ACCREDITED
CERTIFICATE #5473.01

Test Report No.:
FCC2022-0030-RF2

RF Test Report

EUT	:	**SPARK LXi2 Datalogger**
MODEL	:	**PS-3600B**
BRAND NAME	:	**N/A**
APPLICANT	:	**Chengdu Vantron Technology Co., Ltd.**
Classification Of Test	:	**N/A**

CVC Testing Technology Co., Ltd.

Client	**Name : Chengdu Vantron Technology Co., Ltd.** **Address : No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China**
Manufacturer	**Name : Chengdu Vantron Technology Co., Ltd.** **Address : No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China**
Equipment Under Test	**Name : SPARK LXi2 Datalogger** **Model/Type: PS-3600B** **Trade mark : N/A** **SerialNO.:N/A** **Sampe NO.:3-1**

Date of Receipt.	**2022.05.17**	Date of Testing	**2022.05.17～2022.06.23**

Test Specification	**Test Result**
FCC Part 15, Subpart C, Section 15.247 **Canada RSS-247 Issue 2 (2017-02)** **Canada RSS-Gen Issue 5 (2019-03)**	PASS

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. **Issue Date: 2022.06.24**

Tested by:	Reviewed by:	Approved by:
Xu ZhenFei	**Liu YongHai**	**Chen HuaWen**
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2022-0030-RF2	Original release	2022.06.24

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C; RSS-247; RSS-Gen			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.207 RSS-Gen 8.8	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.209 RSS-Gen 8.10 Table 7 RSS-Gen 8.9 Table 5	Radiated Emissions	PASS	Meet the requirement of limit.
RSS-Gen 6.7	Occupied Bandwidth Measurement	PASS	Report only
15.247(d) 8.10 Table 7 8.9 Table 5	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2) RSS-247 5.2(a)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b) RSS-247 5.2(d)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e) RSS-247 5.2(b)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
WIFI & Bluetooth Test System 1					/
Communication Shielded Room 1	4m*3m*3m	CRTDSWKSR44301	VGDS-0699	CRT	2024/04/24
Spectrum Analyzer	FSV30	104337	DZ-000235	R&S	2022/11/03
Comprehensive Test Instrument	CMW500	137779	DZ-000220	R&S	2022/06/30
Comprehensive Test Instrument	CMW500	169888	DZ-000342	R&S	2022/12/01
Analog Signal Generator	SMA100B	103663	DZ-000239-2	R&S	2022/06/30
Vector Signal Generator	SMBV100B	101757	DZ-000239-1	R&S	2022/06/30
Programmable DC Power Supply	E3642A	MY59108106	DZ-000242-2	KEYSIGHT	2022/08/05
Radiation SpuriousTest System					/
3m Semi-Anechoic Chamber	FACT-4	ST08035	WKNA-0024	ETS	2024/12/12
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	2023/03/02
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	2023/03/02
Broadband Antenna	VULB 9163	9163-530	EM-000342	SCHWARZBECK	2022/06/26
Waveguide Horn Antenna	HF906	360306/008	WKNA-0024-8	R&S	2023/03/04
Waveguide Horn Antenna	BBHA9170	00949	DZ-000209-2	SCHWARZBECK	2022/08/27
Preamplifier	BBV 9721	9721-050	DZ-000209-1	SCHWARZBECK	2022/06/30
5G Bandstop Filters	WRCJV12-4900-5100-5900-6100-50EE	1	DZ-000186	WI	2022/12/20
Comprehensive tester	CMW500	159000	DZ-000240-2	R&S	2022/12/20
Conducted emission					/
EMI Test Receiver	ESCI	100857	WKNB-0081	R&S	2022-12-08
EMI Test Receiver	ESR3	102394	VGDY-0705	R&S	2023-03-04
LISN	NSLK 8127	8127644	VGDY-0150	SCHWARZBECK	2022-09-01
LISN	NSLK 8129	8129-268	EM-000388	SCHWARZBECK	2023-03-03
Plus Limiter（#1）	VTSD 9561 F-N	00515	VGDY-0808	SCHWARZBECK	2023-03-04
Impedance Stabilization Network	ISN T800	27095	WKNE-0195	TESEQ	2022-09-01
Voltage Probe	TK9420	9420-499	VGDY-0128	SCHWARZBECK	2023-03-04
Power Divider	4901.17.B	22643830	DB-0016	HUBER+SUHNER	2023-09-01
AudioSignalGenerator	GAG-810	EK871591	EM-000309	GW	2022-12-08
Shielding Room(#1)	GP1A	001	WKNF-0001	LEINING	2024-08-08

1.2 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:

No.	ITEM	FREQUENCY	UNCERTAINTY
1	Conducted emissions	9kHz~30MHz	±2.66dB
2	Radiated emissions	9KHz ~ 30MHz	±0.769dB
		30MHz ~ 1GMHz	±0.877dB
		1GHz ~ 18GHz	±0.777dB
		18GHz ~ 40GHz	±1.315dB

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

1.3 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology Co., Ltd.

Address: No.3,TiantaiyiRoad,KaitaiAvenue,ScienceCity,Guangzhou,China
Post Code：510663 Tel：020-32293888
FAX：020-32293889 E-mail：office@cvc.org.cn

2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	SPARK LXi2 Datalogger
BRAND	N/A
MODEL	PS-3600B
ADDITIONAL MODEL	N/A
FCC ID	2AAGEPASCO
IC ID	11152A-PASCO
POWER SUPPLY	DC 5V from Adapter or DC 3.8V from battery
MODULATIONTECHNOLOGY	DSSS, GFSK, OFDM
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM GKSK for BT-LE(1Mbps+2Mbps)
OPERATING FREQUENCY	2412MHz ~ 2462MHz for 11b/g/n(HT20) 2402MHz ~ 2480MHz for BT-LE(1Mbps+2Mbps)
NUMBER OF CHANNEL	802.11b/g/n (HT20): 11 BT-LE(1Mbps+2Mbps): 40
PEAK OUTPUT POWER	WLAN: 25.09dBm (Maximum.Conducted) BLE:6.68dBm (Maximum. Conducted) WLAN: 26.25dBm (Maximum.EIRP) BLE:8.86dBm (Maximum. EIRP)
ANTENNA TYPE（Remark 4）	WLAN: ANT0: PIFA Antenna, with 1.18dBi gain ANT1: PIFA Antenna, with 1.14dBi gain BT-LE: PIFA Antenna, with 1.14dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB line, 1 Meter, Shielded without ferrite

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document for detailed product photo. (Report NO.: FCC2022-0030-E)
4. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
5. The EUT have MIMO function, provides 2 completed transmitter and 2 receiver

2.2 Description of Accessories

Adapter	
BRAND	N/A
Model No.:	SW1260502000UN
Input:	100-240 V~50/60 Hz 0.4 A Max
Output:	5.0 V ⎓ 2 A
AC Cable:	N/A
DC Cable:	N/A

2.3 OTHER INFORMATION

Operating frequency of each channel

2.4G WIFI					
802.11b/g/n (HT20)					
CHANNEL	**FREQ. (MHz)**	**CHANNEL**	**FREQ. (MHz)**	**CHANNEL**	**FREQ. (MHz)**
1	**2412**	5	2432	9	2452
2	2417	**6**	**2437**	10	2457
3	2422	7	2442	**11**	**2462**
4	2427	8	2447		

BT-LE (1 Mbps+2Mbps)							
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**

1. The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.:

2.4 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

EUT CONFIGURE MODE	APPLICABLE TEST ITEMS				DESCRIPTION
	RE<1G	RE≥1G	PLC	APCM	
A	√	√	√	√	2.4G WIFI Function
B	√	√	√	√	BT Function

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

RADIATED EMISSION TEST (BELOW 1 GHz):

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

☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1	DSSS	DBPSK	6.0

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

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE PARAMETER
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0 Mbit/s
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0 Mbit/s
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
B	BT-LE	0 to 39	0,19, 39	DTS	GFSK	1.0 Mbit/s
B	BT-LE	0 to 39	0,19, 39	DTS	GFSK	2.0 Mbit/s

POWER LINE CONDUCTED EMISSION TEST:

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

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

EUT CONFIGURE MODE	TESTED CONDITION
-	BT LINK + WIFI (2.4G) Link

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, antenna ports (if EUT with antenna diversity architecture), and packet types.

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0 Mbit/s
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0 Mbit/s
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
B	BT-LE	0 to 39	0,19, 39	DTS	GFSK	1.0 Mbit/s
B	BT-LE	0 to 39	0,19, 39	DTS	GFSK	2.0 Mbit/s

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE (SYSTEM)	TESTED BY
RE<1G	24deg. C, 55%RH	DC 5V from Adapter	Liu ShiWei
RE≥1G	24deg. C, 55%RH	DC 5V from Adapter	Liu ShiWei
PLC	24deg. C, 55%RH	DC 5V from Adapter	Liu ShiWei
APCM	25deg. C, 58%RH	DC 5V from Adapter	Liu ShiWei

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC PART 15, Subpart C. Section 15.247
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2020
Canada RSS-247 Issue 2 (2017-02)
Canada RSS-Gen Issue 5 (2019-03)

All test items have been performed and recorded as per the above standards

2.6 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.

Support Equipment					
NO	**Description**	**Brand**	**Model No.**	**Serial Number**	**Supplied by**
1	Latop	Lenovo	V14	PFNXB1628023	Lab

Support Cable							
NO	**Description**	**Quantity (Number)**	**Length (cm)**	**Detachable (Yes/ No)**	**Shielded (Yes/ No)**	**Cores (Number)**	**Supplied by**
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 Limit

Frequency (MHz)	Conducted Limits(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. NOTE: 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.		

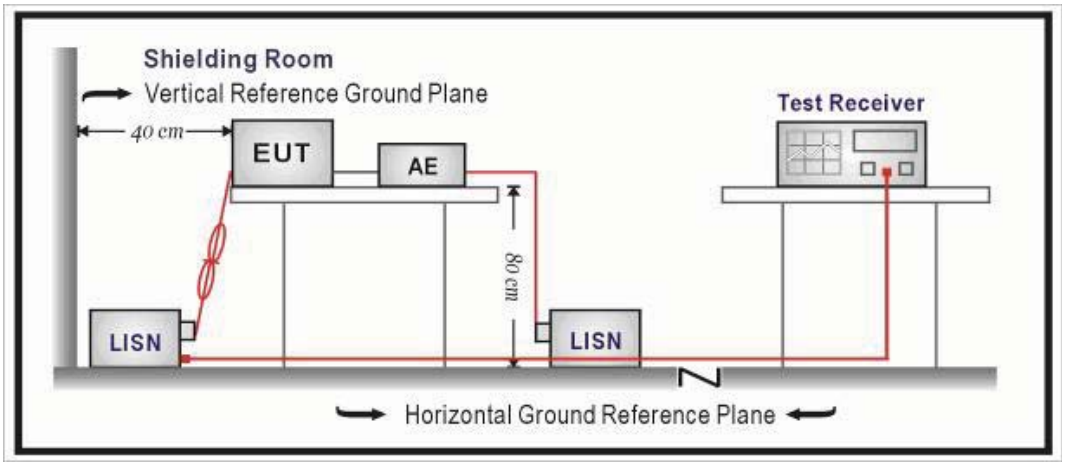
3.1.2 Measurement procedure

a. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the Test photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.The equipment under test shall be placed on a support of non-metallic material, the height of which shall be1.5m above the ground,

b. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

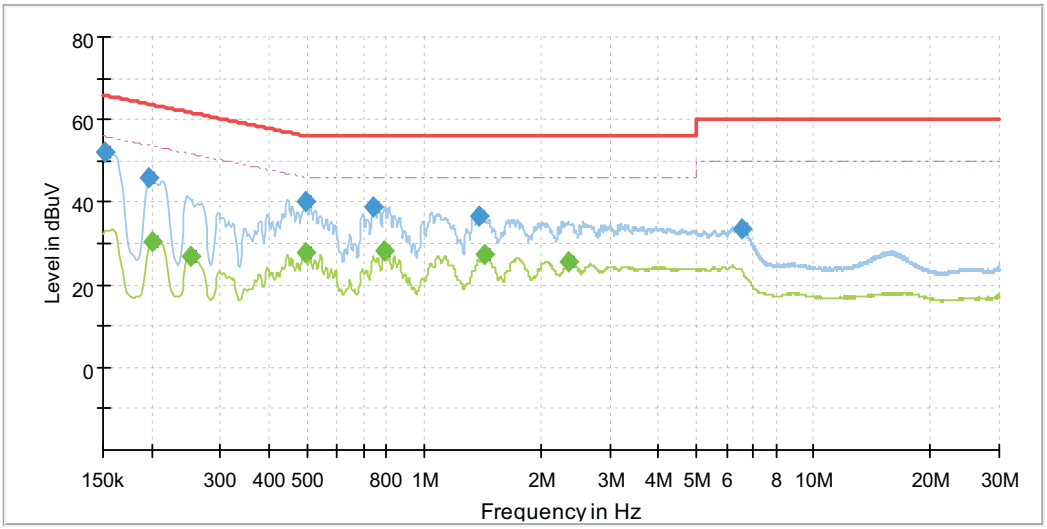
c. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.1.3 Test setup



3.1.4 Test results

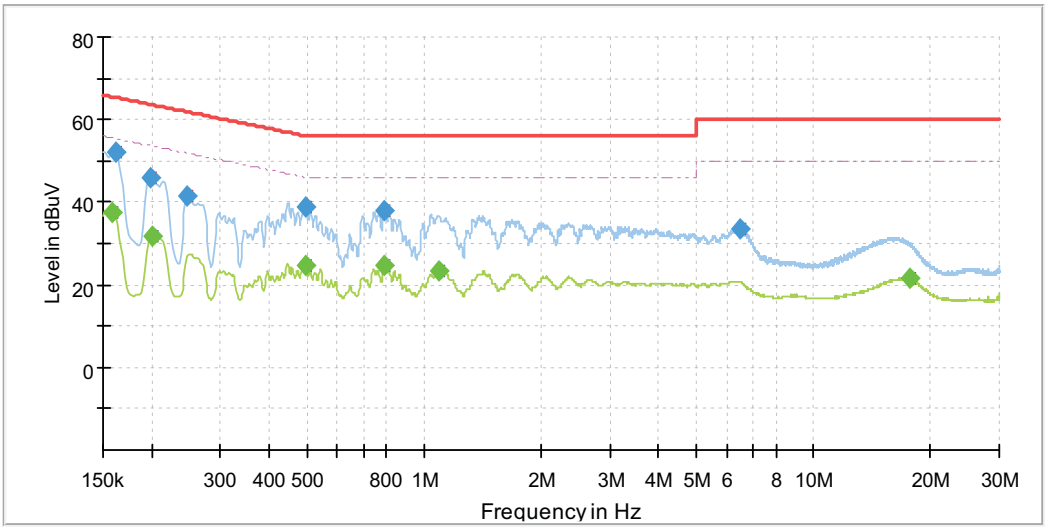
Test Mode	BT Link+2.4G WIFI Link	Frequency Range	150KHz ~ 30MHz
PHASE	Line (L)		



NO	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr.Factor (dB)
1	0.159	---	38.5	55.5	17.0	L1	19.5
2	0.159	55.3	---	65.5	10.2	L1	19.5
3	0.202	---	35.9	53.5	17.7	L1	19.5
4	0.202	49.8	---	63.5	13.7	L1	19.5
5	0.256	43.1	---	61.6	18.4	L1	19.5
6	0.337	---	25.3	49.3	23.9	L1	19.5
7	0.501	---	31.6	46.0	14.4	L1	19.5
8	0.503	37.0	---	56.0	19.0	L1	19.5
9	0.677	---	21.7	46.0	24.3	L1	19.6
10	1.030	---	23.0	46.0	23.0	L1	19.5
11	**1.469**	**30.0**	**---**	**56.0**	**26.0**	**L1**	**19.6**
12	4.281	35.8	---	56.0	20.2	L1	19.6

Remark: The emission levels of other frequencies were very low against the limit.

Test Mode	BT Link+2.4G WIFI Link	Frequency Range	150KHz ~ 30MHz
PHASE	Line (N)		



NO	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr.Factor (dB)
1	0.159	---	37.5	55.5	18.0	L1	19.5
2	0.161	52.1	---	65.4	13.3	L1	19.5
3	0.200	46.0	---	63.6	17.7	L1	19.5
4	0.202	---	31.9	53.5	21.6	L1	19.5
5	0.247	41.4	---	61.9	20.4	L1	19.5
6	0.494	---	24.9	46.1	21.2	L1	19.5
7	0.497	39.0	---	56.1	17.1	L1	19.5
8	0.791	---	24.7	46.0	21.3	L1	19.6
9	0.794	37.9	---	56.0	18.1	L1	19.6
10	1.091	---	23.6	46.0	22.4	L1	19.5
11	6.500	33.8	---	60.0	26.2	L1	19.7
12	17.592	---	21.4	50.0	28.6	L1	19.9

Remark: The emission levels of other frequencies were very low against the limit.

