

Report No.: SEWM2212000308RG03

Rev.: 02

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TEST REPORT

Application No.: SEWM2212000308RG
Applicant: Sony Corporation
Address of Applicant: 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer: Sony Corporation
Address of Manufacturer: 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
EUT Description: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC and GNSS
Trade Mark: Sony
FCC ID: PY7-51629L
Standards: FCC 47 CFR Part 2, Subpart J
FCC 47 CFR Part 15, Subpart C
Date of Receipt: 2022/11/30
Date of Test: 2022/12/26 to 2023/01/10
Date of Issue: 2023/02/23

Test Result :	PASS *
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* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Panta Sun

Panta Sun
Wireless Laboratory Manager



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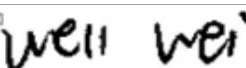
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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023/01/12		Original
02		2023/02/23		Updated Clause 4.9 and 4.10

This report supersedes our previous report SEWM2212000308RG03, issued on 2023/01/12, which is hereby deemed null and void.

Prepared By		 (Ives Cheng) / Test Engineer
Checked By		 (Well Wei) / Reviewer



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2 Test Summary

Test Item	FCC Rule No.	Test Method	Test Result	Result
Antenna Requirement	15.203/15.247(b)	--	Clause 4.1	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013 Section 6.2	Clause 4.2	PASS
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013 Section 11.9.2.3	Clause 4.4	PASS
DTS (6 dB) Bandwidth & 99% Occupied Bandwidth	15.247 (a)(2)	ANSI C63.10 2013 Section 11.8 Option 2 / 6.9.3	Clause 4.5	PASS
Power Spectral Density	15.247 (e)	ANSI C63.10 2013 Section 11.10.2	Clause 4.6	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013 Section 11.11	Clause 4.7	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013 Section 11.11	Clause 4.8	PASS
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2013 Section 11.12	Clause 4.9	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2013 Section 11.12	Clause 4.10	PASS



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3 General Information

3.1 Details of Client

Applicant:	Sony Corporation
Address of Applicant:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer:	Sony Corporation
Address of Manufacturer:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Ives Cheng, Tizzy Song

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327



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3.4 General Description of EUT

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC and GNSS	
Trade Mark:	Sony	
Hardware Version:	A	
Software Version:	0.256	
SN:	RF Conducted	HQ62B20407
	RSE & AC power line	HQ62B2030D
Operation Frequency:	2400MHz~2483.5MHz fc = 2402 MHz + N * 2 MHz, where: -fc = “Operating Frequency” in MHz, -N = “Channel Number” with the range from 0 to 39.	
Bluetooth version:	Bluetooth V5.1	
Modulation Type:	GFSK	
Number of Channel:	40	
Rates Type*:	☒ Provided by client	
	1M PHY	2M PHY
Antenna Type:	PIFA Antenna	
Antenna Gain:	-0.7dBi(Ant6)	
RF Cable:	1.0dB	
Note: *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 , SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.		
Remark:		
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Operation Frequency of each channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz



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3.5 Test Environment

Environment Parameter	101.0 kPa Selected Values During Tests	
Relative Humidity	44-46 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~23	3.89
Remark: NV: Normal Voltage NT: Normal Temperature		

3.6 Description of Support Units

The EUT has been tested as an independent unit.



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4 Test results and Measurement Data

4.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(b)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The antenna is PIFA Antenna and no consideration of replacement. The best case gain of the antenna is -0.7dBi(Ant6).	



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4.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013 Section 6.2		
Test Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30kHz		
Limit:	Frequency range(MHz)	Limit (dBuV)	
		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.			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		



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Test Setup:	
Test Mode:	Transmitting with GFSK modulation. Charge +Transmitting mode.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass



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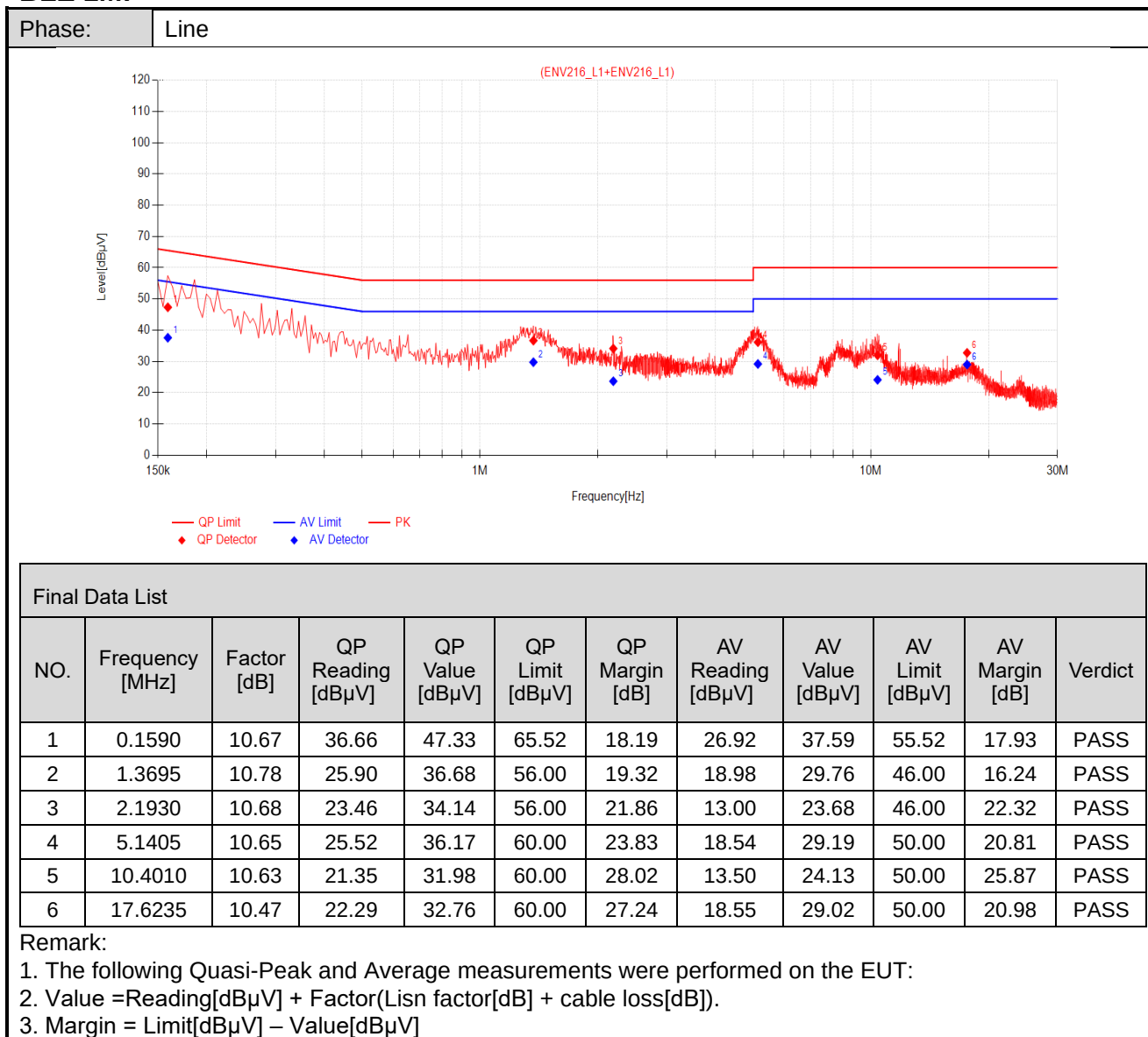
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Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

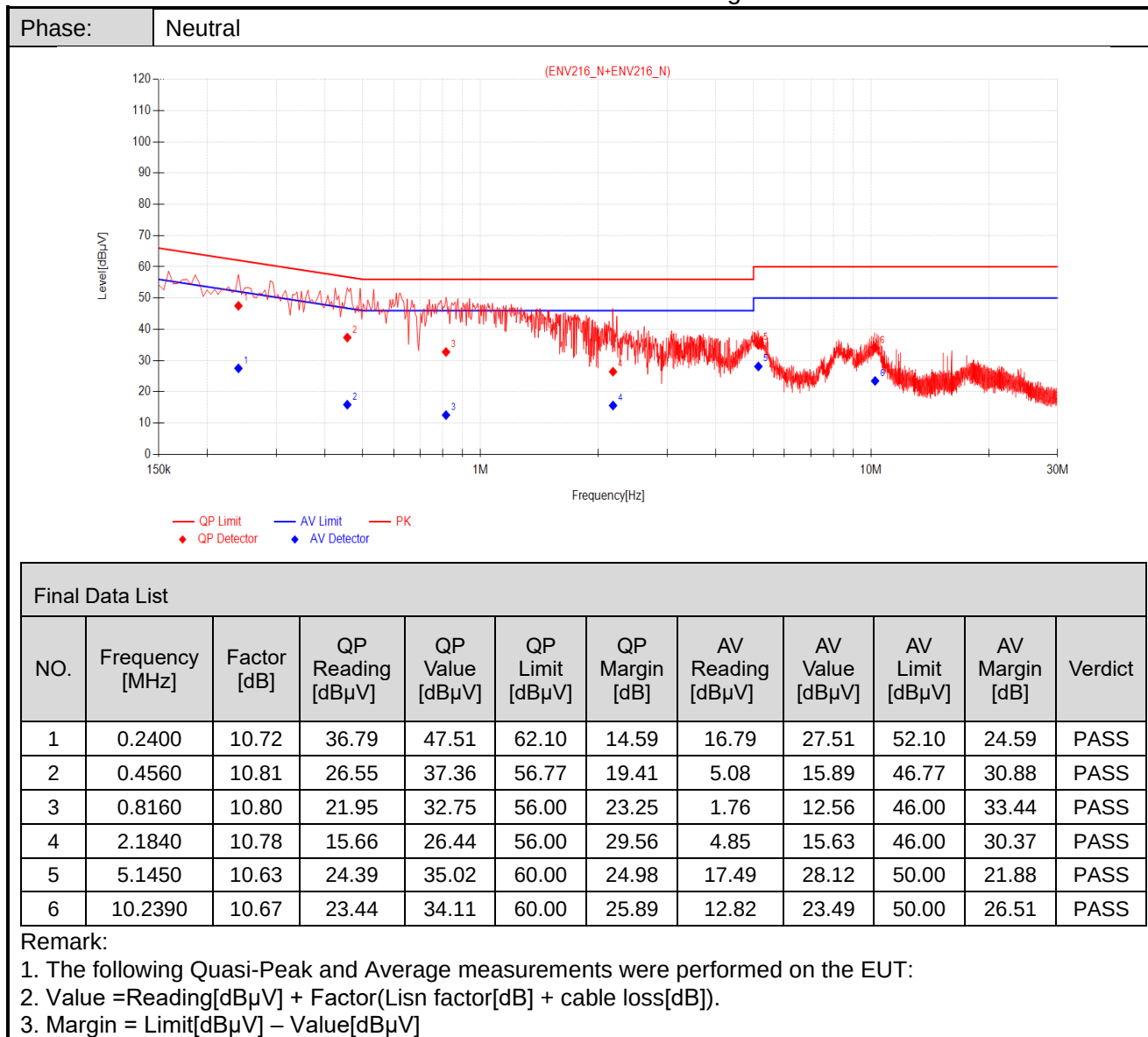
BLE 1M:



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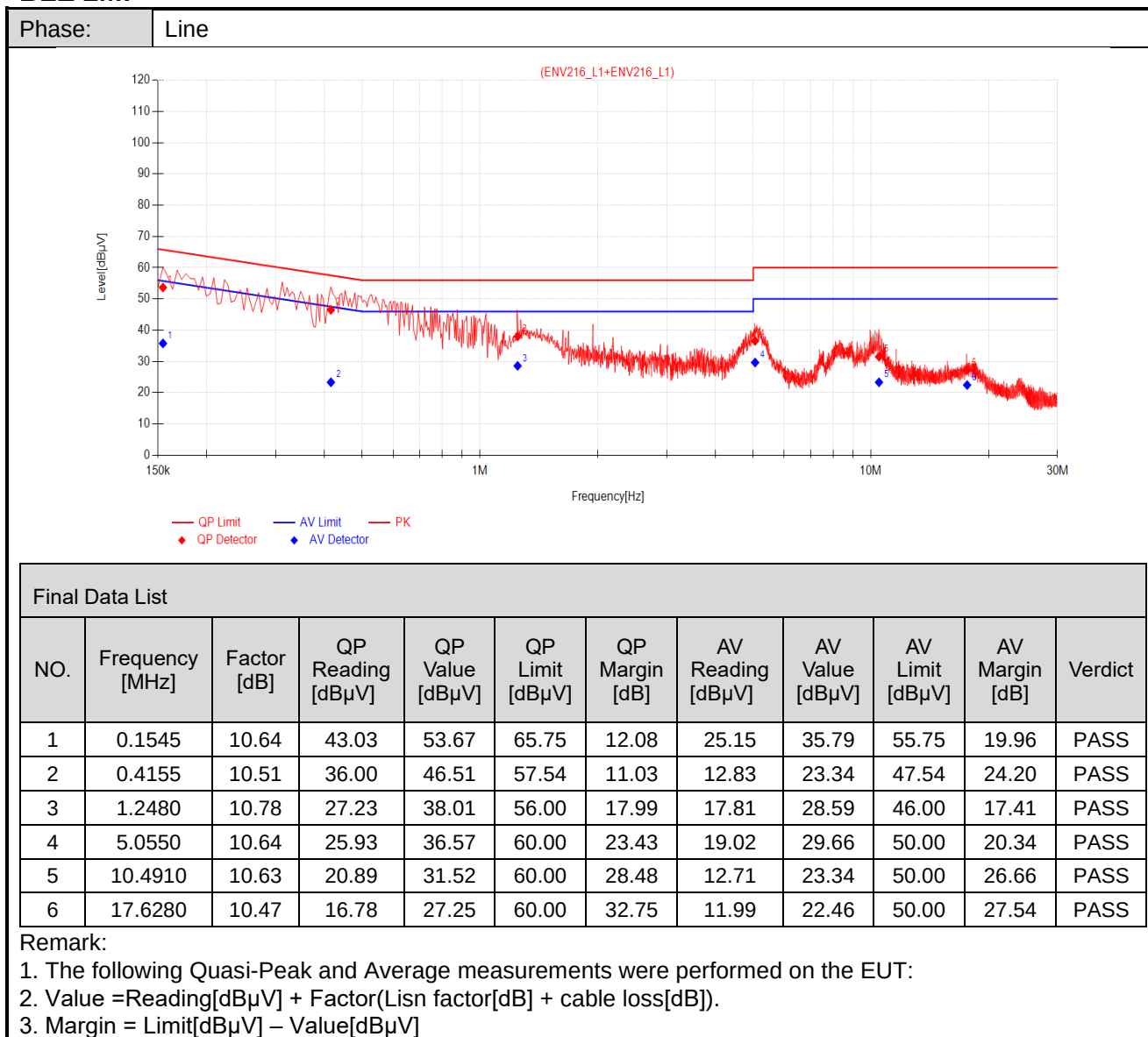
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BLE 2M:



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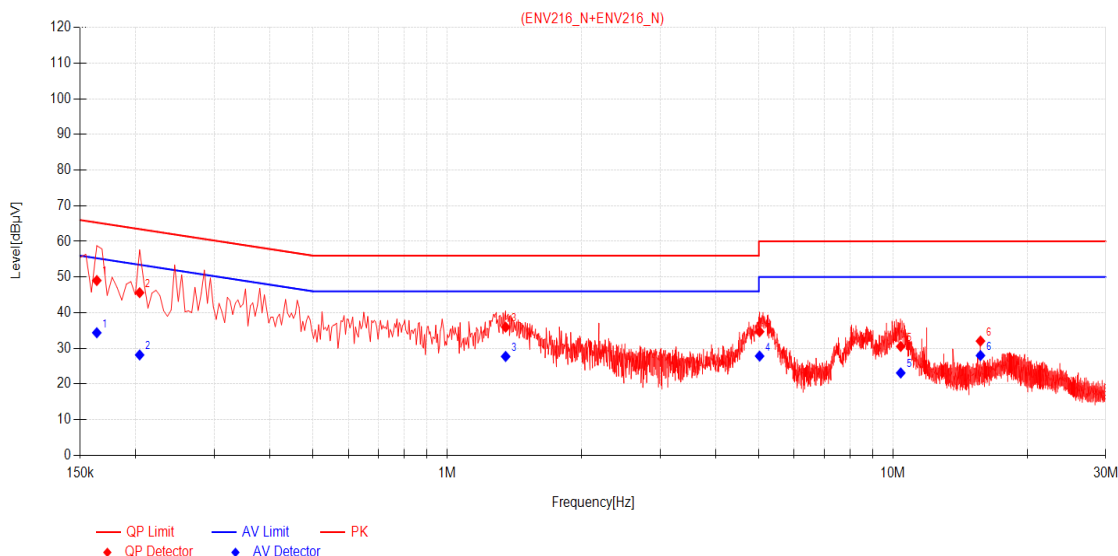
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Phase: Neutral



Final Data List

NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.1635	10.72	38.30	49.02	65.28	16.26	23.66	34.38	55.28	20.90	PASS
2	0.2040	10.67	34.95	45.62	63.45	17.83	17.49	28.16	53.45	25.29	PASS
3	1.3515	10.78	25.18	35.96	56.00	20.04	16.94	27.72	46.00	18.28	PASS
4	5.0190	10.64	24.03	34.67	60.00	25.33	17.19	27.83	50.00	22.17	PASS
5	10.4055	10.67	19.87	30.54	60.00	29.46	12.43	23.10	50.00	26.90	PASS
6	15.7110	10.57	21.48	32.05	60.00	27.95	17.42	27.99	50.00	22.01	PASS

Remark:

- The following Quasi-Peak and Average measurements were performed on the EUT:
- Value = Reading[dBμV] + Factor(Lisn factor[dB] + cable loss[dB]).
- Margine = Limit[dBμV] – Value[dBμV]



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4.3 Duty Cycle

The detailed test data see: **Appendix**

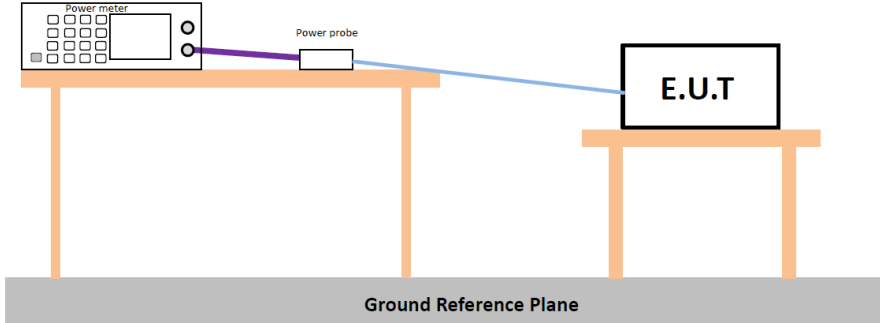


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4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section11.9.2.3
Test Setup:	 * Test with power meter (Detector function: Peak)
Test Instruments:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	30dBm
Test Results:	Pass
The detailed test data see: Appendix	



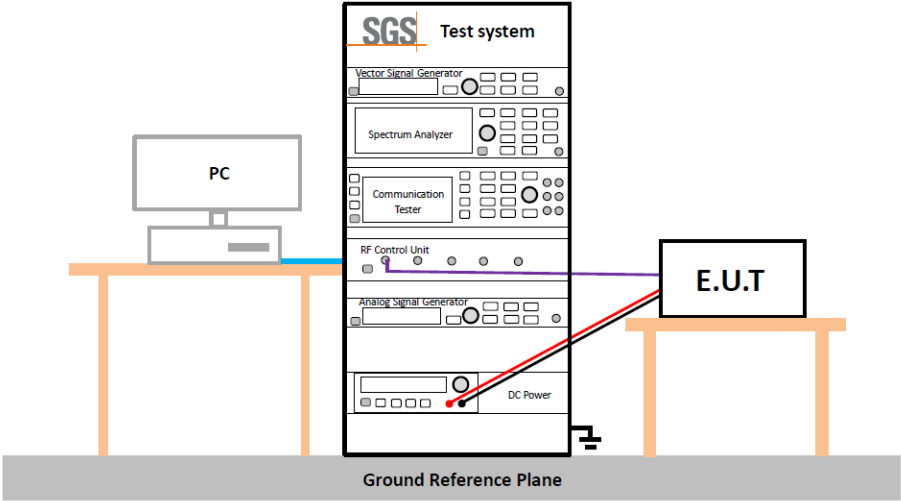
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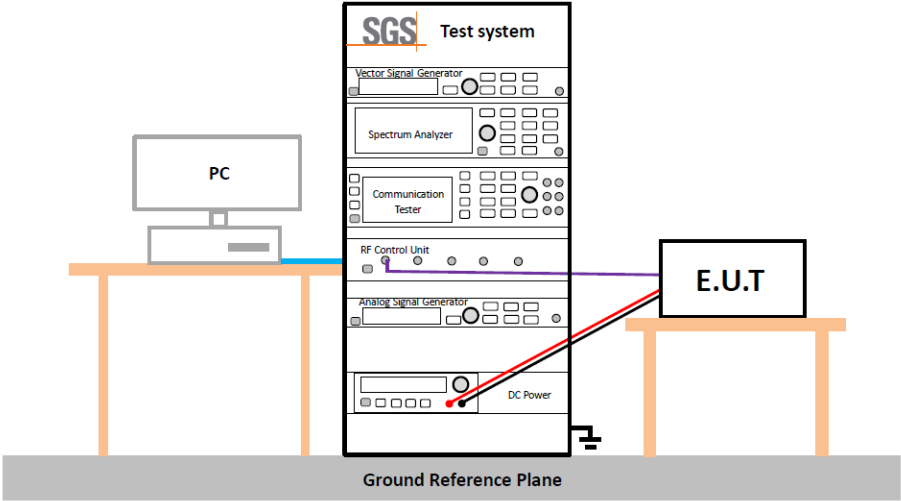
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4.5 DTS (6 dB) Bandwidth & 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10: 2013 Section 11.8 Option 2 / 6.9.3
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	≥ 500 kHz
Test Results:	Pass
The detailed test data see: Appendix	

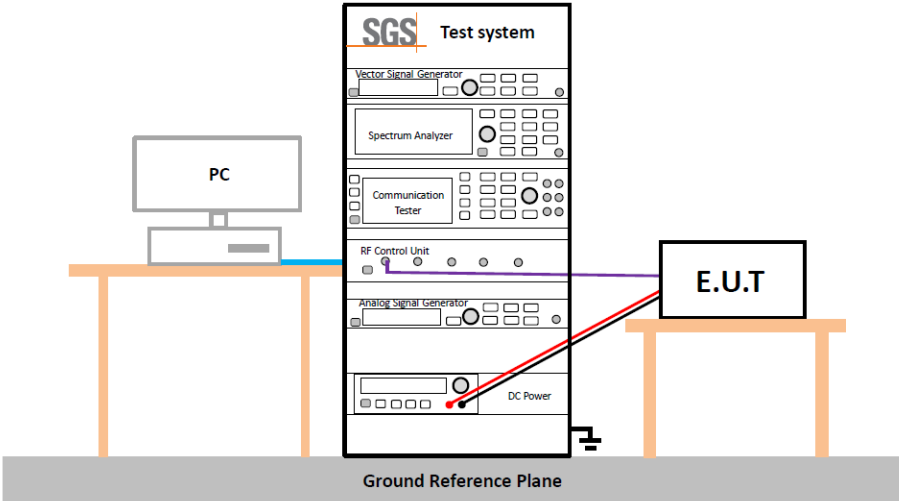
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4.6 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 :2013 Section 11.10.2
Test Setup:	
Test Instruments:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	$\leq 8.00\text{dBm}/3\text{kHz}$
Test Results:	Pass
The detailed test data see: Appendix	

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4.7 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass
The detailed test data see: Appendix	



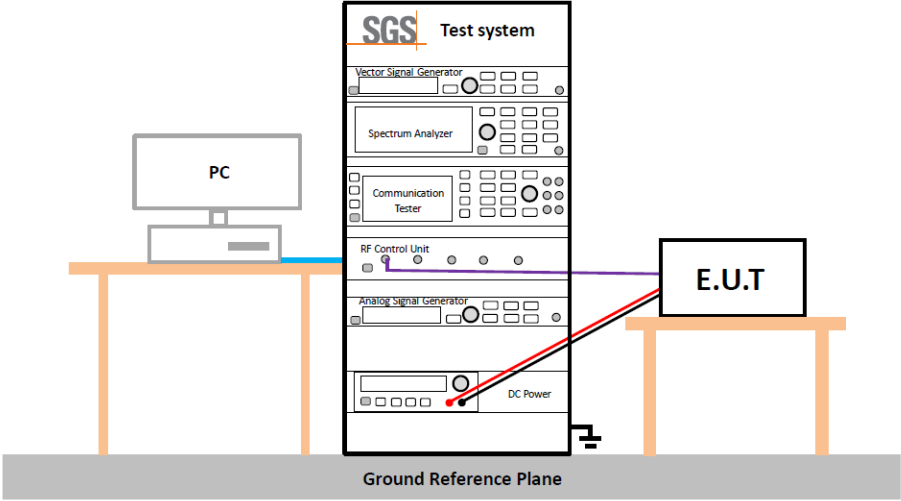
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4.8 RF Conducted Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass
The detailed test data see: Appendix	

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4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Test Frequency:	9kHz ~ 25GHz				
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					

Test Setup:

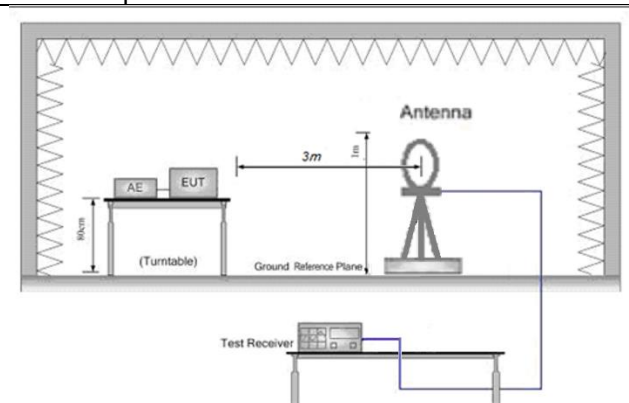


Figure 1. Below 30MHz

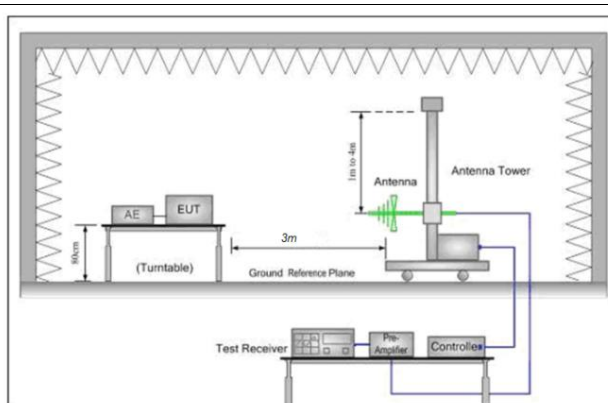


Figure 2. 30MHz to 1GHz

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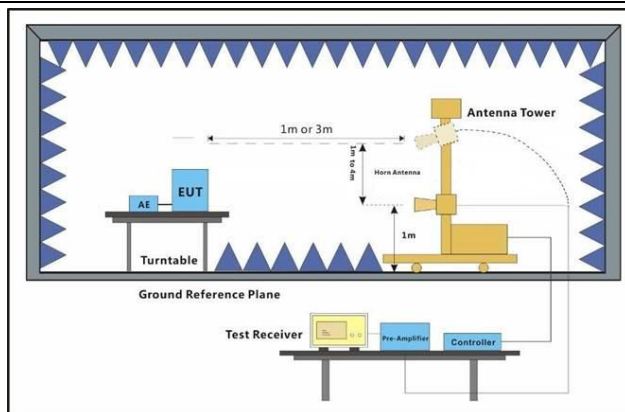


Figure 3. Above 1 GHz

Test Procedure:	- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. - For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation (Distance from antenna to EUT is 1m for measurements >18GHz). - The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. - The antenna 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. - 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. - The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. - Test the EUT in the lowest channel, the middle channel, the Highest channel. - The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. - Repeat above procedures until all frequencies measured was complete. - 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 - The disturbance above 18GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed. - At a measurement distance of 1 meter the limit line was increased by $20 \cdot \log(3/1) = 9.54 \text{ dB}$.
Test Configuration:	Measurements Below 1000MHz - RBW = 120 kHz - VBW = 300 kHz - Detector = Peak - Trace mode = max hold

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	Peak Measurements Above 1000 MHz • RBW = 1 MHz • VBW $\geq$ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold Average Measurements Above 1000MHz • RBW = 1 MHz • VBW = 10Hz, when duty cycle is no less than 98 percent. • VBW $\geq$ 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.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode, For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
The detailed test data see: Appendix	



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4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

Test Setup:

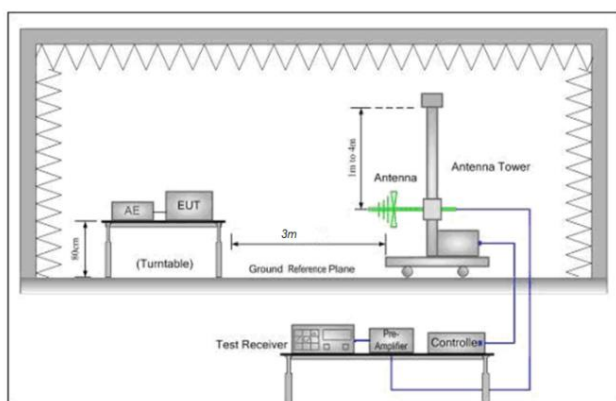


Figure 1. 30MHz to 1GHz

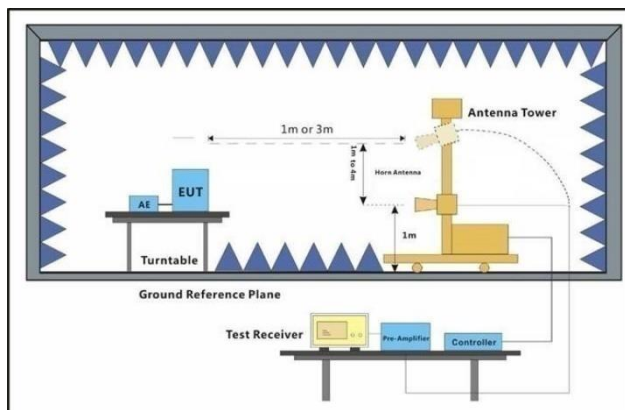


Figure 2. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- Place a marker at the end of the restricted band closest to the transmit

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	frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Test Configuration:	Measurements Below 1000MHz • RBW = 120 kHz • VBW = 300 kHz • Detector = Peak • Trace mode = max hold Peak Measurements Above 1000 MHz • RBW = 1 MHz • VBW ≥ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold Average Measurements Above 1000MHz • RBW = 1 MHz • VBW = 10Hz, 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.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
The detailed test data see: Appendix	



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5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	$\pm 0.54\text{dB}$
2	RF power density, conducted	$\pm 1.03\text{dB}$
3	Spurious emissions, conducted	$\pm 0.54\text{dB}$
4	Radio Frequency	$\pm 1.0\%$
5	Duty Cycle	$\pm 0.37\%$
6	Occupied Bandwidth	$\pm 1.0\%$
7	Conduction Emission	$\pm 2.90\text{dB}$ (150kHz to 30MHz)
8	Radiated Emission	$\pm 3.13\text{dB}$ (9k -30MHz)
		$\pm 4.88\text{dB}$ (30M -1GHz)
		$\pm 4.75\text{dB}$ (1GHz to 18 GHz)
		$\pm 4.77\text{dB}$ (Above 18GHz)

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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6 Equipment List

RF Test Equipment					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Shielding Room	Brilliant-emc	N/A	SUWI-04-01-06	2021/05/08	2024/05/07
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2022/02/16	2023/02/15
Signal Analyzer	ROHDE&SCHWARZ	FSV3030	SUWI-01-02-02	2022/05/17	2023/05/16
Measurement Software	Tonscend	JS1120-3 Test System V3.1.55	SUWI-02-09-09	NCR	NCR
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	2022/02/14	2023/02/13
DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	2022/02/15	2023/02/14
Power meter	Anritsu	ML2495A	SUWI-01-31-01	2022/11/23	2023/11/22
Pulse power sensor	Anritsu	MA2411B	SUWI-01-32-01	2022/11/23	2023/11/22
MXG Vector signal genitor	KEYSIGHT	N5182B	SUWI-01-38-01	2022/02/14	2023/02/13
Temperature Chamber	ESPEC	SU-242	SUWI-01-13-01	2022/02/15	2023/02/14

CE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Shielding Room	Brilliant-emc	N/A	SUWI-04-03-01	2021/05/08	2024/05/07
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2022/02/19	2023/02/18
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-06	2022/02/16	2023/02/15
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-01	2022/02/19	2023/02/18
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-02	2022/02/19	2023/02/18
Measurement Software	Tonscend	JS32-CE 4.0.0.2	SUWI-02-09-05	NCR	NCR



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RSE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-02	2021/11/25	2024/11/24
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-15	2022/02/16	2023/02/15
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-06	2022/11/23	2023/11/22
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2022/02/19	2023/02/18
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9163	SUWI-01-11-04	2021/12/05	2023/12/04
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-05	2021/12/05	2023/12/04
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	2021/05/14	2023/05/13
Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	2021/06/10	2023/06/09
Amplifier	Tonscend	TAP9K3G32	SUWI-01-14-06	2022/11/23	2023/11/22
Amplifier	Tonscend	TAP01018050	SUWI-01-14-04	2022/11/23	2023/11/22
Amplifier	Tonscend	TAP30M7G30	SUWI-01-14-05	2022/11/23	2023/11/22
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR



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7 Photographs - Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.



