FCC RF Test Report

APPLICANT	**:**	**Motorola Mobility LLC**
EQUIPMENT	**:**	**Mobile Cellular Phone**
BRAND NAME	**:**	**Motorola**
MODEL NAME	**:**	**XT2551-1, XT2551-2 ,XT2551-6**
FCC ID	**:**	**IHDT56AU1**
STANDARD	**:**	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	**:**	**(DTS) Digital Transmission System**
TEST DATE(S)	**:**	**Dec. 14, 2024 ~ Dec. 18, 2024**

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (Kunshan)

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.01

Sporton International Inc. (ShenZhen)
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR4N2802B	Rev. 01	Initial issue of report	Jan. 10, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report only	-
3.2	15.247(b)(3)	Peak Output Power	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	≤ 20dBc	Pass	-
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 10.01 dB at 2483.52 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 14.86 dB at 0.788 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2551-1, XT2551-2 ,XT2551-6
FCC ID	IHDT56AU1
IMEI Code	Conducted: 350086570034053/350086570034061 Conduction: 350086570035811/350086570035829 Radiation: 350086570036033/350086570036041
HW Version	DVT2
SW Version	V2VL35.5
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The three models are the same product except model name different for market segment.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	40
Carrier Frequency of Each Channel	40 Channel(37 hopping + 3 advertising channel)
Maximum Output Power to Antenna	**<2TX Ant 6+7>** BLE 1Mbps: 8.65 dBm (0.0073 W) BLE 2Mbps: 8.53 dBm (0.0071 W) BLE 125Kbps: 8.77 dBm (0.0075 W) BLE 500Kbps: 8.67 dBm (0.0074 W) **<SISO Ant 6>** BLE 1Mbps: 10.06 dBm (0.0101 W) BLE 2Mbps: 10.03 dBm (0.0101 W) BLE 125Kbps: 10.09 dBm (0.0102 W) BLE 500Kbps: 10.07 dBm (0.0102 W) **<SISO Ant 7>** BLE 1Mbps: 12.84 dBm (0.0192 W)

	BLE 2Mbps: 12.82 dBm (0.0191 W) BLE 125Kbps: 12.89 dBm (0.0195 W) BLE 500Kbps: 12.87 dBm (0.0194 W)
99% Occupied Bandwidth	**<2TX Ant 6+7>** BLE 1Mbps:1.026MHz BLE 2Mbps:2.045MHz BLE 125Kbps:1.048MHz BLE 500Kbps:1.024MHz **<SISO Ant 6>** BLE 1Mbps:1.021MHz BLE 2Mbps:2.041MHz BLE 125Kbps:1.037MHz BLE 500Kbps:1.015MHz **<SISO Ant 7>** BLE 1Mbps:1.019MHz BLE 2Mbps:2.040MHz BLE 125Kbps:1.036MHz BLE 500Kbps:1.017MHz
Antenna Type / Gain	**<Ant 6> :** IFA Antenna type with gain -2.1 dBi **<Ant 7> :** IFA Antenna type with gain -0.4 dBi
Type of Modulation	Bluetooth LE : GFSK

Note:

1. The device supports Bluetooth SISO&2TX mode.
2. For BLE 1Mbps & 2Mbps & 125Kbps & 500Kbps mode, the RSE testing has assessed BLE 125Kbps mode by referring to the higher conducted power.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-KS	CN1257	314309

Test data subcontracted: conduction test case in section 3.6 of this report.

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH01-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	CO01-KS	AUDIX	E3	6.2009-8-24
2.	03CH01-SZ	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

1.9 Specification of Accessory

Accessories Information				
AC Adapter 1(US)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-681N
AC Adapter 1(EU)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-682N
AC Adapter 1(UK)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-683N
AC Adapter 1(AU)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-685N
AC Adapter 1(AR)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-686N
AC Adapter 1(BR)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-687N
AC Adapter 1(CHILE)	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-689N
AC Adapter 2(US)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-681N
AC Adapter 2(EU)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-682N
AC Adapter 2(UK)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-683N
AC Adapter 2(AU)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-685N
AC Adapter 2(AR)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-686N
AC Adapter 2(BR)	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-687N
Battery 1	**Brand Name**	Motorola(ATL)	**Model Name**	RS13
Battery 2	**Brand Name**	Motorola(ATL)	**Model Name**	RS35
USB Cable 1	**Brand Name**	Motorola(saibao)	**Model Name**	SC18D71644
USB Cable 2	**Brand Name**	Motorola(Luxshare)	**Model Name**	SC18E08104
USB Cable 3	**Brand Name**	Motorola(saibao)	**Model Name**	SC18D86731
USB Cable 4	**Brand Name**	Motorola(Luxshare)	**Model Name**	SC18E08103

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	0	2402	21	2444
	1	2404	22	2446
	2	2406	23	2448
	3	2408	24	2450
	4	2410	25	2452
	5	2412	26	2454
	6	2414	27	2456
	7	2416	28	2458
	8	2418	29	2460
	9	2420	30	2462
	10	2422	31	2464
	11	2424	32	2466
	12	2426	33	2468
	13	2428	34	2470
	14	2430	35	2472
	15	2432	36	2474
	16	2434	37	2476
	17	2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

2.2 Test Mode

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z/X plane) were recorded in this report.

b. The EUT is a folding phone, pretest the open status and closed status, only the worst status perform final test and record in the report. For the accessories, pretest standalone mode / Earphone mode / Adapter mode / Wireless charging mode, only the worst status perform final test and record in the report.

c. AC power line Conducted Emission was tested under maximum output power.

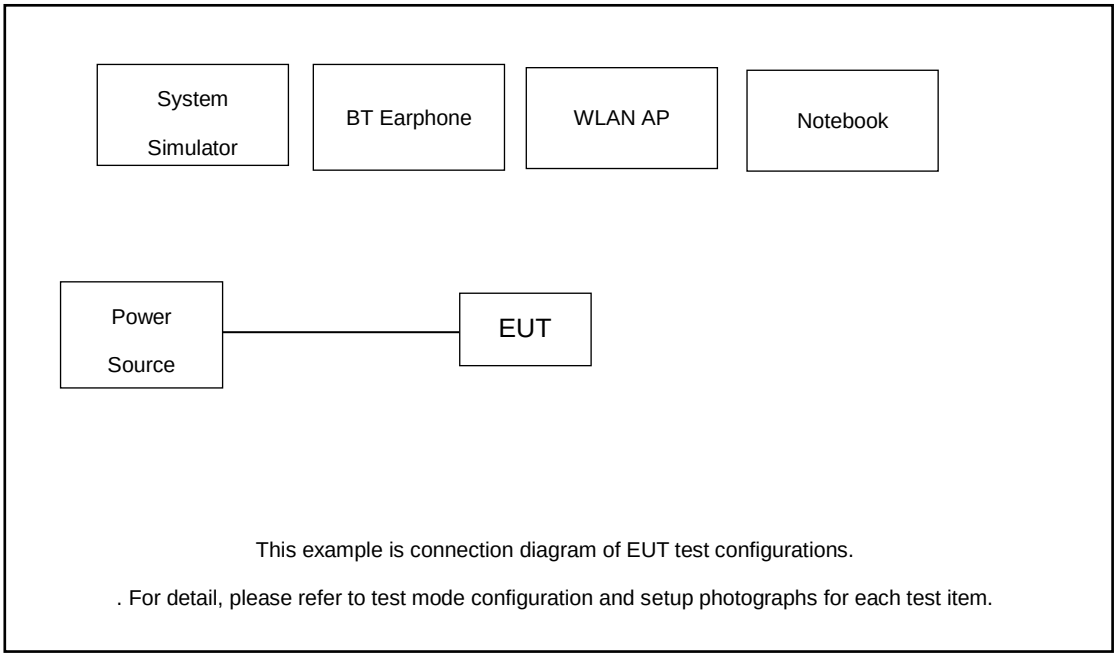
The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	**Data Rate / Modulation**
	Bluetooth – LE / GFSK
Conducted TCs	Mode 1: Bluetooth Tx CH00_2402 MHz_BLE 1Mbps Mode 2: Bluetooth Tx CH19_2440 MHz_BLE 1Mbps Mode 3: Bluetooth Tx CH39_2480 MHz_BLE 1Mbps Mode 4: Bluetooth Tx CH00_2402 MHz _BLE 2Mbps Mode 5: Bluetooth Tx CH19_2440 MHz _BLE 2Mbps Mode 6: Bluetooth Tx CH39_2480 MHz _BLE 2Mbps Mode 7: Bluetooth Tx CH00_2402 MHz _BLE 125Kbps Mode 8: Bluetooth Tx CH19_2440 MHz _BLE 125Kbps Mode 9: Bluetooth Tx CH39_2480 MHz _BLE 125Kbps Mode 10: Bluetooth Tx CH00_2402 MHz _BLE 500Kbps Mode 11: Bluetooth Tx CH19_2440 MHz _BLE 500Kbps Mode 12: Bluetooth Tx CH39_2480 MHz _BLE 500Kbps
Radiated TCs	Mode 1: Bluetooth Tx CH00_2402 MHz _BLE 125Kbps Mode 2: Bluetooth Tx CH19_2440 MHz _BLE 125Kbps Mode 3: Bluetooth Tx CH39_2480 MHz _BLE 125Kbps Mode 4: Bluetooth Tx CH00_2402 MHz _BLE 2Mbps Mode 5: Bluetooth Tx CH19_2440 MHz _BLE 2Mbps Mode 6: Bluetooth Tx CH39_2480 MHz _BLE 2Mbps
AC Conducted	Mode 1: GSM850 Idle + BT Link + WLAN Link(2.4G) + Battery + USB Cable 1(Charging from Adapter1)

Emission	
Remark: For Radiated Test Cases, The tests were performance with Adapter1 and USB Cable1.	

2.3 Connection Diagram of Test System

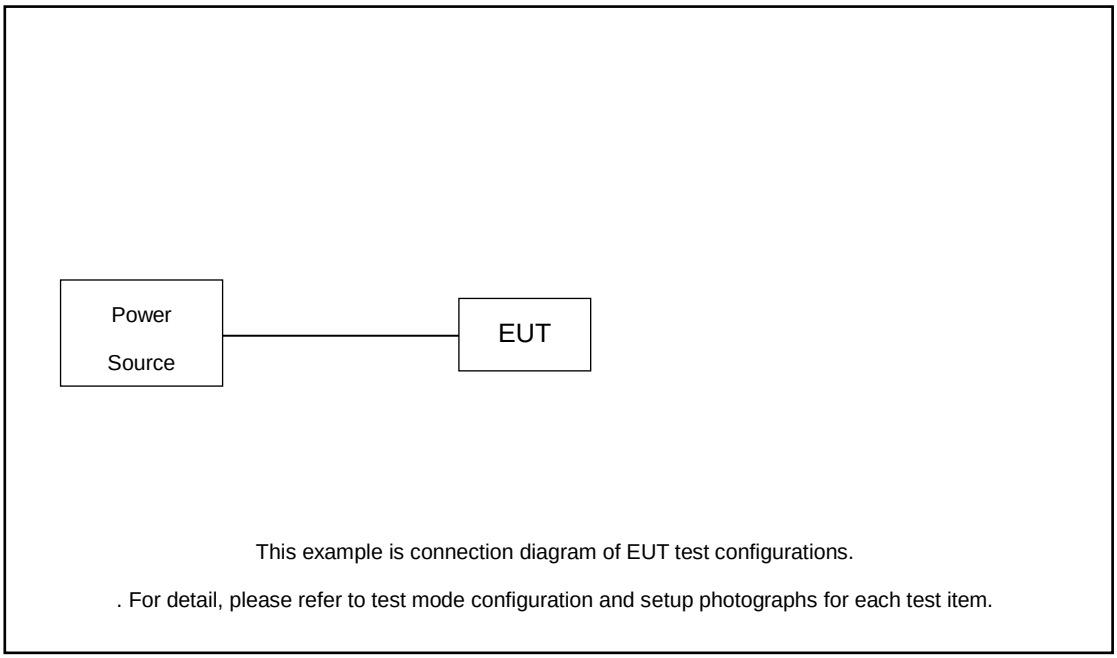
AC Conducted Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

Radiated Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Lenovo	thinkplus-BH3	N/A	N/A	N/A
2.	System Simulator	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	Shielded cable DC O/P 1.8m, Unshielded AC I/P cable 1.8m
4.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m

2.5 EUT Operation Test Setup

For BLE function, the engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the BT Earphone under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.20 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 2.20 + 10 = 12.20 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

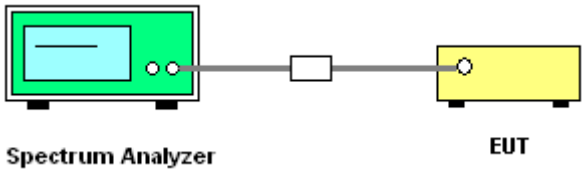
3.1.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.1.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1% to 5% of the 99% OBW and the VBW is set to 3 times of the RBW.
6. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

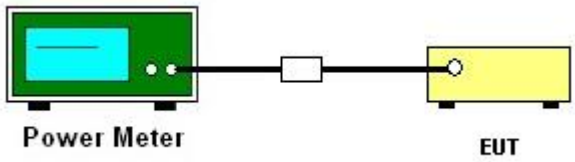
3.2.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

<Ant 6>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	9.12	Default	30.00	-2.10	7.02	36.00	Pass
BLE	125kbps	1	19	2440	10.09	Default	30.00	-2.10	7.99	36.00	Pass
BLE	125kbps	1	39	2480	8.88	Default	30.00	-2.10	6.78	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	9.10	Default	30.00	-2.10	7.00	36.00	Pass
BLE	500kbps	1	19	2440	10.07	Default	30.00	-2.10	7.97	36.00	Pass
BLE	500kbps	1	39	2480	8.85	Default	30.00	-2.10	6.75	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	9.08	Default	30.00	-2.10	6.98	36.00	Pass
BLE	1Mbps	1	19	2440	10.06	Default	30.00	-2.10	7.96	36.00	Pass
BLE	1Mbps	1	39	2480	8.83	Default	30.00	-2.10	6.73	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	9.06	Default	30.00	-2.10	6.96	36.00	Pass
BLE	2Mbps	1	19	2440	10.03	Default	30.00	-2.10	7.93	36.00	Pass
BLE	2Mbps	1	39	2480	8.80	Default	30.00	-2.10	6.70	36.00	Pass

<Ant 7>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	12.67	Default	30.00	-0.40	12.27	36.00	Pass
BLE	125kbps	1	19	2440	12.89	Default	30.00	-0.40	12.49	36.00	Pass
BLE	125kbps	1	39	2480	11.72	Default	30.00	-0.40	11.32	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	12.65	Default	30.00	-0.40	12.25	36.00	Pass
BLE	500kbps	1	19	2440	12.87	Default	30.00	-0.40	12.47	36.00	Pass
BLE	500kbps	1	39	2480	11.70	Default	30.00	-0.40	11.30	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	12.63	Default	30.00	-0.40	12.23	36.00	Pass
BLE	1Mbps	1	19	2440	12.84	Default	30.00	-0.40	12.44	36.00	Pass
BLE	1Mbps	1	39	2480	11.67	Default	30.00	-0.40	11.27	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	12.62	Default	30.00	-0.40	12.22	36.00	Pass
BLE	2Mbps	1	19	2440	12.82	Default	30.00	-0.40	12.42	36.00	Pass
BLE	2Mbps	1	39	2480	11.66	Default	30.00	-0.40	11.26	36.00	Pass

<2TX Ant 6+7>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	7.99	Default	30.00	-0.40	7.59	36.00	Pass
BLE	125kbps	1	19	2440	8.77	Default	30.00	-0.40	8.37	36.00	Pass
BLE	125kbps	1	39	2480	7.85	Default	30.00	-0.40	7.45	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	7.89	Default	30.00	-0.40	7.49	36.00	Pass
BLE	500kbps	1	19	2440	8.67	Default	30.00	-0.40	8.27	36.00	Pass
BLE	500kbps	1	39	2480	7.75	Default	30.00	-0.40	7.35	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	7.87	Default	30.00	-0.40	7.47	36.00	Pass
BLE	1Mbps	1	19	2440	8.65	Default	30.00	-0.40	8.25	36.00	Pass
BLE	1Mbps	1	39	2480	7.73	Default	30.00	-0.40	7.33	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	7.85	Default	30.00	-0.40	7.45	36.00	Pass
BLE	2Mbps	1	19	2440	8.63	Default	30.00	-0.40	8.23	36.00	Pass
BLE	2Mbps	1	39	2480	7.70	Default	30.00	-0.40	7.30	36.00	Pass

3.2.6 Test Result of Average Output Power (Reporting Only)

<Ant 6>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	0.81	9.04	Default	30.00	-2.10	6.94	36.00	Pass
BLE	125kbps	1	19	2440	0.81	10.03	Default	30.00	-2.10	7.93	36.00	Pass
BLE	125kbps	1	39	2480	0.81	8.79	Default	30.00	-2.10	6.69	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	2.45	9.01	Default	30.00	-2.10	6.91	36.00	Pass
BLE	500kbps	1	19	2440	2.45	10.00	Default	30.00	-2.10	7.90	36.00	Pass
BLE	500kbps	1	39	2480	2.45	8.75	Default	30.00	-2.10	6.65	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	2.01	8.99	Default	30.00	-2.10	6.89	36.00	Pass
BLE	1Mbps	1	19	2440	2.01	9.97	Default	30.00	-2.10	7.87	36.00	Pass
BLE	1Mbps	1	39	2480	2.01	8.74	Default	30.00	-2.10	6.64	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	4.77	8.96	Default	30.00	-2.10	6.86	36.00	Pass
BLE	2Mbps	1	19	2440	4.77	9.94	Default	30.00	-2.10	7.84	36.00	Pass
BLE	2Mbps	1	39	2480	4.77	8.72	Default	30.00	-2.10	6.62	36.00	Pass

<Ant 7>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	0.81	12.58	Default	30.00	-0.40	12.18	36.00	Pass
BLE	125kbps	1	19	2440	0.81	12.80	Default	30.00	-0.40	12.40	36.00	Pass
BLE	125kbps	1	39	2480	0.81	11.65	Default	30.00	-0.40	11.25	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	2.42	12.53	Default	30.00	-0.40	12.13	36.00	Pass
BLE	500kbps	1	19	2440	2.42	12.75	Default	30.00	-0.40	12.35	36.00	Pass
BLE	500kbps	1	39	2480	2.42	11.62	Default	30.00	-0.40	11.22	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	2.01	12.52	Default	30.00	-0.40	12.12	36.00	Pass
BLE	1Mbps	1	19	2440	2.01	12.73	Default	30.00	-0.40	12.33	36.00	Pass
BLE	1Mbps	1	39	2480	2.01	11.58	Default	30.00	-0.40	11.18	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	4.77	12.51	Default	30.00	-0.40	12.11	36.00	Pass
BLE	2Mbps	1	19	2440	4.77	12.70	Default	30.00	-0.40	12.30	36.00	Pass
BLE	2Mbps	1	39	2480	4.77	11.56	Default	30.00	-0.40	11.16	36.00	Pass

<2TX Ant 6+7>

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	125kbps	1	0	2402	0.81	7.86	Default	30.00	-0.40	7.46	36.00	Pass
BLE	125kbps	1	19	2440	0.81	8.68	Default	30.00	-0.40	8.28	36.00	Pass
BLE	125kbps	1	39	2480	0.81	7.75	Default	30.00	-0.40	7.35	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	2.42	7.76	Default	30.00	-0.40	7.36	36.00	Pass
BLE	500kbps	1	19	2440	2.42	8.58	Default	30.00	-0.40	8.18	36.00	Pass
BLE	500kbps	1	39	2480	2.42	7.65	Default	30.00	-0.40	7.25	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	2.01	7.74	Default	30.00	-0.40	7.34	36.00	Pass
BLE	1Mbps	1	19	2440	2.01	8.56	Default	30.00	-0.40	8.16	36.00	Pass
BLE	1Mbps	1	39	2480	2.01	7.63	Default	30.00	-0.40	7.23	36.00	Pass

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	4.77	7.72	Default	30.00	-0.40	7.32	36.00	Pass
BLE	2Mbps	1	19	2440	4.77	8.53	Default	30.00	-0.40	8.13	36.00	Pass
BLE	2Mbps	1	39	2480	4.77	7.60	Default	30.00	-0.40	7.20	36.00	Pass

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

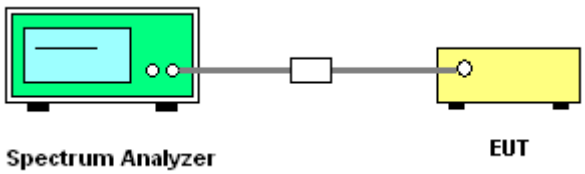
3.3.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. The Measured power density (dBm)/ 100kHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.
8. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01:
   Method (b): Measure and sum spectral maxima across the outputs.
   The measurement on each individual output were performed with the same span and number on each individual output. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

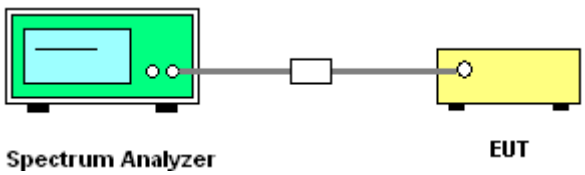
3.4.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.4.3 Test Procedure

1. The testing follows ANSI C63.10-2013 clause 11.13
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges Plots

Please refer to Appendix A.