3.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.2.1 Limit (FCC)

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.
NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
NOTE: 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 Limit (IC)

Radiated emissions which fall in the restricted bands, as defined in RSS-Gen Section 8.10, must also comply with the radiated emission limits specified in RSS-Gen Section 8.9. as following:

Table 5 – General field strength limits at frequencies above 30 MHz		
FREQUENCIES (MHz)	**FIELD STRENGTH (microvolts/meter)**	**MEASUREMENT DISTANCE (meters)**
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Table 6 – General field strength limits at frequencies below 30 MHz		
FREQUENCIES (MHz)	**Magnetic field strength (H-Field) (μA/m)**	**MEASUREMENT DISTANCE (meters)**
9 - 490 kHz	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

NOTE:

1. The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.
2. The lower limit shall apply at the transition frequencies.
3. Emission level (dBuV/m) = 20 log Emission level (uV/m).
4. dBuV/m=dBuA/m+51.5

3.2.3 Measurement procedure

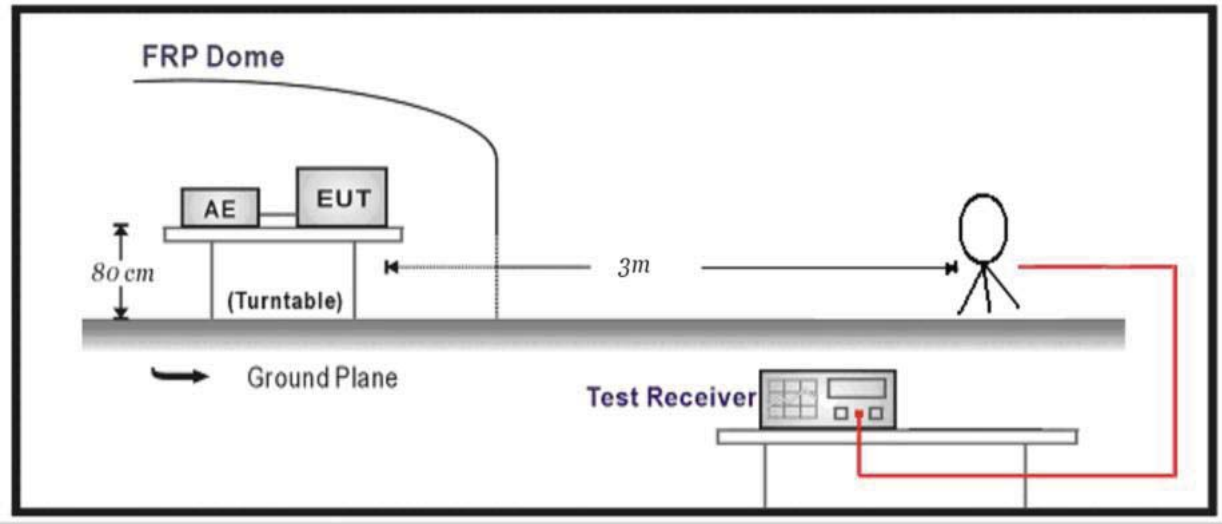
a. The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz) and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. For below 1GHz was used bilog antenna, and above 1GHz was used horn 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. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
g. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

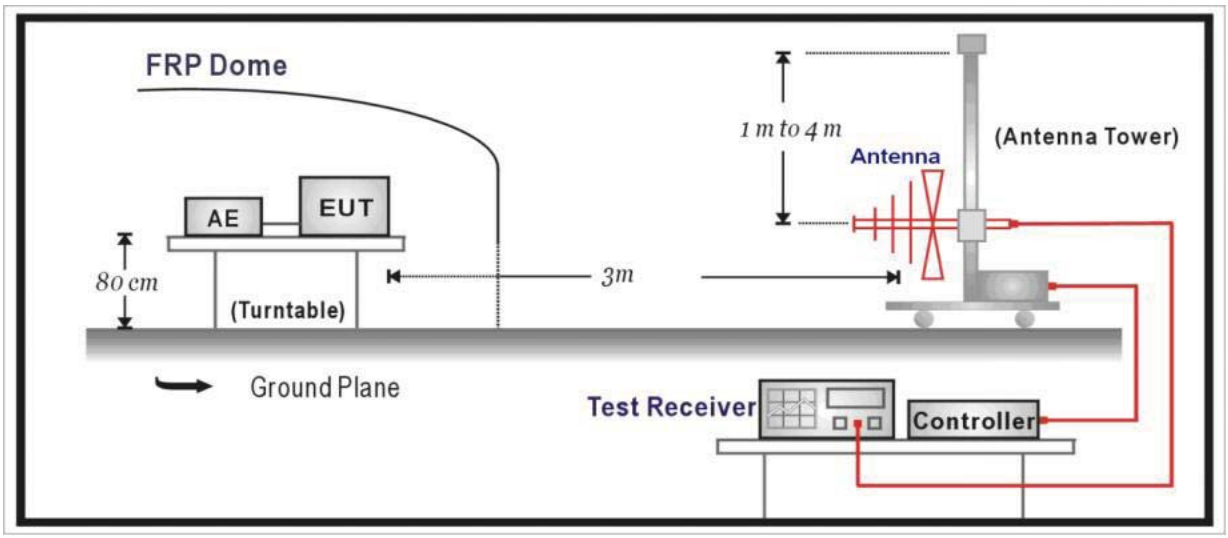
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geqslant$ 1/T (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

3.2.4 Test setup

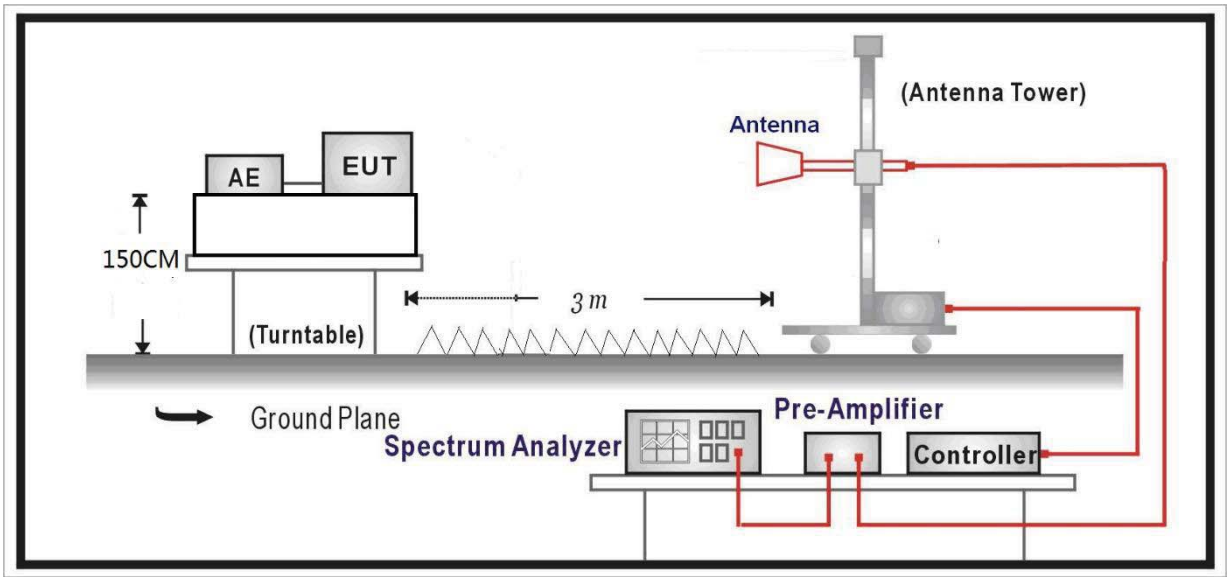
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:

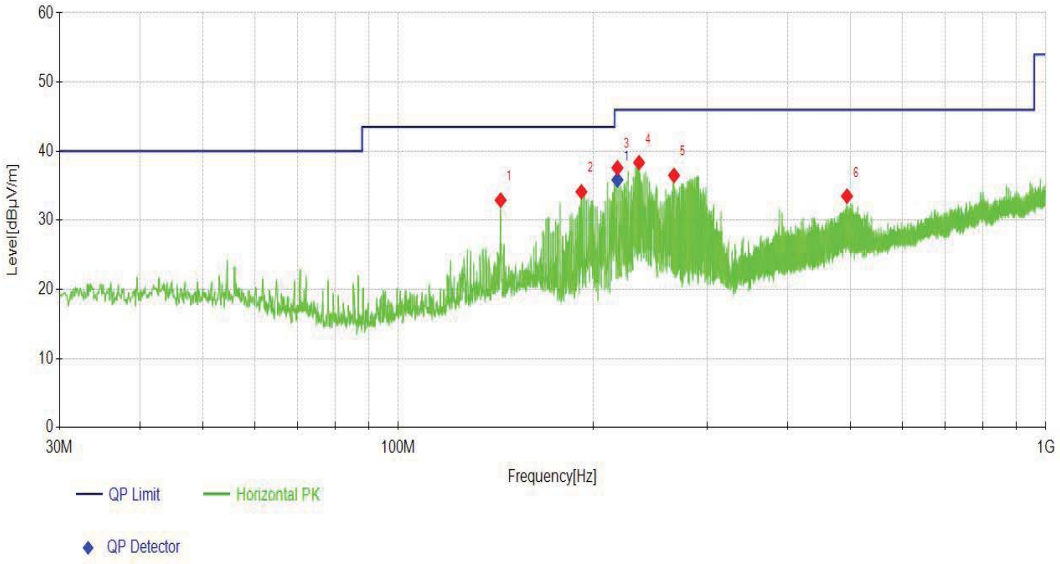

(Antenna Tower)
Antenna
AE
EUT
150CM
3 m
(Turntable)
Ground Plane
Spectrum Analyzer
Pre-Amplifier
Controller

3.2.5 Test results

BELOW 1GHz WORST-CASE DATA:

Worst Test Mode	802.11b	Channel	CH 1
Frequency Range	9KHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Horizontal

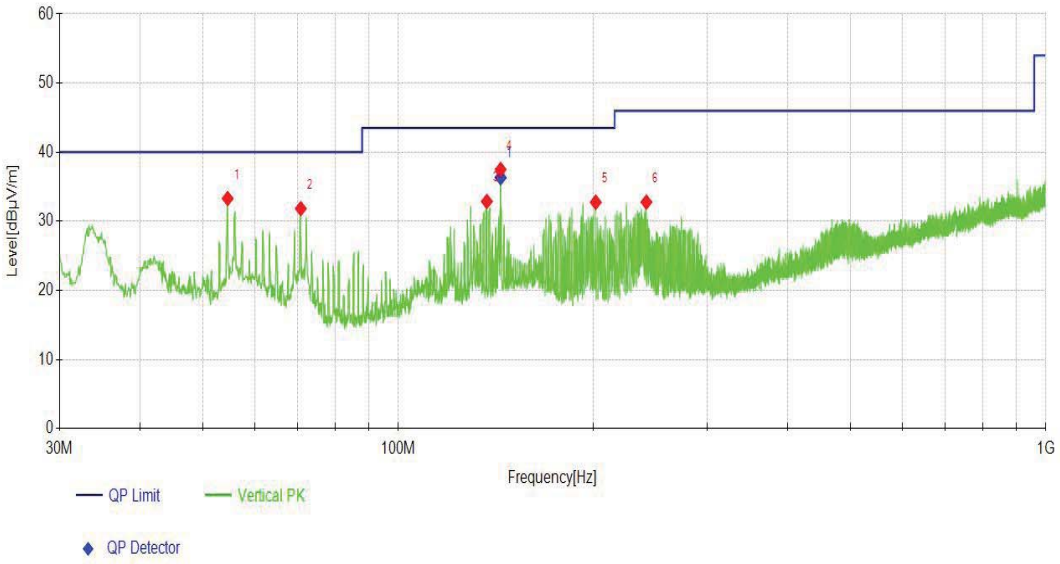


NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]
1	143.9864	12.88	20.03	32.91	43.50	10.59	200	243
2	191.9092	16.98	17.15	34.13	43.50	9.37	200	282
3	218.1018	18.5	17.35	35.85	46.00	10.15	100	343
4	235.5636	20.13	18.21	38.34	46.00	7.66	100	320
5	266.7037	17.68	18.81	36.49	46.00	9.51	100	348
6	143.9864	12.88	20.03	32.91	43.50	10.59	200	243

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.
2. The emission levels of other frequencies were greater than 20dB margin.
3. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
4. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
5. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

Worst Test Mode	**802.11b**	**Channel**	CH 1
Frequency Range	9KHz ~ 1GHz	**Detector Function**	Quasi-Peak (QP)

Vertical



NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]
1	54.5435	14.03	19.26	33.29	40.00	19.65	100	316
2	70.7441	15.10	16.73	31.83	40.00	17.26	100	201
3	137.0987	13.41	19.46	32.87	43.50	19.91	100	265
4	143.9864	16.30	20.03	36.33	43.50	7.17	100	237
5	201.9012	15.71	17.04	32.75	43.50	18.55	100	358
6	241.7722	14.38	18.40	32.78	46.00	14.70	100	184

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.
2. The emission levels of other frequencies were greater than 20dB margin.
3. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
4. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
5. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

ABOVE 1GHz DATA

Channel	**802.11b CH 1**	**Frequency**	2412MHz
Frequency Range	Above 1G	**Detector Function**	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2390.0000	37.96	-0.15	37.81	54.00	16.19	238	359	AV
2	2390.0000	46.29	-0.15	46.14	74.00	27.86	238	281	PK
3	2412.8383	103.29	0.16	103.45			281	357	PK
4	2412.8383	101.21	0.16	101.37			281	357	AV
5	4824.0000	46.60	9.68	56.28	74.00	17.72	192	271	PK
6	4824.0924	42.76	9.68	52.44	54.00	1.56	192	271	AV
7	7236.0000	29.48	12.39	41.87	74.00	32.13	119	209	PK
8	7236.0000	20.39	12.39	32.78	54.00	21.22	119	89	AV
9	9648.0000	27.64	13.13	40.77	74.00	33.23	250	274	PK
10	9648.0000	19.68	13.13	32.81	54.00	21.19	250	39	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2390.0000	45.14	-0.15	44.99	74.00	29.01	187	3	PK
2	2390.0000	37.17	-0.15	37.02	54.00	16.98	187	314	AV
3	2412.8383	99.49	0.16	99.65			291	133	PK
4	2413.1043	97.53	0.17	97.70			291	141	AV
5	4823.7624	44.60	9.67	54.27	74.00	19.73	184	74	PK
6	4824.0924	38.21	9.68	47.89	54.00	6.11	184	83	AV
7	7158.8659	30.92	12.17	43.09	74.00	30.91	228	251	PK
8	7171.7372	21.83	12.36	34.19	54.00	19.81	228	57	AV
9	9975.3375	35.74	13.85	49.59	74.00	24.41	159	341	PK
10	9975.3375	20.99	13.85	34.84	54.00	19.16	159	341	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11b CH 6	Frequency	2437MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4873.9274	43.05	9.70	52.75	54.00	1.25	239	335	AV
2	4874.0000	47.07	9.70	56.77	74.00	17.23	239	1	PK
3	7311.0000	29.28	11.03	40.31	74.00	33.69	108	249	PK
4	7311.0000	21.26	11.03	32.29	54.00	21.71	108	339	AV
5	9748.0000	27.71	13.23	40.94	74.00	33.06	221	223	PK
6	9748.0000	19.30	13.23	32.53	54.00	21.47	221	44	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	4873.9274	38.28	9.70	47.98	54.00	6.02	100	70	AV
2	4898.3498	44.50	10.09	54.59	74.00	19.41	100	160	PK
3	7311.0000	21.16	11.03	32.19	54.00	21.81	109	325	AV
4	7316.8317	30.02	11.03	41.05	74.00	32.95	109	296	PK
5	9744.8245	28.49	13.23	41.72	74.00	32.28	267	26	PK
6	9748.0000	18.92	13.23	32.15	54.00	21.85	267	320	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11b CH 11	Frequency	2462MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2462.8513	102.13	0.64	102.77			254	12	AV
2	2462.8893	104.09	0.65	104.74			254	18	PK
3	2483.5000	40.03	0.46	40.49	54.00	13.51	137	33	AV
4	2483.5000	48.28	0.46	48.74	74.00	25.26	137	308	PK
5	4924.0924	46.73	10.14	56.87	74.00	17.13	167	330	PK
6	4924.0924	42.99	10.14	53.13	54.00	0.87	167	16	AV
7	7386.0000	29.09	9.80	38.89	74.00	35.11	171	1	PK
8	7386.0000	21.19	9.80	30.99	54.00	23.01	171	120	AV
9	9848.0000	27.48	13.24	40.72	74.00	33.28	259	129	PK
10	9848.0000	19.51	13.24	32.75	54.00	21.25	259	109	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2461.0461	96.56	0.59	97.15			108	262	AV
2	2461.0651	98.49	0.59	99.08			108	262	PK
3	2483.5000	37.87	0.46	38.33	54.00	15.67	171	126	AV
4	2483.5000	46.67	0.46	47.13	74.00	26.87	171	126	PK
5	4924.0924	38.09	10.14	48.23	54.00	5.77	215	324	AV
6	4924.0924	44.15	10.14	54.29	74.00	19.71	215	294	PK
7	7386.0000	21.17	9.80	30.97	54.00	23.03	300	61	AV
8	7386.0000	29.49	9.80	39.29	74.00	34.71	300	116	PK
9	9848.0000	19.59	13.24	32.83	54.00	21.17	104	1	AV
10	9848.0000	27.08	13.24	40.32	74.00	33.68	104	86	PK

