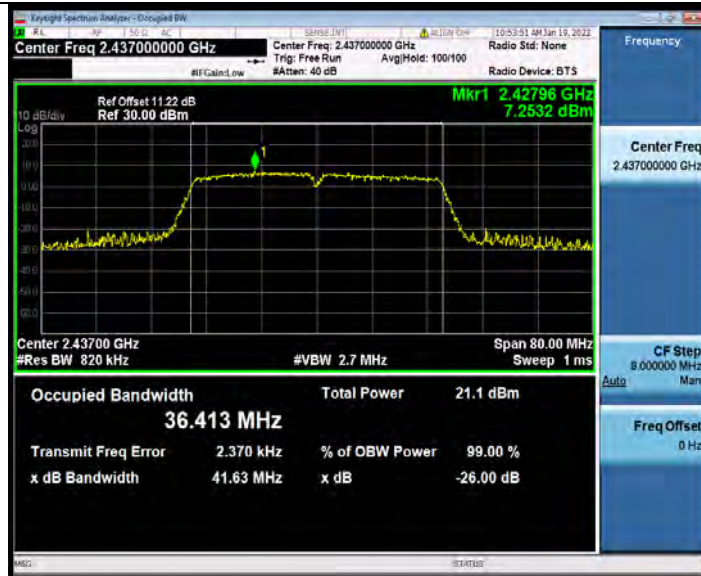


11N40SISO_Ant1_2422

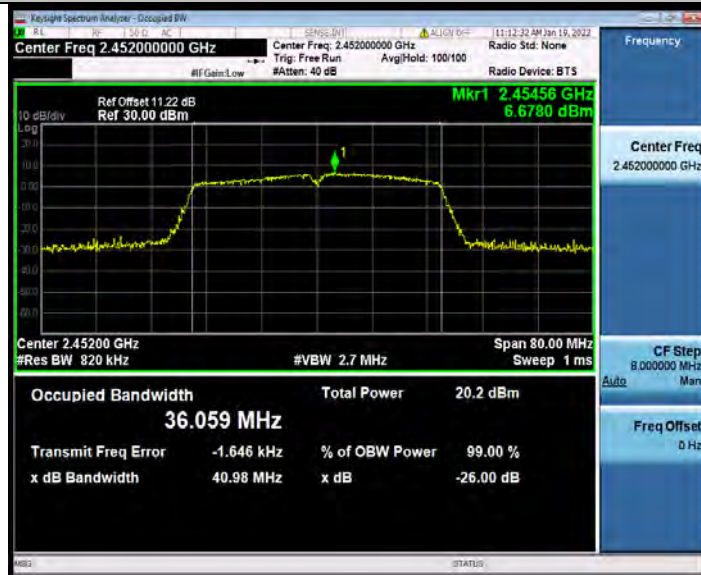


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VERITAS**

Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452

**MAXIMUM CONDUCTED OUTPUT POWER****TEST RESULT PEAK**

TestMode	Antenna	Channel	Peak Power[dBm]	Peak Power[mw]	Conducted Limit[dBm]	Verdict	Power setting
11B	Ant1	2412	20.18	104.23	≤30	PASS	17
		2437	20.54	113.24	≤30	PASS	16
		2462	20.21	104.95	≤30	PASS	17
11G	Ant1	2412	24.10	257.04	≤30	PASS	15
		2437	24.83	304.09	≤30	PASS	14
		2462	24.19	262.42	≤30	PASS	15
11N20SIS O	Ant1	2412	23.89	244.91	≤30	PASS	15
		2437	24.58	287.08	≤30	PASS	15
		2462	23.77	238.23	≤30	PASS	15
11N40SIS O	Ant1	2422	23.95	248.31	≤30	PASS	13.5
		2437	24.47	279.90	≤30	PASS	14.5
		2452	23.62	230.14	≤30	PASS	13.5

TEST RESULT AVERAGE

TestMode	Antenna	Channel	Average Power	Conducted Limit[dBm]	Verdict	Power setting
11B	Ant1	2412	18.03	/	PASS	17
		2437	18.27	/	PASS	16
		2462	18.07	/	PASS	17
11G	Ant1	2412	16.14	/	PASS	15
		2437	16.15	/	PASS	14
		2462	15.05	/	PASS	15
11N20SISO	Ant1	2412	13.68	/	PASS	15
		2437	13.72	/	PASS	15
		2462	12.35	/	PASS	15
11N40SISO	Ant1	2422	12.72	/	PASS	13.5
		2437	13.62	/	PASS	14.5
		2452	12.58	/	PASS	13.5



MAXIMUM POWER SPECTRAL DENSITY

TEST RESULT

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-2.26	≤8	PASS
		2437	-2.87	≤8	PASS
		2462	-2.14	≤8	PASS
11G	Ant1	2412	-7.02	≤8	PASS
		2437	-7.41	≤8	PASS
		2462	-7.37	≤8	PASS
11N20SISO	Ant1	2412	-9.2	≤8	PASS
		2437	-8.59	≤8	PASS
		2462	-10.1	≤8	PASS
11N40SISO	Ant1	2422	-11.92	≤8	PASS
		2437	-12.36	≤8	PASS
		2452	-12.61	≤8	PASS



TEST GRAPHS



11B_Ant1_2412



11B_Ant1_2437

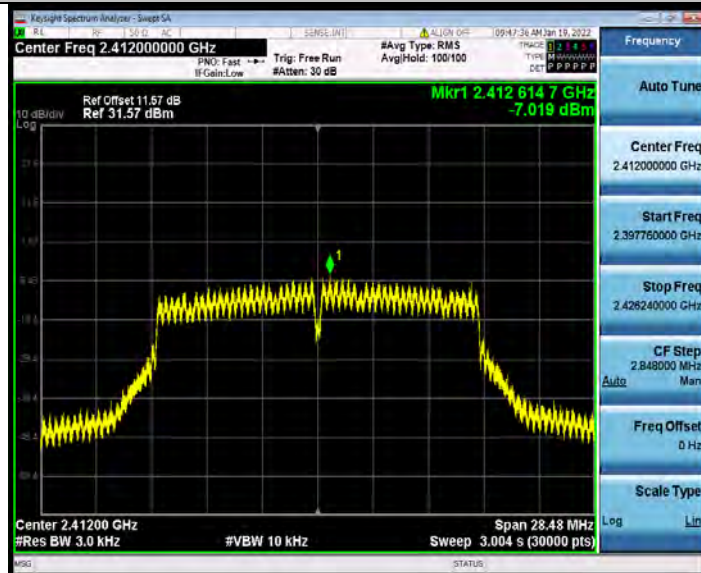


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11B_Ant1_2462



11G_Ant1_2412

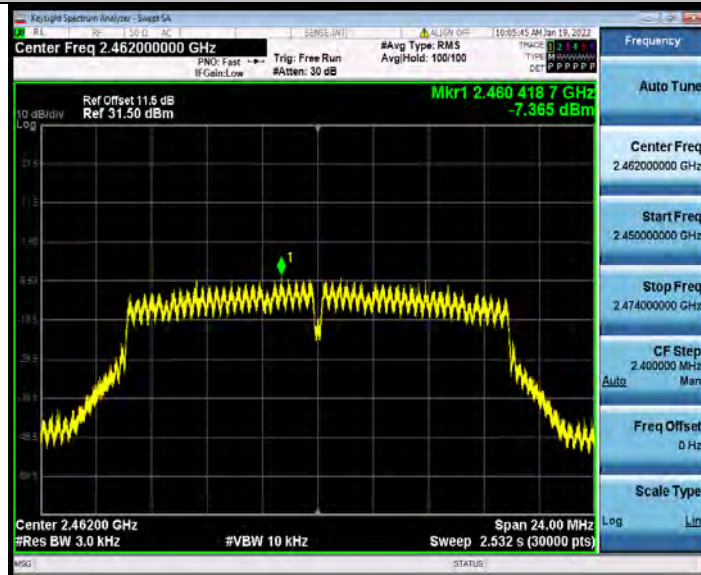


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Test Report No.: W7L-220503W001RF02



11G_Ant1_2437

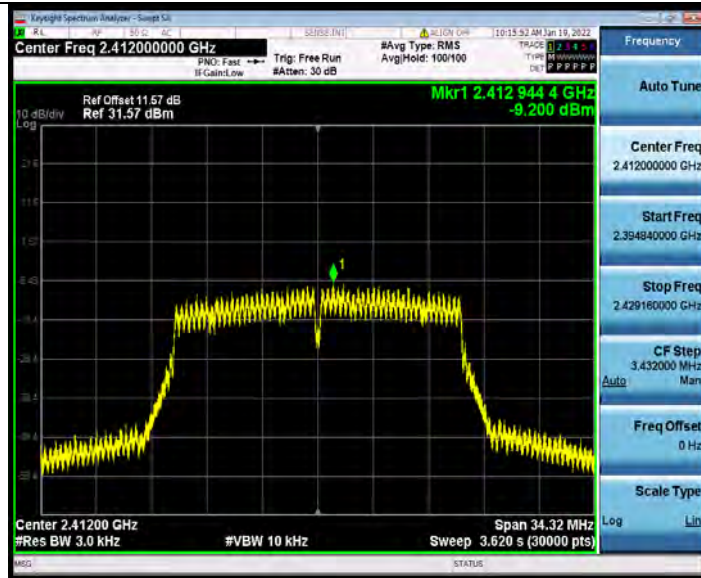


11G_Ant1_2462

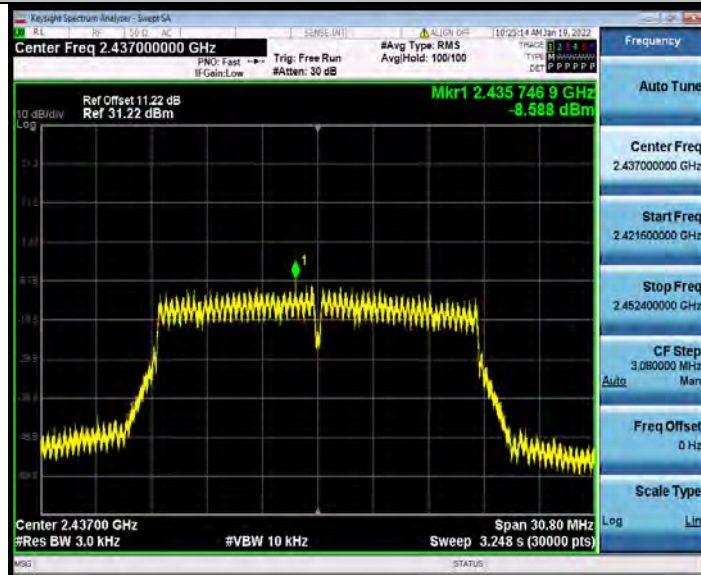


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11N20SISO_Ant1_2412

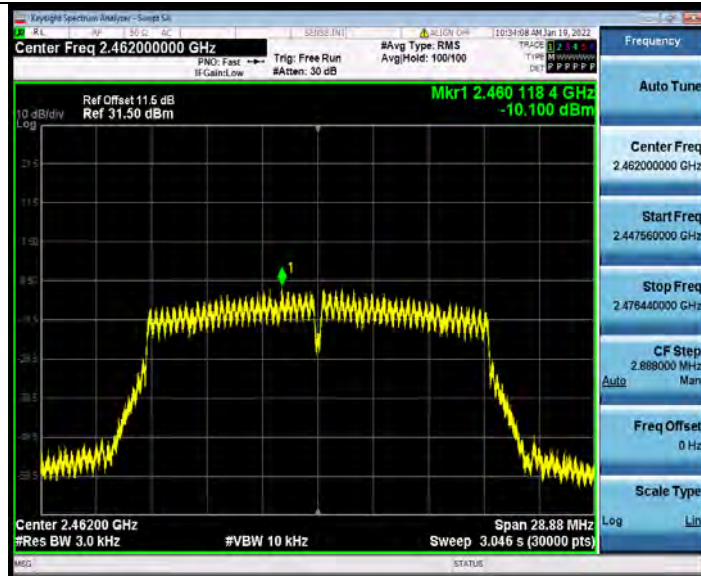


11N20SISO_Ant1_2437



BUREAU VERITAS

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11N20SISO_Ant1_2462



11N40SISO_Ant1_2422

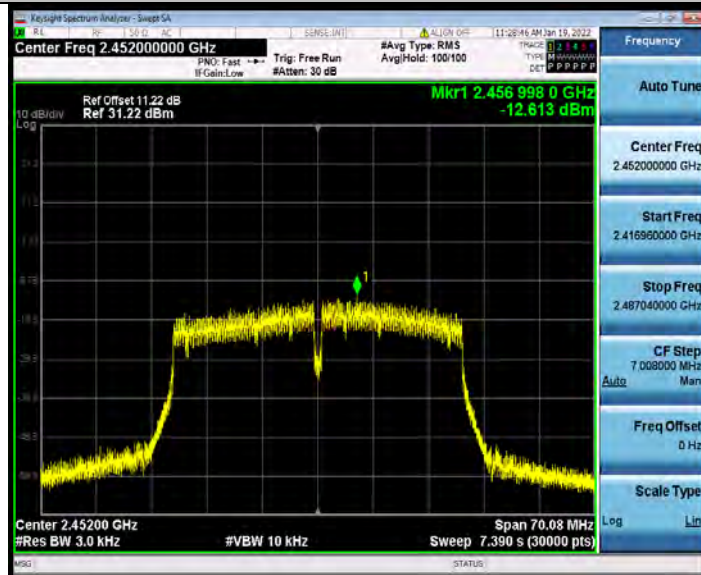


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11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



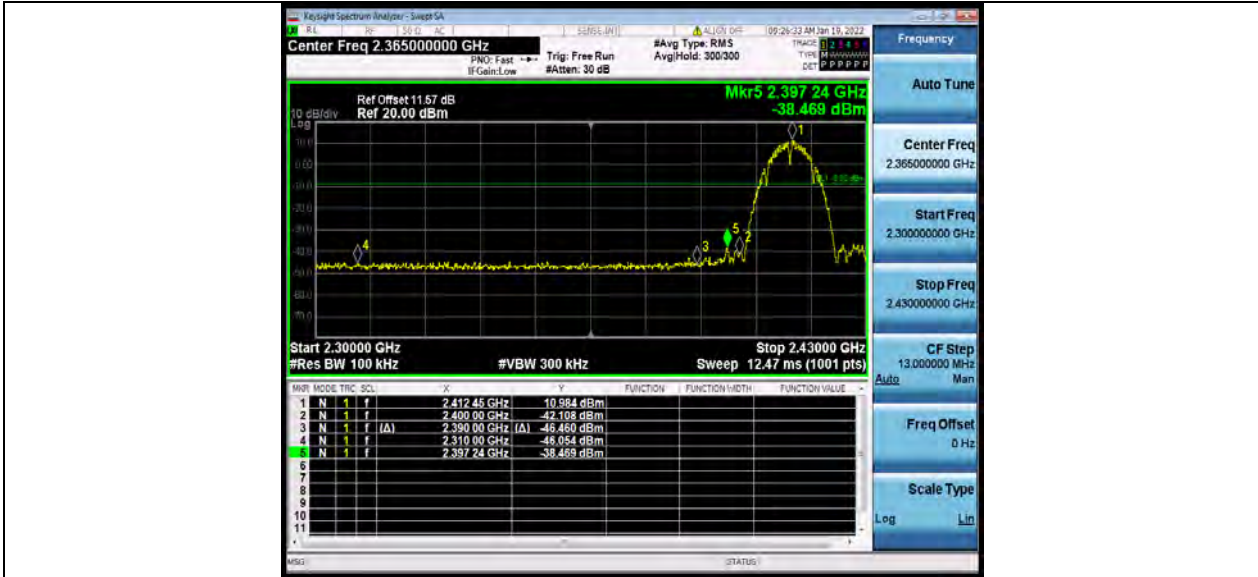
BAND EDGE MEASUREMENTS

TEST RESULT

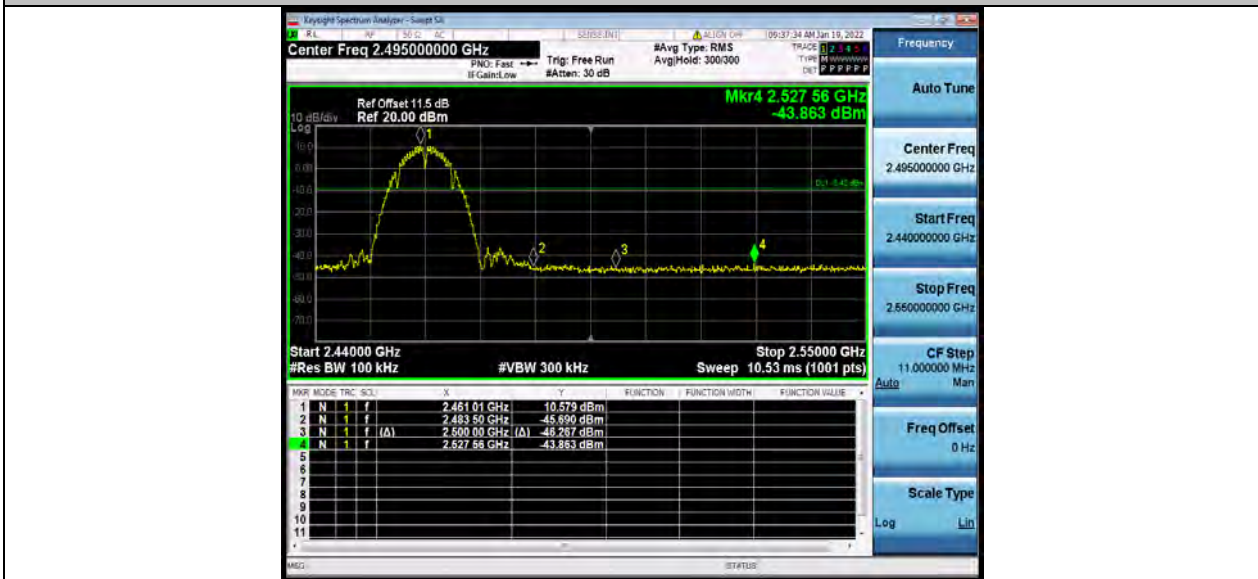
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	10.98	-38.47	≤-9.02	PASS
		High	2462	10.58	-43.86	≤-9.42	PASS
11G	Ant1	Low	2412	5.56	-25.82	≤-14.44	PASS
		High	2462	5.97	-43.37	≤-14.03	PASS
11N20SISO	Ant1	Low	2412	4.74	-29.05	≤-15.26	PASS
		High	2462	3.36	-42.97	≤-16.64	PASS
11N40SISO	Ant1	Low	2422	1.24	-37.57	≤-18.76	PASS
		High	2452	0.67	-39.55	≤-19.33	PASS



TEST GRAPHS



11B_Ant1_Low_2412



11B_Ant1_High_2462



BUREAU VERITAS

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11G_Ant1_Low_2412



11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



BUREAU VERITAS Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



CONDUCTED SPURIOUS EMISSION TEST RESULT

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	10.19	10.19	---	PASS
			30~1000	10.19	-54.11	≤-9.81	PASS
			1000~26500	10.19	-37.6	≤-9.81	PASS
		2437	Reference	9.13	9.13	---	PASS
			30~1000	9.13	-54.38	≤-10.87	PASS
			1000~26500	9.13	-38.13	≤-10.87	PASS
		2462	Reference	10.08	10.08	---	PASS
			30~1000	10.08	-53.09	≤-9.92	PASS
			1000~26500	10.08	-38.29	≤-9.92	PASS
11G	Ant1	2412	Reference	3.37	3.37	---	PASS
			30~1000	3.37	-54.4	≤-16.63	PASS
			1000~26500	3.37	-36.93	≤-16.63	PASS
		2437	Reference	5.70	5.70	---	PASS
			30~1000	5.70	-54.27	≤-14.3	PASS
			1000~26500	5.70	-37.95	≤-14.3	PASS
		2462	Reference	2.61	2.61	---	PASS
			30~1000	2.61	-54.21	≤-17.39	PASS
			1000~26500	2.61	-38.07	≤-17.39	PASS
11N20SISO	Ant1	2412	Reference	4.29	4.29	---	PASS
			30~1000	4.29	-53.78	≤-15.71	PASS
			1000~26500	4.29	-37.49	≤-15.71	PASS
		2437	Reference	0.40	0.40	---	PASS
			30~1000	0.40	-53.72	≤-19.61	PASS
			1000~26500	0.40	-36.96	≤-19.61	PASS
		2462	Reference	1.62	1.62	---	PASS
			30~1000	1.62	-52.75	≤-18.38	PASS
			1000~26500	1.62	-37.66	≤-18.38	PASS
11N40SISO	Ant1	2422	Reference	-0.35	-0.35	---	PASS
			30~1000	-0.35	-53.76	≤-20.35	PASS



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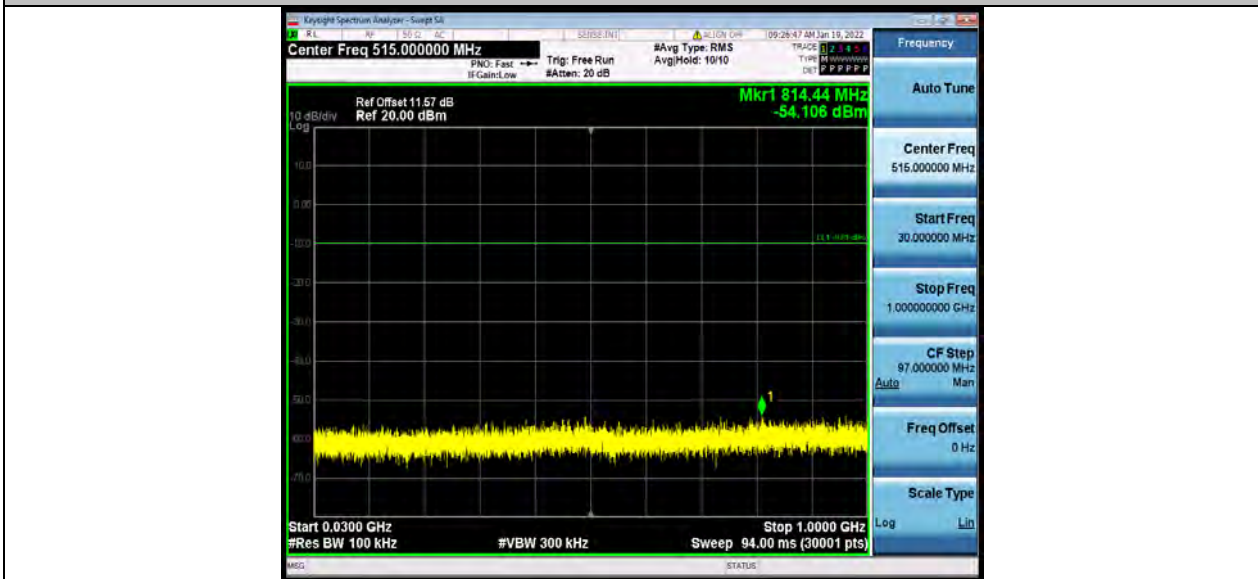
			1000~26500	-0.35	-38.39	≤ -20.35	PASS
		2437	Reference	-0.65	-0.65	---	PASS
			30~1000	-0.65	-53.73	≤ -20.65	PASS
			1000~26500	-0.65	-37.17	≤ -20.65	PASS
		2452	Reference	-1.88	-1.88	---	PASS
			30~1000	-1.88	-53.99	≤ -21.88	PASS
			1000~26500	-1.88	-38.38	≤ -21.88	PASS



TEST GRAPHS



11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



BUREAU VERITAS

Test Report No.: W7L-220503W001RF02



11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference



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VERITAS**

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11B_Ant1_2437_30~1000



11B_Ant1_2437_1000~26500

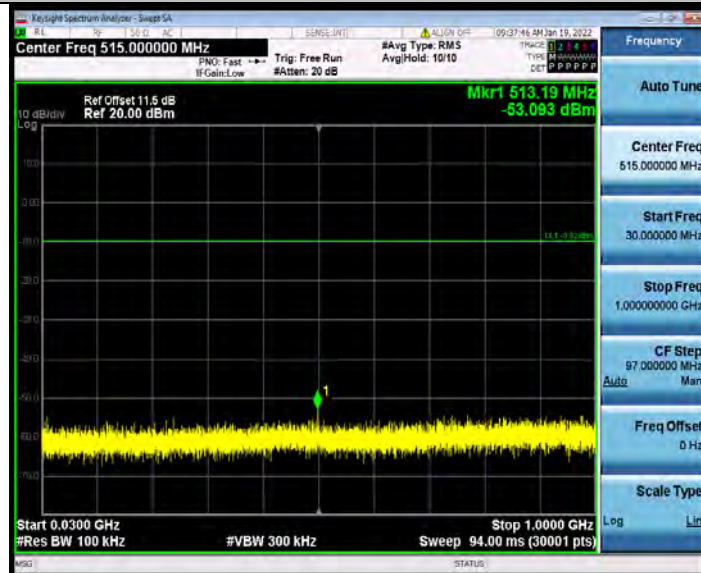


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Test Report No.: W7L-220503W001RF02



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02



11B_Ant1_2462_1000~26500

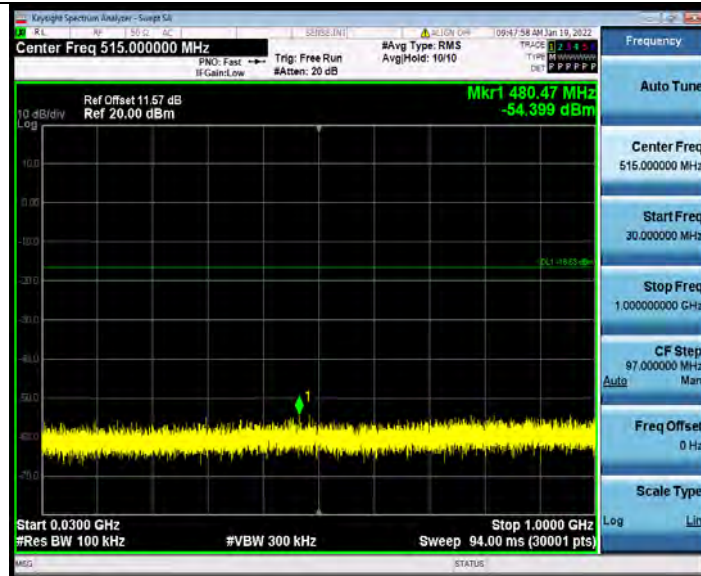


11G_Ant1_2412_0~Reference

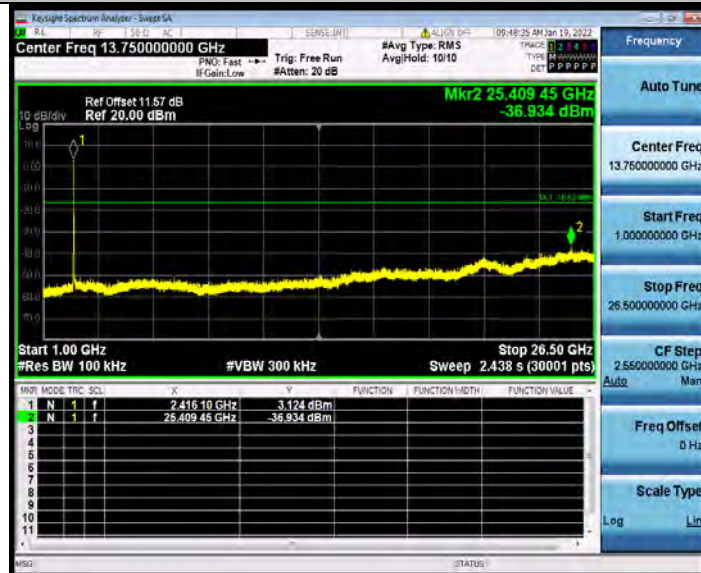


**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02



11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500

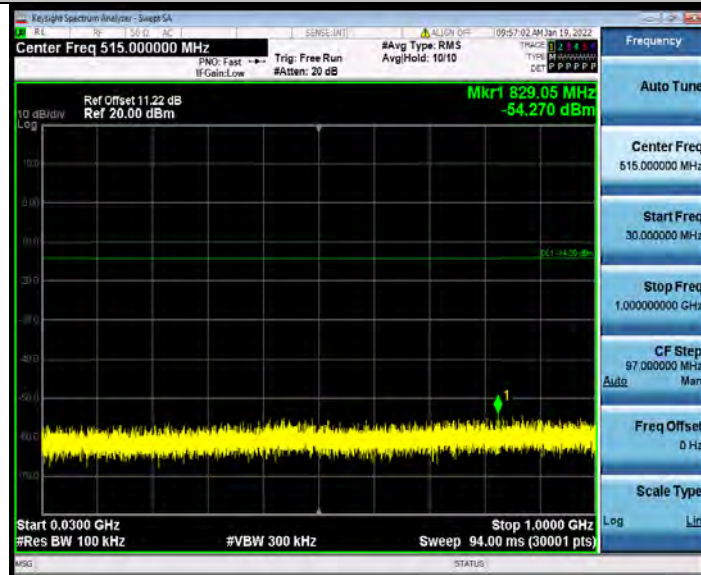


BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



BUREAU VERITAS

Test Report No.: W7L-220503W001RF02



11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02



11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500



**BUREAU
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Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02



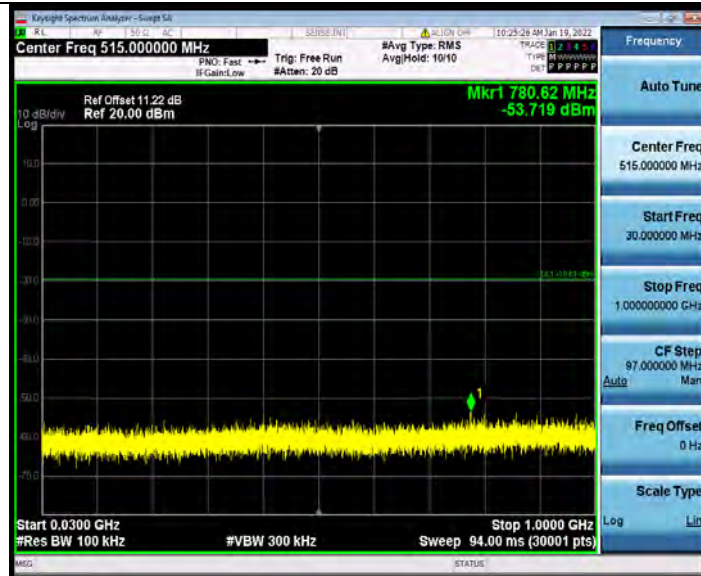
11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference



BUREAU VERITAS Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2437_30~1000



11N20SISO_Ant1_2437_1000~26500

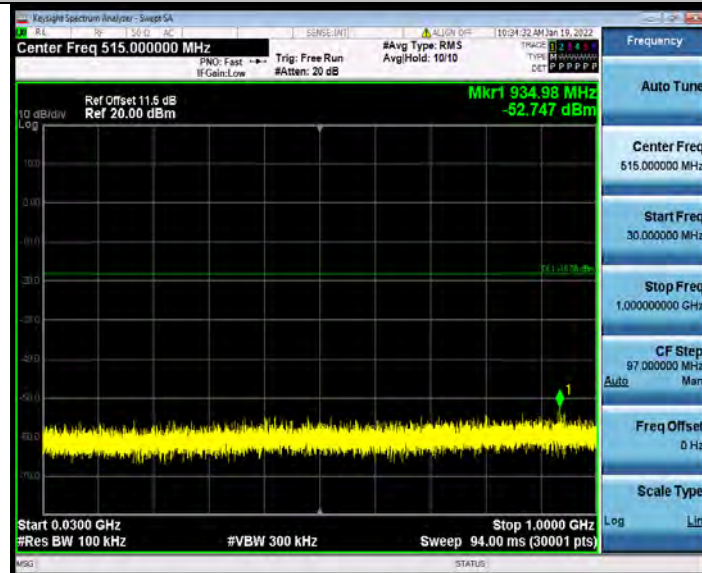


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Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2462_0~Reference

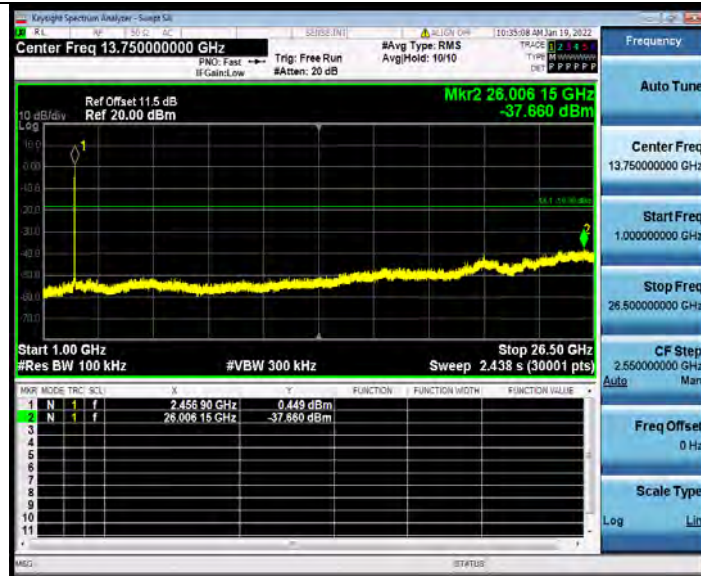


11N20SISO_Ant1_2462_30~1000



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Test Report No.: W7L-220503W001RF02



11N20SISO_Ant1_2462_1000~26500



11N40SISO_Ant1_2422_0~Reference

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

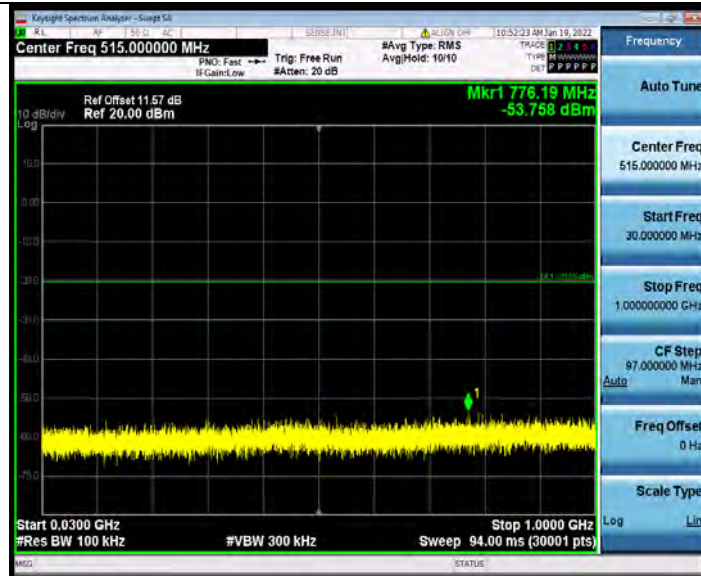
No.B102, Dazu Chuangxin Mansion, North of Beihuan
Avenue, North Area, Hi-Tech Industrial Park, Nanshan
District, Shenzhen, Guangdong, China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



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Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2422_30~1000



11N40SISO_Ant1_2422_1000~26500



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VERITAS

Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2437_0~Reference

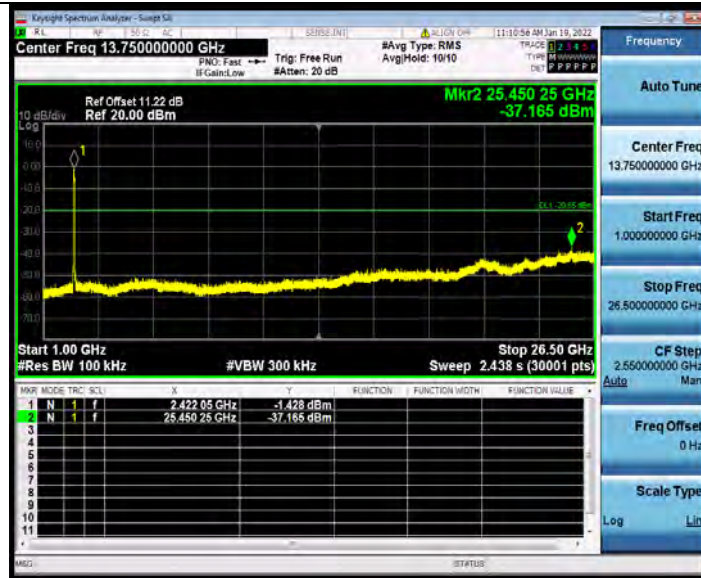


11N40SISO_Ant1_2437_30~1000



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Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference



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Test Report No.: W7L-220503W001RF02



11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500



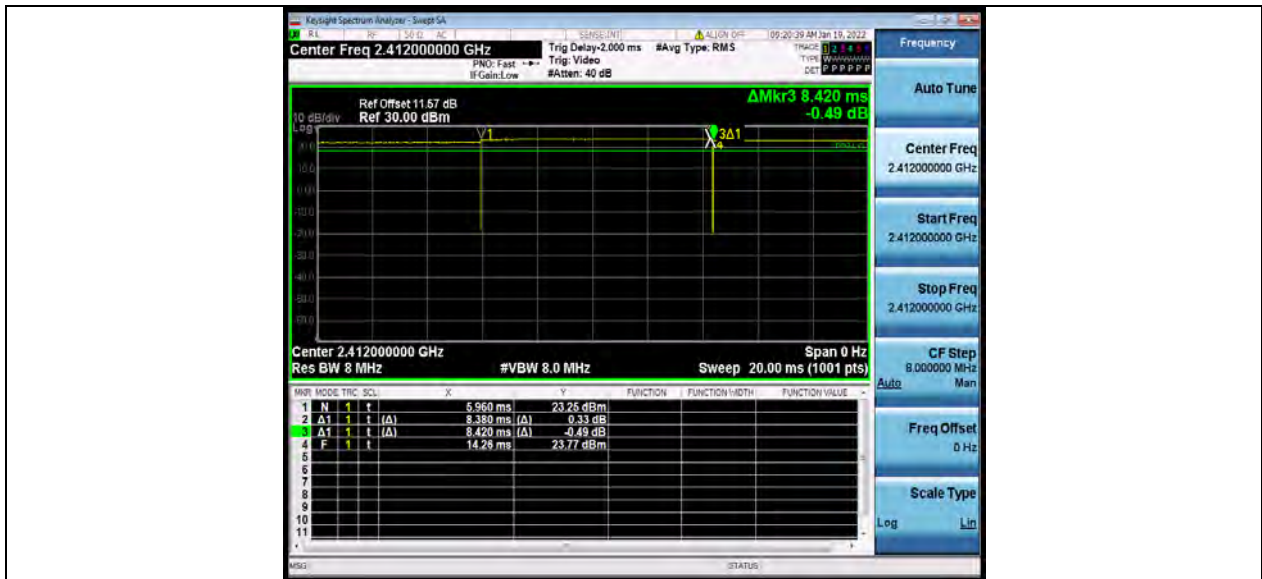
DUTY CYCLE

TEST RESULT

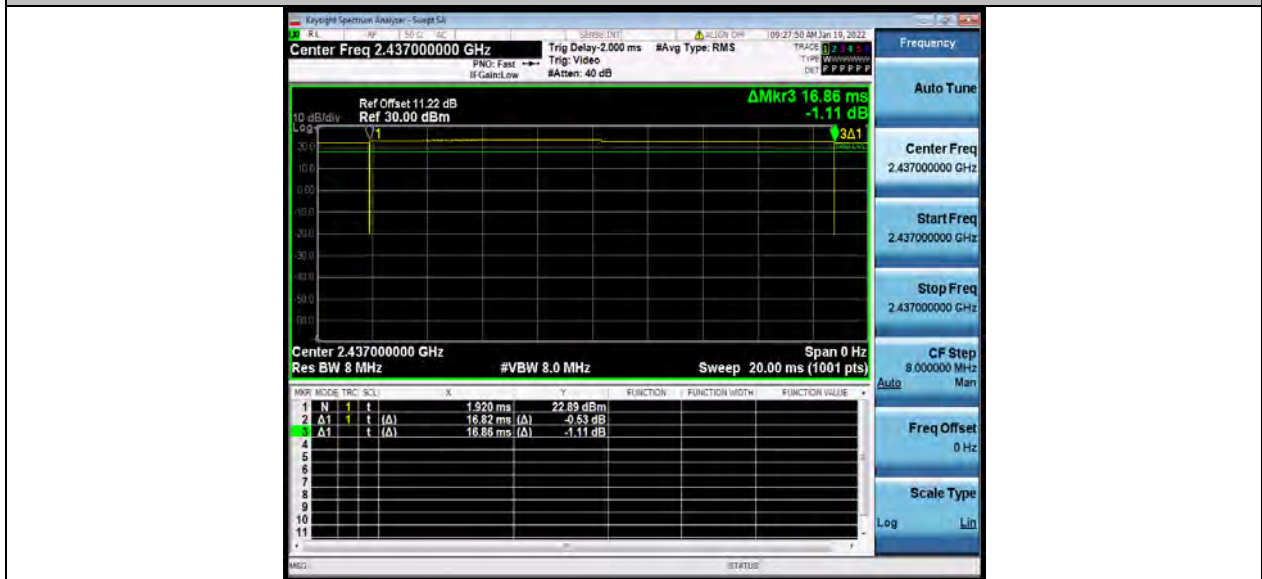
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	8.38	8.42	99.52	---	PASS
		2437	16.82	16.86	99.76	---	PASS
		2462	8.38	8.42	99.52	---	PASS
11G	Ant1	2412	1.39	1.44	96.53	---	PASS
		2437	1.39	1.44	96.53	---	PASS
		2462	1.39	1.44	96.53	---	PASS
11N20SISO	Ant1	2412	1.30	1.35	96.30	---	PASS
		2437	1.30	1.35	96.30	---	PASS
		2462	1.30	1.35	96.30	---	PASS
11N40SISO	Ant1	2422	0.64	0.69	92.75	---	PASS
		2437	0.64	0.69	92.75	---	PASS
		2452	0.64	0.69	92.75	---	PASS



TEST GRAPHS



11B_Ant1_2412

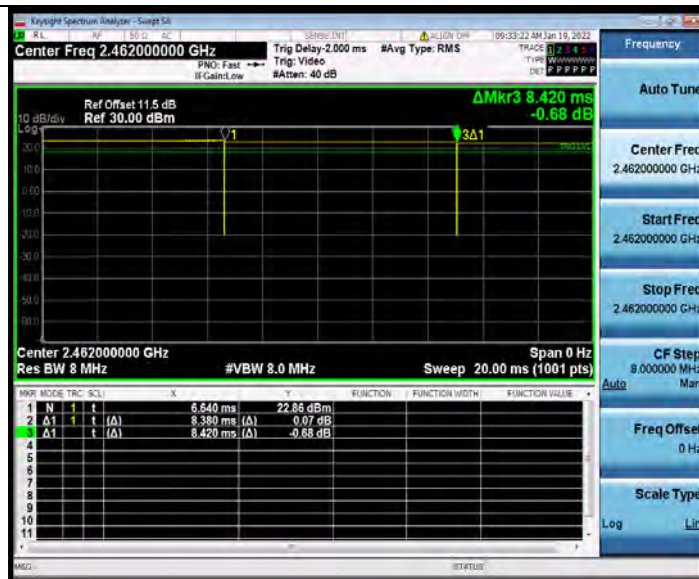


11B_Ant1_2437

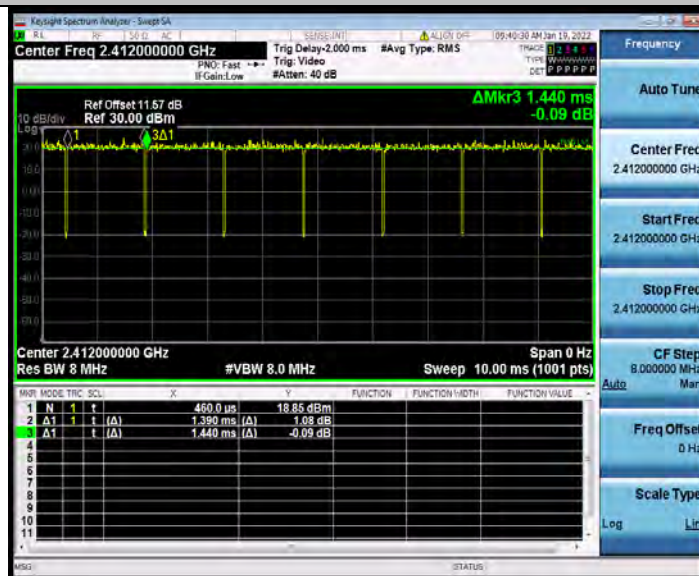


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Test Report No.: W7L-220503W001RF02



11B_Ant1_2462

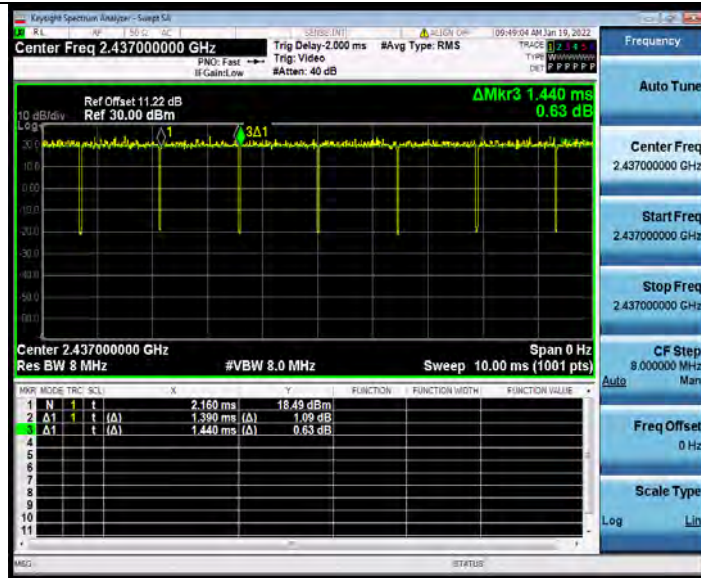


11G_Ant1_2412

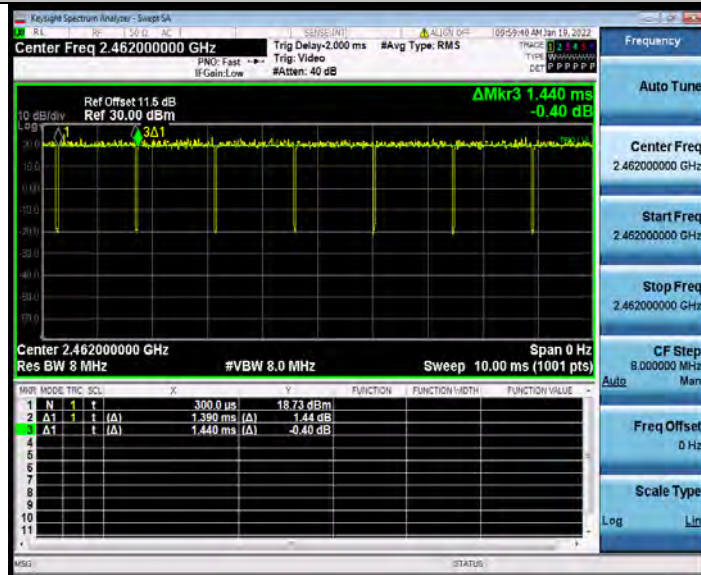


BUREAU VERITAS

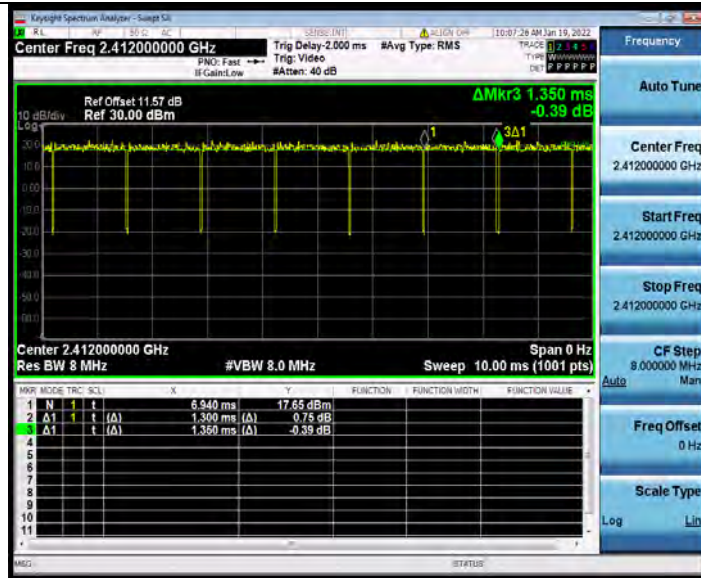
Test Report No.: W7L-220503W001RF02



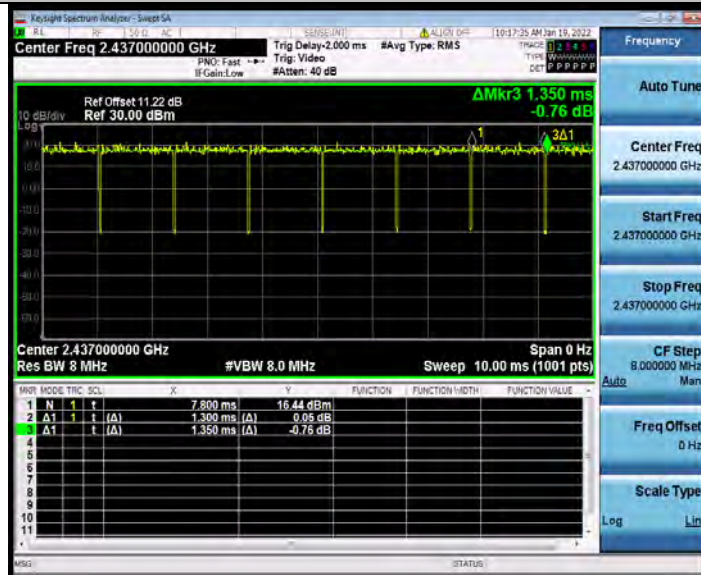
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412

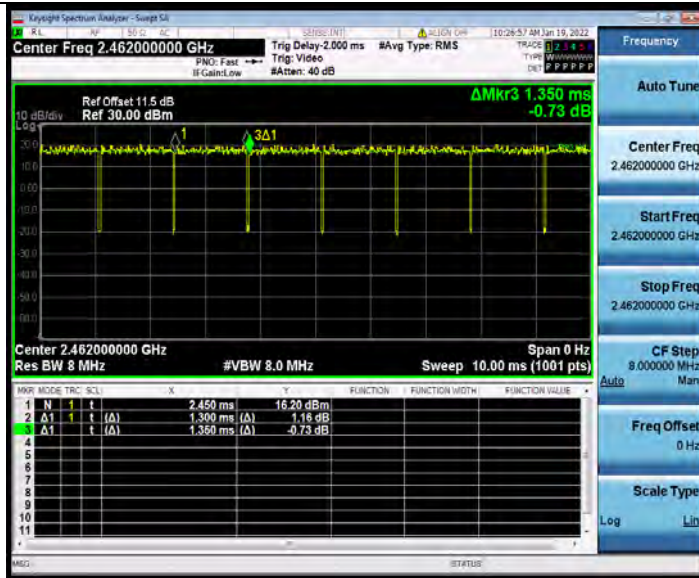


11N20SISO_Ant1_2437

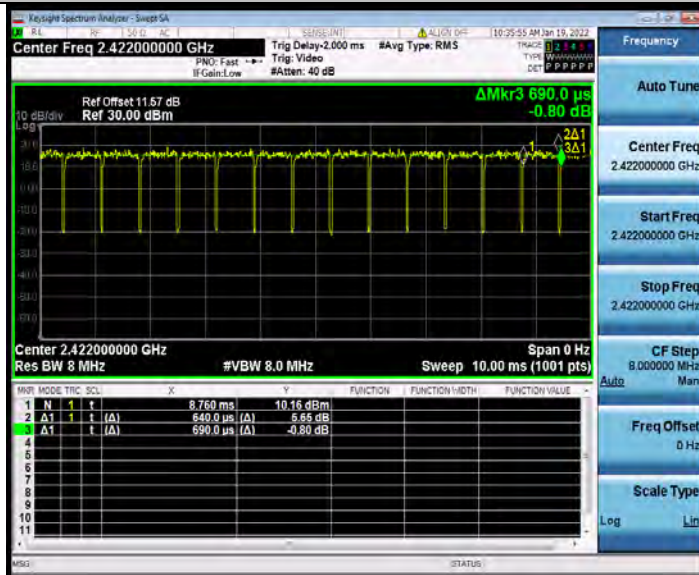


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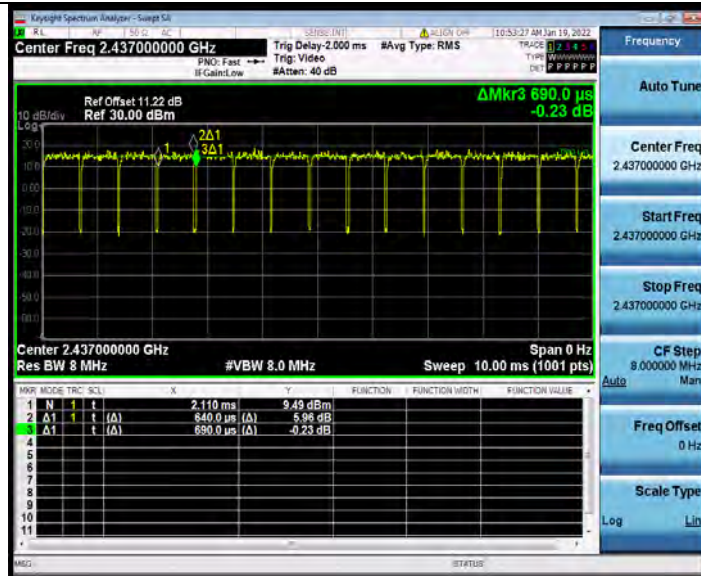
Test Report No.: W7L-220503W001RF02



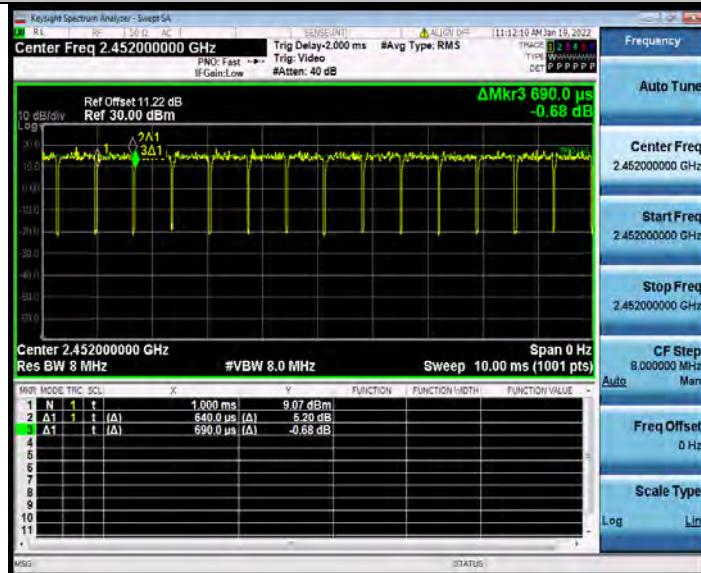
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



7 Appendix B

2.4G BLE

Duty Cycle

Ant1

Test Result

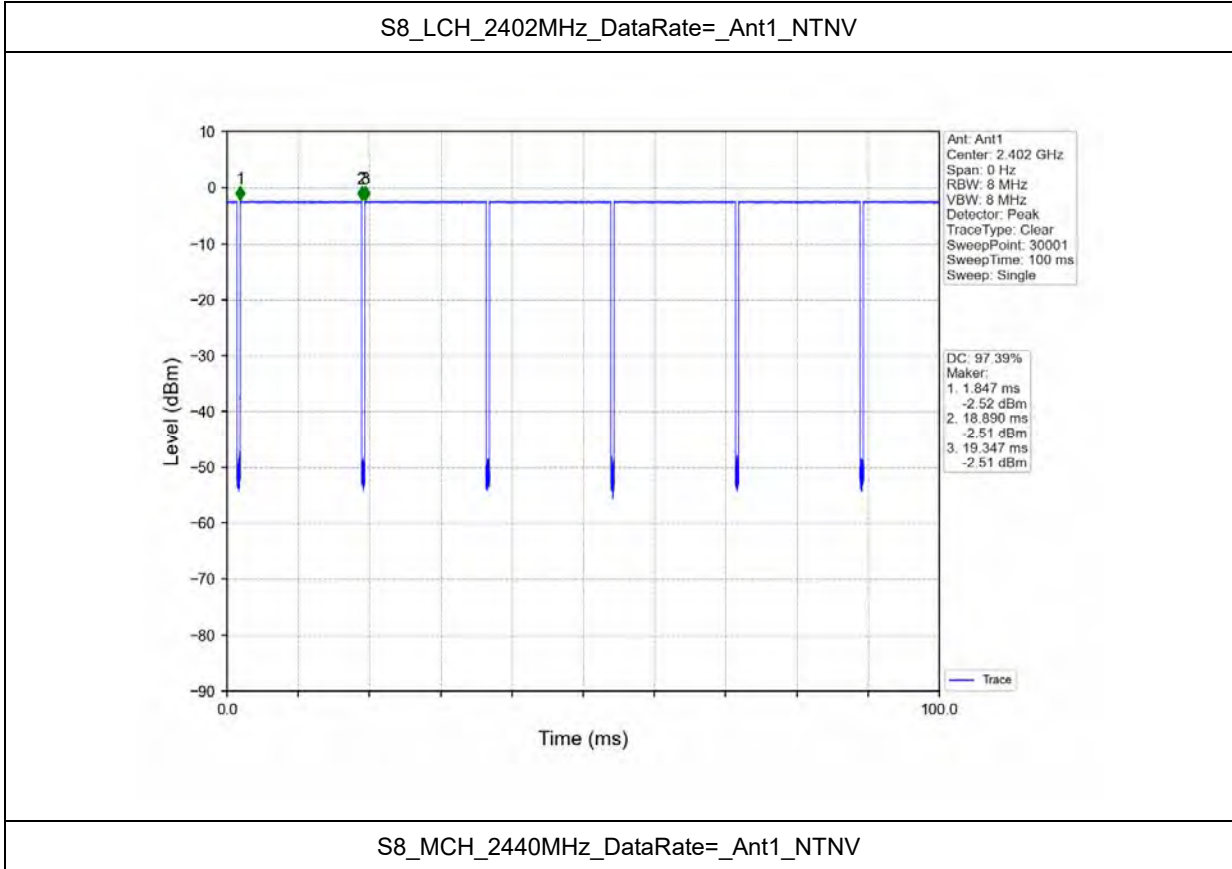
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
S8	SISO	2402	17.043	17.500	97.39	0.11	0.00
		2440	17.047	17.500	97.41	0.11	0.00
		2480	17.047	17.500	97.41	0.11	0.00
S2	SISO	2402	4.547	5.001	90.92	0.41	0.04
		2440	4.547	5.000	90.94	0.41	0.03
		2480	4.547	5.000	90.94	0.41	0.03
1M	SISO	2402	2.124	2.500	84.96	0.71	0.03
		2440	2.124	2.499	84.99	0.71	0.03
		2480	2.124	2.499	84.99	0.71	0.03
2M	SISO	2402	1.069	1.875	57.01	2.44	0.03
		2440	1.069	1.875	57.01	2.44	0.03
		2480	1.069	1.875	57.01	2.44	0.02