3.4.6 Test Result of Conducted Spurious Emission Plots

Please refer to Appendix A.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (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

3.5.2 Measuring Instruments

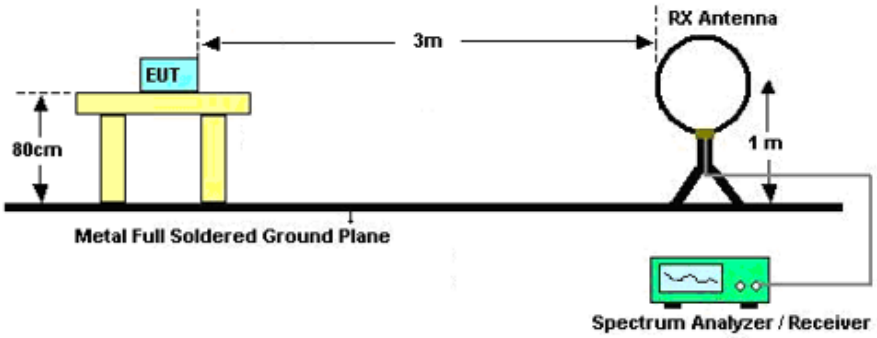
The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.5.3 Test Procedures

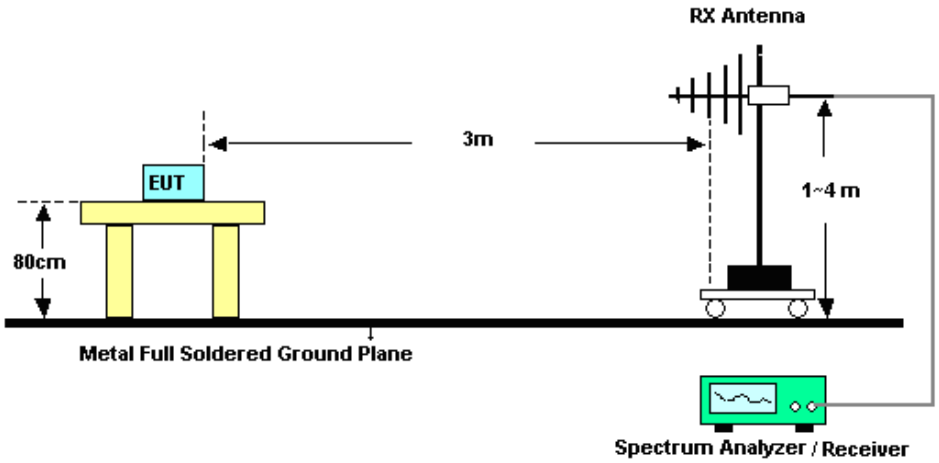
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

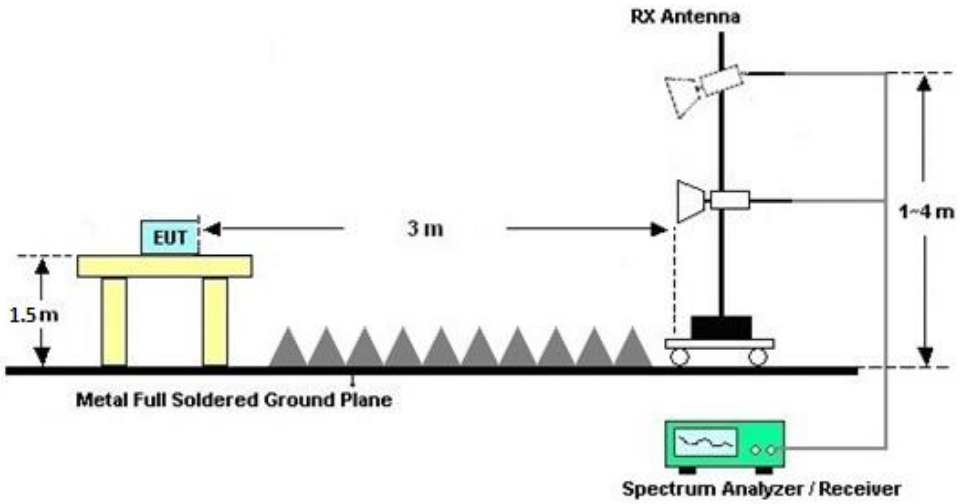
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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

*Decreases with the logarithm of the frequency.

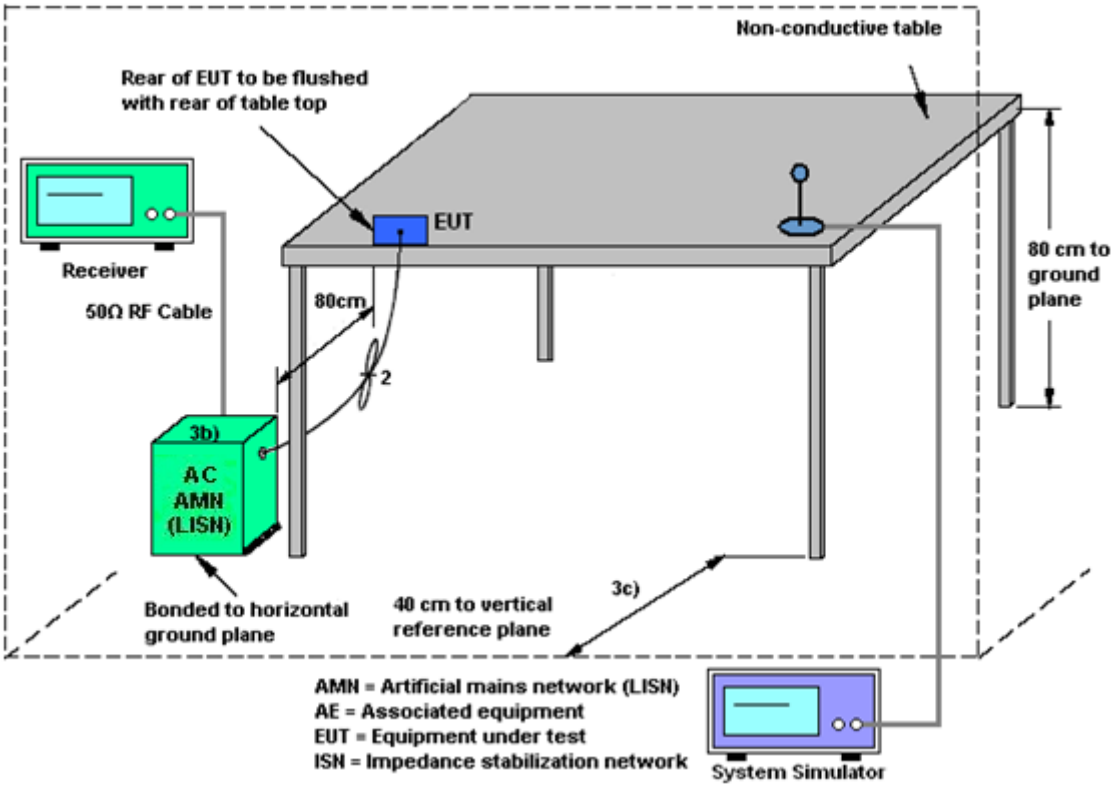
3.6.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

<CDD Modes>

	Ant.6 (dBi)	Ant.7 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-2.10	-0.40	-0.40	1.80	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Dec. 14, 2024~ Dec. 18, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Dec. 14, 2024~ Dec. 18, 2024	Jul. 02, 2025	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Dec. 14, 2024~ Dec. 18, 2024	Dec. 28, 2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Dec. 14, 2024~ Dec. 18, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Dec. 14, 2024~ Dec. 18, 2024	Jul. 03, 2025	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Dec. 14, 2024~ Dec. 18, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 09, 2024	Dec. 14, 2024~ Dec. 18, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 14, 2024	Dec. 14, 2024~ Dec. 18, 2024	Oct. 13, 2025	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 14, 2024	Dec. 14, 2024~ Dec. 18, 2024	Oct. 13, 2025	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Dec. 14, 2024~ Dec. 18, 2024	Jul. 02, 2025	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Oct. 14, 2024	Dec. 14, 2024~ Dec. 18, 2024	Oct. 13, 2025	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Dec. 14, 2024~ Dec. 18, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Dec. 14, 2024~ Dec. 18, 2024	NCR	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Dec. 16, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 29, 2023	Dec. 16, 2024	Dec. 28, 2024	Conducted (TH01-SZ)
Thermo meter	Anymetre	JR593	#7	- 10℃ ~ 50℃ 10%RH~99%RH	Apr. 09, 2024	Dec. 16, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Dec. 15, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Aug. 20, 2024	Dec. 15, 2024	Aug. 19, 2025	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Dec. 15, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 09, 2024	Dec. 15, 2024	Oct. 08, 2025	Conduction (CO01-KS)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Conducted Power Spectral Density	±1.32 dB
Frequency	±1.3 Hz

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.84 dB

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8 dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.2 dB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.3 dB

---------- THE END ----------

Appendix A. Conducted Test Results

Ambient Condition: 24-26 ℃, 45-55 %RH	
Test Date: 2024.12.16	**Test Engineer:** Chen ZhiQiang

<SISO Ant. 6/7>

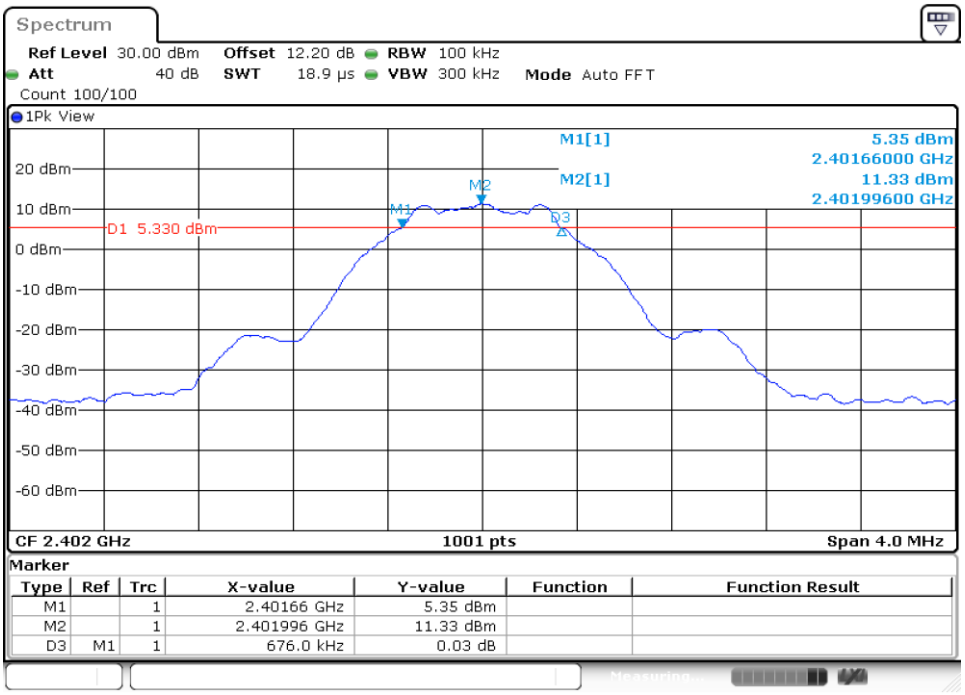
DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant7	2402	0.68	2401.66	2402.34	0.5	PASS
	Ant6	2402	0.67	2401.66	2402.34	0.5	PASS
	Ant7	2440	0.68	2439.66	2440.34	0.5	PASS
	Ant6	2440	0.68	2439.66	2440.34	0.5	PASS
	Ant7	2480	0.67	2479.66	2480.33	0.5	PASS
	Ant6	2480	0.68	2479.66	2480.34	0.5	PASS
BLE_2M	Ant7	2402	1.14	2401.44	2402.58	0.5	PASS
	Ant6	2402	1.14	2401.44	2402.58	0.5	PASS
	Ant7	2440	1.14	2439.43	2440.57	0.5	PASS
	Ant6	2440	1.14	2439.44	2440.57	0.5	PASS
	Ant7	2480	1.14	2479.43	2480.57	0.5	PASS
	Ant6	2480	1.14	2479.43	2480.57	0.5	PASS
BLE_125K	Ant7	2402	0.60	2401.70	2402.30	0.5	PASS
	Ant6	2402	0.60	2401.70	2402.30	0.5	PASS
	Ant7	2440	0.60	2439.70	2440.30	0.5	PASS
	Ant6	2440	0.61	2439.70	2440.30	0.5	PASS
	Ant7	2480	0.60	2479.70	2480.30	0.5	PASS
	Ant6	2480	0.60	2479.70	2480.30	0.5	PASS
BLE_500K	Ant7	2402	0.66	2401.68	2402.33	0.5	PASS
	Ant6	2402	0.66	2401.68	2402.33	0.5	PASS
	Ant7	2440	0.66	2439.68	2440.33	0.5	PASS
	Ant6	2440	0.66	2439.68	2440.33	0.5	PASS
	Ant7	2480	0.65	2479.68	2480.33	0.5	PASS
	Ant6	2480	0.66	2479.68	2480.33	0.5	PASS

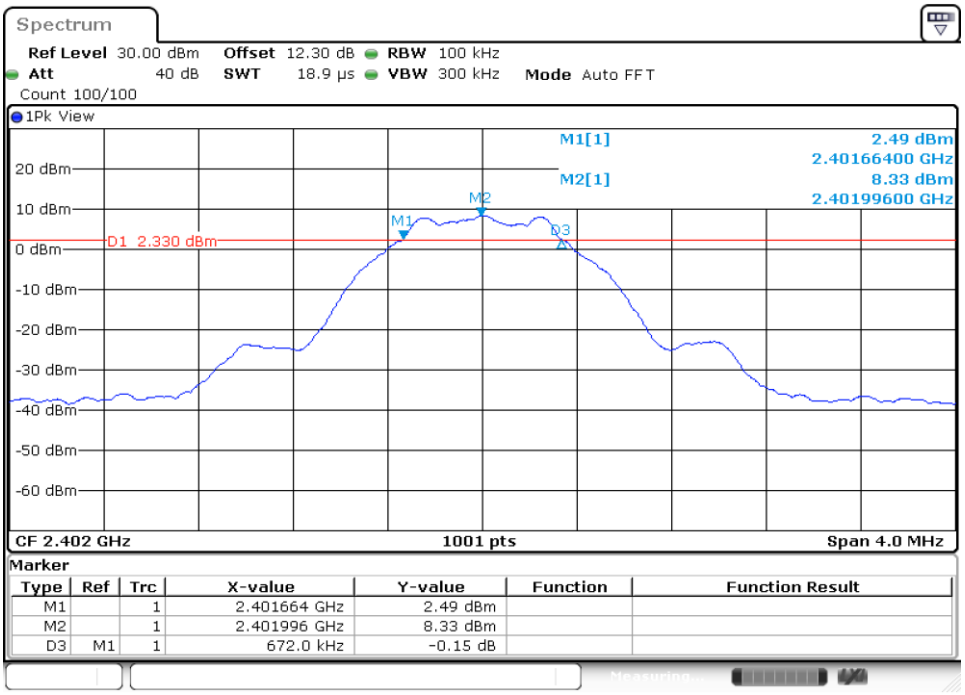
Test Graphs

BLE_1M_Ant7_2402



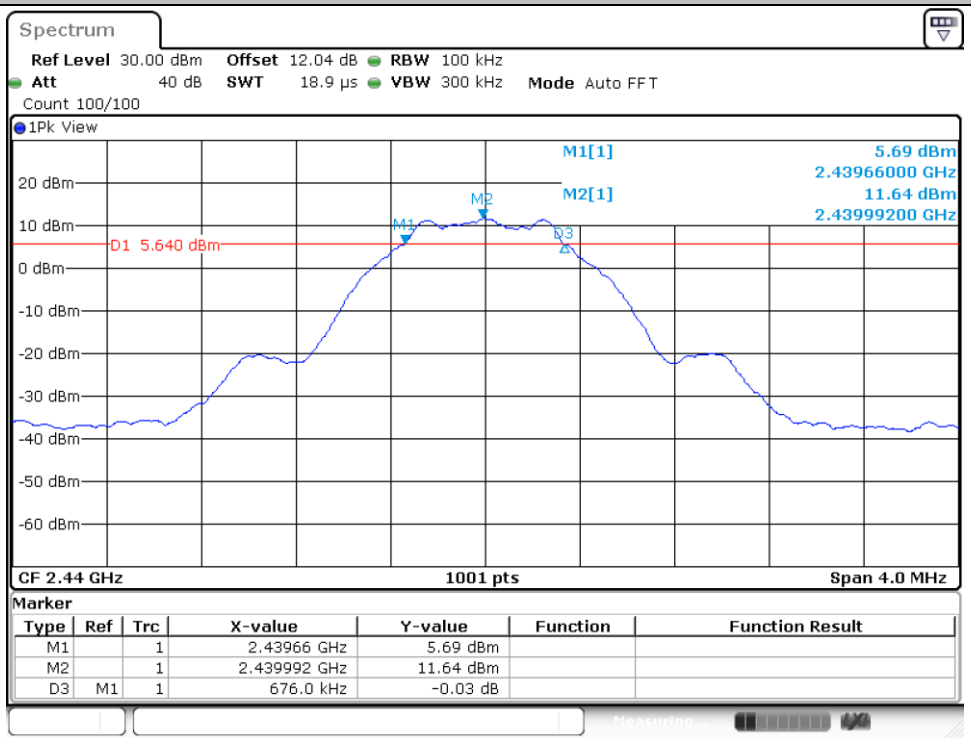
Date: 16.DEC.2024 17:45:14

BLE_1M_Ant6_2402



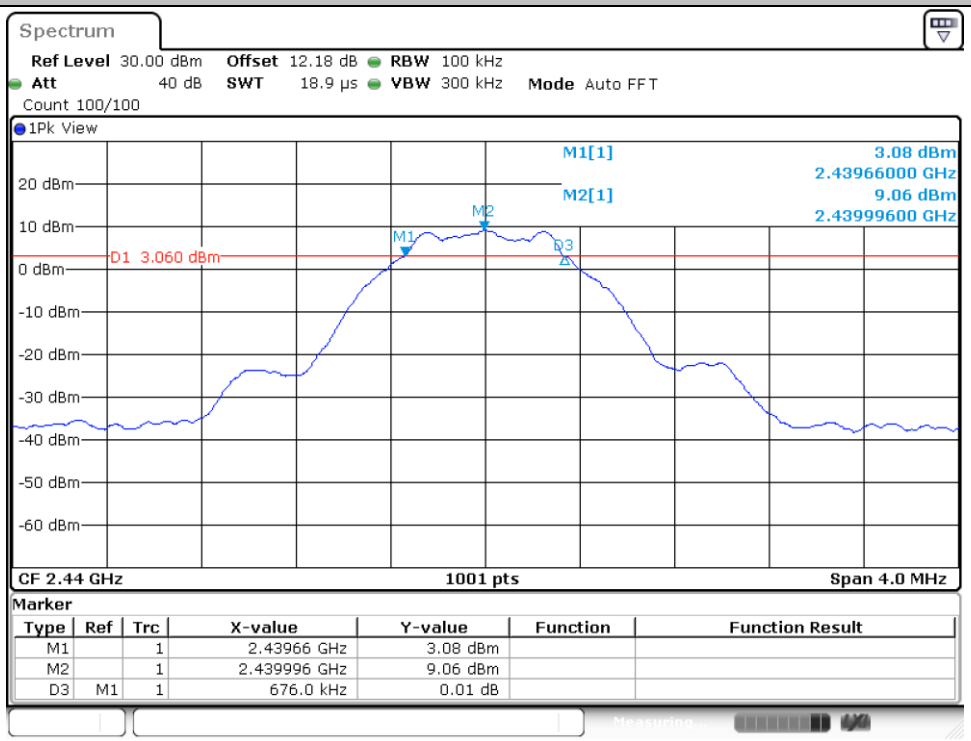
Date: 16.DEC.2024 18:34:38

BLE_1M_Ant7_2440



Date: 16.DEC.2024 17:47:08

BLE_1M_Ant6_2440



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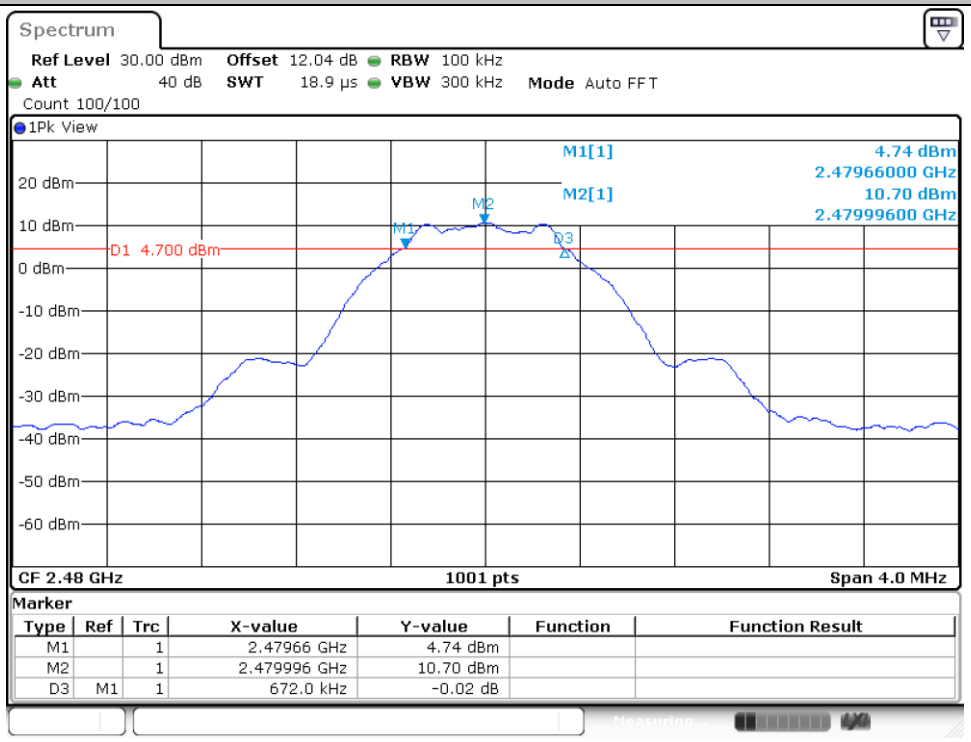
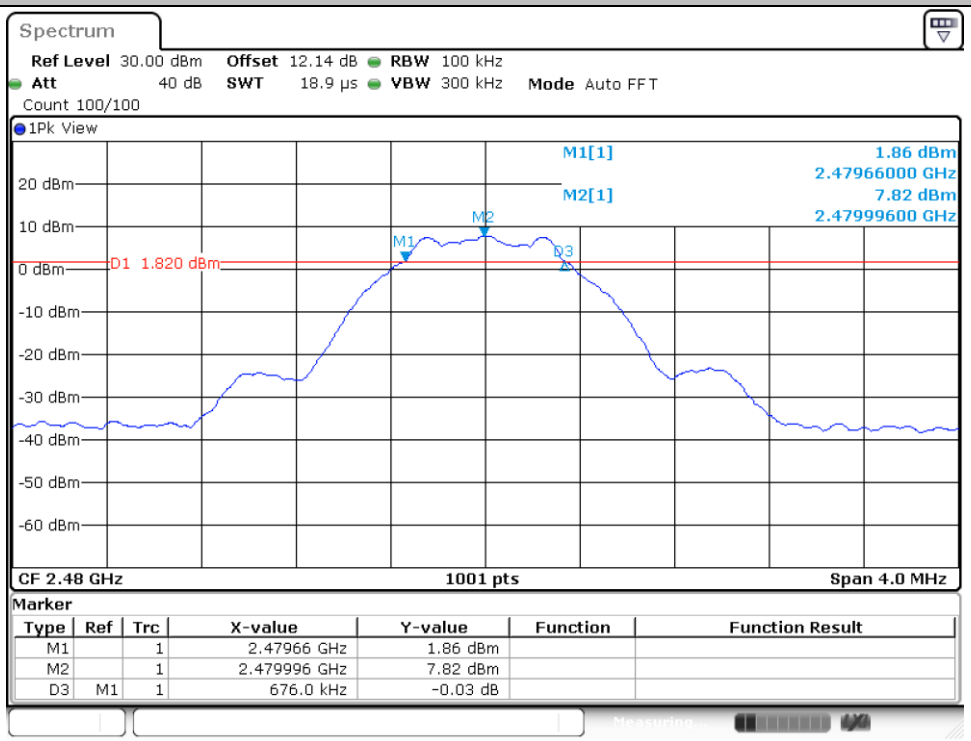
BLE_1M_Ant7_2480