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11g CH 1	Frequency	2412MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2389.6370	67.46	-0.15	67.31	74.00	6.69	167	211	PK
2	2390.0000	48.47	-0.15	48.32	54.00	5.68	167	191	AV
3	2411.1661	100.93	0.14	101.07			197	191	AV
4	2412.4772	108.26	0.16	108.42			197	184	PK
5	4824.0000	45.55	9.68	55.23	74.00	18.77	160	76	PK
6	4824.0000	36.78	9.68	46.46	54.00	7.54	160	330	AV
7	7236.0000	19.94	12.39	32.33	54.00	21.67	276	187	AV
8	7236.0000	28.32	12.39	40.71	74.00	33.29	276	182	PK
9	9648.0000	28.28	13.13	41.41	74.00	32.59	241	1	PK
10	9648.0000	19.82	13.13	32.95	54.00	21.05	241	213	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2389.4089	60.93	-0.16	60.77	74.00	13.23	130	80	PK
2	2390.0000	46.66	-0.15	46.51	54.00	7.49	130	330	AV
3	2411.4321	96.52	0.14	96.66			188	330	AV
4	2414.4724	103.69	0.19	103.88			188	330	PK
5	4824.0000	42.93	9.68	52.61	74.00	21.39	104	359	PK
6	4824.0000	35.05	9.68	44.73	54.00	9.27	104	60	AV
7	7236.0000	19.63	12.39	32.02	54.00	21.98	164	193	AV
8	7236.0000	27.34	12.39	39.73	74.00	34.27	164	164	PK
9	9648.0000	27.06	13.13	40.19	74.00	33.81	198	33	PK
10	9648.0000	19.44	13.13	32.57	54.00	21.43	198	189	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11g CH 6	Frequency	2437MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4874.0000	44.24	9.70	53.94	74.00	20.06	172	330	PK
2	4874.0000	36.22	9.70	45.92	54.00	8.08	172	330	AV
3	7311.0000	19.97	11.03	31.00	54.00	23.00	126	252	AV
4	7311.0000	27.35	11.03	38.38	74.00	35.62	126	356	PK
5	9748.0000	26.85	13.23	40.08	74.00	33.92	300	287	PK
6	9748.0000	19.48	13.23	32.71	54.00	21.29	300	18	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	4874.0000	42.99	9.70	52.69	74.00	21.31	225	84	PK
2	4874.0000	35.08	9.70	44.78	54.00	9.22	225	231	AV
3	7311.0000	20.05	11.03	31.08	54.00	22.92	297	73	AV
4	7311.0000	27.65	11.03	38.68	74.00	35.32	297	312	PK
5	9748.0000	27.74	13.23	40.97	74.00	33.03	246	170	PK
6	9748.0000	19.38	13.23	32.61	54.00	21.39	246	312	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11g CH 11	Frequency	2462MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2461.1791	99.96	0.60	100.56			140	211	AV
2	2464.9605	106.83	0.70	107.53			140	205	PK
3	2483.5000	60.98	0.46	61.44	74.00	12.56	243	211	PK
4	2483.5000	47.24	0.46	47.70	54.00	6.30	243	211	AV
5	4926.0000	43.38	10.07	53.45	74.00	20.55	224	47	PK
6	4926.0000	35.44	10.07	45.51	54.00	8.49	224	325	AV
7	7386.0000	19.45	9.80	29.25	54.00	24.75	122	220	AV
8	7386.0000	27.11	9.80	36.91	74.00	37.09	122	205	PK
9	9848.0000	28.42	13.24	41.66	74.00	32.34	288	220	PK
10	9848.0000	19.42	13.24	32.66	54.00	21.34	288	1	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2461.8062	101.48	0.61	102.09			125	332	PK
2	2462.7753	93.82	0.64	94.46			125	332	AV
3	2483.5634	46.24	0.46	46.70	54.00	7.30	142	128	AV
4	2483.8104	60.95	0.47	61.42	74.00	12.58	142	80	PK
5	4926.0000	43.82	10.07	53.89	74.00	20.11	174	241	PK
6	4926.0000	34.90	10.07	44.97	54.00	9.03	174	82	AV
7	7386.0000	19.47	9.80	29.27	54.00	24.73	212	175	AV
8	7386.0000	27.89	9.80	37.69	74.00	36.31	212	195	PK
9	9848.0000	28.57	13.24	41.81	74.00	32.19	152	241	PK
10	9848.0000	19.65	13.24	32.89	54.00	21.11	152	73	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH 1	Frequency	2412MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2389.6370	65.49	-0.15	65.34	74.00	8.66	251	198	PK
2	2390.0000	49.11	-0.15	48.96	54.00	5.04	251	191	AV
3	2413.1043	102.56	0.17	102.73			271	158	AV
4	2414.0924	108.03	0.18	108.21			271	191	PK
5	4824.0000	44.29	9.68	53.97	74.00	20.03	175	342	PK
6	4824.0000	35.93	9.68	45.61	54.00	8.39	175	331	AV
7	7236.0000	19.51	12.39	31.90	54.00	22.10	218	356	AV
8	7236.0000	28.02	12.39	40.41	74.00	33.59	218	356	PK
9	9648.0000	28.65	13.13	41.78	74.00	32.22	229	3	PK
10	9648.0000	19.65	13.13	32.78	54.00	21.22	229	164	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2389.8080	65.06	-0.15	64.91	74.00	9.09	208	338	PK
2	2390.0000	49.48	-0.15	49.33	54.00	4.67	208	317	AV
3	2410.5961	104.81	0.13	104.94			157	100	PK
4	2413.1233	98.17	0.17	98.34			157	324	AV
5	4824.0000	43.30	9.68	52.98	74.00	21.02	270	328	PK
6	4824.0000	34.92	9.68	44.60	54.00	9.40	270	357	AV
7	7236.0000	19.76	12.39	32.15	54.00	21.85	280	130	AV
8	7236.0000	27.23	12.39	39.62	74.00	34.38	280	202	PK
9	9648.0000	28.20	13.13	41.33	74.00	32.67	162	176	PK
10	9648.0000	19.85	13.13	32.98	54.00	21.02	162	1	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	**802.11n20 CH 6**	**Frequency**	2437MHz
Frequency Range	Above 1G	**Detector Function**	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4874.0000	45.44	9.70	55.14	74.00	18.86	279	326	PK
2	4874.0000	35.38	9.70	45.08	54.00	8.92	279	331	AV
3	7311.0000	20.39	11.03	31.42	54.00	22.58	245	14	AV
4	7311.0000	28.14	11.03	39.17	74.00	34.83	245	356	PK
5	9748.0000	27.14	13.23	40.37	74.00	33.63	116	322	PK
6	9748.0000	19.64	13.23	32.87	54.00	21.13	116	322	AV

Vertical

NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	4874.0000	43.07	9.70	52.77	74.00	21.23	159	307	PK
2	4874.0000	36.04	9.70	45.74	54.00	8.26	159	301	AV
3	7311.0000	20.85	11.03	31.88	54.00	22.12	278	48	AV
4	7311.0000	28.52	11.03	39.55	74.00	34.45	278	83	PK
5	9748.0000	27.30	13.23	40.53	74.00	33.47	130	358	PK
6	9748.0000	19.37	13.23	32.60	54.00	21.40	130	185	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

Channel	**802.11n20 CH 11**	**Frequency**	2462MHz
Frequency Range	Above 1G	**Detector Function**	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2460.5901	108.46	0.58	109.04			260	157	PK
2	2460.8751	101.74	0.59	102.33			260	150	AV
3	2483.5000	60.59	0.46	61.05	74.00	12.95	250	212	PK
4	2483.5254	50.06	0.46	50.52	54.00	3.48	250	212	AV
5	4926.0000	43.38	10.07	53.45	74.00	20.55	212	47	PK
6	4926.0000	35.44	10.07	45.51	54.00	8.49	212	325	AV
7	7386.0000	19.45	9.80	29.25	54.00	24.75	136	220	AV
8	7386.0000	27.11	9.80	36.91	74.00	37.09	136	205	PK
9	9848.0000	28.42	13.24	41.66	74.00	32.34	275	220	PK
10	9848.0000	19.42	13.24	32.66	54.00	21.34	275	1	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2460.4951	96.66	0.58	97.24			258	328	AV
2	2460.7421	103.00	0.58	103.58			258	321	PK
3	2483.5000	47.42	0.46	47.88	54.00	6.12	200	109	AV
4	2483.5000	59.03	0.46	59.49	74.00	14.51	200	253	PK
5	4926.0000	43.82	10.07	53.89	74.00	20.11	265	241	PK
6	4926.0000	34.90	10.07	44.97	54.00	9.03	265	82	AV
7	7386.0000	19.47	9.80	29.27	54.00	24.73	136	175	AV
8	7386.0000	27.89	9.80	37.69	74.00	36.31	136	195	PK
9	9848.0000	28.57	13.24	41.81	74.00	32.19	186	241	PK
10	9848.0000	19.65	13.24	32.89	54.00	21.11	186	73	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	**BT-LE(1Mbps)**	**Frequency**	2402MHz
Frequency Range	Above 1G	**Detector Function**	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2390.0000	36.65	-0.15	36.50	54.00	17.50	293	178	AV
2	2390.0000	44.94	-0.15	44.79	74.00	29.21	293	191	PK
3	2401.7412	103.06	-0.04	103.02			172	191	AV
4	2402.0072	104.27	-0.03	104.24			172	191	PK
5	4804.0000	43.10	9.29	52.39	74.00	21.61	248	312	PK
6	4804.0000	35.17	9.29	44.46	54.00	9.54	248	27	AV
7	7206.0000	19.13	12.81	31.94	54.00	22.06	105	235	AV
8	7206.0000	27.43	12.81	40.24	74.00	33.76	105	78	PK
9	9608.0000	28.89	13.32	42.21	74.00	31.79	299	170	PK
10	9608.0000	19.61	13.32	32.93	54.00	21.07	299	32	AV

Vertical

NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2390.0000	36.70	-0.15	36.55	54.00	17.45	279	360	AV
2	2390.0000	44.21	-0.15	44.06	74.00	29.94	279	101	PK
3	2401.7792	100.81	-0.04	100.77			281	324	AV
4	2402.0452	101.93	-0.03	101.90			281	331	PK
5	4804.0000	43.17	9.29	52.46	74.00	21.54	119	333	PK
6	4804.0000	34.94	9.29	44.23	54.00	9.77	119	237	AV
7	7206.0000	19.21	12.81	32.02	54.00	21.98	230	184	AV
8	7206.0000	28.45	12.81	41.26	74.00	32.74	230	299	PK
9	9608.0000	28.30	13.32	41.62	74.00	32.38	229	102	PK
10	9608.0000	19.83	13.32	33.15	54.00	20.85	229	1	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

Channel	BT-LE(1Mbps)	Frequency	2440MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4880.0000	43.78	9.80	53.58	74.00	20.42	206	358	PK
2	4880.0000	35.35	9.80	45.15	54.00	8.85	206	52	AV
3	7320.0000	20.98	11.01	31.99	54.00	22.01	174	237	AV
4	7320.0000	28.02	11.01	39.03	74.00	34.97	174	348	PK
5	9760.0000	28.33	13.25	41.58	74.00	32.42	112	217	PK
6	9760.0000	19.50	13.25	32.75	54.00	21.25	112	217	AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	4880.0000	35.48	9.80	45.28	54.00	8.72	221	308	AV
2	4880.0000	42.99	9.80	52.79	74.00	21.21	221	19	PK
3	7320.0000	28.19	11.01	39.20	74.00	34.80	276	3	PK
4	7320.0000	20.54	11.01	31.55	54.00	22.45	276	348	AV
5	9760.0000	19.43	13.25	32.68	54.00	21.32	154	190	AV
6	9760.0000	27.72	13.25	40.97	74.00	33.03	154	62	PK

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	BT-LE(1Mbps)	Frequency	2480MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2479.7820	105.65	0.33	105.98			164	206	PK
2	2479.8010	104.57	0.32	104.89			164	213	AV
3	2483.5000	39.95	0.46	40.41	54.00	13.59	216	219	AV
4	2483.5000	49.32	0.46	49.78	74.00	24.22	216	219	PK
5	4960.0000	34.79	10.69	45.48	54.00	8.52	255	1	AV
6	4960.0000	42.78	10.69	53.47	74.00	20.53	255	158	PK
7	7440.0000	28.73	9.75	38.48	74.00	35.52	240	106	PK
8	7440.0000	20.04	9.75	29.79	54.00	24.21	240	106	AV
9	9920.0000	19.24	13.83	33.07	54.00	20.93	203	51	AV
10	9920.0000	27.27	13.83	41.10	74.00	32.90	203	357	PK

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2479.8770	99.39	0.32	99.71			190	127	PK
2	2479.8960	98.36	0.32	98.68			190	127	AV
3	2483.5000	37.49	0.46	37.95	54.00	16.05	170	268	AV
4	2483.5000	45.43	0.46	45.89	74.00	28.11	170	114	PK
5	4960.0000	34.41	10.69	45.10	54.00	8.90	230	252	AV
6	4960.0000	43.88	10.69	54.57	74.00	19.43	230	357	PK
7	7440.0000	28.81	9.75	38.56	74.00	35.44	283	48	PK
8	7440.0000	20.26	9.75	30.01	54.00	23.99	283	265	AV
9	9920.0000	19.84	13.83	33.67	54.00	20.33	176	169	AV
10	9920.0000	28.17	13.83	42.00	74.00	32.00	176	174	PK

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	**BT-LE(2Mbps)**	**Frequency**	2402MHz
Frequency Range	Above 1G	**Detector Function**	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2390.0000	37.13	-0.15	36.98	54.00	17.02	191	279	AV
2	2390.0000	44.55	-0.15	44.40	74.00	29.60	191	245	PK
3	2401.3991	104.45	-0.04	104.41			135	184	PK
4	2401.9502	101.95	-0.03	101.92			135	191	AV
5	4804.0000	35.06	9.29	44.35	54.00	9.65	255	144	AV
6	4804.0000	43.52	9.29	52.81	74.00	21.19	255	320	PK
7	7206.0000	28.13	12.81	40.94	74.00	33.06	268	117	PK
8	7206.0000	19.05	12.81	31.86	54.00	22.14	268	1	AV
9	9608.0000	19.38	13.32	32.70	54.00	21.30	226	177	AV
10	9608.0000	26.90	13.32	40.22	74.00	33.78	226	232	PK

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2390.0000	37.54	-0.15	37.39	54.00	16.61	121	3	AV
2	2390.0000	43.91	-0.15	43.76	74.00	30.24	121	20	PK
3	2401.4751	102.05	-0.04	102.01			225	325	PK
4	2401.8552	99.96	-0.03	99.93			225	325	AV
5	4804.0000	34.95	9.29	44.24	54.00	9.76	207	19	AV
6	4804.0000	43.73	9.29	53.02	74.00	20.98	207	19	PK
7	7206.0000	27.14	12.81	39.95	74.00	34.05	192	4	PK
8	7206.0000	19.72	12.81	32.53	54.00	21.47	192	358	AV
9	9608.0000	19.64	13.32	32.96	54.00	21.04	139	52	AV
10	9608.0000	27.37	13.32	40.69	74.00	33.31	139	310	PK

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	BT-LE(2Mbps)	Frequency	2440MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4880.0000	35.25	9.80	45.05	54.00	8.95	207	97	AV
2	4880.0000	45.13	9.80	54.93	74.00	19.07	207	3	PK
3	7320.0000	28.98	11.01	39.99	74.00	34.01	136	50	PK
4	7320.0000	19.69	11.01	30.70	54.00	23.30	136	146	AV
5	9760.0000	19.54	13.25	32.79	54.00	21.21	265	318	AV
6	9760.0000	27.28	13.25	40.53	74.00	33.47	265	2	PK

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	4880.0000	35.33	9.80	45.13	54.00	8.87	148	307	AV
2	4880.0000	44.07	9.80	53.87	74.00	20.13	148	150	PK
3	7320.0000	28.88	11.01	39.89	74.00	34.11	252	294	PK
4	7320.0000	20.21	11.01	31.22	54.00	22.78	252	178	AV
5	9760.0000	19.18	13.25	32.43	54.00	21.57	191	148	AV
6	9760.0000	27.35	13.25	40.60	74.00	33.40	191	148	PK

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	BT-LE(2Mbps)	Frequency	2480MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	2479.4779	105.59	0.34	105.93			292	207	PK
2	2479.9340	102.91	0.32	103.23			292	207	AV
3	2483.5000	39.84	0.46	40.30	54.00	13.70	198	200	AV
4	2483.5000	46.67	0.46	47.13	74.00	26.87	198	200	PK
5	4960.0000	34.92	10.69	45.61	54.00	8.39	216	124	AV
6	4960.0000	43.54	10.69	54.23	74.00	19.77	216	190	PK
7	7440.0000	28.71	9.75	38.46	74.00	35.54	254	93	PK
8	7440.0000	21.04	9.75	30.79	54.00	23.21	254	93	AV
9	9920.0000	19.54	13.83	33.37	54.00	20.63	223	251	AV
10	9920.0000	28.46	13.83	42.29	74.00	31.71	223	292	PK

Vertical

NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	2479.4399	99.36	0.34	99.70			292	128	PK
2	2479.7820	97.11	0.33	97.44			292	80	AV
3	2483.5000	37.32	0.46	37.78	54.00	16.22	290	249	AV
4	2483.5000	45.58	0.46	46.04	74.00	27.96	290	53	PK
5	4960.0000	43.87	10.69	54.56	74.00	19.44	225	17	PK
6	4960.0000	34.79	10.69	45.48	54.00	8.52	225	196	AV
7	7440.0000	19.75	9.75	29.50	54.00	24.50	231	22	AV
8	7440.0000	27.70	9.75	37.45	74.00	36.55	231	307	PK
9	9920.0000	27.81	13.83	41.64	74.00	32.36	172	246	PK
10	9920.0000	19.80	13.83	33.63	54.00	20.37	172	129	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

3.3 6dB BANDWIDTH MEASUREMENT

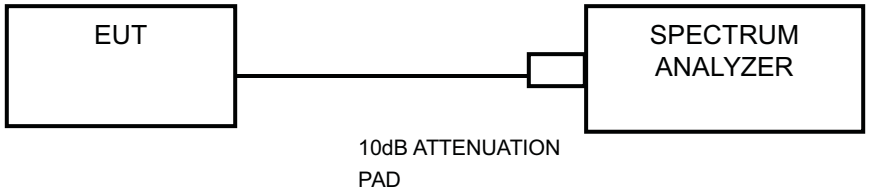
3.3.1 Limits

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 Measurement procedure

a. Set resolution bandwidth (RBW) = 100KHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associatedwith the two amplitude points (upper and lower) that are attenuated by 6 dB relative to themaximum level measured in the fundamental emission.

3.3.3 Test setup



3.3.4 Test result

Please refer Annex A

3.4 MAXIMUM OUTPUT POWER

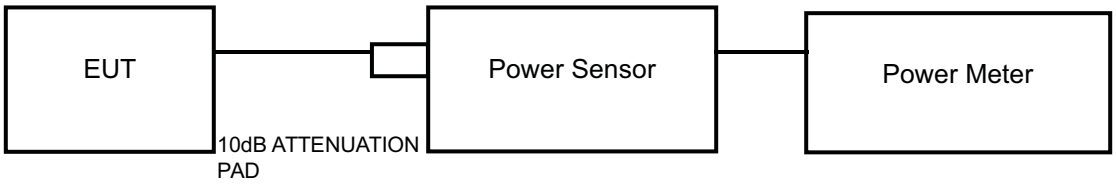
3.4.1 Limits

For DTS employing digital modulation techniques operating in the bands 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W(30dBm). The e.i.r.p. shall not exceed 4 W(36dBm).

3.4.2 Measurement procedure

a. 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 and set the detector to PEAK. Record the power level.
b. Anaverage power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power senso and set the detector to AVERAGE. Record the power level.

3.4.3 Test setup



3.4.4 Test result

Please refer Annex A.