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Appendix



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DTS Bandwidth Test Result

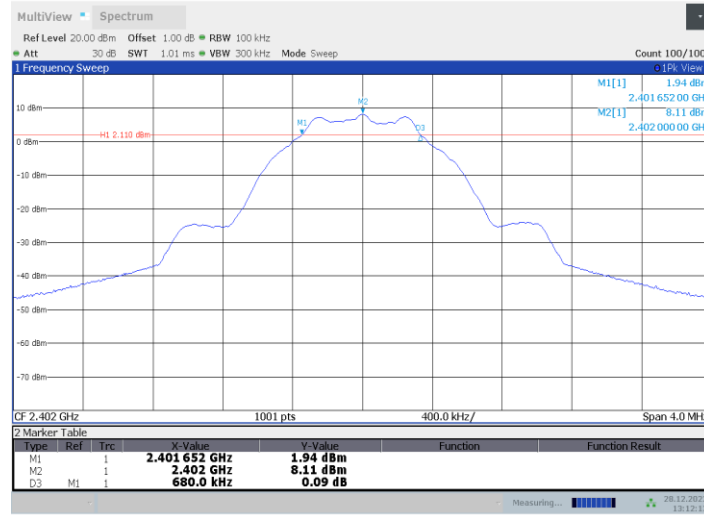
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant6	2402	0.68	2401.65	2402.33	≥0.5	PASS
		2440	0.68	2439.65	2440.33	≥0.5	PASS
		2480	0.68	2479.65	2480.33	≥0.5	PASS
BLE_2M	Ant6	2402	1.16	2401.42	2402.58	≥0.5	PASS
		2440	1.16	2439.42	2440.58	≥0.5	PASS
		2480	1.16	2479.42	2480.58	≥0.5	PASS



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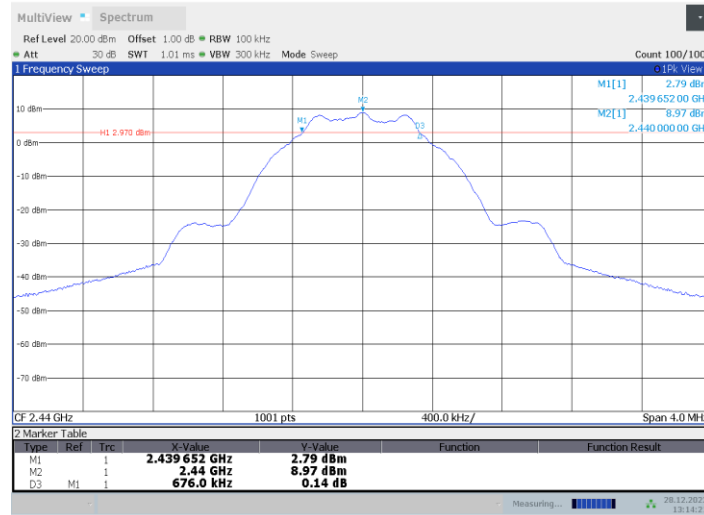
Test Graphs

BLE_1M_Ant6_2402



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BLE_1M_Ant6_2440



13:14:21 28.12.2022



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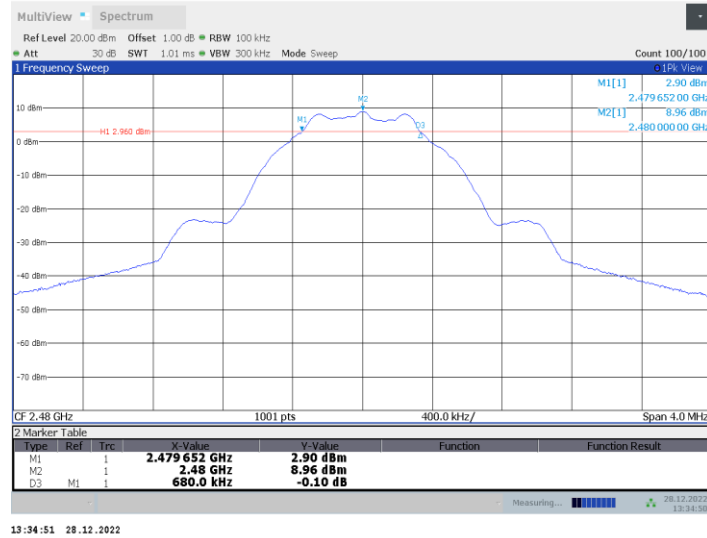
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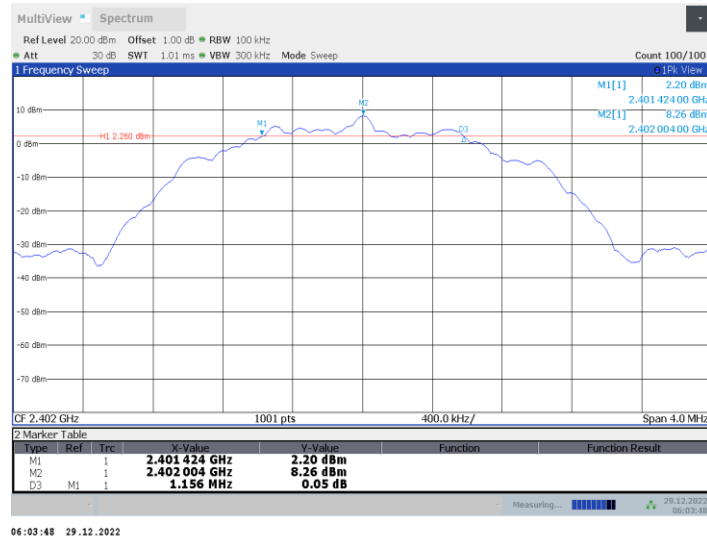
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BLE_1M_Ant6_2480



BLE_2M_Ant6_2402



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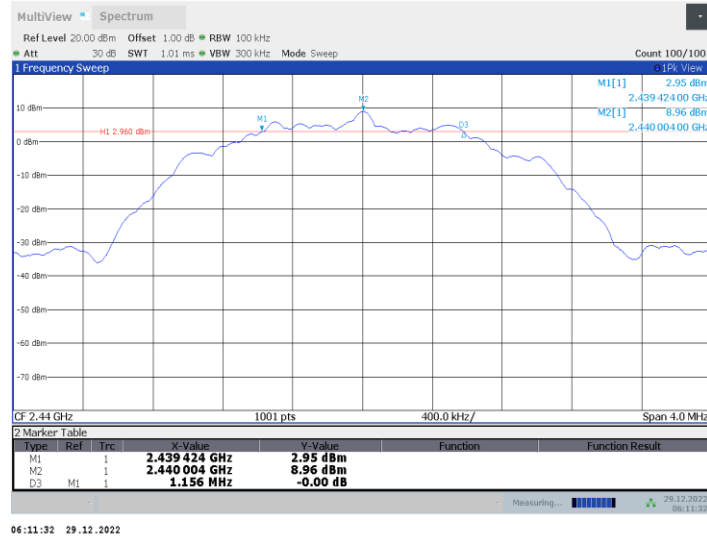
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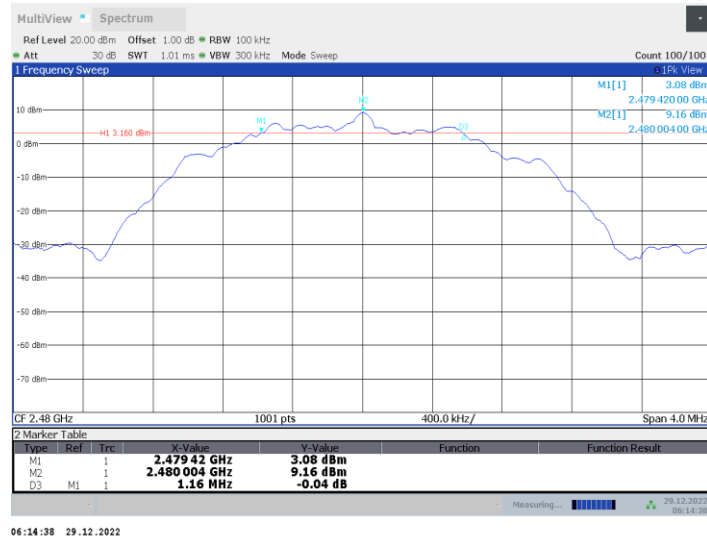
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BLE_2M_Ant6_2440



BLE_2M_Ant6_2480



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Occupied Channel Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
BLE_1M	Ant6	2402	1.027	2401.488	2402.515	Reporting only
		2440	1.026	2439.488	2440.514	
		2480	1.025	2479.488	2480.513	
BLE_2M	Ant6	2402	2.042	2400.993	2403.035	
		2440	2.041	2438.992	2441.033	
		2480	2.040	2478.990	2481.030	



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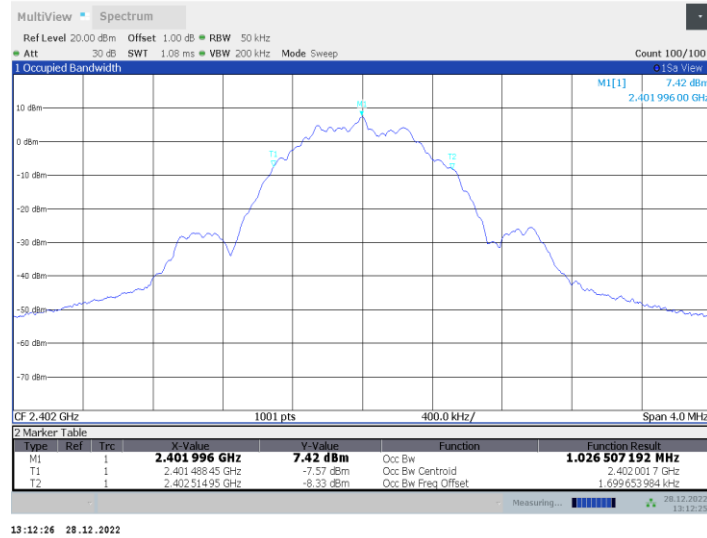
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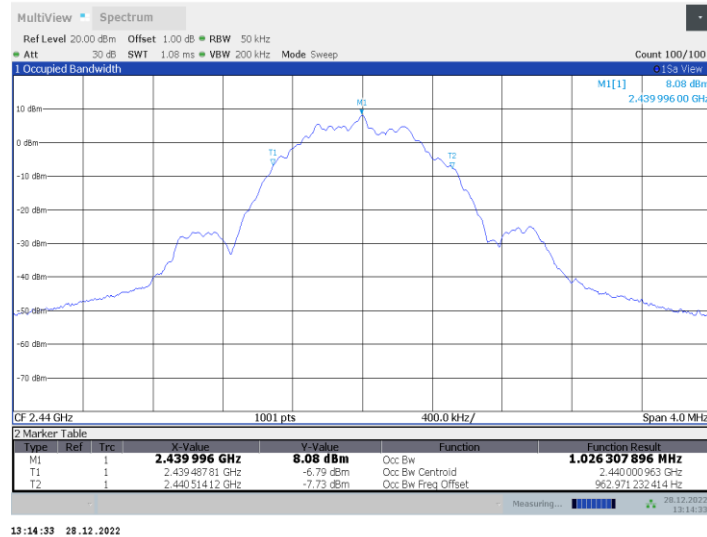
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Test Graphs

BLE_1M_Ant6_2402



BLE_1M_Ant6_2440



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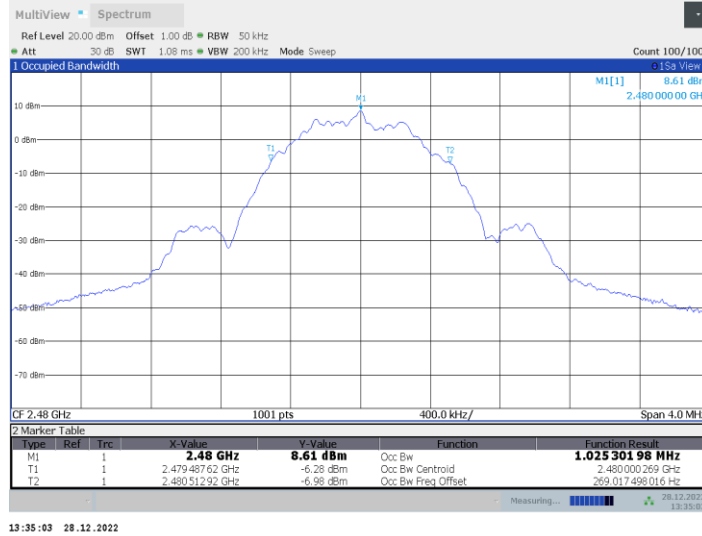
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BLE_1M_Ant6_2480



BLE_2M_Ant6_2402



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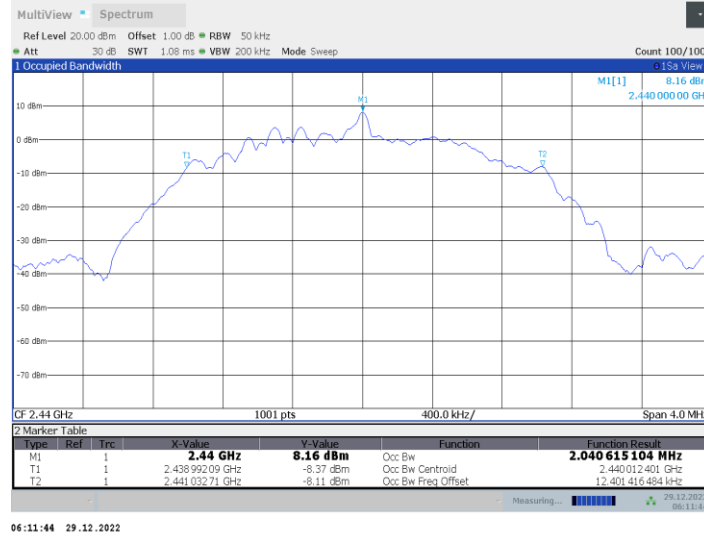
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06:11:44 29.12.2022

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06:14:51 29.12.2022



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Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant6	2402	8.45	≤30	PASS
		2440	9.32	≤30	PASS
		2480	9.26	≤30	PASS
BLE_2M	Ant6	2402	8.64	≤30	PASS
		2440	9.37	≤30	PASS
		2480	9.35	≤30	PASS

Test Result Average

Test Mode	Channel	Average power[dBm]
BLE 1M	2402	7.88
	2440	7.85
	2480	7.91
BLE 2M	2402	7.91
	2440	7.83
	2480	7.88



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Maximum power spectral density Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant6	2402	-6.66	≤8.00	PASS
		2440	-5.8	≤8.00	PASS
		2480	-5.83	≤8.00	PASS
BLE_2M	Ant6	2402	-9.91	≤8.00	PASS
		2440	-9.41	≤8.00	PASS
		2480	-9.26	≤8.00	PASS



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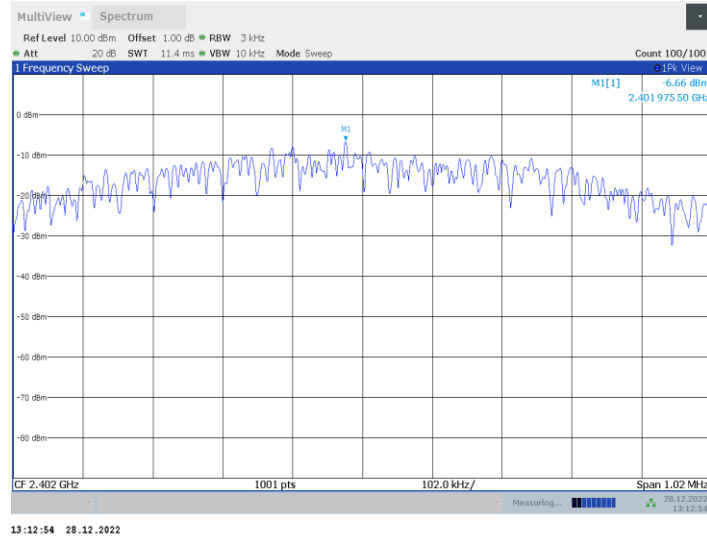
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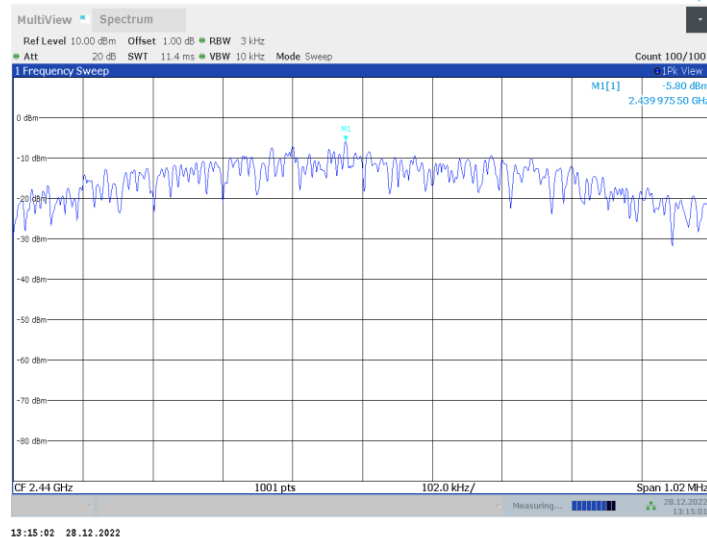
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Test Graphs

BLE_1M_Ant6_2402



BLE_1M_Ant6_2440



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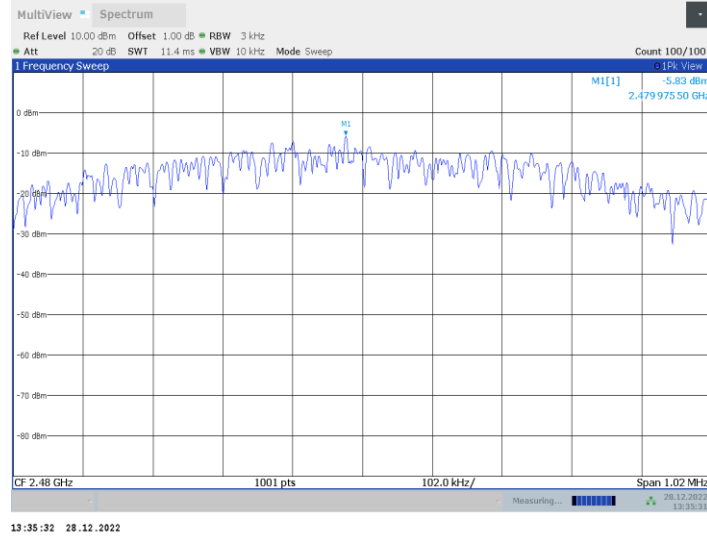
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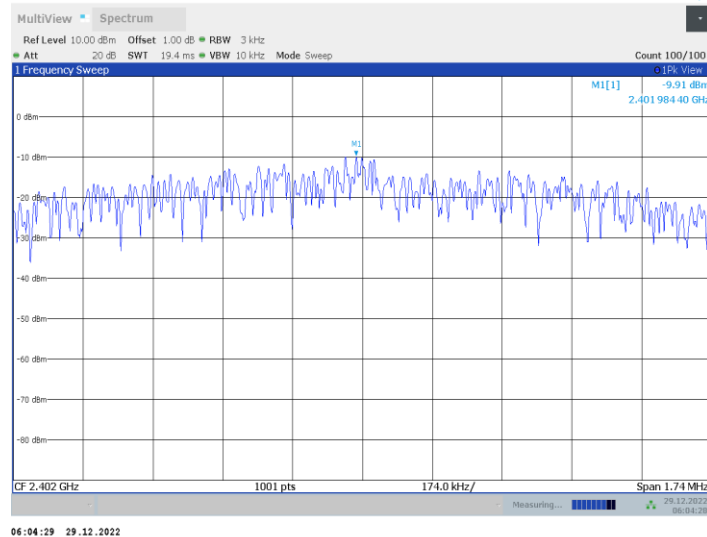
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BLE_2M_Ant6_2402