Date: 16.DEC.2024 17:48:30

BLE_1M_Ant6_2480



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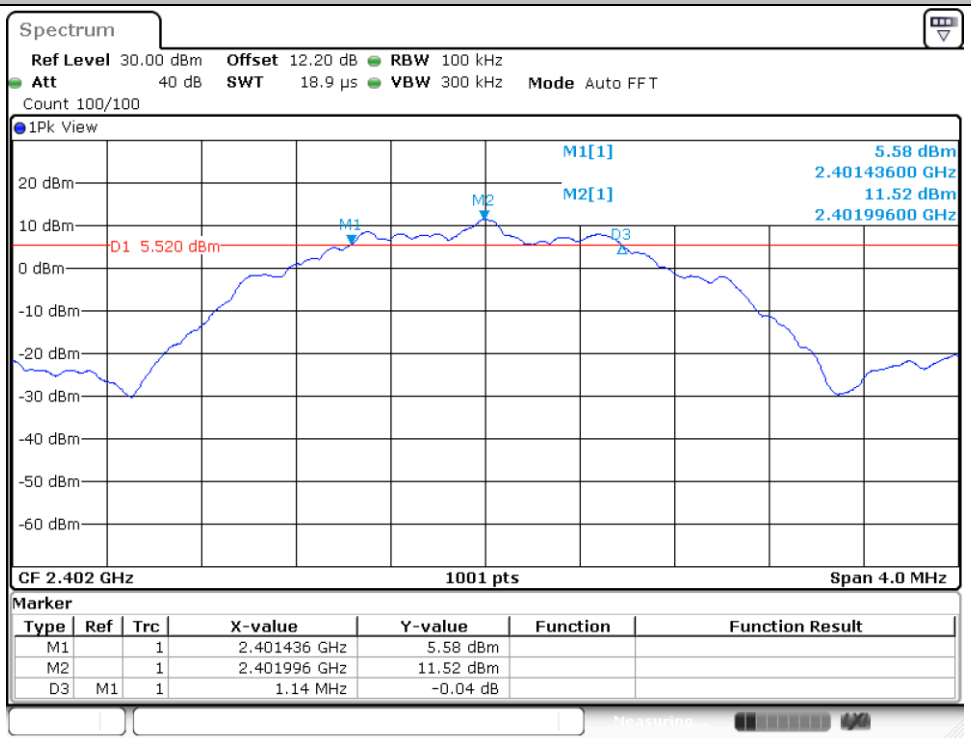

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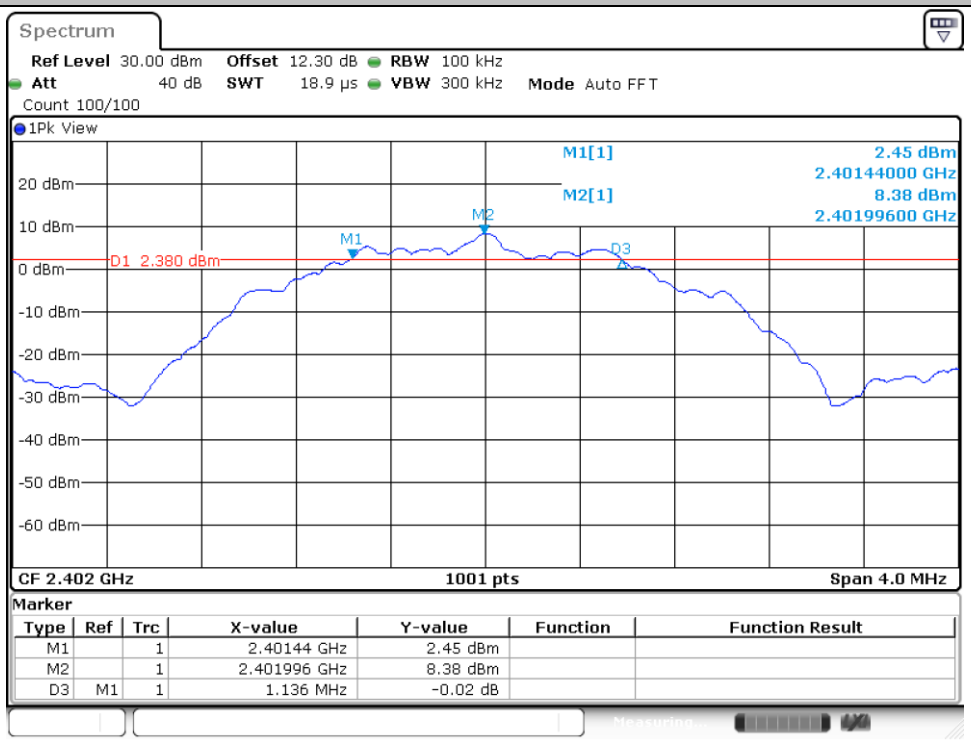
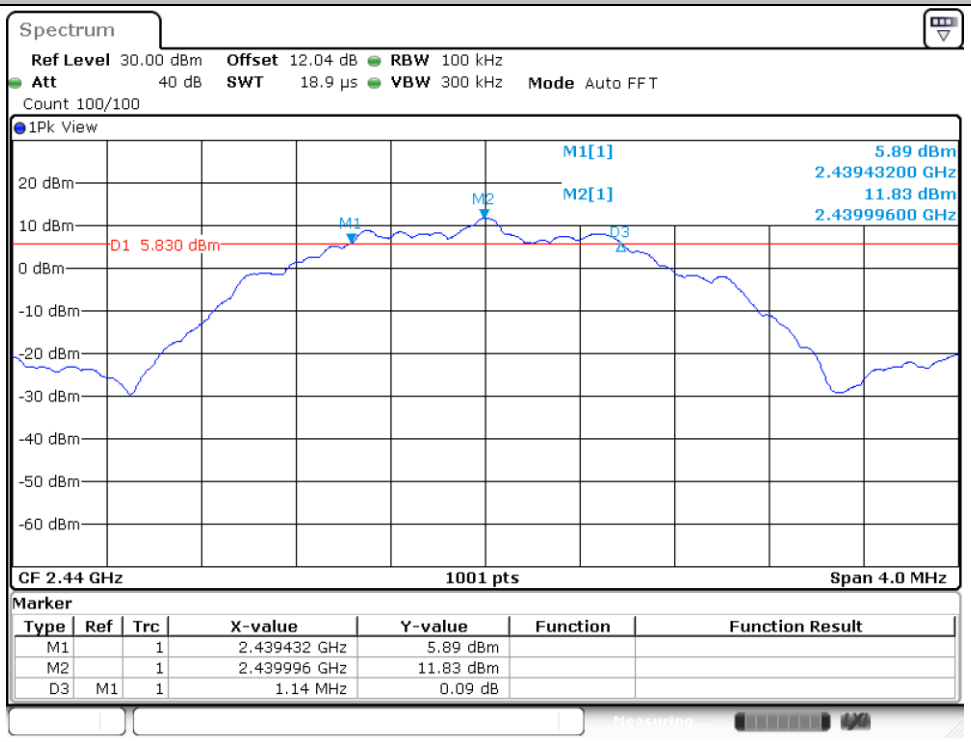


Date: 16.DEC.2024 18:41:03

BLE_2M_Ant7_2440



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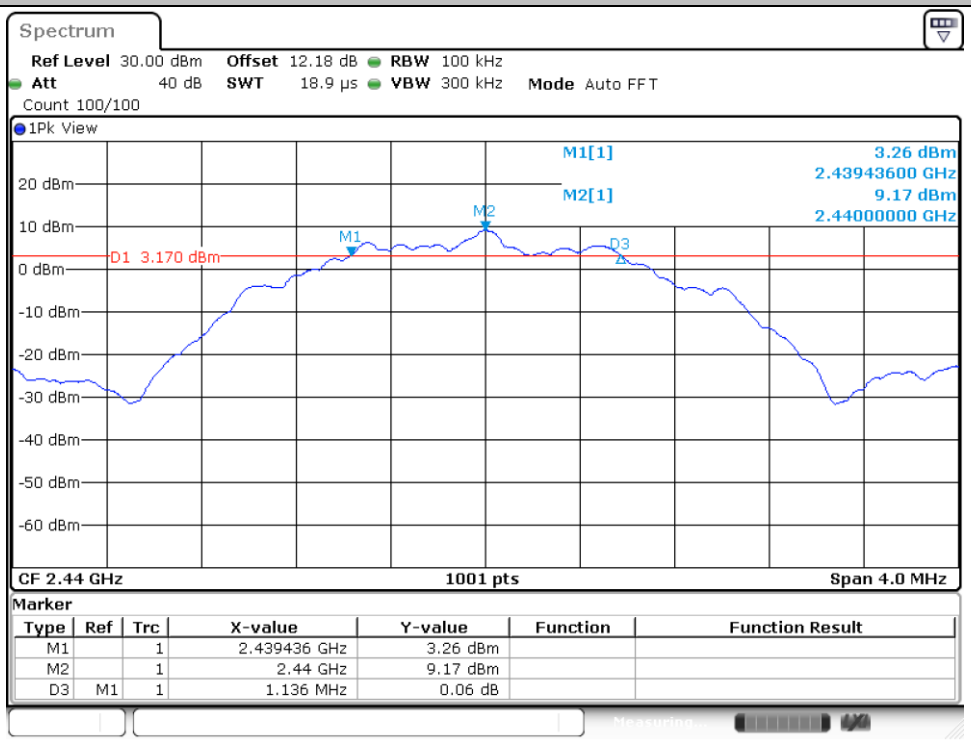

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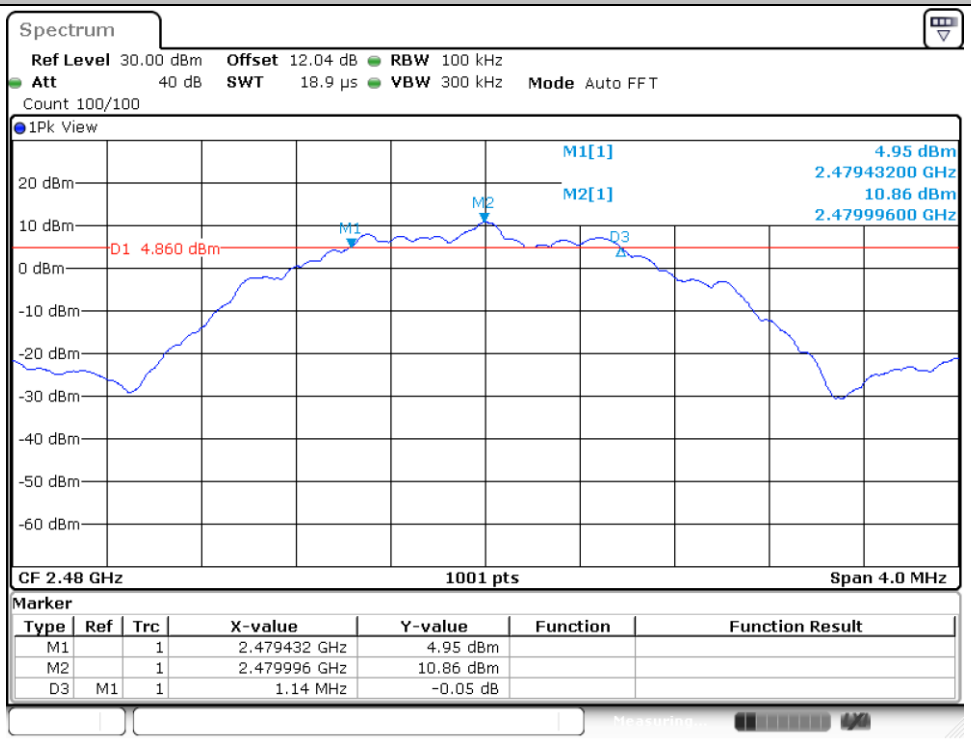

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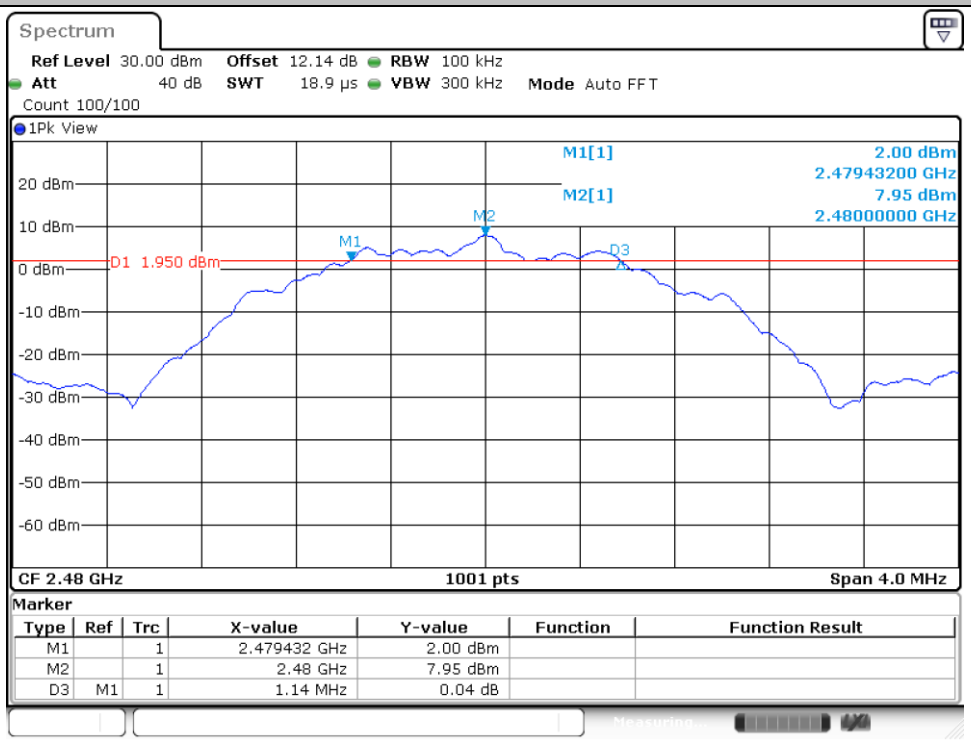
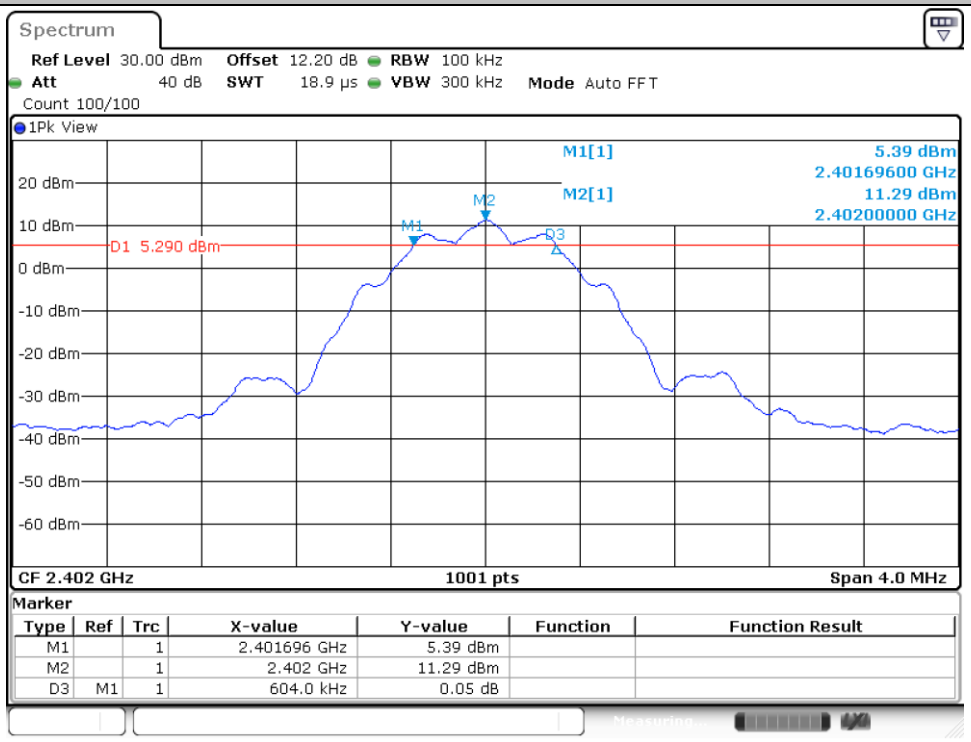
BLE_2M_Ant6_2480



Date: 16.DEC.2024 18:46:13

BLE_125K_Ant7_2402



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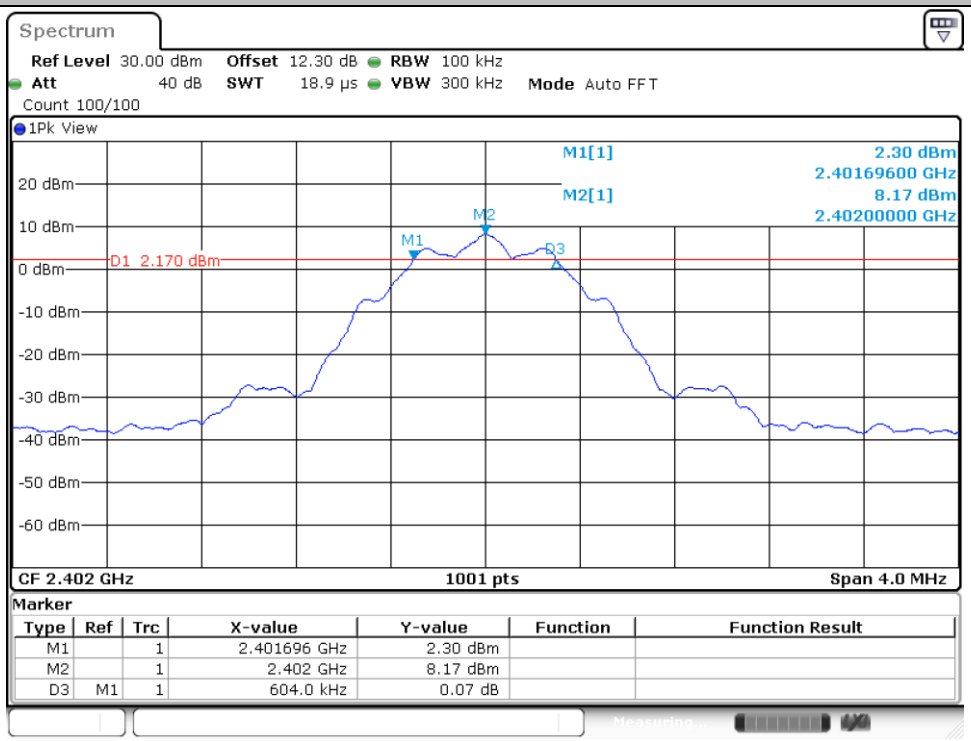
BLE_125K_Ant6_2402