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Test Report No.: W7L-220503W001RF02

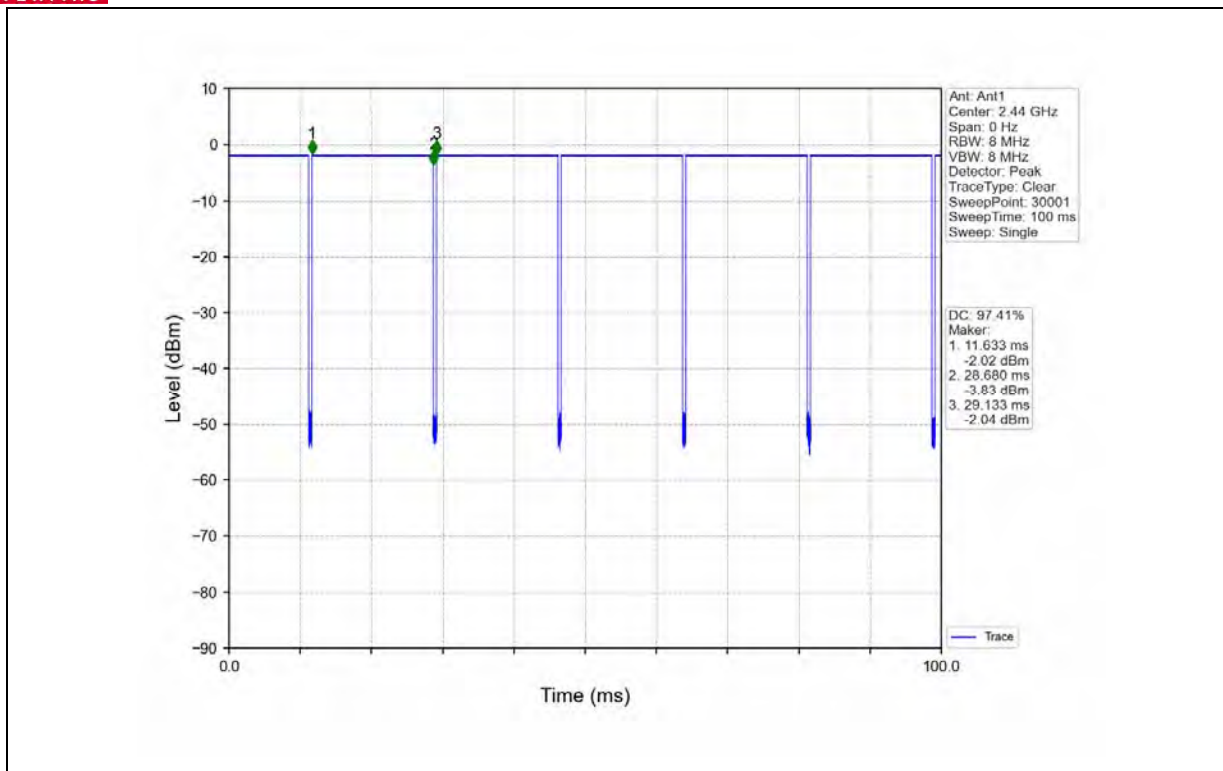
Test Graph





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Test Report No.: W7L-220503W001RF02

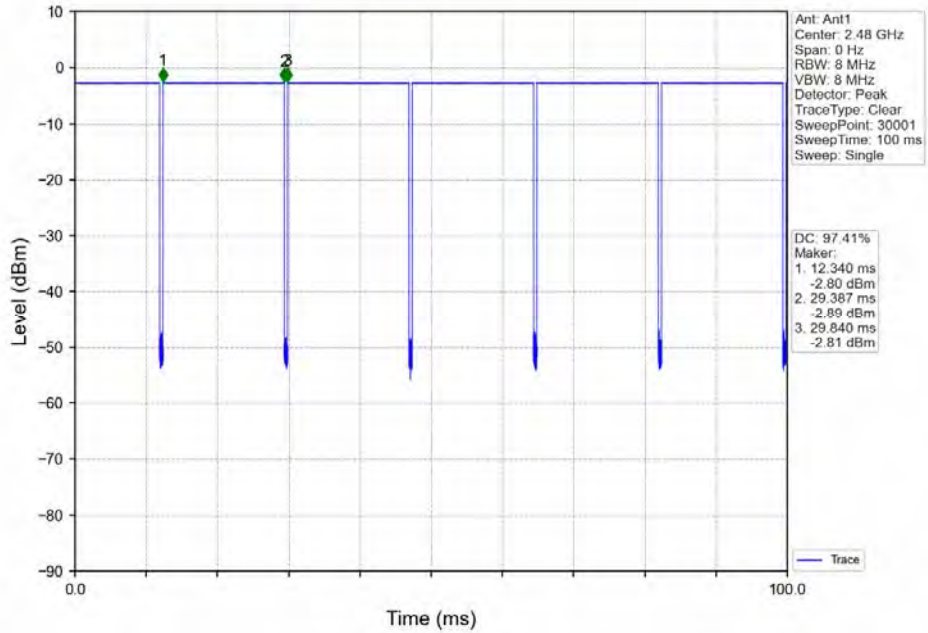




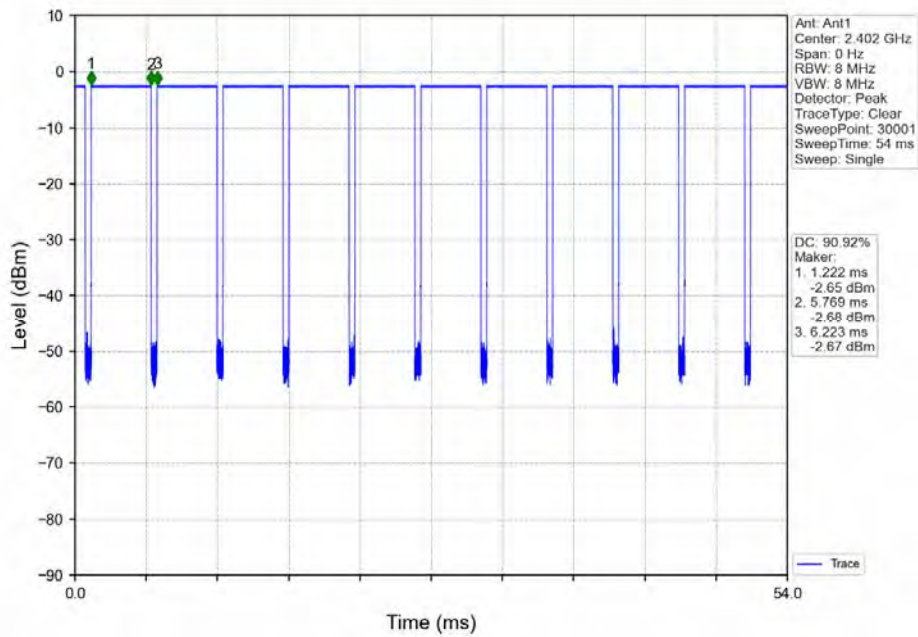
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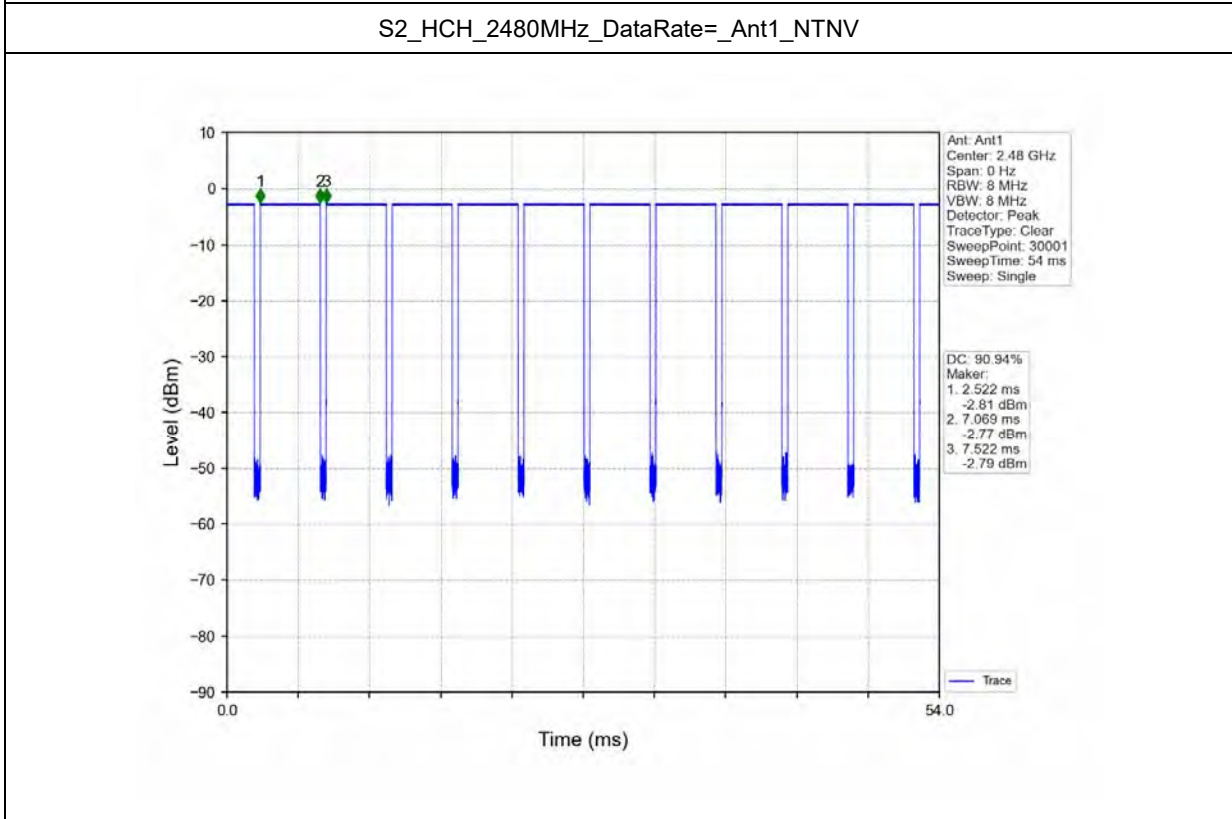
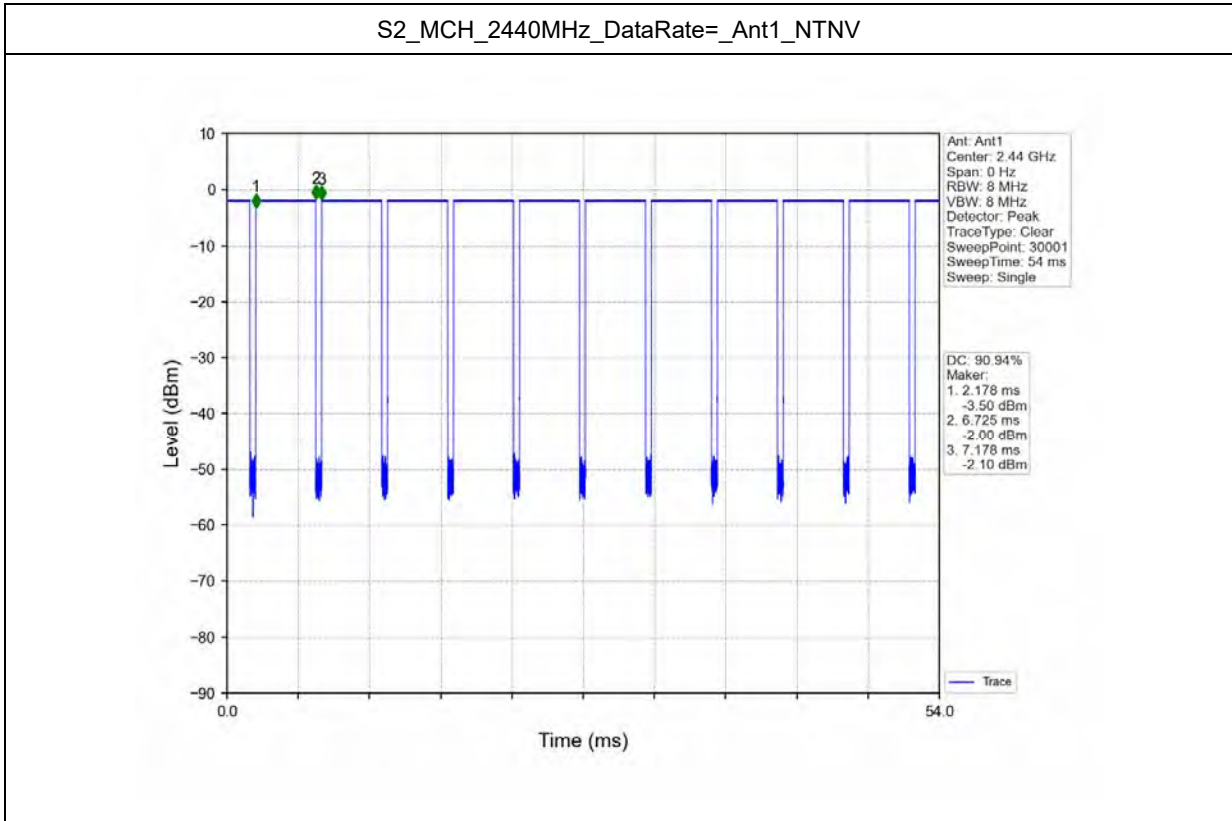
Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

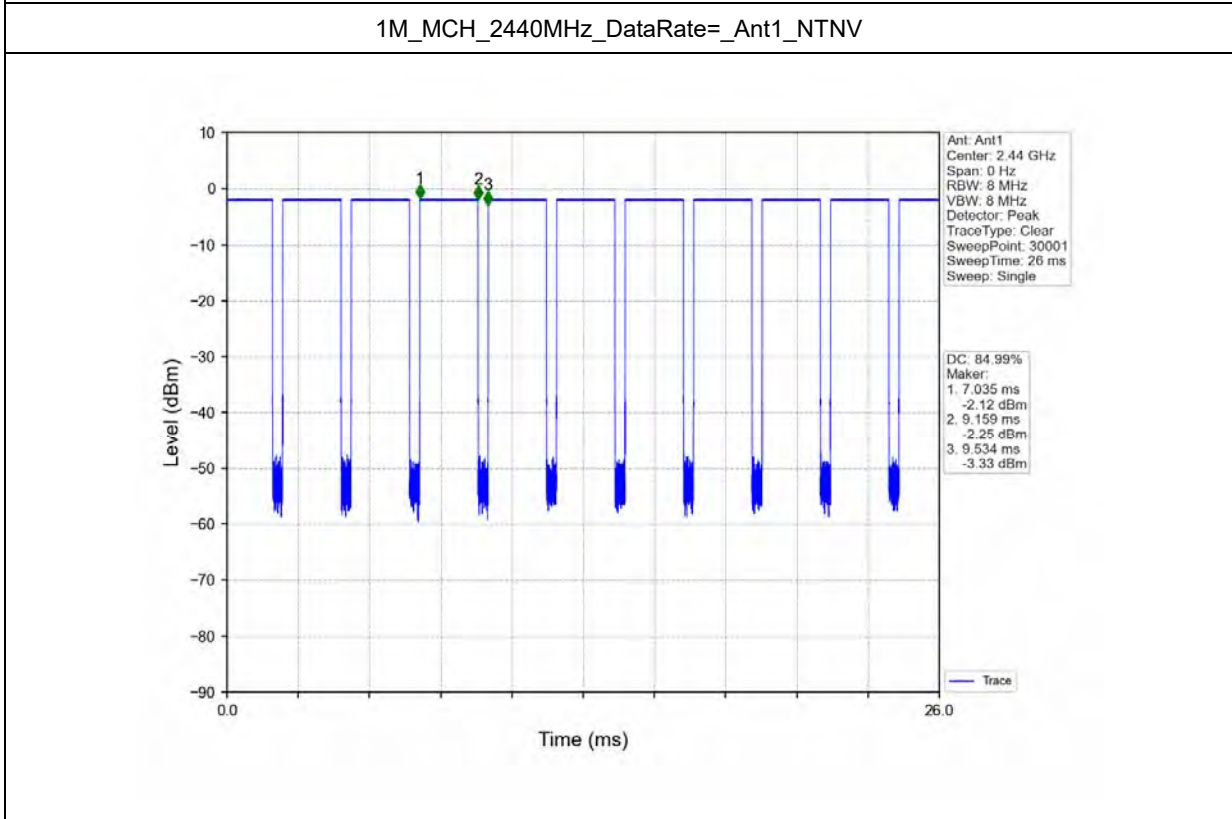
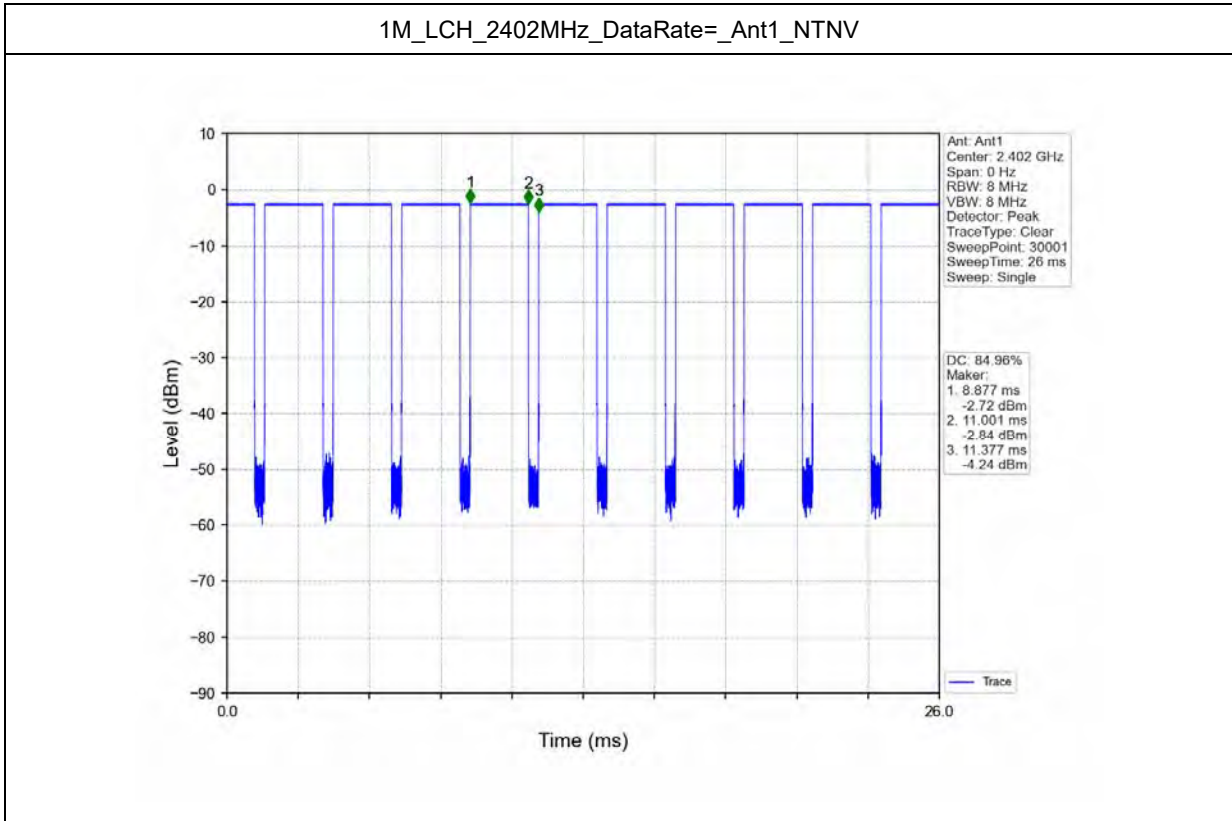






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Test Report No.: W7L-220503W001RF02

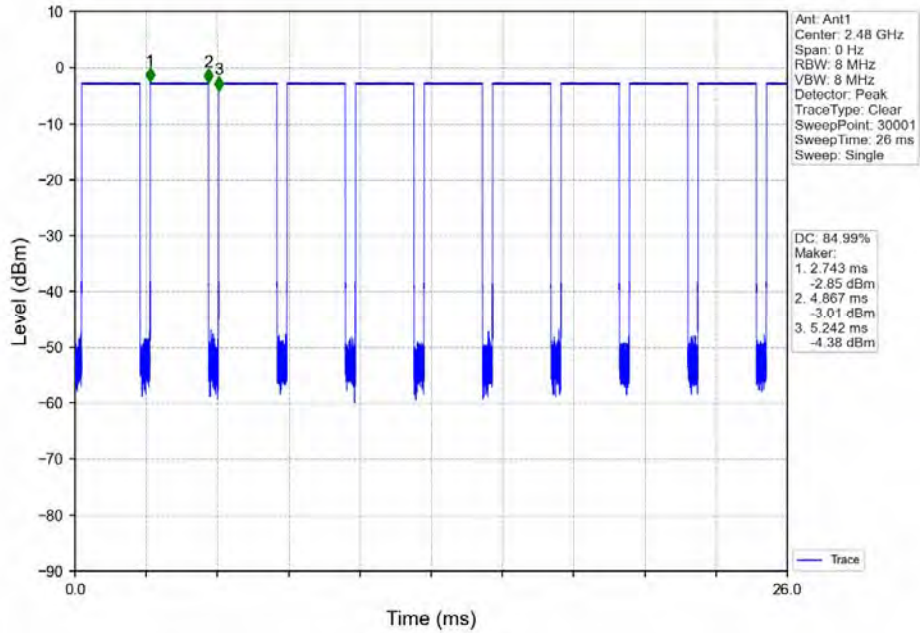




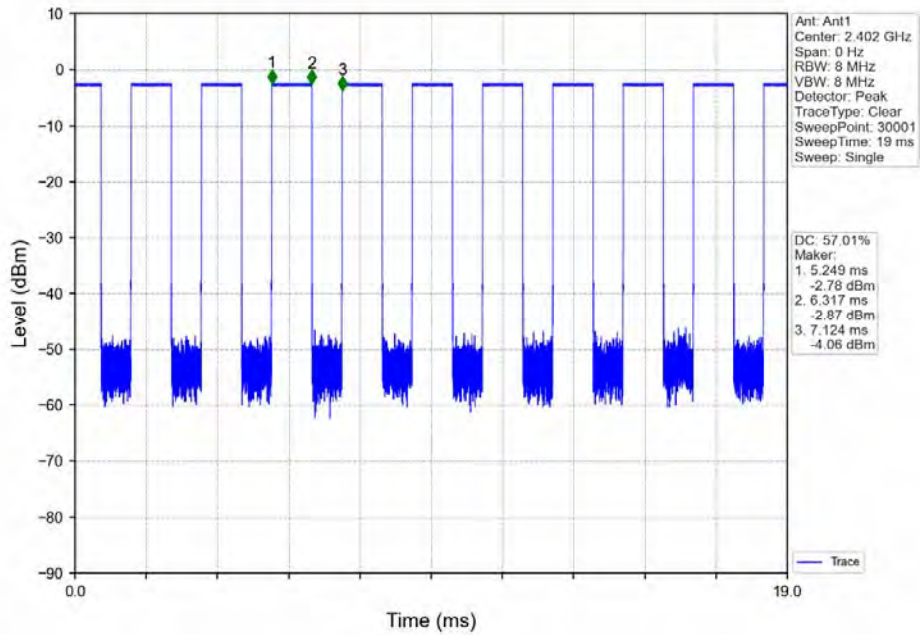
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

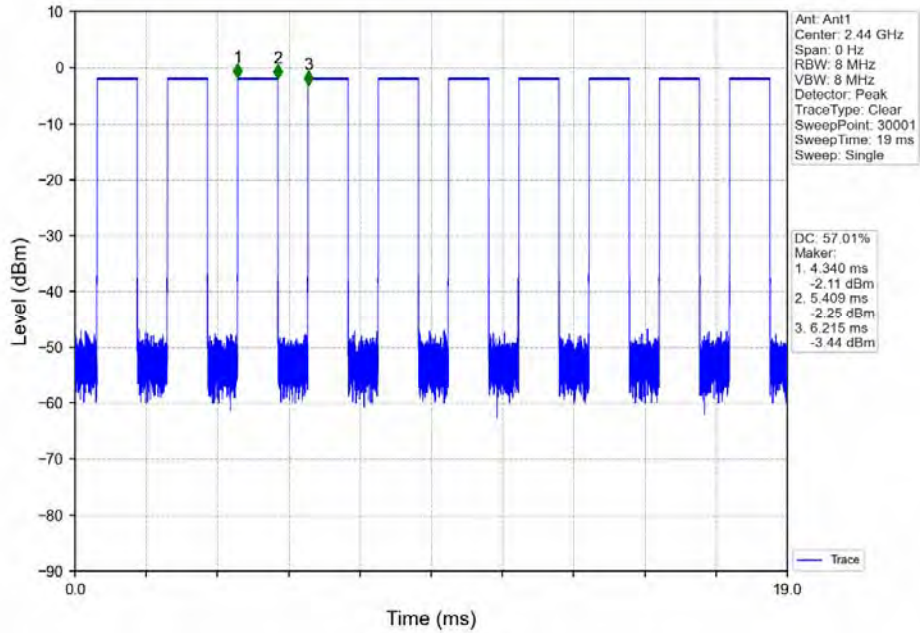




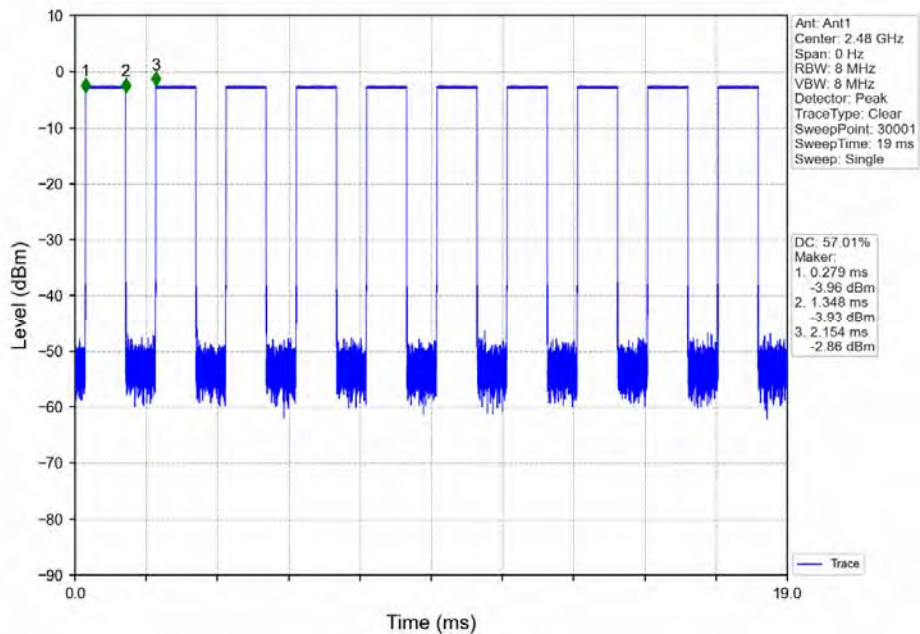
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

2M_MCH_2440MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV





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Test Report No.: W7L-220503W001RF02