3.5 POWER SPECTRAL DENSITY MEASUREMENT

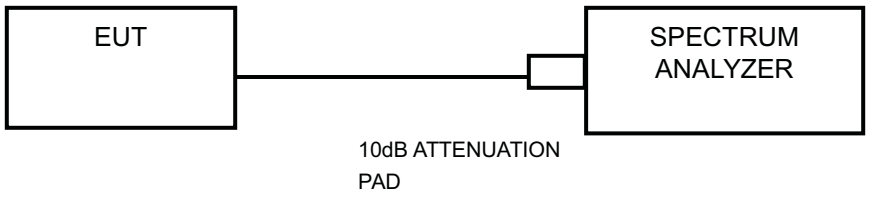
3.5.1 Limits

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

3.5.2 Measurement procedure

a. Set instrument center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set RBW to: 3KHz
d. Set VBW ≥3 x RBW.
e. Detector = peak
f. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g. Sweep time = auto couple.
h. Use the peak marker function to determine the maximum amplitude level.

3.5.3 Test setup



3.5.4 Test result

Please refer Annex A.

3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 Limits

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

3.6.2 Measurement procedure

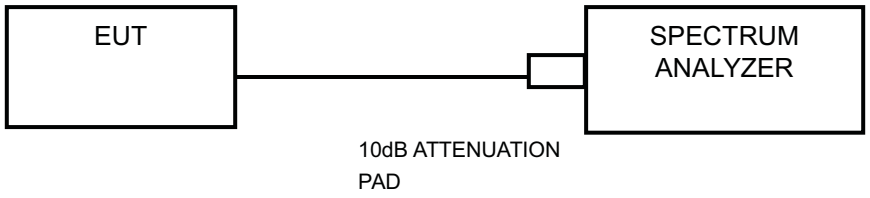
Measurement Procedure -Reference Level

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHzband segment within the fundamental EBW.

Measurement Procedure –Unwanted Emission Level

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Set span to encompass the spectrum to be examined
d. Detector = peak.
e. Trace Mode = max hold.
f. Sweep = auto couple.

3.6.3 Test setup



3.6.4 Test result

Please refer Annex A.

3.7 OCCUPIED BANDWIDTH MEASUREMENT

3.7.1 Measurement procedure

The transmitter antenna output was connected to the spectrum analyzer through an attenuator. The resolution bandwidth shall be set to the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.
below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.7.2 TEST SETUP

3.7.3 Test result

Please refer Annex A.

4 PHOTOGRAPHS OF TEST SETUP

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

,

5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).

6 Appendix A

Please refer to the following pages for test results.

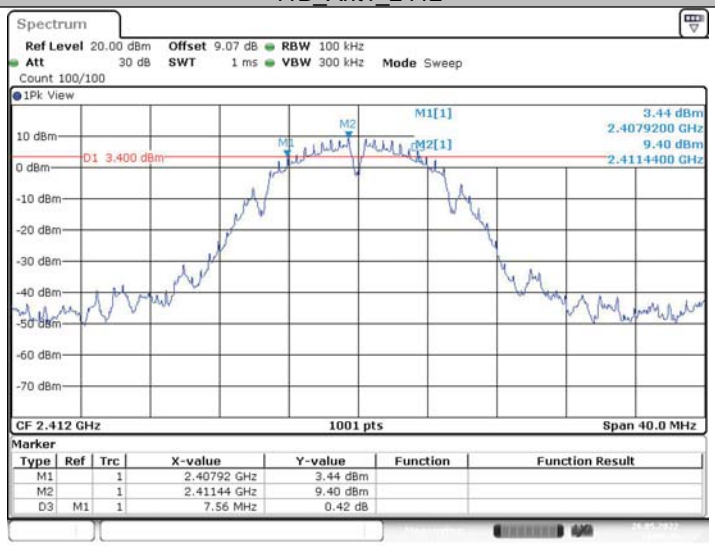
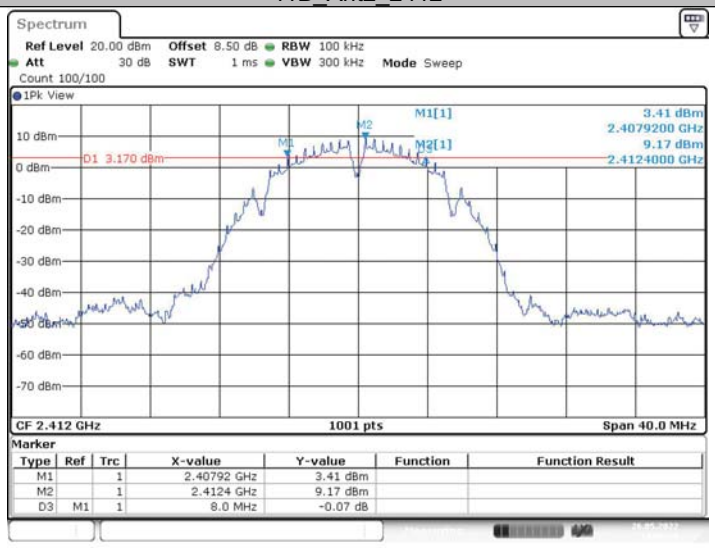
6.1 6DB BANDWIDTH MEASUREMENT

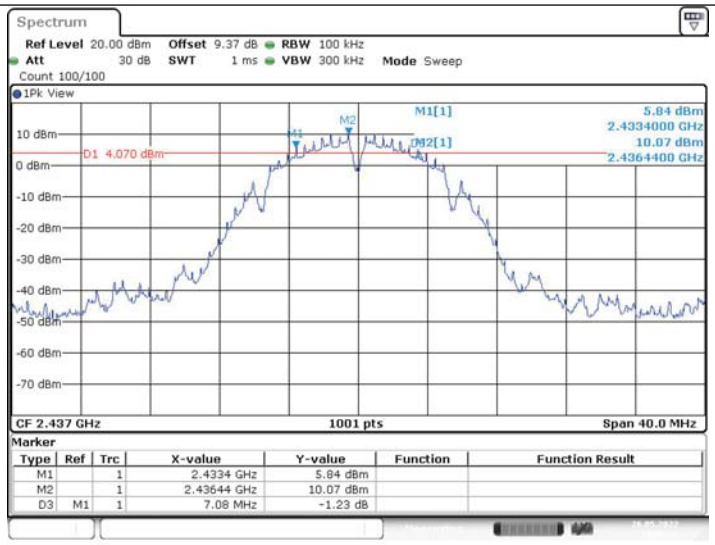
6.1.1 Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.56	2407.92	2415.48	0.5	PASS
	Ant2	2412	8.00	2407.92	2415.92	0.5	PASS
	Ant1	2437	7.08	2433.40	2440.48	0.5	PASS
	Ant2	2437	7.52	2433.40	2440.92	0.5	PASS
	Ant1	2462	7.08	2458.40	2465.48	0.5	PASS
	Ant2	2462	7.52	2458.40	2465.92	0.5	PASS
11G	Ant1	2412	16.36	2403.76	2420.12	0.5	PASS
	Ant2	2412	16.36	2403.76	2420.12	0.5	PASS
	Ant1	2437	16.36	2428.76	2445.12	0.5	PASS
	Ant2	2437	16.32	2433.76	2450.08	0.5	PASS
	Ant1	2462	16.36	2453.76	2470.12	0.5	PASS
	Ant2	2462	16.36	2453.76	2470.12	0.5	PASS
11N20MIMO	Ant1	2412	17.60	2403.12	2420.72	0.5	PASS
	Ant2	2412	17.60	2403.12	2420.72	0.5	PASS
	Ant1	2437	17.60	2428.12	2445.72	0.5	PASS
	Ant2	2437	17.60	2428.12	2445.72	0.5	PASS
	Ant1	2462	17.32	2453.40	2470.72	0.5	PASS
	Ant2	2462	17.60	2453.12	2470.72	0.5	PASS

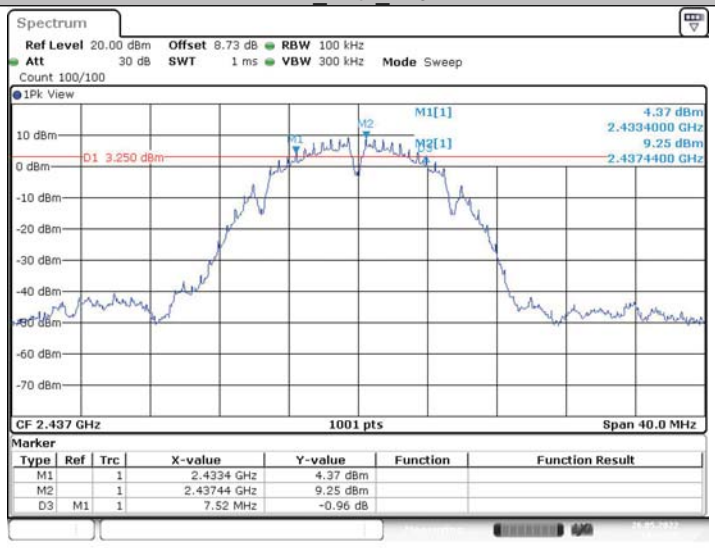
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.69	2401.58	2402.26	0.5	PASS
		2440	0.69	2439.57	2440.26	0.5	PASS
		2480	0.69	2479.56	2480.25	0.5	PASS
BLE_2M	Ant1	2402	1.24	2401.28	2402.52	0.5	PASS
		2440	1.24	2439.27	2440.51	0.5	PASS
		2480	1.25	2479.26	2480.51	0.5	PASS

6.1.2 Test Graphs

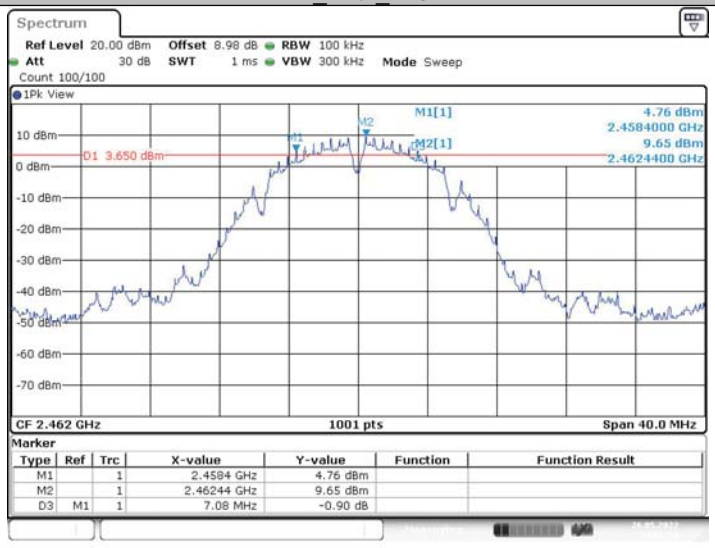
11B_Ant1_2412

11B_Ant2_2412

11B_Ant1_2437



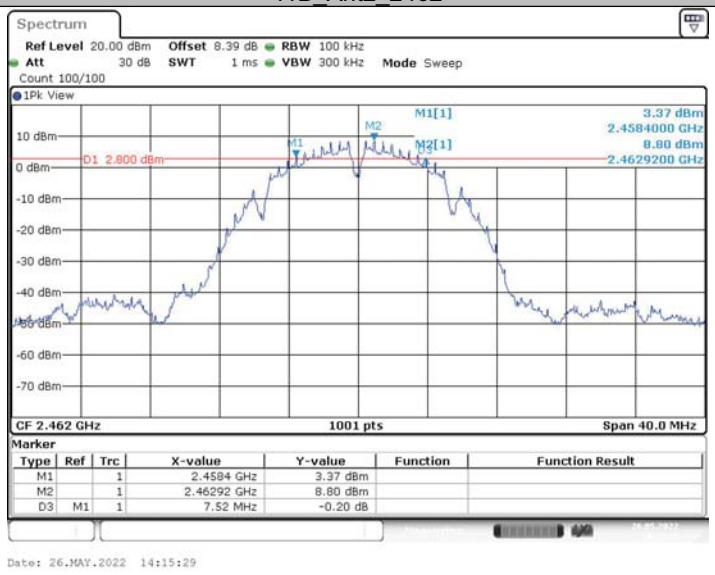
11B_Ant2_2437



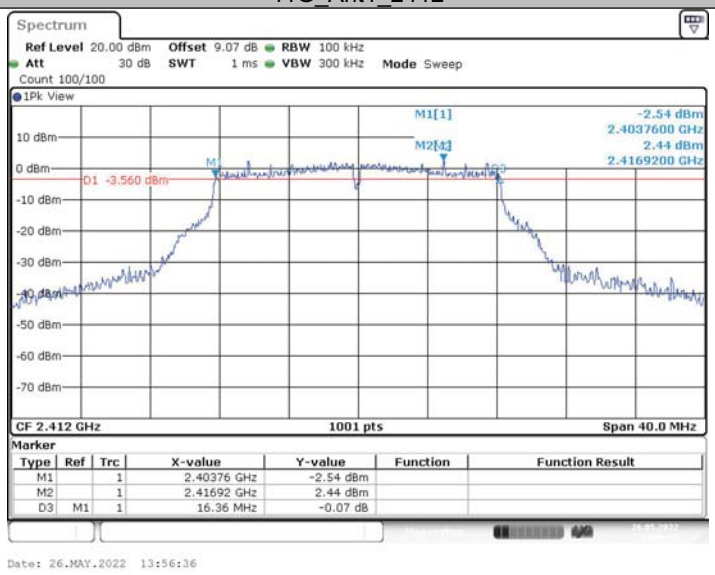
11B_Ant1_2462



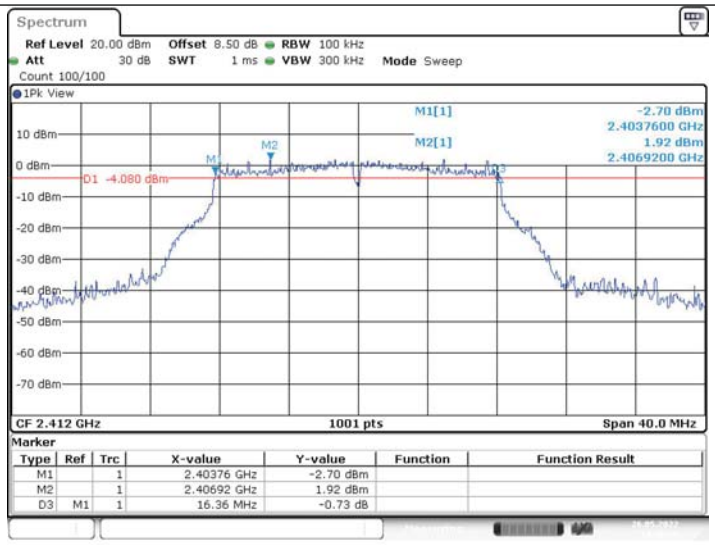
11B_Ant2_2462



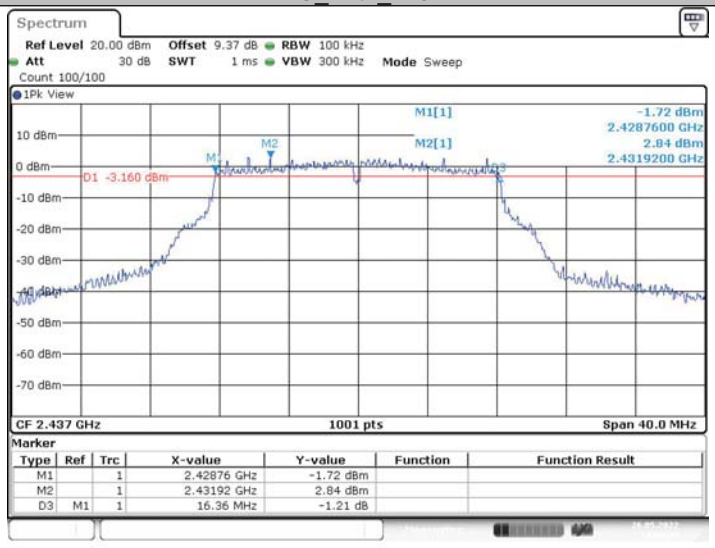
11G_Ant1_2412



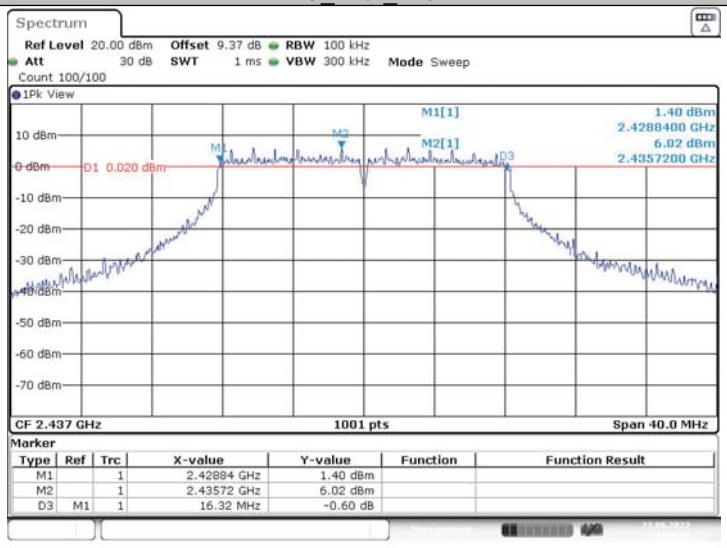
11G_Ant2_2412

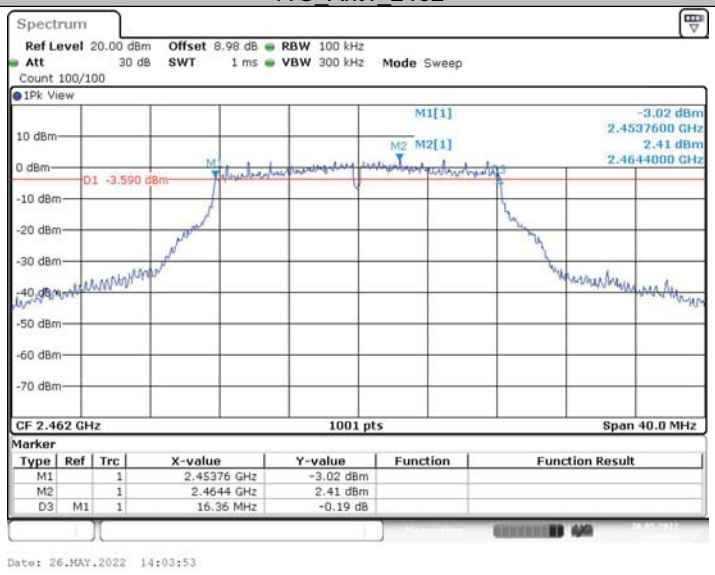
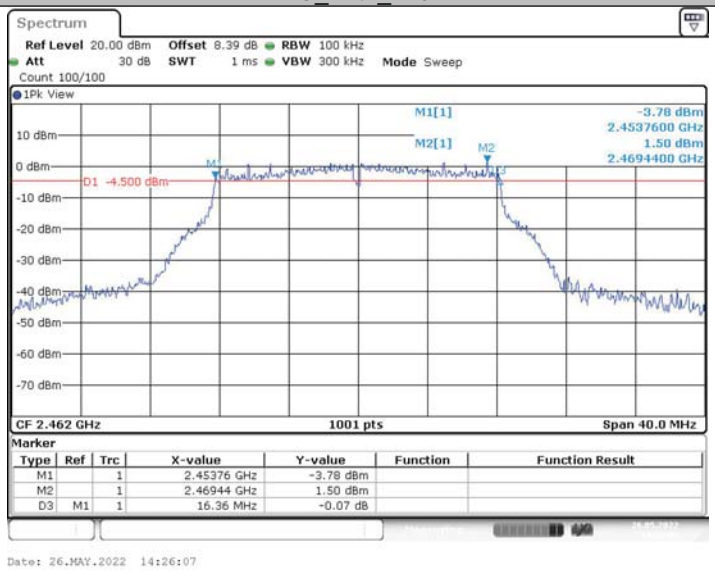


