TEST REPORT

Application No.:	SUCR2503000170AT
Applicant:	Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant:	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Manufacturer:	Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer:	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
EUT Description:	Smart Interactive Terminal
Model No.:	F961A, F9E1A ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	SUNMI
FCC ID:	2AH25F961A
Standards:	FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C
Date of Receipt:	May 24, 2025
Date of Test:	May 9, 2025 to June 14, 2025
Date of Issue:	June 16, 2025
Test Result :	**PASS ***

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

Version

Revision Record			
Version	**Description**	***Date***	***Remark***
01	Original	June 16, 2025	/

Authorized for issue by:				
Tested By				
		Hayley ZhangProject Manager		
Approved By				
		Cloud Peng/Technical Manager		

Contents

1 Test Summary

Test Item	FCC Rule No.	Test Method	Test Result	Result
Antenna Requirement	15.203/15.247(b)	--	Clause 5.1	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013 Section 6.2	Clause 5.2	PASS
Duty cycle	--	ANSI C63.10 2013 Section 11.6	Clause 5.3	For Report Purpose
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013 Section11.9.1.3	Clause 5.4	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 5.5	PASS
Power Spectral Density	15.247 (e)	ANSI C63.10 2013 Section 11.10.2	Clause 5.6	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013 Section 11.13.3	Clause 5.7	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013 Section 11.11	Clause 5.8	PASS
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2013 Section 11.12	Clause 5.9	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2013 Section 11.12	Clause 5.10	PASS

2 General Information

2.1 Details of Client

Applicant:	Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant:	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Manufacturer:	Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer:	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China

2.2 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, King-p Li

2.3 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

2.4 General Description of EUT

Hardware Version:	6490Coreboard_MB_V3.0
Software Version:	4.0.24
Power Supply:	20V
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:	V5.1
Modulation Type:	GFSK
Number of Channel:	40
Rates Type*:	☒Provided by client
	1M PHY 2M PHY
Antenna Type:	PIFA Antenna
Antenna Gain:	F961A: 0.3dBi F9E1A: 0.7dBi
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.
RF Cable:	1dB
Remark: 1.As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information. 2. Two models have different antenna gain values and screen, based on which RSE is conducted separately for each model, and the conduction items are only conducted for large gain values.	

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**
BLE 1M:	
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz
BLE 2M:	
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz

2.5 Test Environment

Environment Parameter	101 kPa Selected Values During Tests	
Relative Humidity	44-46 % RH Ambient	
Value	**Temperature(℃)**	**Voltage(V)**
NTNV	22~23	20
Remark: NV: Normal Voltage NT: Normal Temperature		

2.6 Description of Support Units

The EUT has been tested as an independent unit.

3 Equipment List

RF Test Equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Shielding Room	Brilliant-emc	N/A	SUWI-04-08-01	11/9/2022	11/8/2025
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2/13/2025	2/12/2026
Measurement Software	Tonscend	TST272 V2.0	SUWI-03-55-03	NCR	NCR
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	1/20/2025	1/19/2026
Temperature Chamber	ESPEC	SU-242	SUWI-01-13-02	5/7/2025	5/6/2026
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	1/21/2025	1/20/2026
DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	1/15/2025	1/14/2026
Power meter	Anritsu	ML2495A	SUWI-01-31-01	11/19/2024	11/18/2025
Pulse power sensor	Anritsu	MA2411B	SUWI-01-32-01	11/19/2024	11/18/2025
MXG Vector signal genitor	KEYSIGHT	N5182B	SUWI-01-38-01	1/15/2025	1/14/2026
Router	ASUS	GT-AXE11000(FCC ID MSQ-RTAXJF00)	SUWI-03-14-02	NCR	NCR
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/19/2024	11/18/2025

CE Test System					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-06	2/13/2025	2/12/2026
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-03	5/8/2025	5/7/2026
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-04	5/8/2025	5/7/2026
Measurement Software	Tonscend	JS32-CE 4.0.0.2	SUWI-02-09-05	NCR	NCR

RSE Test Equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/13/2025	2/12/2026
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	1/20/2025	1/19/2026
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/21/2024	11/20/2025
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	VULB 9163	SUWI-01-11-01	5/7/2025	5/6/2027
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/7/2025	5/6/2027
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/7/2025	5/6/2027
Active Loop Antenna	SCHWRZBECK MESS-ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/7/2025	5/6/2027
Amplifier	Tonscend	TAP9K3G32	SUWI-01-14-06	11/19/2024	11/24/2025
Amplifier	Tonscend	TAP01018050	SUWI-01-14-04	11/19/2024	11/24/2025
Amplifier	Tonscend	TAP30M7G30	SUWI-01-14-05	11/19/2024	11/24/2025
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR

Remark: NCR=No Calibration Requirement.

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

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	1%
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	1%
7	Conduction Emission	± 2.90dB (150kHz to 30MHz)
8	Radiated Emission	± 3.13dB (9k -30MHz)
		± 4.8dB (30M -1GHz)
		± 4.8dB (1GHz to 18GHz)
		± 4.80dB (Above 18GHz)

Remark:
The U_{lab} (lab Uncertainty) is less than $U_{cispr/ETSI}$ (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.

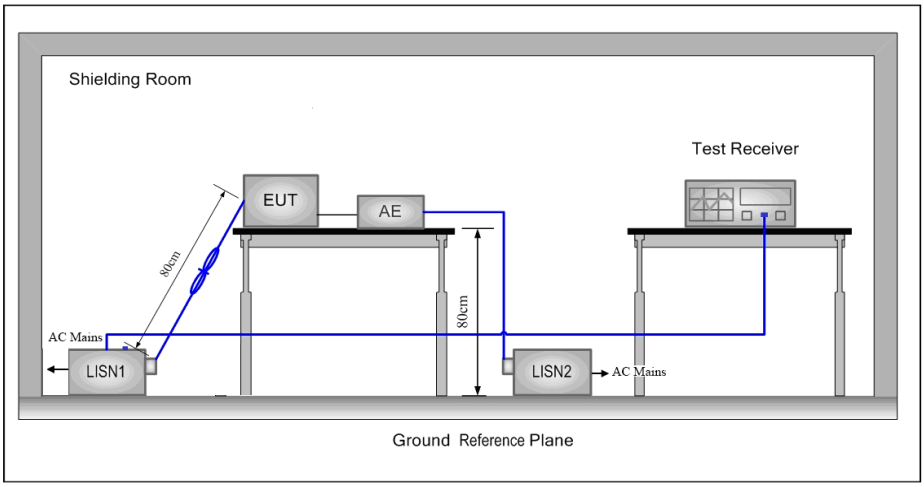
5 Test results and Measurement Data

5.1 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 (F961A) is 0.3dBi; antenna (F9E1A) is 0.7dBi. *Note:* *The antenna gain are derived from the gain information report provided by the manufacturer.* *Remark:* *As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.*	

5.2 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.		

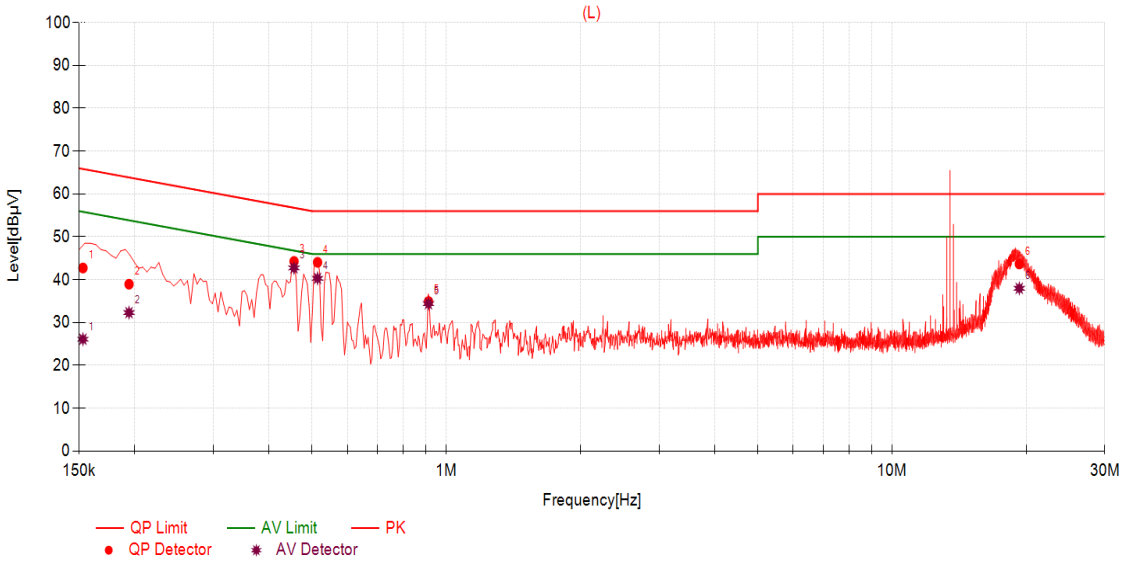
Test Setup:	
Test Mode:	BT Link + WIFI 2.4G Link + WIFI 5G/6E Link
Instruments Used:	Refer to section 3 for details.
Test Results:	Pass

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.

Phase:	Line

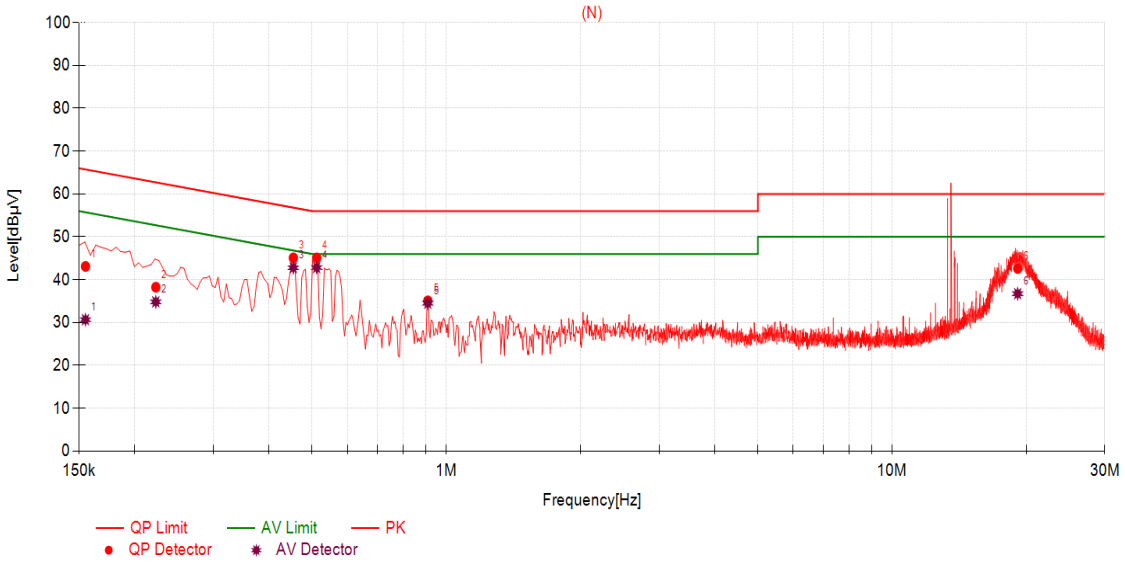


Final Data List

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	0.1530	9.86	32.88	42.74	65.84	23.10	16.25	26.11	55.84	29.73	PASS
2	0.1941	9.84	29.12	38.96	63.86	24.90	22.48	32.32	53.86	21.54	PASS
3	0.4552	9.87	34.40	44.27	56.78	12.51	32.88	42.75	46.78	4.03	PASS
4	0.5140	9.89	34.17	44.06	56.00	11.94	30.42	40.31	46.00	5.69	PASS
5	0.9118	9.87	25.03	34.90	56.00	21.10	24.53	34.40	46.00	11.60	PASS
6	19.2956	10.25	33.43	43.68	60.00	16.32	27.73	37.98	50.00	12.02	PASS

Remark:
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
3. Margin = Limit[dBµV] – Value[dBµV]
4. The high point before 10M-30M is RF signal which comes from NFC, and which can be ignored.

Phase:	Neutral

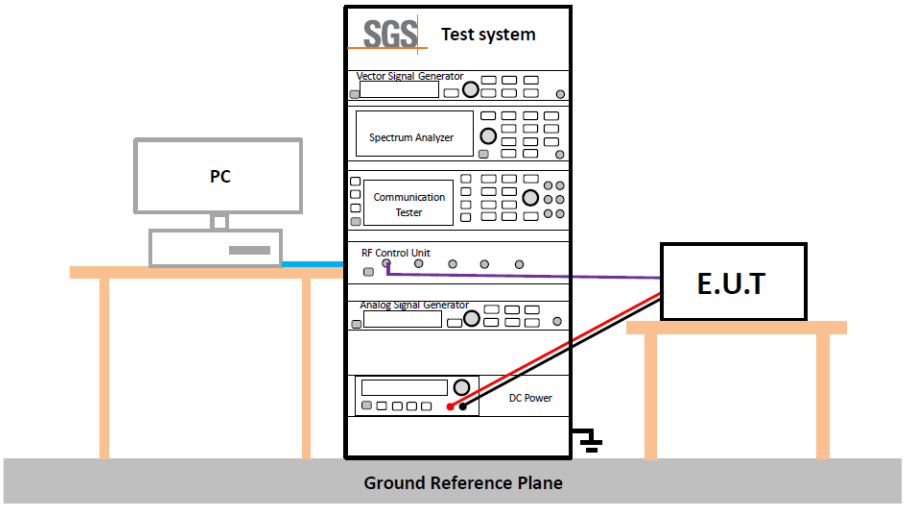


Final Data List

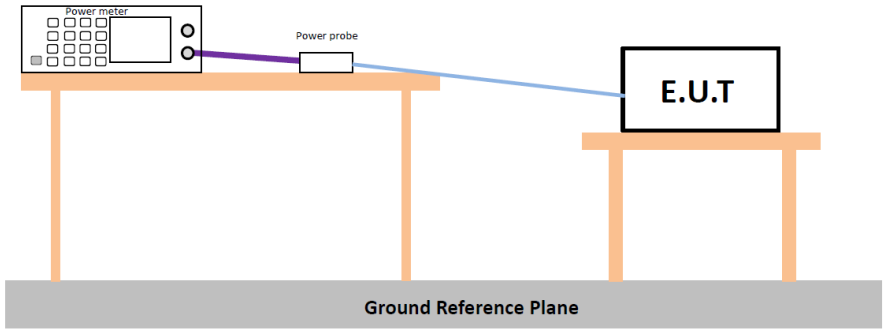
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1550	9.78	33.32	43.10	65.73	22.63	20.89	30.67	55.73	25.06	PASS
2	0.2229	9.83	28.42	38.25	62.71	24.46	25.00	34.83	52.71	17.88	PASS
3	0.4536	9.84	35.26	45.10	56.81	11.71	32.95	42.79	46.81	4.02	PASS
4	0.5118	9.87	35.23	45.10	56.00	10.90	32.96	42.83	46.00	3.17	PASS
5	0.9087	9.82	25.25	35.07	56.00	20.93	24.70	34.52	46.00	11.48	PASS
6	19.1376	10.26	32.36	42.62	60.00	17.38	26.47	36.73	50.00	13.27	PASS

Remark:
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
3. Margin = Limit[dBµV] – Value[dBµV]
4. The high point before 10M-30M is RF signal which comes from NFC, and which can be ignored.

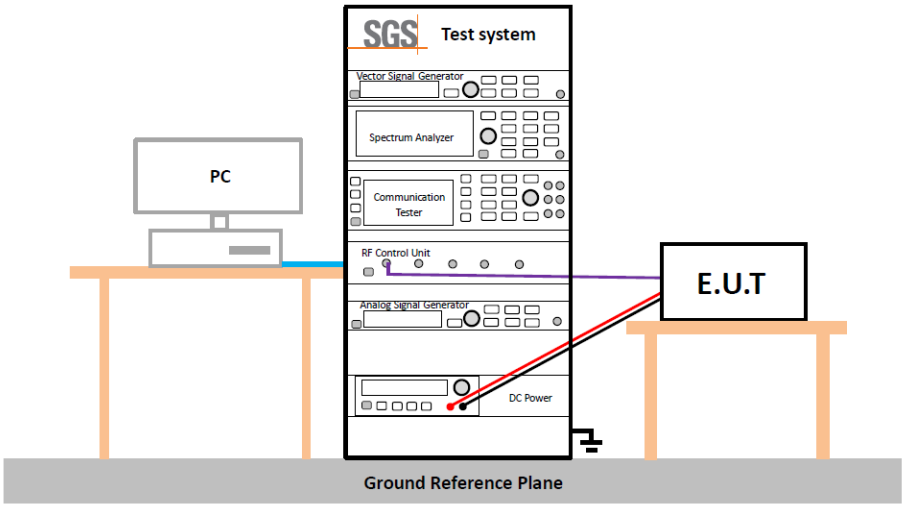
5.3 Duty Cycle

Test Requirement:	ANSI C63.10 :2013 Section 11.6
Test Method:	ANSI C63.10 :2013 Section 11.6
Test Setup:	
Instruments Used:	Refer to section 3 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	No restriction limits
Test Results:	For Report Purpose
The detailed test data see: **Appendix**	

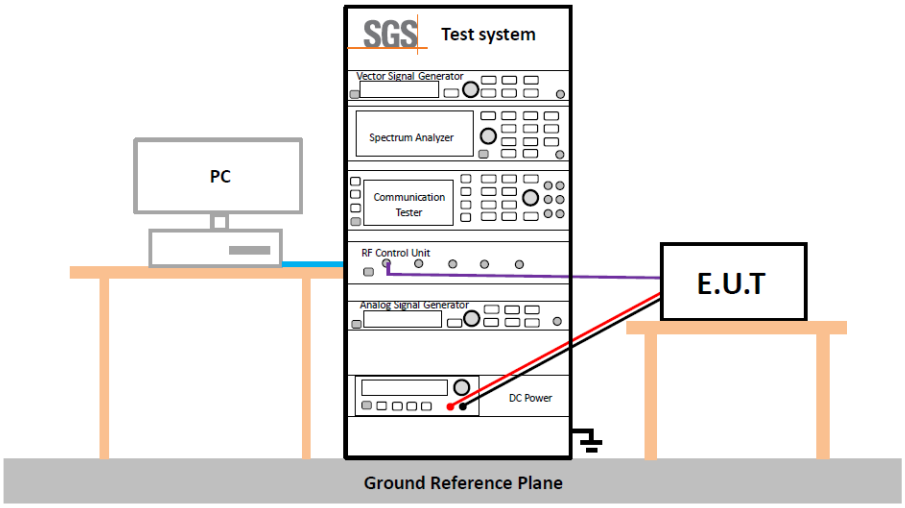
5.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section11.9.1.3
Test Setup:	 * Test with power meter (Detector function: Peak)
Test Instruments:	Refer to section 3 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	30dBm
Test Results:	Pass
The detailed test data see: **Appendix**	

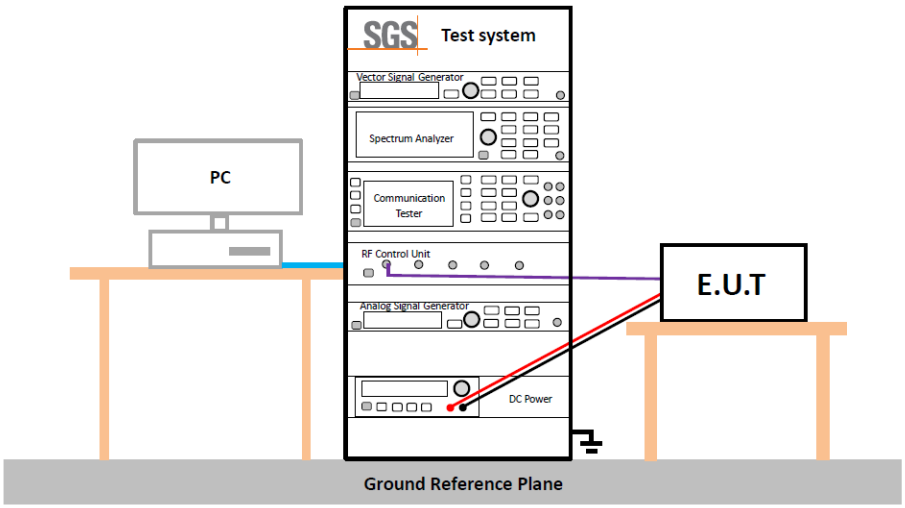
5.5 DTS (6 dB) Bandwidth & 99% Occupied Bandwidth

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 3 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	≥ 500 kHz for DTS Bandwidth
Test Results:	Pass
The detailed test data see: **Appendix**	

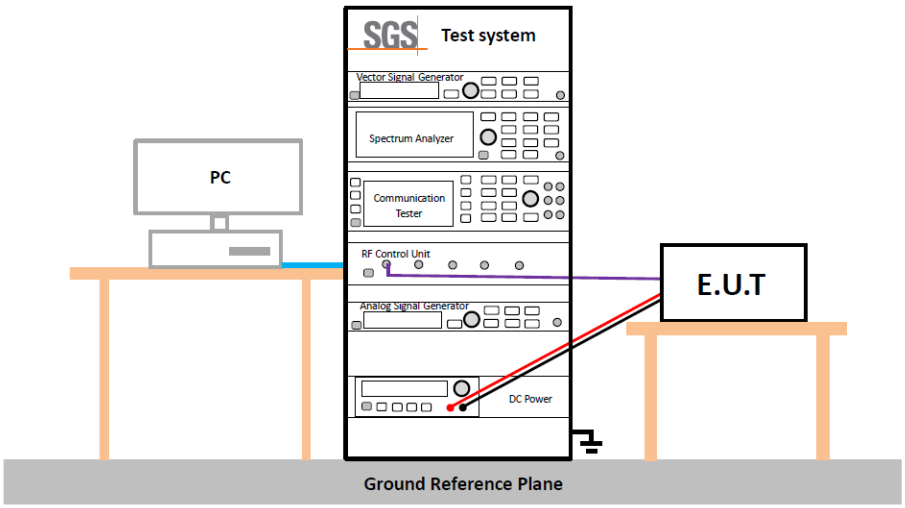
5.6 Power Spectral Density

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 3 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	≤8.00dBm/3kHz
Test Results:	Pass
The detailed test data see: **Appendix**	

5.7 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.13.3
Test Setup:	
Instruments Used:	Refer to section 3 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**	

5.8 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 3 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**	

5.9 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:

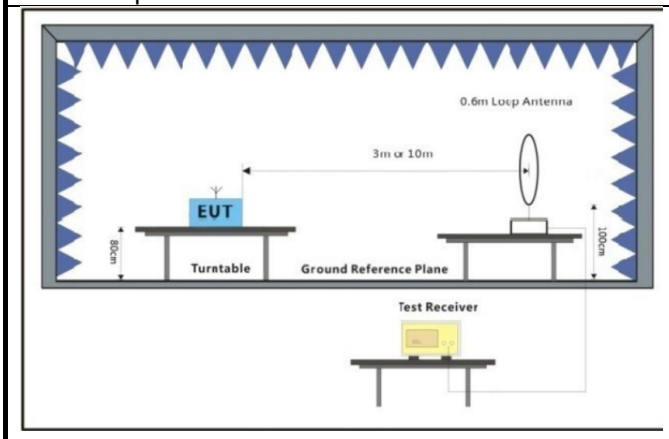


Figure 1. Below 30MHz

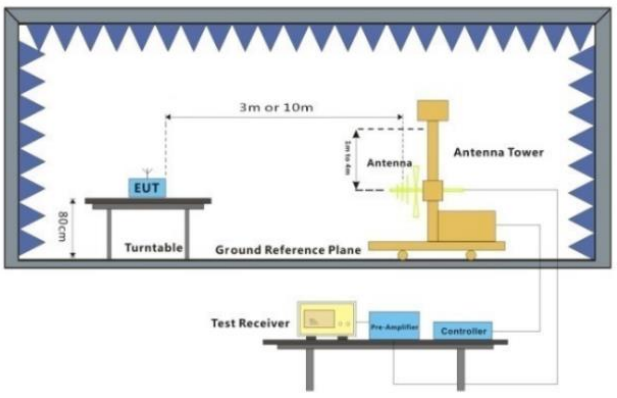


Figure 2. 30MHz to 1GHz

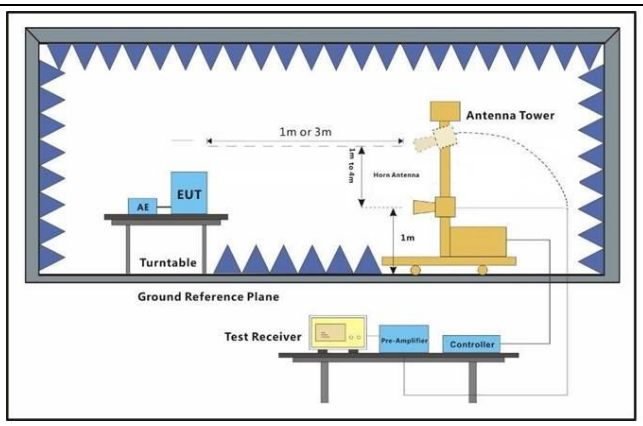


Figure 3. Above 1 GHz

Test Procedure:	a. 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 camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. 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 camber. The table was rotated 360 degrees to determine the position of the highest radiation (Distance from antenna to EUT is 1m for measurements >18GHz). c. 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. d. 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. e. 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. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Test the EUT in the lowest channel, the middle channel ,the Highest channel. h. 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. i. Repeat above procedures until all frequencies measured was complete. j. 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 k. 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. l. At a measurement distance of 1 meter the limit line was increased by 20*LOG(3/1) = 9.54 dB.
Test Configuration:	Measurements below 30MHz • RBW = 10 kHz • VBW = 30 kHz • Detector = Peak & Average & Quasi-peak • Trace mode = max hold Measurements Below 1000MHz • RBW = 120 kHz • VBW = 300 kHz