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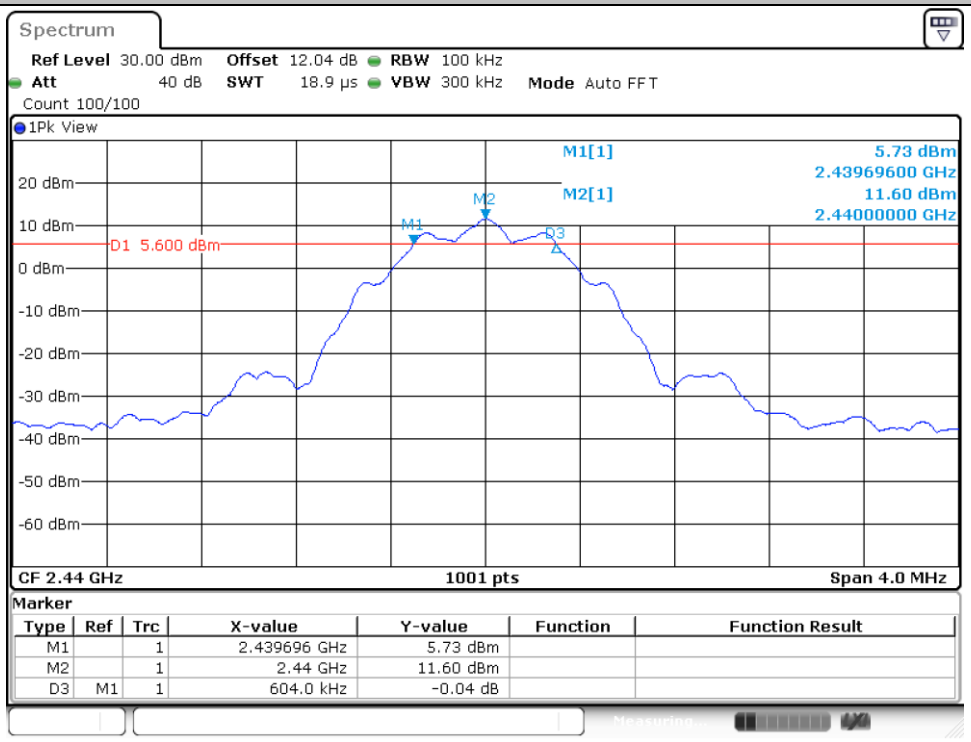

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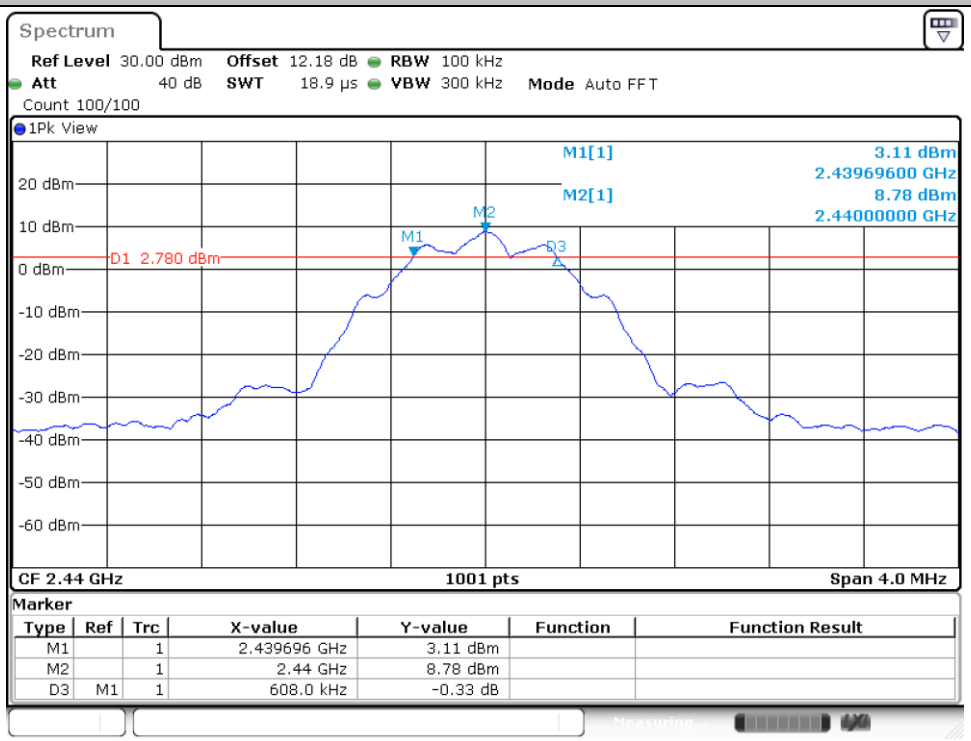

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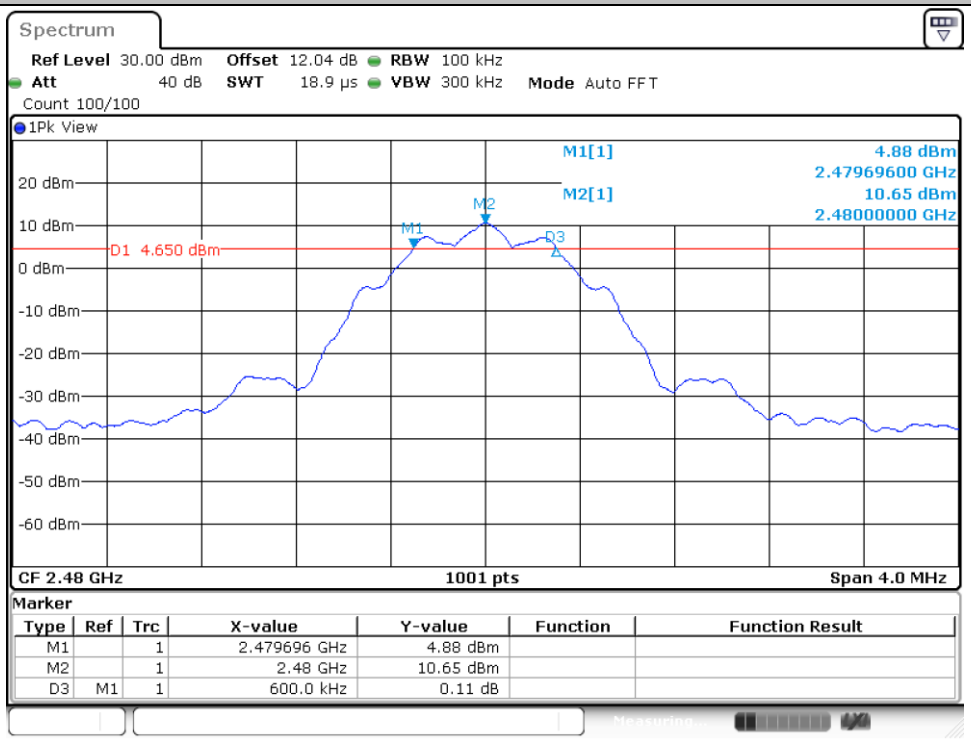

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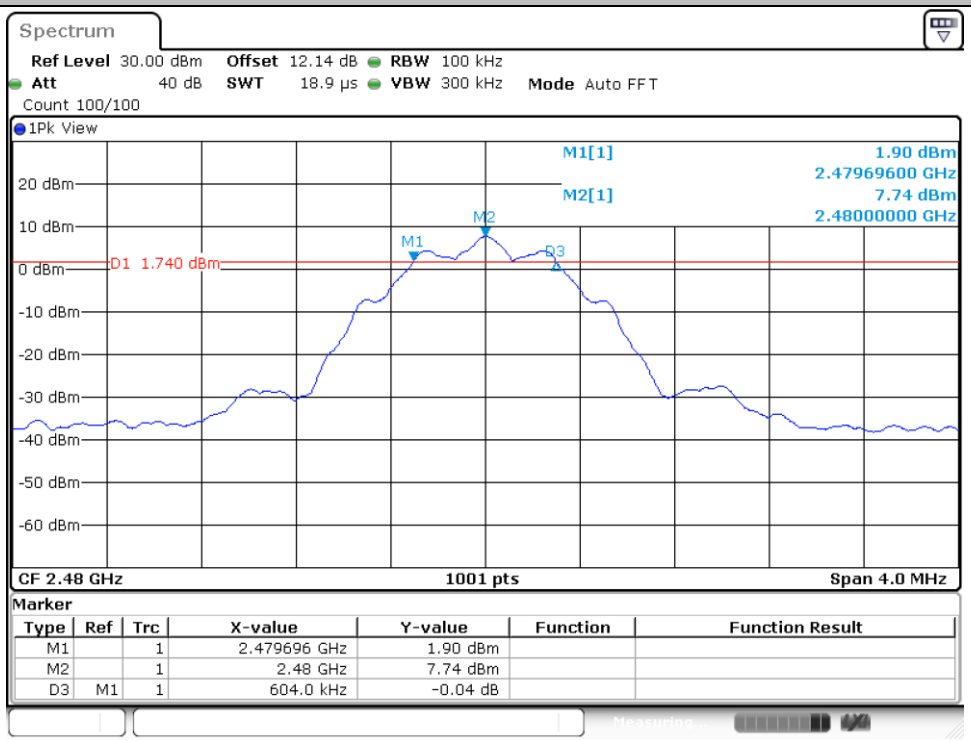

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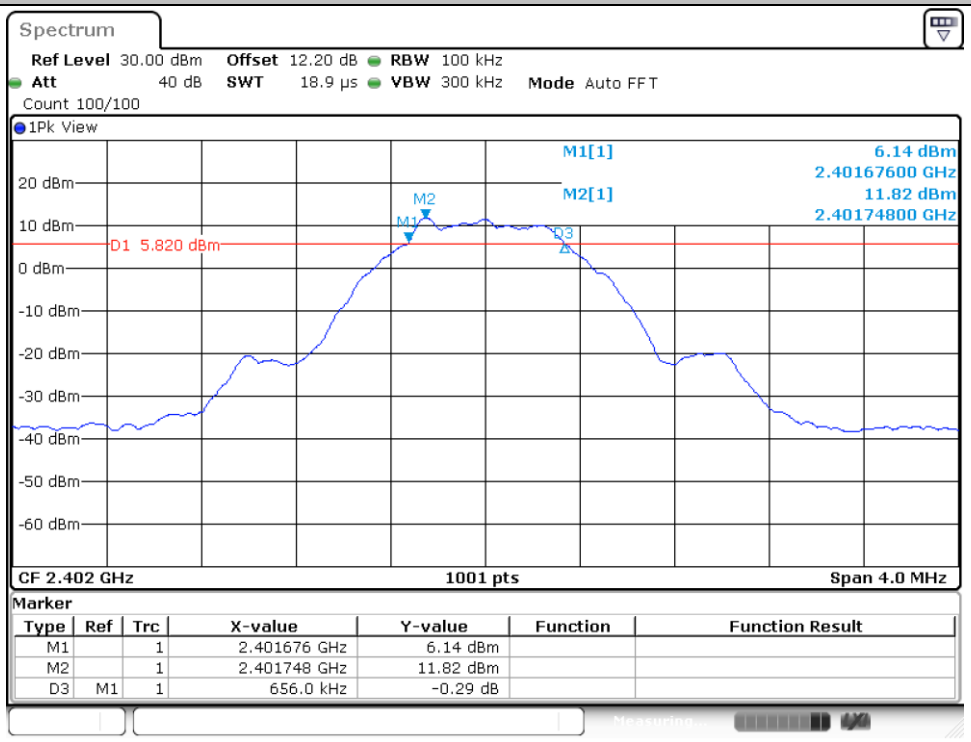

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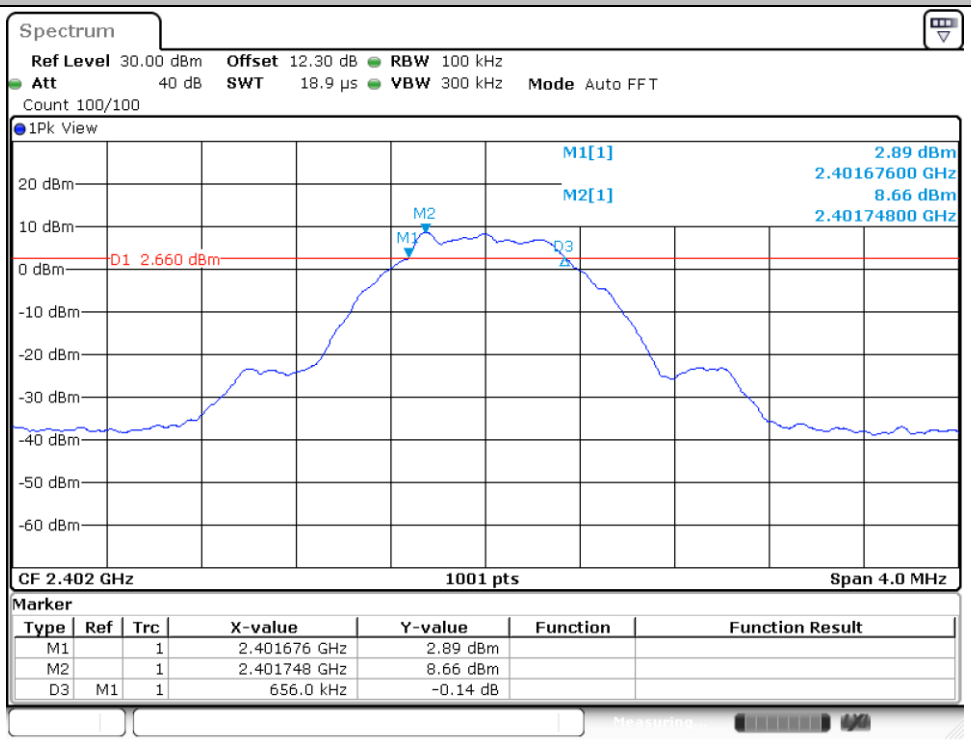

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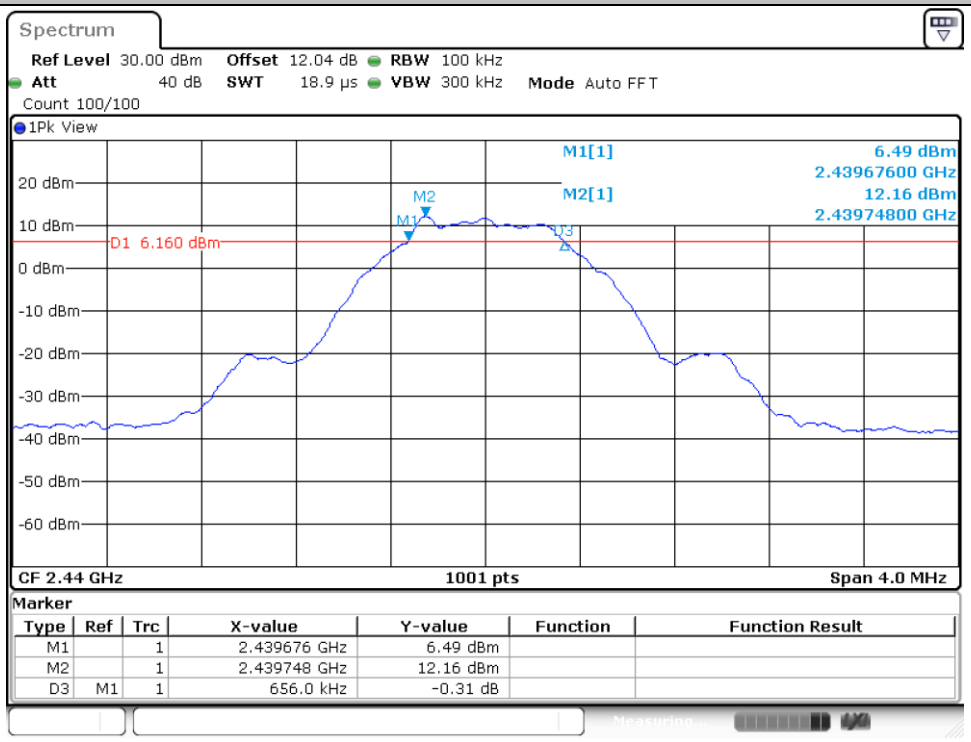

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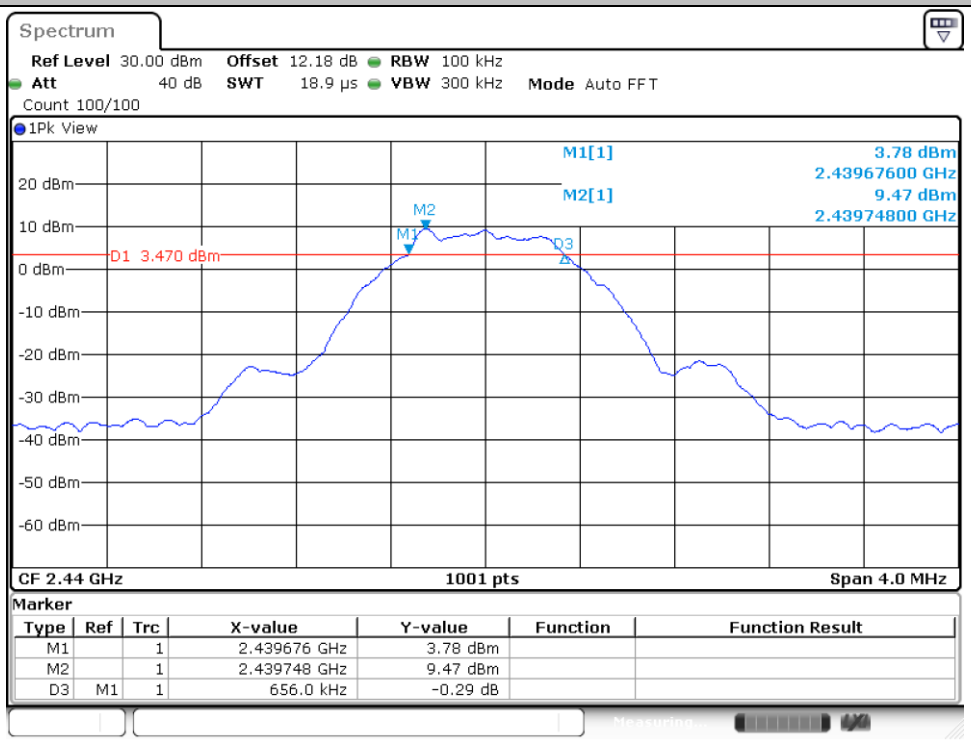

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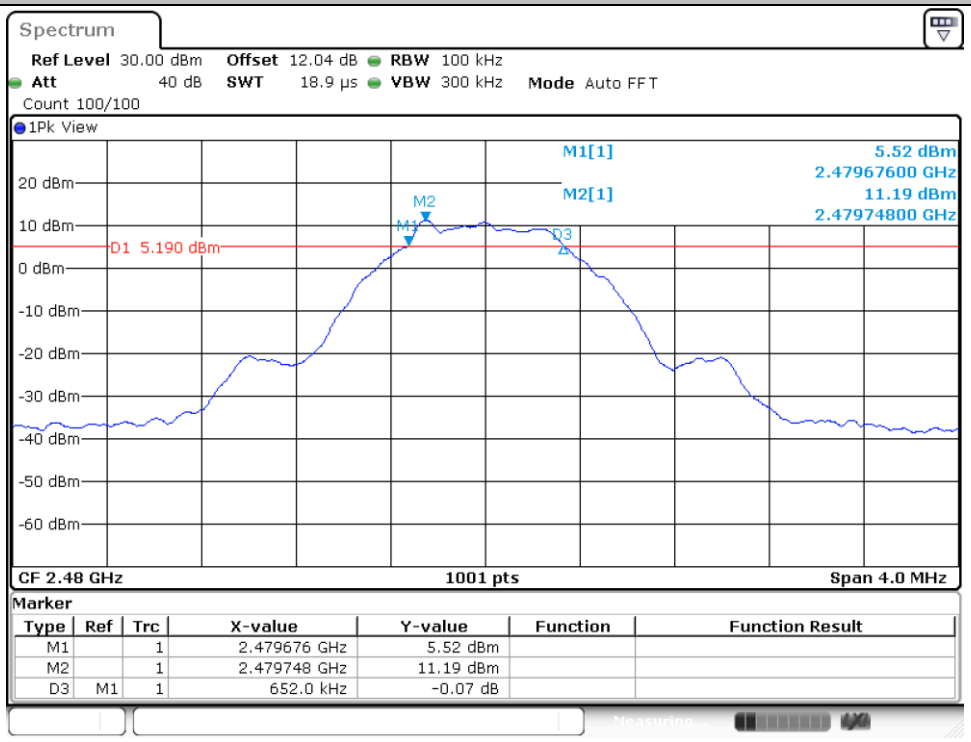

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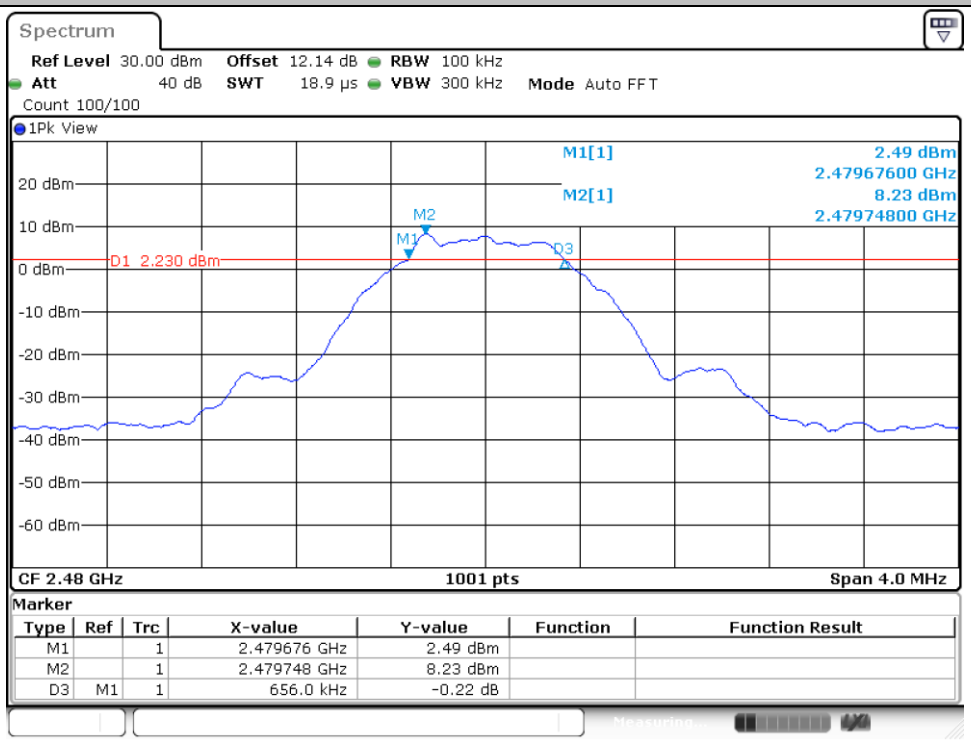
BLE_500K_Ant6_2480