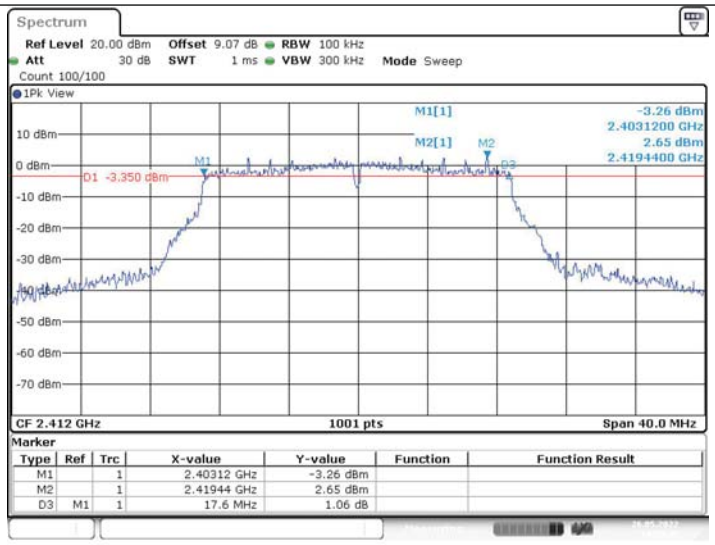
11G_Ant1_2437



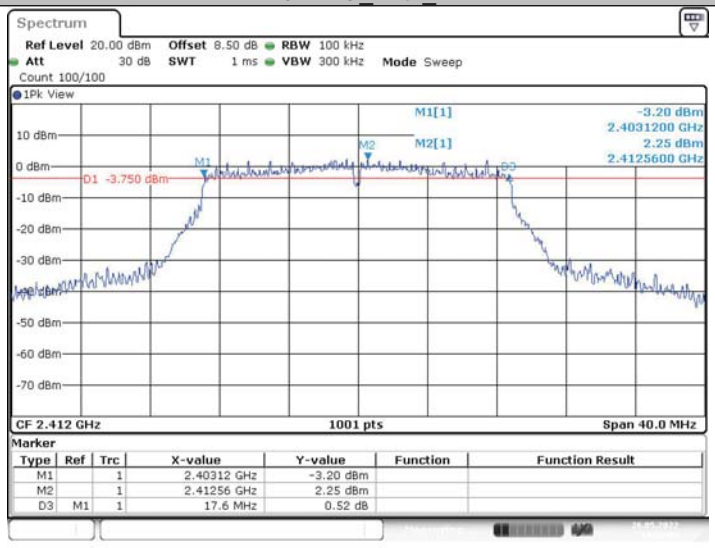
11G_Ant2_2437



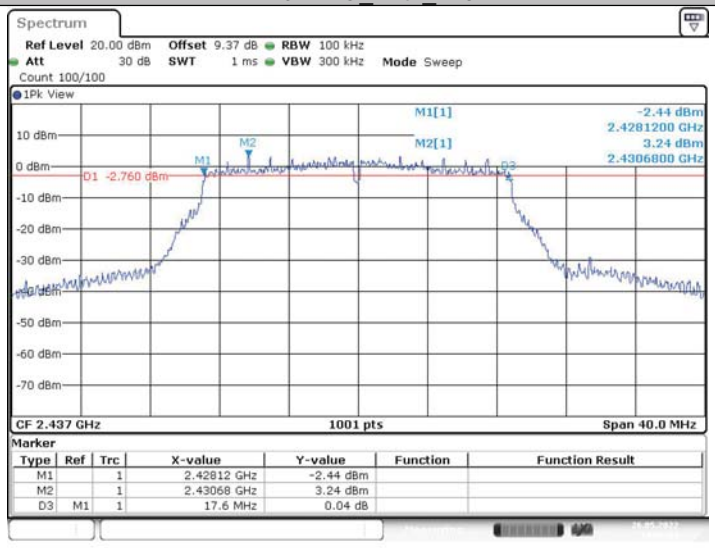
11G_Ant1_2462

11G_Ant2_2462

11N20MIMO_Ant1_2412



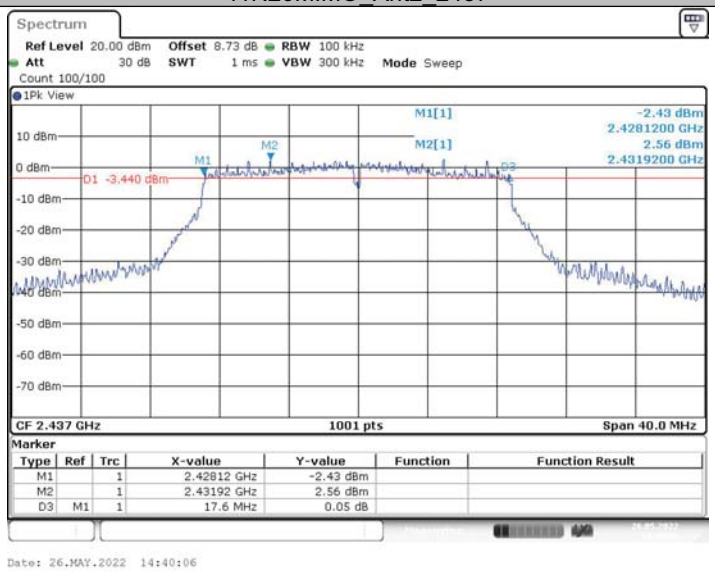
11N20MIMO_Ant2_2412



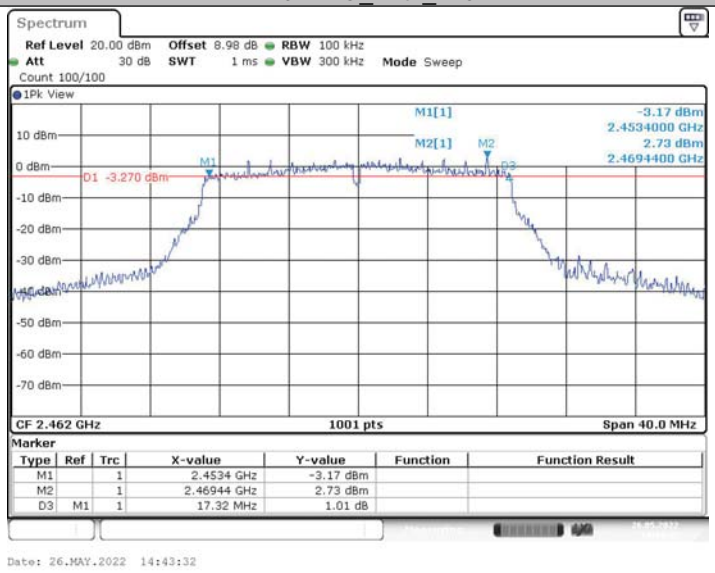
11N20MIMO_Ant1_2437



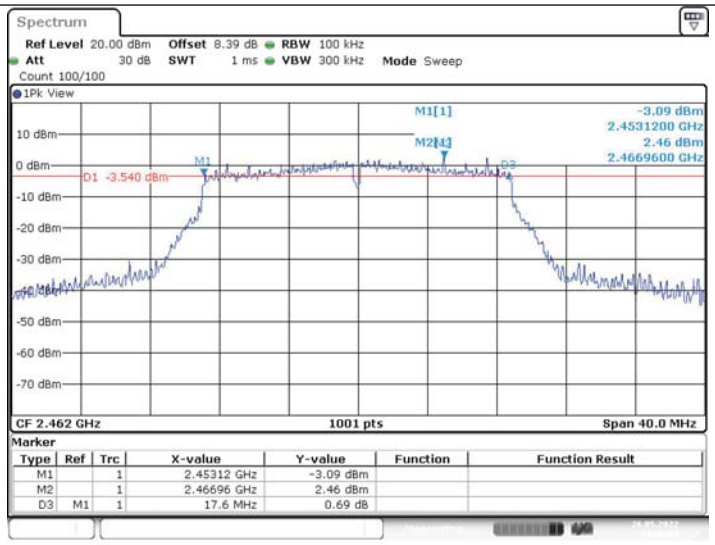
11N20MIMO_Ant2_2437



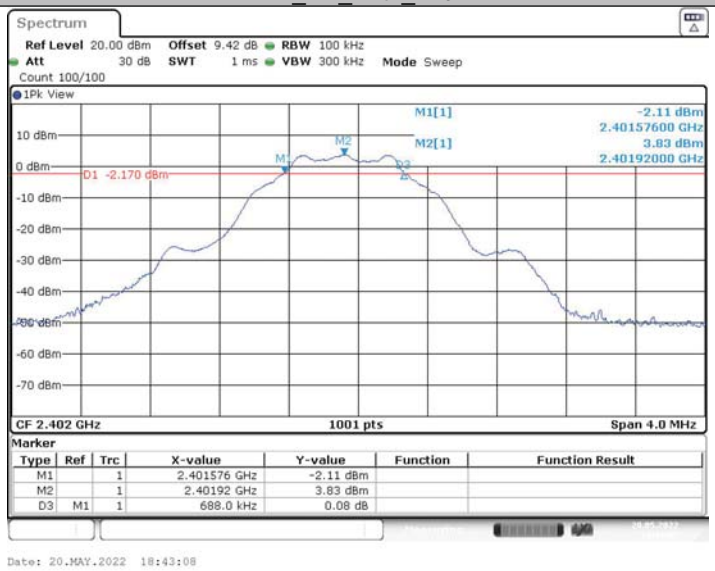
11N20MIMO_Ant1_2462



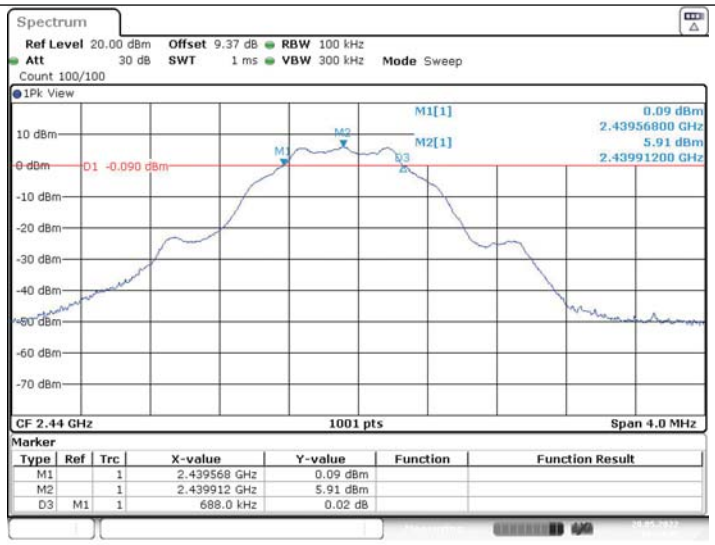
11N20MIMO_Ant2_2462



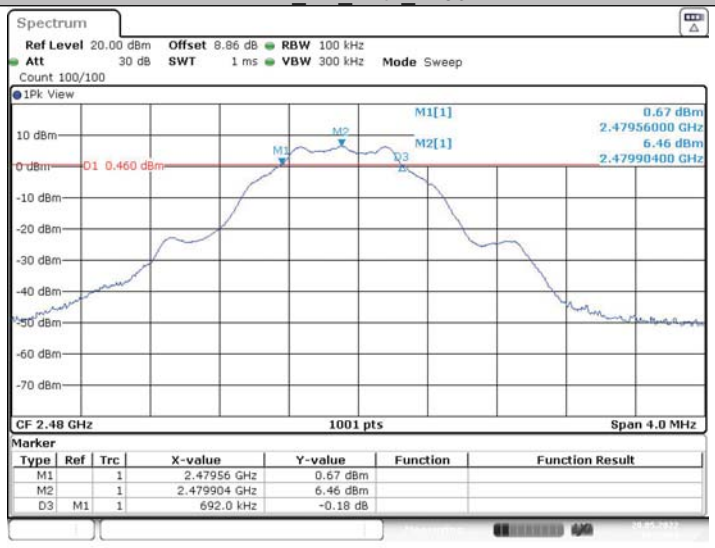
BLE_1M_Ant1_2402



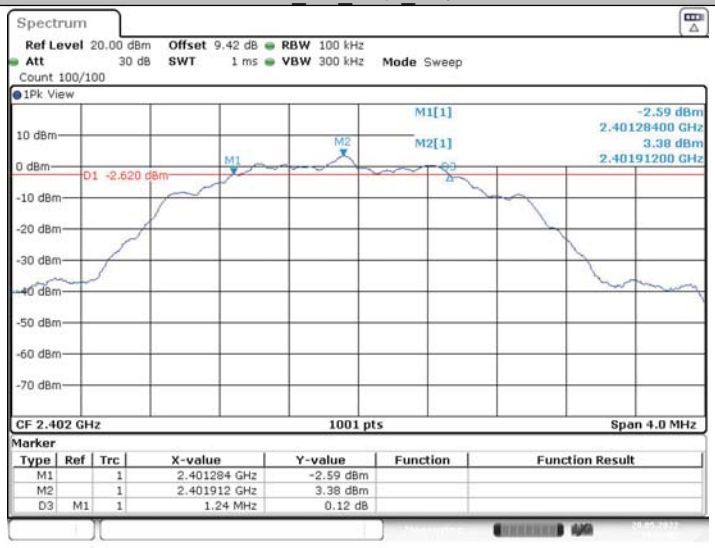
BLE_1M_Ant1_2440



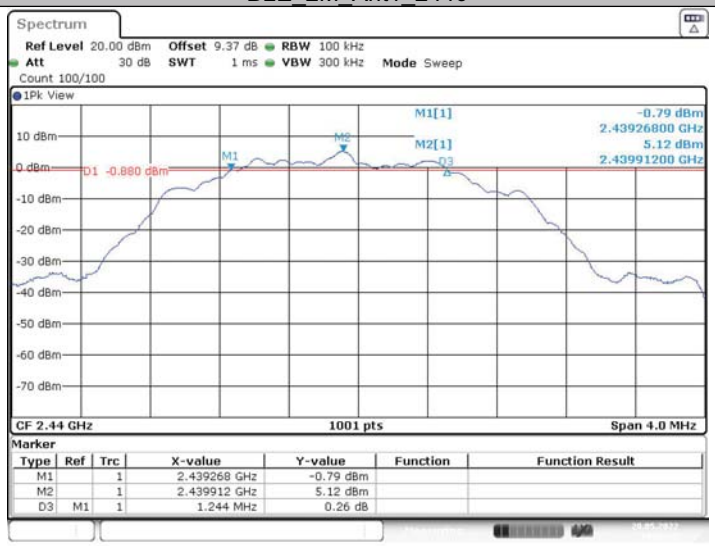
BLE_1M_Ant1_2480



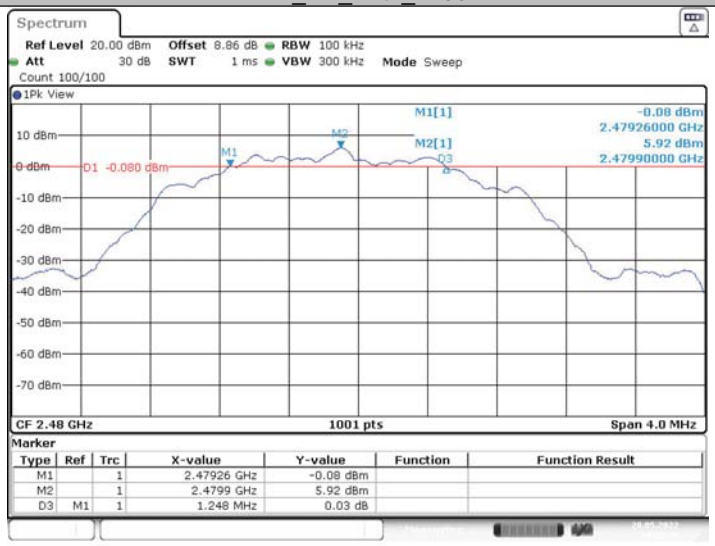
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