Bandwidth

OBW

Test Result

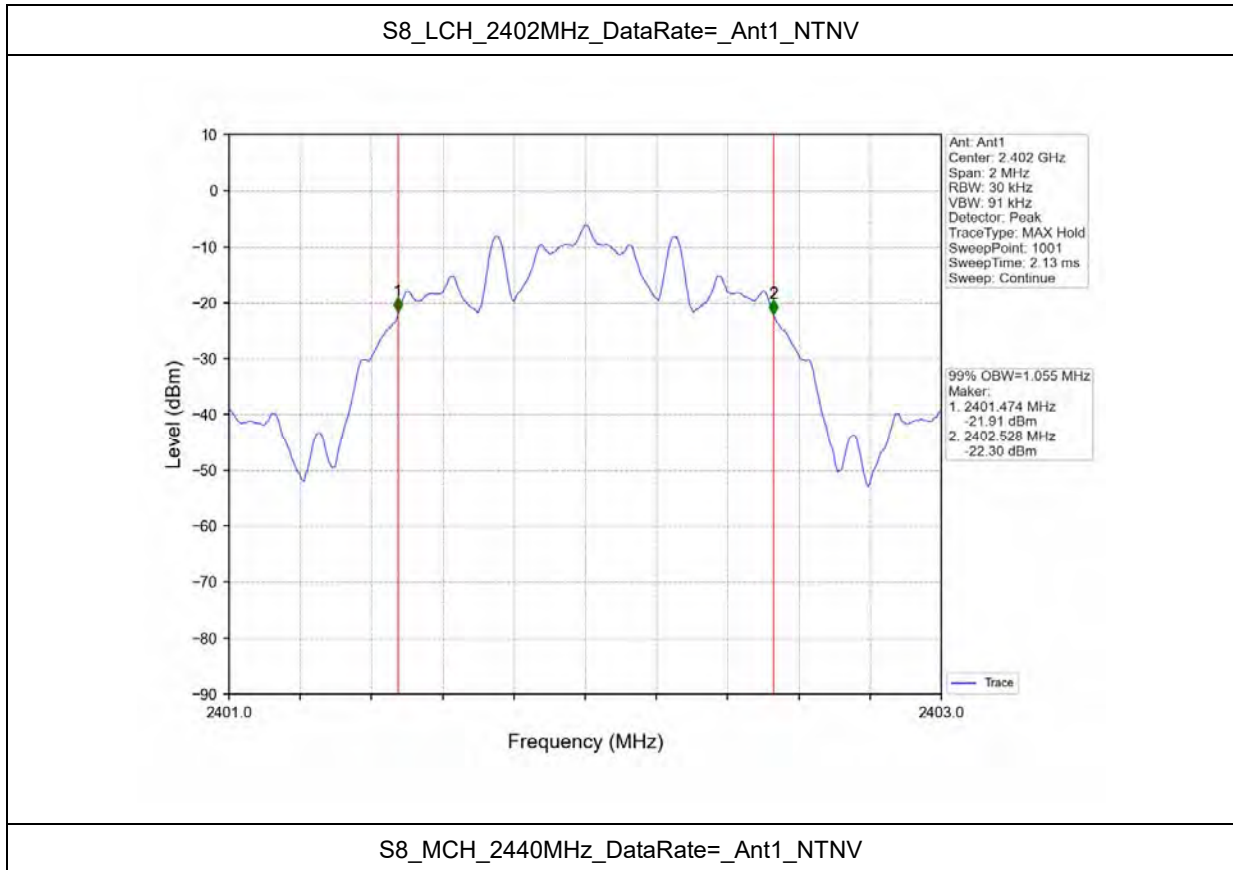
Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Verdict
				Result	
S8	SISO	2402	1	1.055	Pass
		2440	1	1.055	Pass
		2480	1	1.054	Pass
S2	SISO	2402	1	1.025	Pass
		2440	1	1.026	Pass
		2480	1	1.024	Pass
1M	SISO	2402	1	1.038	Pass
		2440	1	1.038	Pass
		2480	1	1.038	Pass
2M	SISO	2402	1	2.077	Pass
		2440	1	2.078	Pass
		2480	1	2.074	Pass

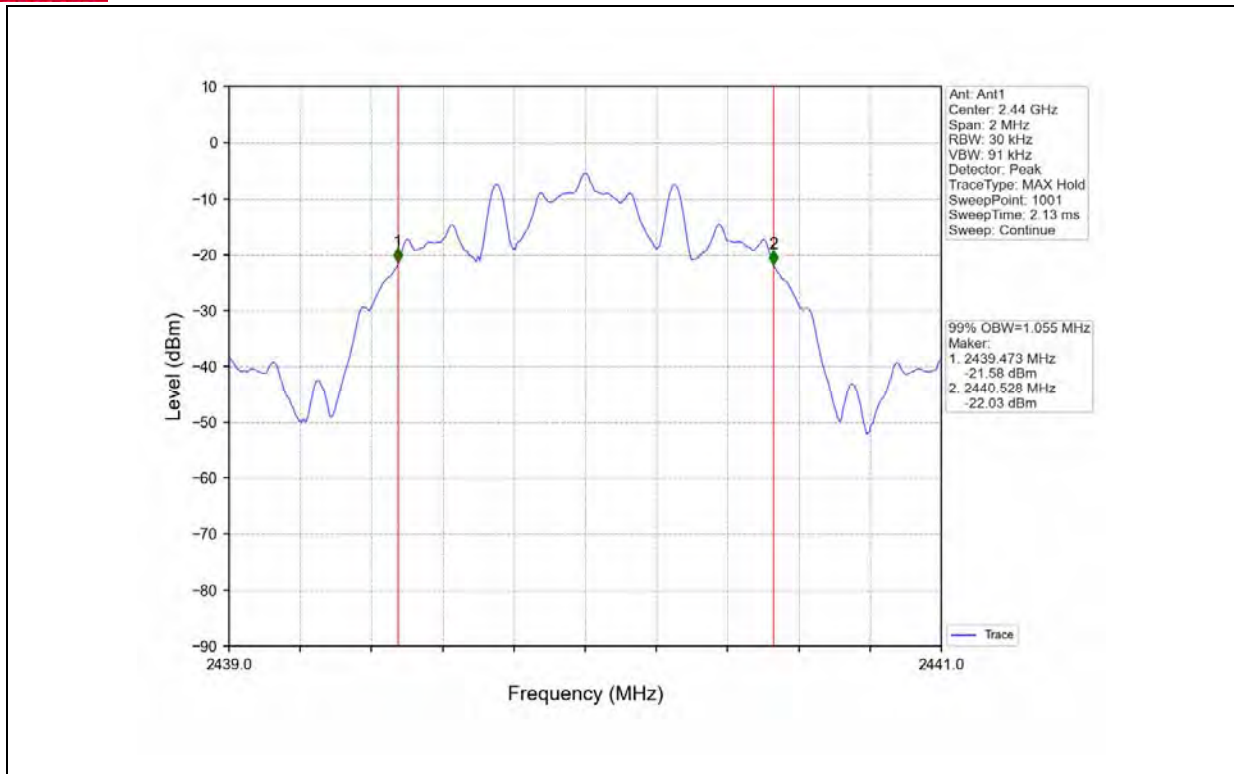


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Test Report No.: W7L-220503W001RF02

Test Graph



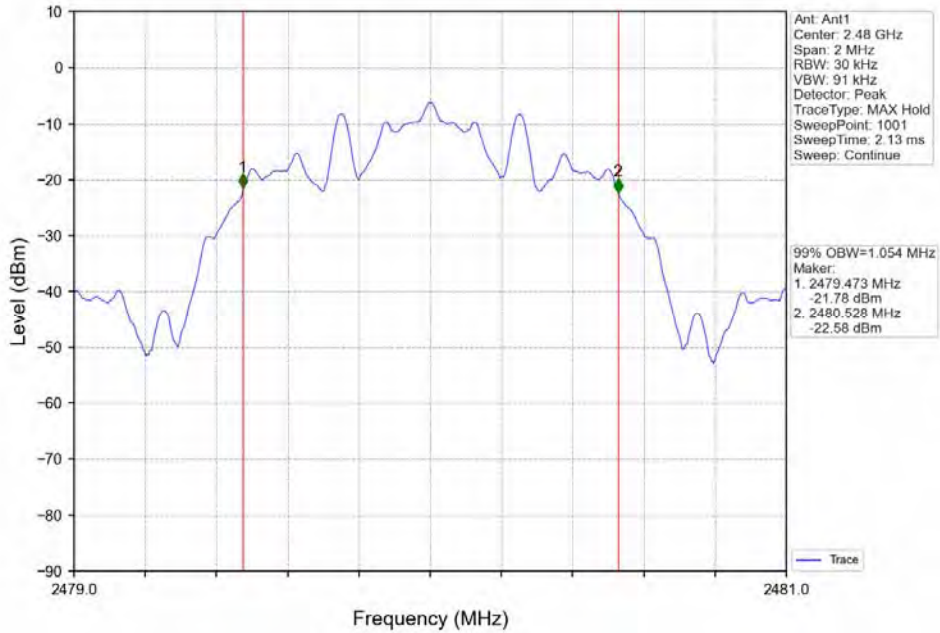




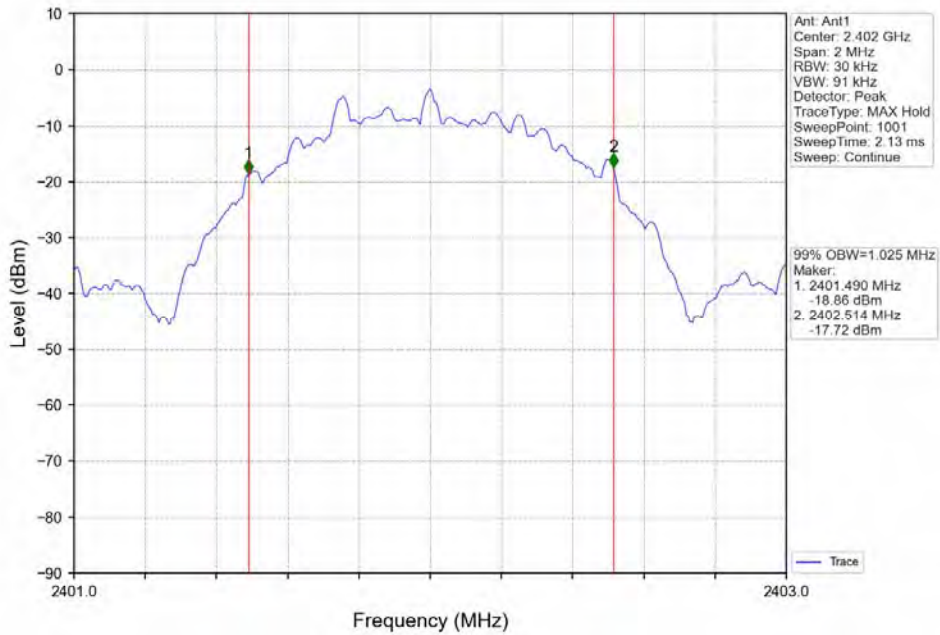
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

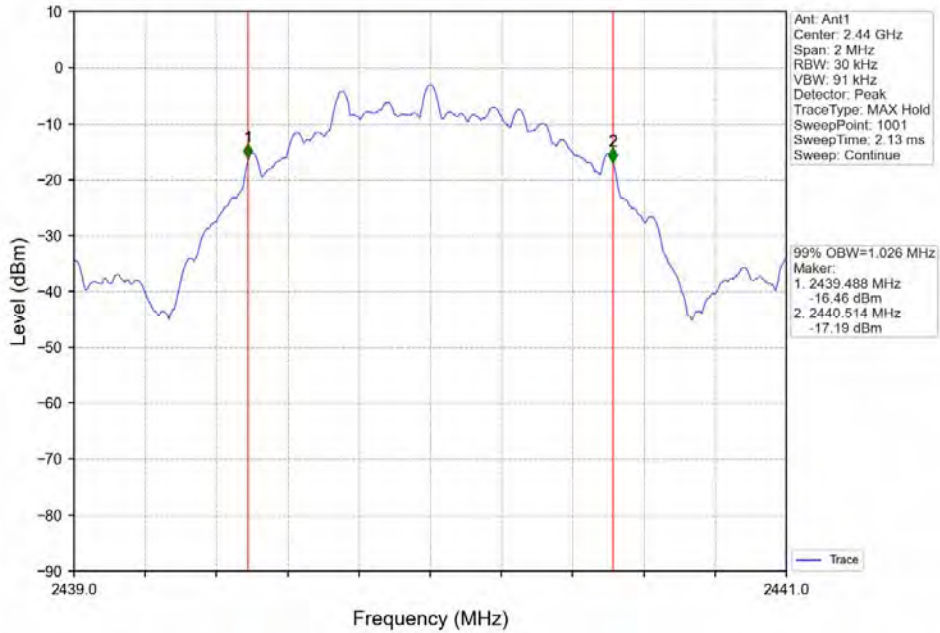




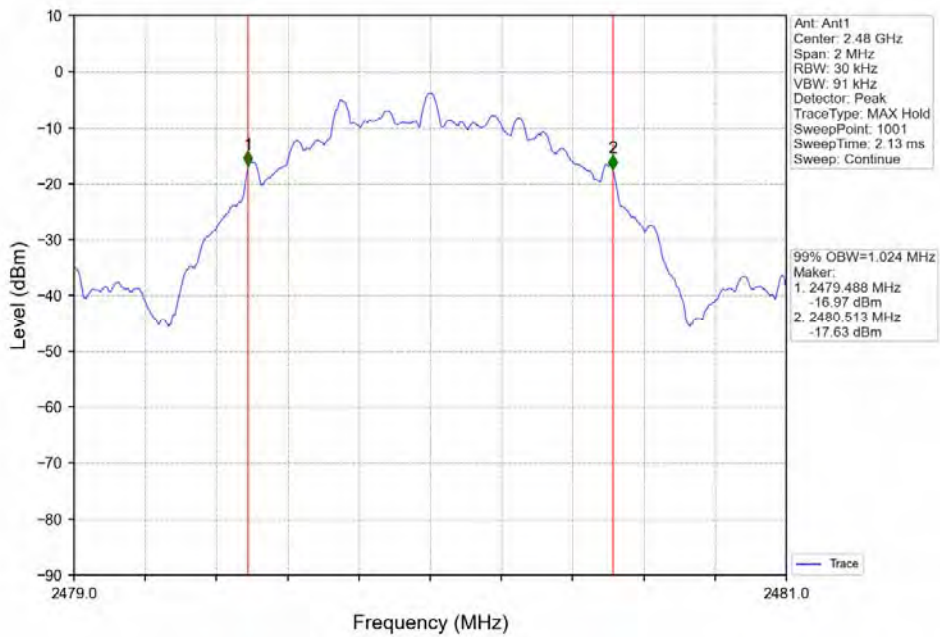
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S2_MCH_2440MHz_DataRate=_Ant1_NTNV



S2_HCH_2480MHz_DataRate=_Ant1_NTNV

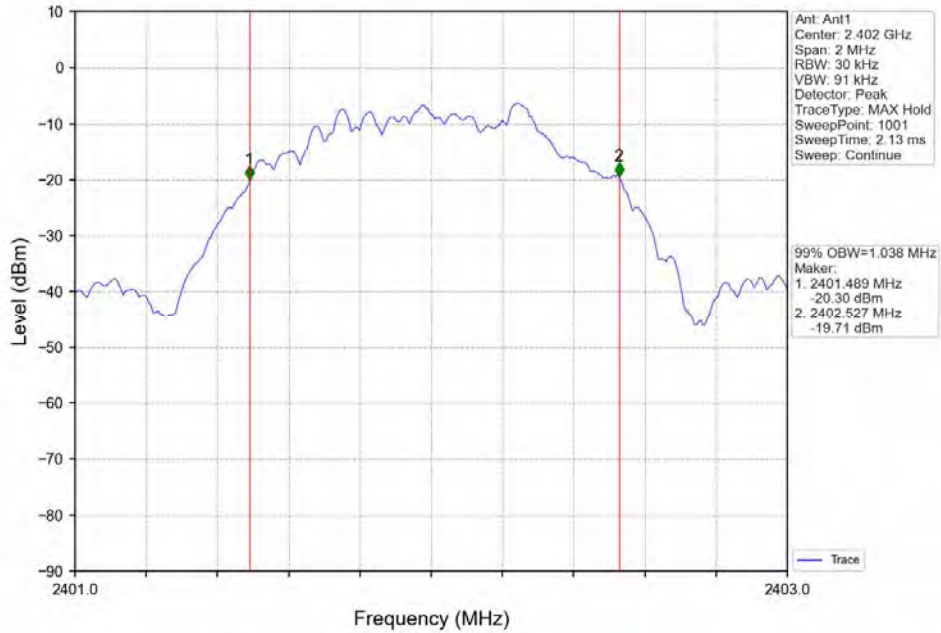




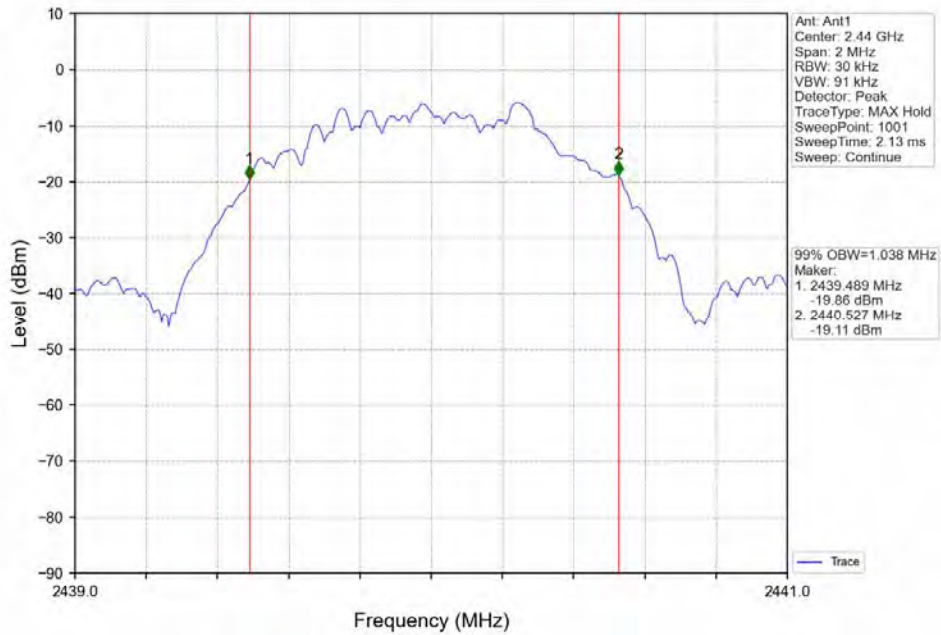
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_LCH_2402MHz_DataRate=_Ant1_NTNV



1M_MCH_2440MHz_DataRate=_Ant1_NTNV

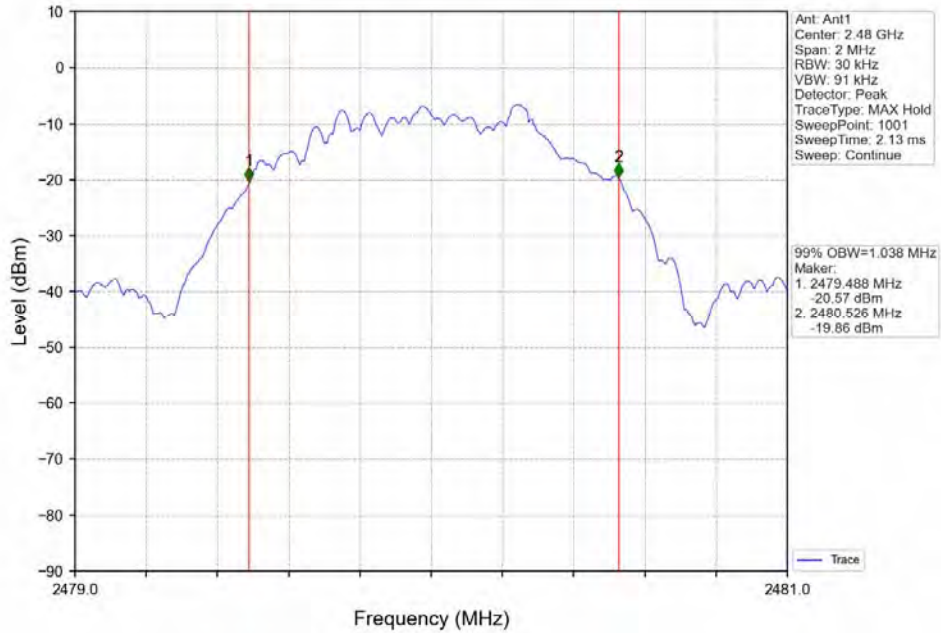




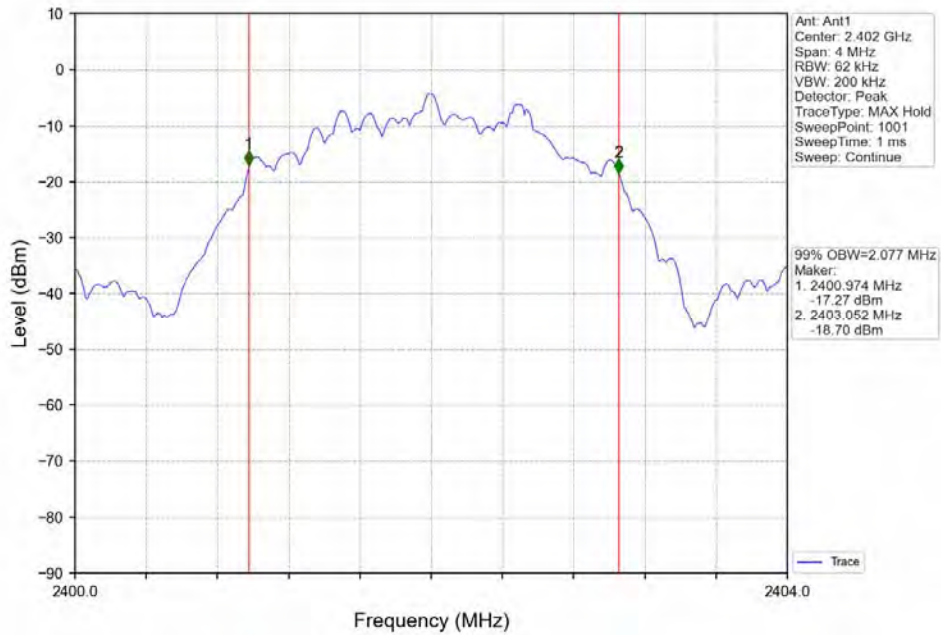
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

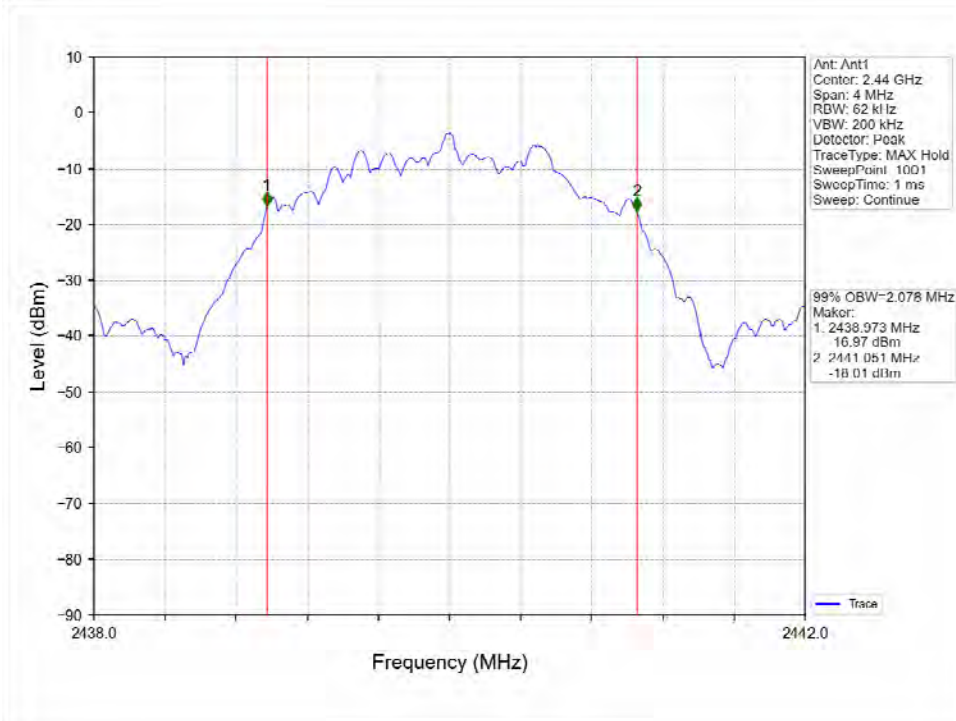




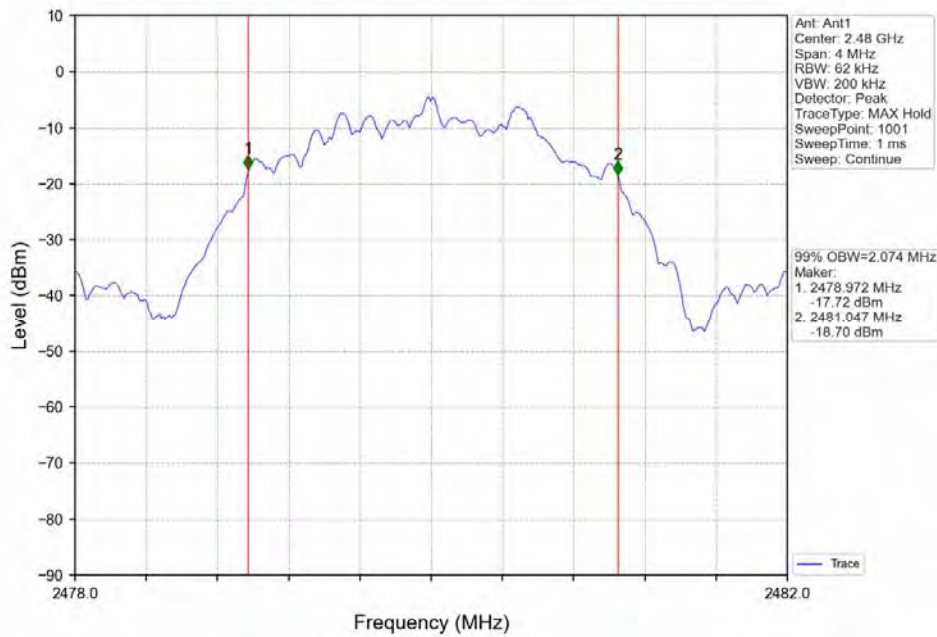
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

2M_MCH_2440MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV





6dB BW

Test Result

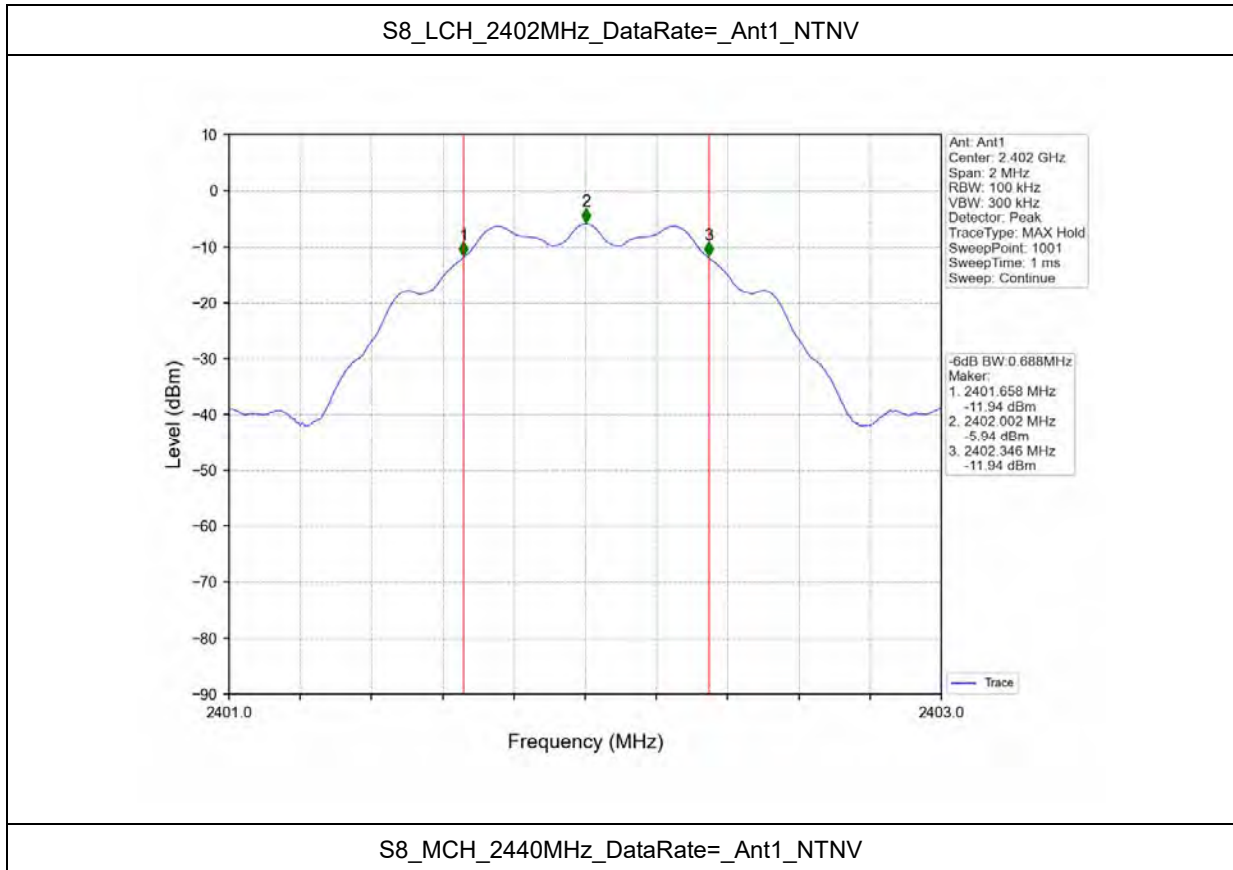
Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
S8	SISO	2402	1	0.688	>=0.5	Pass
		2440	1	0.687	>=0.5	Pass
		2480	1	0.687	>=0.5	Pass
S2	SISO	2402	1	0.663	>=0.5	Pass
		2440	1	0.663	>=0.5	Pass
		2480	1	0.662	>=0.5	Pass
1M	SISO	2402	1	0.664	>=0.5	Pass
		2440	1	0.663	>=0.5	Pass
		2480	1	0.667	>=0.5	Pass
2M	SISO	2402	1	1.174	>=0.5	Pass
		2440	1	1.175	>=0.5	Pass
		2480	1	1.178	>=0.5	Pass