	• Detector = Quasi-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 = 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.
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 all channels, but only the worst case is recorded in the report.
Instruments Used:	Refer to section 3 for details
Test Results:	Pass
The detailed test data see: **Appendix**	

5.10 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:

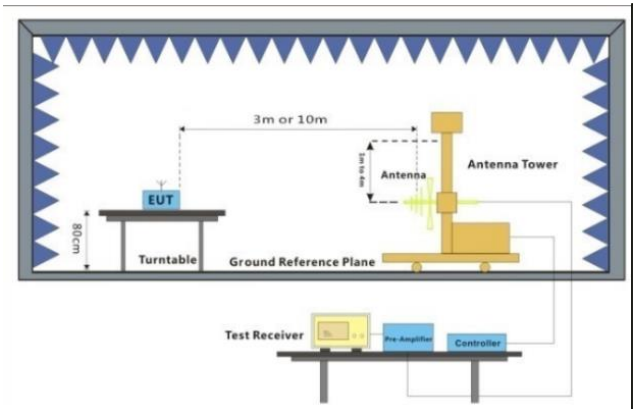


Figure 1. 30MHz to 1GHz

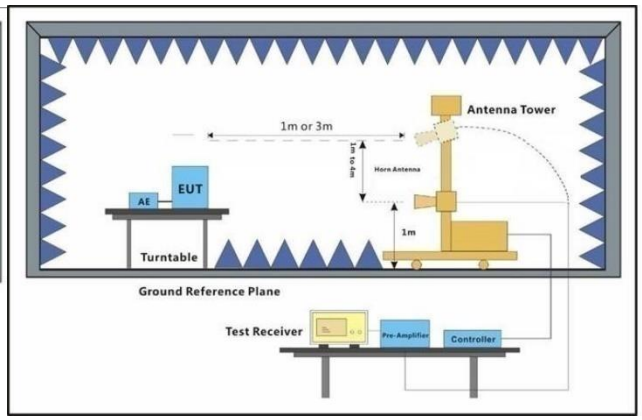


Figure 2. Above 1 GHz

Test Procedure:	a. 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 camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. 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 camber. The table was rotated 360 degrees to determine the position of the highest radiation. c. 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. d. 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. e. 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. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit 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 = Quasi-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 = 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.
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 3 for details
Test Results:	Pass
The detailed test data see: **Appendix**	

6 Photographs - Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.

7 Appendix

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	0.392	0.625	62.72	2.03	0.04
		2440	0.392	0.625	62.72	2.03	0.01
		2480	0.392	0.625	62.72	2.03	0.04
2M	SISO	2402	0.208	0.626	33.23	4.79	0.03
		2440	0.208	0.625	33.28	4.78	0.03
		2480	0.209	0.625	33.44	4.76	0.04

2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.036	/	Pass
		2440	1	1.036	/	Pass
		2480	1	1.037	/	Pass
2M	SISO	2402	1	2.061	/	Pass
		2440	1	2.060	/	Pass
		2480	1	2.059	/	Pass

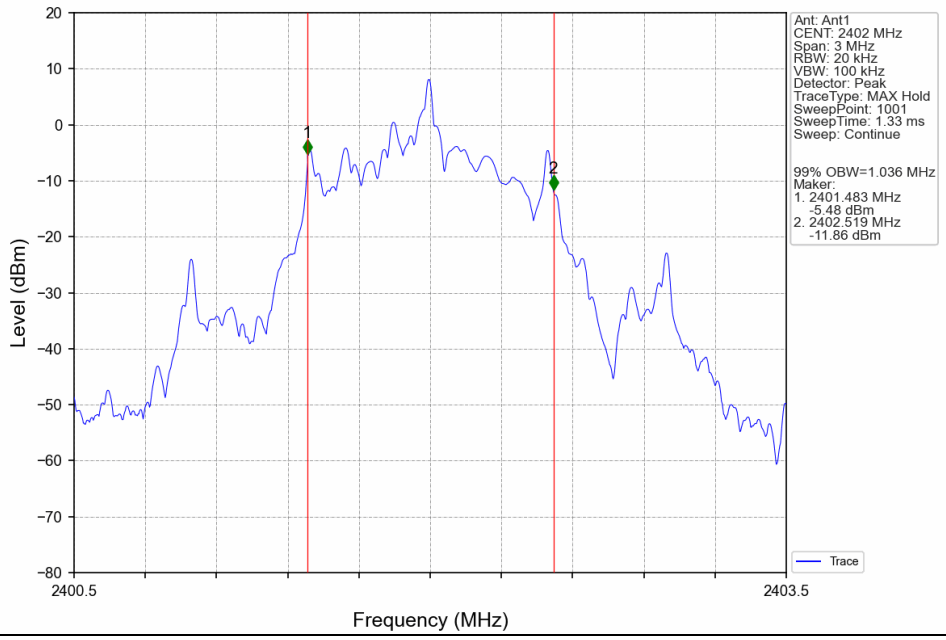
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.672	>=0.5	Pass
		2440	1	0.673	>=0.5	Pass
		2480	1	0.676	>=0.5	Pass
2M	SISO	2402	1	0.622	>=0.5	Pass
		2440	1	0.624	>=0.5	Pass
		2480	1	0.623	>=0.5	Pass

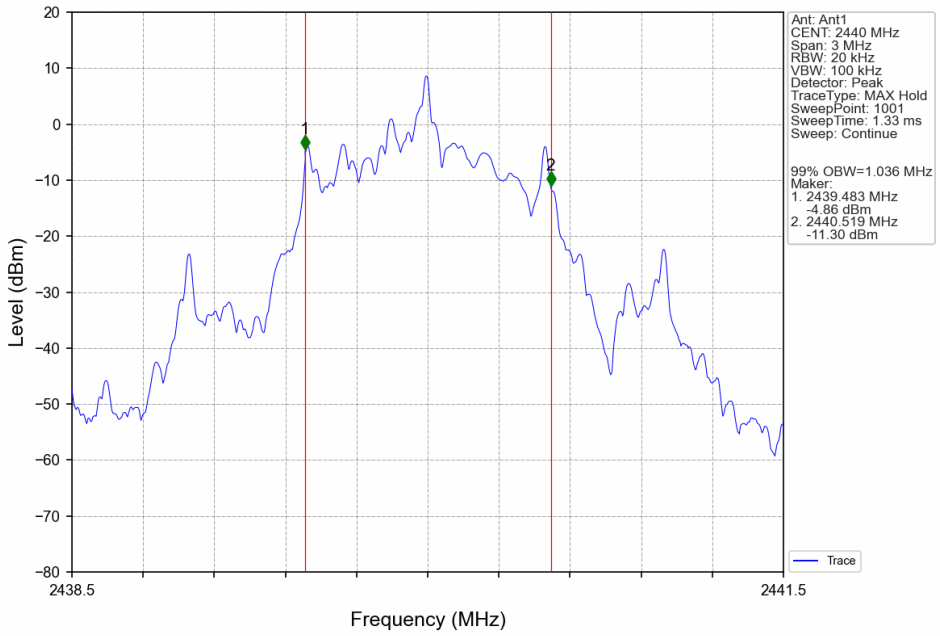
2.2 Test Graph

2.2.1 OBW

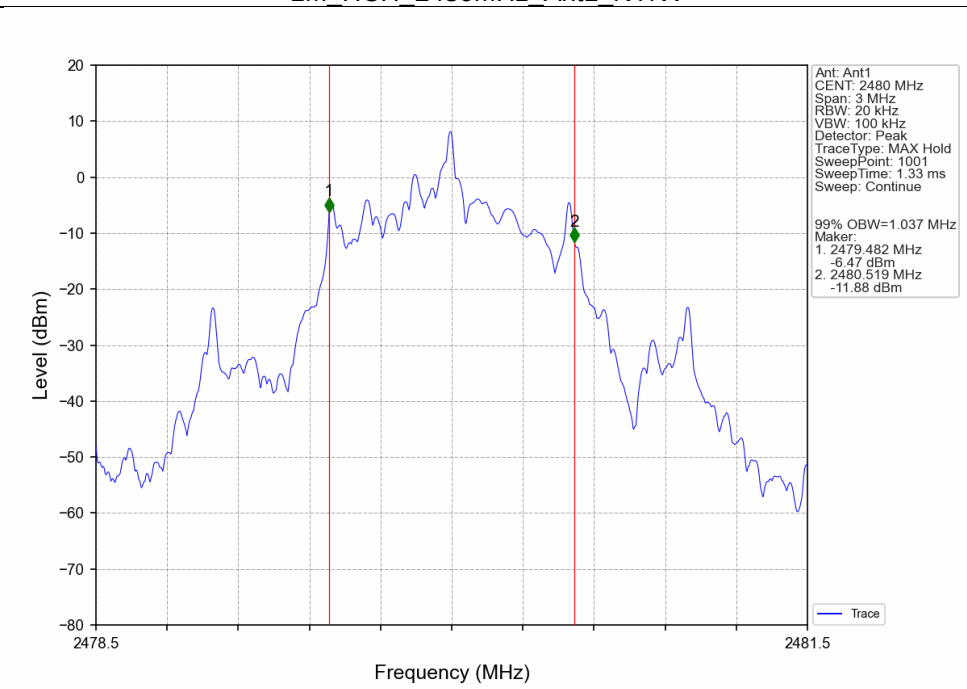
1M_LCH_2402MHz_Ant1_NTNV



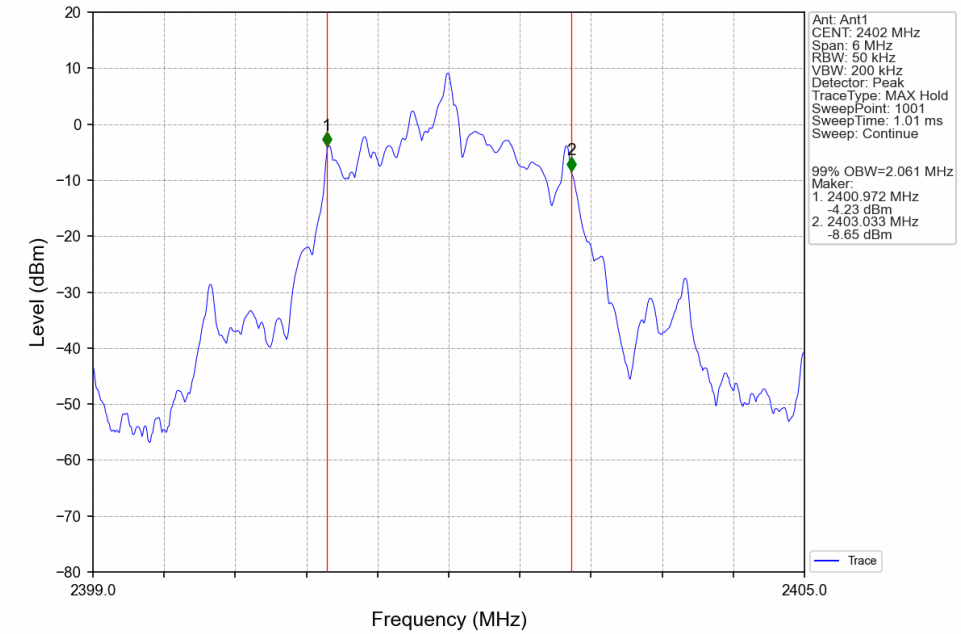
1M_MCH_2440MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



2M_LCH_2402MHz_Ant1_NTNV



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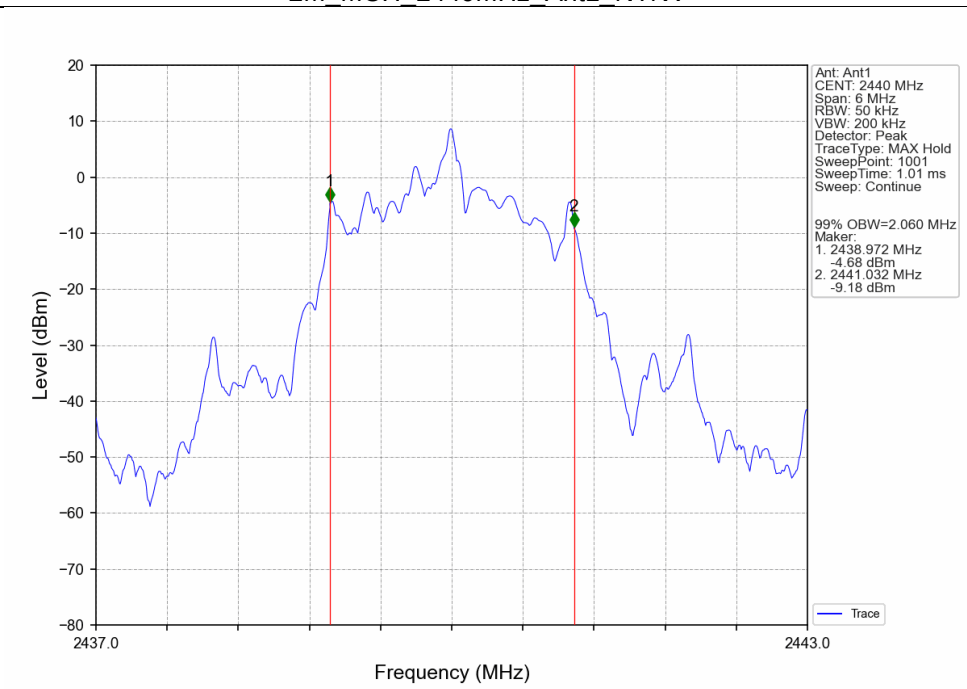
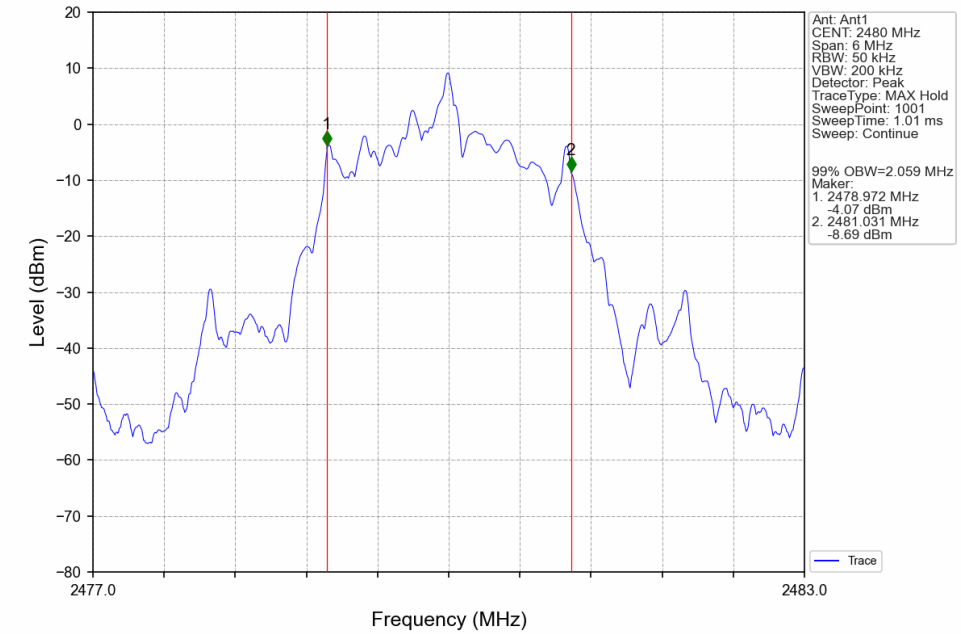
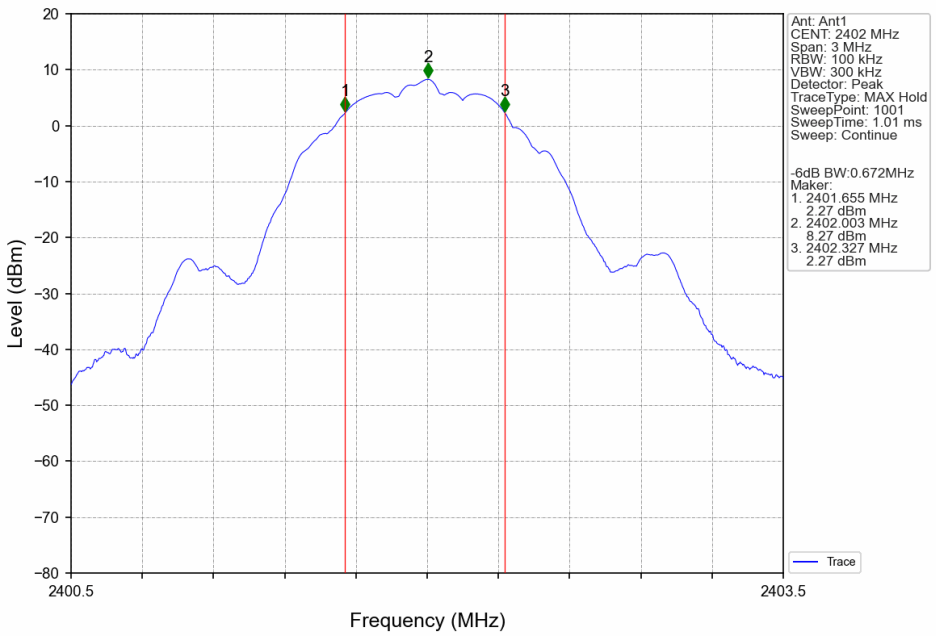


2M_HCH_2480MHz_Ant1_NTNV

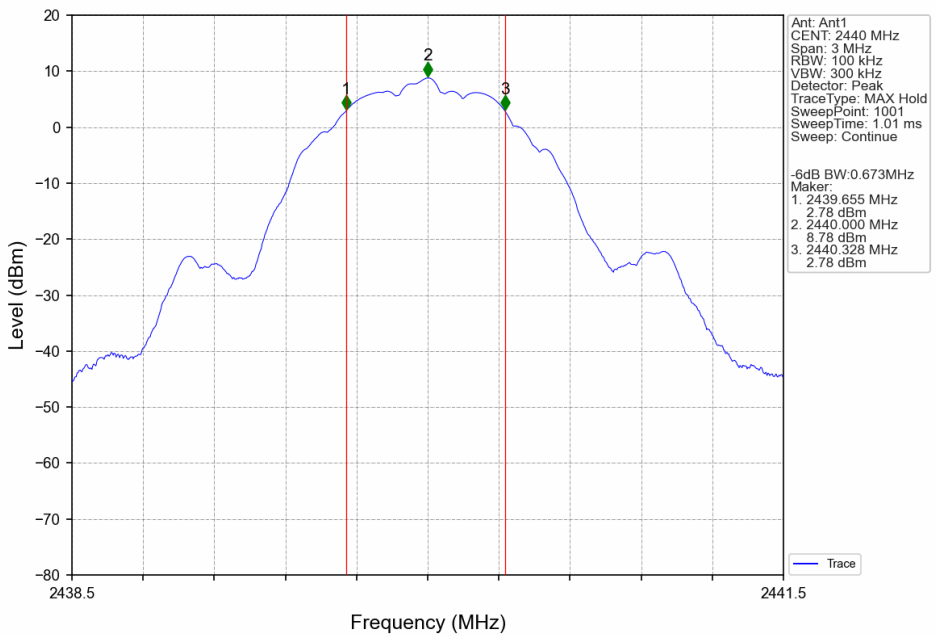


2.2.2 6dB BW

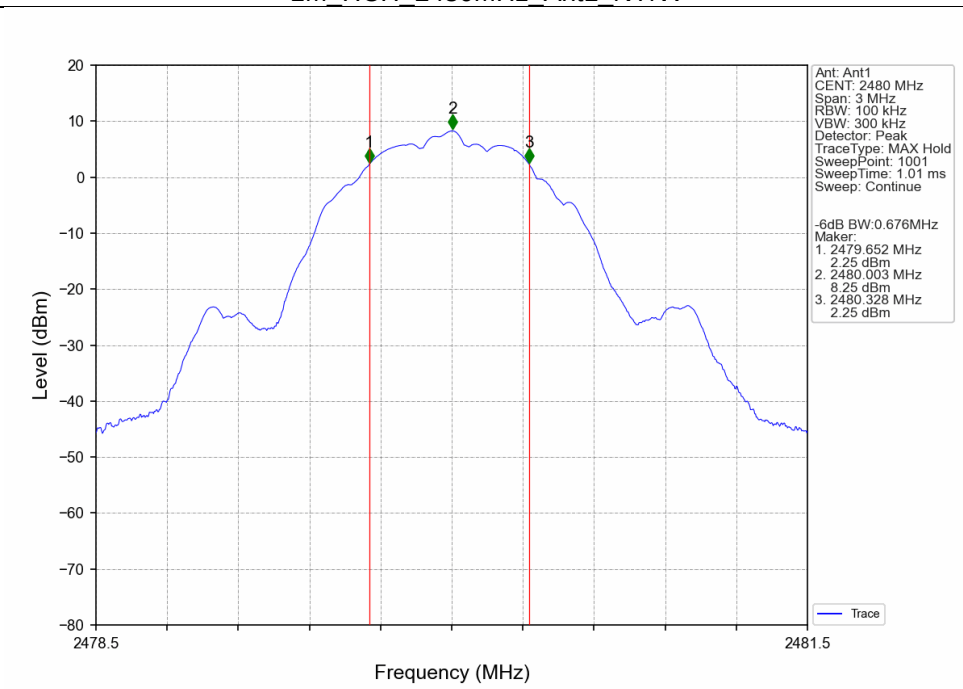
1M_LCH_2402MHz_Ant1_NTNV



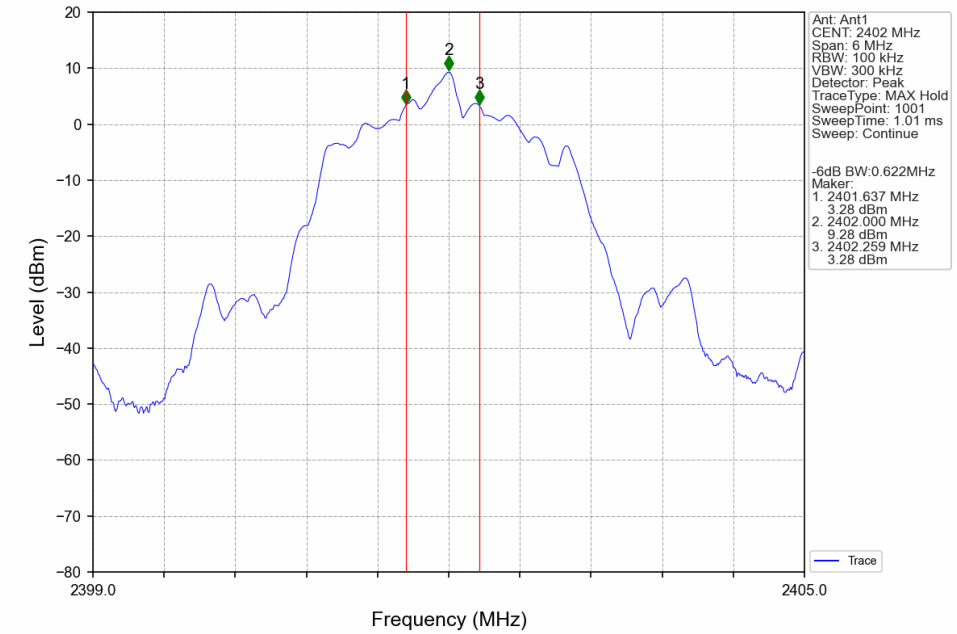
1M_MCH_2440MHz_Ant1_NTNV



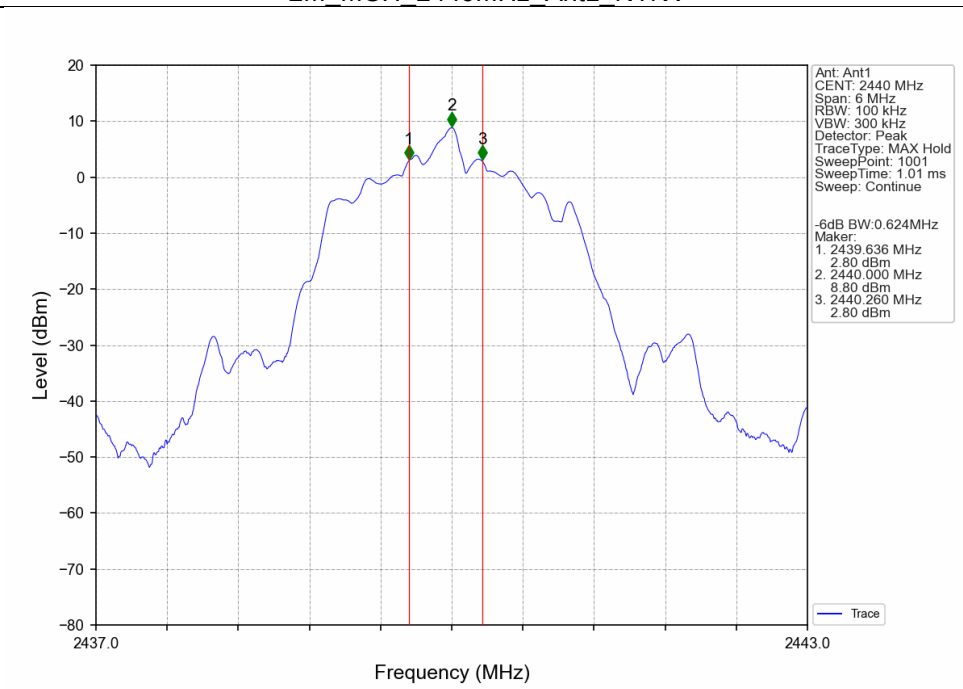
1M_HCH_2480MHz_Ant1_NTNV



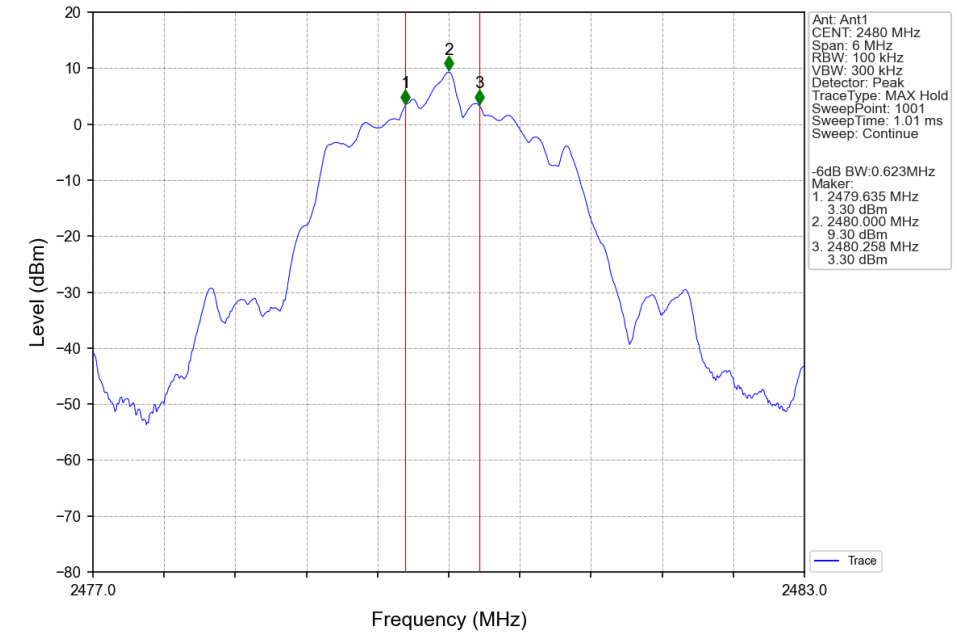
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	8.71	<=30	Pass
		2440	9.22	<=30	Pass
		2480	8.76	<=30	Pass
2M	SISO	2402	9.70	<=30	Pass
		2440	9.24	<=30	Pass
		2480	9.81	<=30	Pass