6.2 Occupied Channel Bandwidth

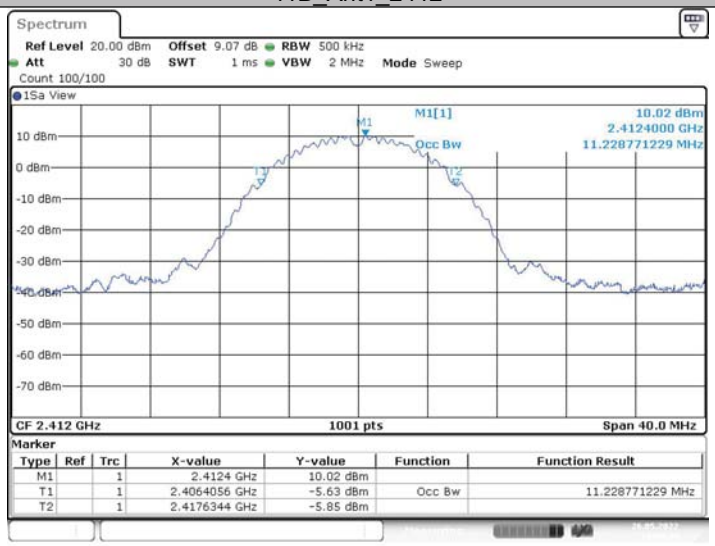
6.2.1 Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.229	2406.406	2417.634	---	---
	Ant2	2412	11.229	2406.326	2417.554	---	---
	Ant1	2437	11.269	2431.326	2442.594	---	---
	Ant2	2437	11.269	2431.246	2442.514	---	---
	Ant1	2462	11.349	2456.406	2467.754	---	---
	Ant2	2462	11.309	2456.366	2467.674	---	---
11G	Ant1	2412	17.902	2403.009	2420.911	---	---
	Ant2	2412	17.742	2403.049	2420.791	---	---
	Ant1	2437	17.742	2428.049	2445.791	---	---
	Ant2	2437	17.822	2433.004	2450.746	---	---
	Ant1	2462	17.742	2453.129	2470.871	---	---
	Ant2	2462	17.742	2453.129	2470.871	---	---
11N20MIMO	Ant1	2412	18.701	2402.609	2421.311	---	---
	Ant2	2412	18.062	2402.889	2420.951	---	---
	Ant1	2437	18.661	2427.569	2446.231	---	---
	Ant2	2437	18.142	2427.809	2445.951	---	---
	Ant1	2462	18.621	2452.689	2471.311	---	---
	Ant2	2462	18.102	2452.929	2471.031	---	---

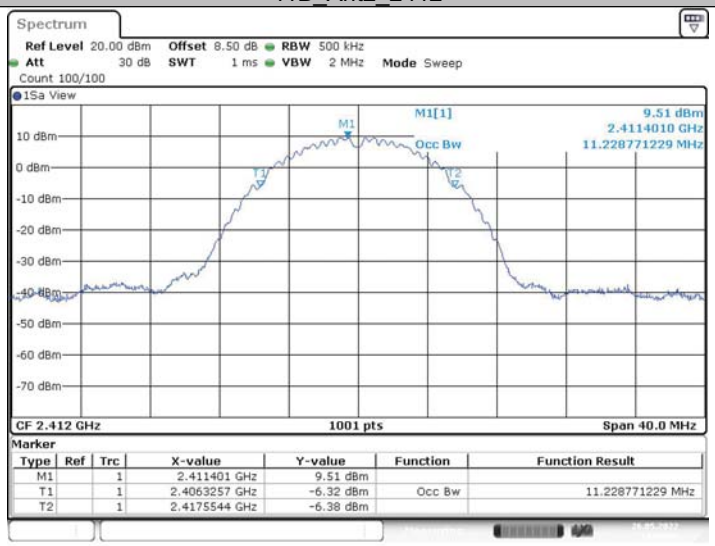
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.039	2401.489	2402.527	---	---
		2440	1.035	2439.489	2440.523	---	---
		2480	1.035	2479.489	2480.523	---	---