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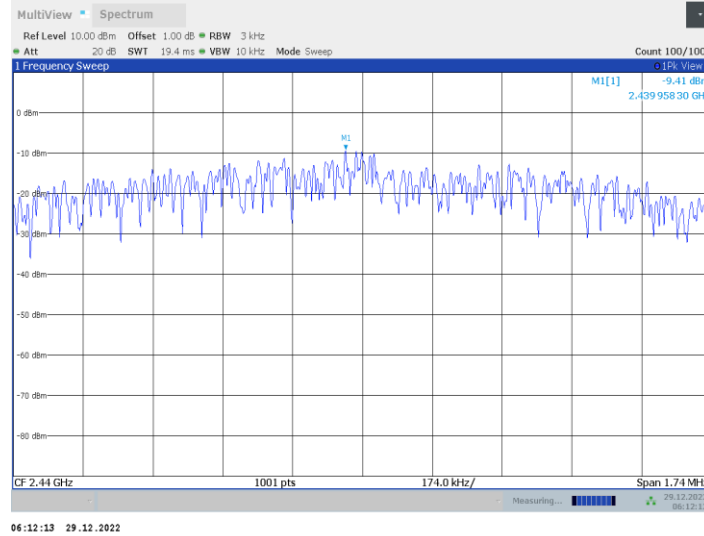
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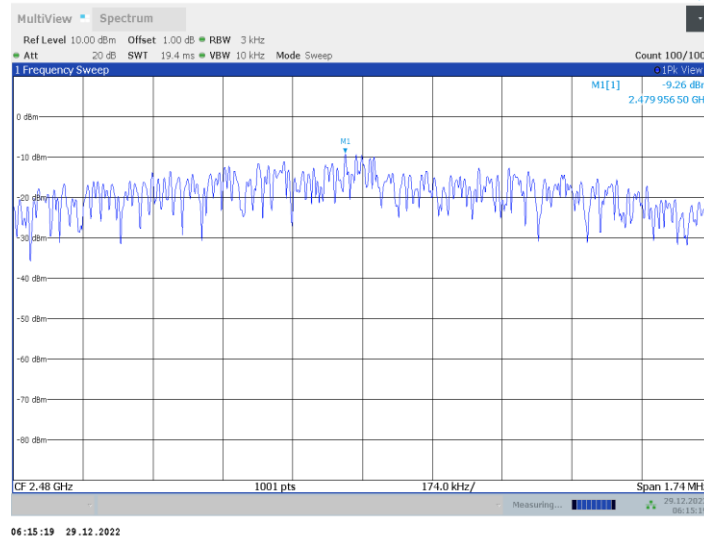
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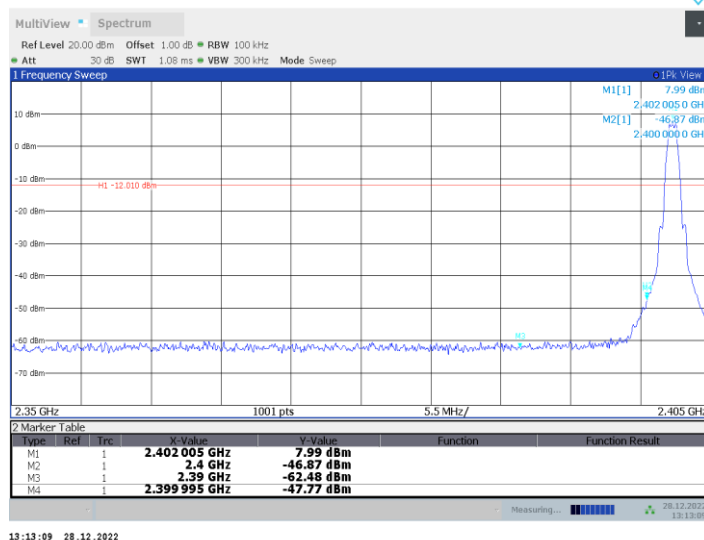
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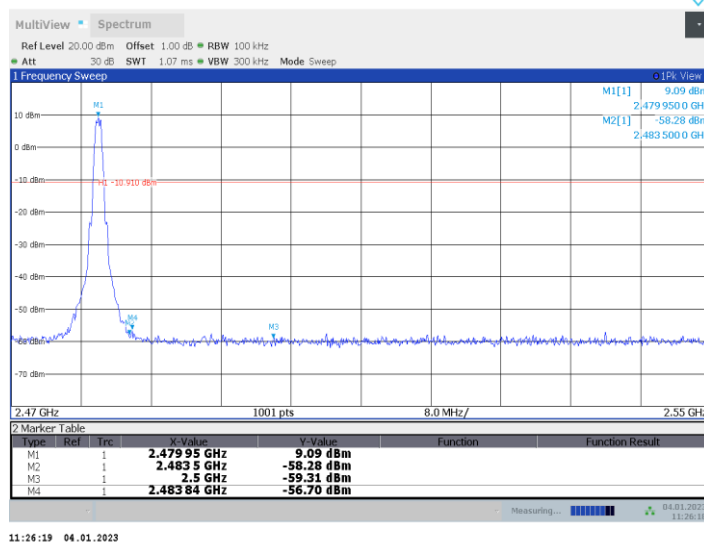
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Band edge measurements Test Graphs

BLE 1M Ant6 Low 2402



BLE 1M Ant6 High 2480



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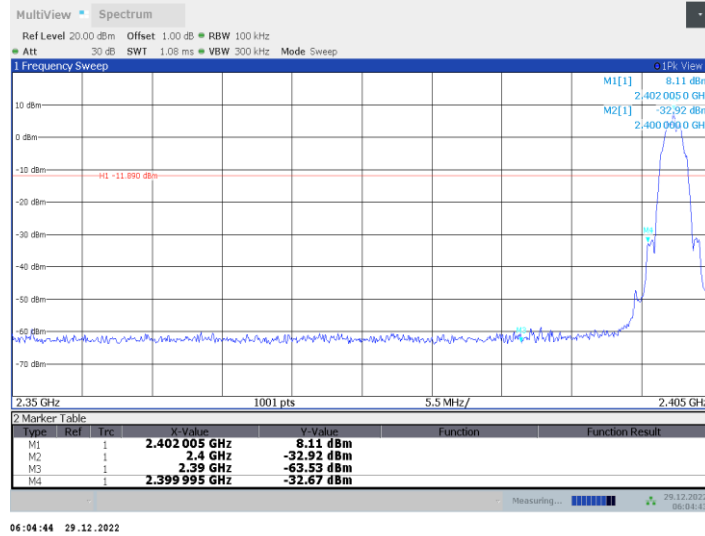
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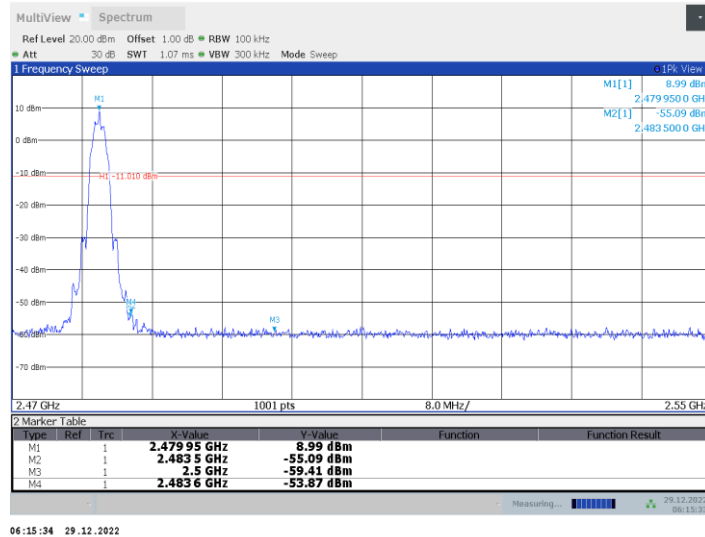
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BLE 2M Ant6 Low 2402



BLE 2M Ant6 High 2480



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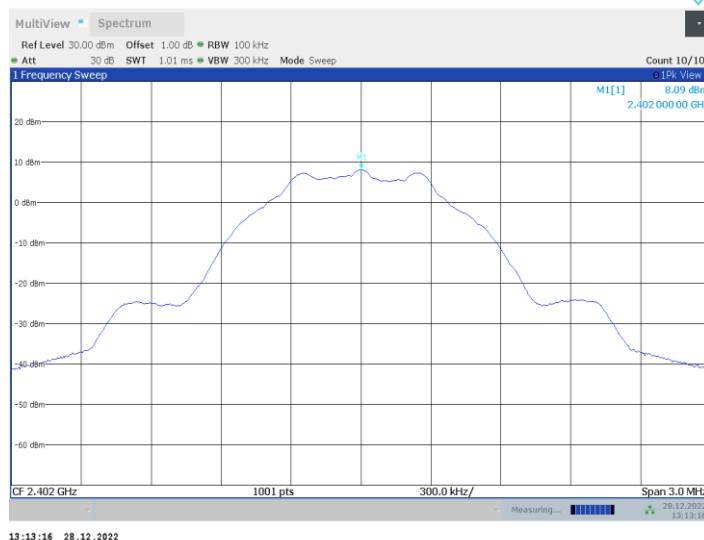
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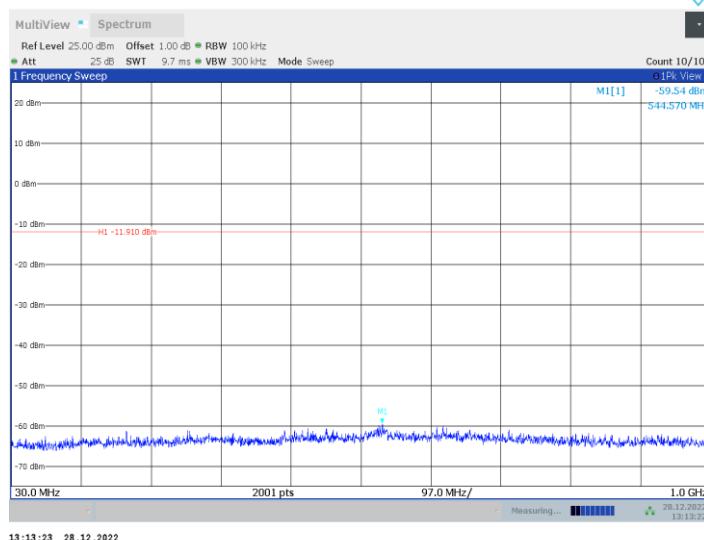
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Conducted Spurious Emission Test Graphs

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BLE_1M_Ant6_2402_30~1000



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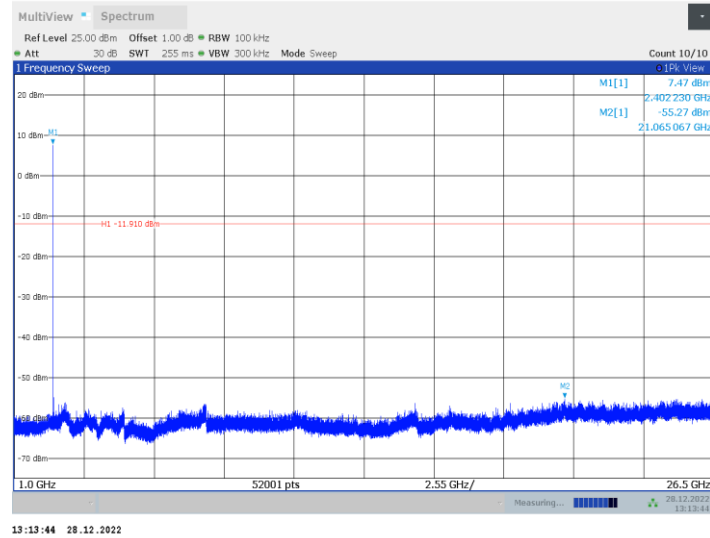
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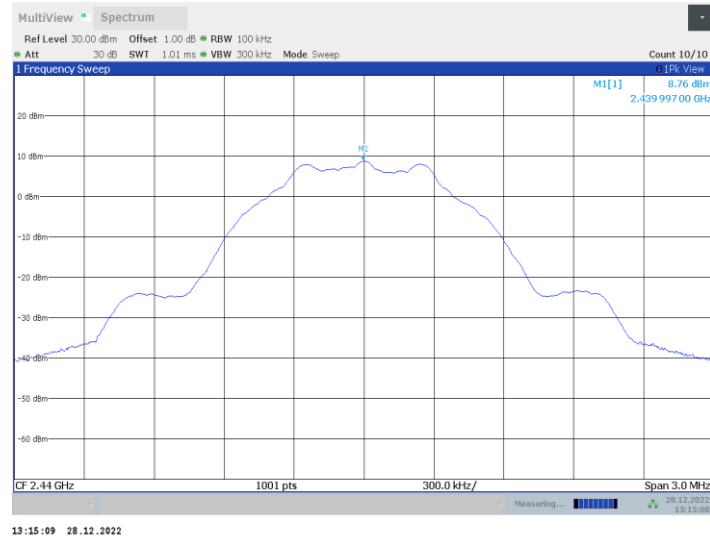
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BLE_1M_Ant6_2402_1000~26500



BLE_1M_Ant6_2440_0~Reference



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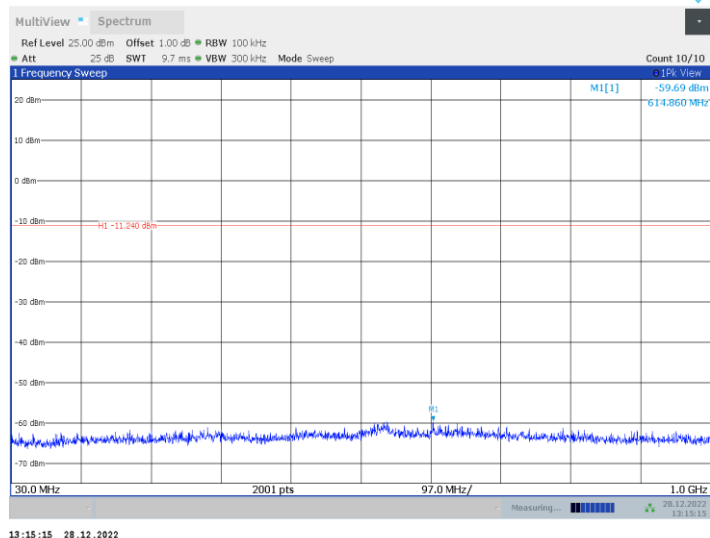
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Report No.: SEWM2212000308RG03

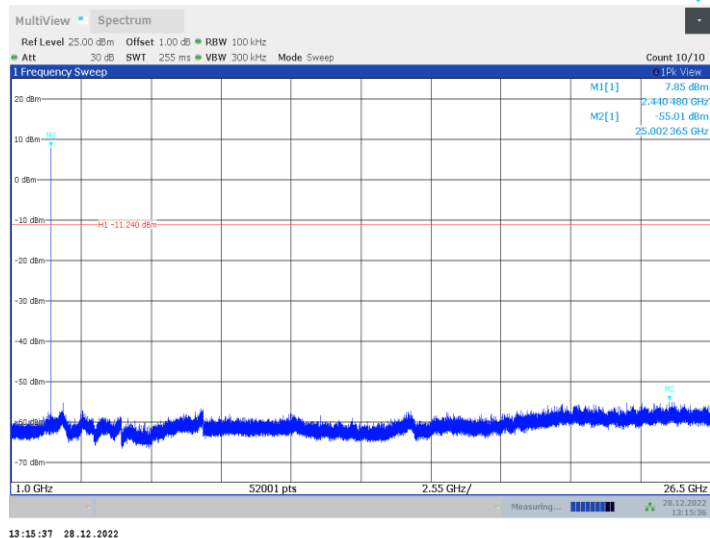
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BLE_1M_Ant6_2440_30~1000