4. Maximum Power Spectral Density

4.1 Test Result

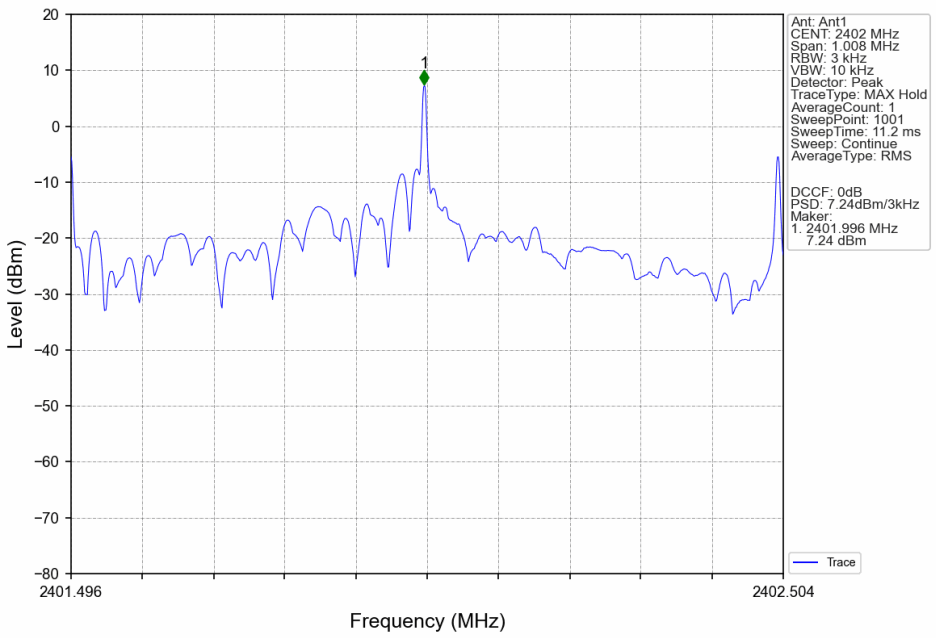
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	7.24	<=8	Pass
		2440	7.77	<=8	Pass
		2480	7.23	<=8	Pass
2M	SISO	2402	5.04	<=8	Pass
		2440	4.57	<=8	Pass
		2480	5.05	<=8	Pass

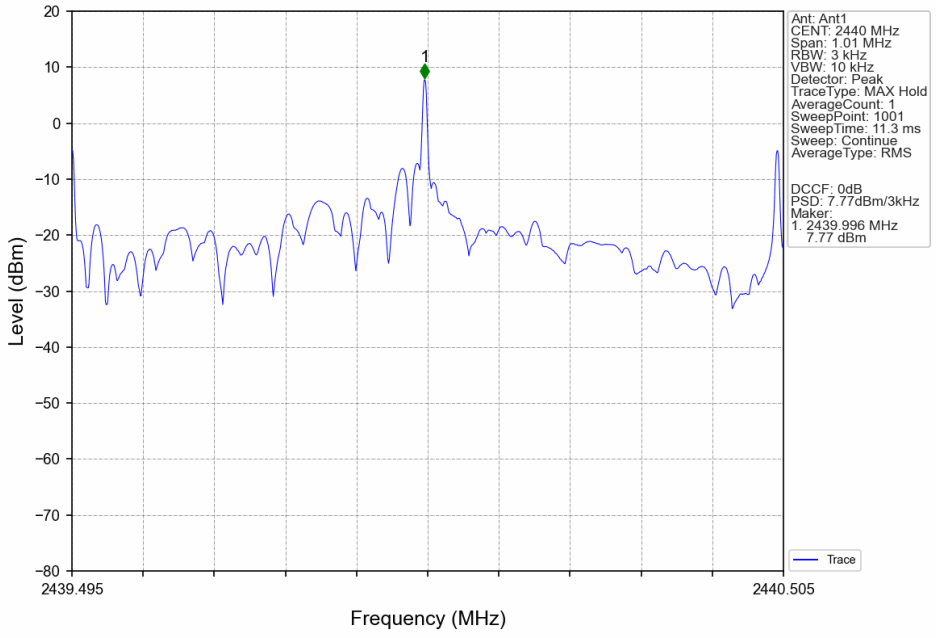
4.2 Test Graph

4.2.1 PSD

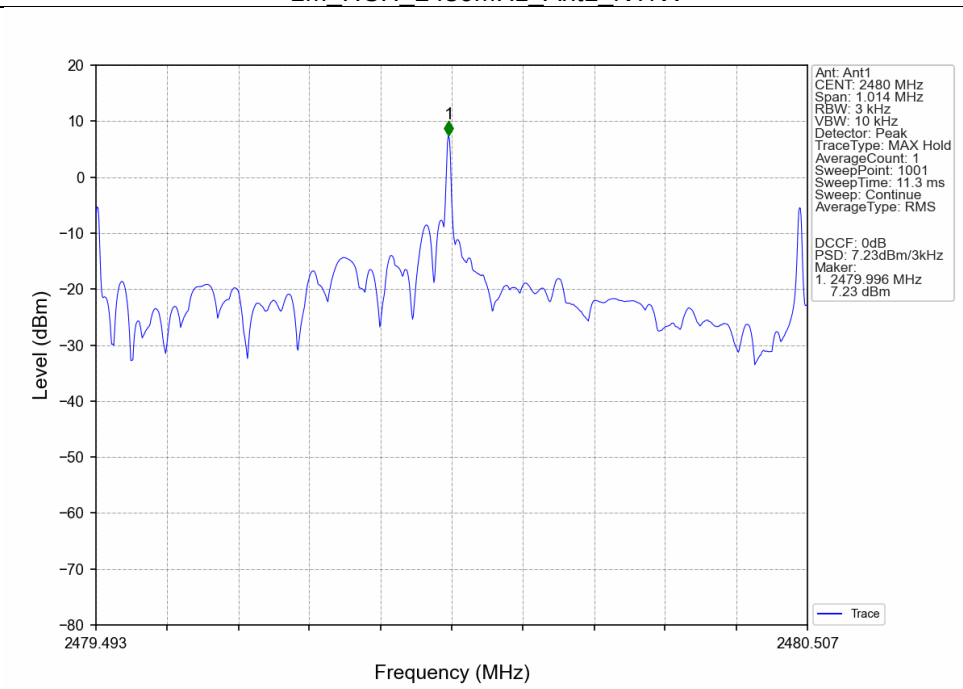
1M_LCH_2402MHz_Ant1_NTNV



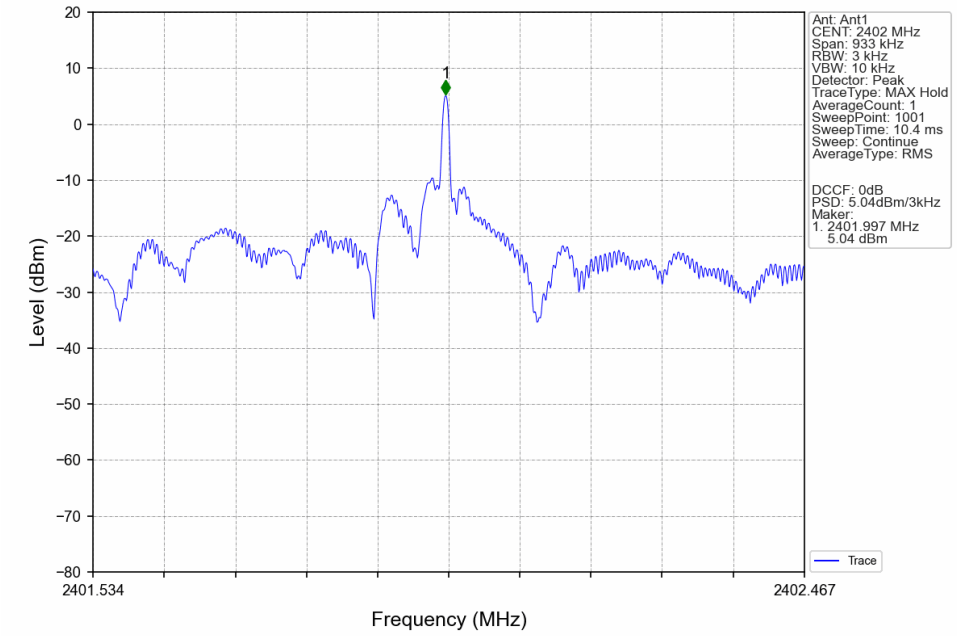
1M_MCH_2440MHz_Ant1_NTNV



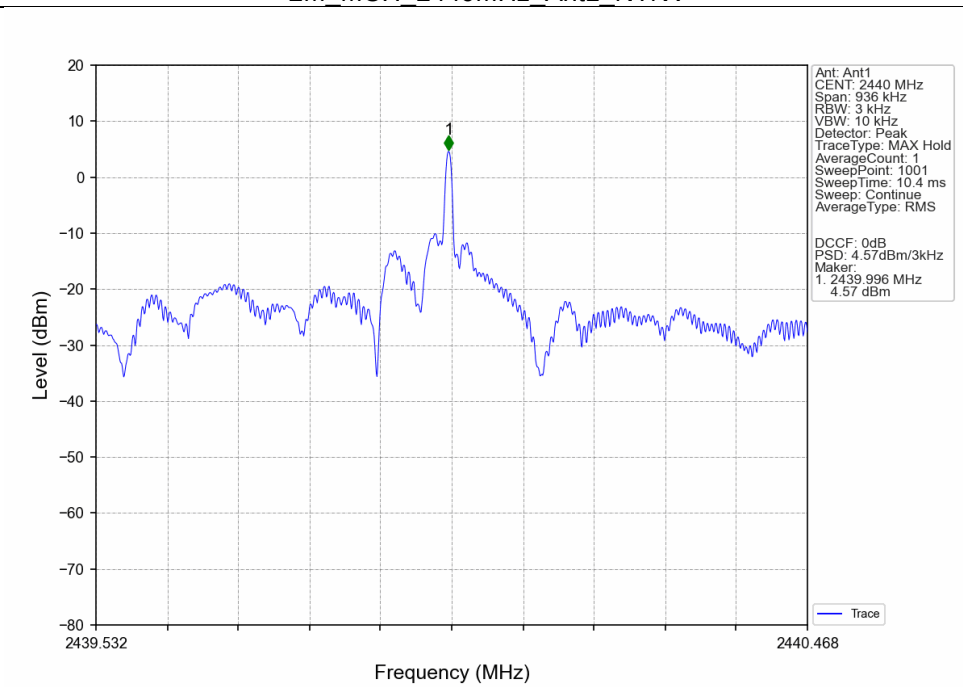
1M_HCH_2480MHz_Ant1_NTNV



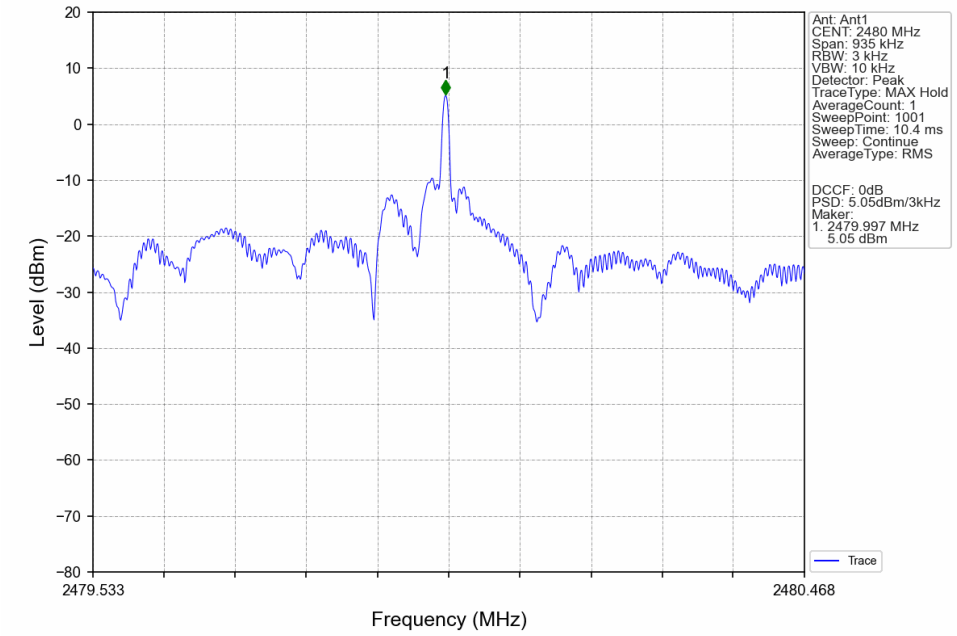
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	8.27
		2440	1	**8.77**
		2480	1	8.26
2M	SISO	2402	1	8.26
		2440	1	**8.78**
		2480	1	8.28
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.				

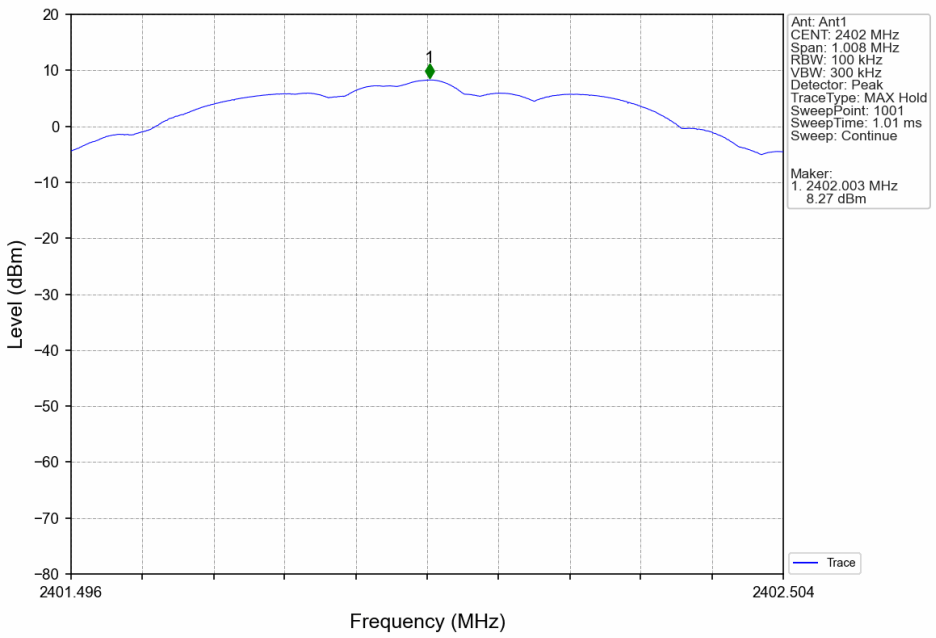
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	8.77	-11.23	Pass
		2440	1	8.77	-11.23	Pass
		2480	1	8.77	-11.23	Pass
2M	SISO	2402	1	8.78	-11.22	Pass
		2440	1	8.78	-11.22	Pass
		2480	1	8.78	-11.22	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.						

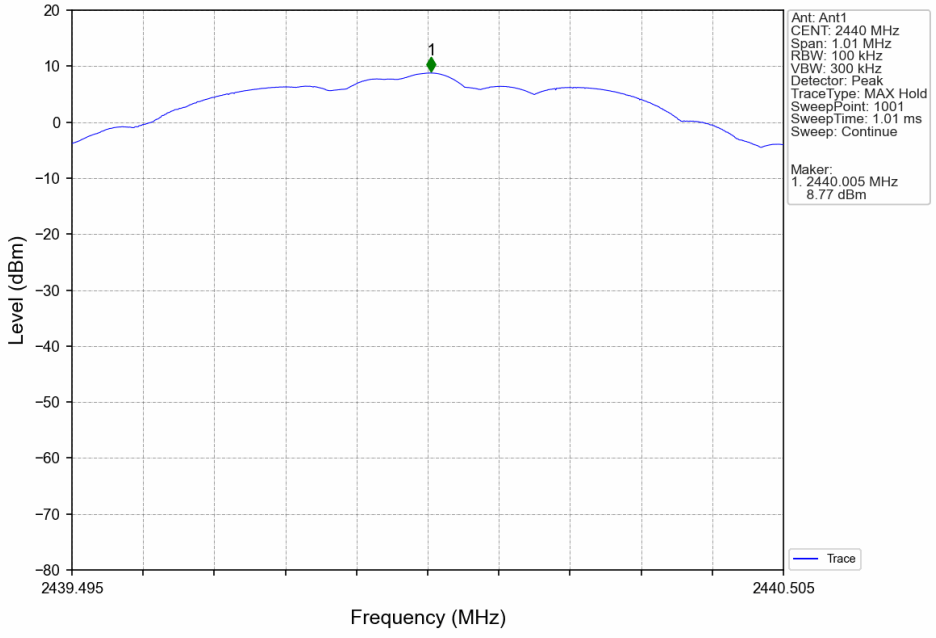
5.2 Test Graph

5.2.1 Ref

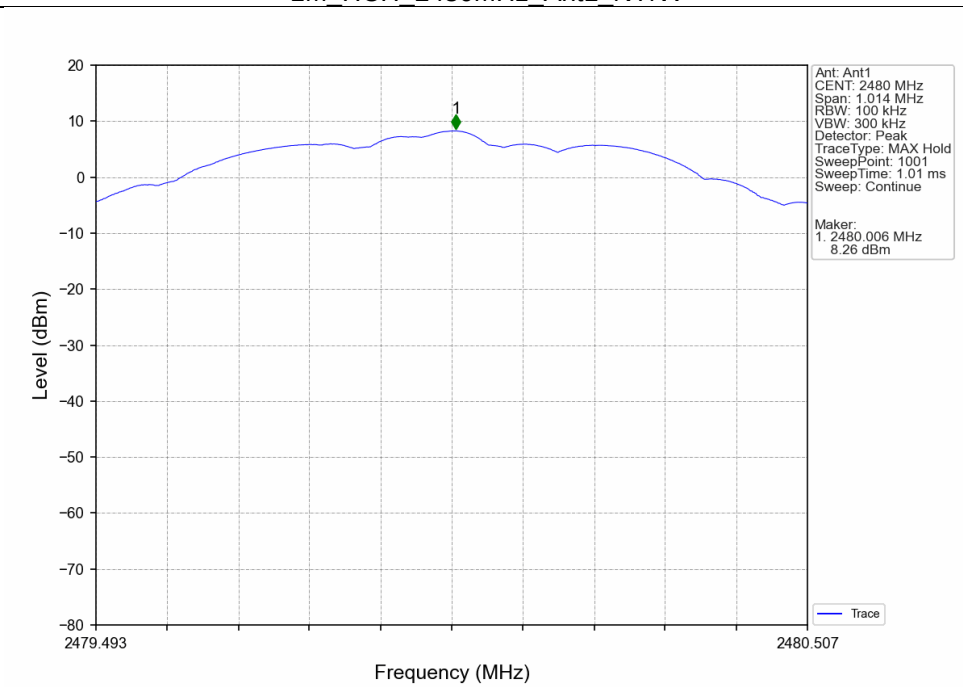
1M_LCH_2402MHz_Ant1_NTNV



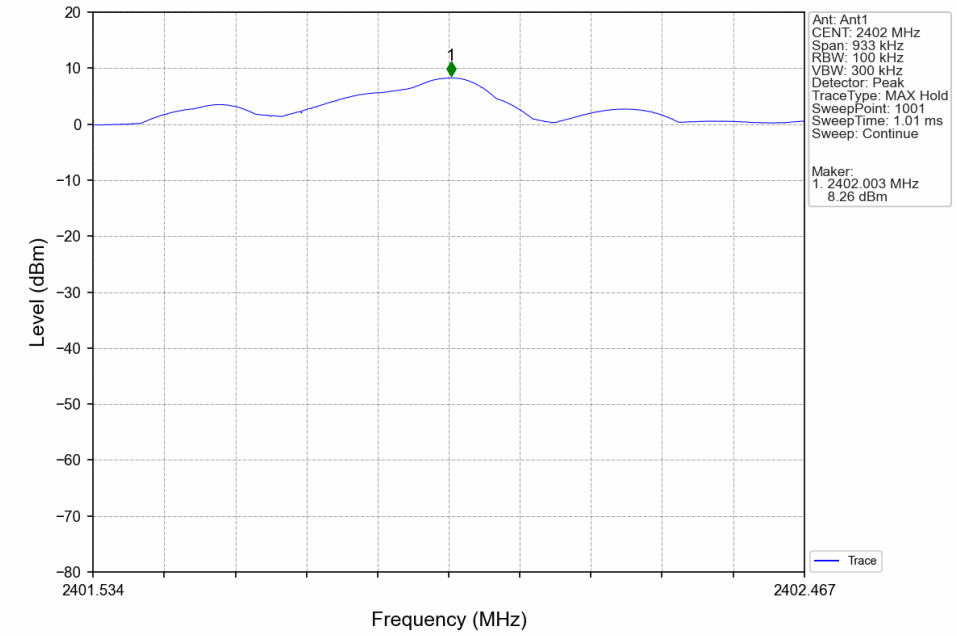
1M_MCH_2440MHz_Ant1_NTNV



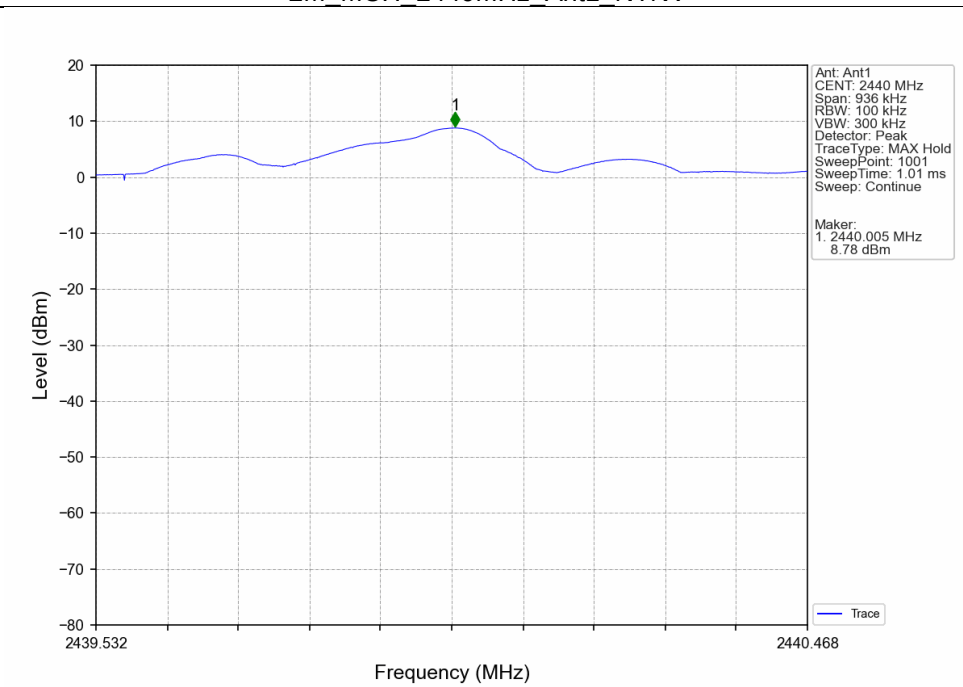
1M_HCH_2480MHz_Ant1_NTNV



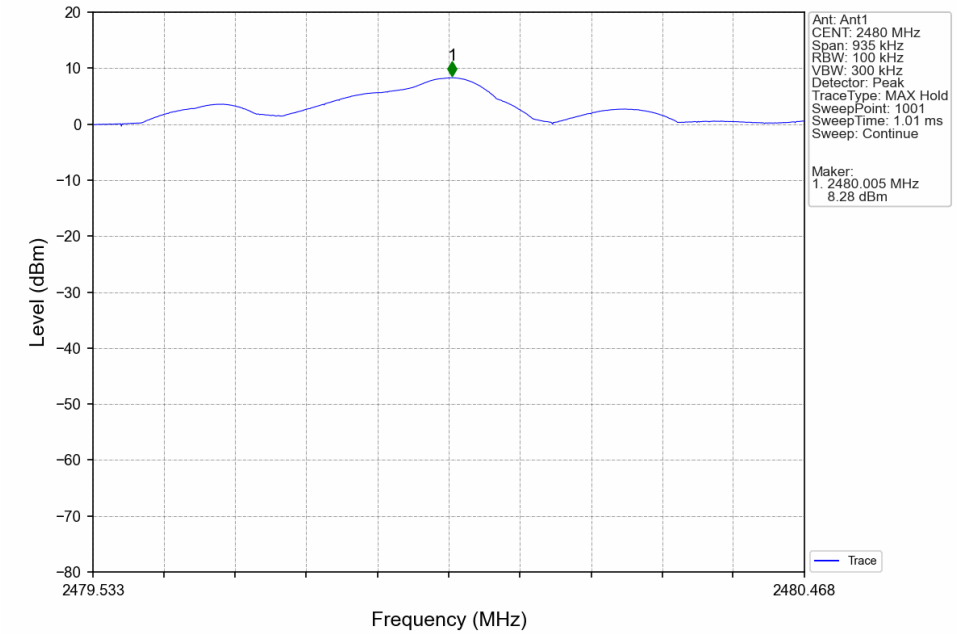
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV

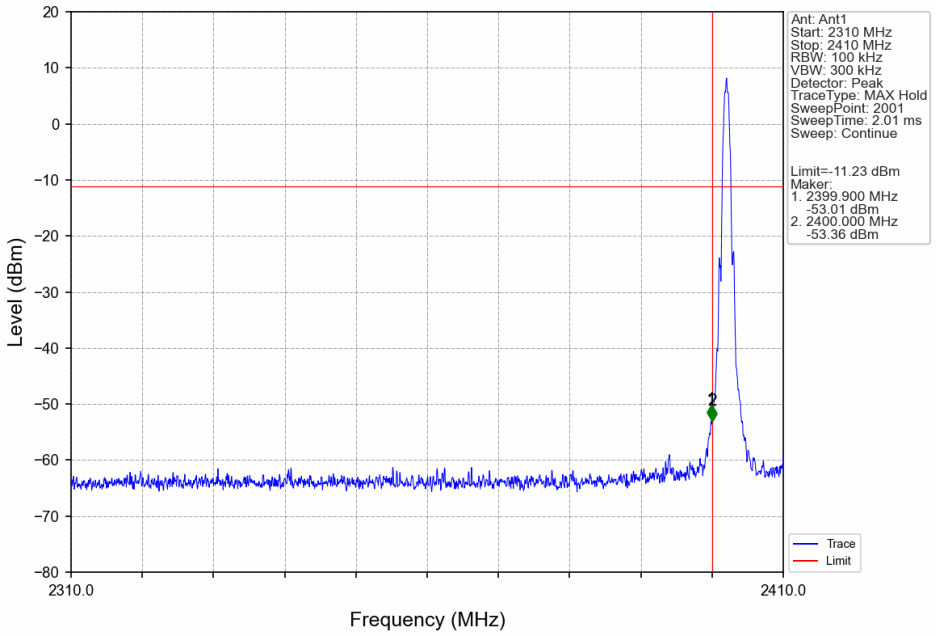


2M_HCH_2480MHz_Ant1_NTNV

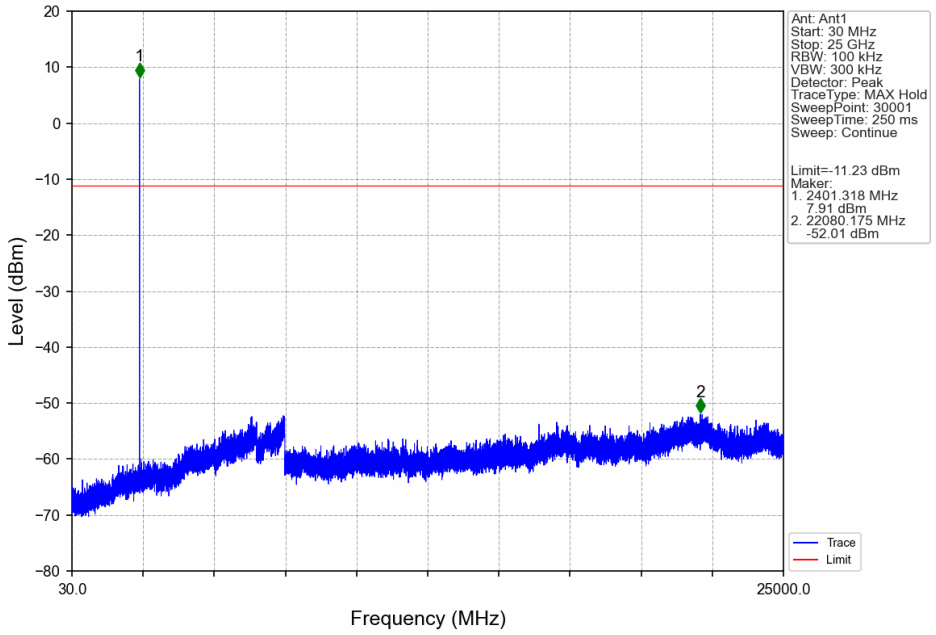


5.2.2 CSE

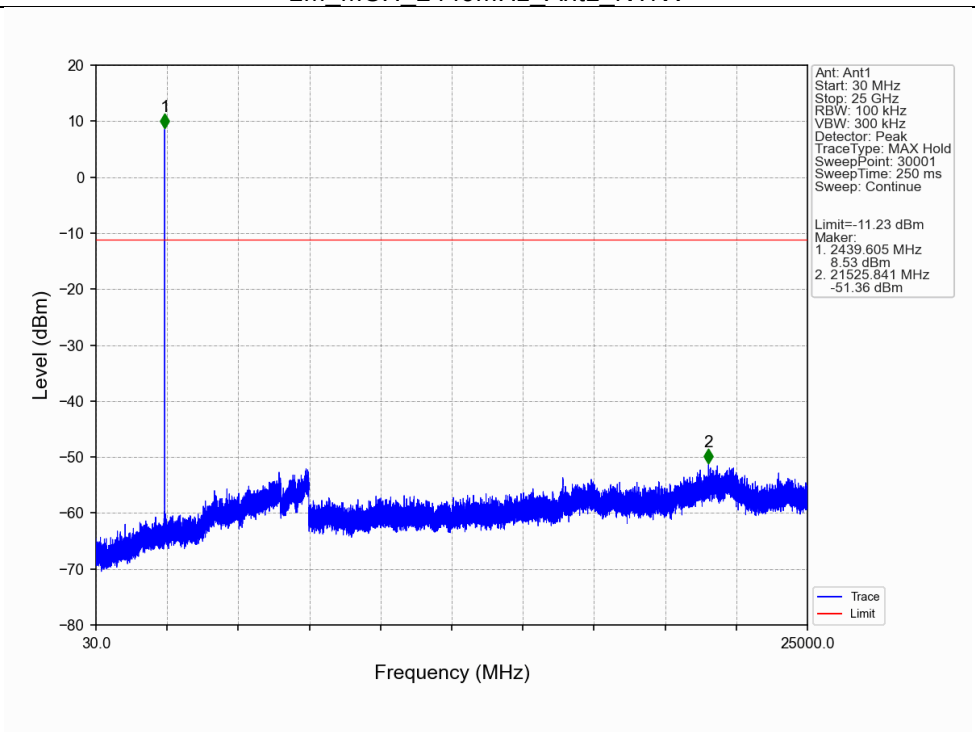
1M_LCH_2402MHz_Ant1_NTNV



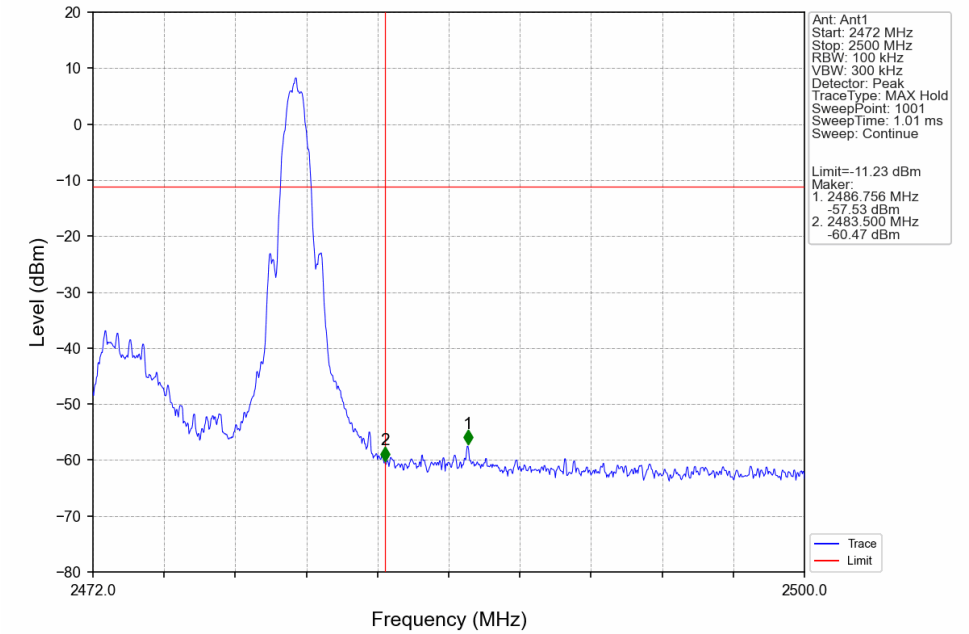
1M_LCH_2402MHz_Ant1_NTNV



1M_MCH_2440MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



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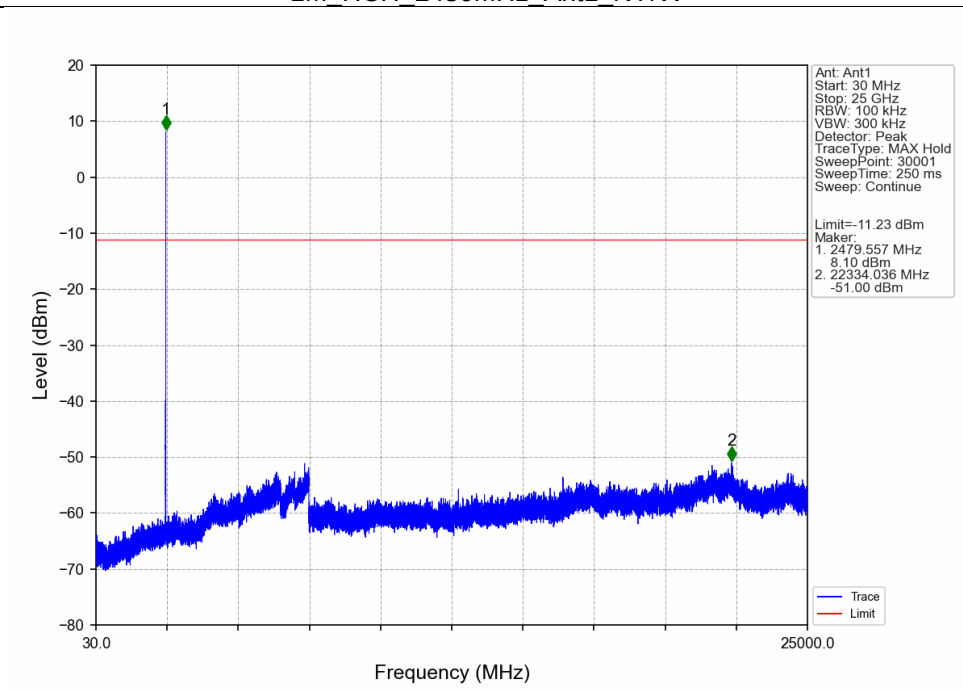
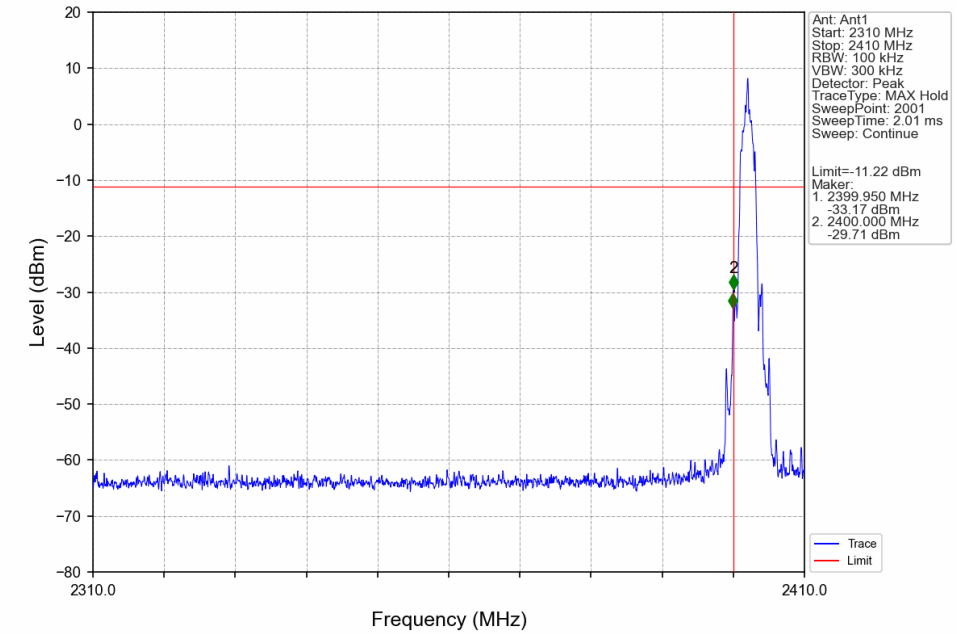
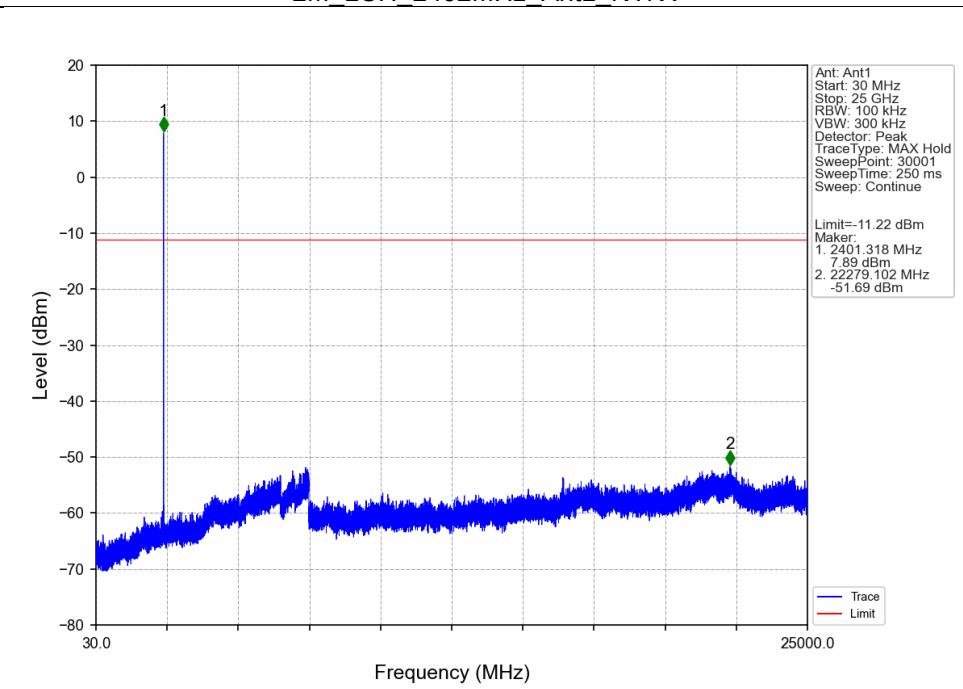


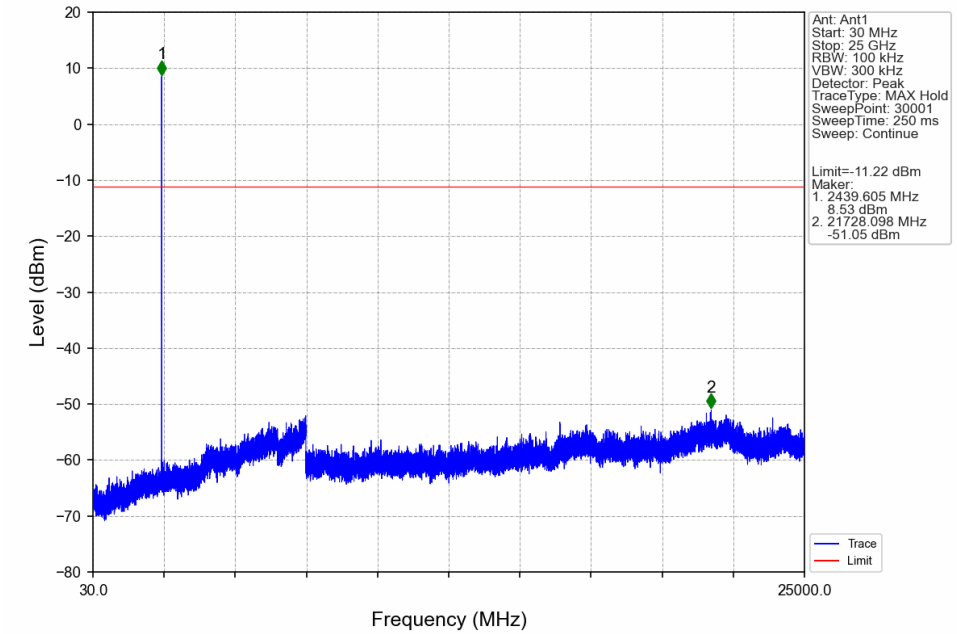
2M_LCH_2402MHz_Ant1_NTNV



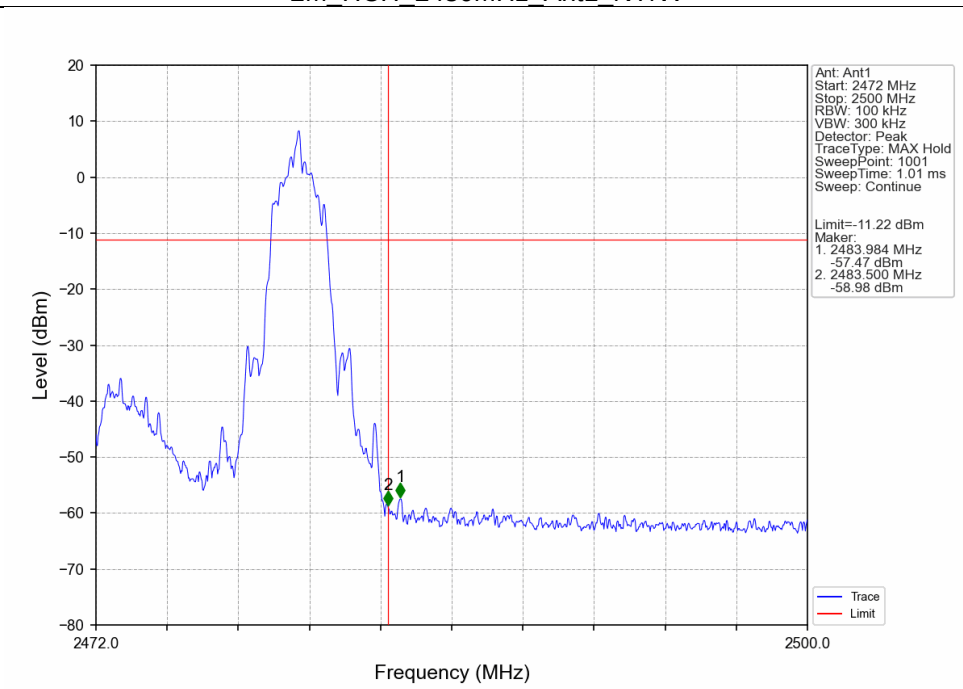
2M_LCH_2402MHz_Ant1_NTNV



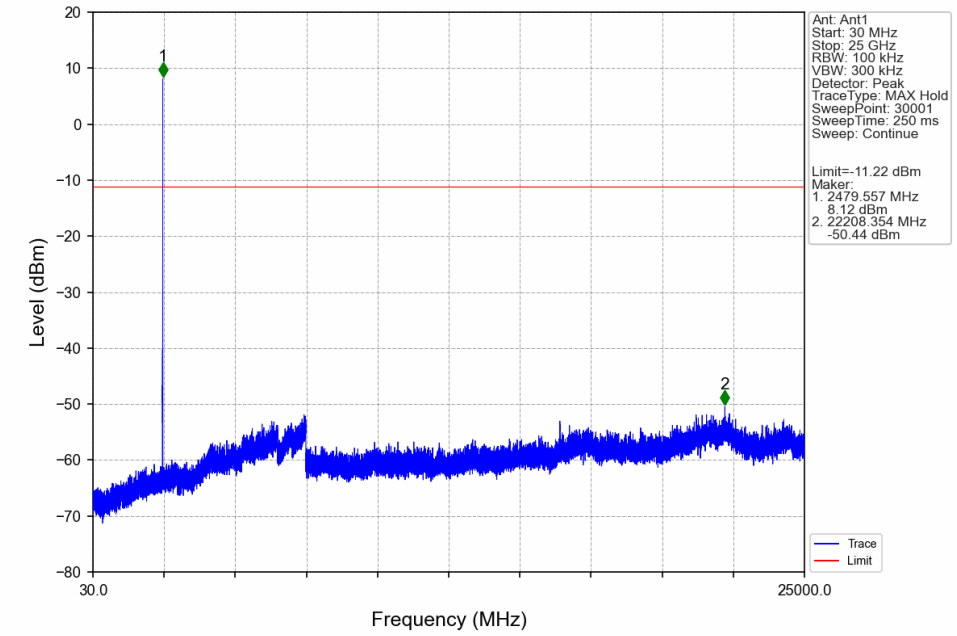
2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



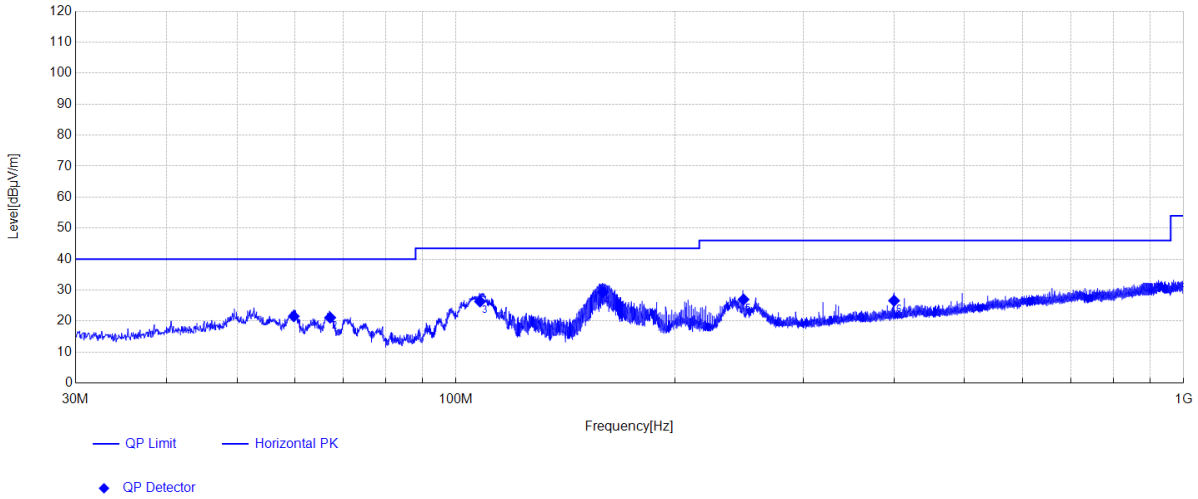
2M_HCH_2480MHz_Ant1_NTNV



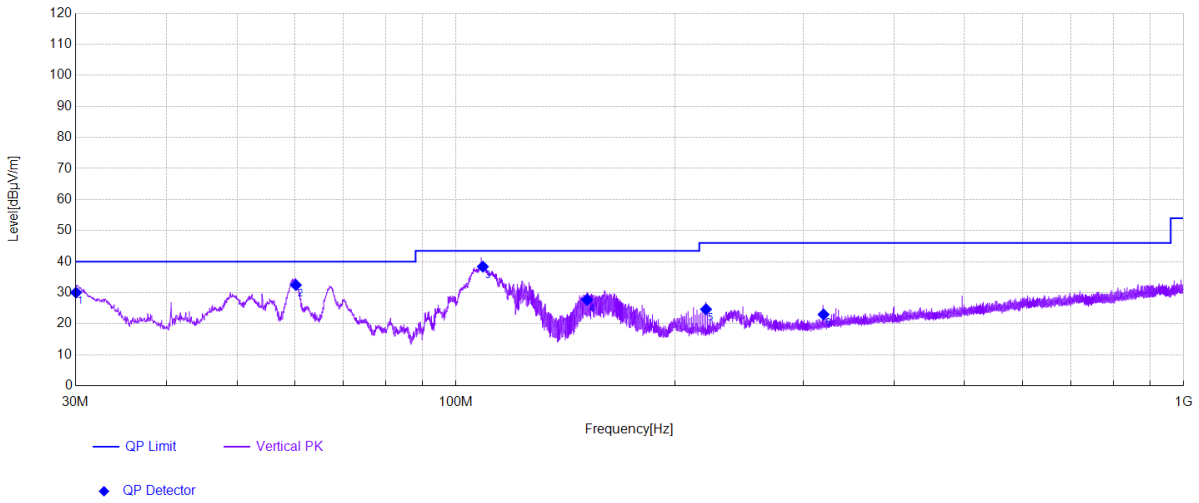
Radiated Spurious Emissions
Radiated emission below 1GHz
Worst case Mode:

F961A

BLE 2M_Channel 0



Data List								
NO.	Freq. [MHz]	AF[dB/m]	Factor [dB]	QP Reading[dB µV]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	59.85	12.42	-27.63	36.77	21.56	40.00	18.44	Horizontal
2	67.15	10.67	-27.43	37.89	21.13	40.00	18.87	Horizontal
3	107.9	11.79	-27.55	42.1	26.34	43.50	17.16	Horizontal
4	159.15	8.32	-27.02	48.06	29.36	43.50	14.14	Horizontal
5	248.4	12.43	-26.24	40.79	26.98	46.00	19.02	Horizontal
6	400	15.80	-25.48	36.27	26.59	46.00	19.41	Horizontal



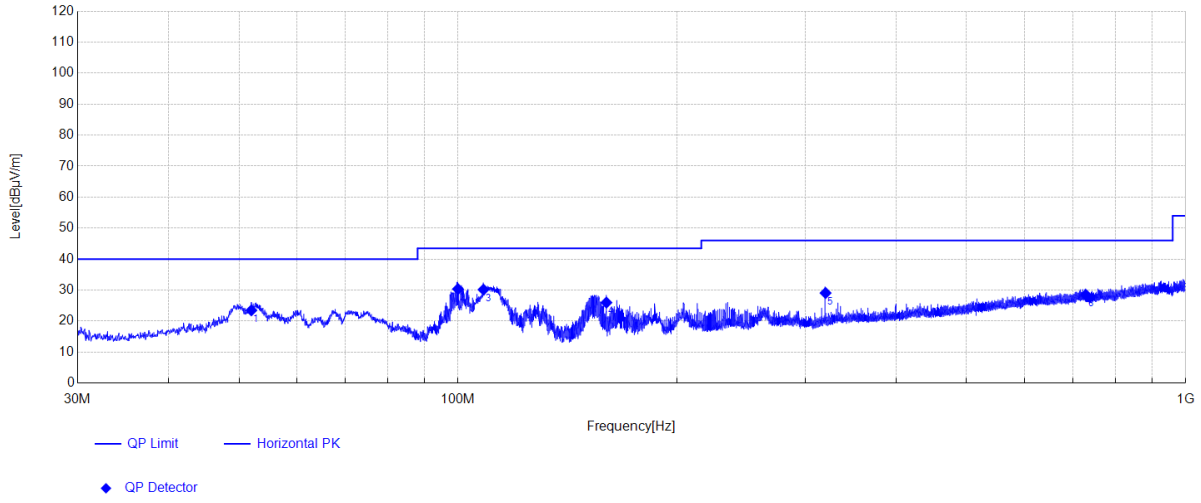
Data List								
NO.	Freq. [MHz]	AF[dB/m]	Factor [dB]	QP Reading[dBµV]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	30.05	11.19	-28.45	47.3	30.04	40.00	9.96	Vertical
2	60.25	12.38	-27.62	47.72	32.48	40.00	7.52	Vertical
3	108.8682	11.76	-27.54	54.18	38.40	43.50	5.10	Vertical
4	151.4	7.54	-26.65	46.83	27.72	43.50	15.78	Vertical
5	220.6	11.22	-26.56	40	24.66	46.00	21.34	Vertical
6	320	13.50	-25.57	35.06	22.99	46.00	23.01	Vertical

Remark:

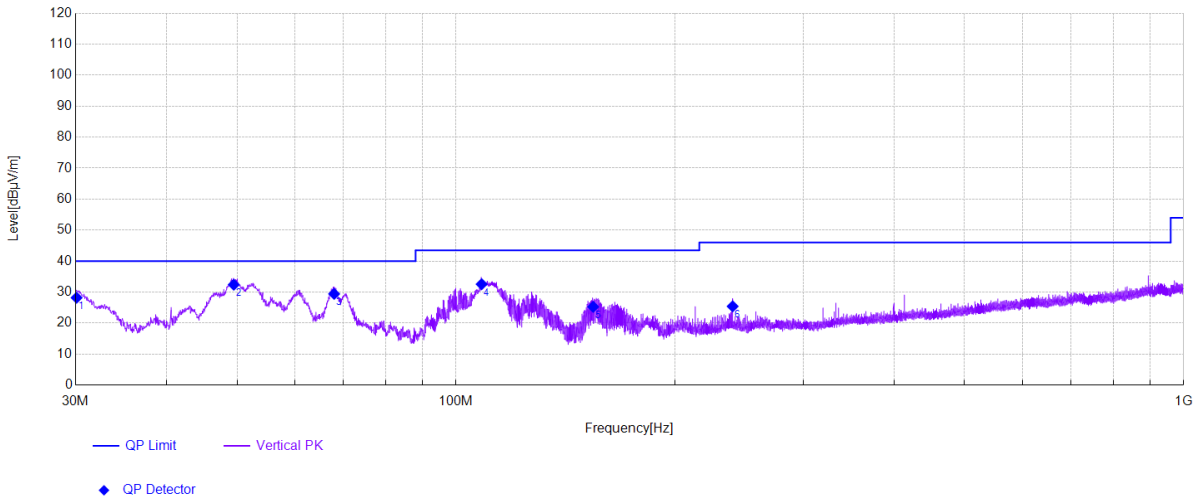
1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:
   Value = Reading(dBµV) + AF(dB/m) + Factor(dB):
   AF = Antenna Factor(dB/m)
   Factor = Cable Factor(dB) - Preamplifier gain(dB)
   Margin = Limit(dBµV/m) – Value(dBµV/m)
2) All channels have been tested, but only the worst case data displayed in this report.

F9E1A

BLE 2M_Channel 0



Data List								
NO.	Freq. [MHz]	AF[dB/m]	Factor [dB]	QP Reading[dB µV]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	52	14.20	-27.70	36.98	23.48	40.00	16.52	Horizontal
2	100	11.70	-27.71	46.36	30.35	43.50	13.15	Horizontal
3	108.4	11.76	-27.54	45.94	30.16	43.50	13.34	Horizontal
4	159.95	8.40	-27.06	44.65	25.99	43.50	17.51	Horizontal
5	320	13.50	-25.57	41.15	29.08	46.00	16.92	Horizontal
6	729.6	19.79	-23.63	32.25	28.41	46.00	17.59	Horizontal



Data List								
NO.	Freq. [MHz]	AF[dB/m]	Factor [dB]	QP Reading[dB µV]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	30.1	11.18	-28.45	45.47	28.20	40.00	11.80	Vertical
2	49.5	14.15	-27.74	45.99	32.40	40.00	7.60	Vertical
3	68	10.50	-27.41	46.34	29.43	40.00	10.57	Vertical
4	108.45	11.76	-27.54	48.35	32.57	43.50	10.93	Vertical
5	154.35	8.07	-26.79	43.98	25.26	43.50	18.24	Vertical
6	240	12.50	-26.39	39.3	25.41	46.00	20.59	Vertical

Remark:

3) 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)

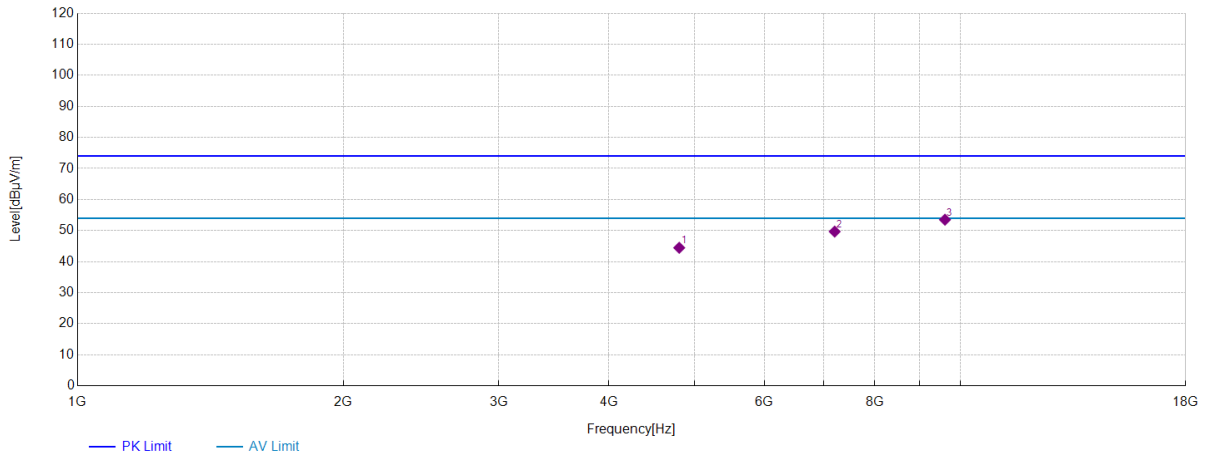
   Factor = Cable Factor(dB) - Preamplifier gain(dB)

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

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

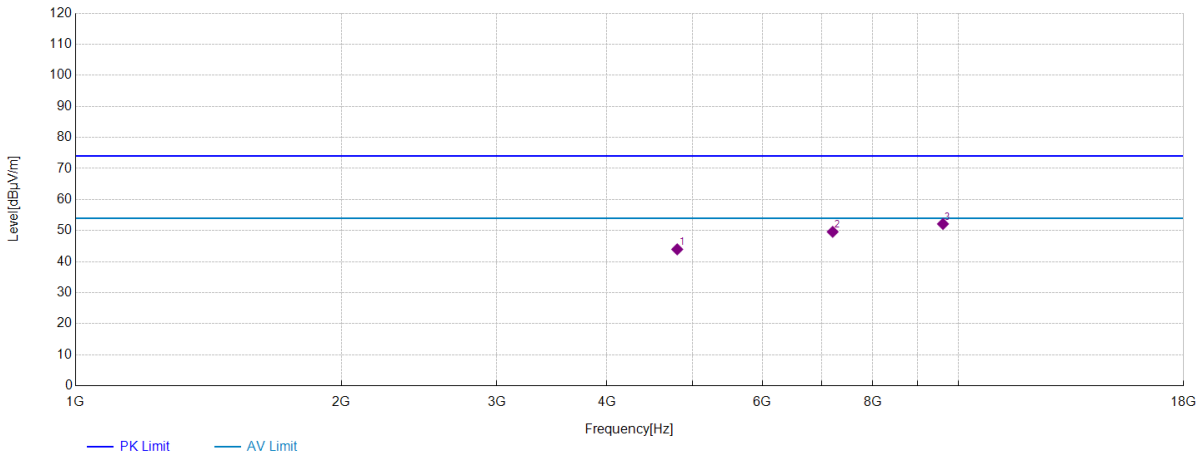
Transmitter emission Above 1GHz

F961A
BLE 1M_Channel 0



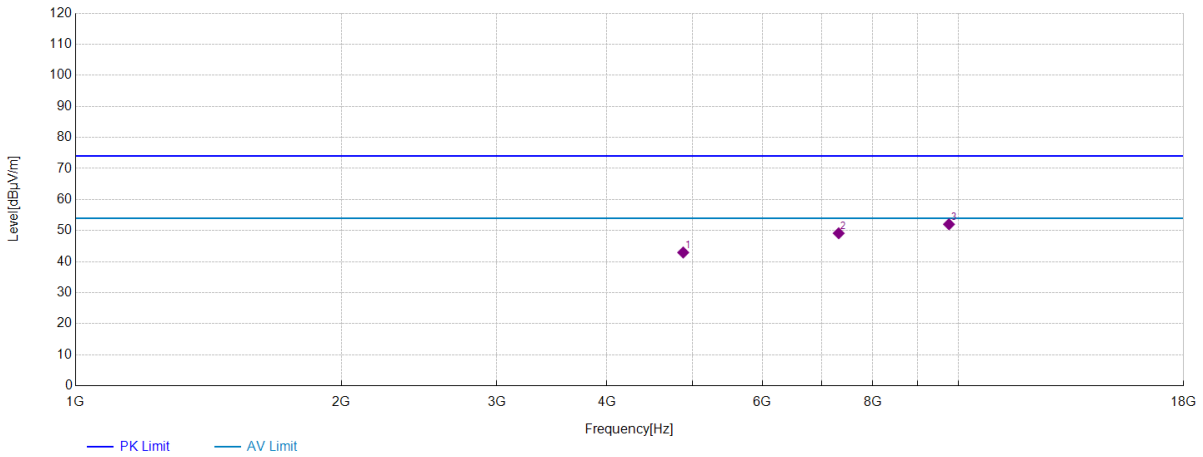
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	59.75	32.43	-47.71	44.47	74.00	29.53	Horizontal
2	7206	56.81	37.11	-44.23	49.69	74.00	24.31	Horizontal
3	9608	55.07	39.14	-40.70	53.51	74.00	20.49	Horizontal

BLE 1M_Channel 0



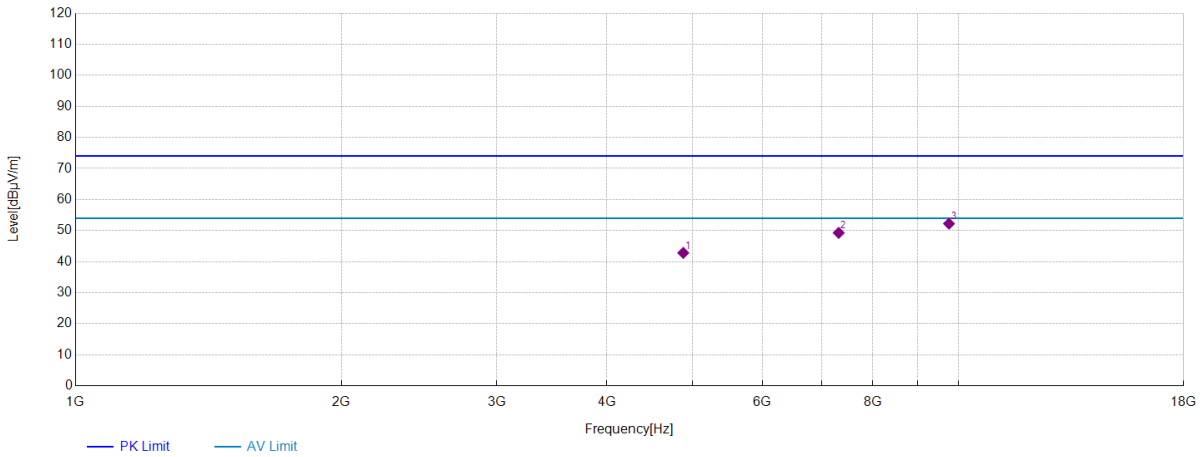
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	59.25	32.43	-47.71	43.97	74.00	30.03	Vertical
2	7206	56.73	37.11	-44.23	49.61	74.00	24.39	Vertical
3	9608	53.71	39.14	-40.70	52.15	74.00	21.85	Vertical

BLE 1M_Channel 19



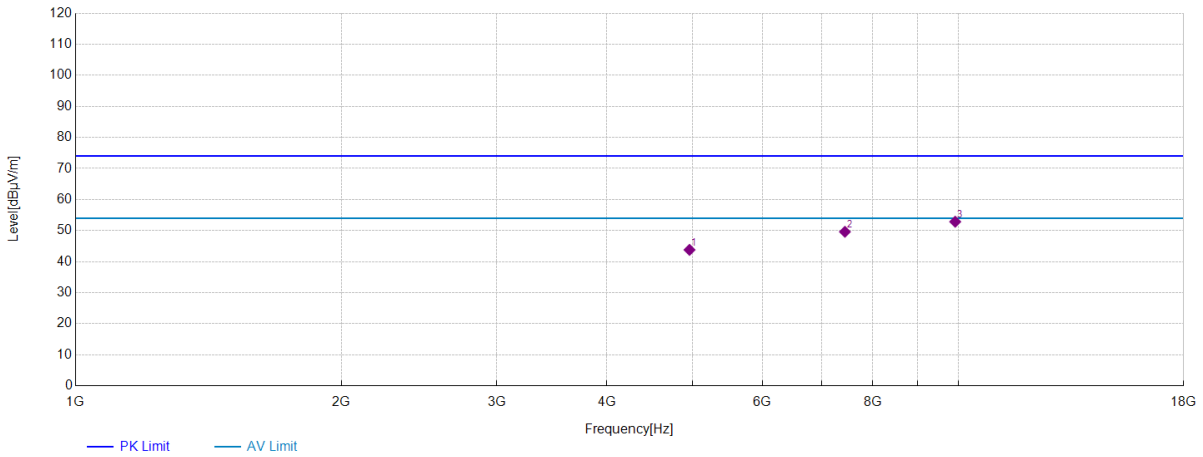
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	57.67	32.98	-47.70	42.95	74.00	31.05	Horizontal
2	7320	56.18	37.02	-44.06	49.14	74.00	24.86	Horizontal
3	9760	53.68	38.82	-40.47	52.03	74.00	21.97	Horizontal

BLE 1M_Channel 19



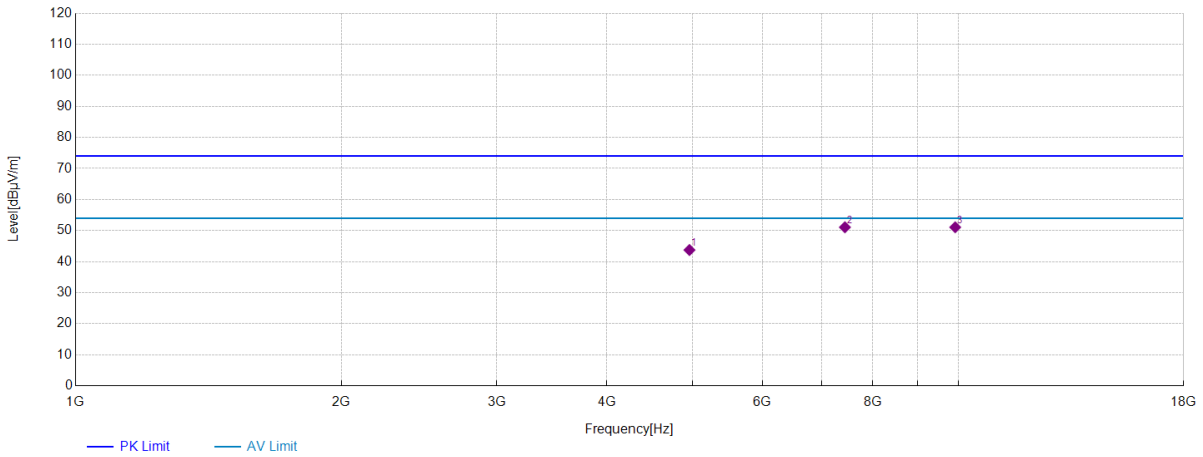
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	57.55	32.98	-47.70	42.83	74.00	31.17	Vertical
2	7320	56.32	37.02	-44.06	49.28	74.00	24.72	Vertical
3	9760	53.89	38.82	-40.47	52.24	74.00	21.76	Vertical

BLE 1M_Channel 39



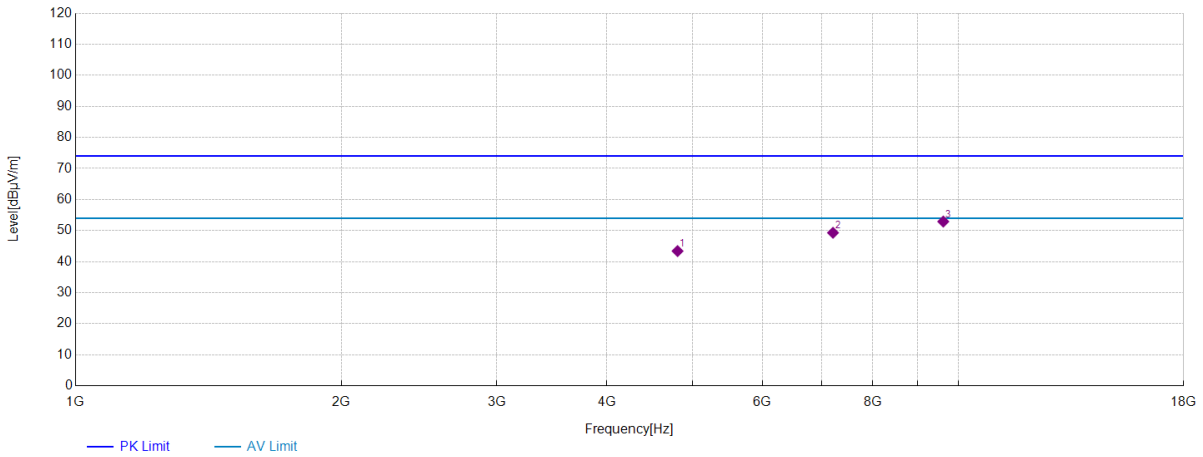
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	57.79	33.18	-47.17	43.80	74.00	30.20	Horizontal
2	7440	56.23	36.72	-43.33	49.62	74.00	24.38	Horizontal
3	9920	54.25	38.98	-40.37	52.86	74.00	21.14	Horizontal

BLE 1M_Channel 39



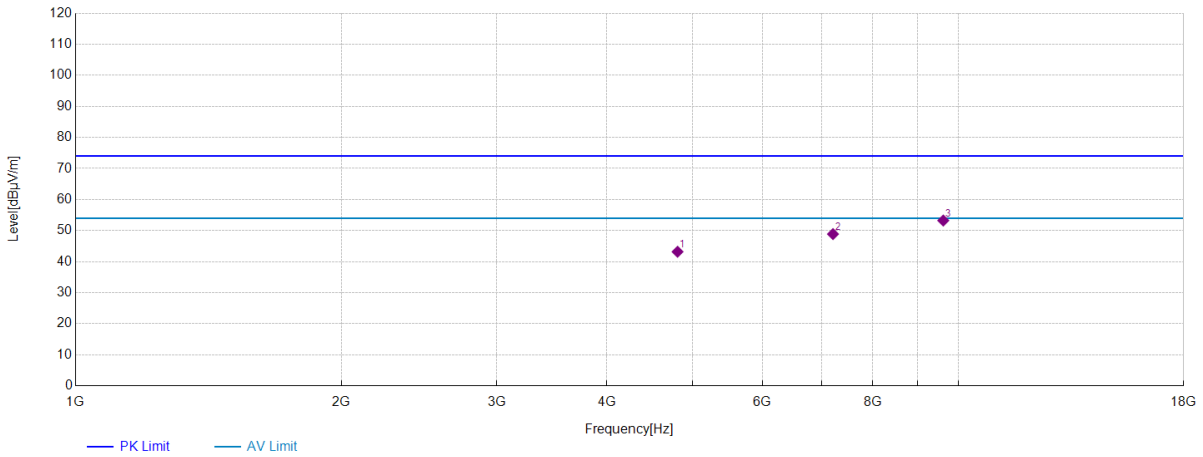
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	57.74	33.18	-47.17	43.75	74.00	30.25	Vertical
2	7440	57.68	36.72	-43.33	51.07	74.00	22.93	Vertical
3	9920	52.46	38.98	-40.37	51.07	74.00	22.93	Vertical

BLE 2M_Channel 0



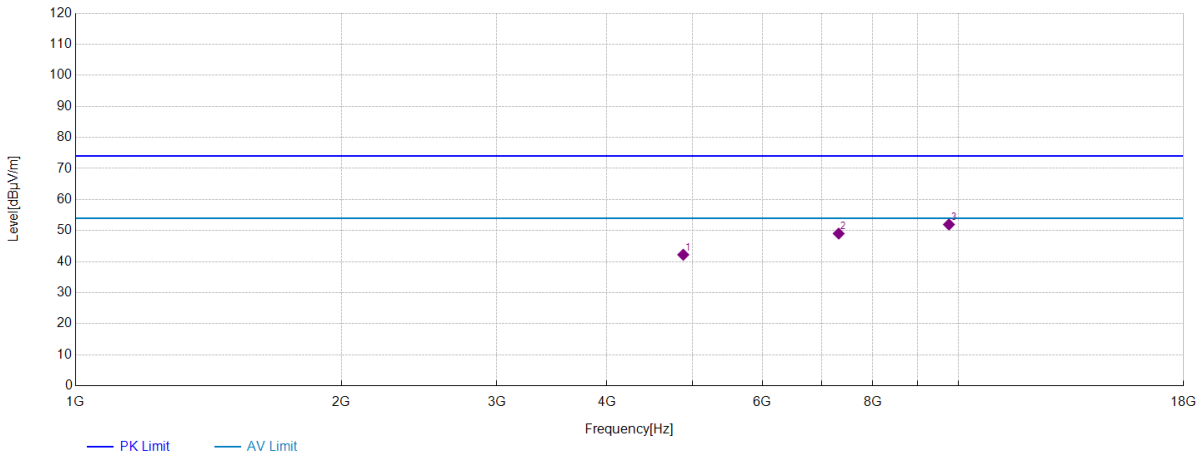
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4808	58.67	32.46	-47.72	43.41	74.00	30.59	Horizontal
2	7212	56.41	37.12	-44.23	49.30	74.00	24.70	Horizontal
3	9616	54.43	39.07	-40.58	52.92	74.00	21.08	Horizontal