6.2.2 Test Graphs

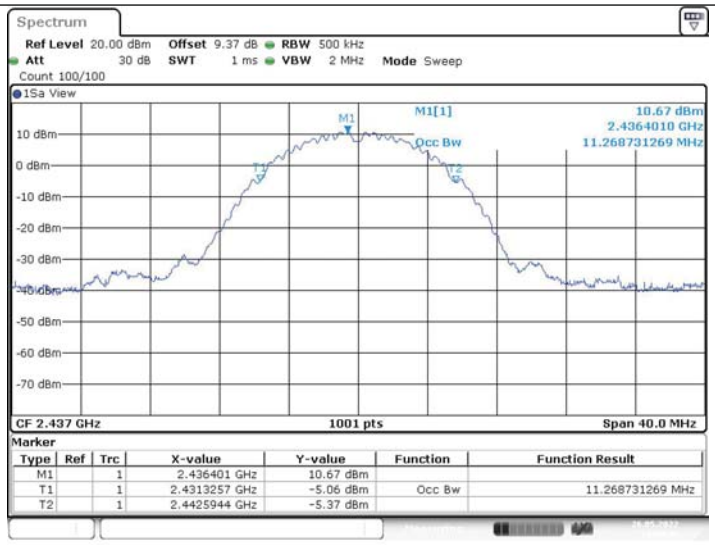
11B_Ant1_2412



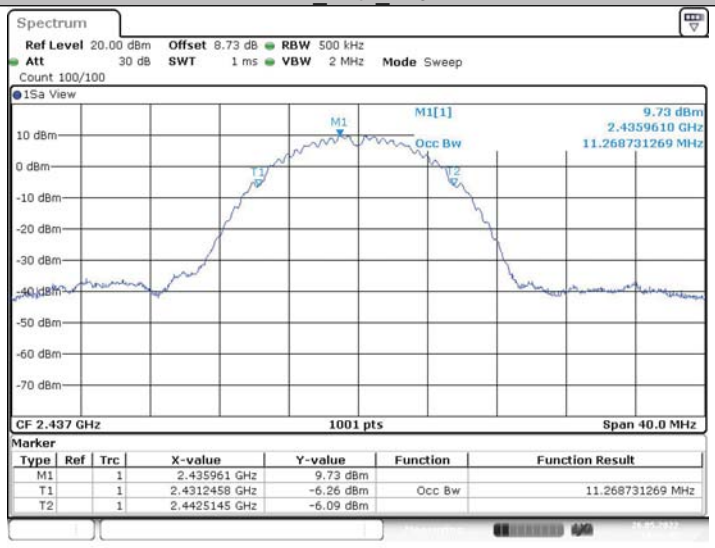
11B_Ant2_2412



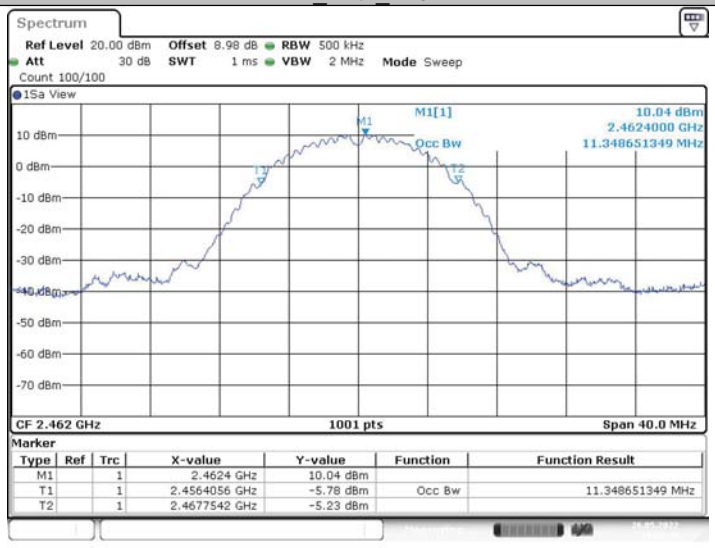
11B_Ant1_2437



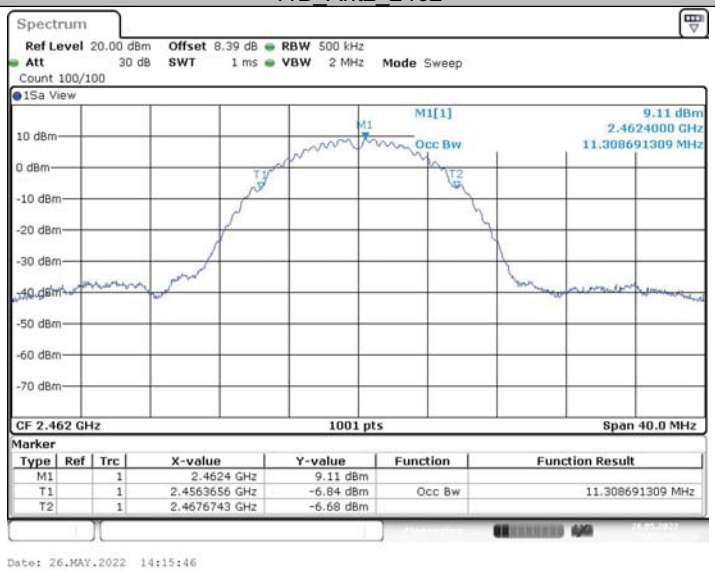
11B_Ant2_2437



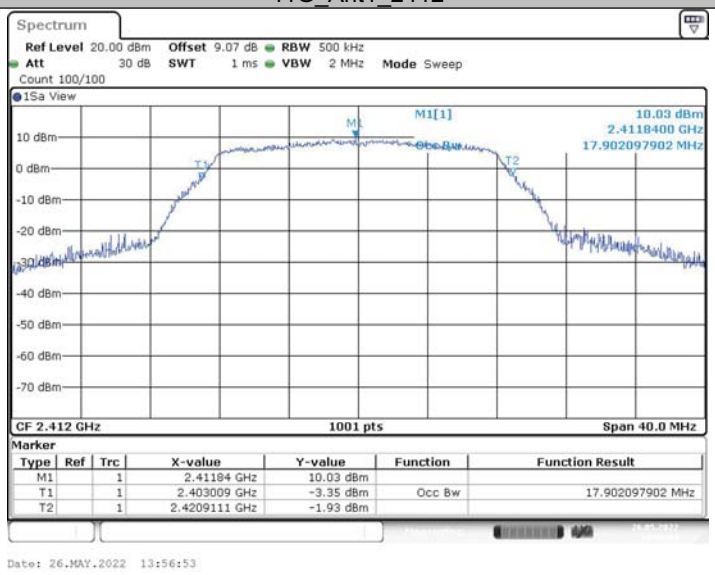
11B_Ant1_2462



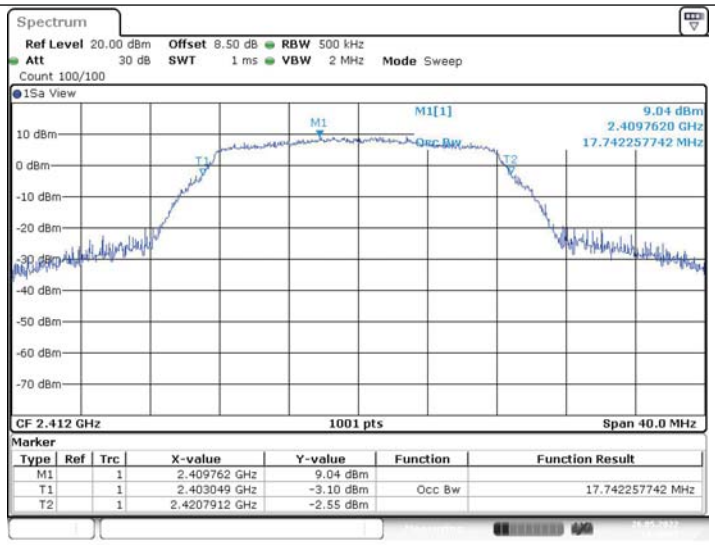
11B_Ant2_2462



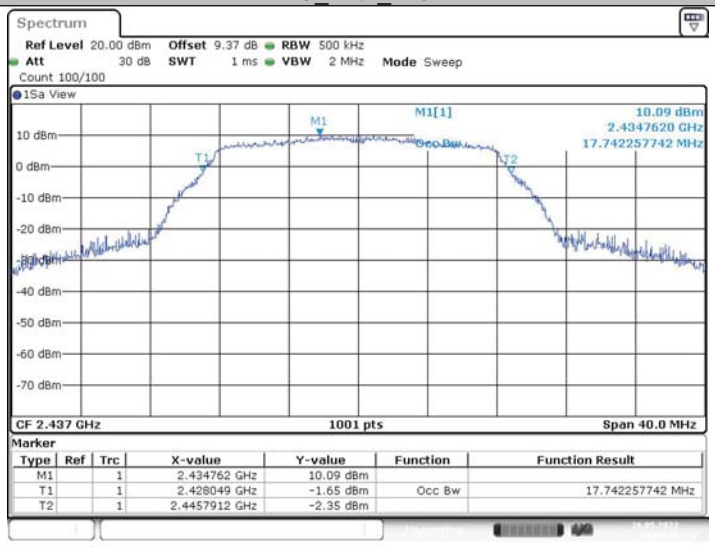
11G_Ant1_2412



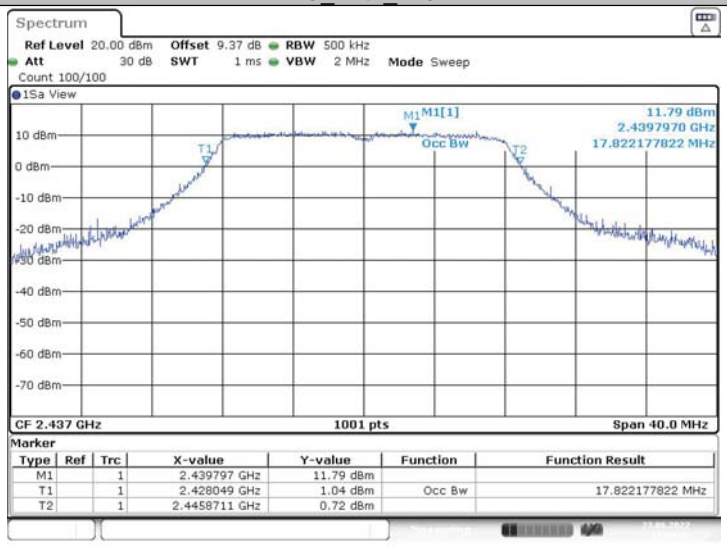
11G_Ant2_2412



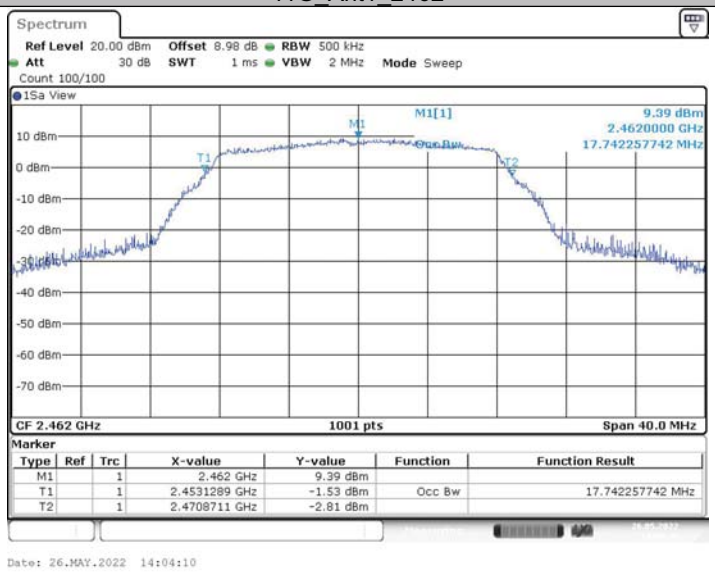
11G_Ant1_2437



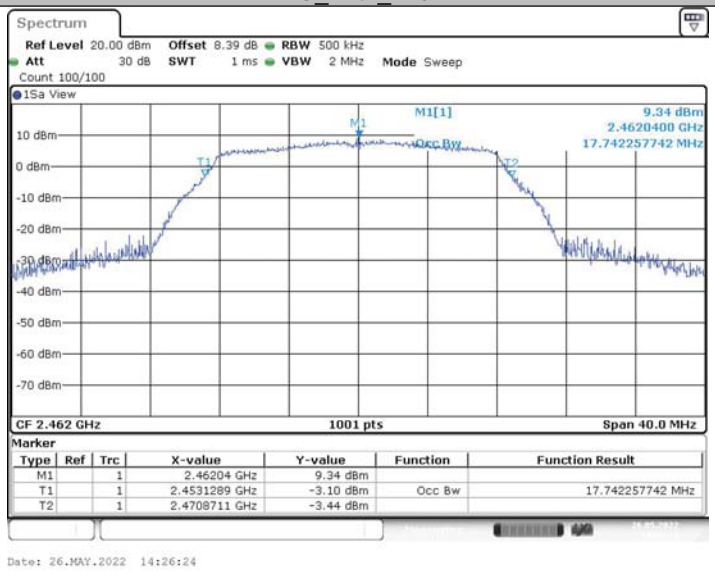
11G_Ant2_2437



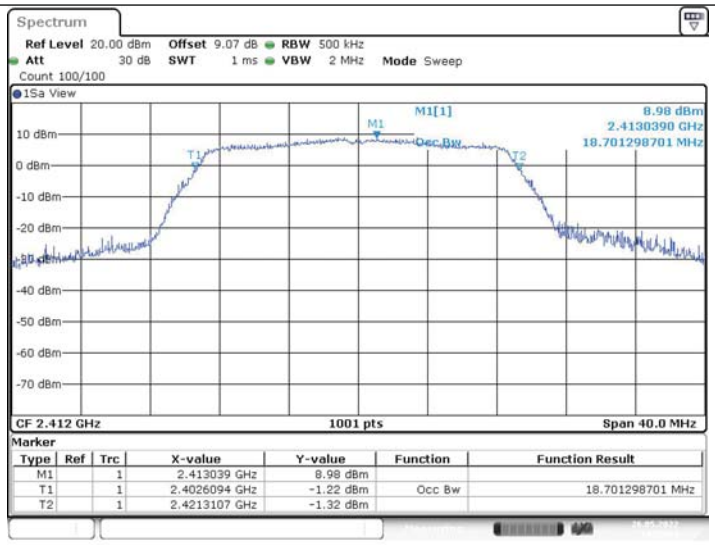
11G_Ant1_2462



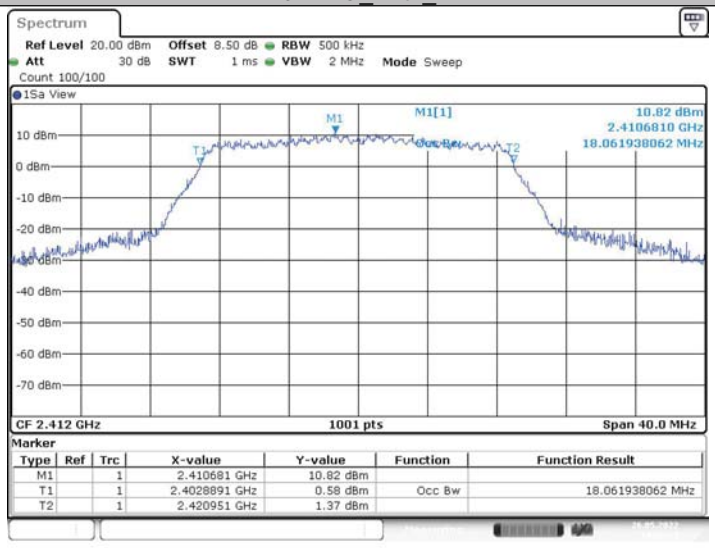
11G_Ant2_2462



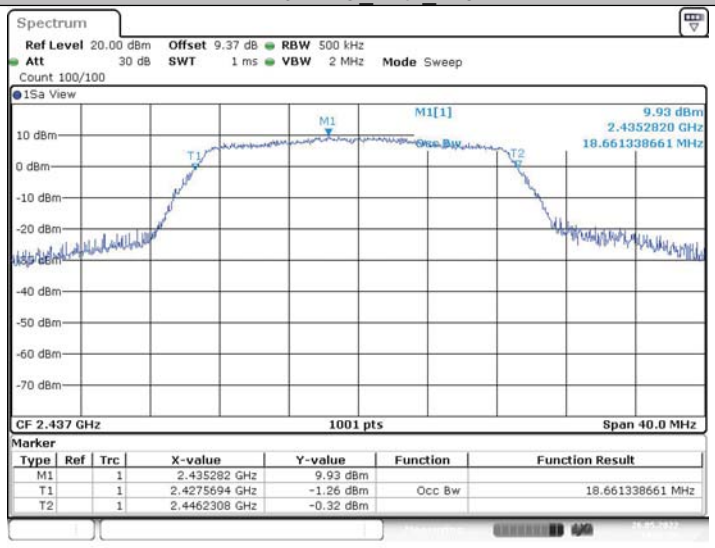
11N20MIMO_Ant1_2412



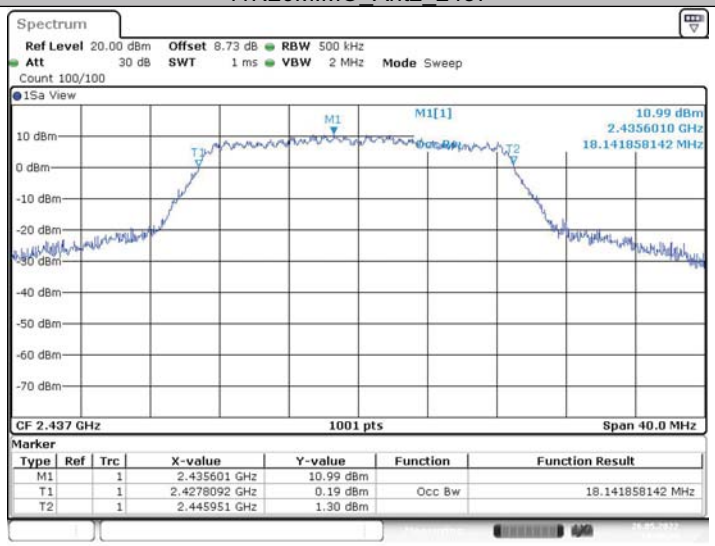
11N20MIMO_Ant2_2412



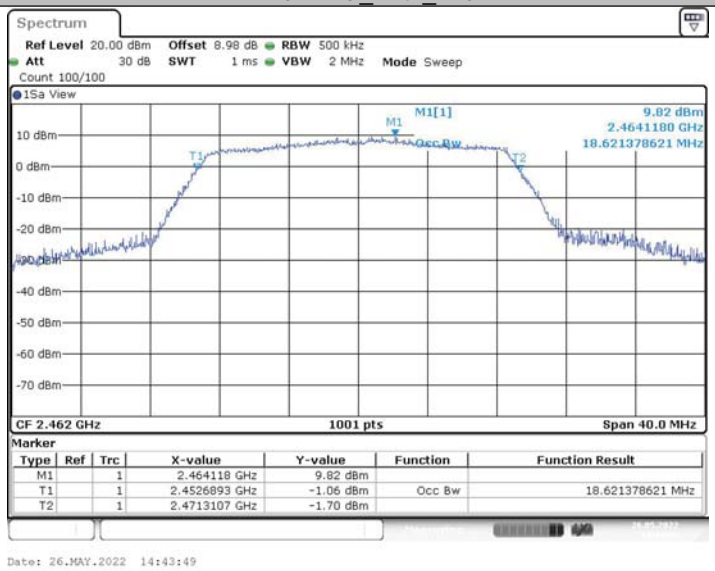
11N20MIMO_Ant1_2437



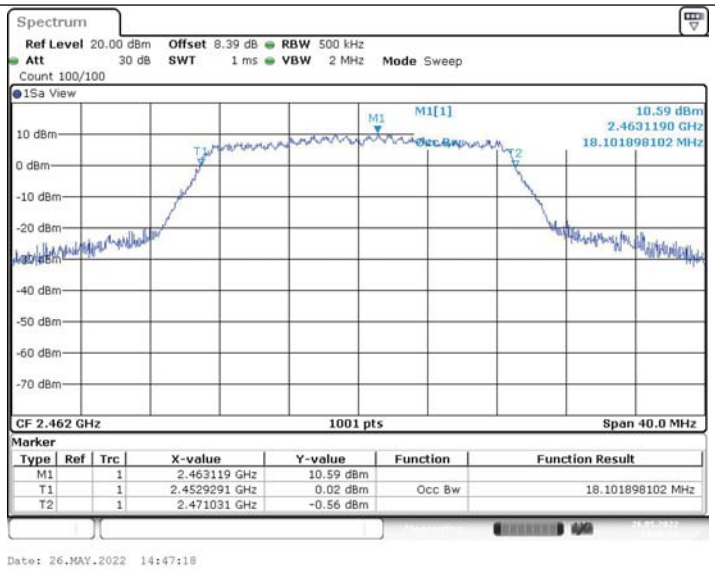
11N20MIMO_Ant2_2437



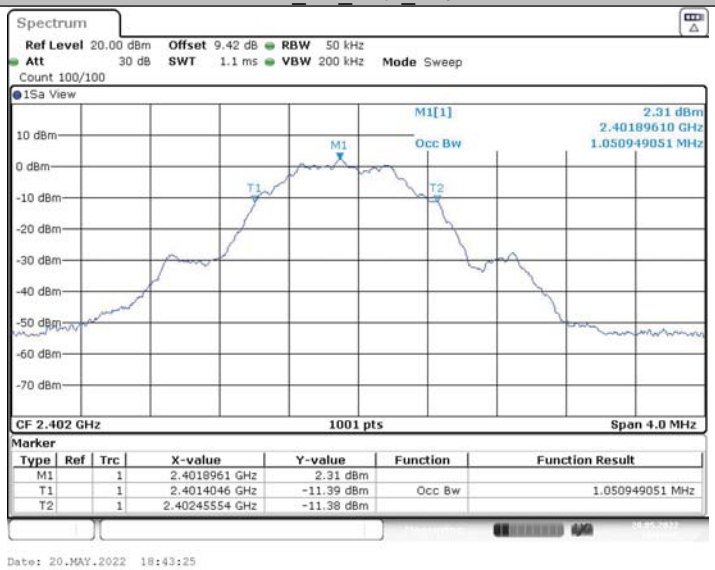
11N20MIMO_Ant1_2462



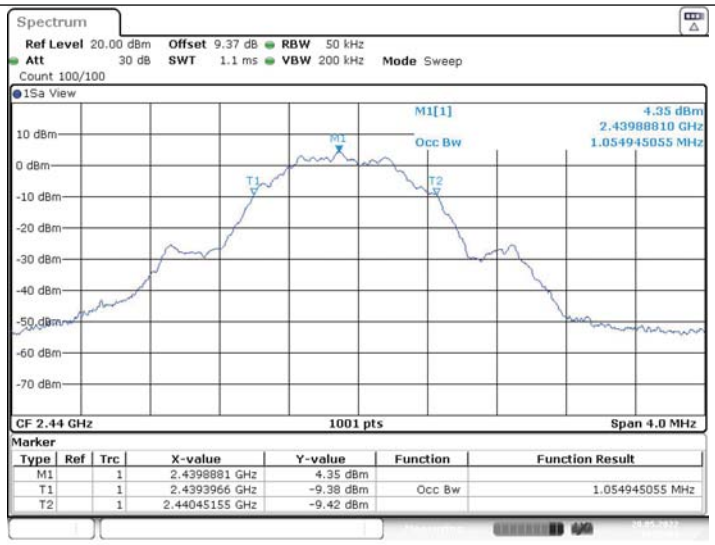
11N20MIMO_Ant2_2462



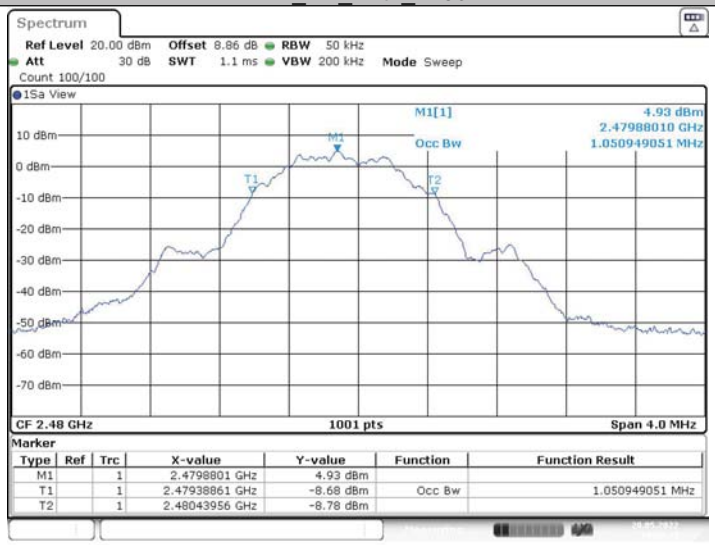
BLE_1M_Ant1_2402



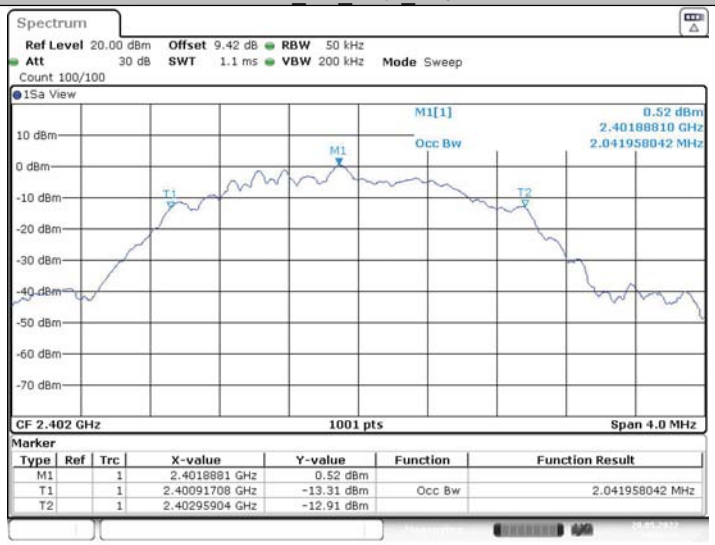
BLE_1M_Ant1_2440



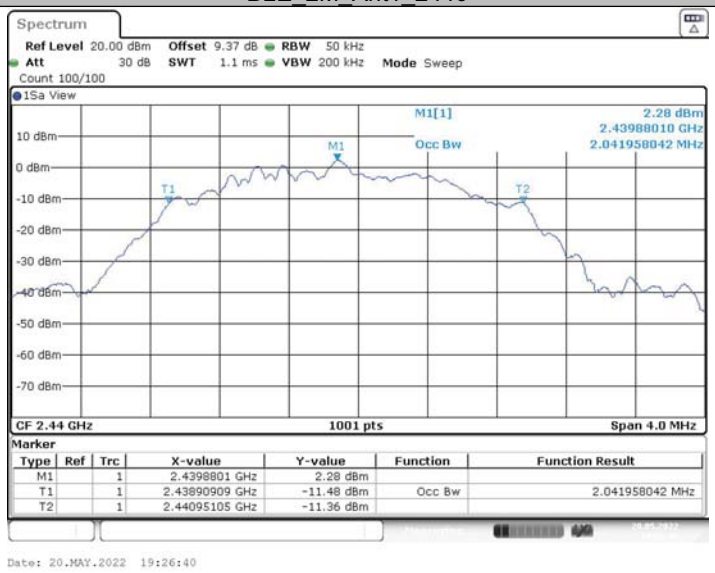
BLE_1M_Ant1_2480



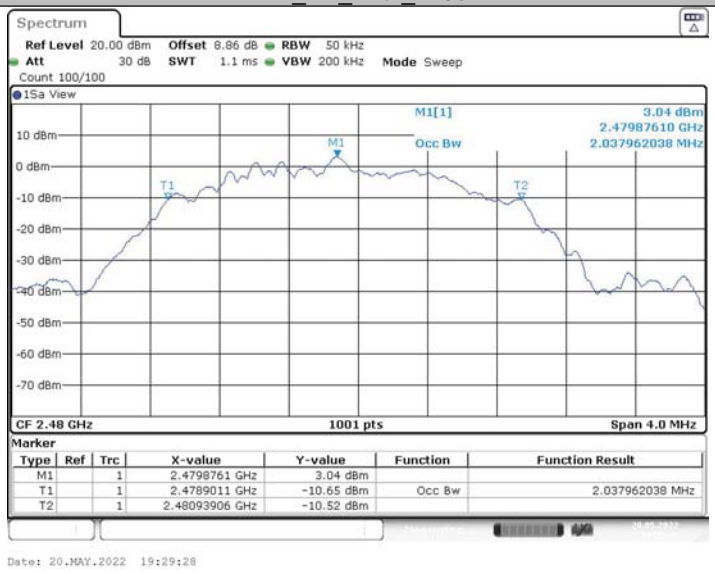
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



6.3 MAXIMUM OUTPUT POWER

6.3.1 Test Result

PK

TestMode	Antenna	Frequency[MHz]	Peak Powert[dBm]	Conducted Limit[dBm]	EIRP [dBm]	EIRP Limit[dBm]	Verdict
11B	Ant1	2412	14.72	≤30.00	15.9	≤36.00	PASS
	Ant2	2412	14.90	≤30.00	16.04	≤36.00	PASS
	Ant1	2437	14.41	≤30.00	15.59	≤36.00	PASS
	Ant2	2437	15.33	≤30.00	16.47	≤36.00	PASS
	Ant1	2462	14.92	≤30.00	16.1	≤36.00	PASS
	Ant2	2462	15.58	≤30.00	16.72	≤36.00	PASS
11G	Ant1	2412	23.12	≤30.00	24.30	≤36.00	PASS
	Ant2	2412	22.64	≤30.00	23.78	≤36.00	PASS
	Ant1	2437	23.45	≤30.00	24.63	≤36.00	PASS
	Ant2	2437	22.37	≤30.00	23.51	≤36.00	PASS
	Ant1	2462	22.80	≤30.00	23.98	≤36.00	PASS
	Ant2	2462	21.79	≤30.00	22.93	≤36.00	PASS
11N20MIMO	Ant1	2412	21.72	≤30.00	22.90	≤36.00	PASS
	Ant2	2412	21.93	≤30.00	23.07	≤36.00	PASS
	total	2412	24.84	≤30.00	26.00	≤36.00	PASS
	Ant1	2437	22.12	≤30.00	23.30	≤36.00	PASS
	Ant2	2437	22.03	≤30.00	23.17	≤36.00	PASS
	total	2437	25.09	≤30.00	26.25	≤36.00	PASS
	Ant1	2462	21.52	≤30.00	22.70	≤36.00	PASS
	Ant2	2462	21.52	≤30.00	22.66	≤36.00	PASS
	total	2462	24.53	≤30.00	25.69	≤36.00	PASS

TestMode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.09	≤30	6.23	≤36	PASS
		2440	7.08	≤30	8.22	≤36	PASS
		2480	7.67	≤30	8.81	≤36	PASS
BLE_2M	Ant1	2402	5.24	≤30	6.38	≤36	PASS
		2440	6.98	≤30	8.12	≤36	PASS
		2480	7.68	≤30	8.82	≤36	PASS

AV

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11B	Ant1	2412	10.33	≤30.00	1.18	11.51	≤36.00	PASS
	Ant2	2412	11.44	≤30.00	1.14	12.58	≤36.00	PASS
	Ant1	2437	10.16	≤30.00	1.18	11.34	≤36.00	PASS
	Ant2	2437	11.32	≤30.00	1.14	12.46	≤36.00	PASS
	Ant1	2462	9.86	≤30.00	1.18	11.04	≤36.00	PASS
	Ant2	2462	11.21	≤30.00	1.14	12.35	≤36.00	PASS
11G	Ant1	2412	13.48	≤30.00	1.18	14.66	≤36.00	PASS
	Ant2	2412	14.20	≤30.00	1.14	15.34	≤36.00	PASS
	Ant1	2437	13.18	≤30.00	1.18	14.36	≤36.00	PASS
	Ant2	2437	13.80	≤30.00	1.14	14.94	≤36.00	PASS
	Ant1	2462	12.92	≤30.00	1.18	14.10	≤36.00	PASS
	Ant2	2462	13.39	≤30.00	1.14	14.53	≤36.00	PASS
11N20MIMO	Ant1	2412	12.15	≤30.00	1.18	13.33	≤36.00	PASS
	Ant2	2412	13.11	≤30.00	1.14	14.25	≤36.00	PASS
	total	2412	15.67	≤30.00	---	16.82	≤36.00	PASS
	Ant1	2437	12.09	≤30.00	1.18	13.27	≤36.00	PASS
	Ant2	2437	13.00	≤30.00	1.14	14.14	≤36.00	PASS
	total	2437	15.58	≤30.00	---	16.74	≤36.00	PASS
	Ant1	2462	11.78	≤30.00	1.18	12.96	≤36.00	PASS
	Ant2	2462	12.70	≤30.00	1.14	13.84	≤36.00	PASS
	total	2462	15.27	≤30.00	---	16.43	≤36.00	PASS