BLE_1M_Ant6_2440_1000~26500



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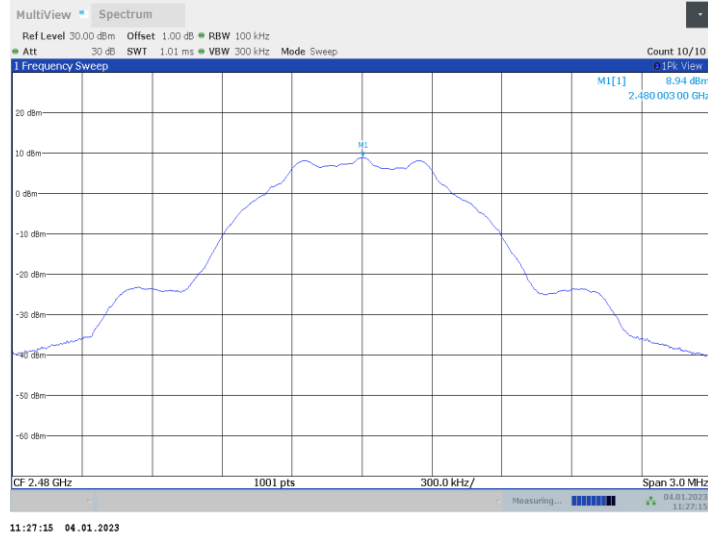
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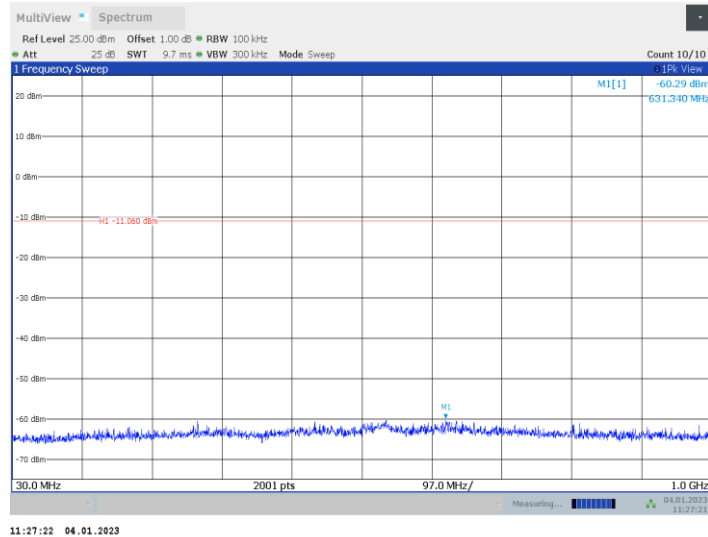
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BLE 1M Ant6 2480 0~Reference



BLE 1M Ant6 2480 30~1000



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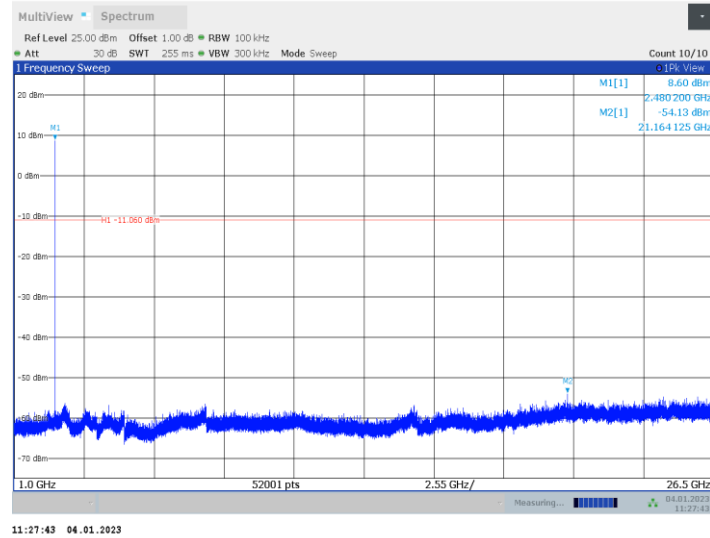
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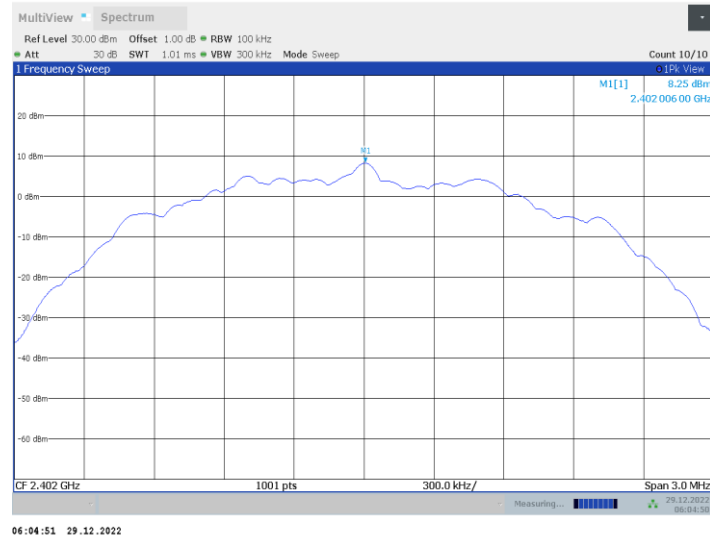
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BLE 1M Ant6 2480 1000~26500



BLE 2M Ant6 2402_0~Reference



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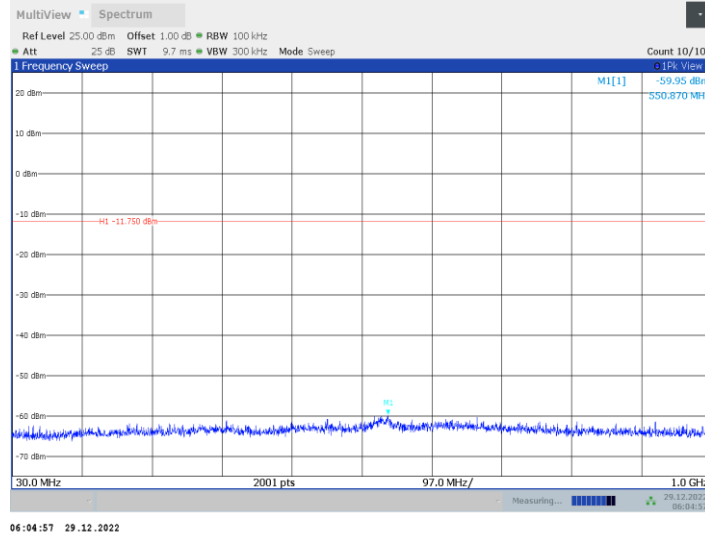
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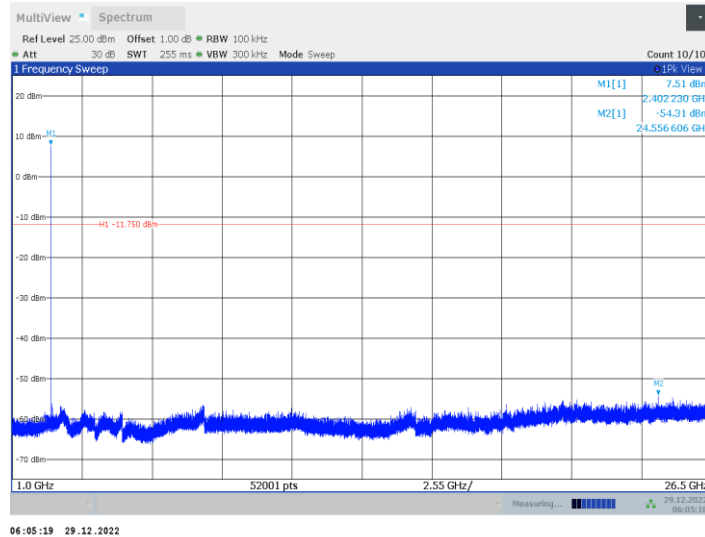
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BLE_2M_Ant6_2402_30~1000



BLE_2M_Ant6_2402_1000~26500



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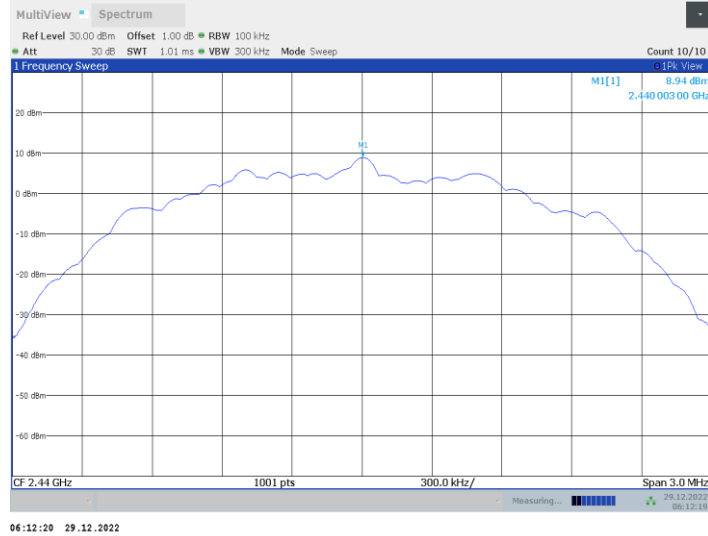
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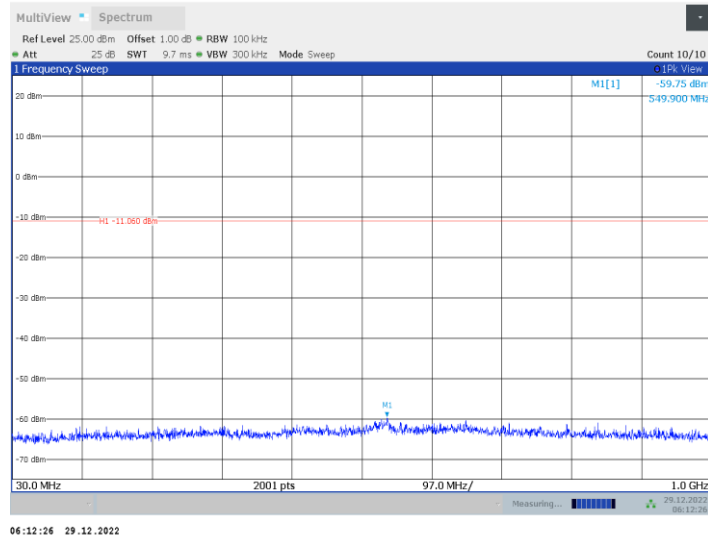
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BLE 2M_Ant6_2440_0~Reference



BLE_2M_Ant6_2440_30~1000



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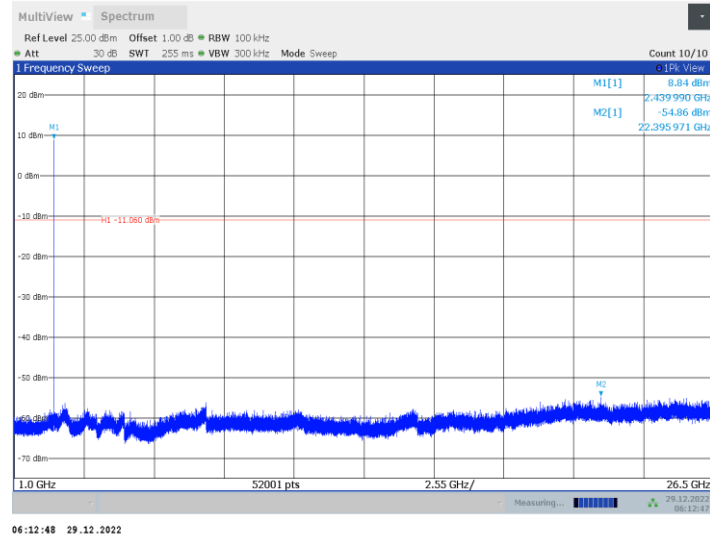
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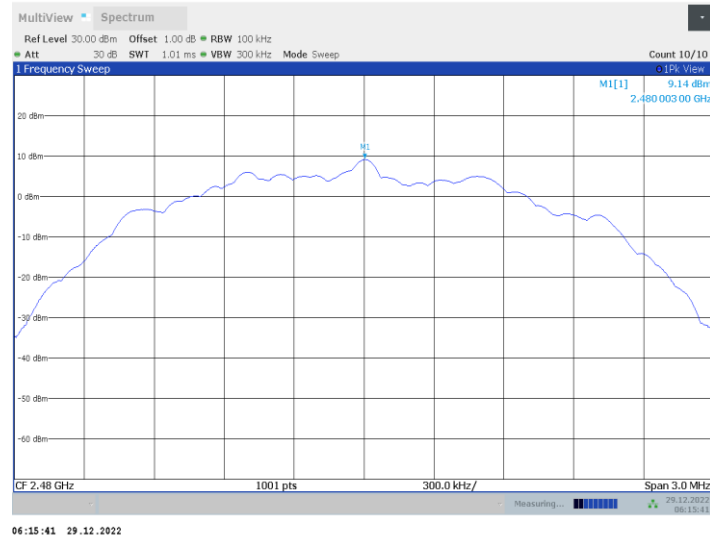
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BLE 2M Ant6 2440 1000~26500



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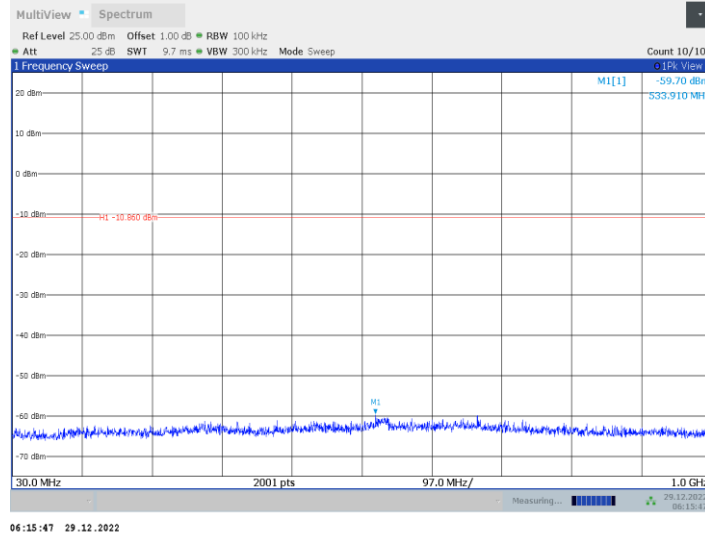
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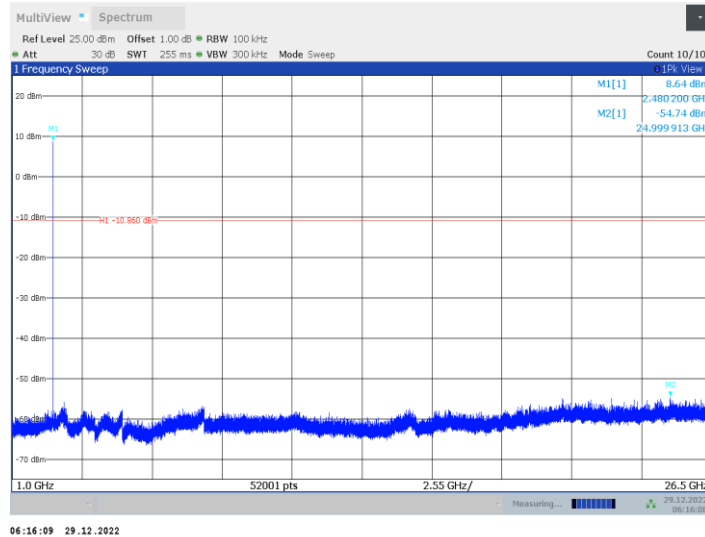
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BLE_2M_Ant6_2480_30~1000



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Duty Cycle Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant6	2402	0.39	0.63	61.90	2.08
BLE_2M	Ant6	2402	0.20	0.62	32.26	4.91

Note:

Radiated Emission VBW = 1 / T

BLE_1M (VBW) = 1/2.08=3kHz

BLE_2M (VBW) = 1/4.91=10kHz



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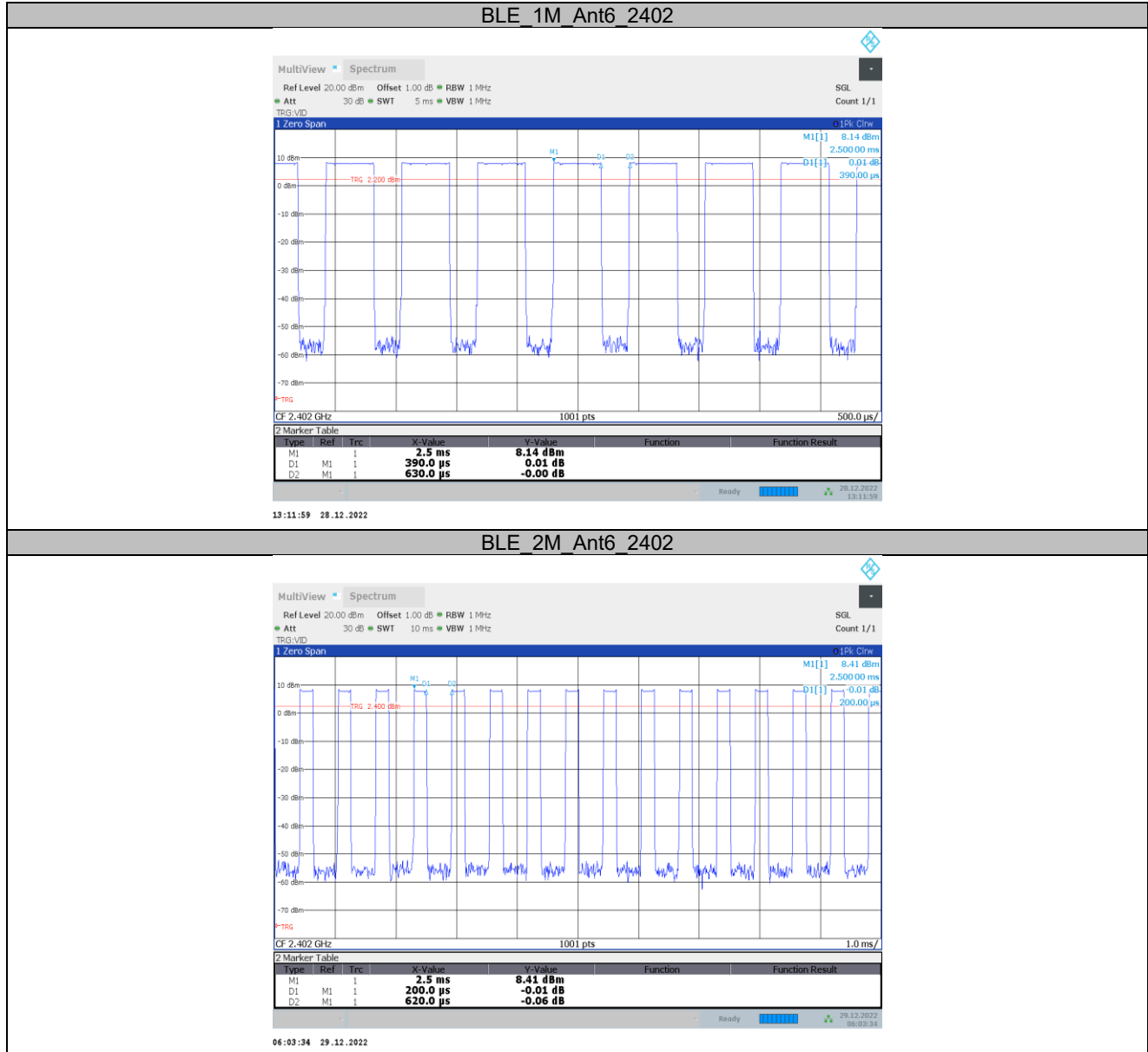
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Test Graphs