BLE 2M_Channel 0



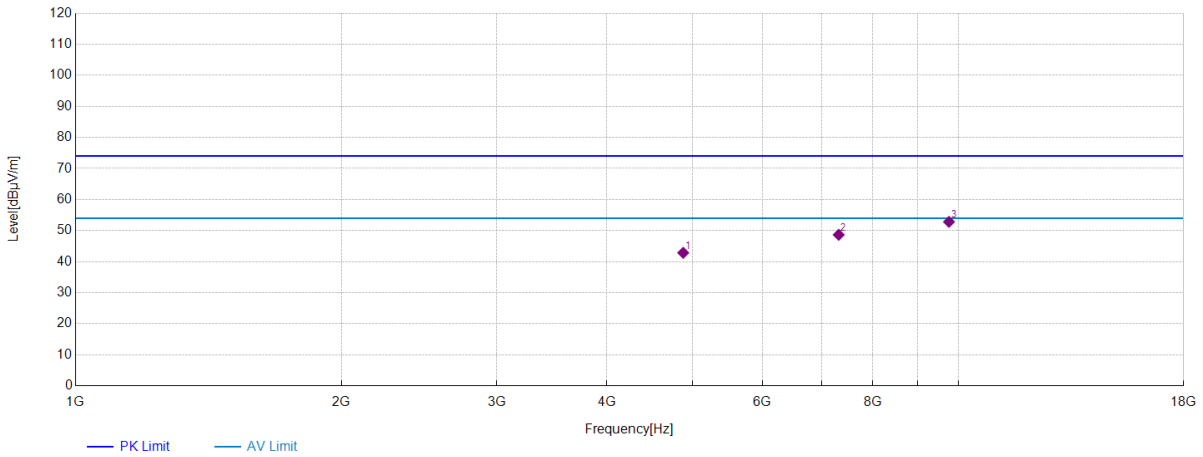
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4808	58.45	32.46	-47.72	43.19	74.00	30.81	Vertical
2	7212	56.00	37.12	-44.23	48.89	74.00	25.11	Vertical
3	9616	54.75	39.07	-40.58	53.24	74.00	20.76	Vertical

BLE 2M_Channel 19



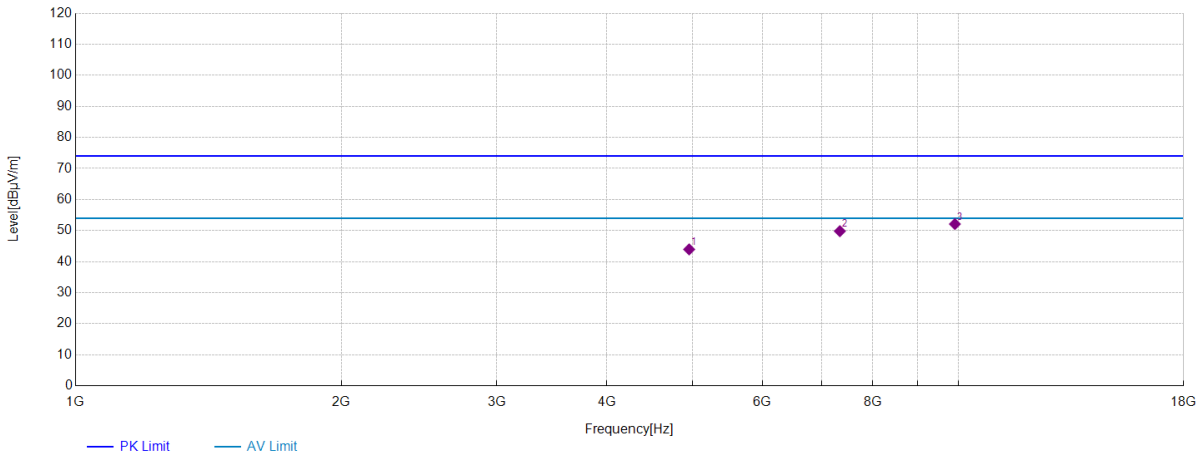
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	56.95	32.98	-47.70	42.23	74.00	31.77	Horizontal
2	7320	56.08	37.02	-44.06	49.04	74.00	24.96	Horizontal
3	9760	53.61	38.82	-40.47	51.96	74.00	22.04	Horizontal

BLE 2M_Channel 19



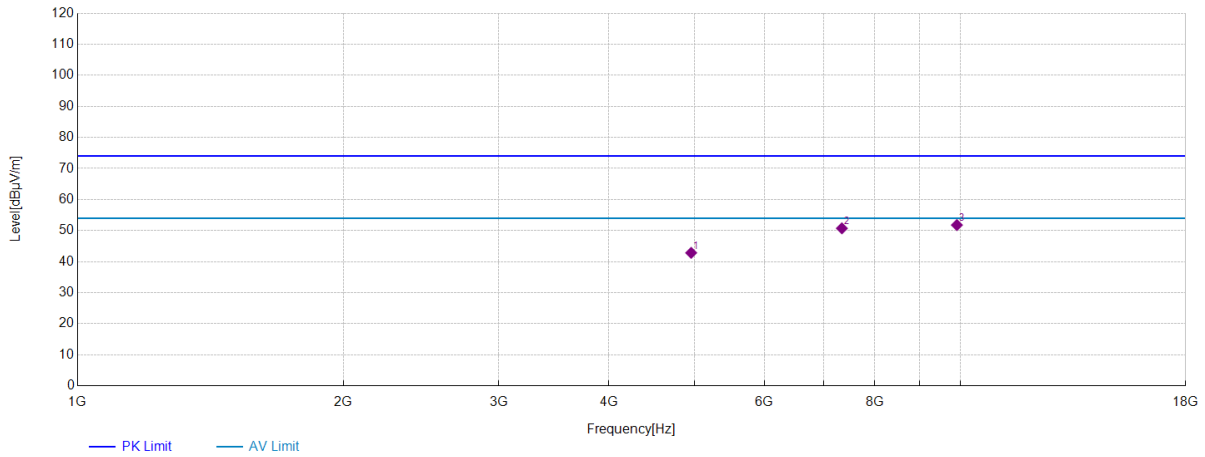
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	57.57	32.98	-47.70	42.85	74.00	31.15	Vertical
2	7320	55.69	37.02	-44.06	48.65	74.00	25.35	Vertical
3	9760	54.47	38.82	-40.47	52.82	74.00	21.18	Vertical

BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4956	57.91	33.19	-47.15	43.95	74.00	30.05	Horizontal
2	7343	56.48	36.93	-43.59	49.82	74.00	24.18	Horizontal
3	9912	53.45	39.03	-40.37	52.11	74.00	21.89	Horizontal

BLE 2M_Channel 39

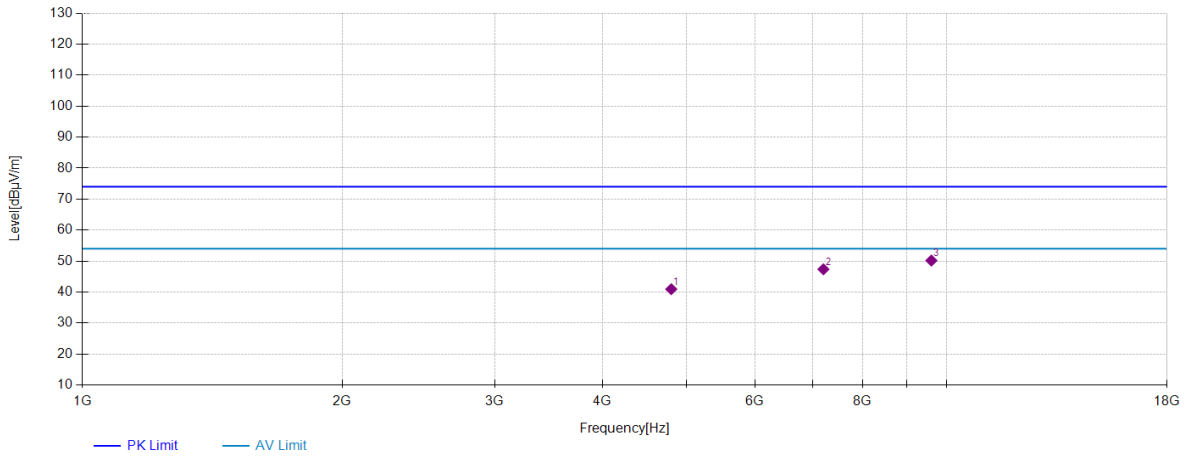


Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4956	56.80	33.19	-47.15	42.84	74.00	31.16	Vertical
2	7343	57.39	36.93	-43.59	50.73	74.00	23.27	Vertical
3	9912	53.13	39.03	-40.37	51.79	74.00	22.21	Vertical

Remark:

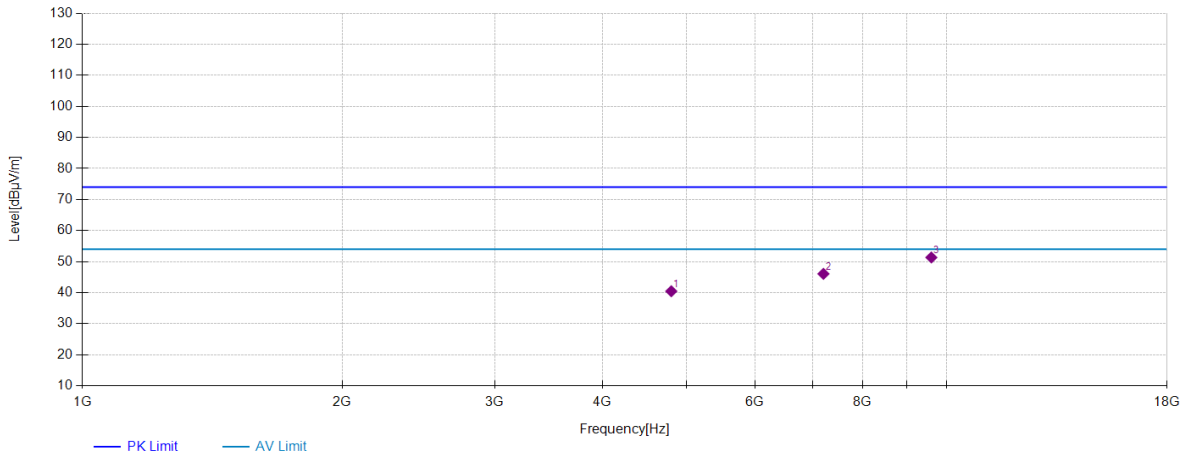
1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:
   Level = Reading(dBµV) + AF(dB/m) + Factor(dB):
   AF = Antenna Factor(dB/m)
   Factor = Cable Factor(dB) - Preamplifier gain(dB)
   Margin = Limit(dBµV/m) – Level(dBµV/m)
2) All channels have been tested, but only the worst case data displayed in this report.

F9E1A
BLE 1M_Channel0



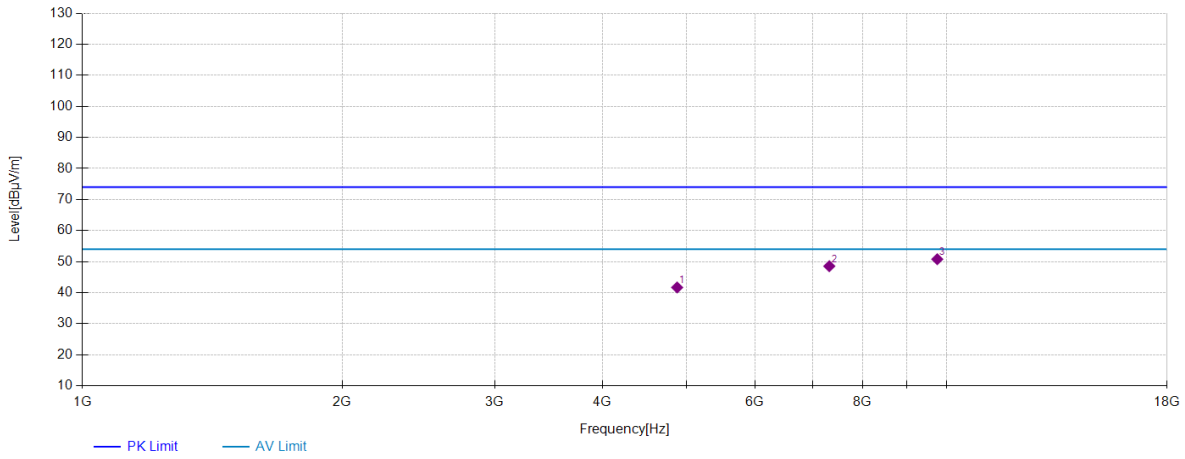
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	52.81	30.78	-42.64	40.95	74.00	33.05	Horizontal
2	7206	49.05	36.56	-38.24	47.37	74.00	26.63	Horizontal
3	9608	47.36	37.85	-35.02	50.19	74.00	23.81	Horizontal

BLE 1M_Channel0



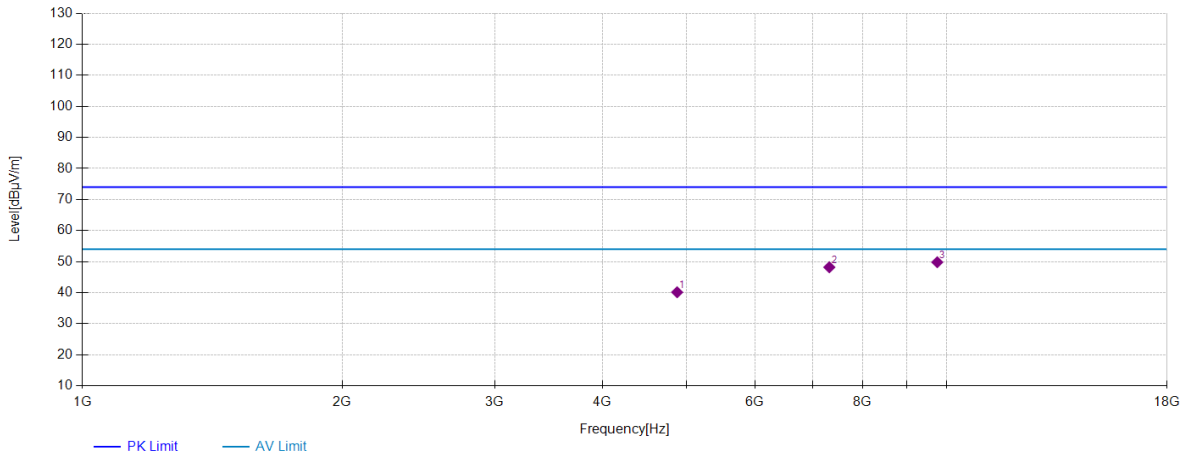
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	52.34	30.78	-42.64	40.48	74.00	33.52	Vertical
2	7206	47.76	36.56	-38.24	46.08	74.00	27.92	Vertical
3	9608	48.52	37.85	-35.02	51.35	74.00	22.65	Vertical

BLE 1M_Channel19



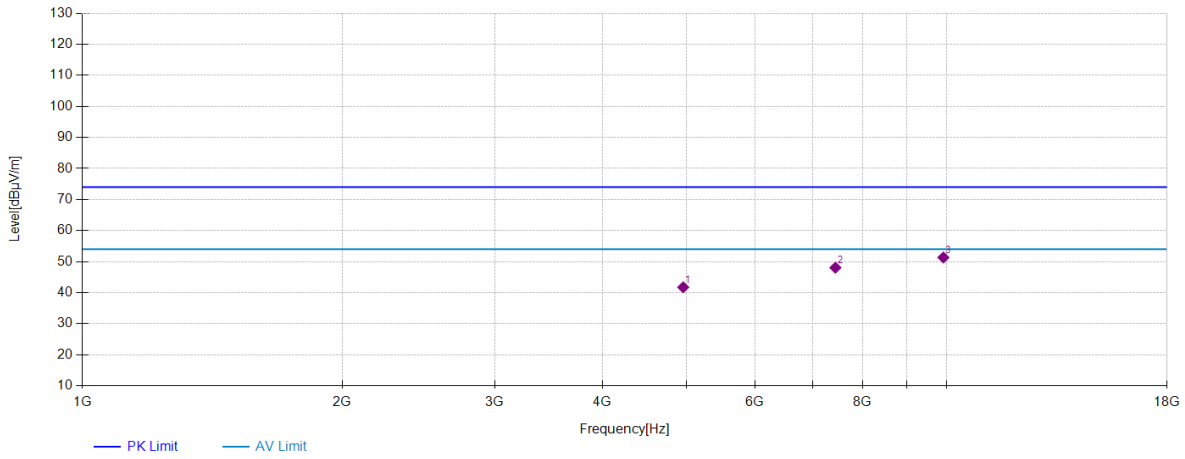
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	53.43	30.78	-42.52	41.69	74.00	32.31	Horizontal
2	7320	50.43	36.44	-38.32	48.55	74.00	25.45	Horizontal
3	9760	47.79	38.34	-35.33	50.80	74.00	23.20	Horizontal

BLE 1M_Channel19



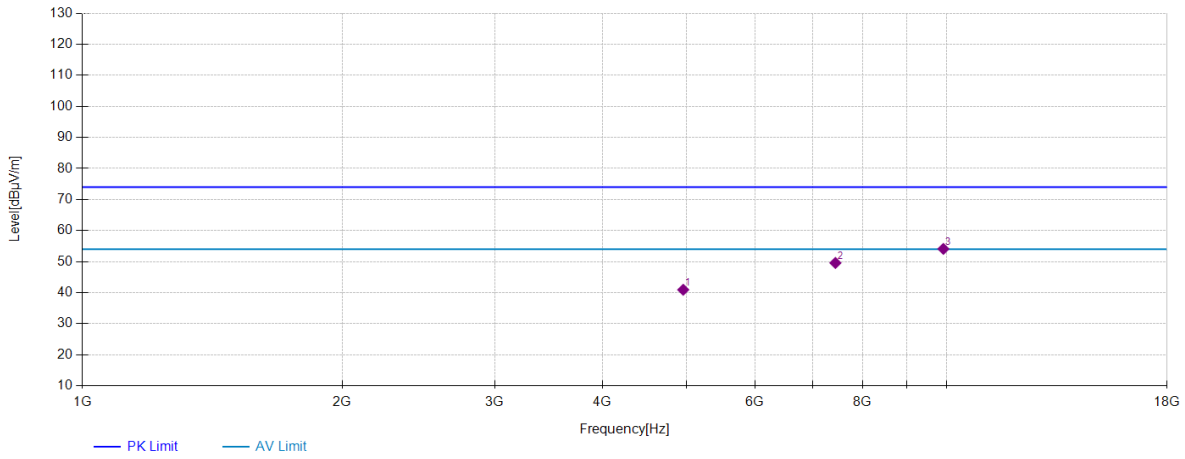
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	51.89	30.78	-42.52	40.15	74.00	33.85	Vertical
2	7320	50.08	36.44	-38.32	48.20	74.00	25.80	Vertical
3	9760	46.82	38.34	-35.33	49.83	74.00	24.17	Vertical

BLE 1M_Channel39



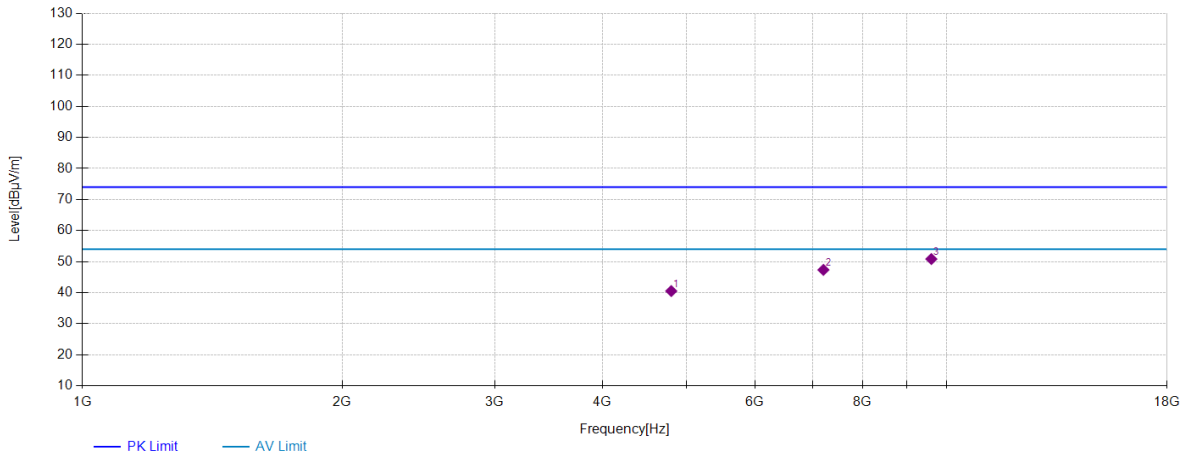
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	53.16	31.04	-42.44	41.76	74.00	32.24	Horizontal
2	7440	49.05	36.78	-37.77	48.06	74.00	25.94	Horizontal
3	9920	47.46	38.62	-34.75	51.33	74.00	22.67	Horizontal

BLE 1M_Channel39



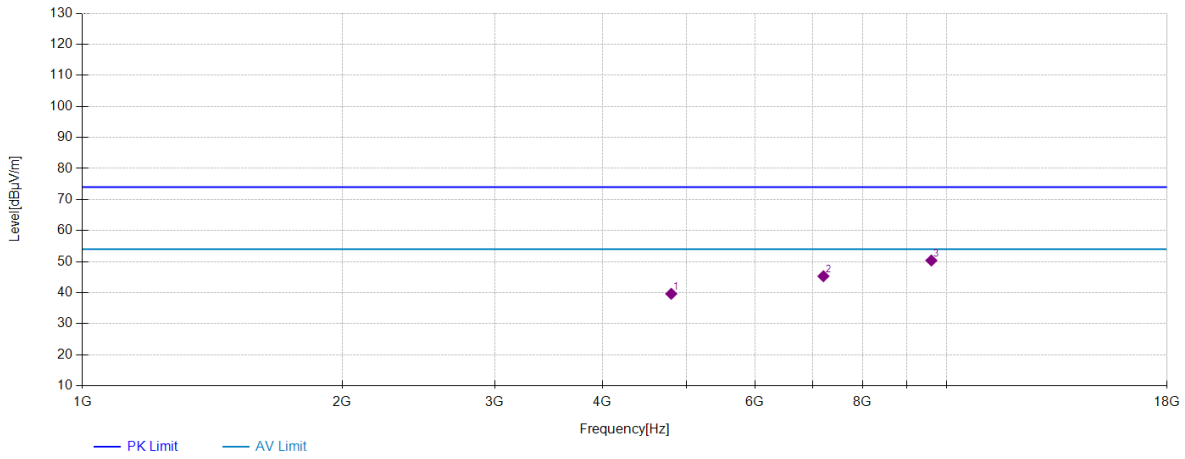
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	52.36	31.04	-42.44	40.96	74.00	33.04	Vertical
2	7440	50.58	36.78	-37.77	49.59	74.00	24.41	Vertical
3	9920	50.24	38.62	-34.75	54.11	74.00	19.89	Vertical

BLE 2M_Channel 0



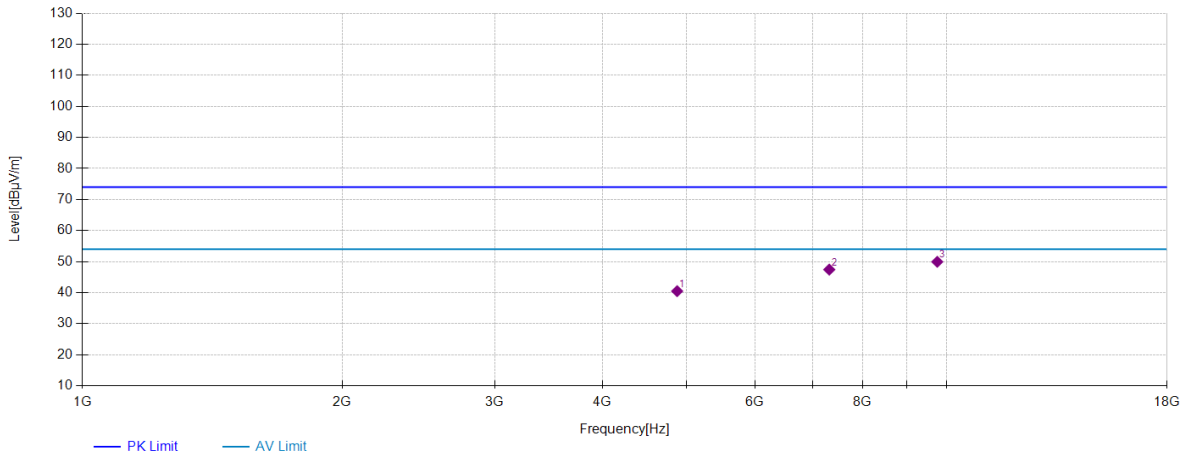
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	52.40	30.78	-42.64	40.54	74.00	33.46	Horizontal
2	7206	49.04	36.56	-38.24	47.36	74.00	26.64	Horizontal
3	9608	48.02	37.85	-35.02	50.85	74.00	23.15	Horizontal