Date: 16.DEC.2024 19:00:14

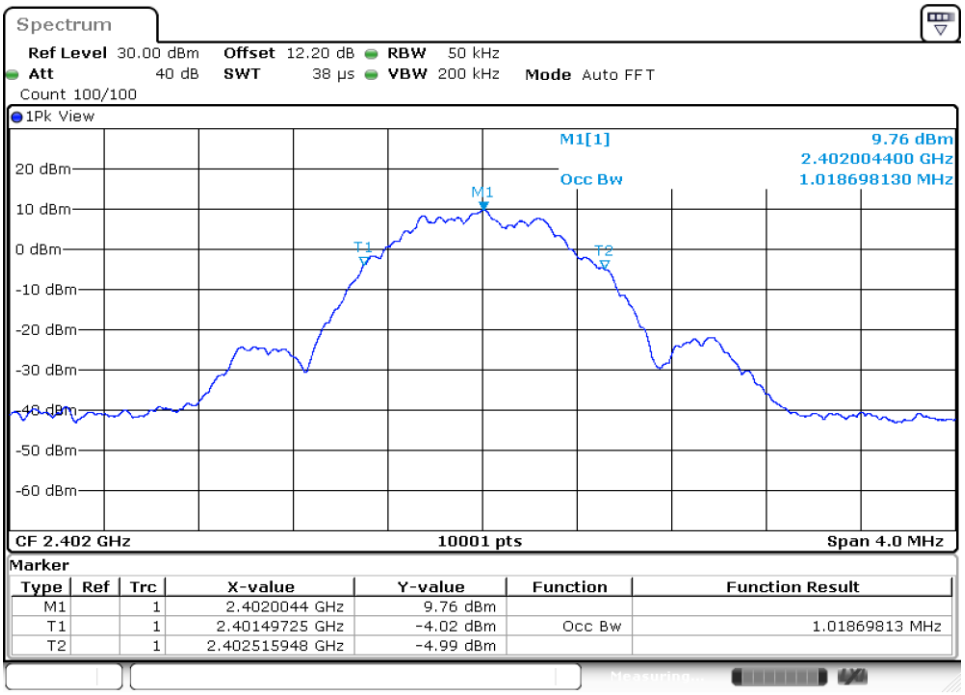
Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
BLE_1M	Ant7	2402	1.019	2401.4973	2402.5159
	Ant6	2402	1.017	2401.4985	2402.5155
	Ant7	2440	1.017	2439.4969	2440.5143
	Ant6	2440	1.018	2439.4965	2440.5147
	Ant7	2480	1.017	2479.4961	2480.5131
	Ant6	2480	1.021	2479.4945	2480.5159
BLE_2M	Ant7	2402	2.039	2400.9997	2403.0383
	Ant6	2402	2.035	2401.0025	2403.0375
	Ant7	2440	2.04	2438.9961	2441.0359
	Ant6	2440	2.038	2438.9993	2441.0375
	Ant7	2480	2.037	2478.9969	2481.0335
	Ant6	2480	2.041	2478.9941	2481.0351
BLE_125K	Ant7	2402	1.035	2401.4805	2402.5151
	Ant6	2402	1.033	2401.4817	2402.5151
	Ant7	2440	1.036	2439.4793	2440.5151
	Ant6	2440	1.035	2439.4805	2440.5151
	Ant7	2480	1.034	2479.4793	2480.5135
	Ant6	2480	1.037	2479.4785	2480.5151
BLE_500K	Ant7	2402	1.014	2401.4961	2402.5103
	Ant6	2402	1.012	2401.4969	2402.5091
	Ant7	2440	1.017	2439.4933	2440.5099
	Ant6	2440	1.015	2439.4949	2440.5095
	Ant7	2480	1.014	2479.4957	2480.5099
	Ant6	2480	1.015	2479.4933	2480.5087

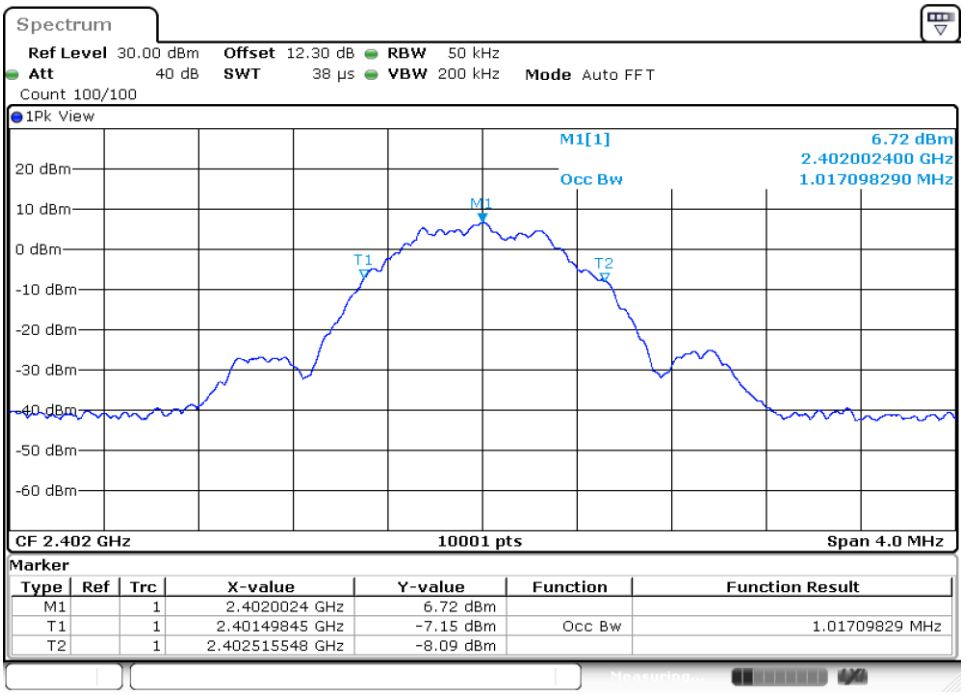
Test Graphs

BLE_1M_Ant7_2402



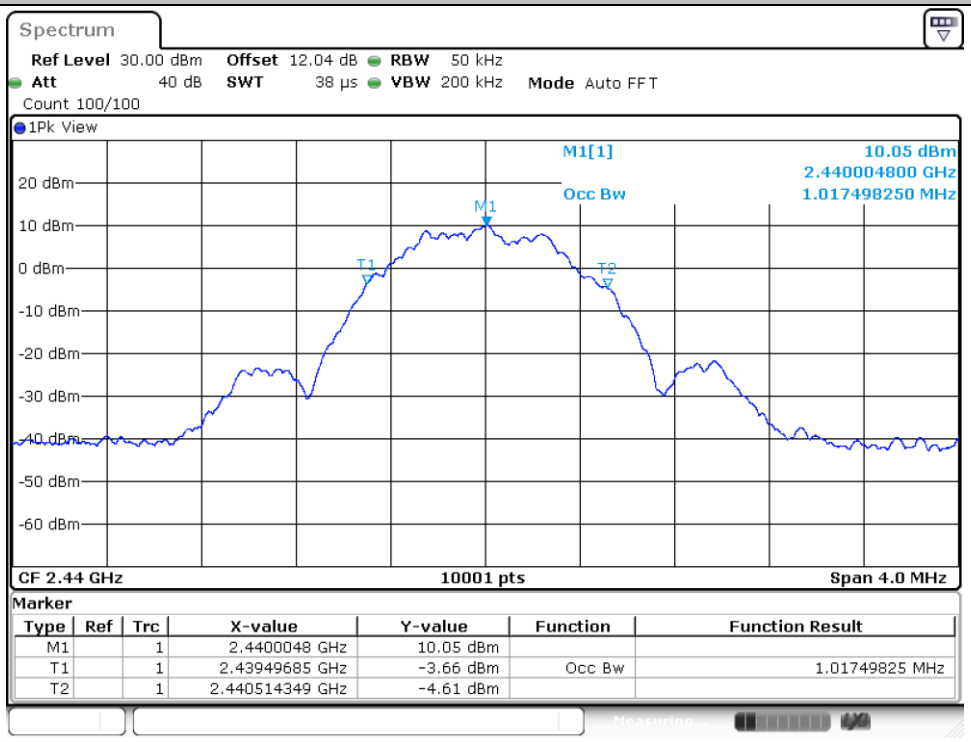
Date: 16.DEC.2024 17:45:23

BLE_1M_Ant6_2402



Date: 16.DEC.2024 18:34:48

BLE_1M_Ant7_2440



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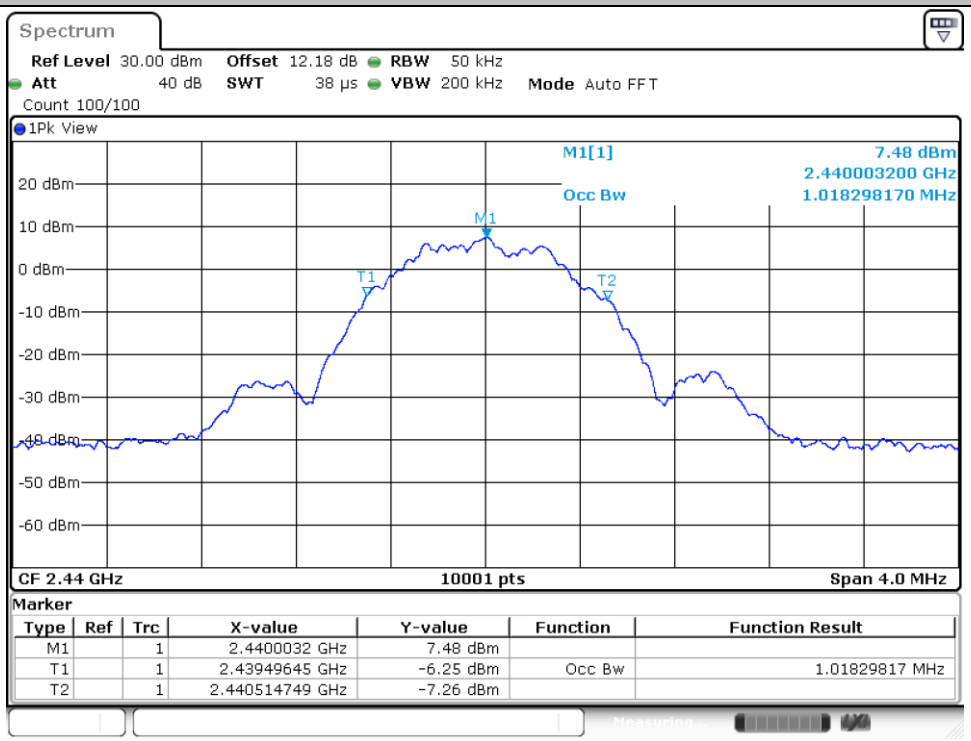
BLE_1M_Ant6_2440



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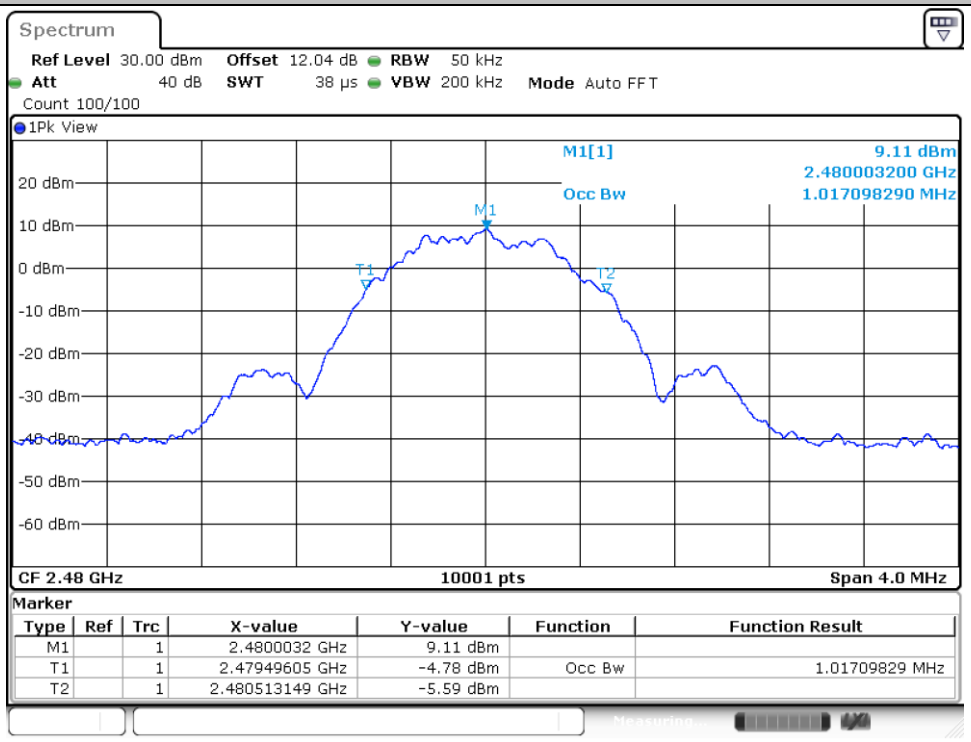
BLE_1M_Ant7_2480



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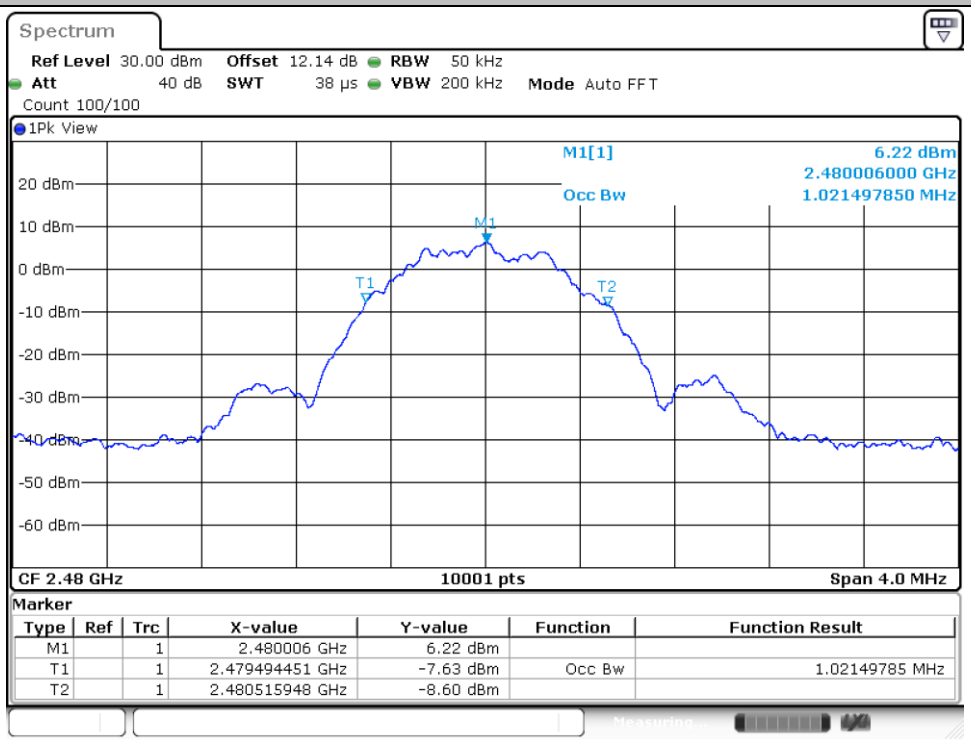

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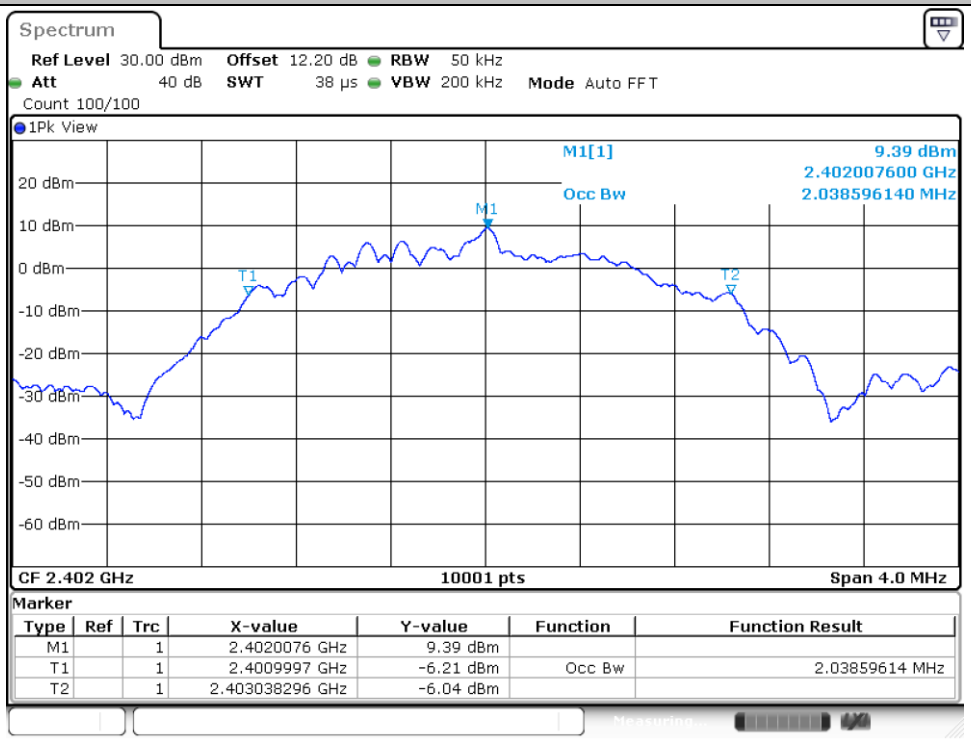
BLE_2M_Ant7_2402



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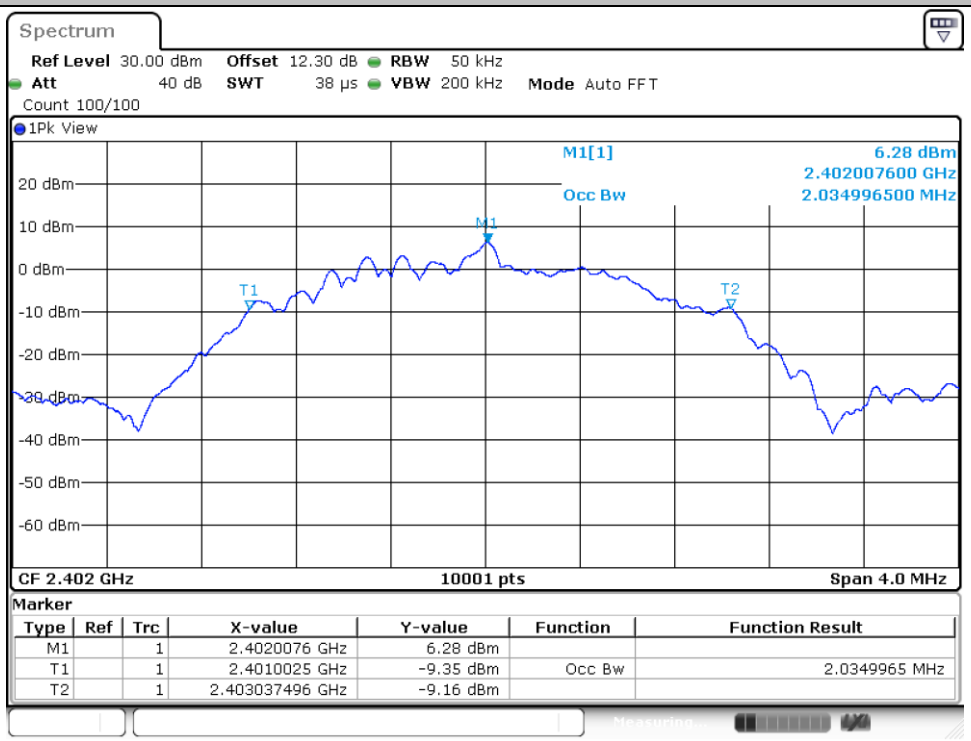
BLE_2M_Ant6_2402



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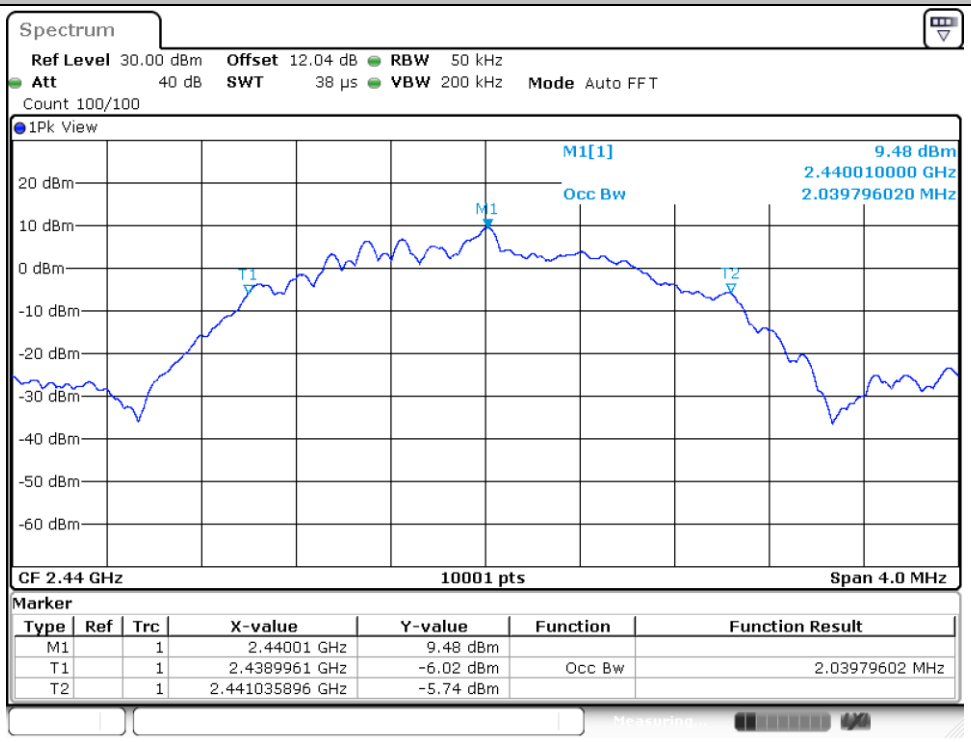
BLE_2M_Ant7_2440