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VERITAS**

Test Report No.: W7L-220503W001RF02

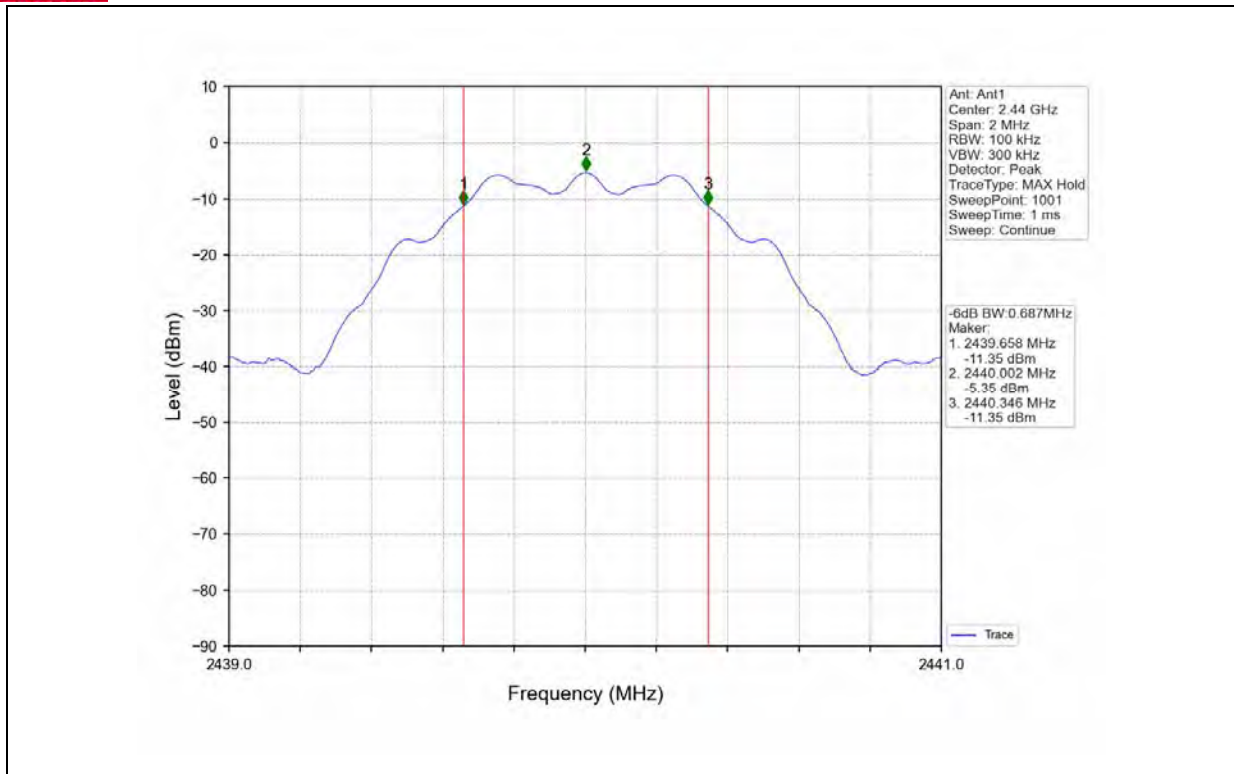
Test Graph





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Test Report No.: W7L-220503W001RF02

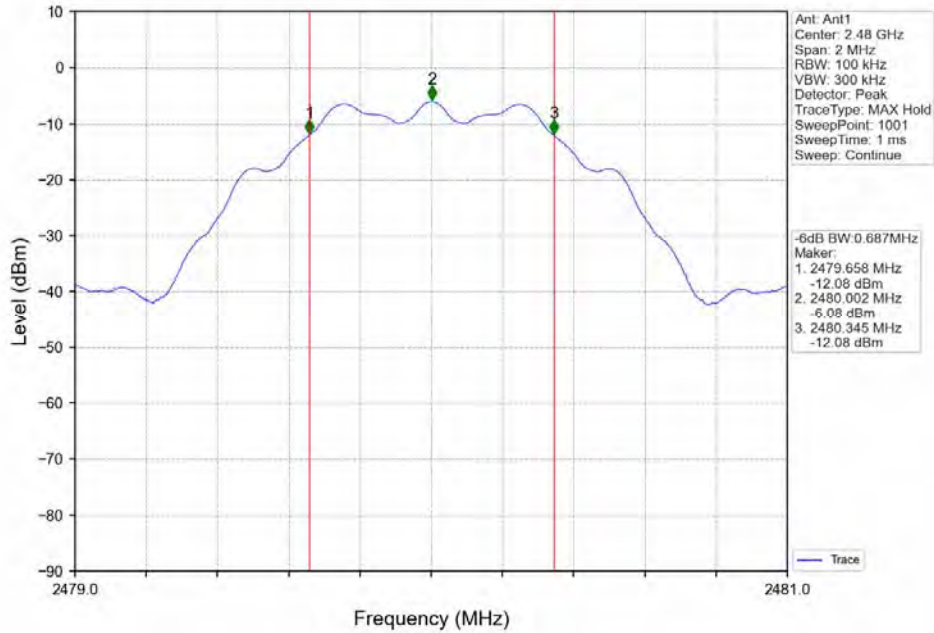




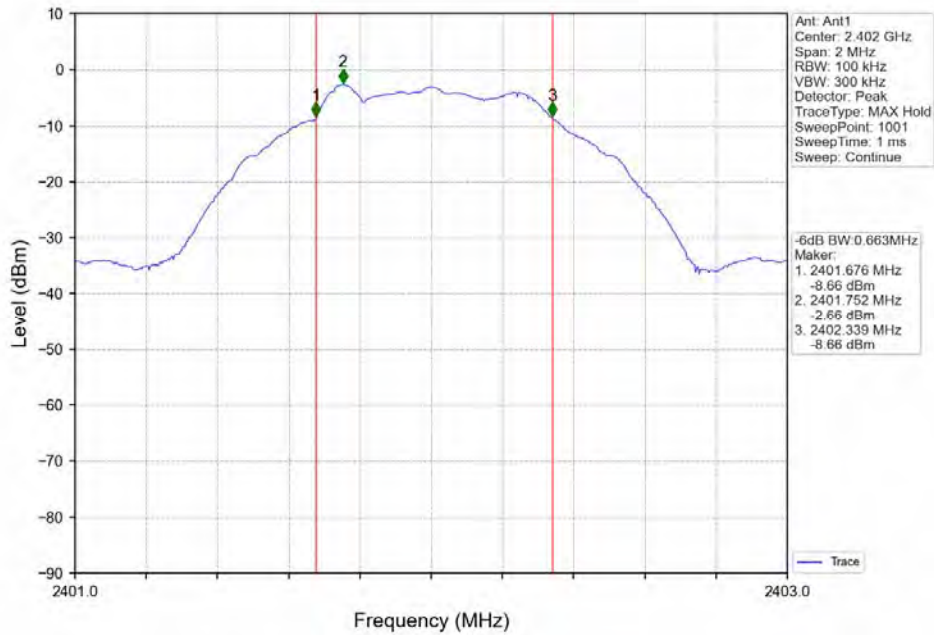
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

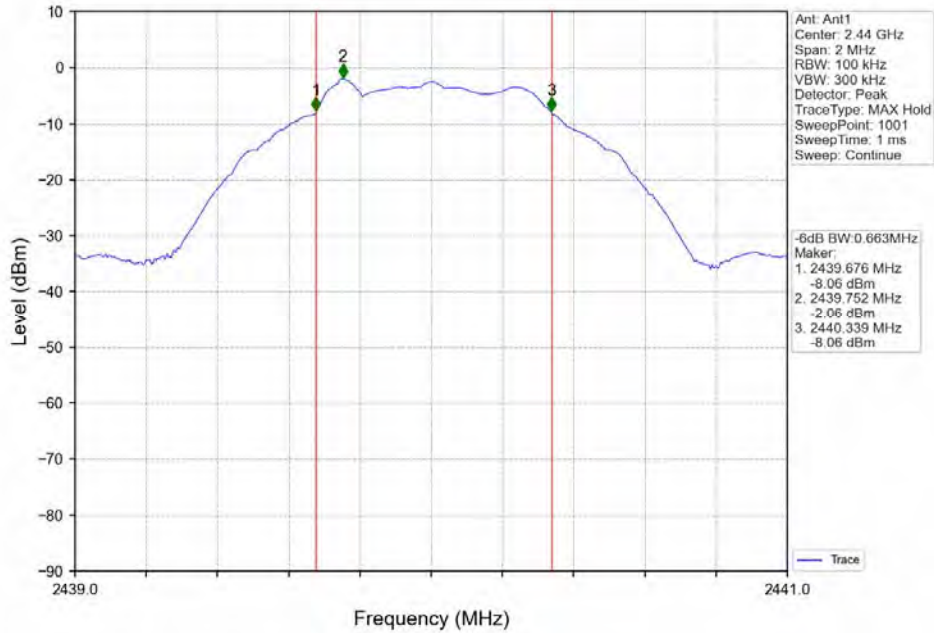




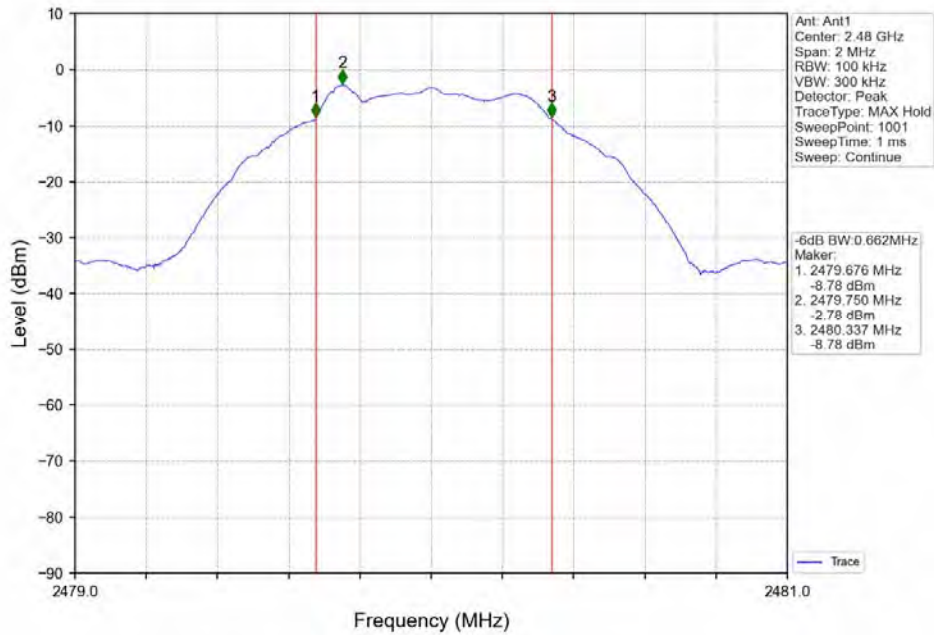
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S2_MCH_2440MHz_DataRate=_Ant1_NTNV



S2_HCH_2480MHz_DataRate=_Ant1_NTNV

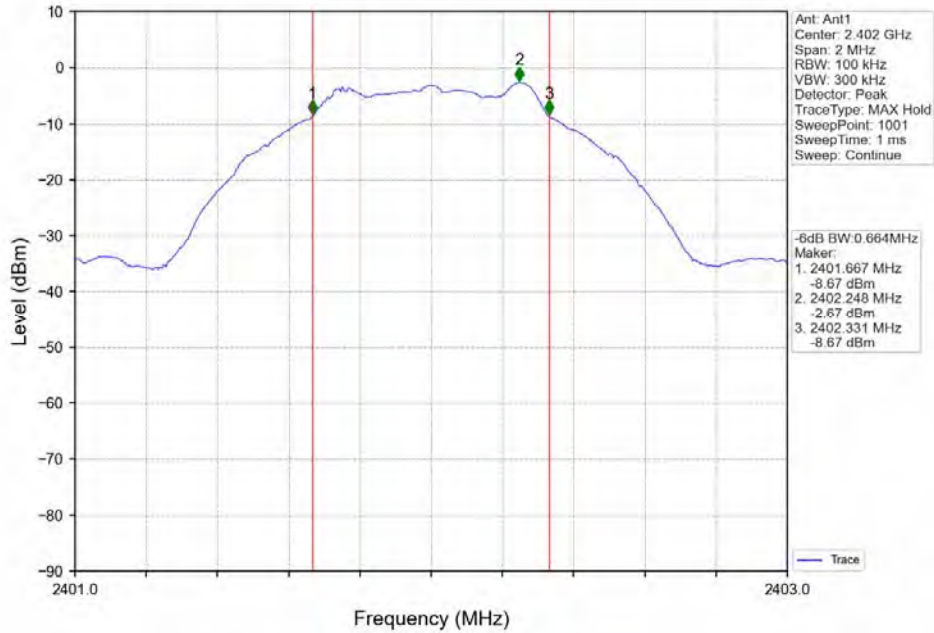




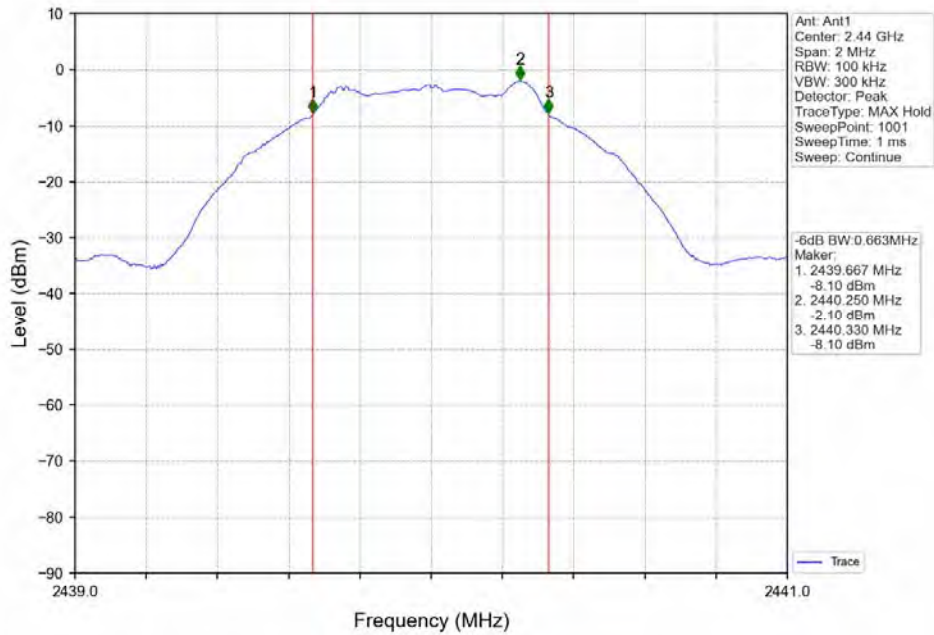
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_LCH_2402MHz_DataRate=_Ant1_NTNV



1M_MCH_2440MHz_DataRate=_Ant1_NTNV

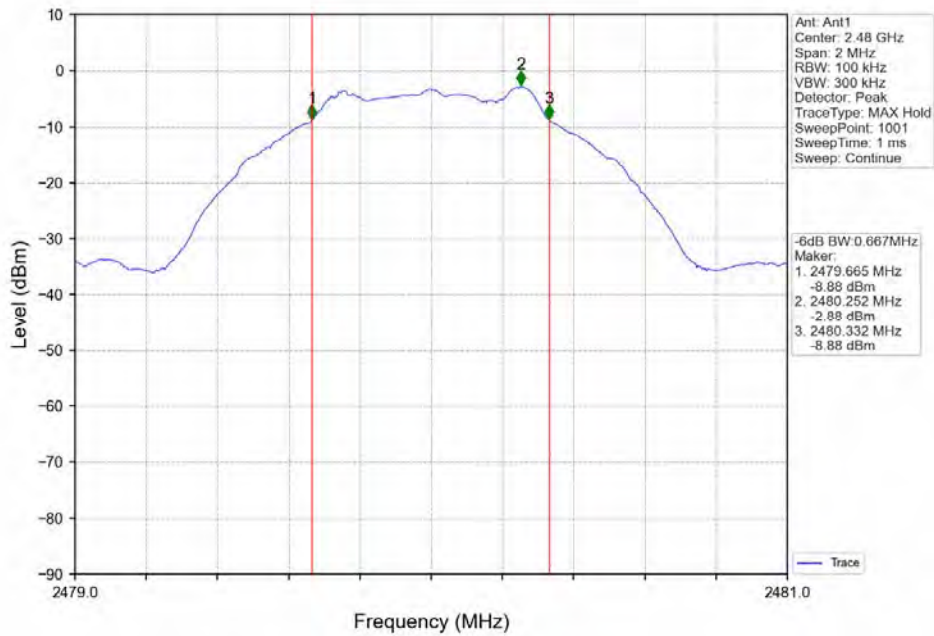




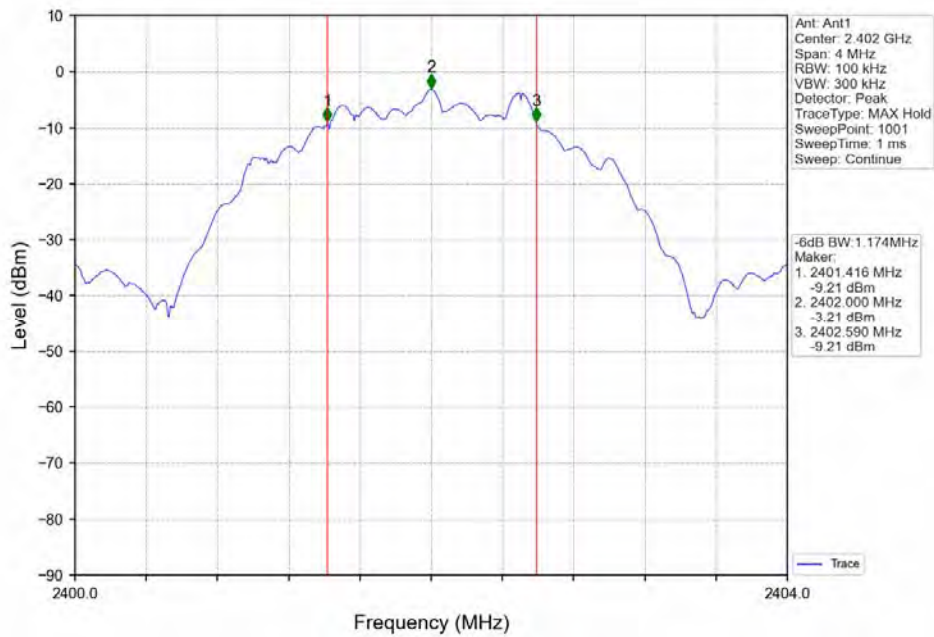
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

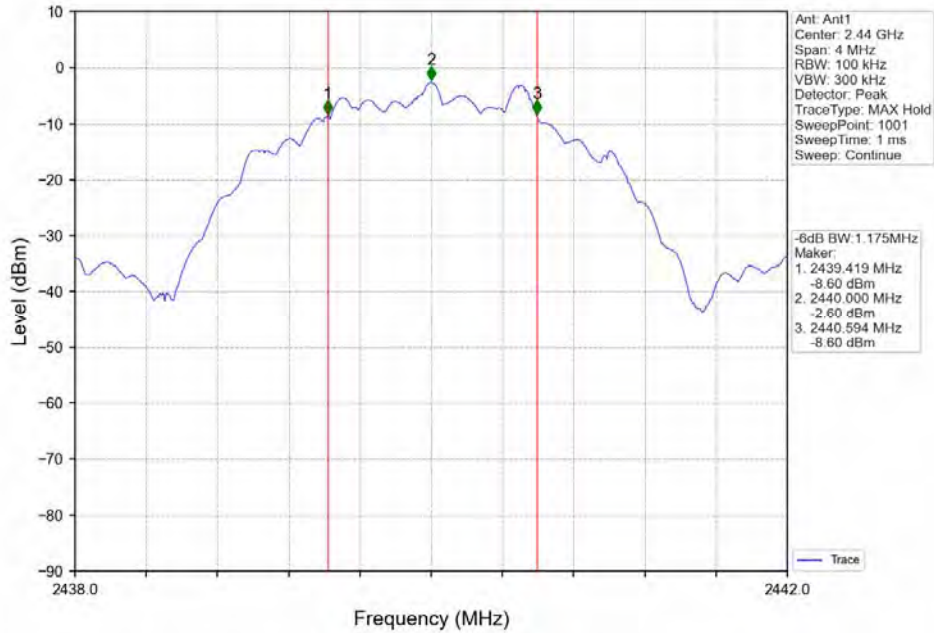




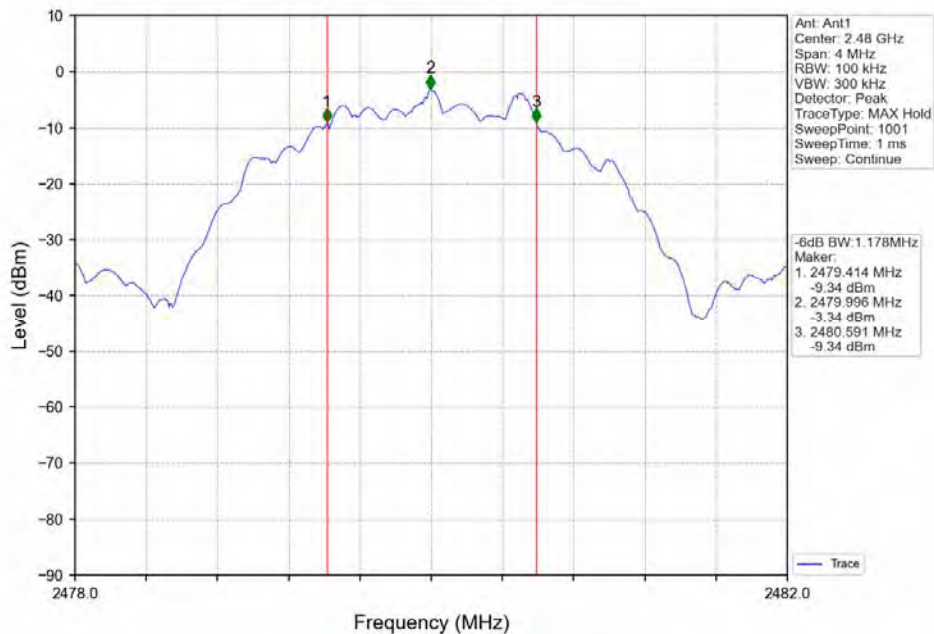
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

2M_MCH_2440MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV





Maximum Conducted Output Power

Peak Power

Test Result

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)			Verdict
			Ant1(dBm)	Ant1(mw)	Limit (mw)	
S8	SISO	2402	-2.56	0.542	<=1	Pass
		2440	-1.96	0.622	<=1	Pass
		2480	-2.79	0.526	<=1	Pass
S2	SISO	2402	-2.66	0.542	<=1	Pass
		2440	-2.10	0.617	<=1	Pass
		2480	-2.82	0.522	<=1	Pass
1M	SISO	2402	-2.71	0.536	<=1	Pass
		2440	-2.13	0.612	<=1	Pass
		2480	-2.86	0.518	<=1	Pass
2M	SISO	2402	-2.68	0.540	<=1	Pass
		2440	-2.06	0.622	<=1	Pass
		2480	-2.74	0.532	<=1	Pass

Note1: Antenna Gain: Ant1: 2.70dBi;

Average Power

Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			Verdict
			Ant1(dBm)	Ant1(mw)	Limit (mw)	
S8	SISO	2402	-2.62	0.542	<=1	Pass
		2440	-2.02	0.622	<=1	Pass
		2480	-2.88	0.526	<=1	Pass
S2	SISO	2402	-2.89	0.542	<=1	Pass
		2440	-2.31	0.617	<=1	Pass
		2480	-3.15	0.522	<=1	Pass
1M	SISO	2402	-3.19	0.536	<=1	Pass



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Test Report No.: W7L-220503W001RF02

		2440	-2.58	0.612	<=1	Pass
		2480	-3.45	0.518	<=1	Pass
2M	SISO	2402	-4.89	0.540	<=1	Pass
		2440	-4.28	0.622	<=1	Pass
		2480	-5.15	0.532	<=1	Pass

Note1: Antenna Gain: Ant1: 2.70dBi;



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Test Report No.: W7L-220503W001RF02

Maximum Power Spectral Density

PSD

Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			Ant1	Limit	
S8	SISO	2402	-8.83	<=8	Pass
		2440	-8.24	<=8	Pass
		2480	-8.97	<=8	Pass
S2	SISO	2402	-9.34	<=8	Pass
		2440	-8.41	<=8	Pass
		2480	-9.11	<=8	Pass
1M	SISO	2402	-18.81	<=8	Pass
		2440	-18.29	<=8	Pass
		2480	-18.95	<=8	Pass
2M	SISO	2402	-22.21	<=8	Pass
		2440	-20.68	<=8	Pass
		2480	-21.73	<=8	Pass

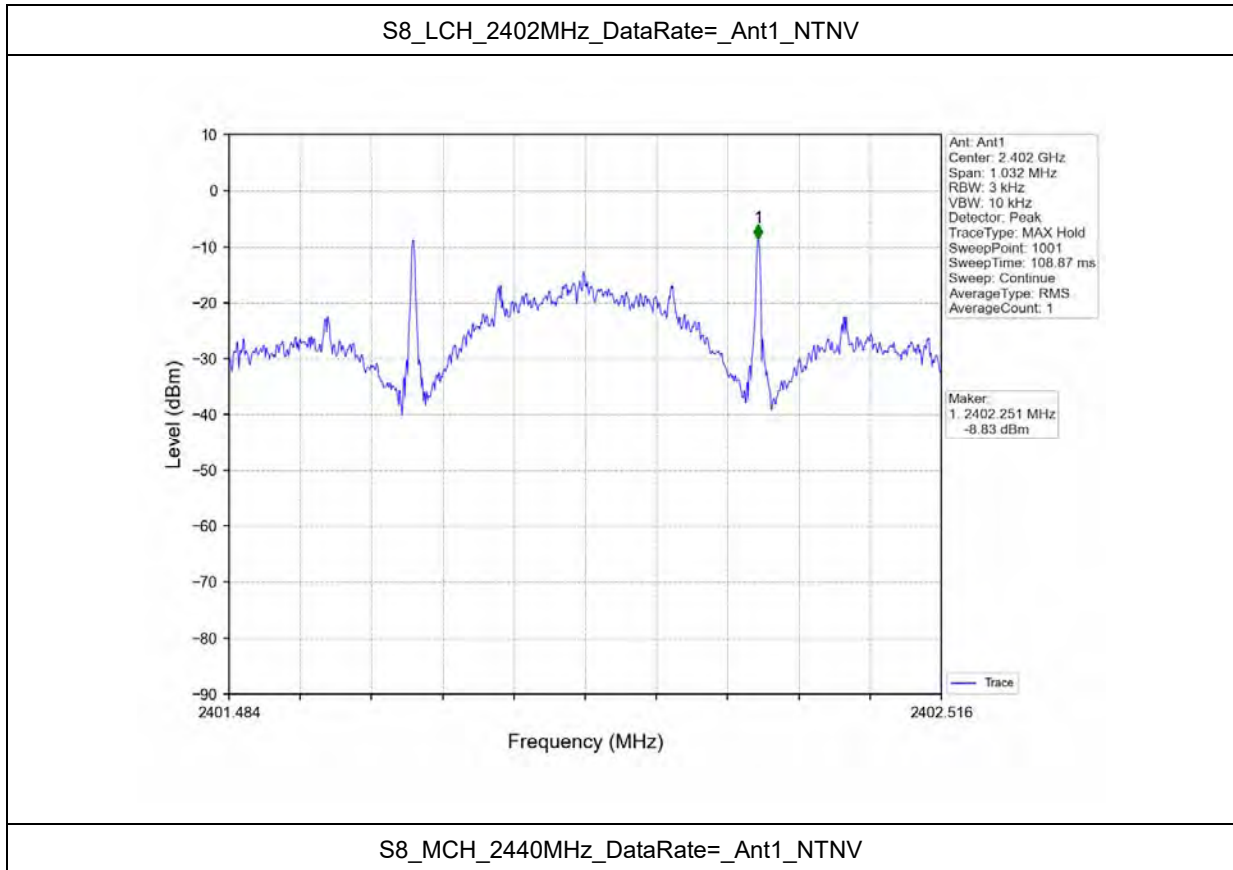
Note1: Antenna Gain: Ant1: 2.70dBi;