BLE 2M_Channel 0



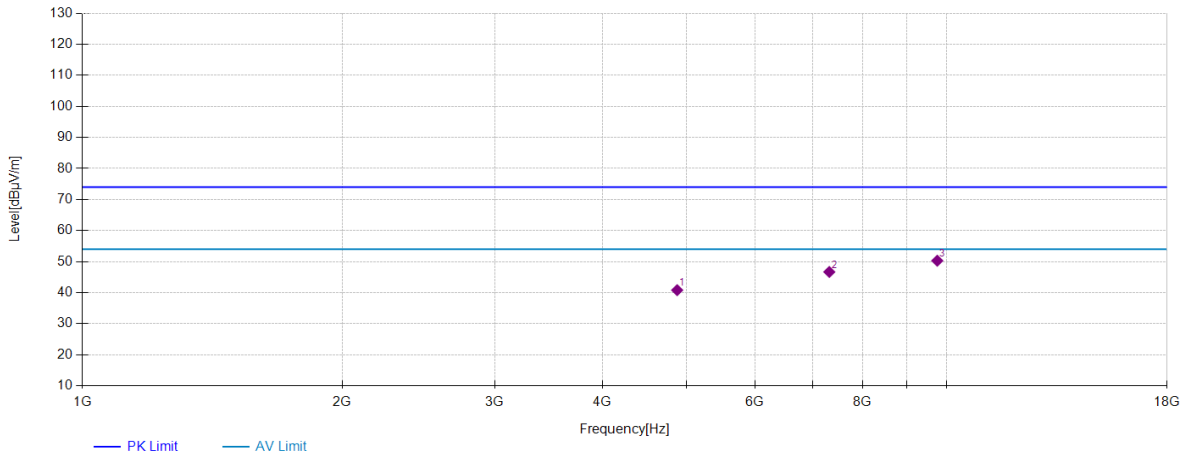
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4804	51.51	30.78	-42.64	39.65	74.00	34.35	Vertical
2	7206	47.00	36.56	-38.24	45.32	74.00	28.68	Vertical
3	9608	47.55	37.85	-35.02	50.38	74.00	23.62	Vertical

BLE 2M_Channel 19



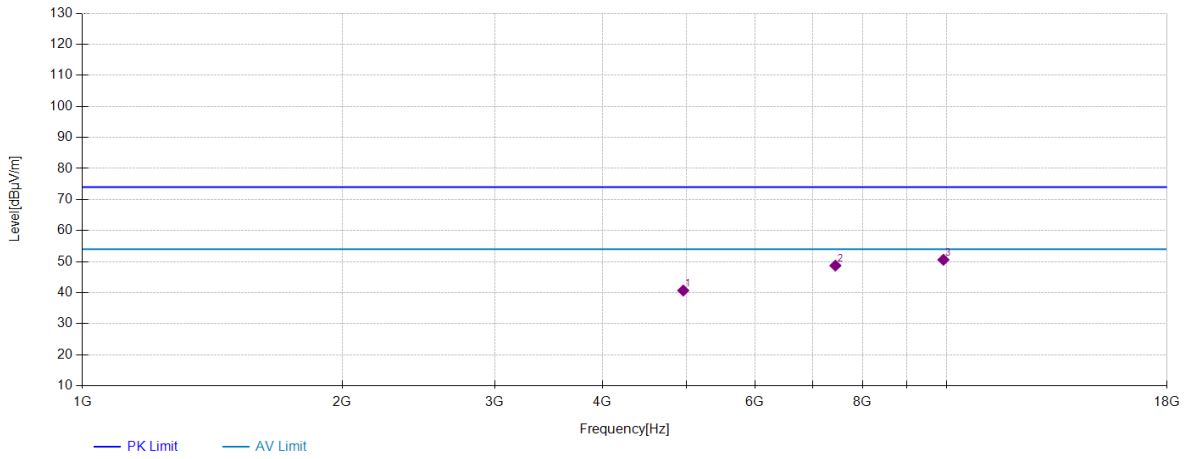
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	52.25	30.78	-42.52	40.51	74.00	33.49	Horizontal
2	7320	49.33	36.44	-38.32	47.45	74.00	26.55	Horizontal
3	9760	46.94	38.34	-35.33	49.95	74.00	24.05	Horizontal

BLE 2M_Channel 19



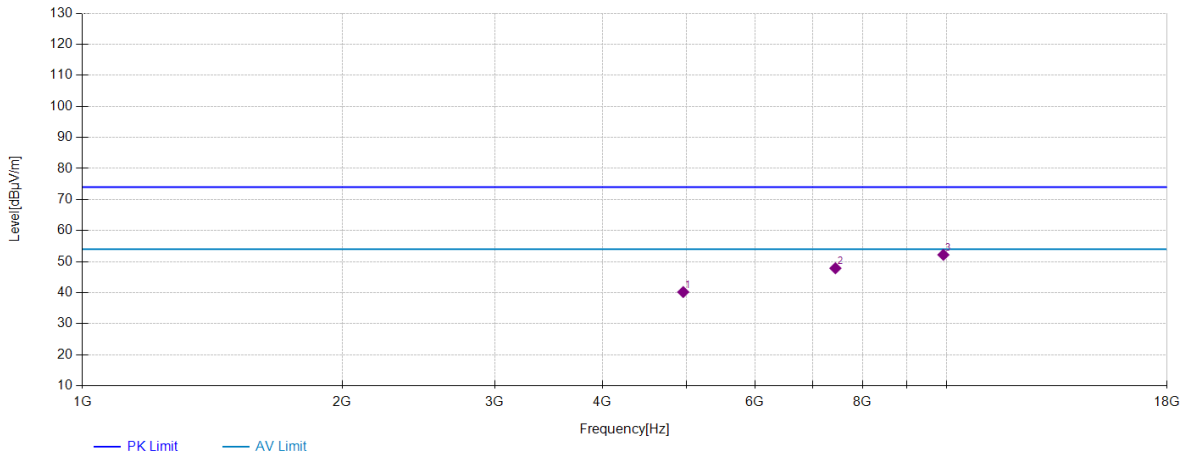
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4880	52.57	30.78	-42.52	40.83	74.00	33.17	Vertical
2	7320	48.57	36.44	-38.32	46.69	74.00	27.31	Vertical
3	9760	47.29	38.34	-35.33	50.30	74.00	23.70	Vertical

BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	52.12	31.04	-42.44	40.72	74.00	33.28	Horizontal
2	7440	49.72	36.78	-37.77	48.73	74.00	25.27	Horizontal
3	9920	46.74	38.62	-34.75	50.61	74.00	23.39	Horizontal

BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4960	51.62	31.04	-42.44	40.22	74.00	33.78	Vertical
2	7440	48.87	36.78	-37.77	47.88	74.00	26.12	Vertical
3	9920	48.34	38.62	-34.75	52.21	74.00	21.79	Vertical

R Remark:

3) 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)

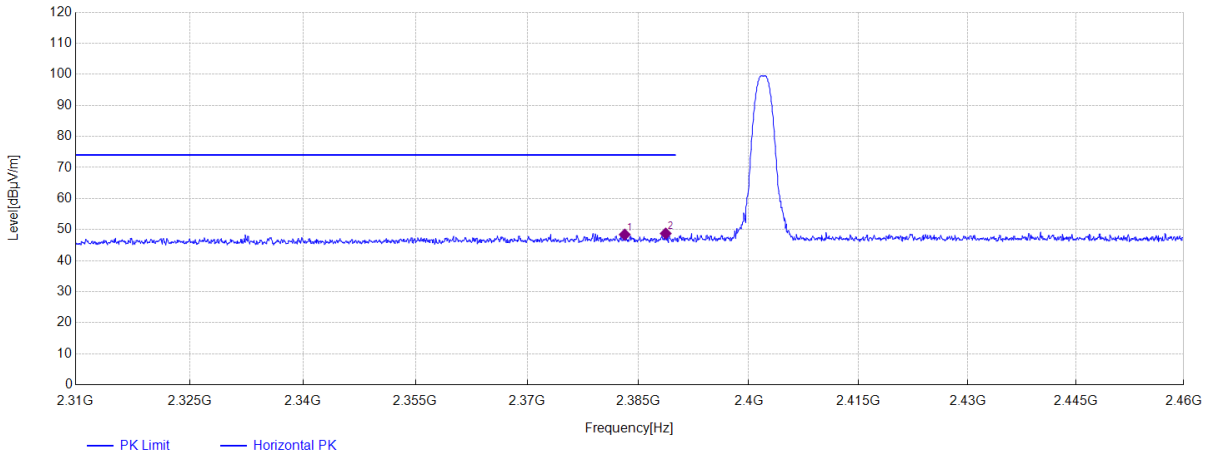
4) All channels have been tested, but only the worst case data displayed in this report.

emark:

Restricted bands around fundamental frequency

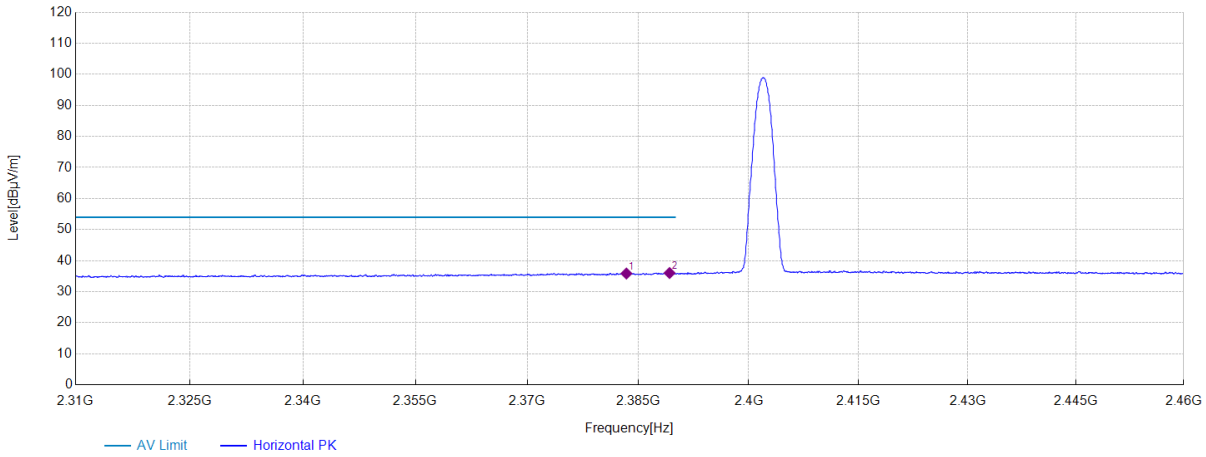
F961A

802.BLE 1M_Channel 0



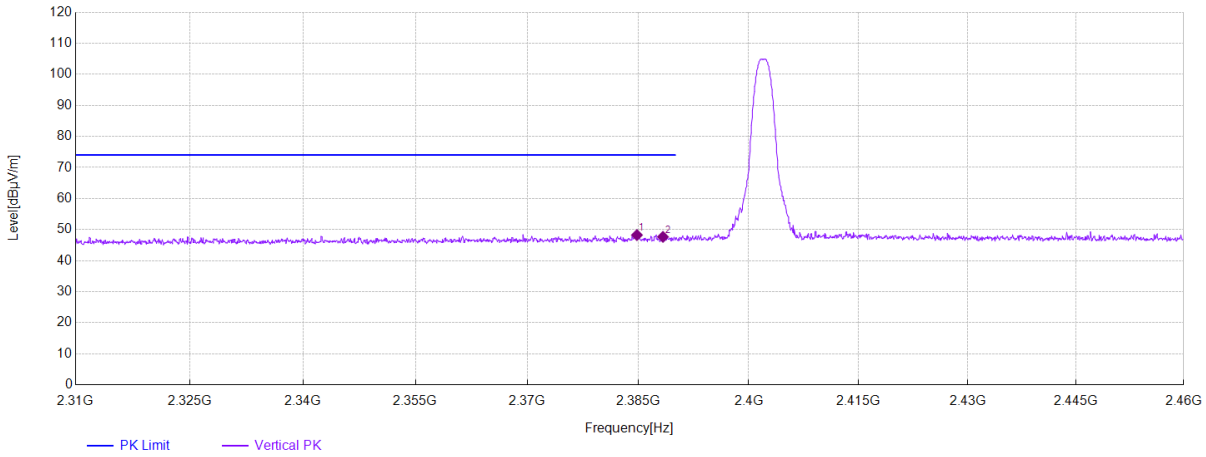
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2383.1616	37.87	27.83	-17.30	48.40	74.00	25.60	Horizontal
2	2388.7144	38.15	27.82	-17.22	48.75	74.00	25.25	Horizontal

802.BLE 1M_Channel 0



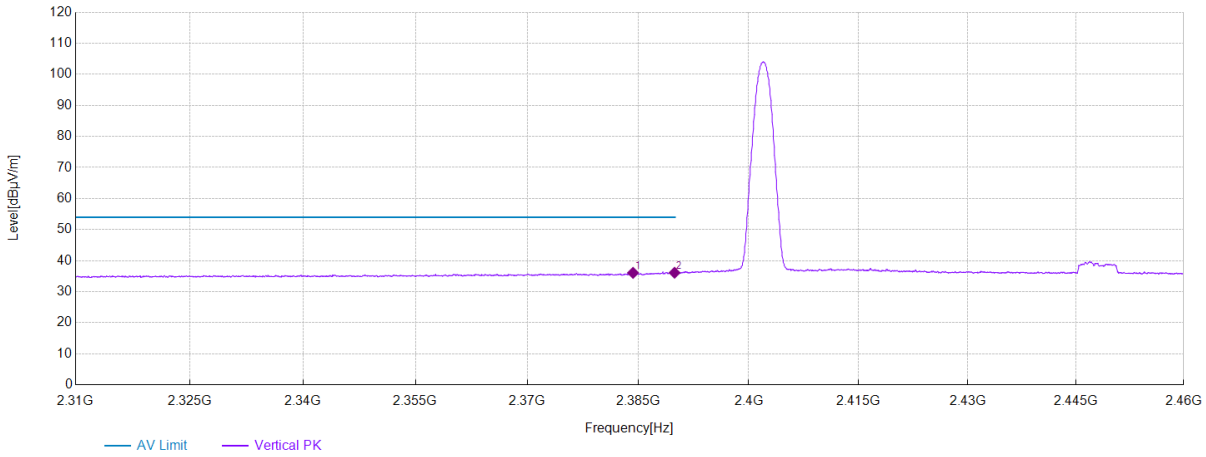
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2383.3867	25.32	27.83	-17.29	35.86	54.00	18.14	Horizontal
2	2389.2396	25.42	27.82	-17.21	36.03	54.00	17.97	Horizontal

802.BLE 1M_Channel 0



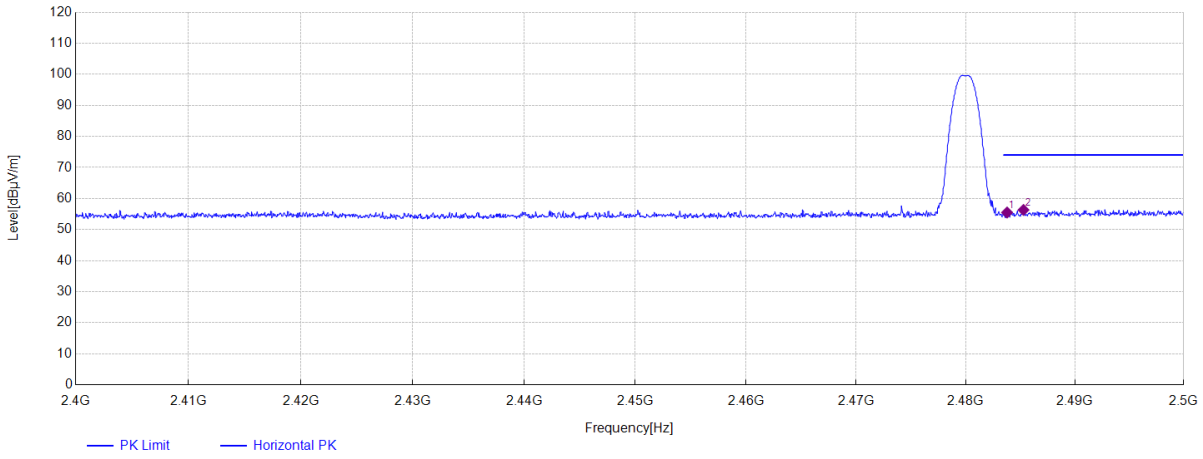
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2384.8124	37.68	27.83	-17.27	48.24	74.00	25.76	Vertical
2	2388.3392	37.06	27.82	-17.22	47.66	74.00	26.34	Vertical

802.BLE 1M_Channel 0



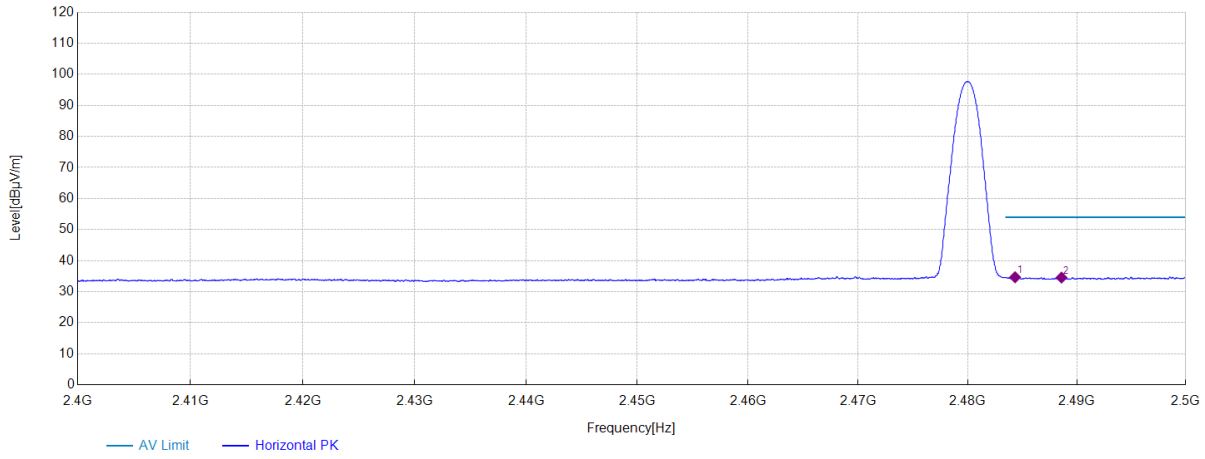
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2384.2871	25.53	27.83	-17.28	36.08	54.00	17.92	Vertical
2	2389.915	25.50	27.82	-17.20	36.12	54.00	17.88	Vertical

802.BLE 1M_Channel 39



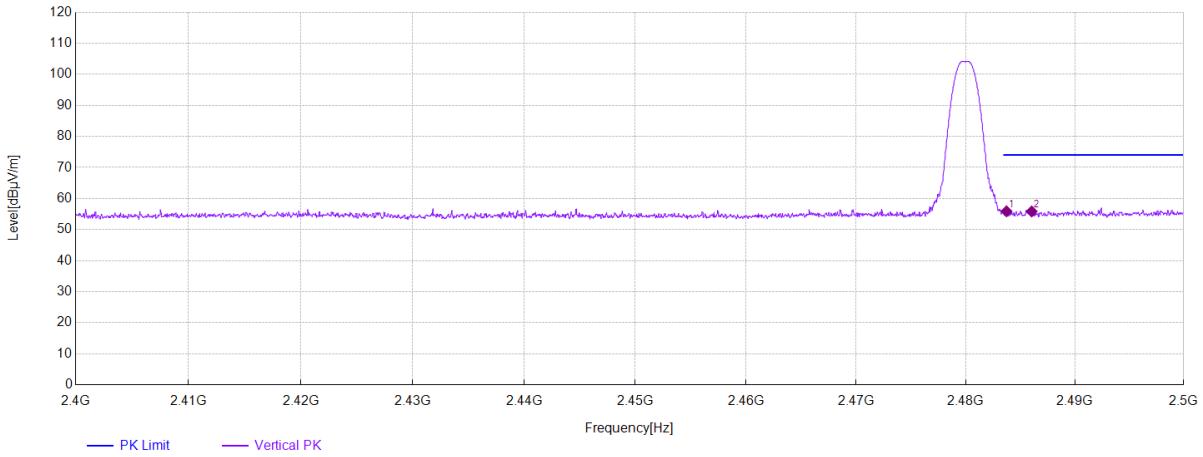
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.7919	46.62	27.97	-19.09	55.50	74.00	18.50	Horizontal
2	2485.2926	47.43	27.97	-19.07	56.33	74.00	17.67	Horizontal

802.BLE 1M_Channel 39



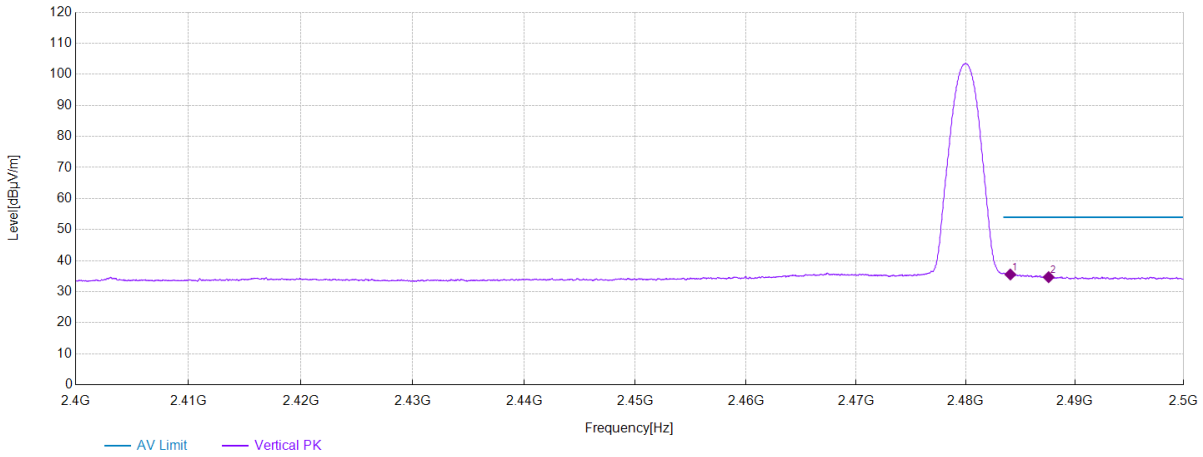
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.3422	25.76	27.97	-19.08	34.65	54.00	19.35	Horizontal
2	2488.5943	25.58	27.98	-19.01	34.55	54.00	19.45	Horizontal

802.BLE 1M_Channel 39



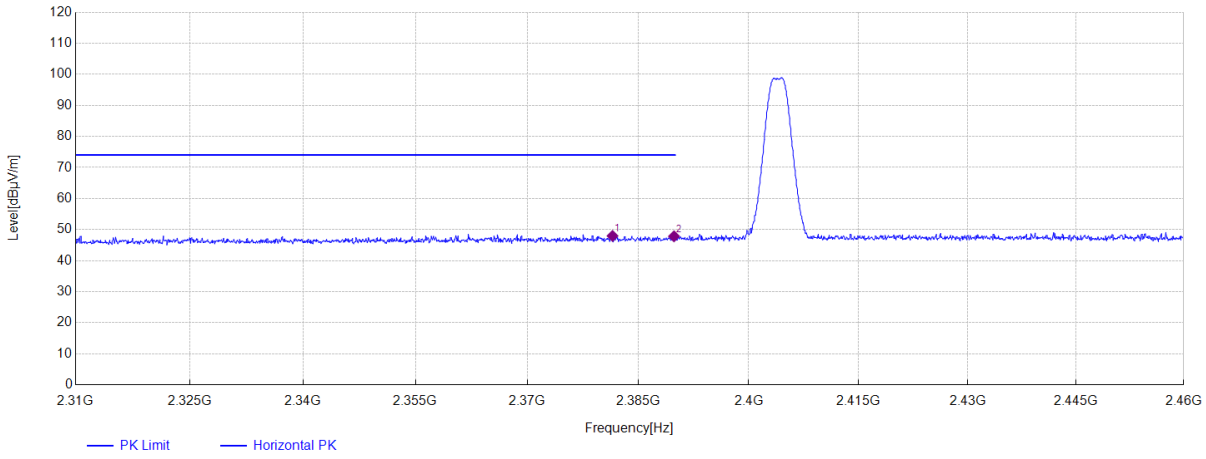
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.7419	47.01	27.97	-19.09	55.89	74.00	18.11	Vertical
2	2486.043	46.93	27.97	-19.05	55.85	74.00	18.15	Vertical