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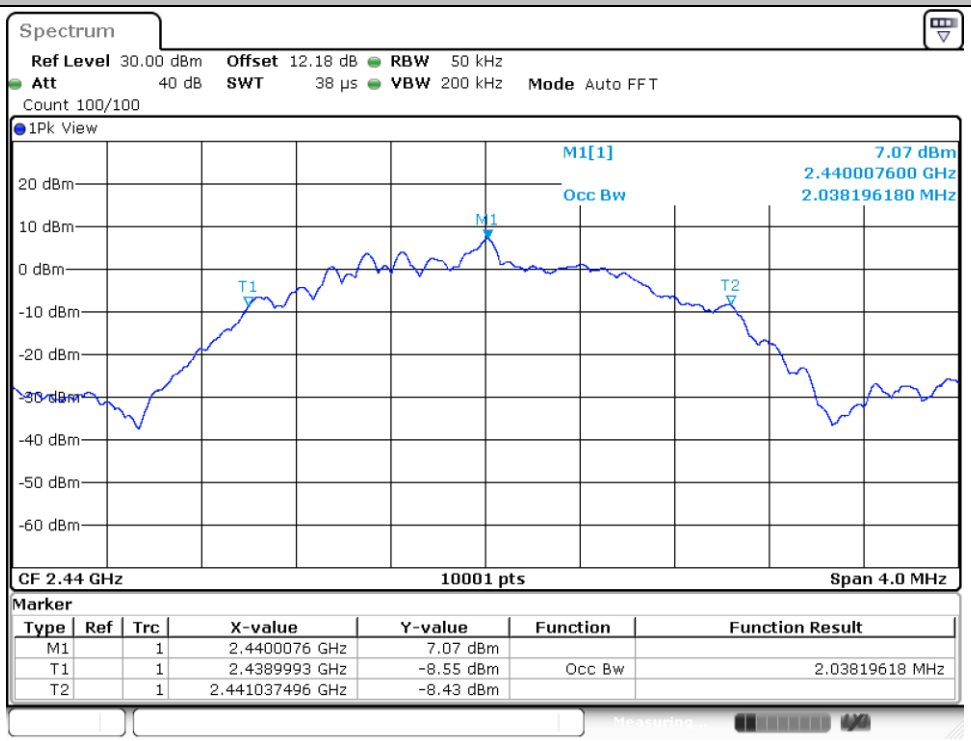

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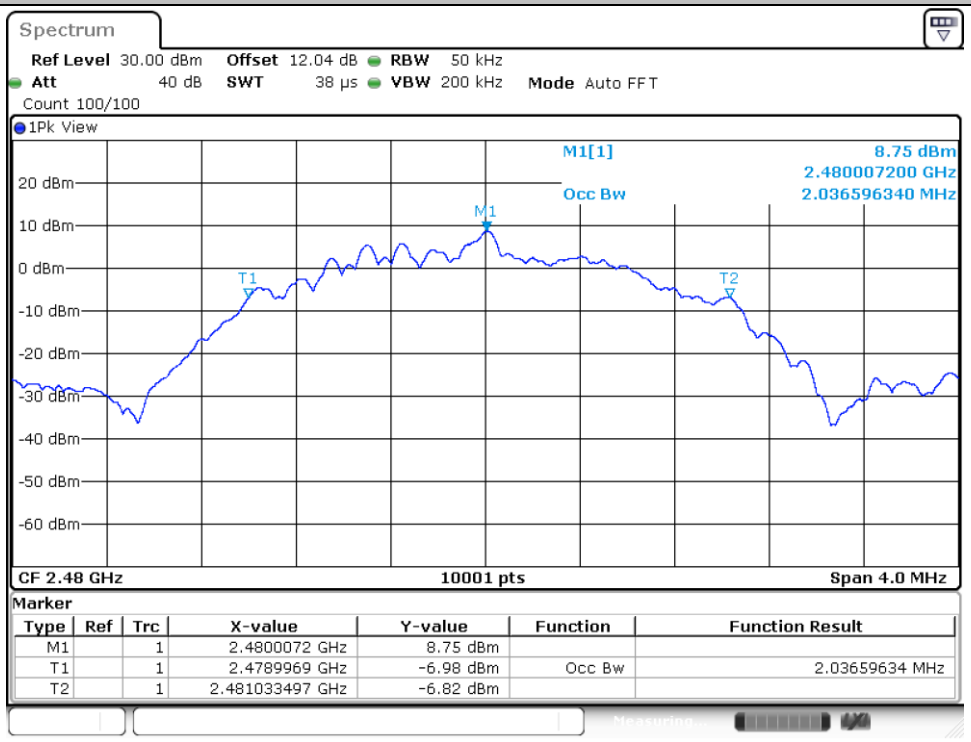
BLE_2M_Ant7_2480



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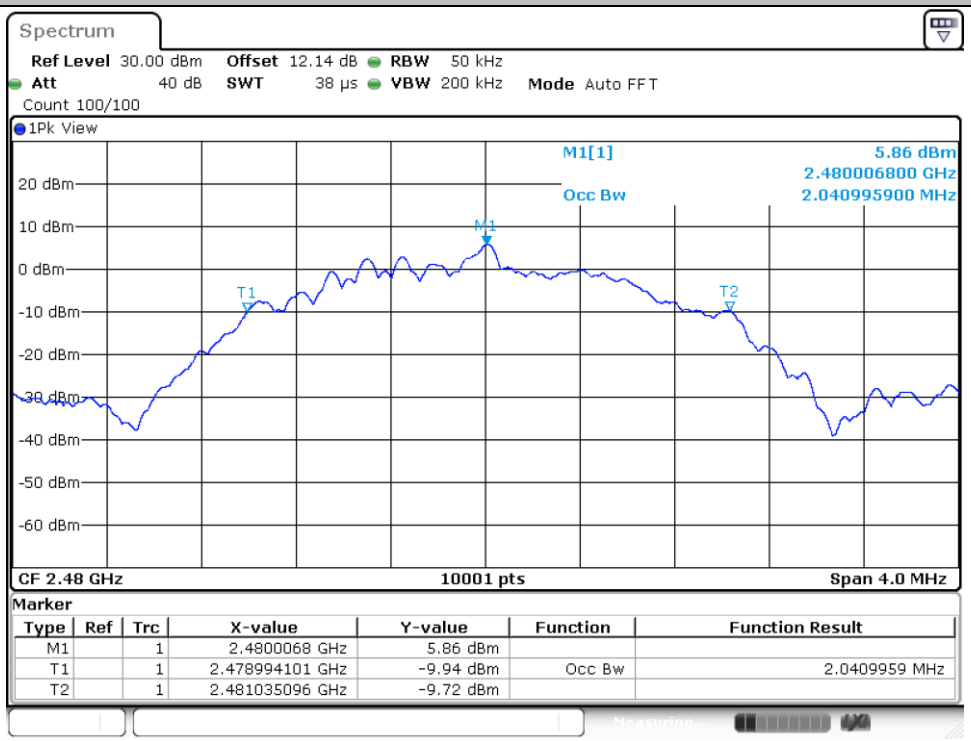
BLE_2M_Ant6_2480



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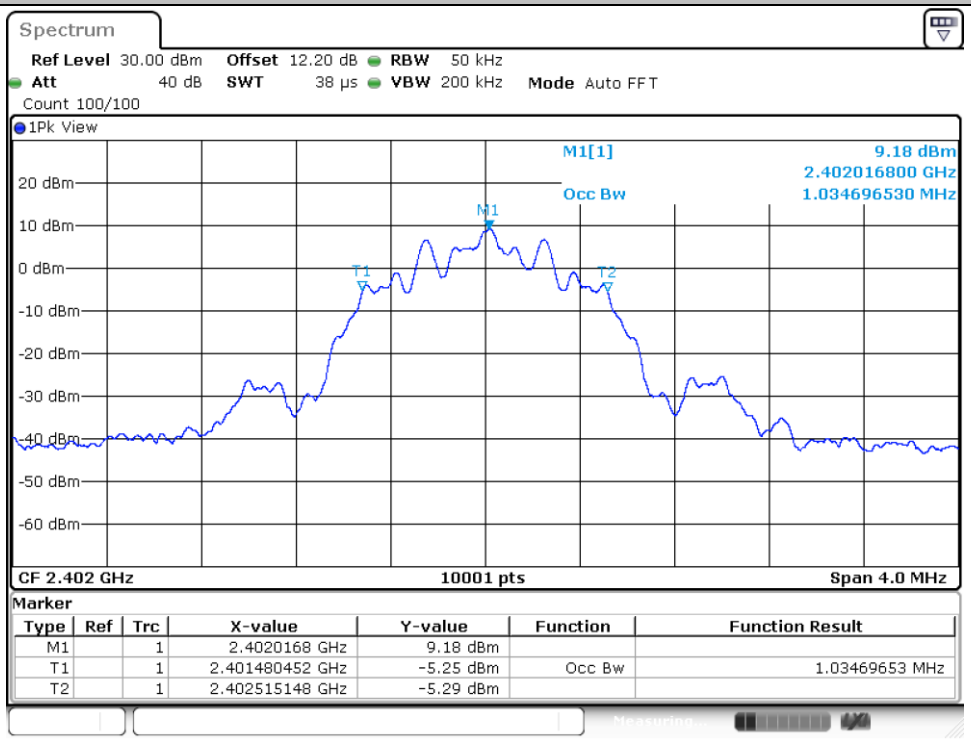
BLE_125K_Ant7_2402



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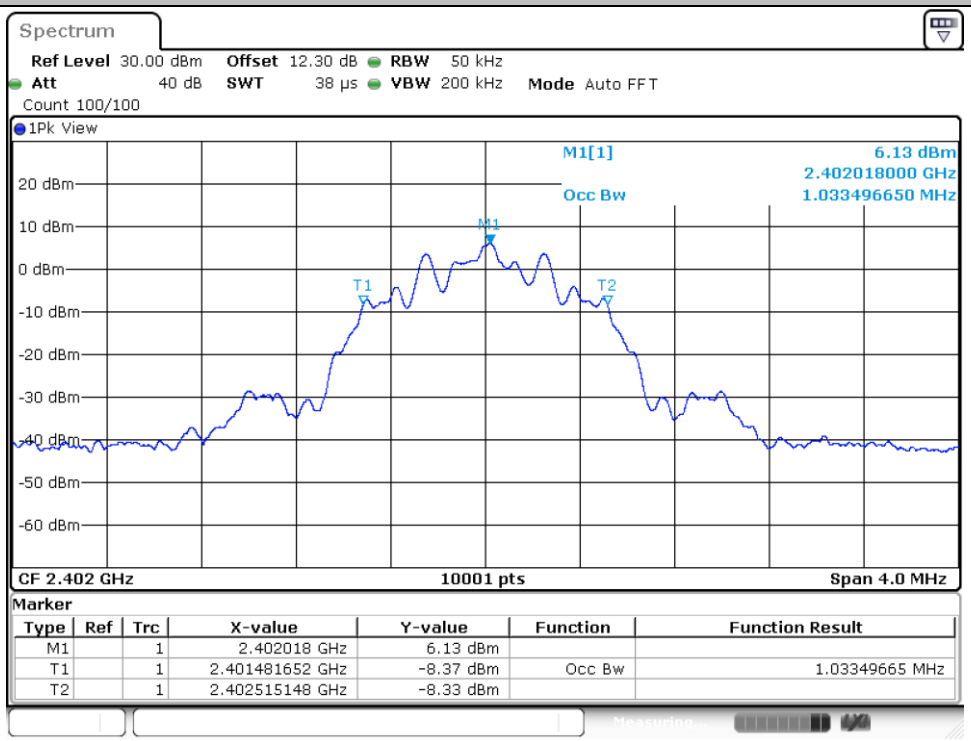
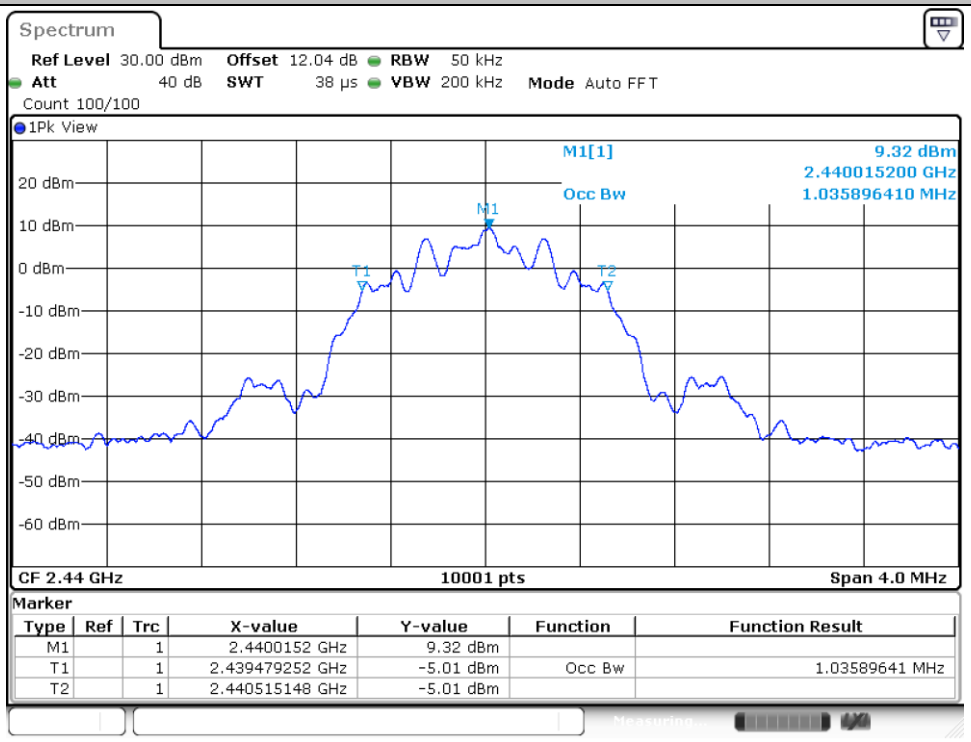
BLE_125K_Ant6_2402



Date: 16.DEC.2024 18:48:29

BLE_125K_Ant7_2440



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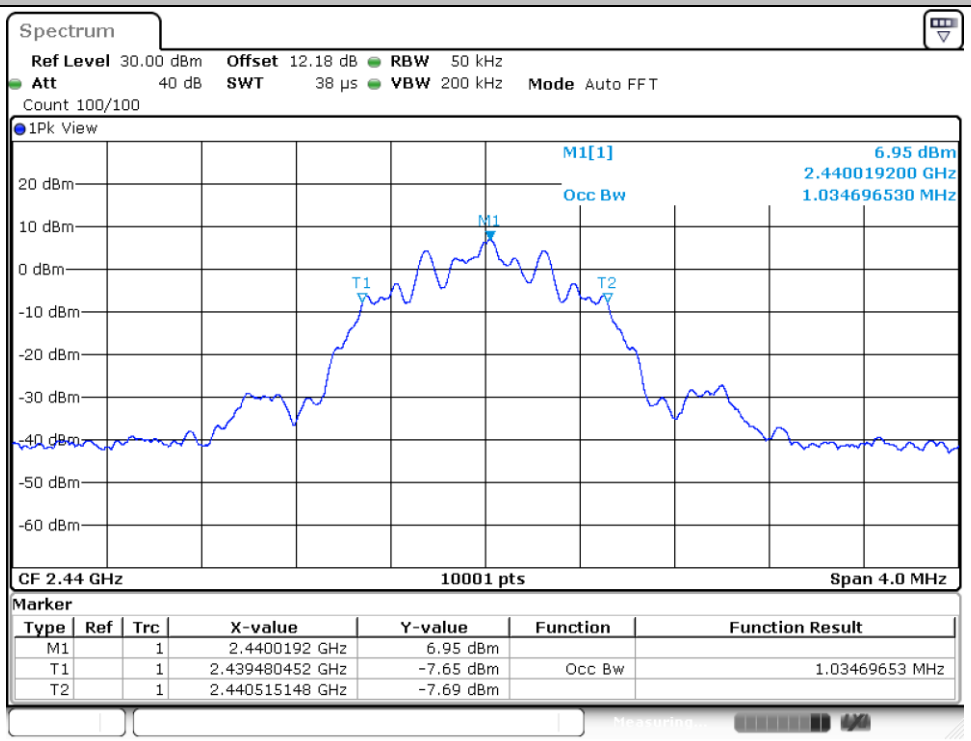
BLE_125K_Ant6_2440



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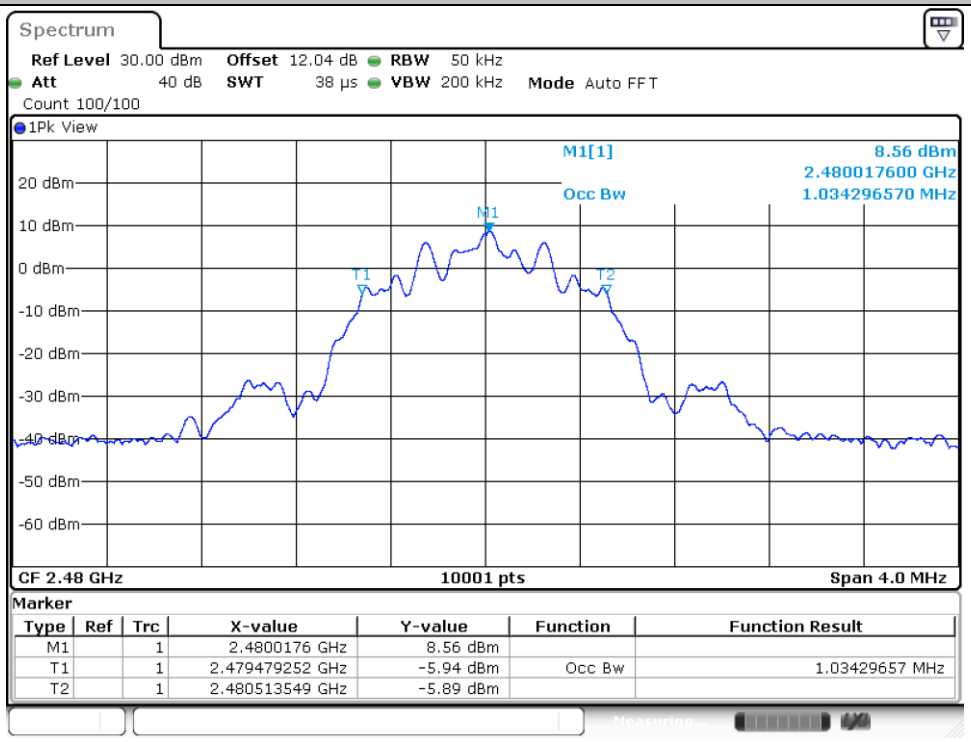

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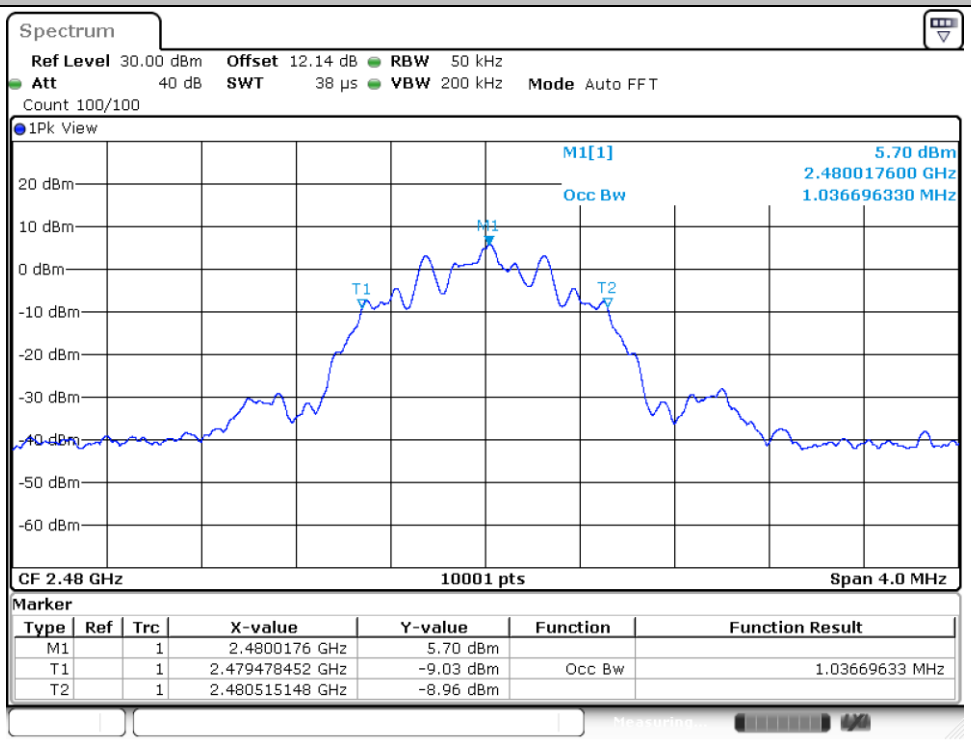
BLE_125K_Ant6_2480