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

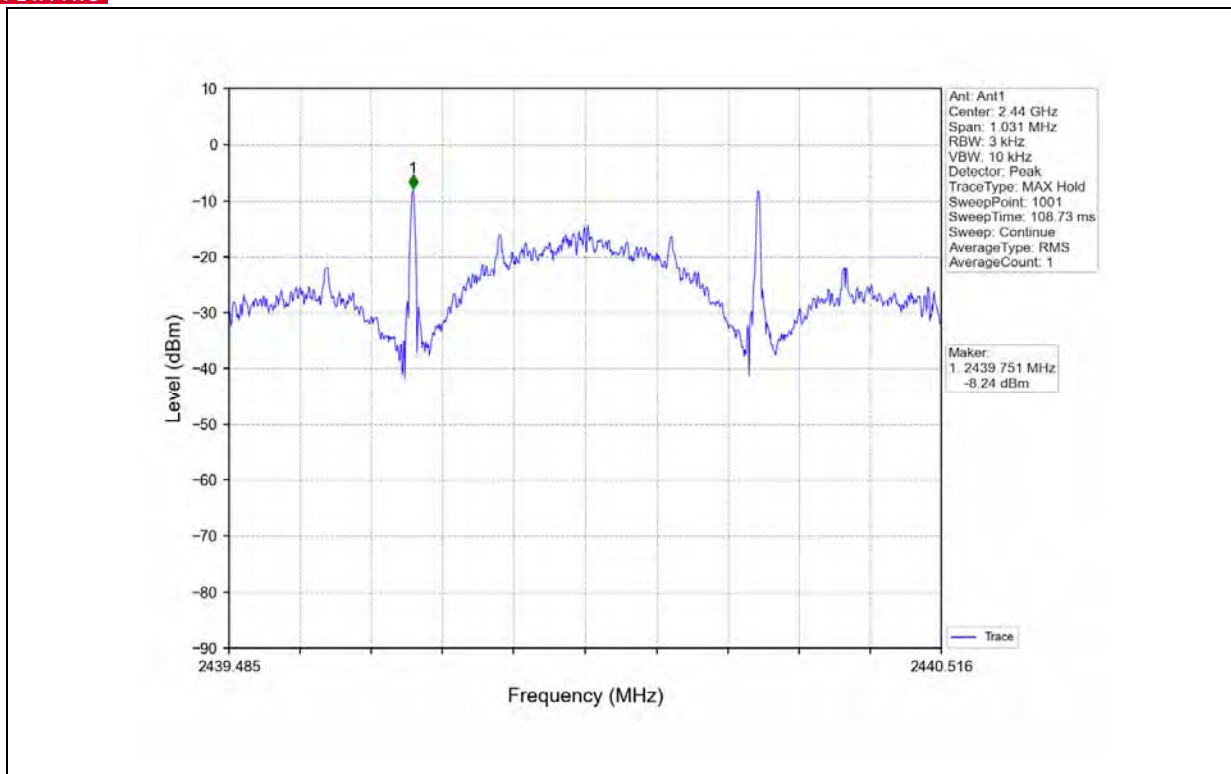
Test Graph





**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

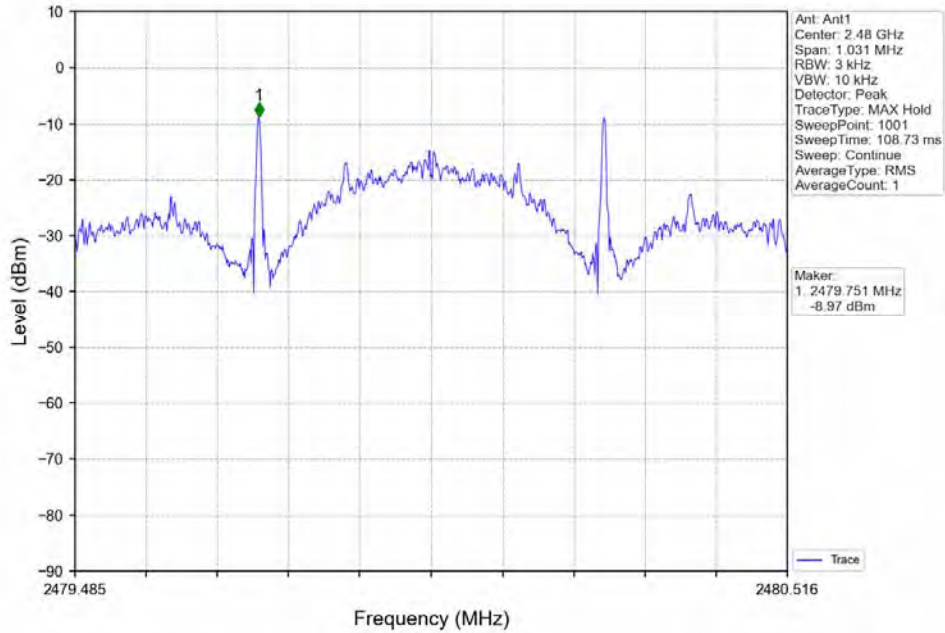




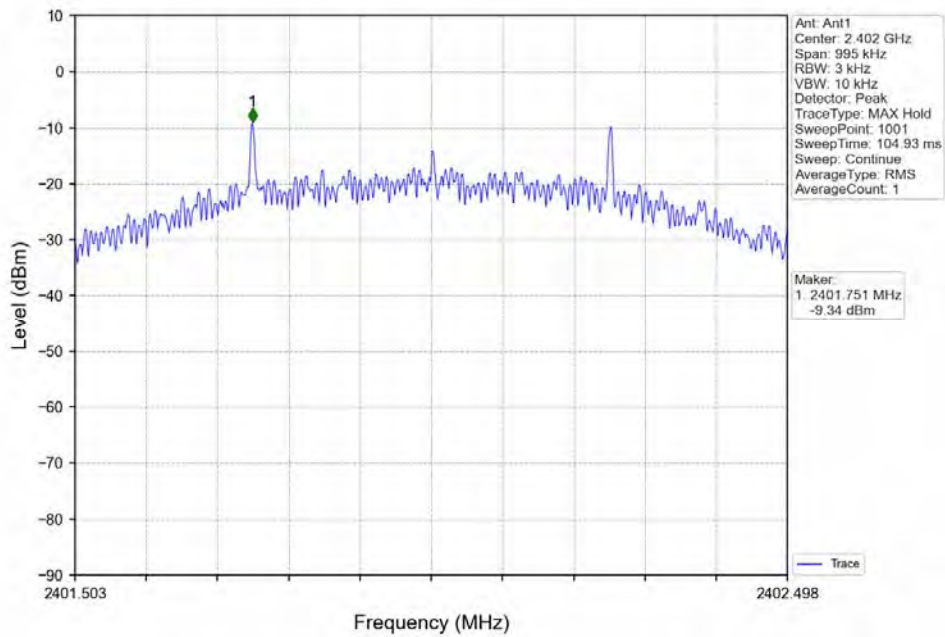
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

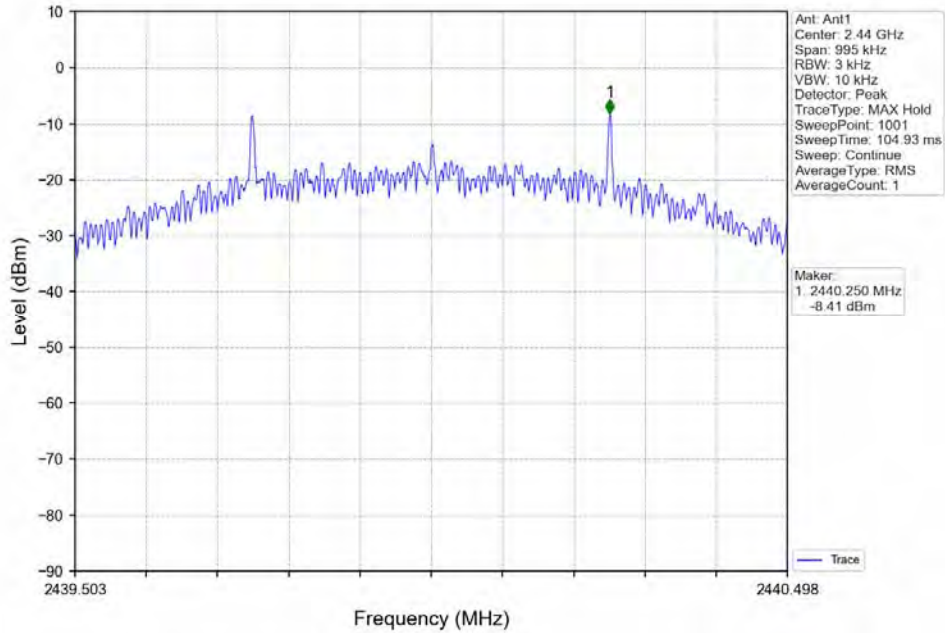




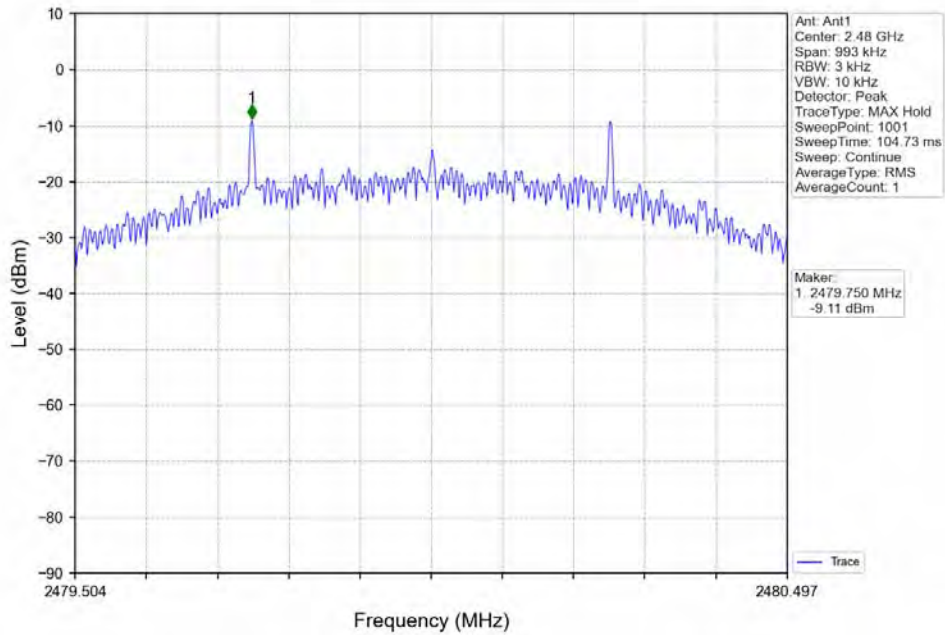
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S2_MCH_2440MHz_DataRate=_Ant1_NTNV



S2_HCH_2480MHz_DataRate=_Ant1_NTNV

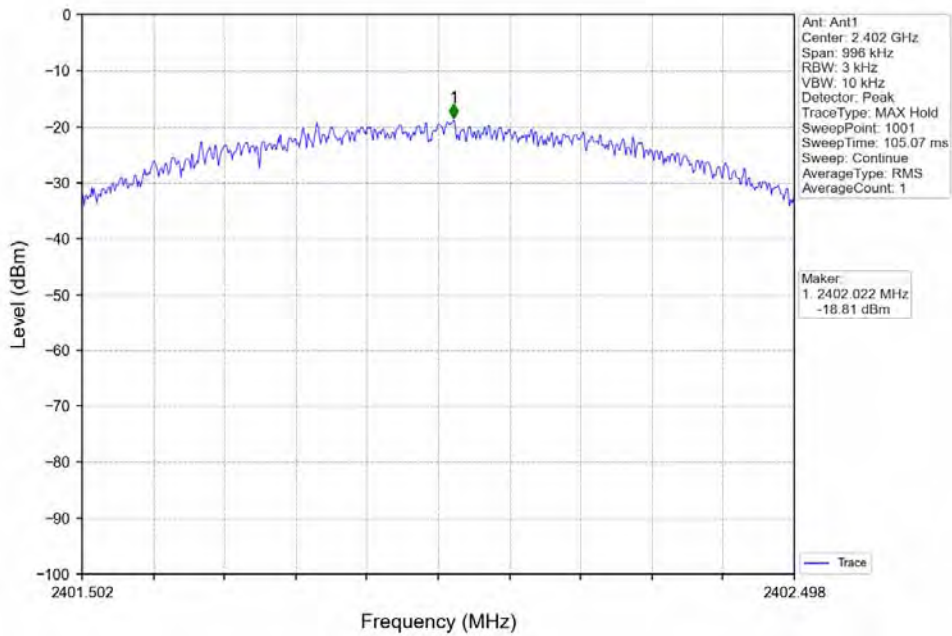




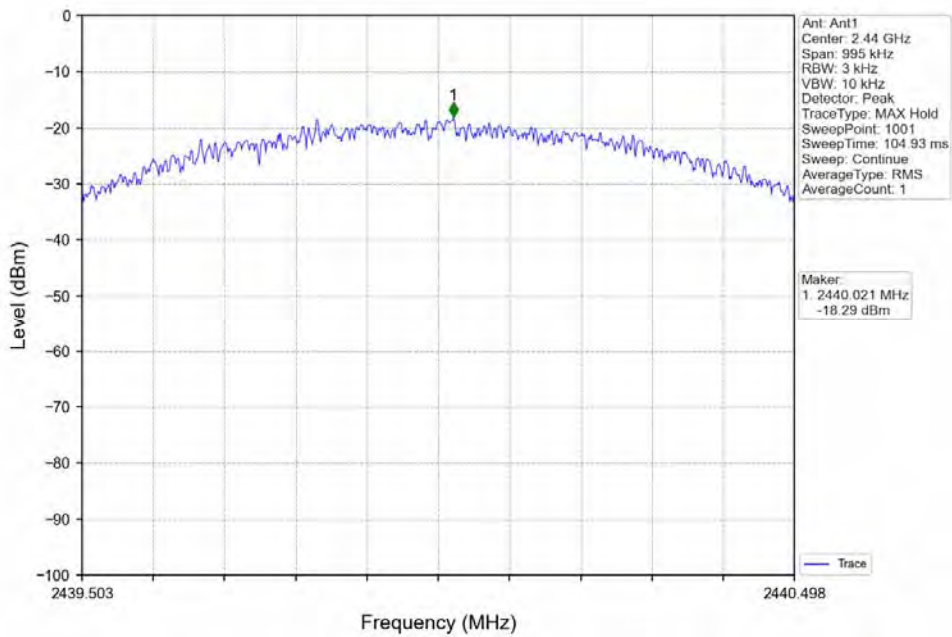
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_LCH_2402MHz_DataRate=_Ant1_NTNV



1M_MCH_2440MHz_DataRate=_Ant1_NTNV

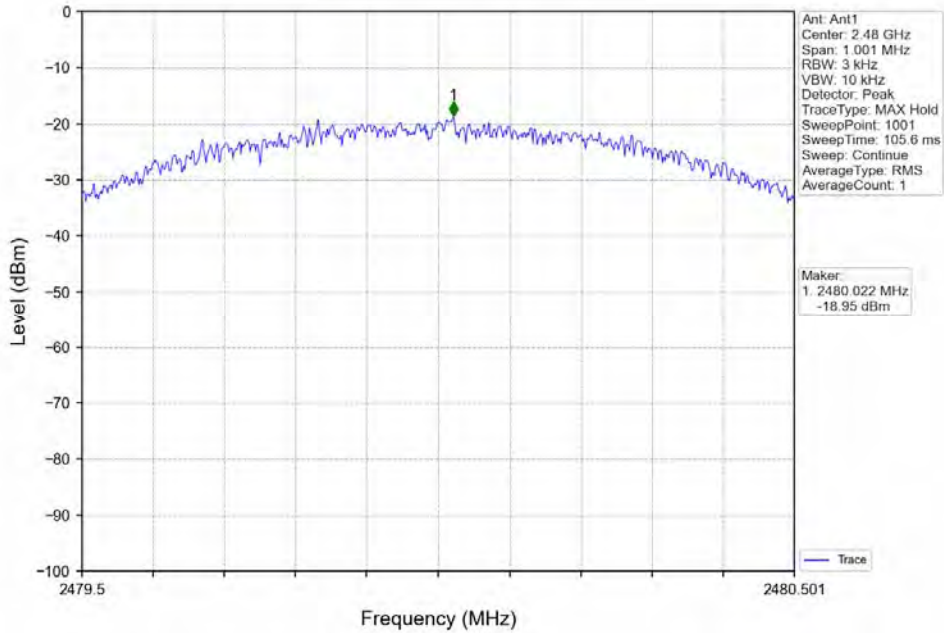




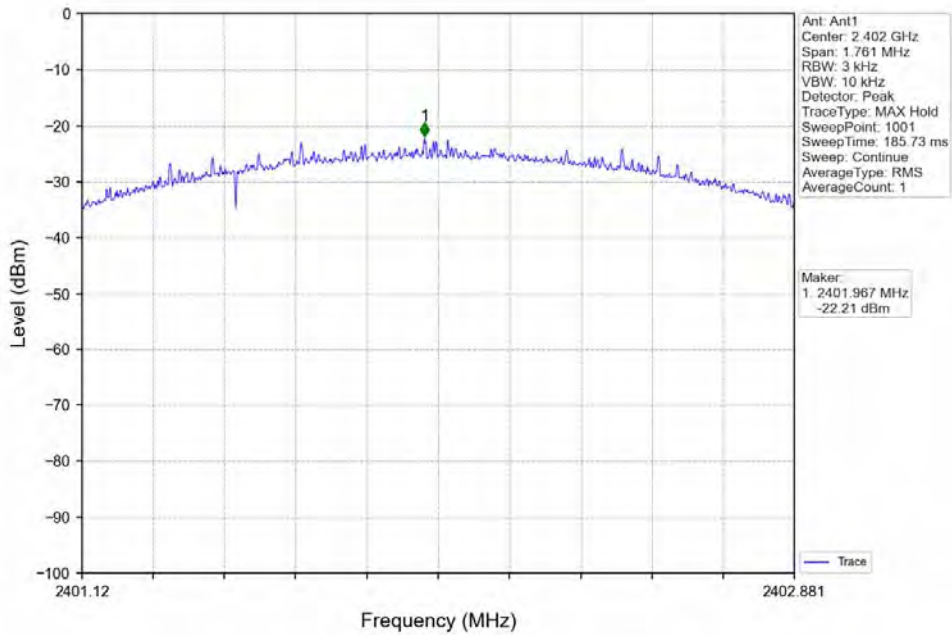
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

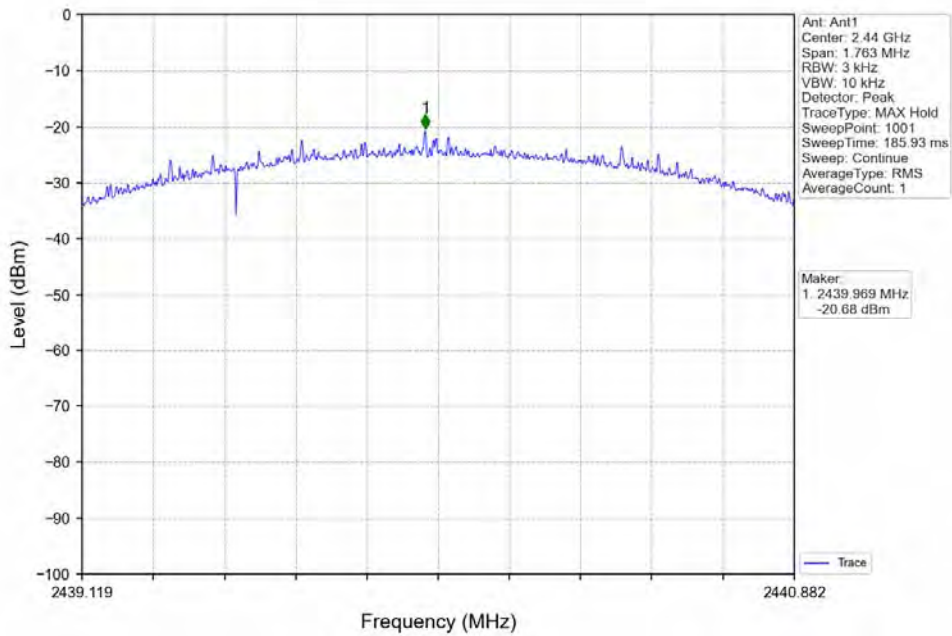




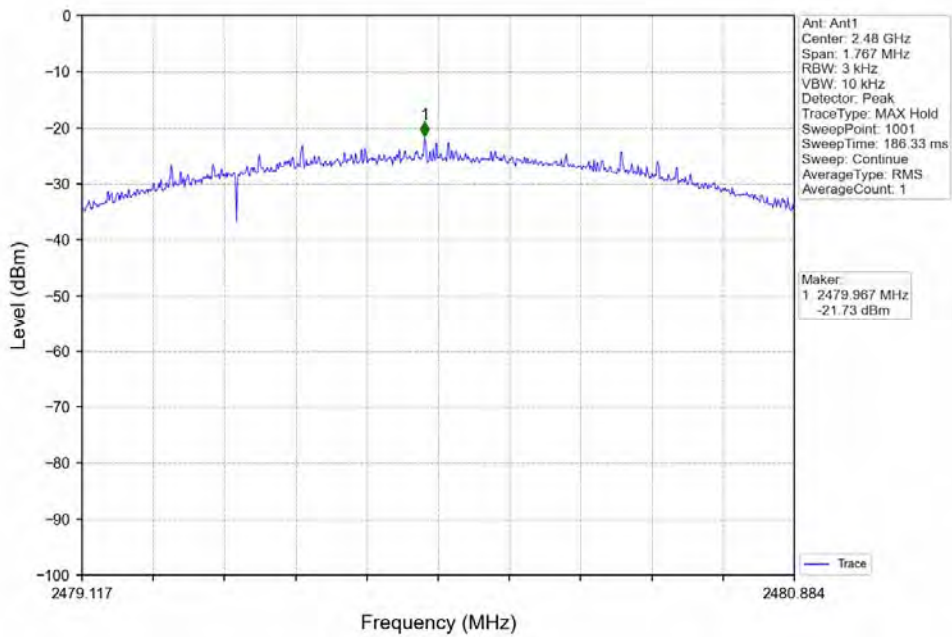
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

2M_MCH_2440MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV





**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

Unwanted Emissions In Non-restricted Frequency Bands

Ref

Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
S8	SISO	2402	1	-5.95
		2440	1	-5.35
		2480	1	-6.08
S2	SISO	2402	1	-2.66
		2440	1	-2.07
		2480	1	-2.88
1M	SISO	2402	1	-2.67
		2440	1	-2.09
		2480	1	-2.87
2M	SISO	2402	1	-3.22
		2440	1	-2.62
		2480	1	-3.33

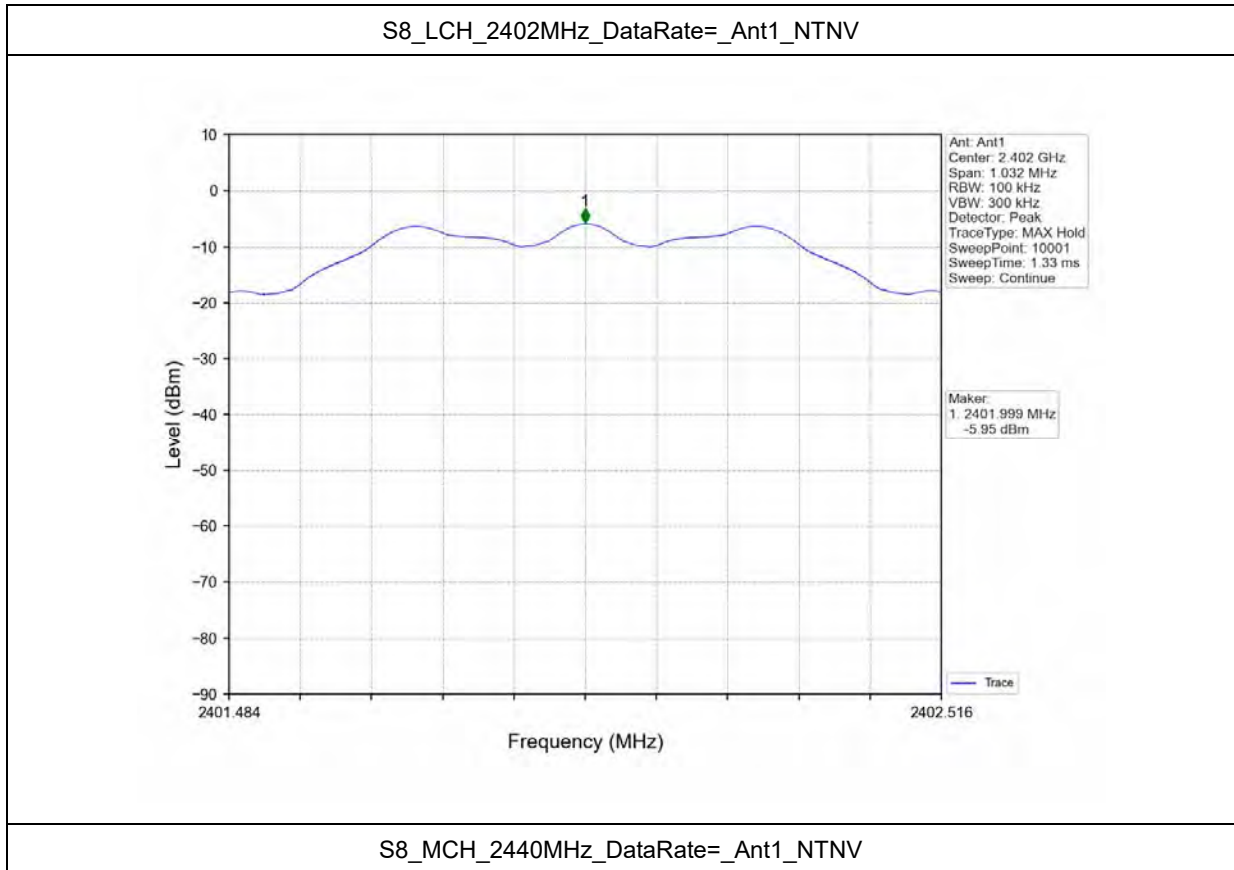
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

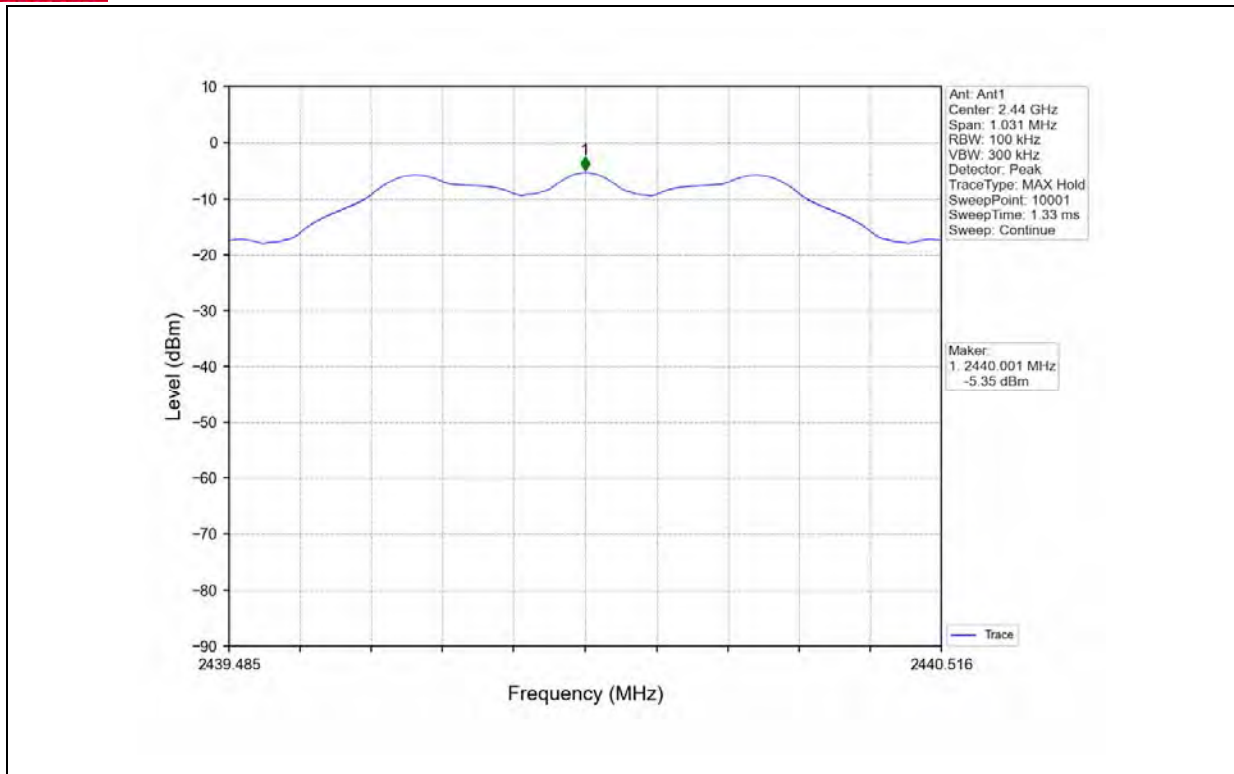
Test Graph





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VERITAS**

Test Report No.: W7L-220503W001RF02

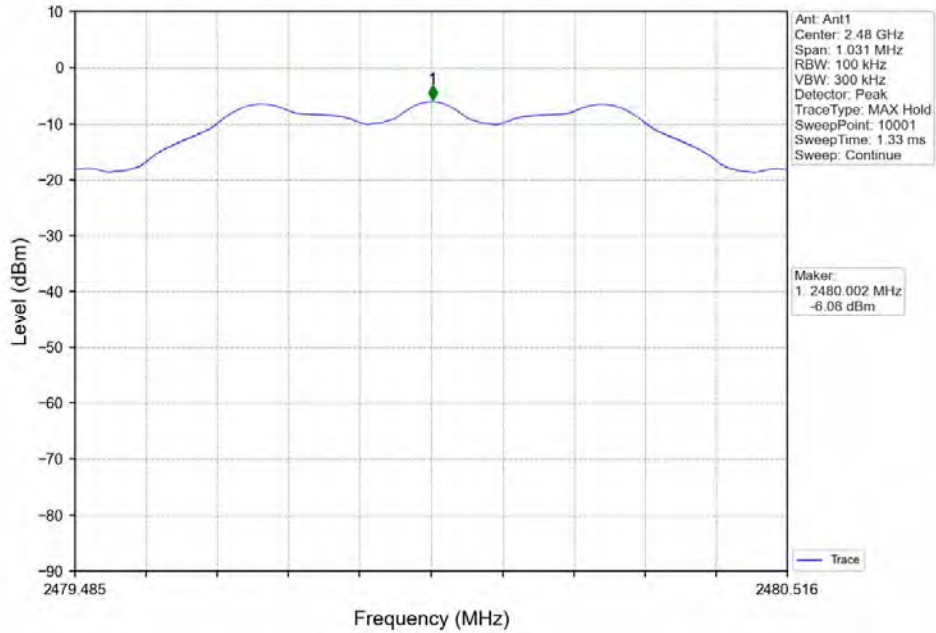




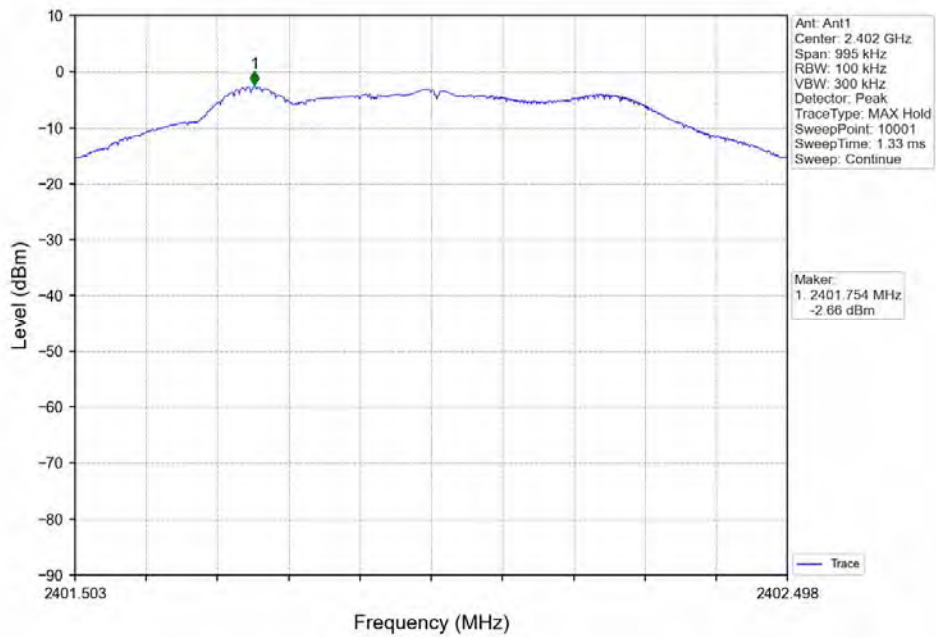
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