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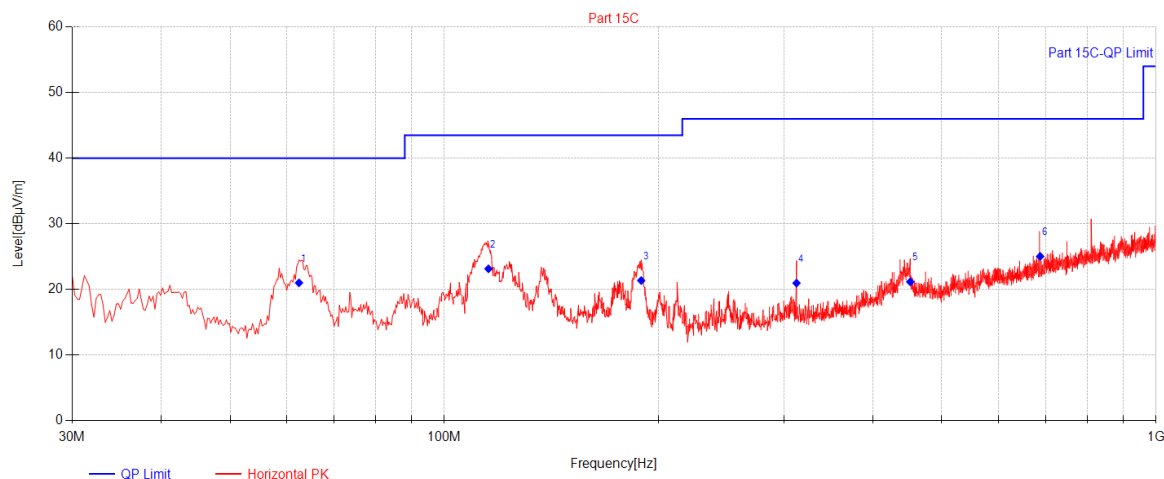
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Radiated Spurious Emissions

Radiated emission below 1GHz

Worst case Mode: BLE 1M_Channel 00



Final Data List

NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	62.495	45.15	-36.43	12.27	20.99	40.00	19.01	216	146	Horizontal
2	115.36	47.56	-36.15	11.72	23.13	43.50	20.37	236	115	Horizontal
3	189.08	44.23	-35.40	12.51	21.34	43.50	22.16	254	249	Horizontal
4	312.5125	42.18	-34.29	13.06	20.95	46.00	25.05	188	239	Horizontal
5	451.465	38.21	-33.05	15.99	21.14	46.00	24.86	190	134	Horizontal
6	687.4175	37.59	-32.03	19.47	25.03	46.00	20.97	140	239	Horizontal



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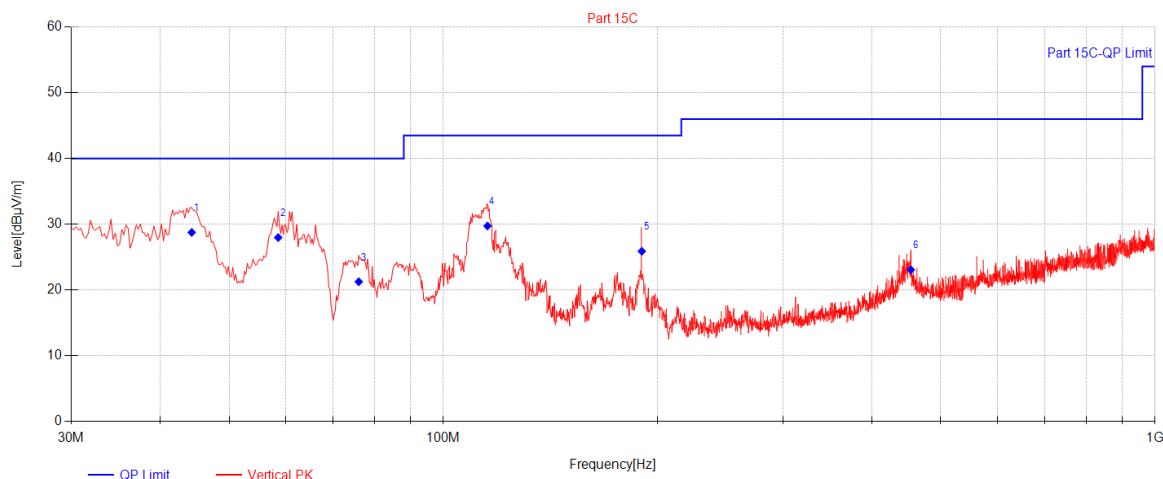
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Final Data List

NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.3075	51.26	-36.21	13.71	28.75	40.00	11.25	216	208	Vertical
2	58.615	51.47	-36.36	12.86	27.97	40.00	12.03	254	313	Vertical
3	76.075	47.33	-35.98	9.89	21.24	40.00	18.76	133	51	Vertical
4	115.36	54.16	-36.15	11.72	29.73	43.50	13.77	215	313	Vertical
5	190.05	49.02	-35.42	12.28	25.88	43.50	17.62	199	208	Vertical
6	453.89	40.13	-33.08	16.01	23.06	46.00	22.94	164	282	Vertical

Remark:

- The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Value = Reading(dBμV) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit(dBμV/m) – Value(dBμV/m)

- All channels have been tested, but only the worst case data displayed in this report.



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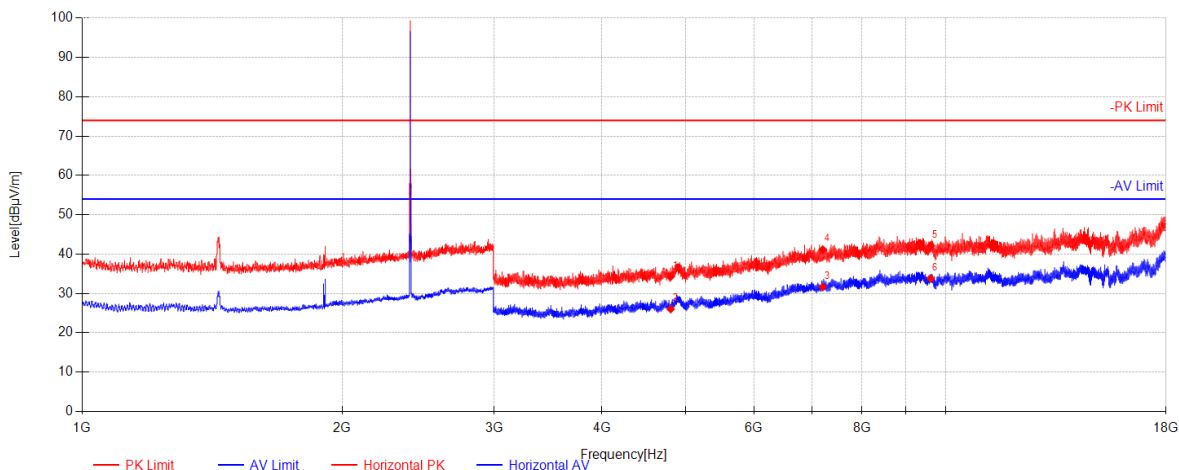
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Transmitter emission Above 1GHz

BLE 1M_Channel 00



Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4804.0000	47.47	32.33	-45.54	34.26	74.00	39.74	245	305	Horizontal
2	4804.0000	39.23	32.33	-45.54	26.02	54.00	27.98	188	53	Horizontal
3	7206.0000	38.50	36.60	-43.44	31.66	54.00	22.34	195	193	Horizontal
4	7206.0000	47.97	36.60	-43.44	41.13	74.00	32.87	126	164	Horizontal
5	9608.0000	43.31	38.43	-39.65	42.09	74.00	31.91	235	80	Horizontal
6	9608.0000	35.00	38.43	-39.65	33.78	54.00	20.22	146	164	Horizontal



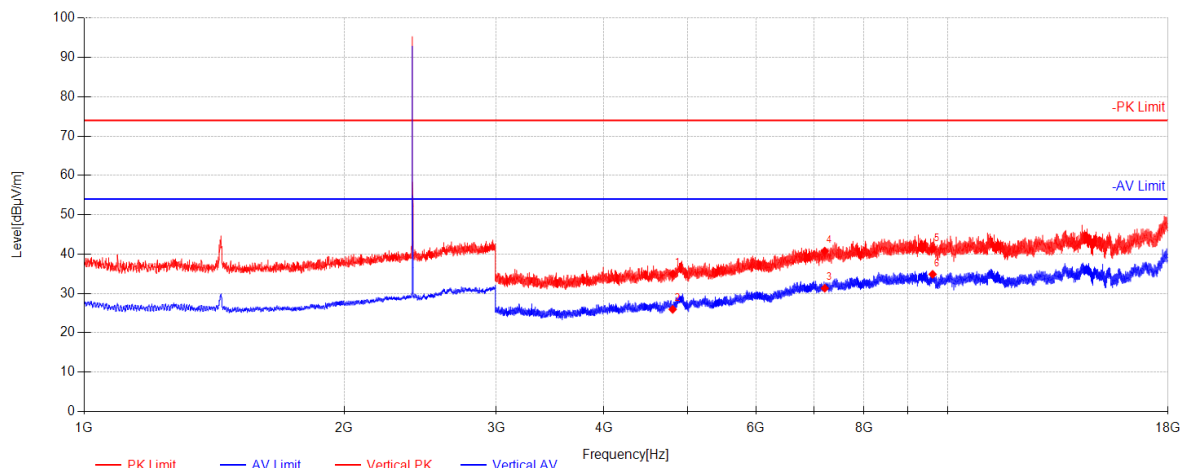
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BLE 1M_Channel 00



Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4804.0000	48.19	32.33	-45.54	34.98	74.00	39.02	165	254	Vertical
2	4804.0000	39.16	32.33	-45.54	25.95	54.00	28.05	185	126	Vertical
3	7206.0000	38.16	36.60	-43.44	31.32	54.00	22.68	136	332	Vertical
4	7206.0000	47.61	36.60	-43.44	40.77	74.00	33.23	148	5	Vertical
5	9608.0000	42.46	38.43	-39.65	41.24	74.00	32.76	125	50	Vertical
6	9608.0000	36.09	38.43	-39.65	34.87	54.00	19.13	291	1	Vertical



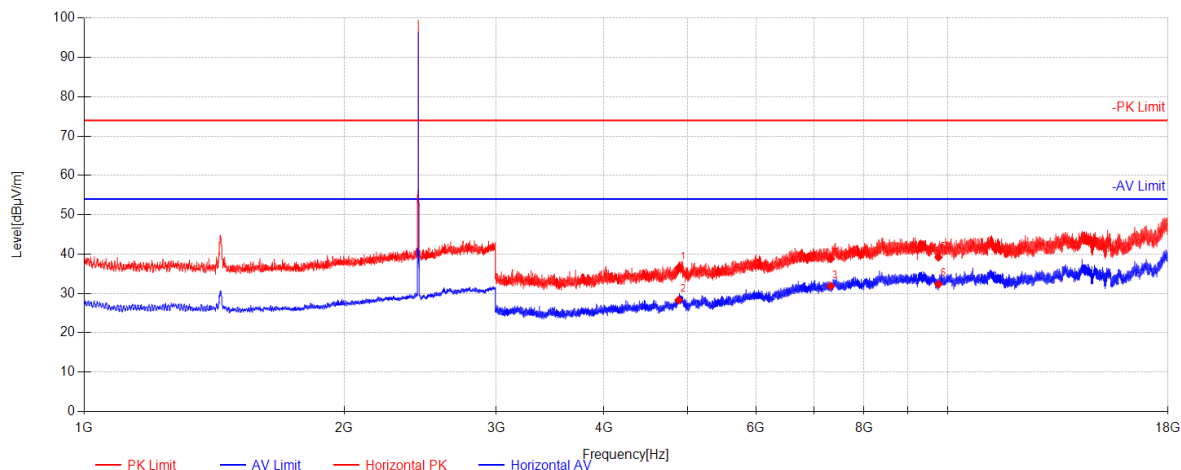
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BLE 1M_Channel 19



Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4880.0000	49.48	32.54	-45.53	36.49	74.00	37.51	248	304	Horizontal
2	4880.0000	41.33	32.54	-45.53	28.34	54.00	25.66	174	53	Horizontal
3	7320.0000	39.04	36.53	-43.68	31.89	54.00	22.11	152	220	Horizontal
4	7320.0000	45.95	36.53	-43.68	38.80	74.00	35.20	159	79	Horizontal
5	9760.0000	40.38	38.26	-39.46	39.18	74.00	34.82	156	53	Horizontal
6	9760.0000	33.55	38.26	-39.46	32.35	54.00	21.65	113	53	Horizontal



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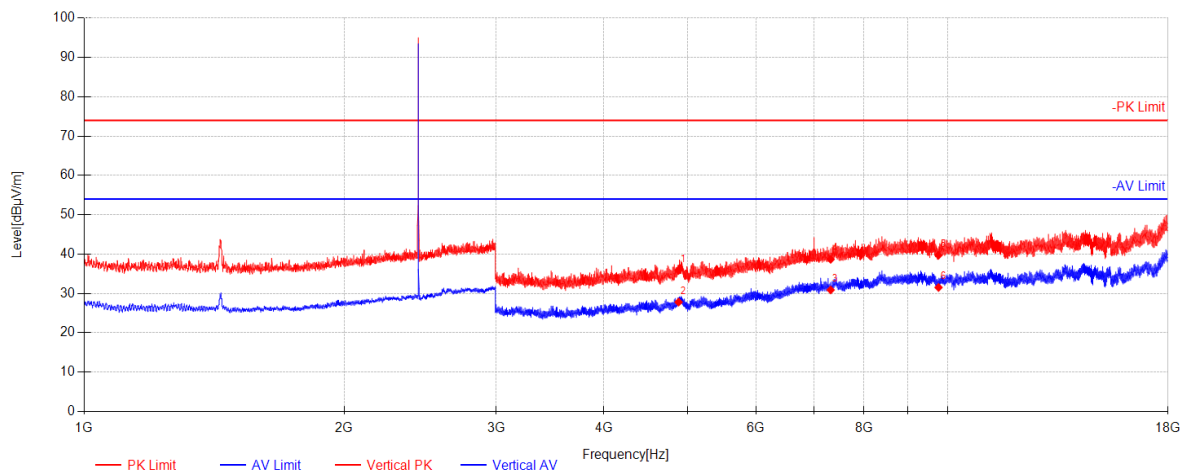
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Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4880.0000	48.86	32.54	-45.53	35.87	74.00	38.13	248	0	Vertical
2	4880.0000	40.79	32.54	-45.53	27.80	54.00	26.20	192	276	Vertical
3	7320.0000	38.04	36.53	-43.68	30.89	54.00	23.11	155	1	Vertical
4	7320.0000	45.82	36.53	-43.68	38.67	74.00	35.33	174	305	Vertical
5	9760.0000	40.92	38.26	-39.46	39.72	74.00	34.28	169	194	Vertical
6	9760.0000	32.73	38.26	-39.46	31.53	54.00	22.47	130	22	Vertical



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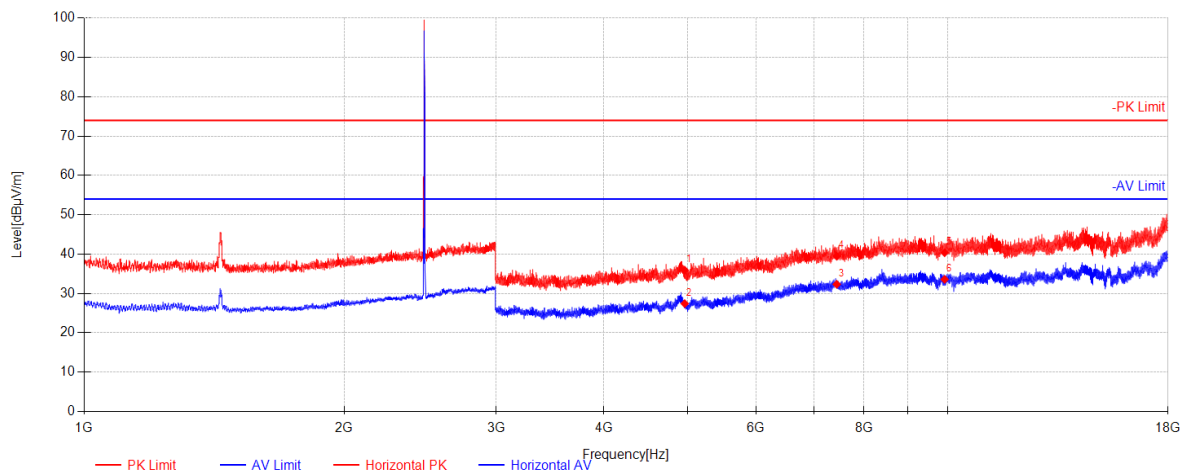
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Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4960.0000	48.75	32.77	-45.60	35.92	74.00	38.08	287	332	Horizontal
2	4960.0000	40.25	32.77	-45.60	27.42	54.00	26.58	147	164	Horizontal
3	7440.0000	39.16	36.47	-43.30	32.33	54.00	21.67	175	276	Horizontal
4	7440.0000	46.28	36.47	-43.30	39.45	74.00	34.55	148	138	Horizontal
5	9920.0000	41.28	38.38	-39.31	40.35	74.00	33.65	196	250	Horizontal
6	9920.0000	34.51	38.38	-39.31	33.58	54.00	20.42	136	1	Horizontal