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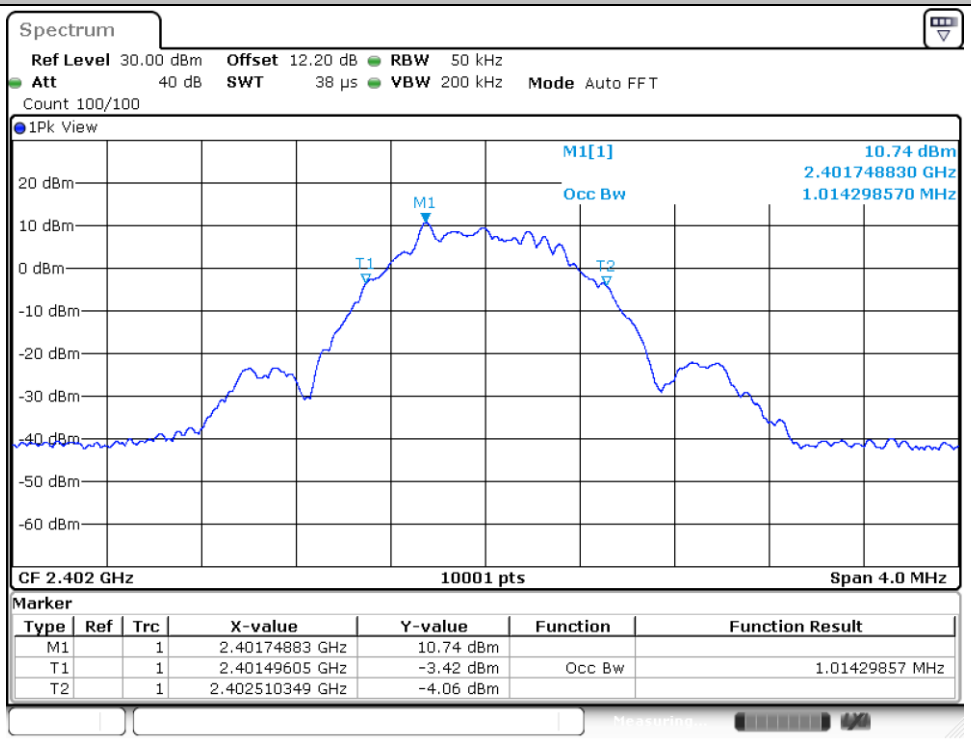
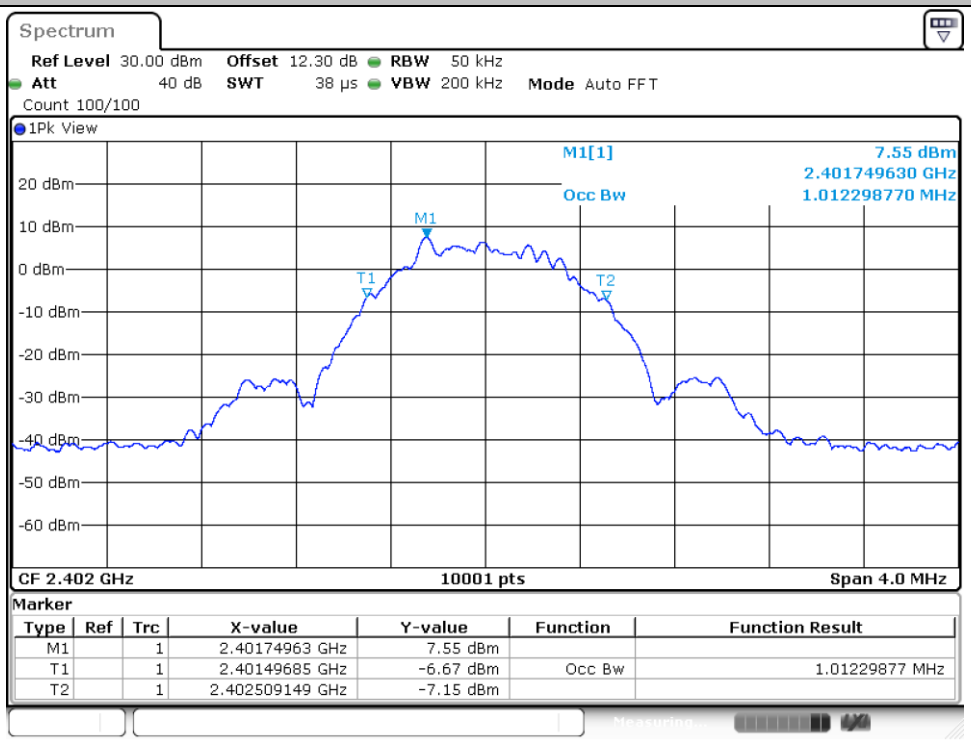
BLE_500K_Ant7_2402



BLE_500K_Ant6_2402



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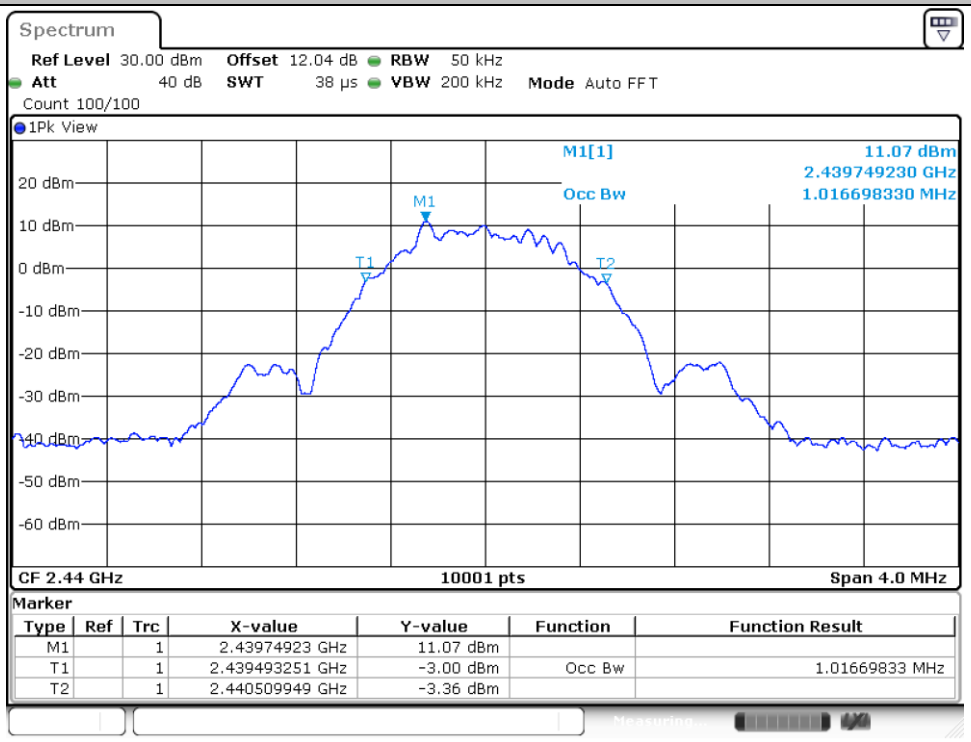

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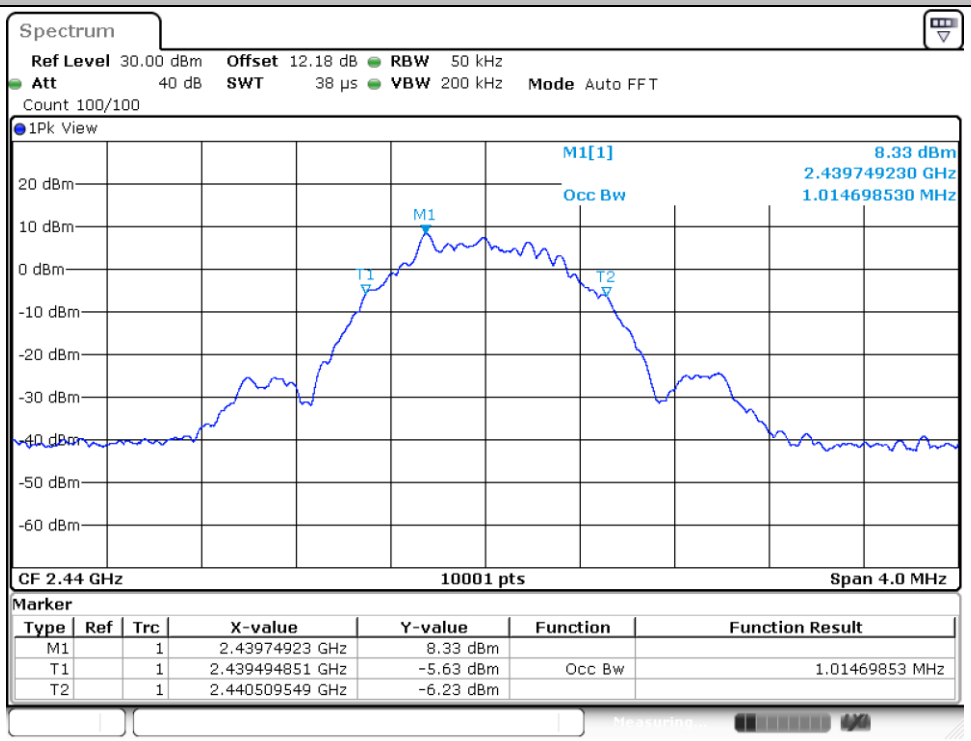
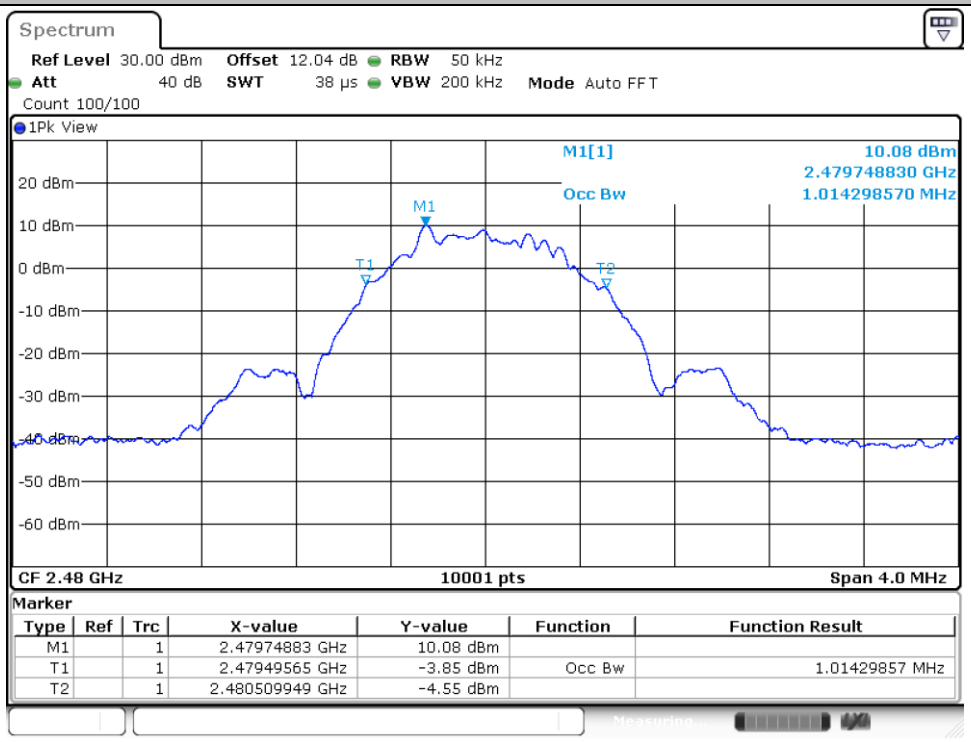


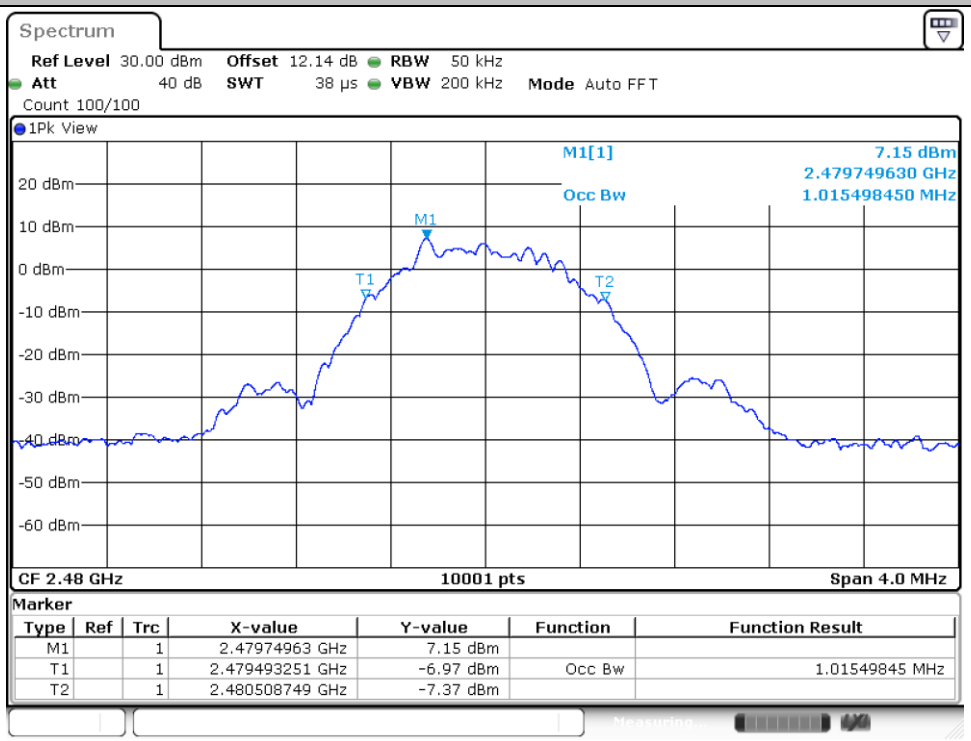
Date: 16.DEC.2024 18:58:19

BLE_500K_Ant7_2480



Date: 16.DEC.2024 18:32:41

BLE_500K_Ant6_2480



Date: 16.DEC.2024 19:00:23

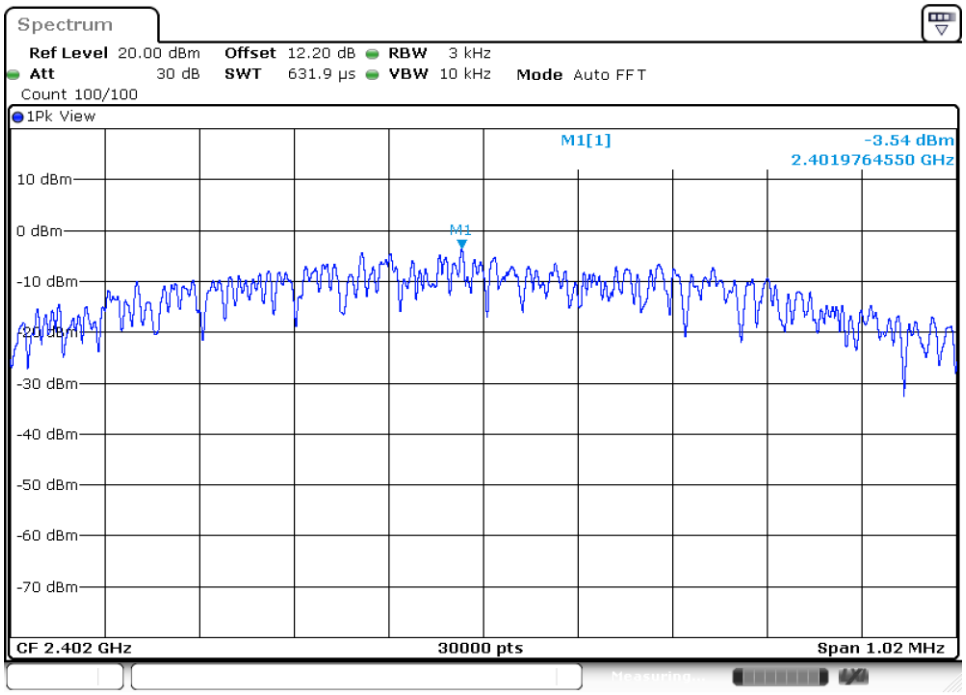
Maximum power spectral density

Test Result

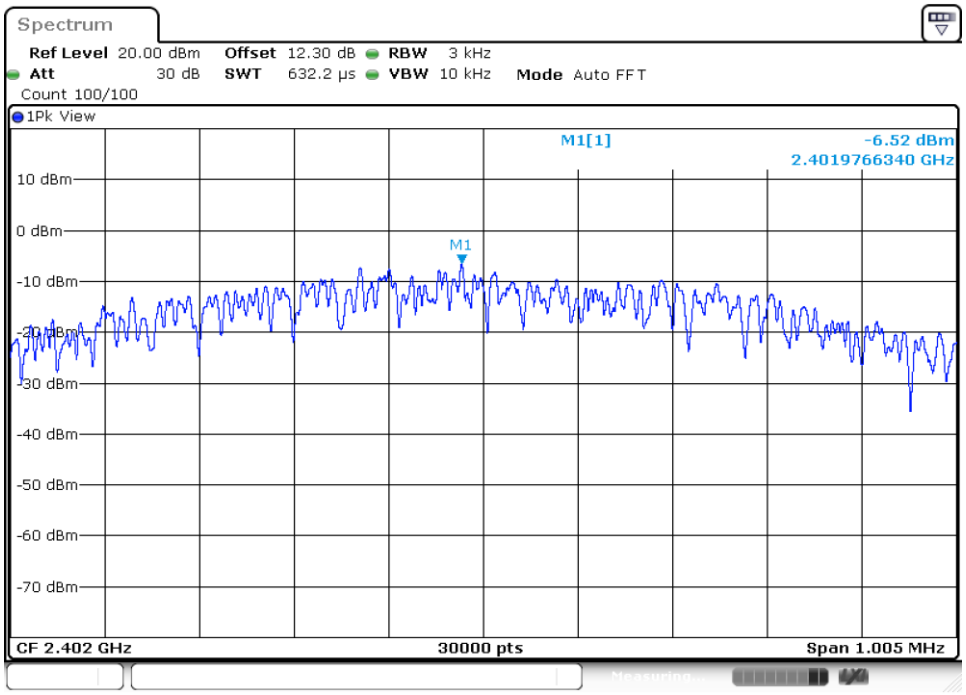
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant7	2402	-3.54	≤8.00	PASS
	Ant6	2402	-6.52	≤8.00	PASS
	Ant7	2440	-3.12	≤8.00	PASS
	Ant6	2440	-5.65	≤8.00	PASS
	Ant7	2480	-4.10	≤8.00	PASS
	Ant6	2480	-6.96	≤8.00	PASS
BLE_2M	Ant7	2402	-5.60	≤8.00	PASS
	Ant6	2402	-8.69	≤8.00	PASS
	Ant7	2440	-5.15	≤8.00	PASS
	Ant6	2440	-7.82	≤8.00	PASS
	Ant7	2480	-6.16	≤8.00	PASS
	Ant6	2480	-9.08	≤8.00	PASS
BLE_125K	Ant7	2402	5.47	≤8.00	PASS
	Ant6	2402	2.41	≤8.00	PASS
	Ant7	2440	5.84	≤8.00	PASS
	Ant6	2440	3.25	≤8.00	PASS
	Ant7	2480	4.86	≤8.00	PASS
	Ant6	2480	1.97	≤8.00	PASS
BLE_500K	Ant7	2402	5.36	≤8.00	PASS
	Ant6	2402	2.22	≤8.00	PASS
	Ant7	2440	5.78	≤8.00	PASS
	Ant6	2440	3.09	≤8.00	PASS
	Ant7	2480	4.80	≤8.00	PASS
	Ant6	2480	1.87	≤8.00	PASS