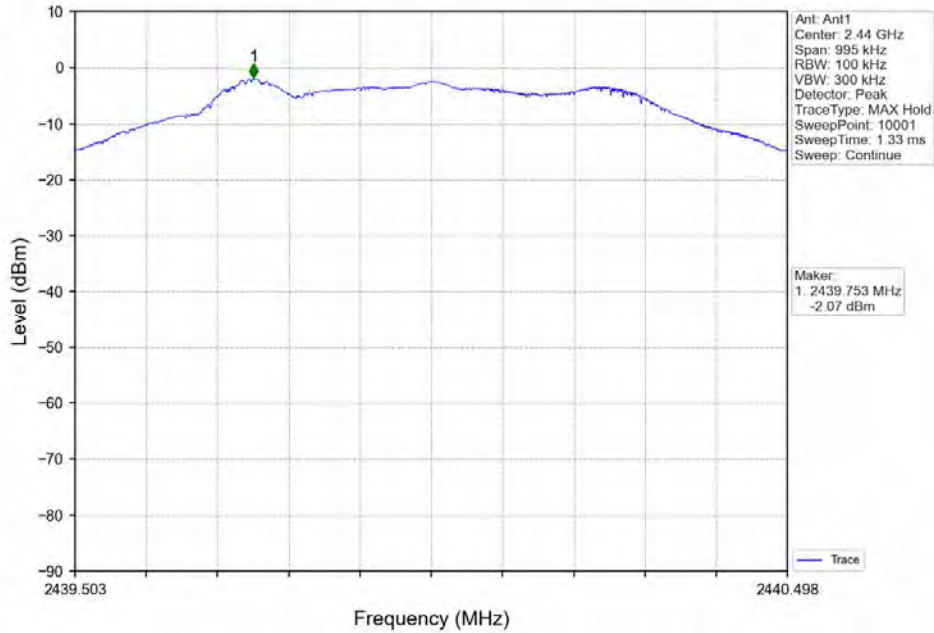




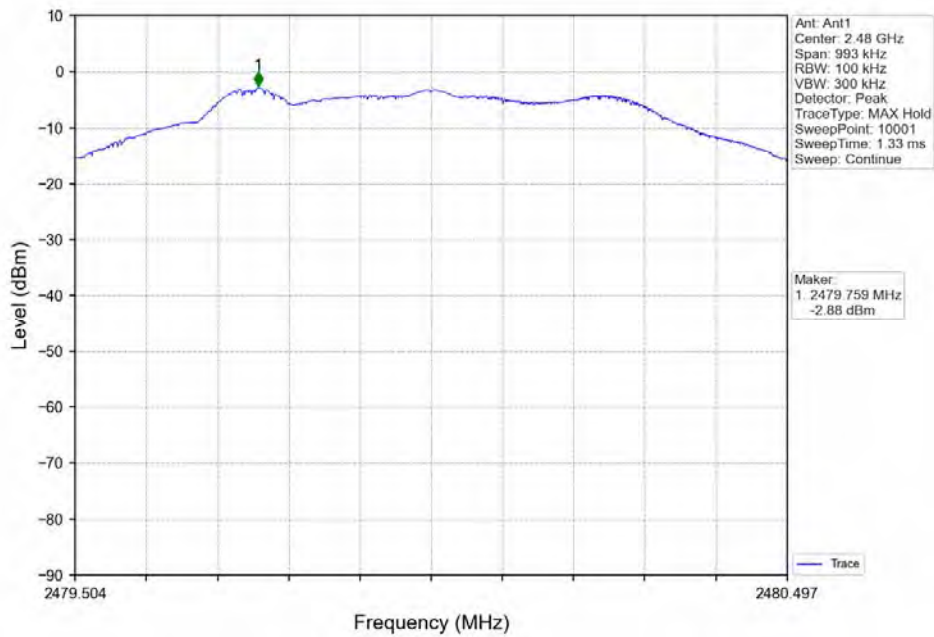
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S2_MCH_2440MHz_DataRate=_Ant1_NTNV



S2_HCH_2480MHz_DataRate=_Ant1_NTNV

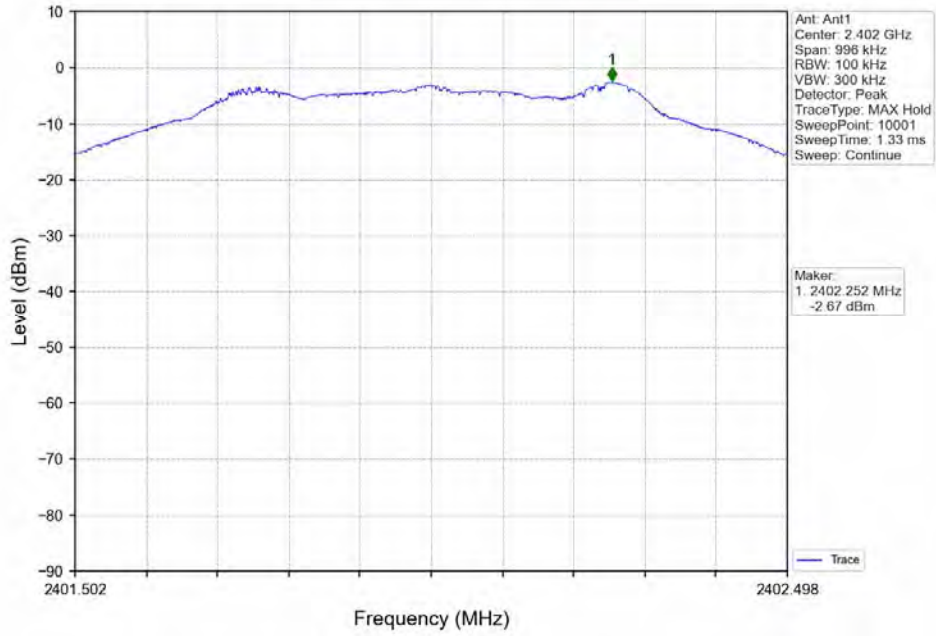




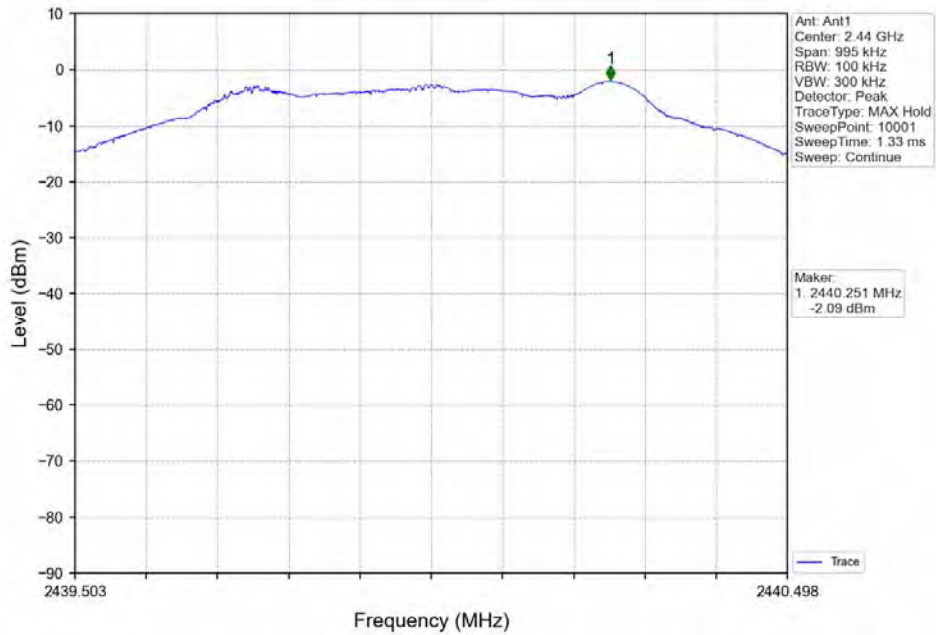
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_LCH_2402MHz_DataRate=_Ant1_NTNV



1M_MCH_2440MHz_DataRate=_Ant1_NTNV

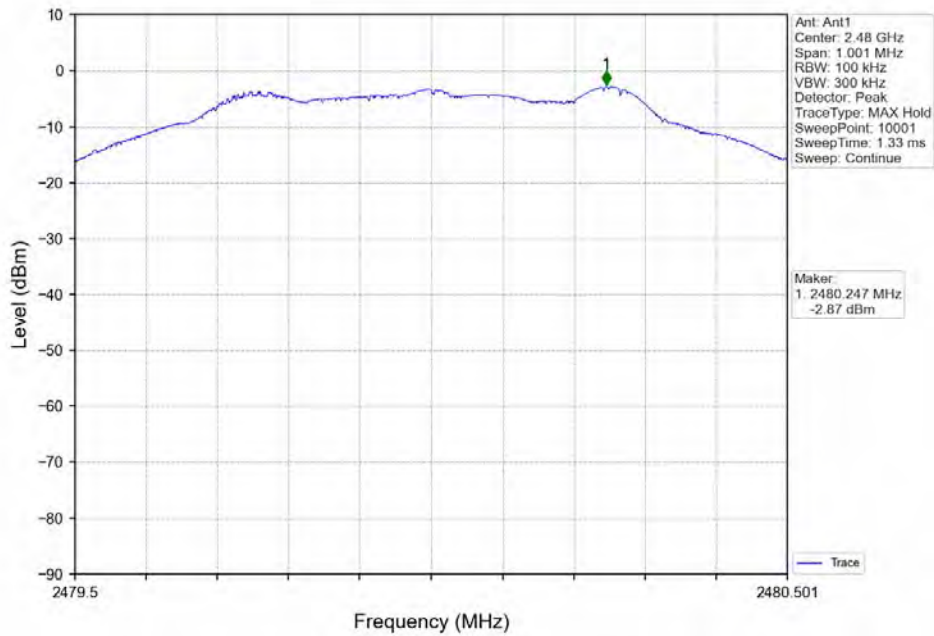




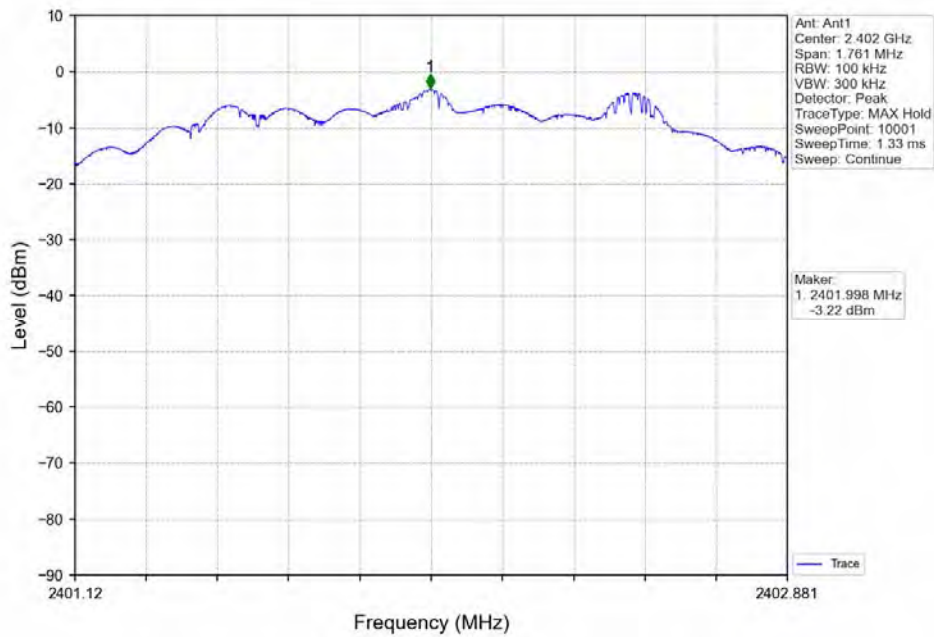
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

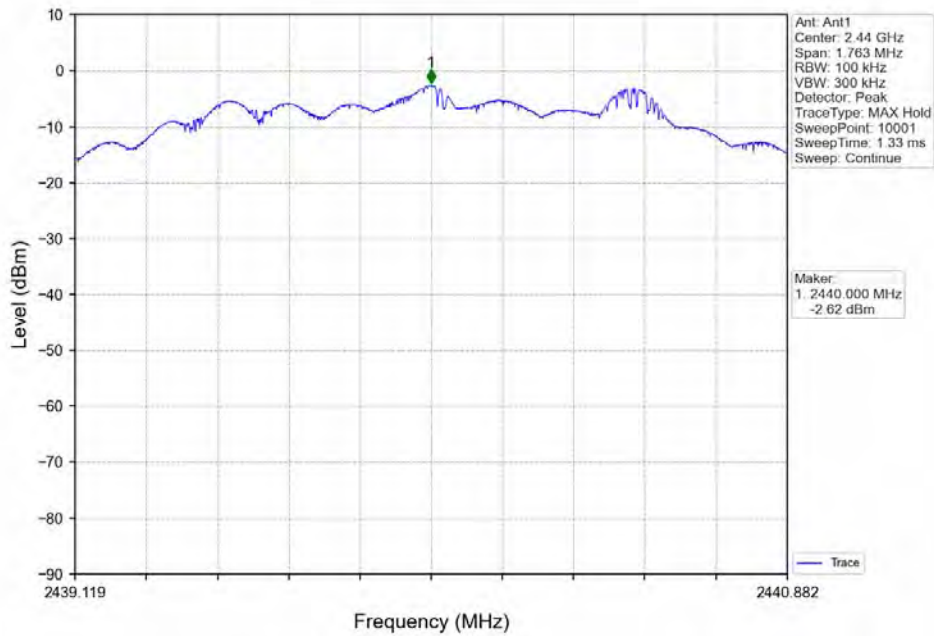




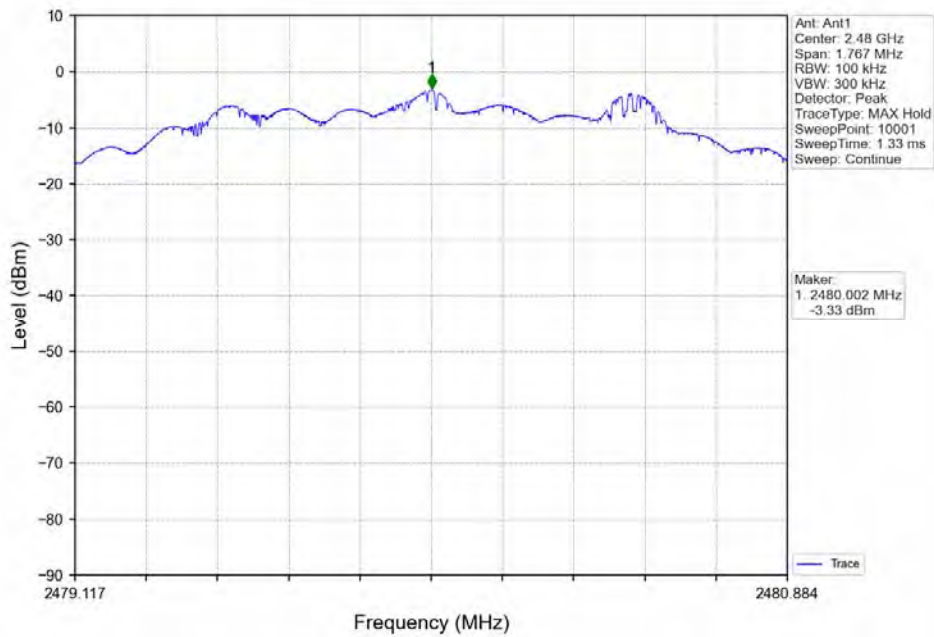
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

2M_MCH_2440MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV





CSE

Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
S8	SISO	2402	1	-5.35	-25.35	Pass
		2440	1	-5.35	-25.35	Pass
		2480	1	-5.35	-25.35	Pass
S2	SISO	2402	1	-2.07	-22.07	Pass
		2440	1	-2.07	-22.07	Pass
		2480	1	-2.07	-22.07	Pass
1M	SISO	2402	1	-2.09	-22.09	Pass
		2440	1	-2.09	-22.09	Pass
		2480	1	-2.09	-22.09	Pass
2M	SISO	2402	1	-2.62	-22.62	Pass
		2440	1	-2.62	-22.62	Pass
		2480	1	-2.62	-22.62	Pass

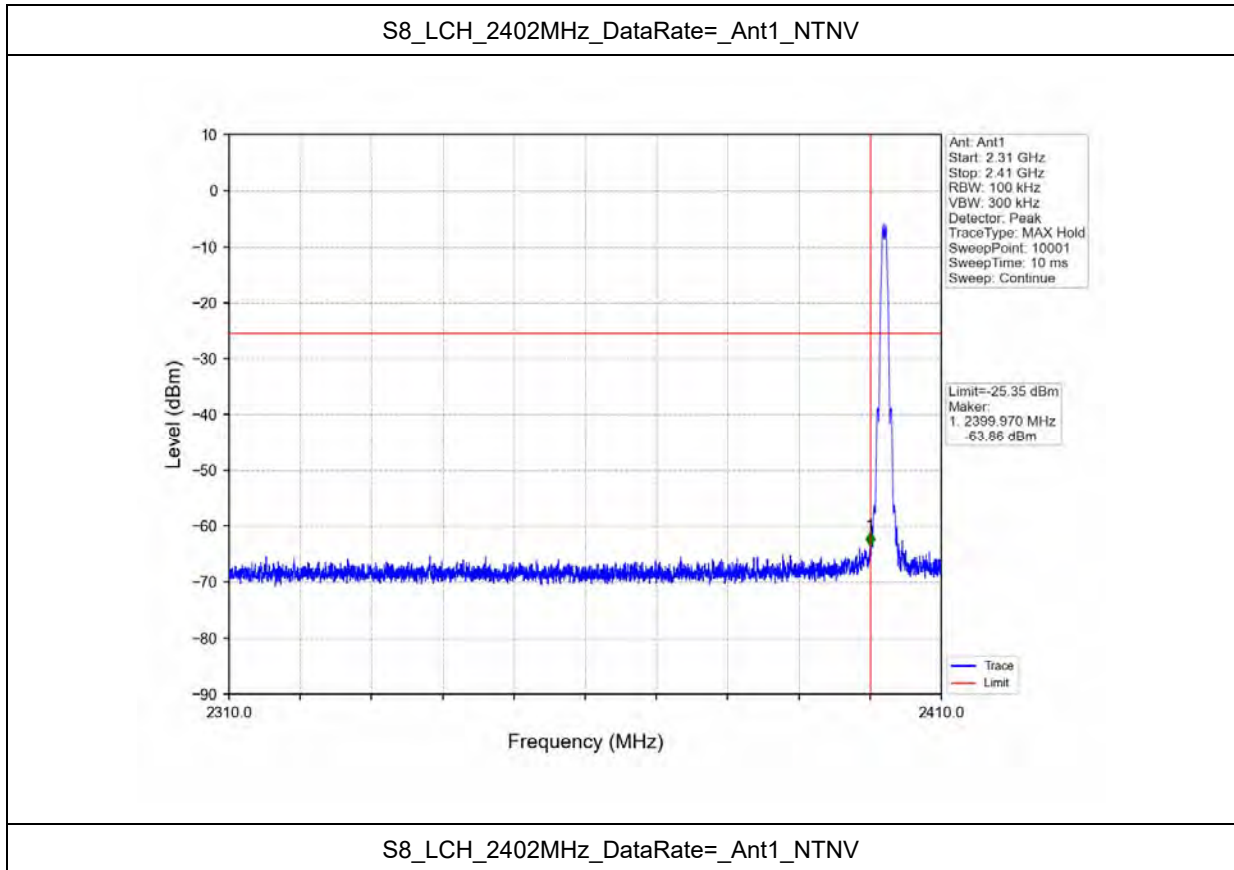
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

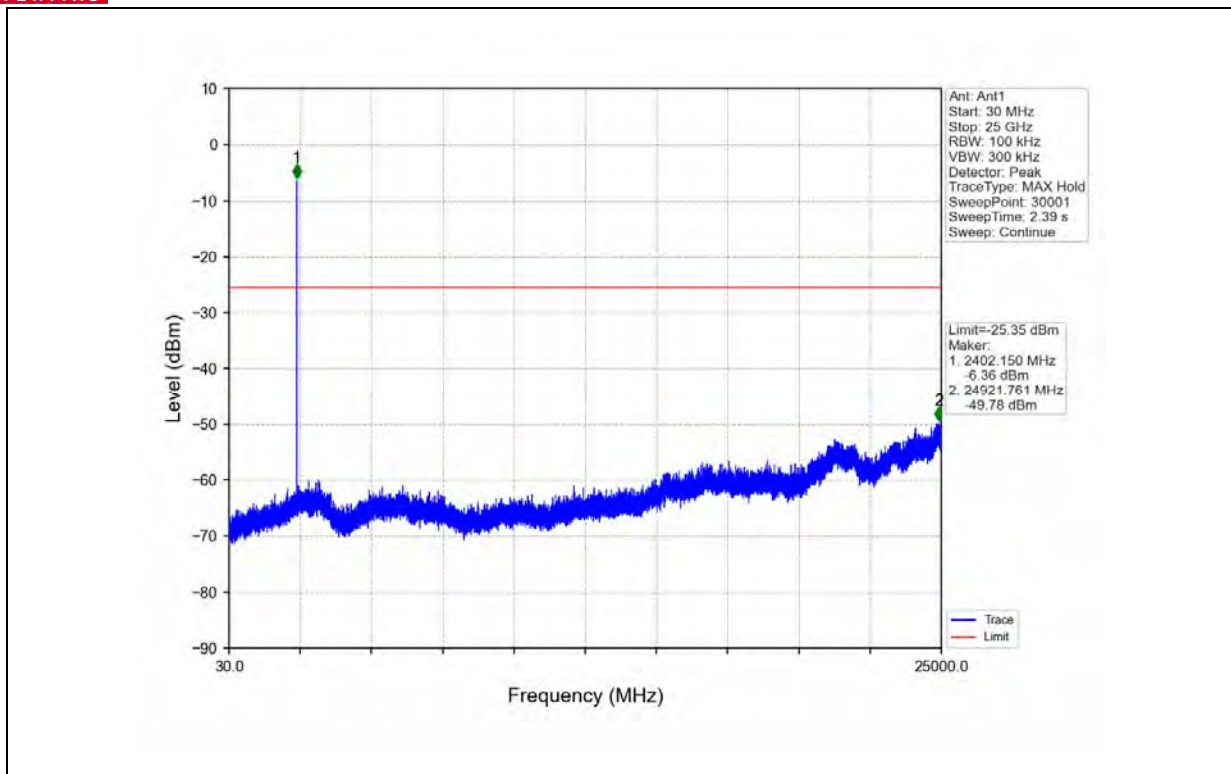
Test Graph





**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

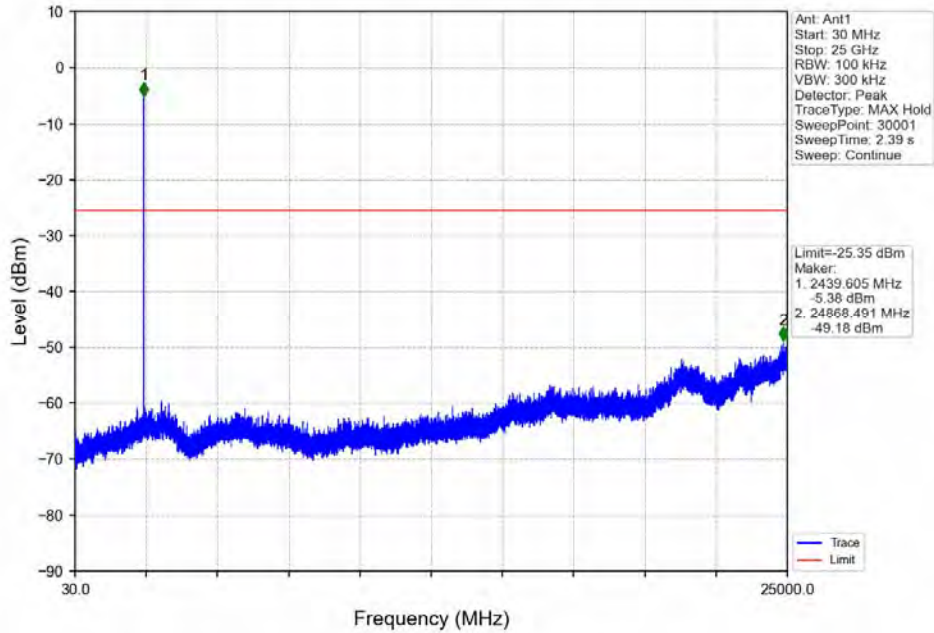




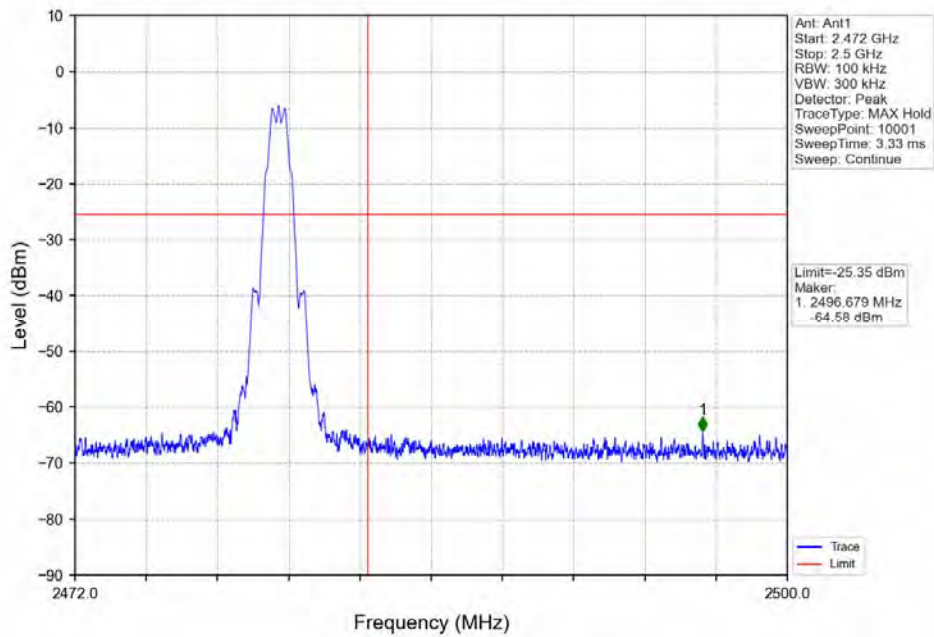
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S8_MCH_2440MHz_DataRate=_Ant1_NTNV