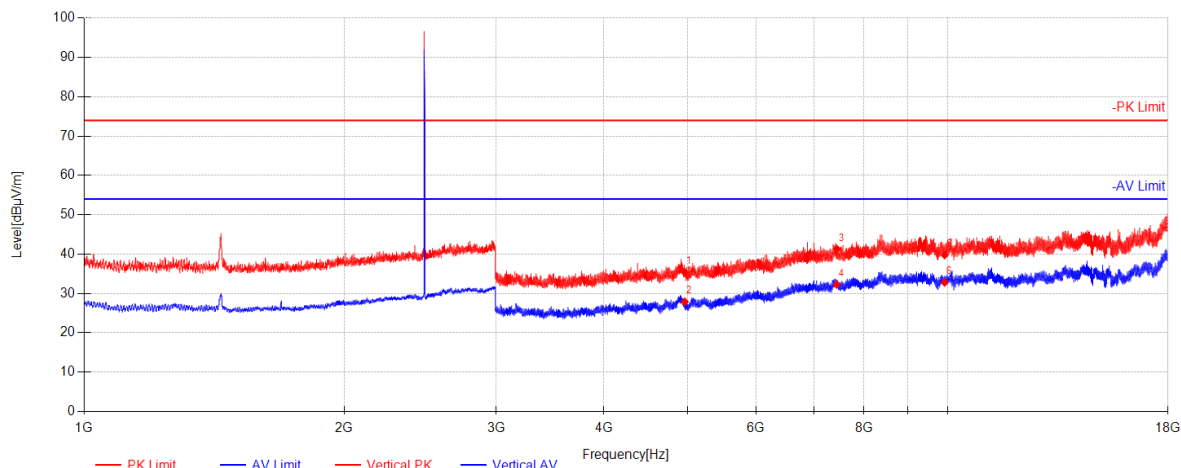
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Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4960.0000	48.23	32.77	-45.60	35.40	74.00	38.60	148	255	Vertical
2	4960.0000	40.71	32.77	-45.60	27.88	54.00	26.12	219	81	Vertical
3	7440.0000	48.15	36.47	-43.30	41.32	74.00	32.68	175	1	Vertical
4	7440.0000	39.09	36.47	-43.30	32.26	54.00	21.74	153	164	Vertical
5	9920.0000	40.71	38.38	-39.31	39.78	74.00	34.22	146	219	Vertical
6	9920.0000	33.73	38.38	-39.31	32.80	54.00	21.20	216	356	Vertical



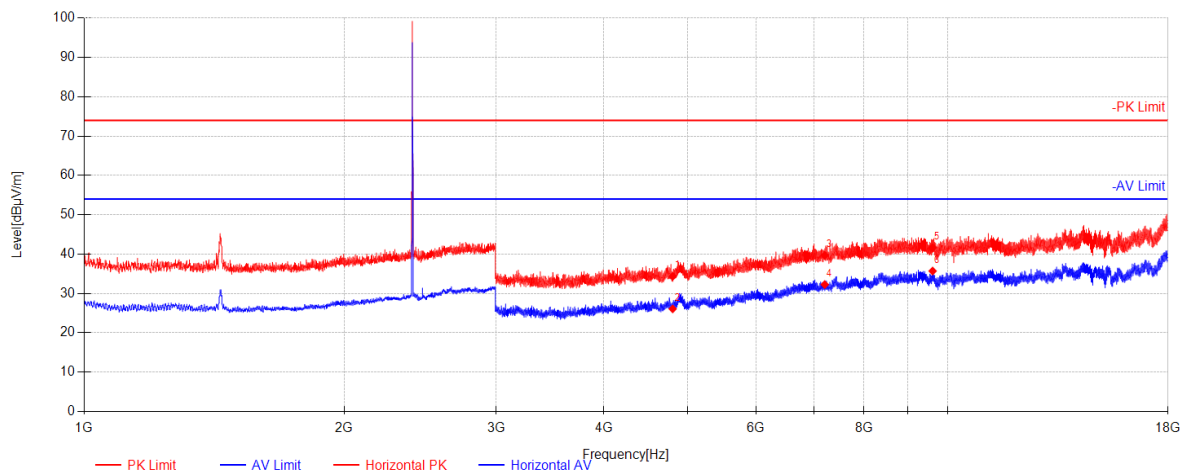
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BLE 2M_Channel 00



Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4804.0000	47.56	32.33	-45.54	34.35	74.00	39.65	218	165	Horizontal
2	4804.0000	39.28	32.33	-45.54	26.07	54.00	27.93	259	110	Horizontal
3	7206.0000	46.51	36.60	-43.44	39.67	74.00	34.33	142	357	Horizontal
4	7206.0000	39.10	36.60	-43.44	32.26	54.00	21.74	199	0	Horizontal
5	9608.0000	42.85	38.43	-39.65	41.63	74.00	32.37	136	6	Horizontal
6	9608.0000	36.92	38.43	-39.65	35.70	54.00	18.30	148	276	Horizontal



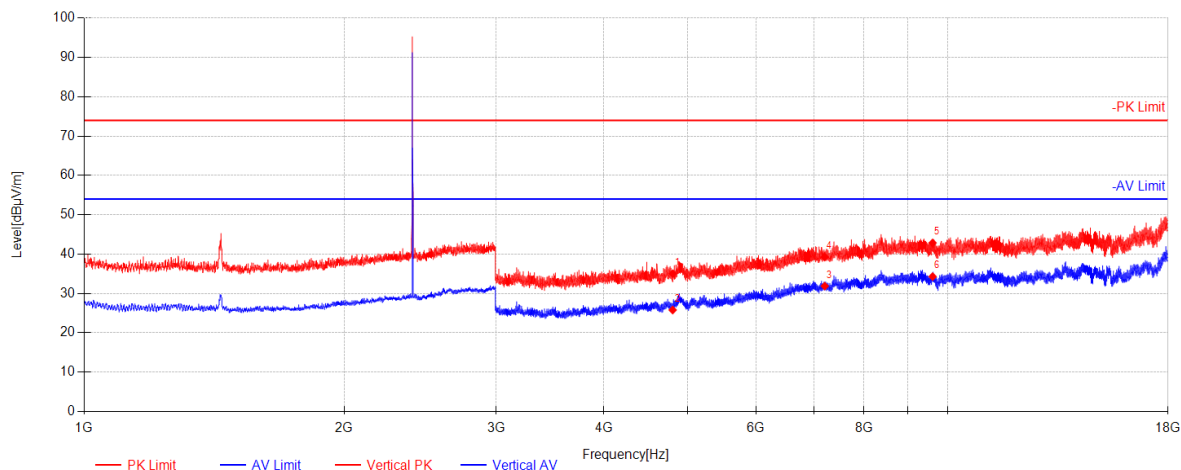
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BLE 2M_Channel 00



Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4804.0000	48.24	32.33	-45.54	35.03	74.00	38.97	216	79	Vertical
2	4804.0000	39.01	32.33	-45.54	25.80	54.00	28.20	153	105	Vertical
3	7206.0000	38.72	36.60	-43.44	31.88	54.00	22.12	216	334	Vertical
4	7206.0000	46.09	36.60	-43.44	39.25	74.00	34.75	254	134	Vertical
5	9608.0000	44.07	38.43	-39.65	42.85	74.00	31.15	148	105	Vertical
6	9608.0000	35.52	38.43	-39.65	34.30	54.00	19.70	211	0	Vertical



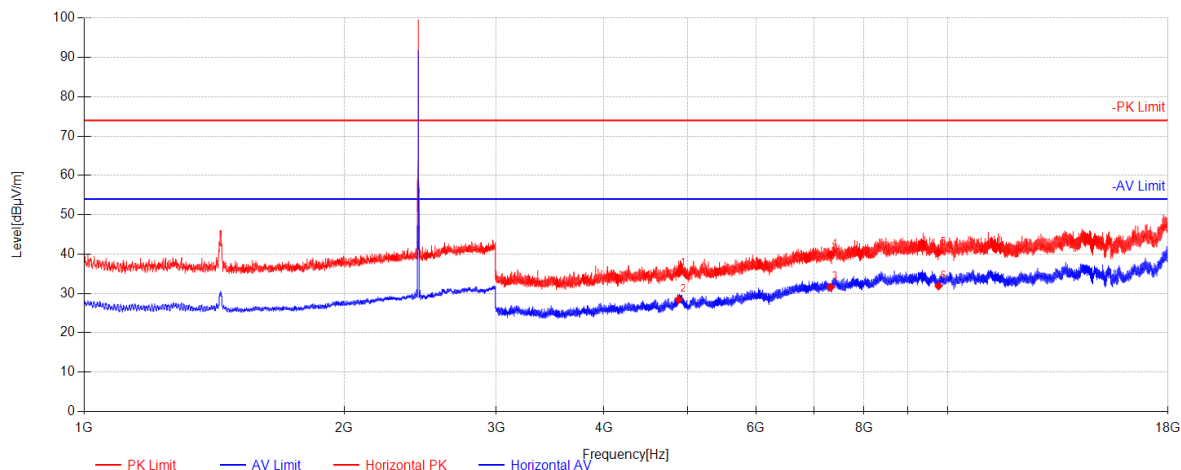
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Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4880.0000	48.10	32.54	-45.53	35.11	74.00	38.89	145	211	Horizontal
2	4880.0000	41.46	32.54	-45.53	28.47	54.00	25.53	194	5	Horizontal
3	7320.0000	38.71	36.53	-43.68	31.56	54.00	22.44	174	275	Horizontal
4	7320.0000	47.06	36.53	-43.68	39.91	74.00	34.09	126	356	Horizontal
5	9760.0000	41.67	38.26	-39.46	40.47	74.00	33.53	258	246	Horizontal
6	9760.0000	33.10	38.26	-39.46	31.90	54.00	22.10	133	49	Horizontal



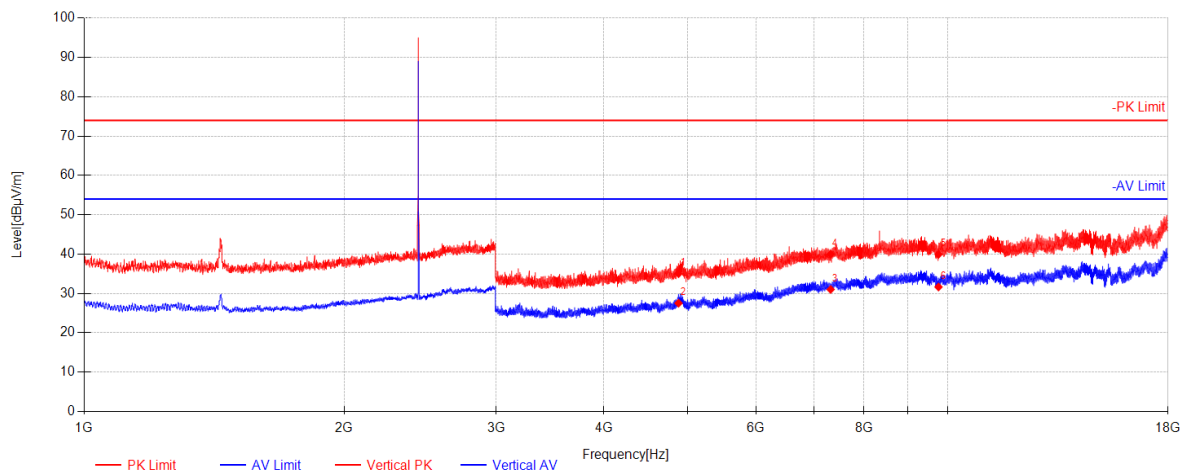
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BLE 2M_Channel 19



Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4880.0000	48.02	32.54	-45.53	35.03	74.00	38.97	222	220	Vertical
2	4880.0000	40.51	32.54	-45.53	27.52	54.00	26.48	146	6	Vertical
3	7320.0000	38.16	36.53	-43.68	31.01	54.00	22.99	193	246	Vertical
4	7320.0000	47.13	36.53	-43.68	39.98	74.00	34.02	140	133	Vertical
5	9760.0000	41.13	38.26	-39.46	39.93	74.00	34.07	185	246	Vertical
6	9760.0000	32.85	38.26	-39.46	31.65	54.00	22.35	266	78	Vertical



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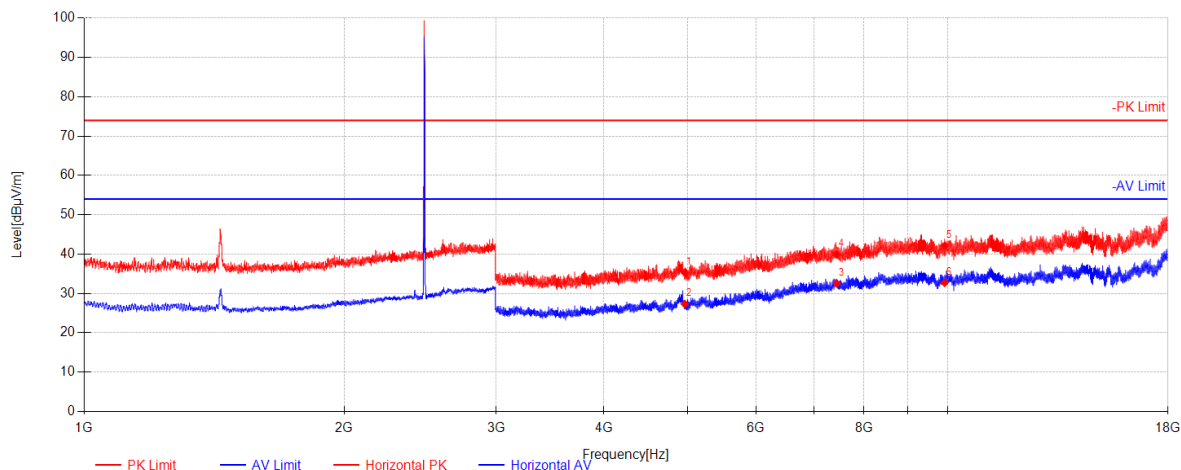
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BLE 2M_Channel 39



Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4960.0000	48.13	32.77	-45.60	35.30	74.00	38.70	159	145	Horizontal
2	4960.0000	40.15	32.77	-45.60	27.32	54.00	26.68	216	6	Horizontal
3	7440.0000	39.38	36.47	-43.30	32.55	54.00	21.45	174	79	Horizontal
4	7440.0000	46.73	36.47	-43.30	39.90	74.00	34.10	146	1	Horizontal
5	9920.0000	43.02	38.38	-39.31	42.09	74.00	31.91	263	356	Horizontal
6	9920.0000	33.64	38.38	-39.31	32.71	54.00	21.29	152	219	Horizontal



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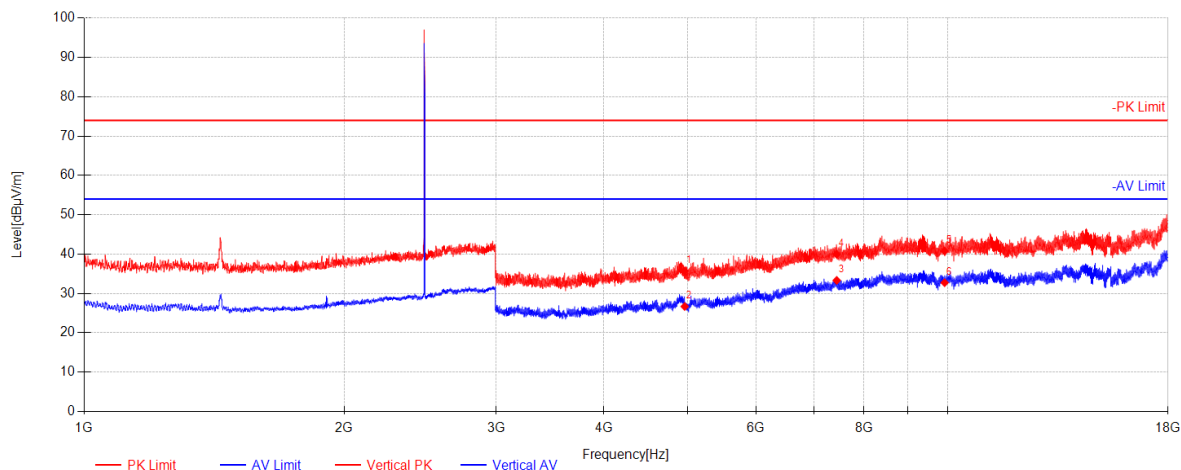
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BLE 2M_Channel 39



Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4960.0000	48.56	32.77	-45.60	35.73	74.00	38.27	158	254	Vertical
2	4960.0000	39.52	32.77	-45.60	26.69	54.00	27.31	174	169	Vertical
3	7440.0000	40.15	36.47	-43.30	33.32	54.00	20.68	156	221	Vertical
4	7440.0000	46.76	36.47	-43.30	39.93	74.00	34.07	149	279	Vertical
5	9920.0000	41.70	38.38	-39.31	40.77	74.00	33.23	195	357	Vertical
6	9920.0000	33.66	38.38	-39.31	32.73	54.00	21.27	231	111	Vertical

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading(dBμV) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit(dBμV/m) – Level(dBμV/m)

- 2) All channels have been tested, but only the worst case data displayed in this report.