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
BLE_1M	Ant1	2402	3.47	≤30.00	1.14	4.61	≤36.00	PASS
		2440	5.48	≤30.00	1.14	6.62	≤36.00	PASS
		2480	6.08	≤30.00	1.14	7.22	≤36.00	PASS
BLE_2M	Ant1	2402	3.45	≤30.00	1.14	4.59	≤36.00	PASS
		2440	5.20	≤30.00	1.14	6.34	≤36.00	PASS
		2480	5.93	≤30.00	1.14	7.07	≤36.00	PASS

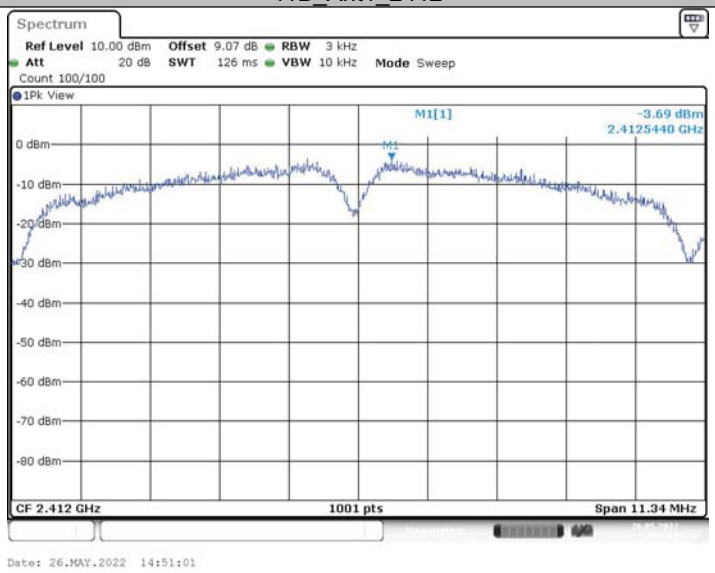
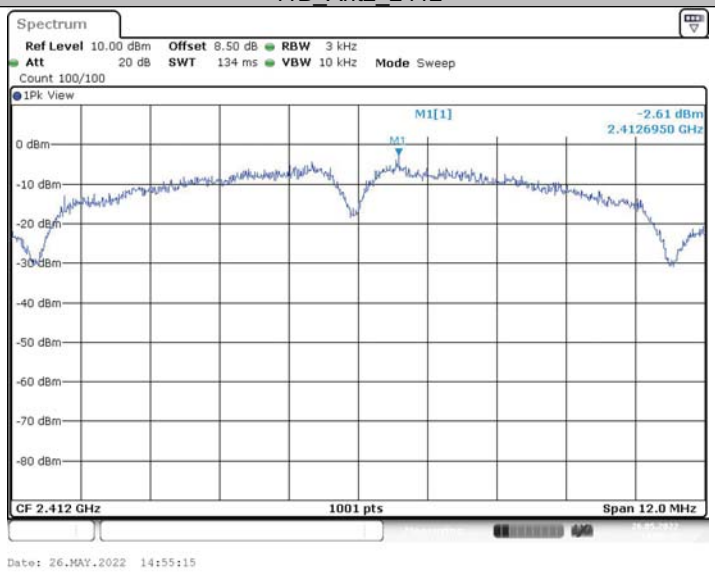
6.4 POWER SPECTRAL DENSITY MEASUREMENT

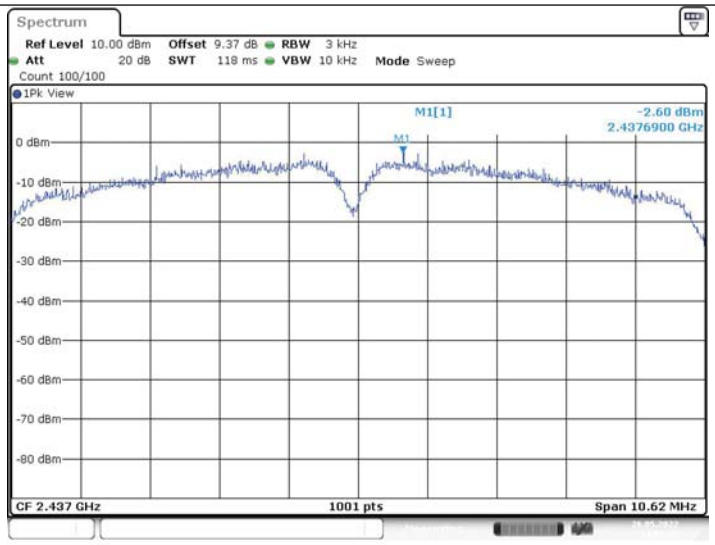
6.4.1 Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-3.69	≤8.00	PASS
	Ant2	2412	-2.61	≤8.00	PASS
	Ant1	2437	-2.6	≤8.00	PASS
	Ant2	2437	-4.18	≤8.00	PASS
	Ant1	2462	-4.2	≤8.00	PASS
	Ant2	2462	-5.3	≤8.00	PASS
11G	Ant1	2412	-9.73	≤8.00	PASS
	Ant2	2412	-9.61	≤8.00	PASS
	Ant1	2437	-8.45	≤8.00	PASS
	Ant2	2437	-8.92	≤8.00	PASS
	Ant1	2462	-8.54	≤8.00	PASS
	Ant2	2462	-10.35	≤8.00	PASS
11N20MIMO	Ant1	2412	-8.72	≤8.00	PASS
	Ant2	2412	-10.04	≤8.00	PASS
	total	2412	-6.32	≤8.00	PASS
	Ant1	2437	-8.93	≤8.00	PASS
	Ant2	2437	-9.57	≤8.00	PASS
	total	2437	-6.23	≤8.00	PASS
	Ant1	2462	-9.81	≤8.00	PASS
	Ant2	2462	-10.33	≤8.00	PASS
	total	2462	-7.05	≤8.00	PASS

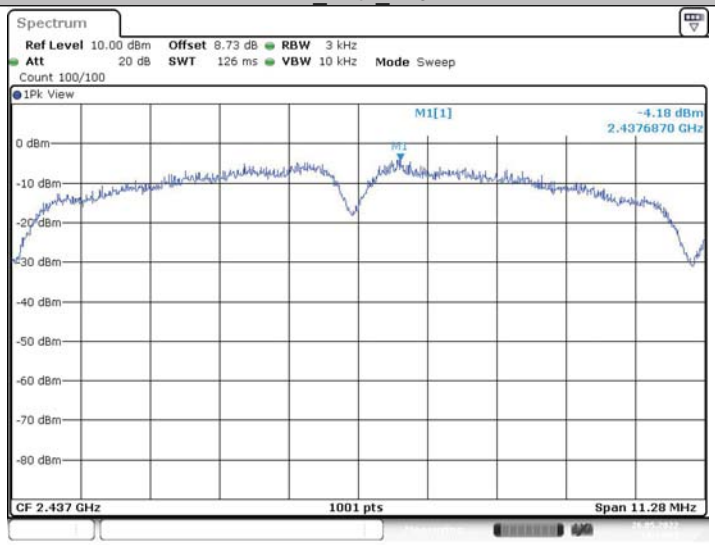
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.12	≤8.00	PASS
		2440	-8.99	≤8.00	PASS
		2480	-8.34	≤8.00	PASS
BLE_2M	Ant1	2402	-13.54	≤8.00	PASS
		2440	-11.64	≤8.00	PASS
		2480	-10.81	≤8.00	PASS

6.4.2 Test Graphs

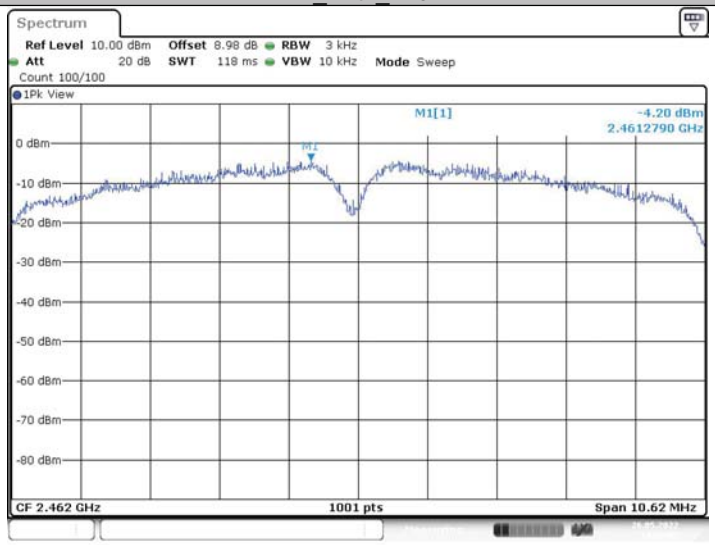
11B_Ant1_2412

11B_Ant2_2412

11B_Ant1_2437



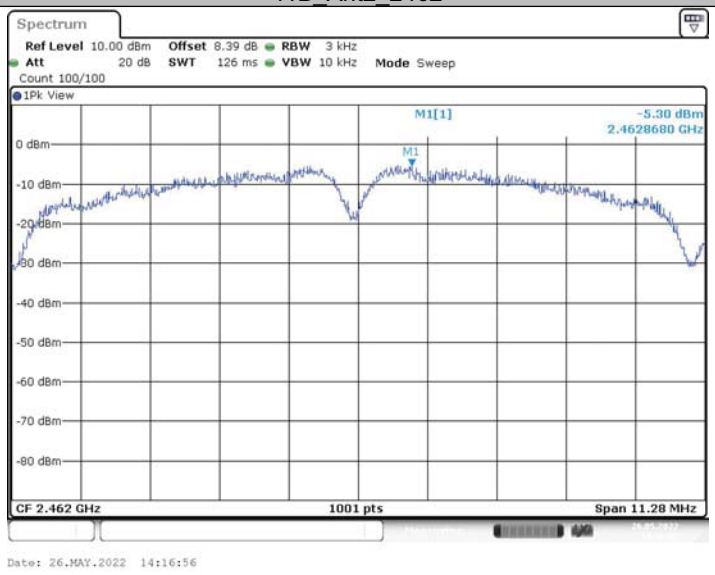
11B_Ant2_2437



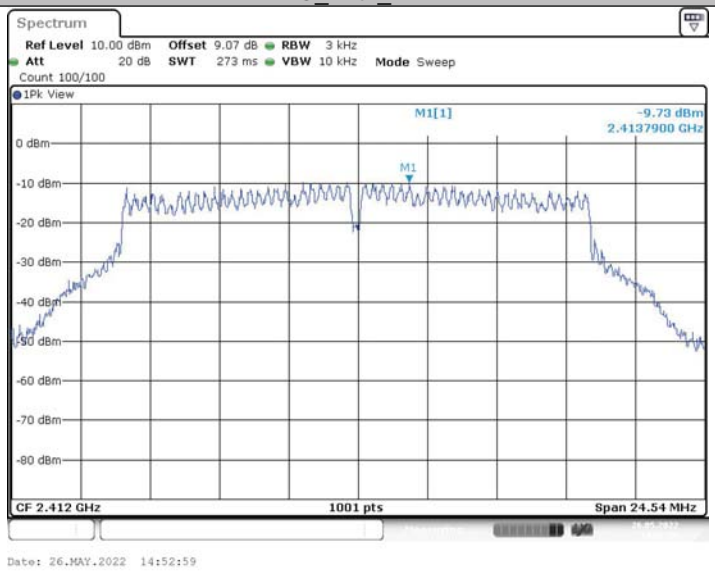
11B_Ant1_2462



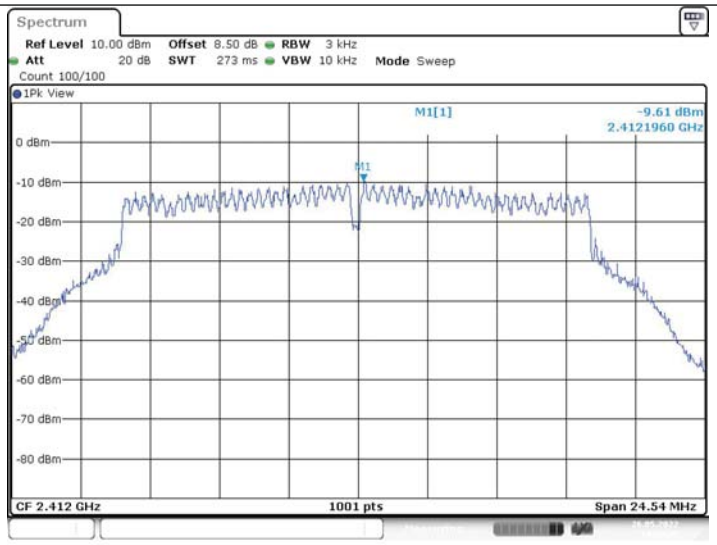
11B_Ant2_2462



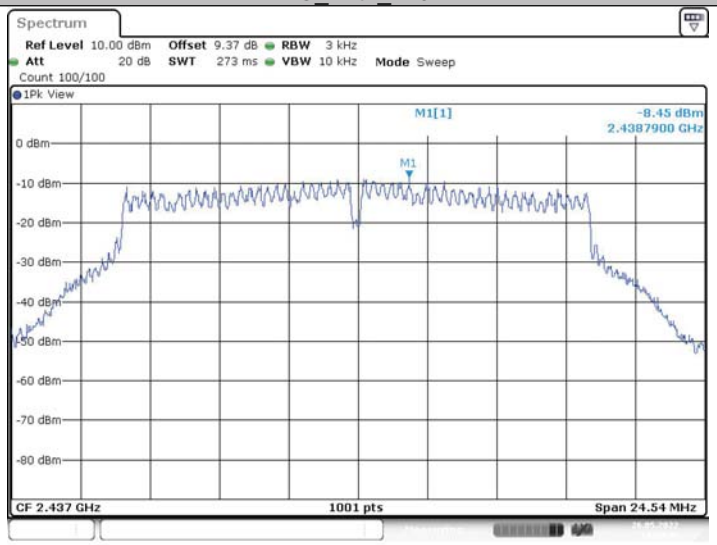
11G_Ant1_2412



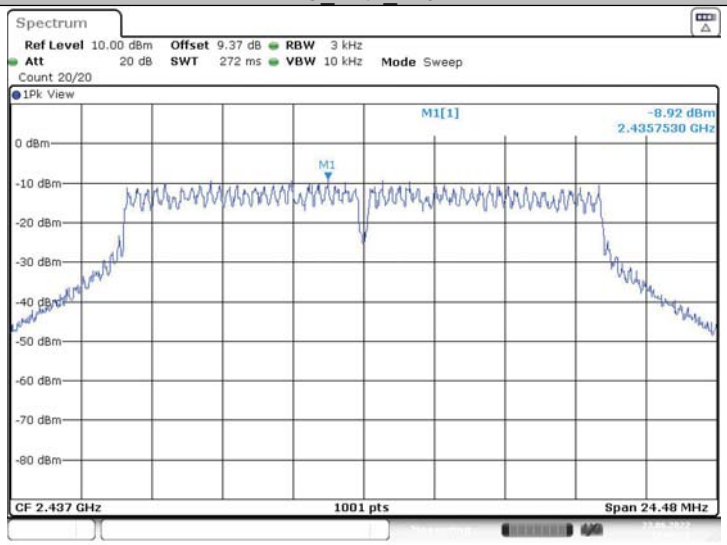
11G_Ant2_2412



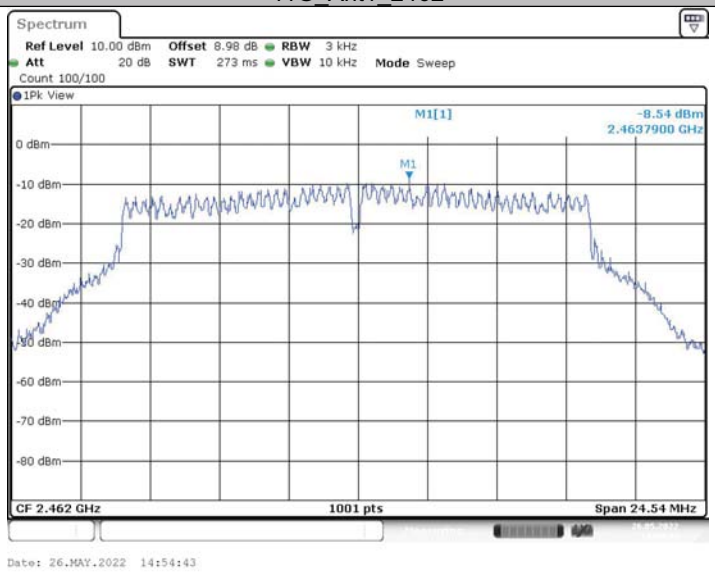
11G_Ant1_2437



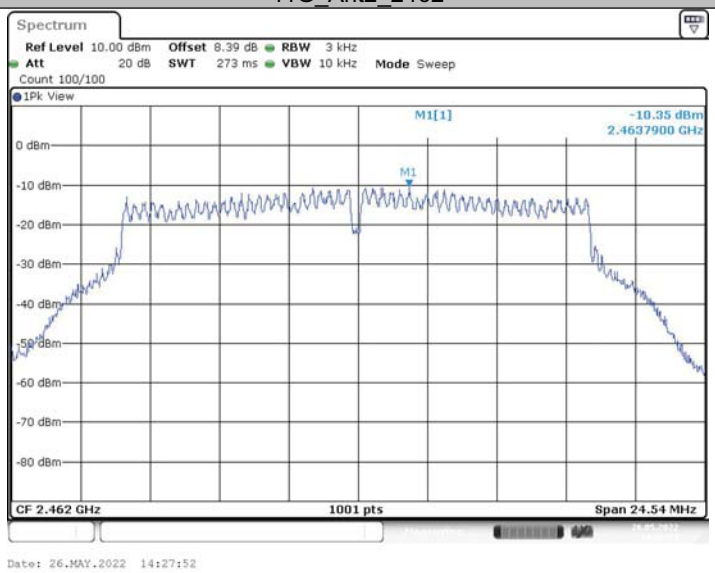
11G_Ant2_2437



11G_Ant1_2462



11G_Ant2_2462



11N20MIMO_Ant1_2412