S8_HCH_2480MHz_DataRate=_Ant1_NTNV

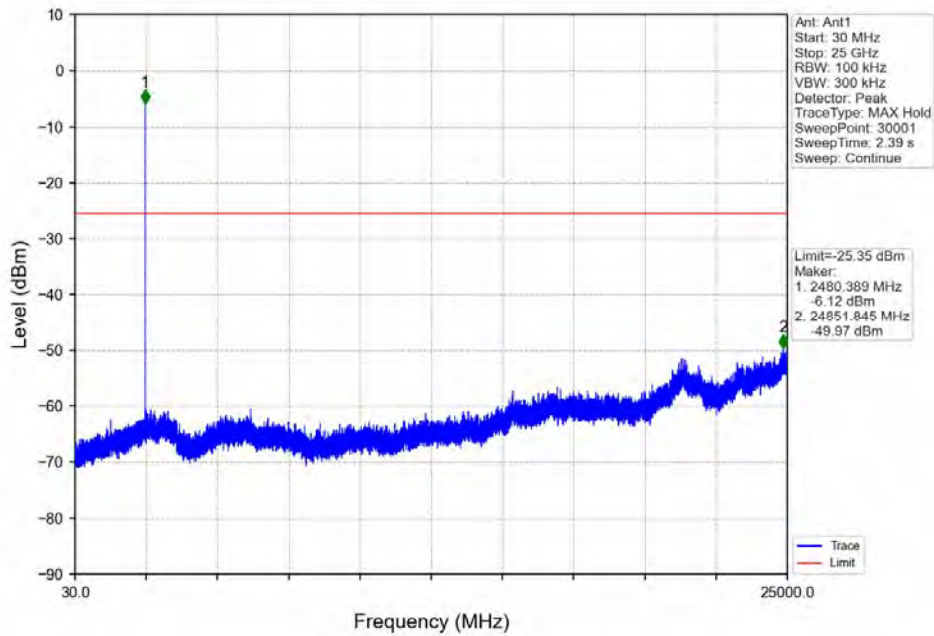




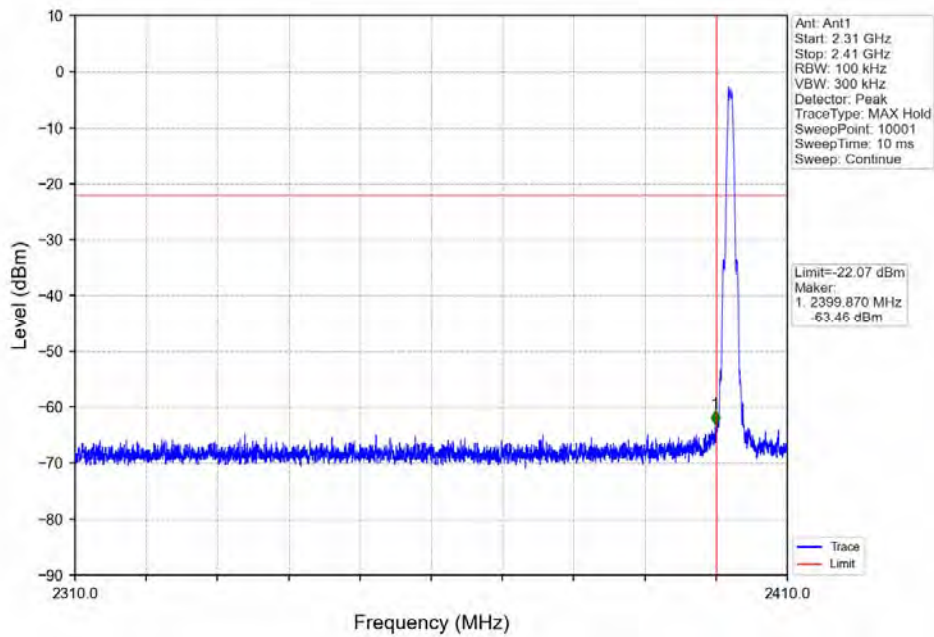
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

S8_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_LCH_2402MHz_DataRate=_Ant1_NTNV

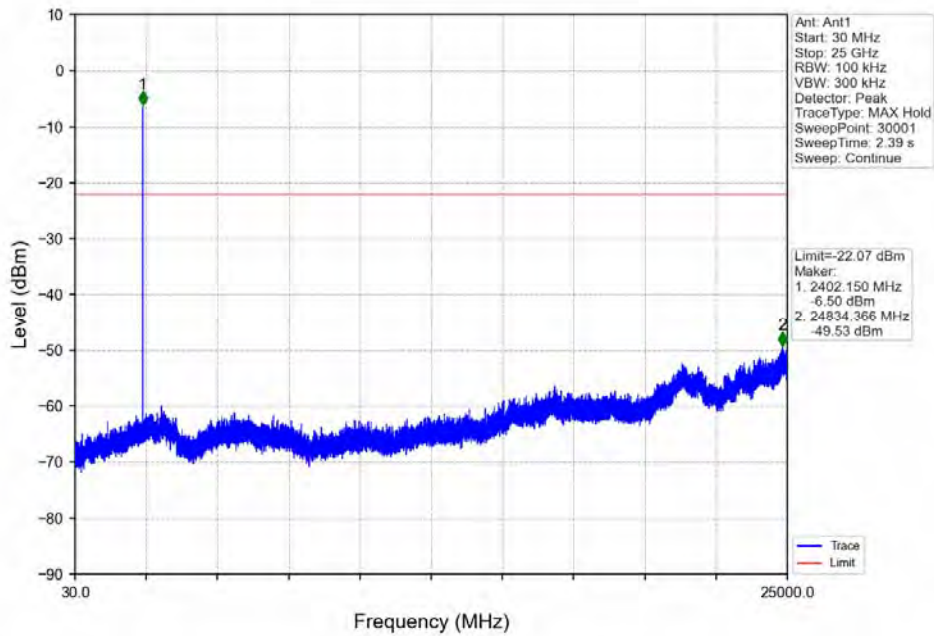




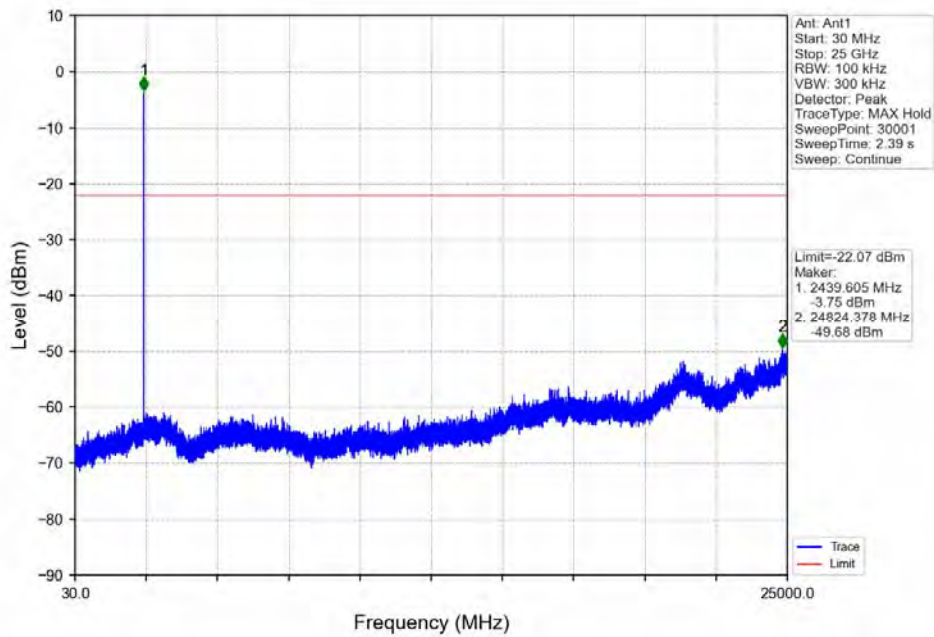
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S2_LCH_2402MHz_DataRate=_Ant1_NTNV



S2_MCH_2440MHz_DataRate=_Ant1_NTNV

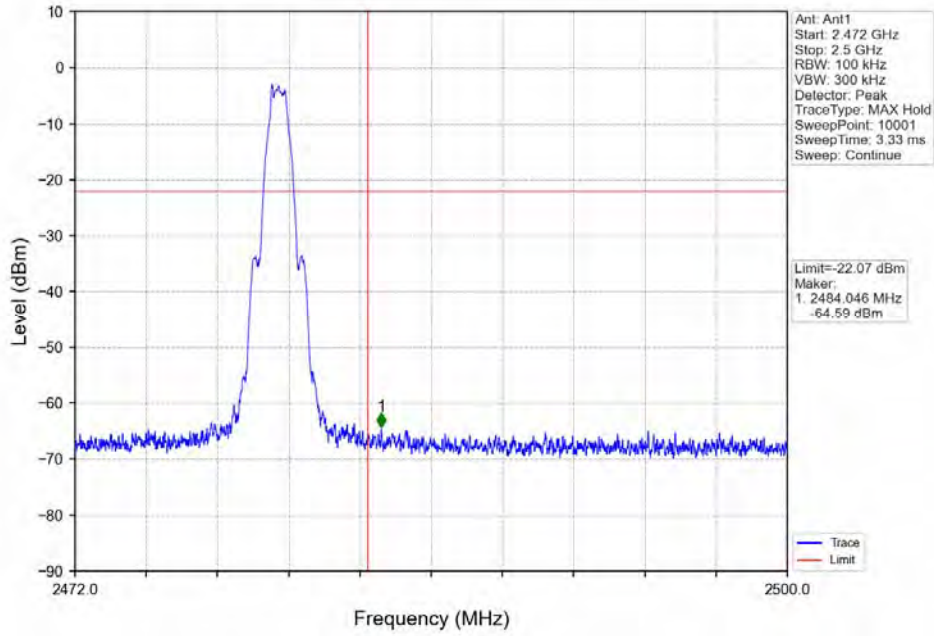




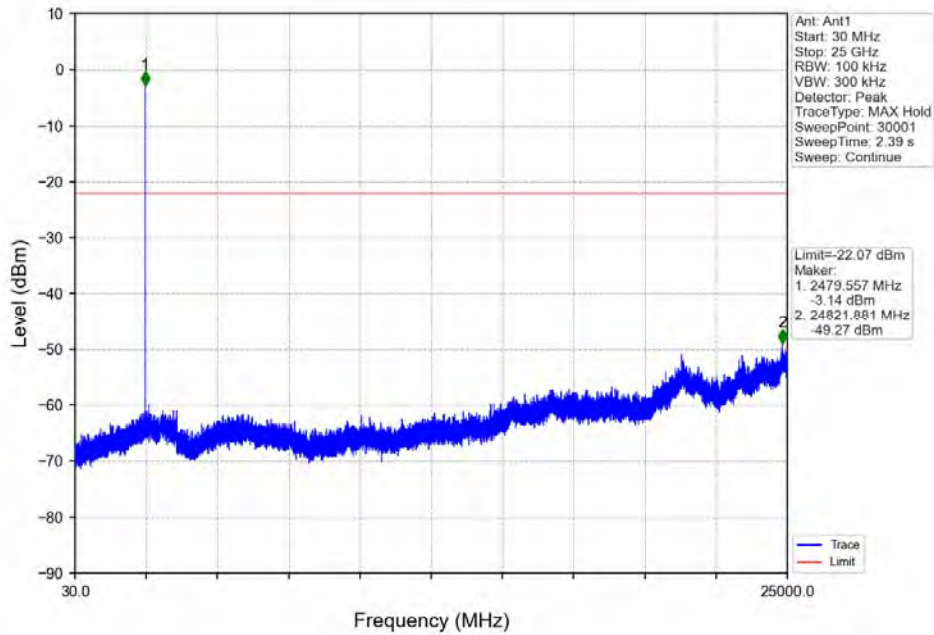
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

S2_HCH_2480MHz_DataRate=_Ant1_NTNV



S2_HCH_2480MHz_DataRate=_Ant1_NTNV

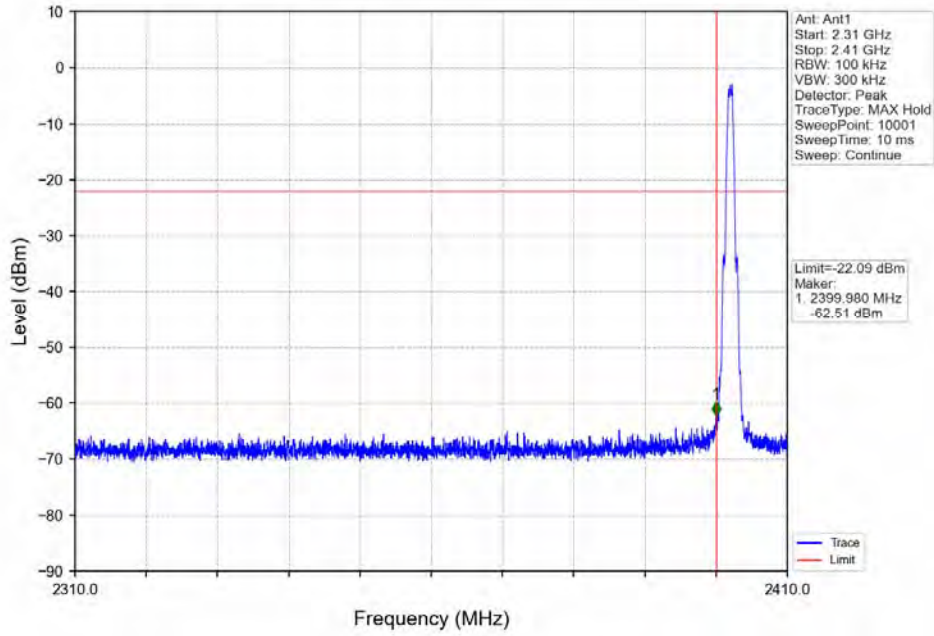




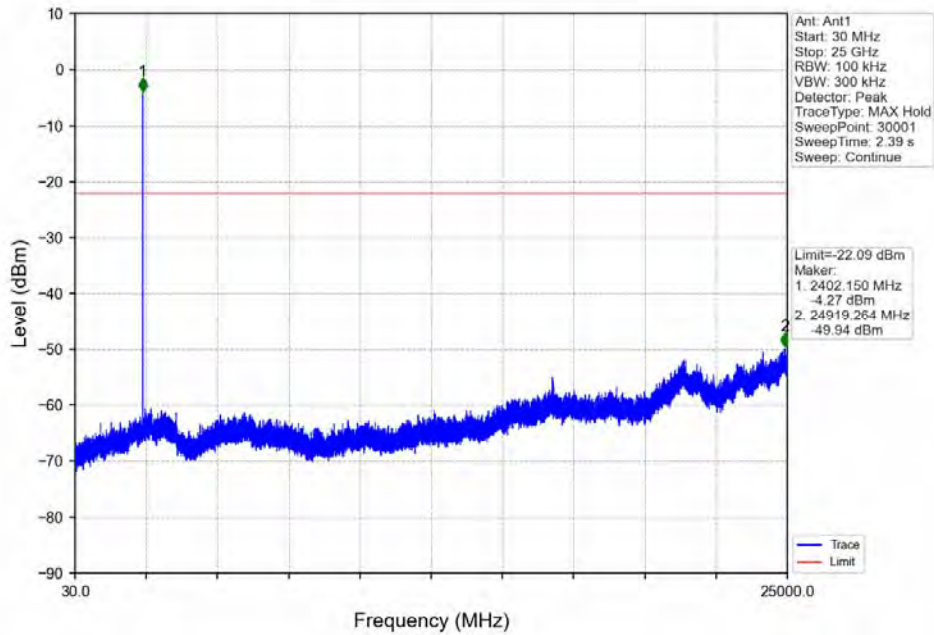
**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

1M_LCH_2402MHz_DataRate=_Ant1_NTNV



1M_LCH_2402MHz_DataRate=_Ant1_NTNV

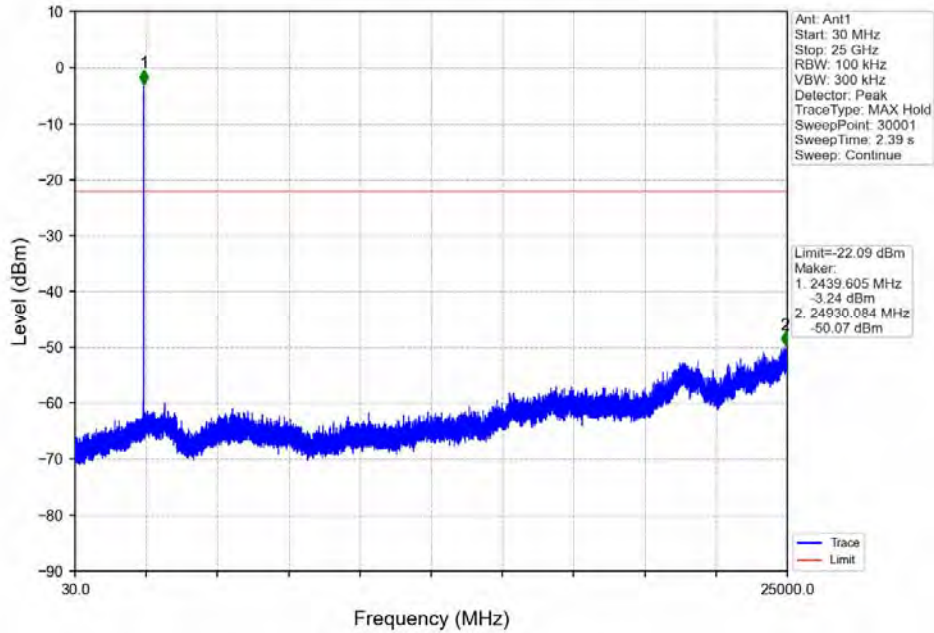




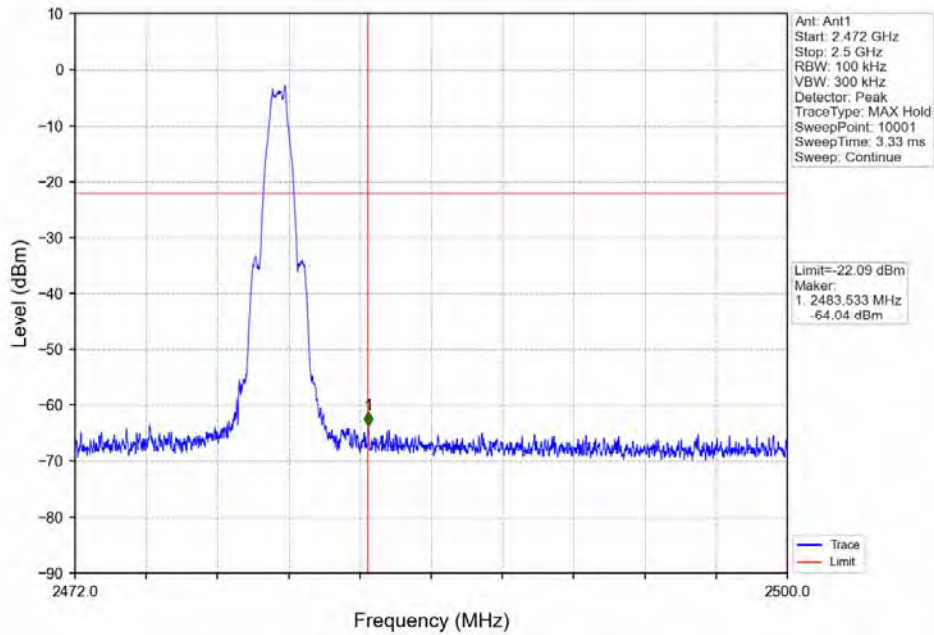
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

1M_MCH_2440MHz_DataRate=_Ant1_NTNV

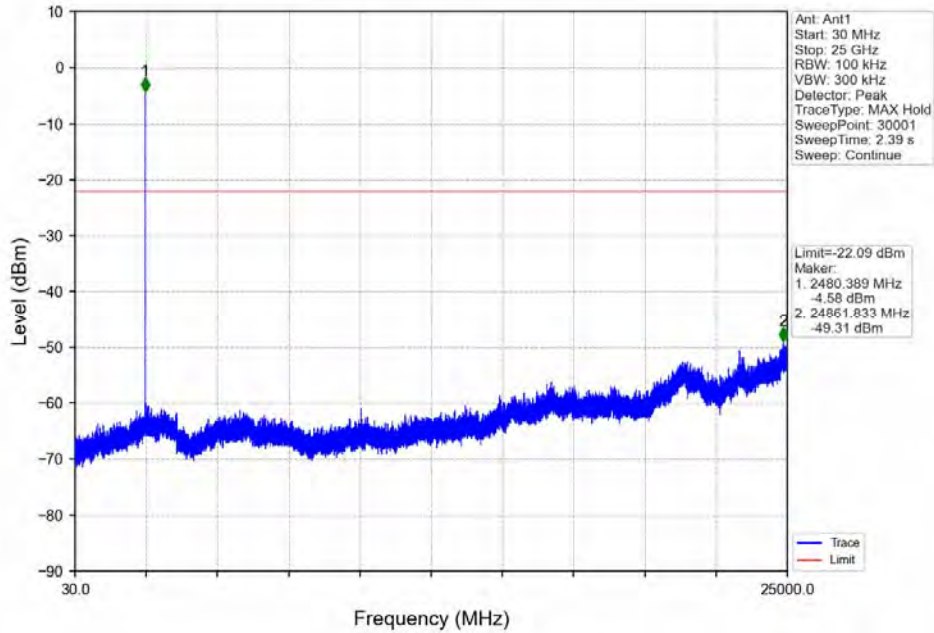


1M_HCH_2480MHz_DataRate=_Ant1_NTNV

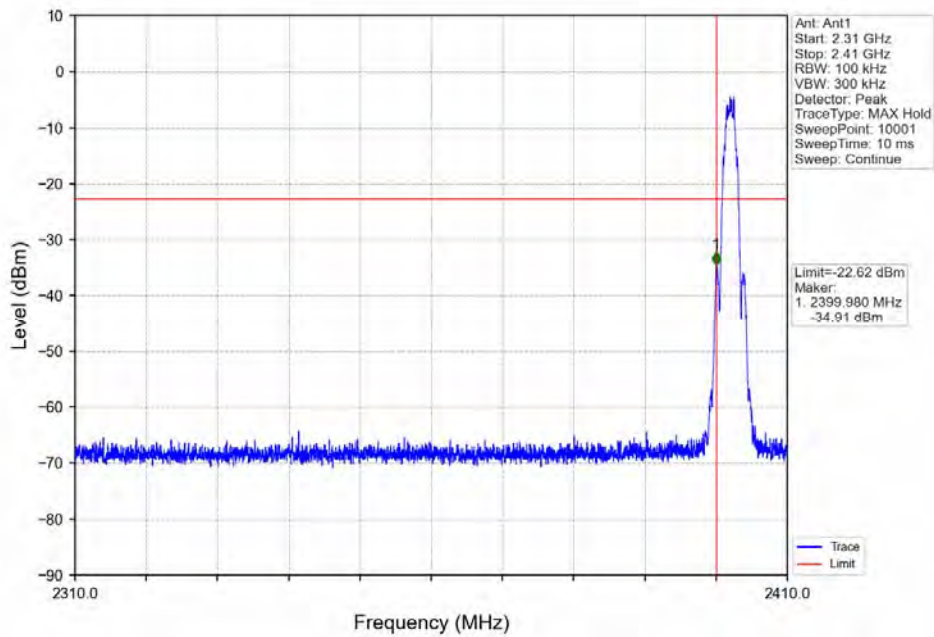




1M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_LCH_2402MHz_DataRate=_Ant1_NTNV

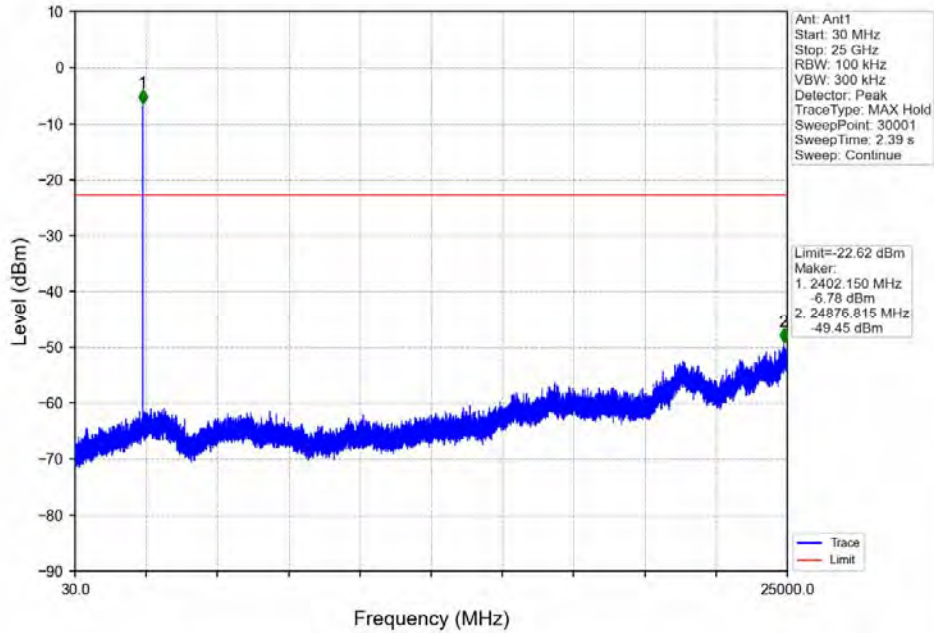




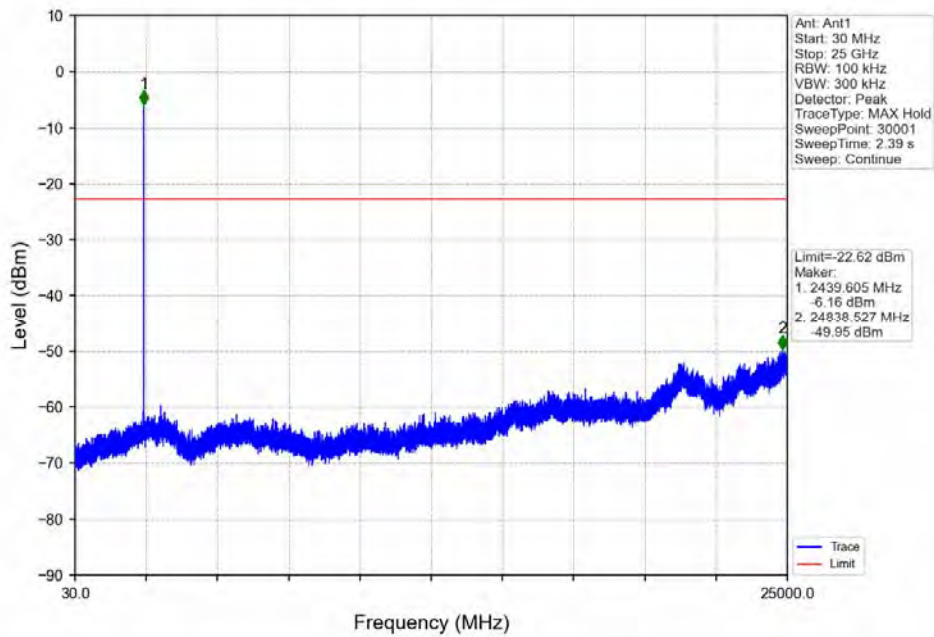
BUREAU
VERITAS

Test Report No.: W7L-220503W001RF02

2M_LCH_2402MHz_DataRate=_Ant1_NTNV



2M_MCH_2440MHz_DataRate=_Ant1_NTNV

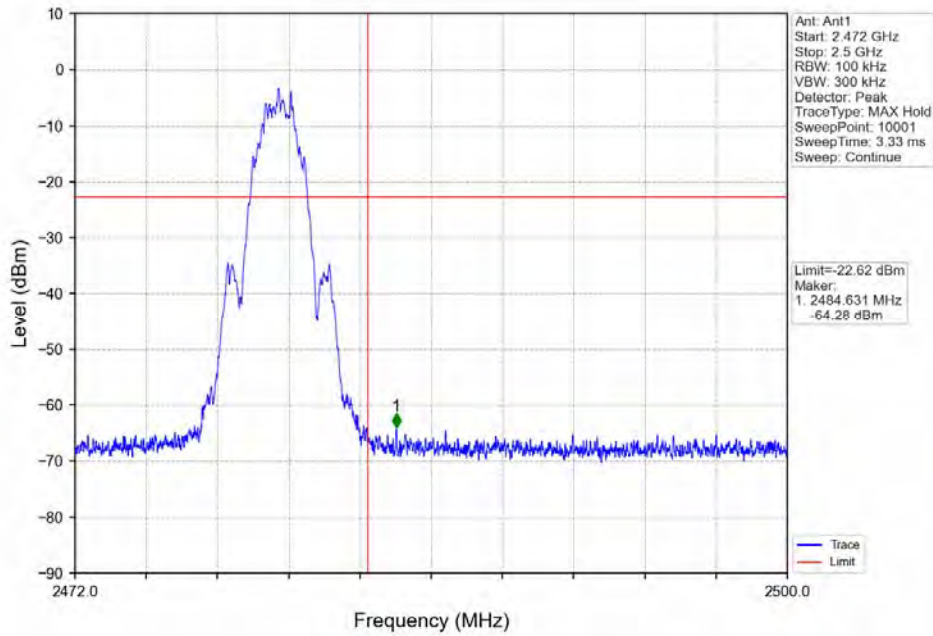




**BUREAU
VERITAS**

Test Report No.: W7L-220503W001RF02

2M_HCH_2480MHz_DataRate=_Ant1_NTNV



2M_HCH_2480MHz_DataRate=_Ant1_NTNV