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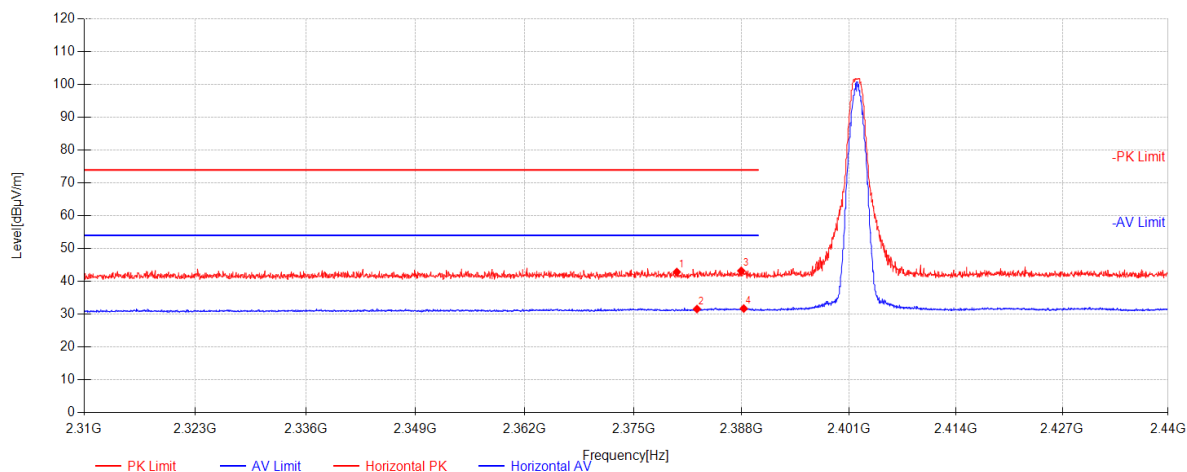
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Restricted bands around fundamental frequency

BLE 1M_Channel 00



Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2380.2	39.00	27.43	-23.57	42.86	74.00	31.14	163	115	Horizontal
2	2382.6267	27.70	27.43	-23.57	31.56	54.00	22.44	163	115	Horizontal
3	2387.9567	39.35	27.43	-23.57	43.21	74.00	30.79	163	115	Horizontal
4	2388.26	27.84	27.43	-23.57	31.70	54.00	22.30	163	115	Horizontal



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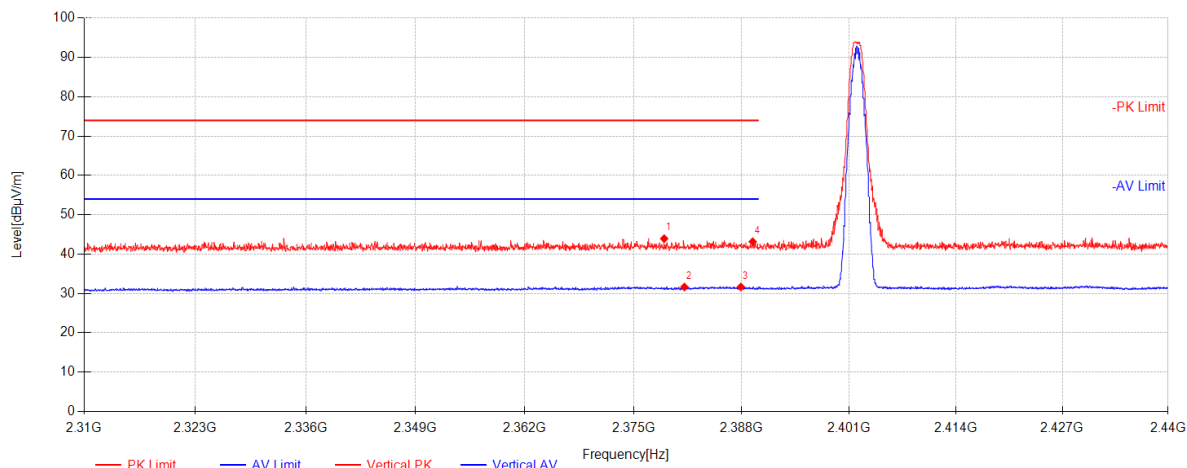
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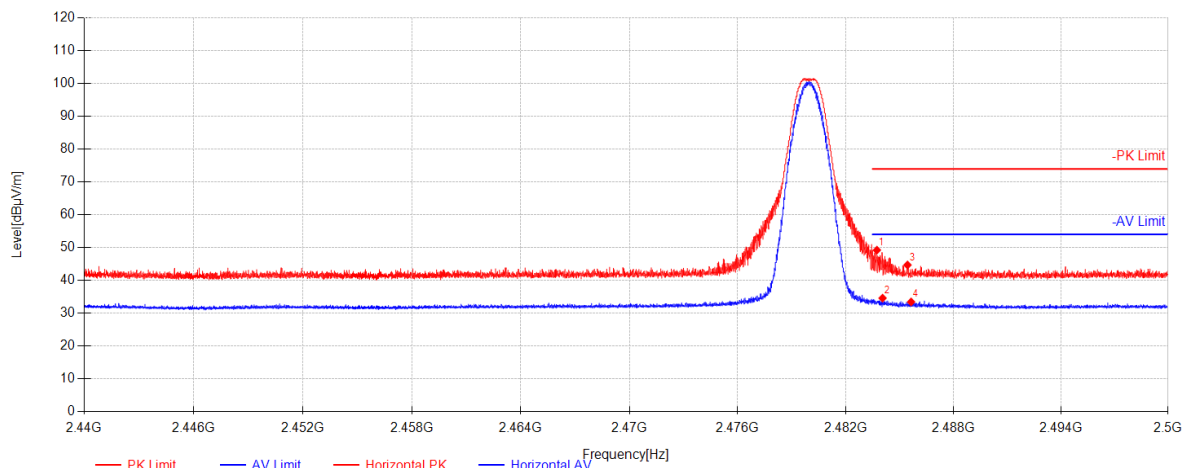
Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2378.6833	40.07	27.43	-23.57	43.93	74.00	30.07	177	154	Vertical
2	2381.11	27.78	27.43	-23.57	31.64	54.00	22.36	177	154	Vertical
3	2387.9133	27.80	27.43	-23.57	31.66	54.00	22.34	177	154	Vertical
4	2389.3433	39.29	27.43	-23.57	43.15	74.00	30.85	177	154	Vertical



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Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.74	45.04	27.72	-23.54	49.21	74.00	24.79	168	215	Horizontal
2	2484.055	30.40	27.72	-23.54	34.57	54.00	19.43	168	215	Horizontal
3	2485.4425	40.50	27.72	-23.54	44.68	74.00	29.32	168	215	Horizontal
4	2485.645	29.24	27.72	-23.54	33.42	54.00	20.58	168	215	Horizontal



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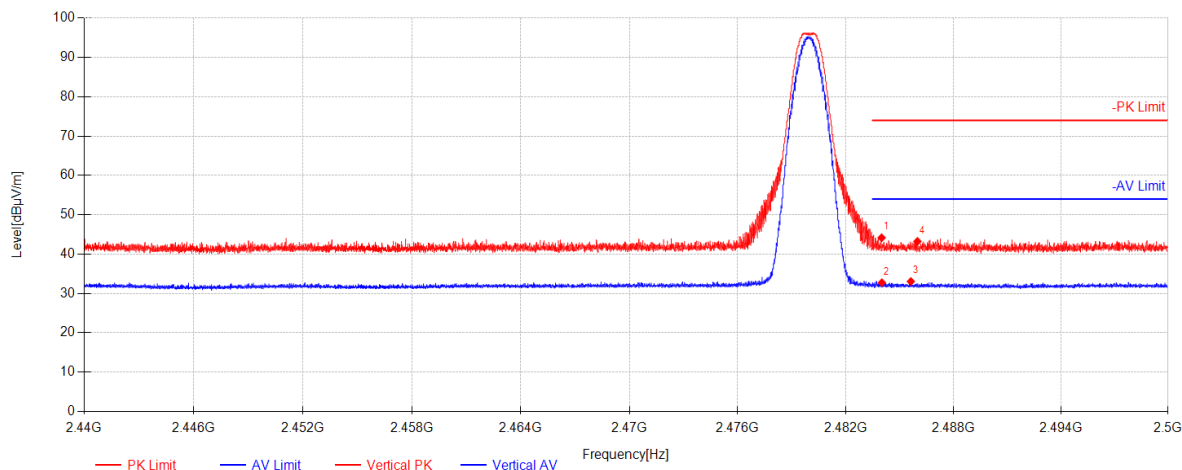
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Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2484.0025	39.99	27.72	-23.54	44.16	74.00	29.84	189	248	Vertical
2	2484.0175	28.58	27.72	-23.54	32.75	54.00	21.25	189	248	Vertical
3	2485.63	28.87	27.72	-23.54	33.05	54.00	20.95	189	248	Vertical
4	2485.9975	39.06	27.72	-23.54	43.24	74.00	30.76	189	248	Vertical



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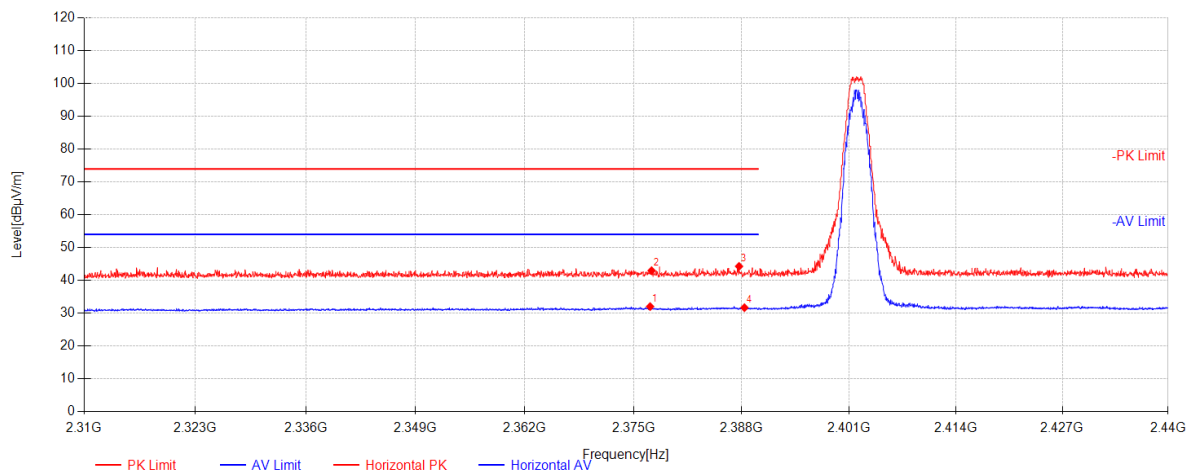
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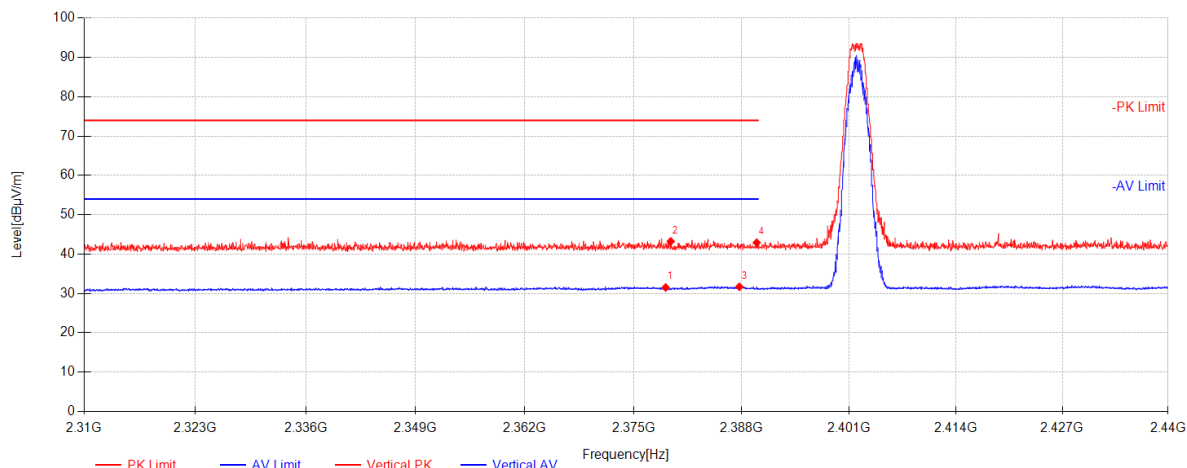
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1	2376.9933	28.14	27.43	-23.57	32.00	54.00	22.00	289	88	Horizontal
2	2377.1667	39.09	27.43	-23.57	42.95	74.00	31.05	289	88	Horizontal
3	2387.6967	40.41	27.43	-23.57	44.27	74.00	29.73	289	88	Horizontal
4	2388.3467	27.80	27.43	-23.57	31.66	54.00	22.34	289	88	Horizontal



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Data List										
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1	2378.8567	27.66	27.43	-23.57	31.52	54.00	22.48	169	23	Vertical
2	2379.4633	39.37	27.43	-23.57	43.23	74.00	30.77	169	23	Vertical
3	2387.74	27.83	27.43	-23.57	31.69	54.00	22.31	169	23	Vertical
4	2389.82	39.05	27.43	-23.57	42.91	74.00	31.09	169	23	Vertical



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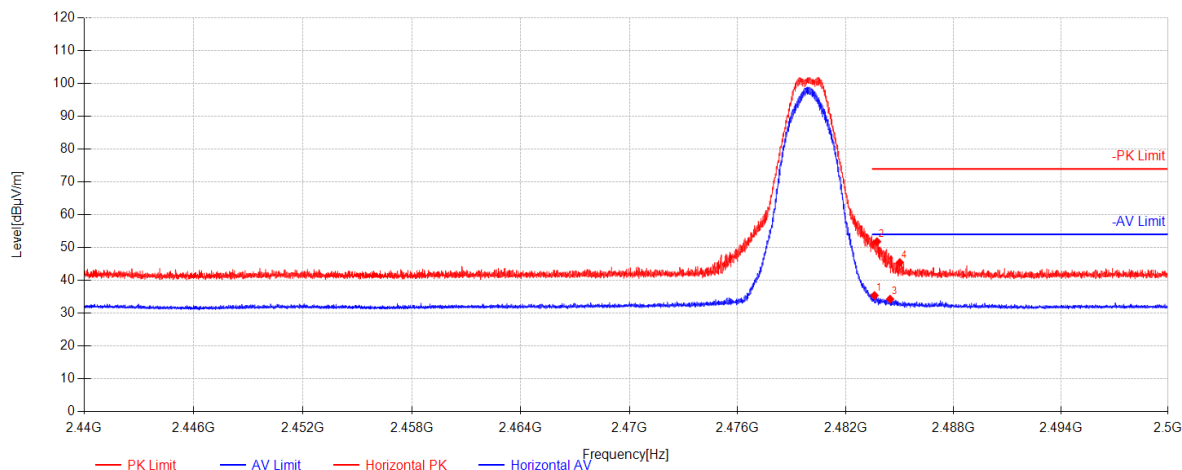
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Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.605	31.21	27.72	-23.54	35.38	54.00	18.62	163	218	Horizontal
2	2483.7475	47.63	27.72	-23.54	51.80	74.00	22.20	163	218	Horizontal
3	2484.475	30.10	27.72	-23.54	34.27	54.00	19.73	163	218	Horizontal
4	2485.015	41.26	27.72	-23.54	45.44	74.00	28.56	163	218	Horizontal



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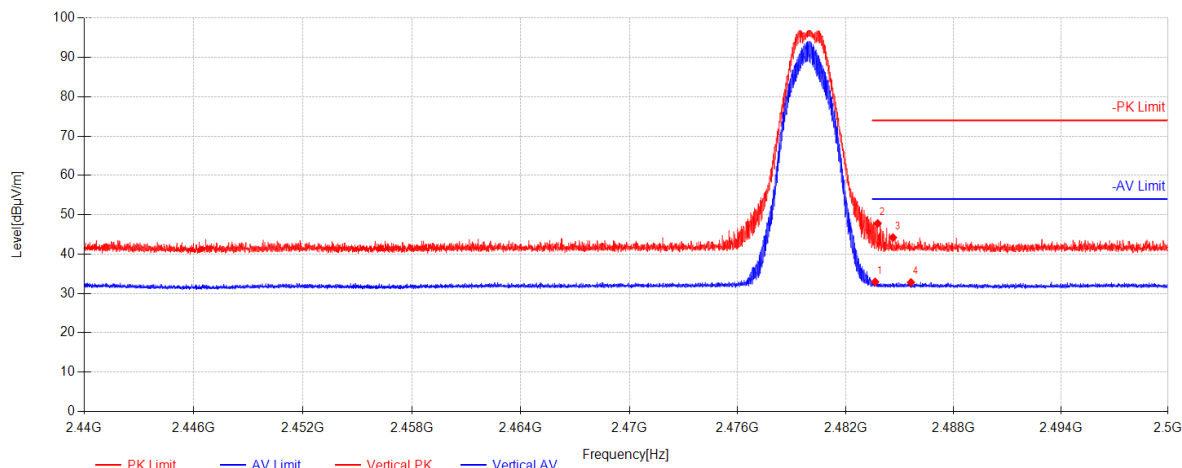
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BLE 2M_Channel 39



Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.6425	28.77	27.72	-23.54	32.94	54.00	21.06	177	262	Vertical
2	2483.785	43.63	27.72	-23.54	47.80	74.00	26.20	177	262	Vertical
3	2484.6325	40.04	27.72	-23.54	44.21	74.00	29.79	177	262	Vertical
4	2485.6375	28.63	27.72	-23.54	32.81	54.00	21.19	177	262	Vertical

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading(dBμV) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit(dBμV/m) – Level(dBμV/m)

---End of Report---



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