Test Graphs

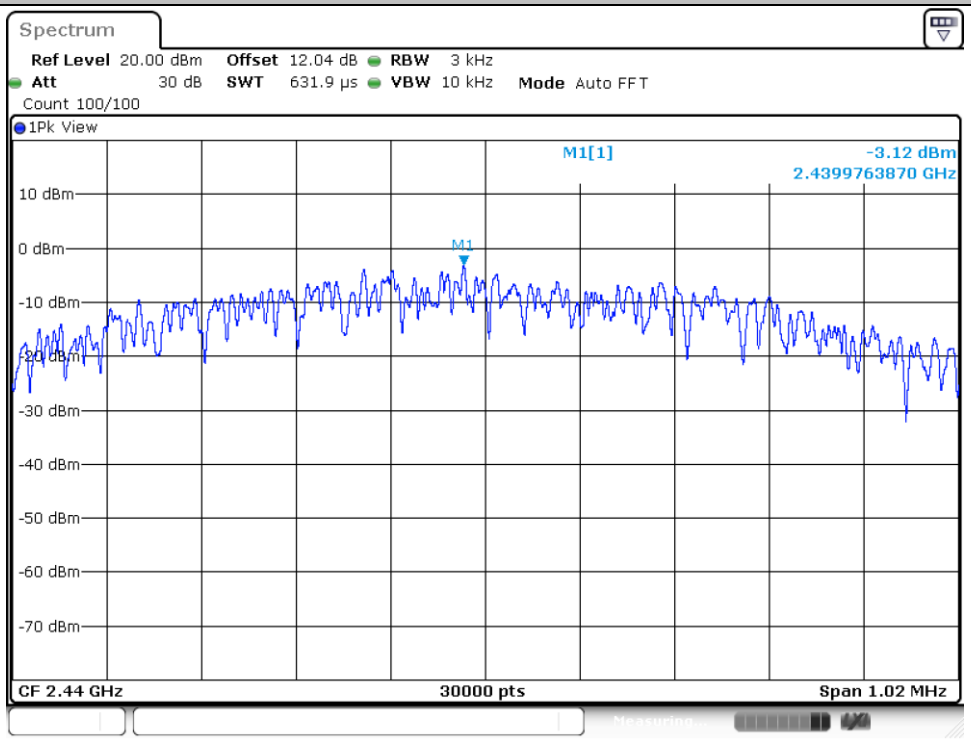
BLE_1M_Ant7_2402



BLE_1M_Ant6_2402

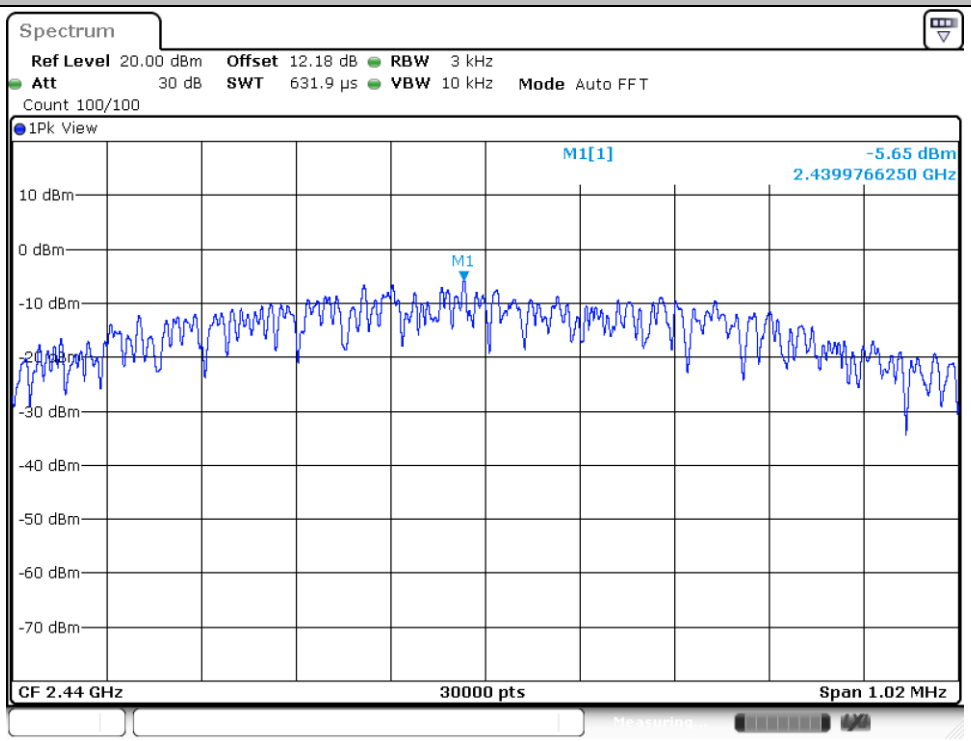


BLE_1M_Ant7_2440



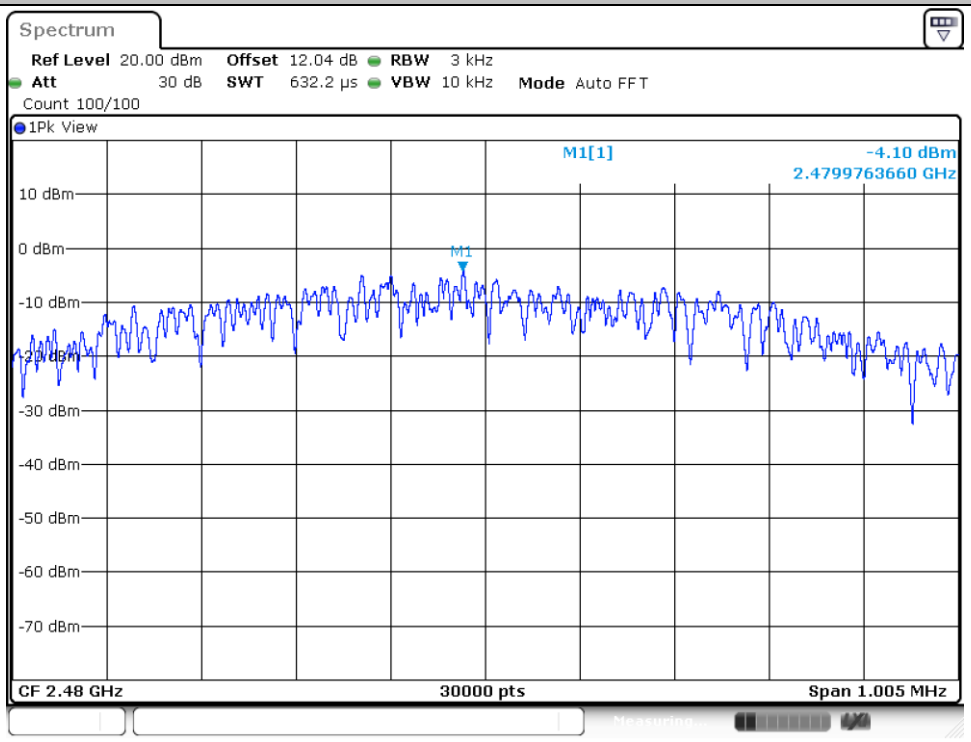
Date: 16.DEC.2024 17:47:27

BLE_1M_Ant6_2440



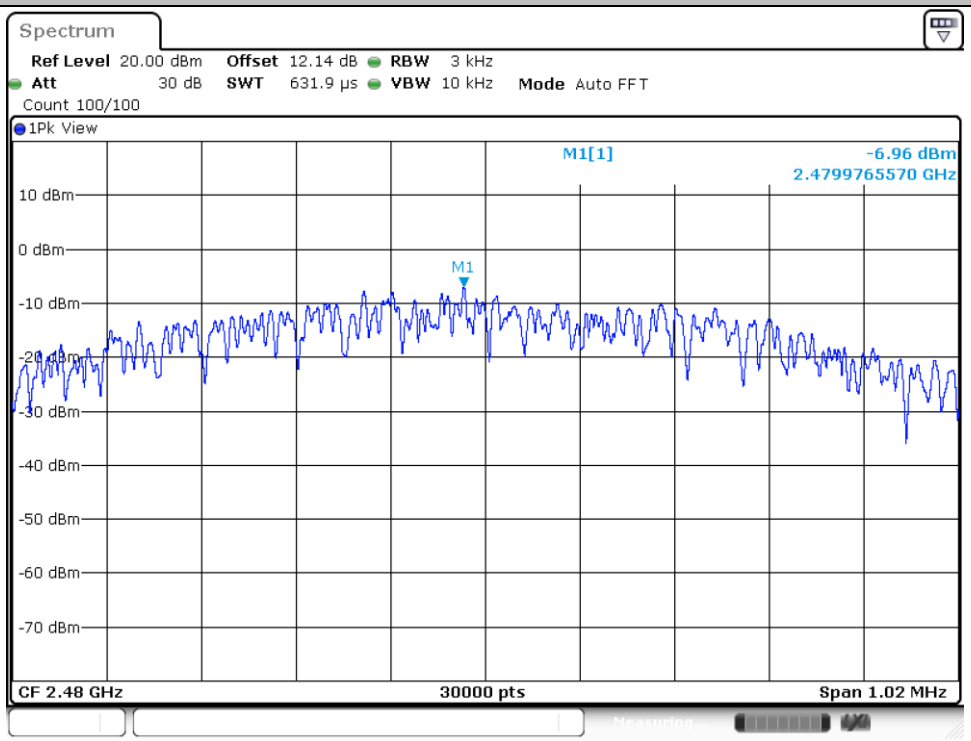
Date: 16.DEC.2024 18:36:40

BLE_1M_Ant7_2480



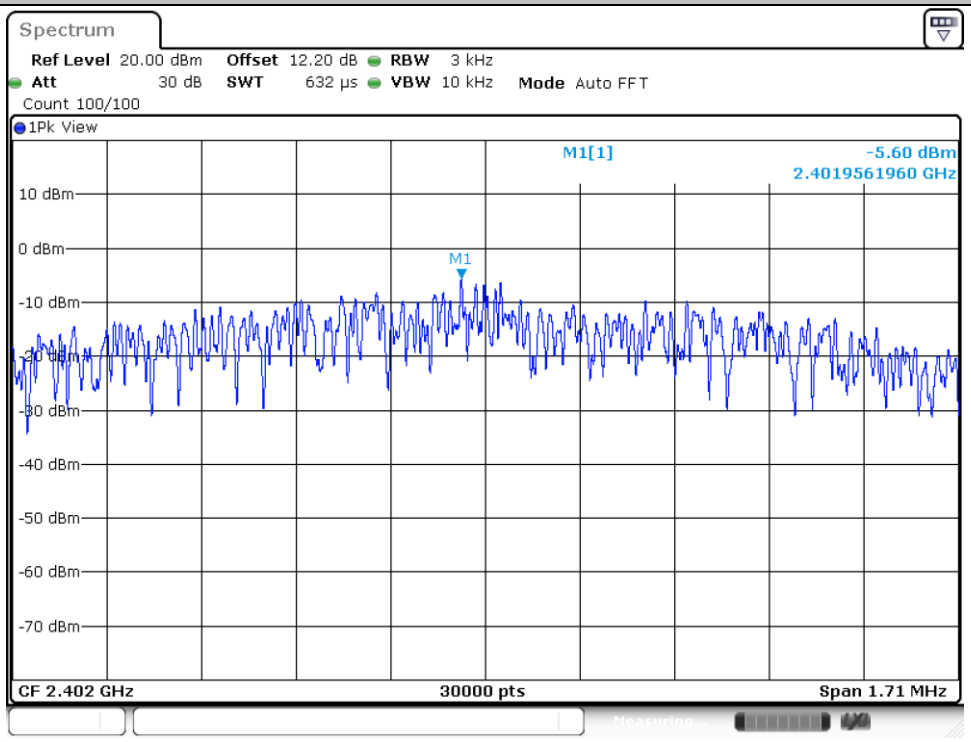
Date: 16.DEC.2024 17:48:50

BLE_1M_Ant6_2480



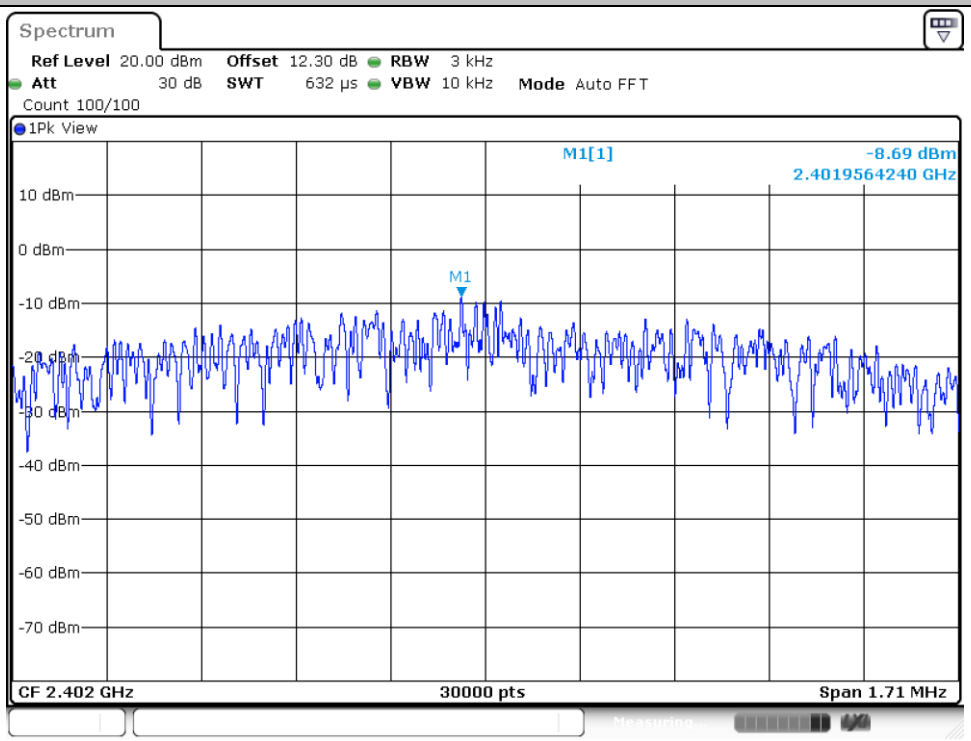
Date: 16.DEC.2024 18:38:32

BLE_2M_Ant7_2402



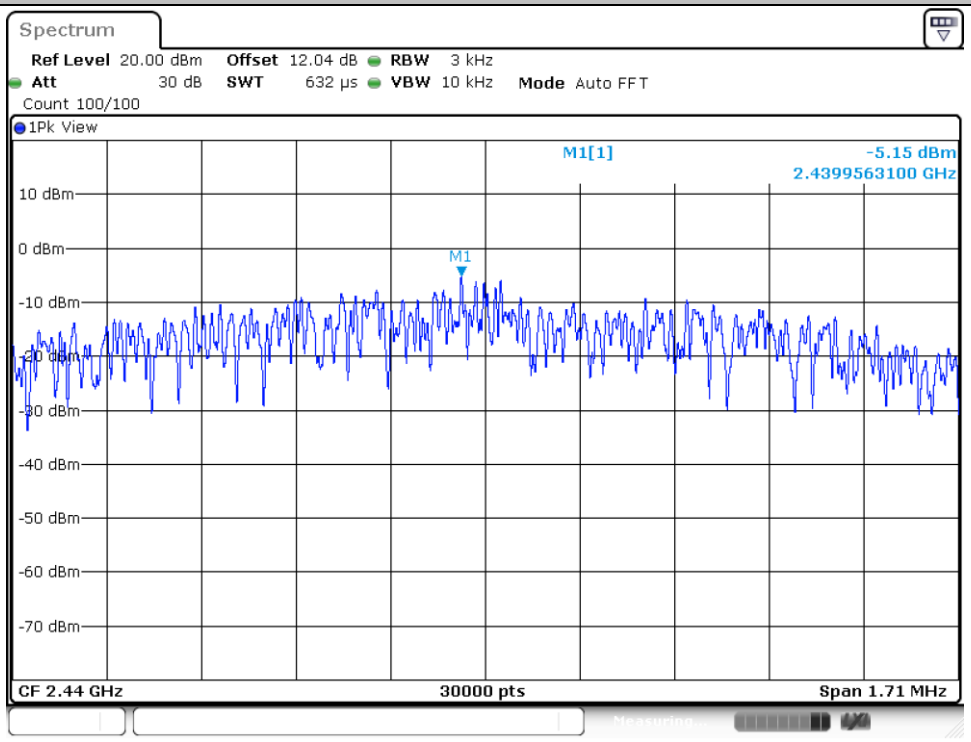
Date: 16.DEC.2024 17:50:25

BLE_2M_Ant6_2402



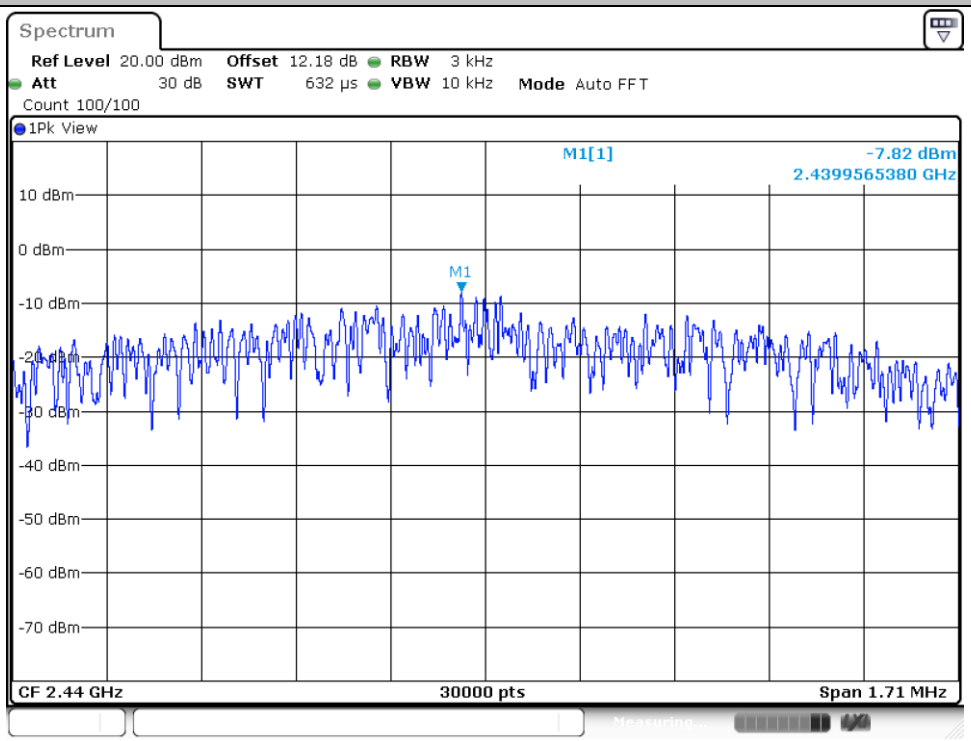
Date: 16.DEC.2024 18:41:22

BLE_2M_Ant7_2440



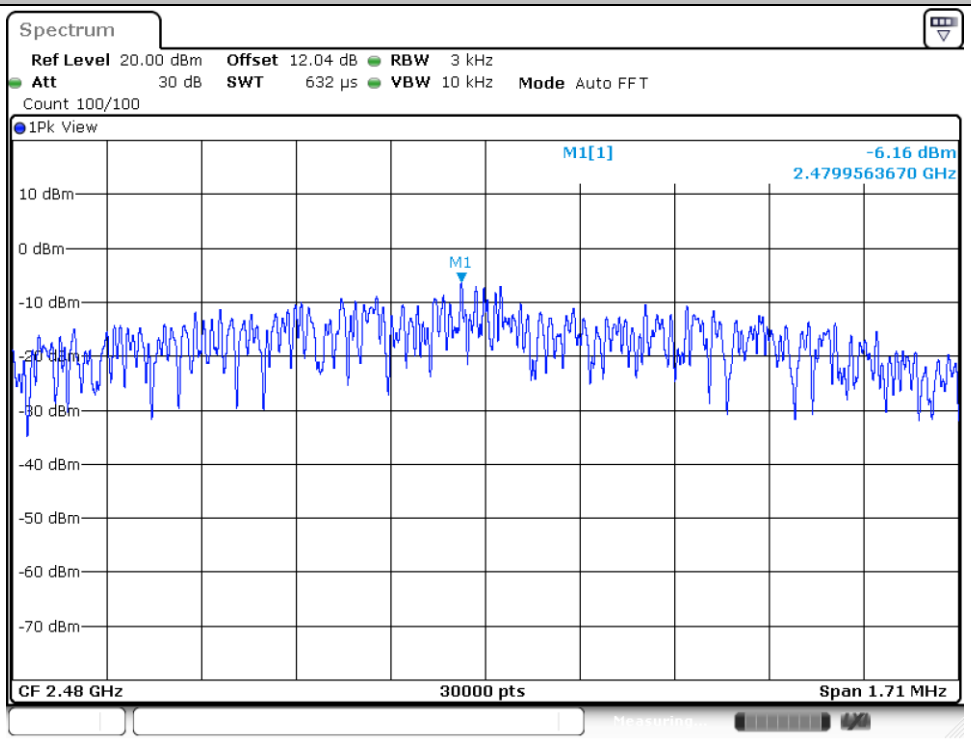
Date: 16.DEC.2024 17:53:52

BLE_2M_Ant6_2440



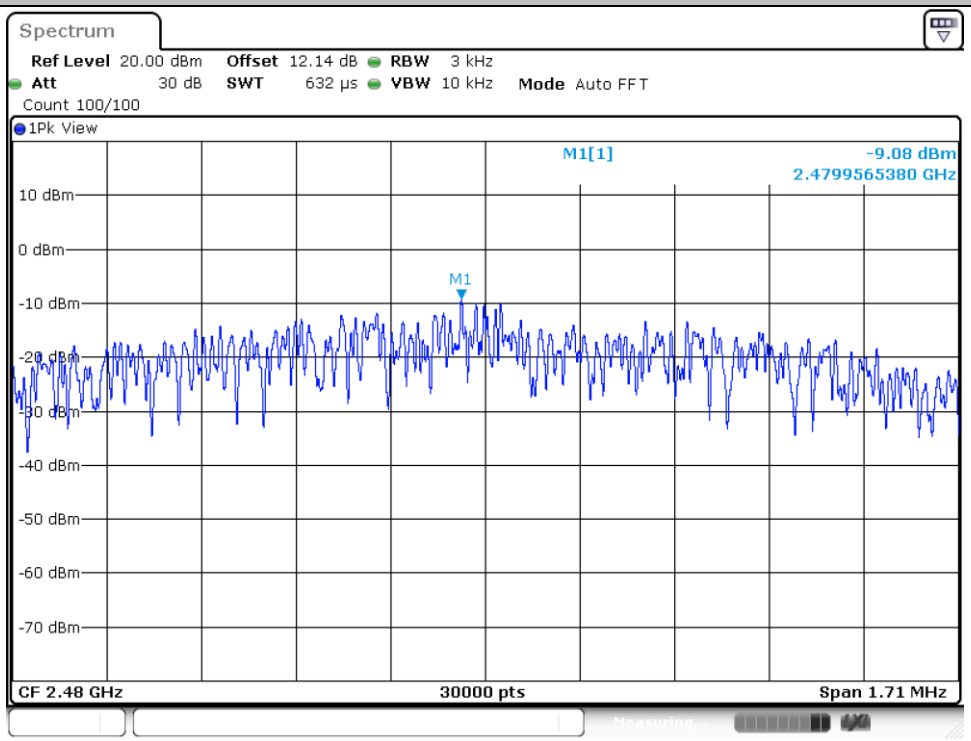
Date: 16.DEC.2024 18:44:00

BLE_2M_Ant7_2480



Date: 16.DEC.2024 17:55:44

BLE_2M_Ant6_2480



Date: 16.DEC.2024 18:46:33