802.BLE 1M_Channel 39



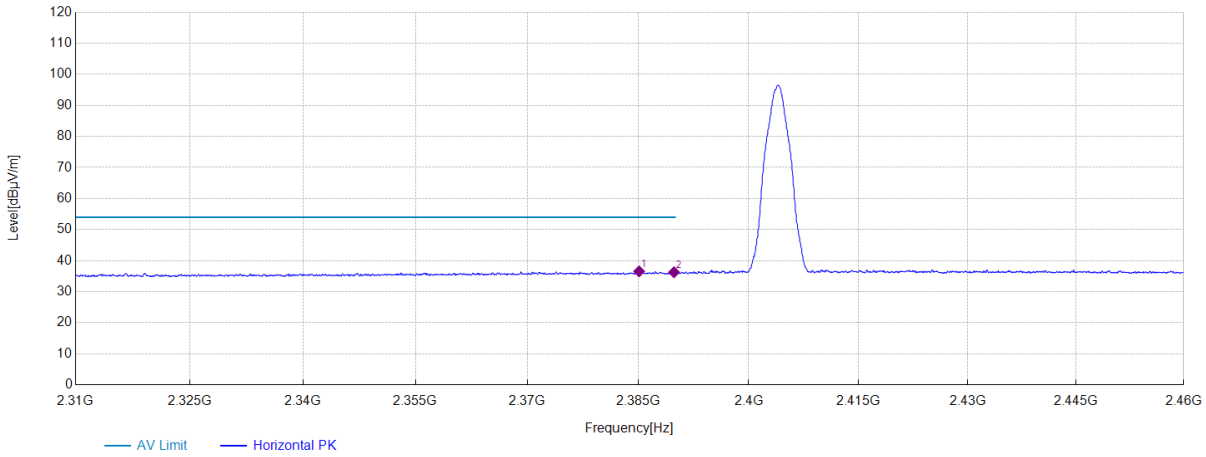
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.092	26.66	27.97	-19.08	35.55	54.00	18.45	Vertical
2	2487.5938	25.74	27.98	-19.03	34.69	54.00	19.31	Vertical

802.BLE 2M_Channel 0



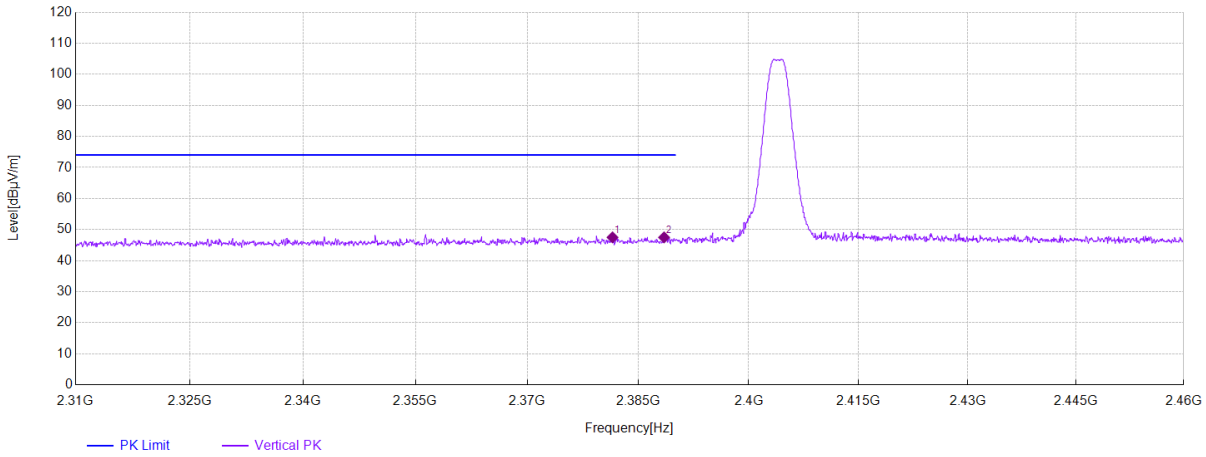
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2381.5108	37.44	27.84	-17.32	47.96	74.00	26.04	Horizontal
2	2389.8399	37.22	27.82	-17.20	47.84	74.00	26.16	Horizontal

802.BLE 2M_Channel 0



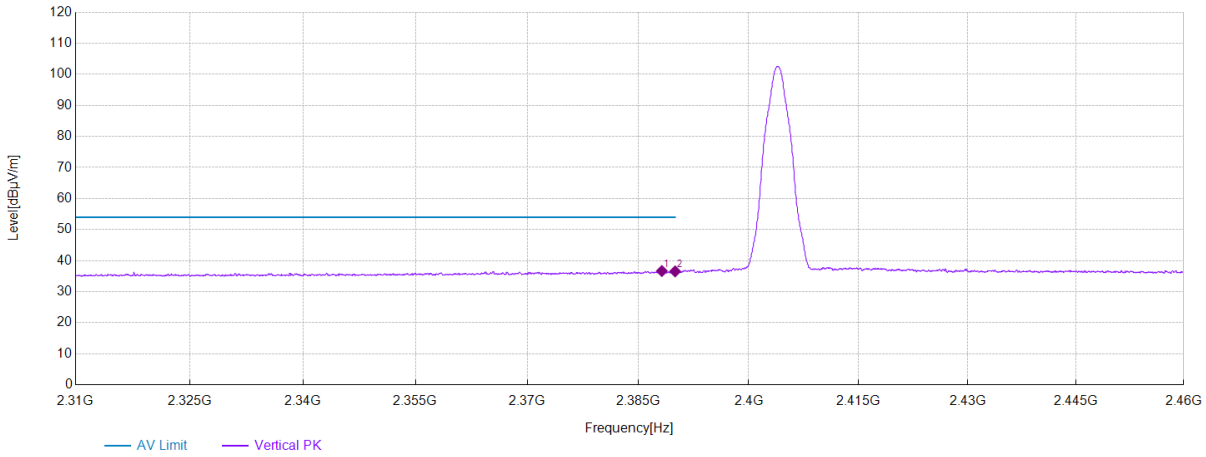
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2385.1126	25.98	27.83	-17.27	36.54	54.00	17.46	Horizontal
2	2389.8399	25.65	27.82	-17.20	36.27	54.00	17.73	Horizontal

802.BLE 2M_Channel 0



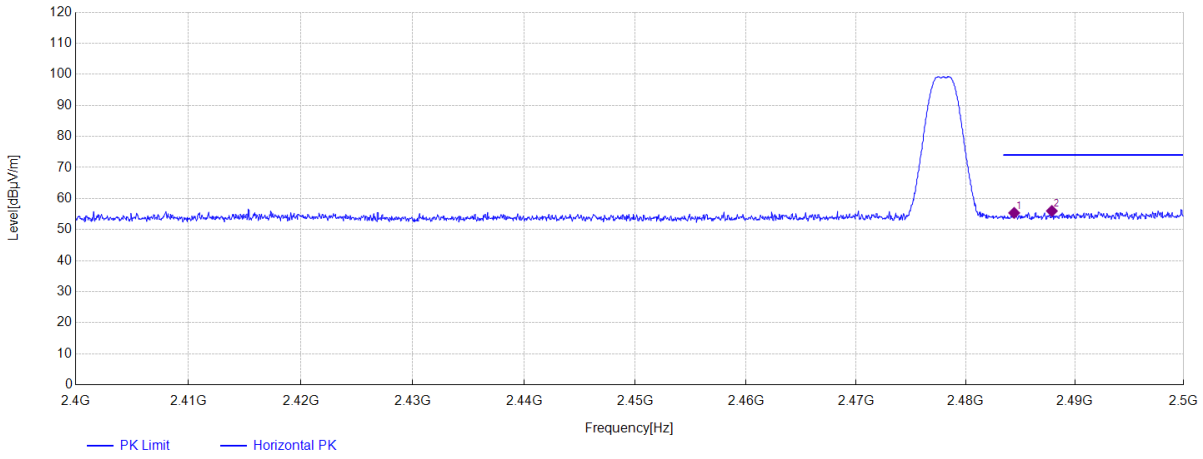
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2381.5108	36.98	27.84	-17.32	47.50	74.00	26.50	Vertical
2	2388.4892	36.89	27.82	-17.22	47.49	74.00	26.51	Vertical

802.BLE 2M_Channel 0



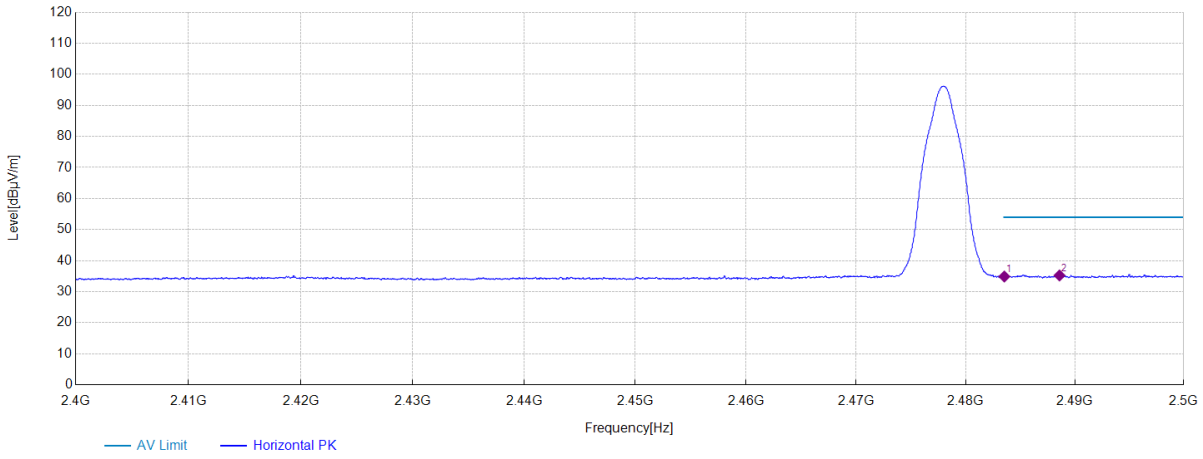
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2388.1891	26.08	27.82	-17.23	36.67	54.00	17.33	Vertical
2	2389.99	25.92	27.82	-17.20	36.54	54.00	17.46	Vertical

802.BLE 2M_Channel 39



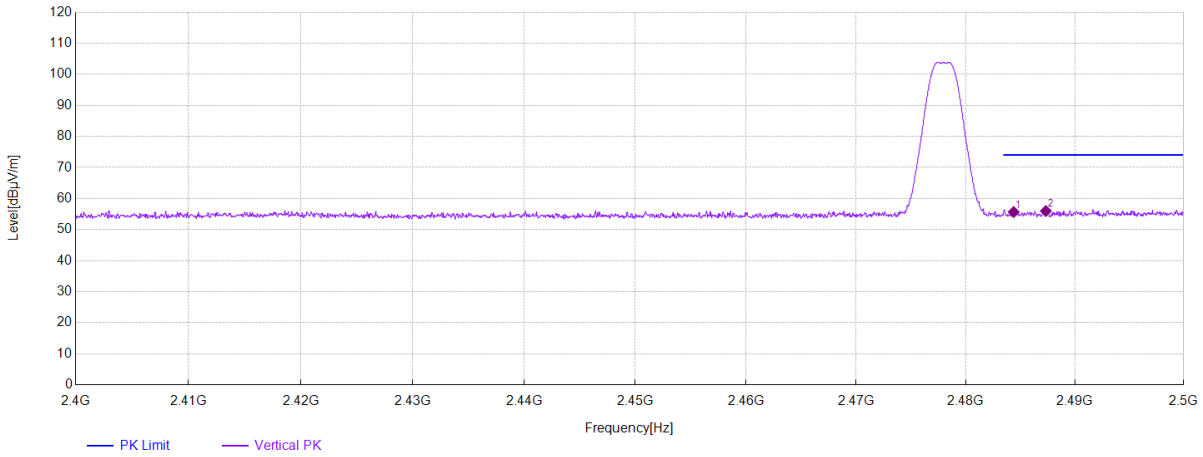
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.4422	46.48	27.97	-19.08	55.37	74.00	18.63	Horizontal
2	2487.8939	47.04	27.98	-19.02	56.00	74.00	18.00	Horizontal

802.BLE 2M_Channel 39



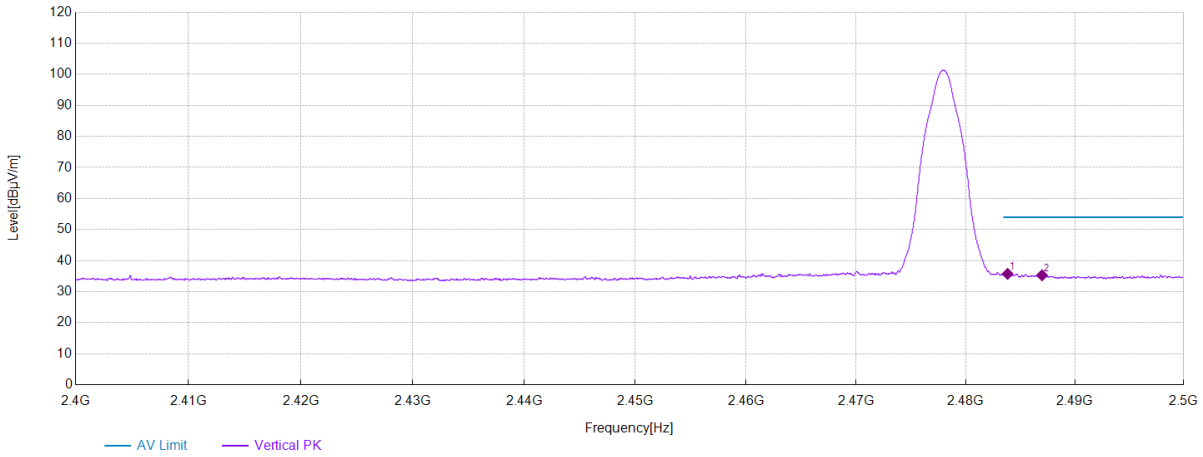
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.5418	26.01	27.97	-19.09	34.89	54.00	19.11	Horizontal
2	2488.5943	26.28	27.98	-19.01	35.25	54.00	18.75	Horizontal

802.BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.3922	46.78	27.97	-19.08	55.67	74.00	18.33	Vertical
2	2487.3437	47.04	27.97	-19.03	55.98	74.00	18.02	Vertical

802.BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.8419	26.86	27.97	-19.09	35.74	54.00	18.26	Vertical
2	2486.9935	26.35	27.97	-19.04	35.28	54.00	18.72	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)

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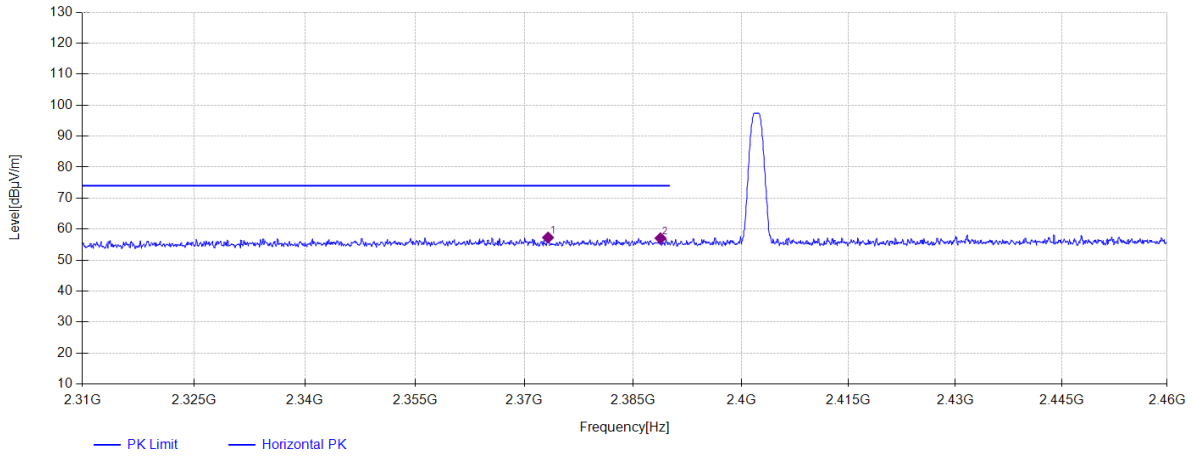
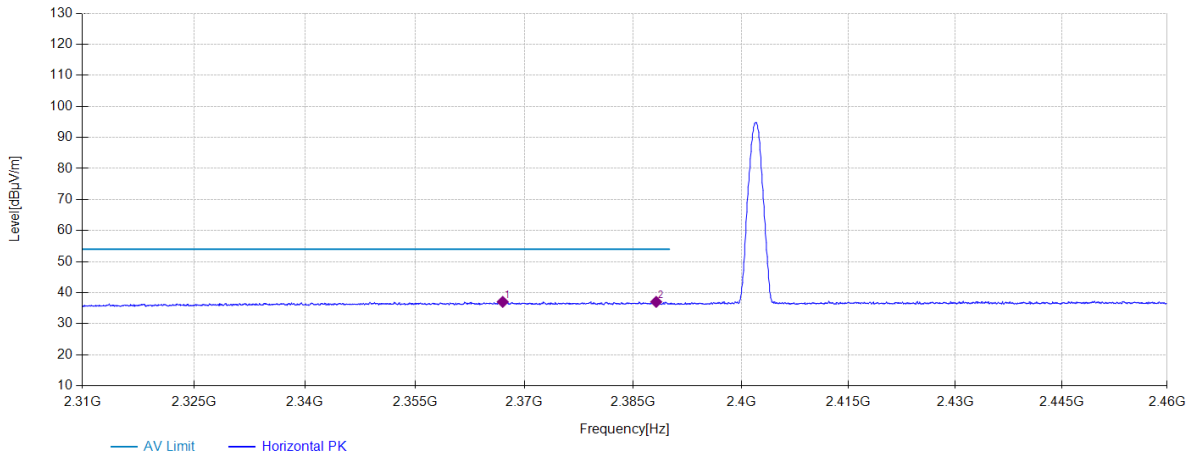
BLE 1M_Channel 0



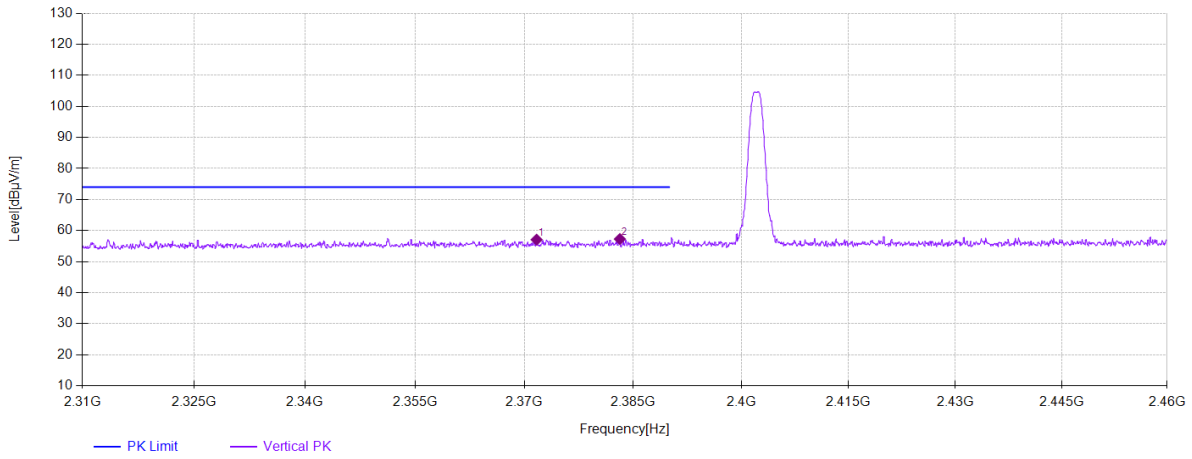
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2373.2566	47.09	27.51	-17.32	57.28	74.00	16.72	Horizontal
2	2388.7894	46.89	27.44	-17.26	57.07	74.00	16.93	Horizontal

BLE 1M_Channel 0



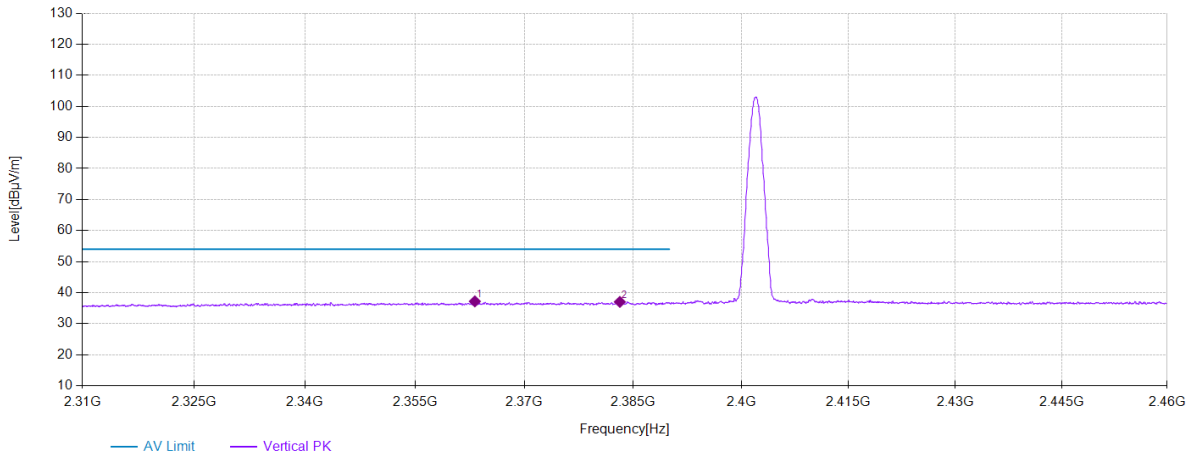
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2367.0285	26.87	27.53	-17.35	37.05	54.00	16.95	Horizontal
2	2388.1891	26.86	27.45	-17.26	37.05	54.00	16.95	Horizontal

BLE 1M_Channel 0



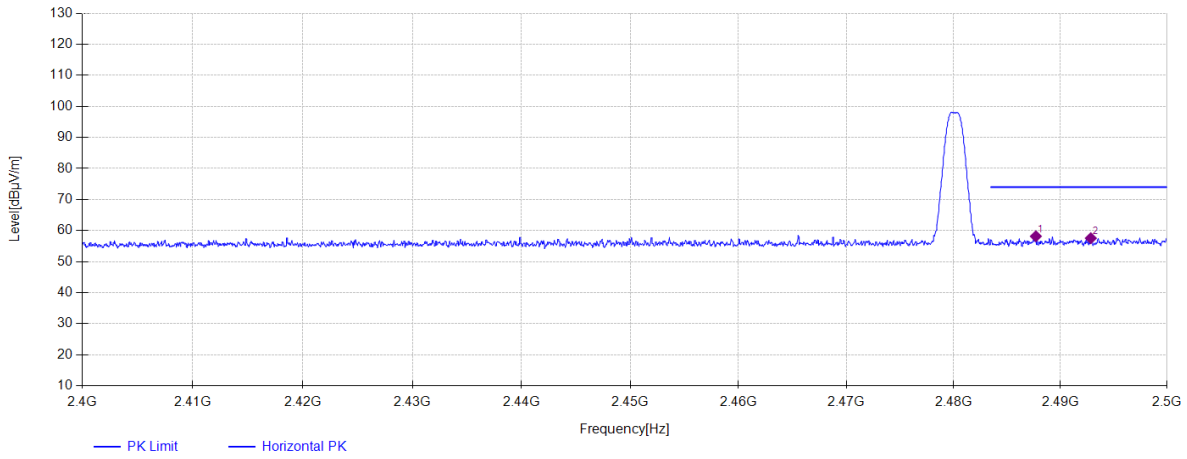
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2371.6808	46.89	27.51	-17.33	57.07	74.00	16.93	Vertical
2	2383.1616	47.09	27.47	-17.28	57.28	74.00	16.72	Vertical

BLE 1M_Channel 0



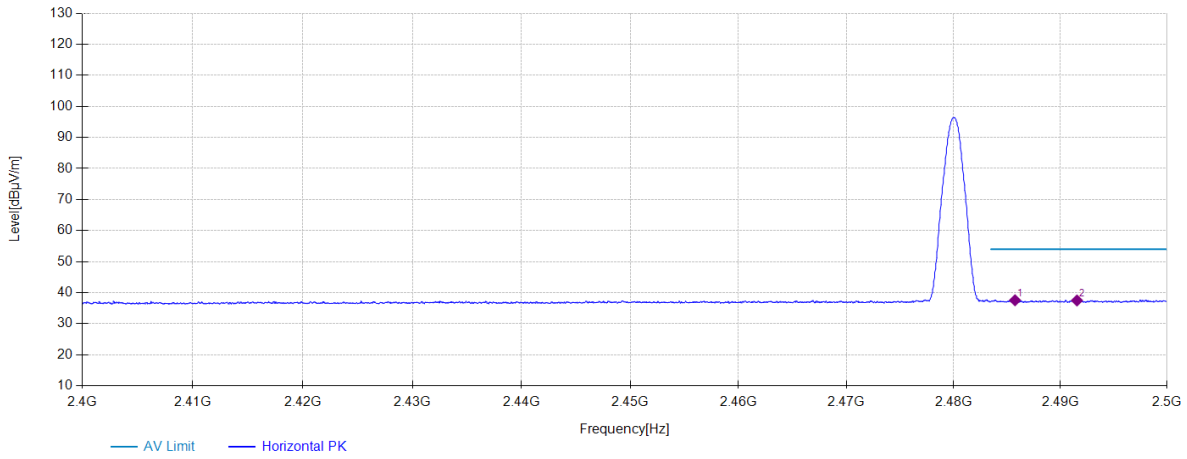
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2363.2016	27.03	27.55	-17.36	37.22	54.00	16.78	Vertical
2	2383.1616	26.85	27.47	-17.28	37.04	54.00	16.96	Vertical

BLE 1M_Channel 39



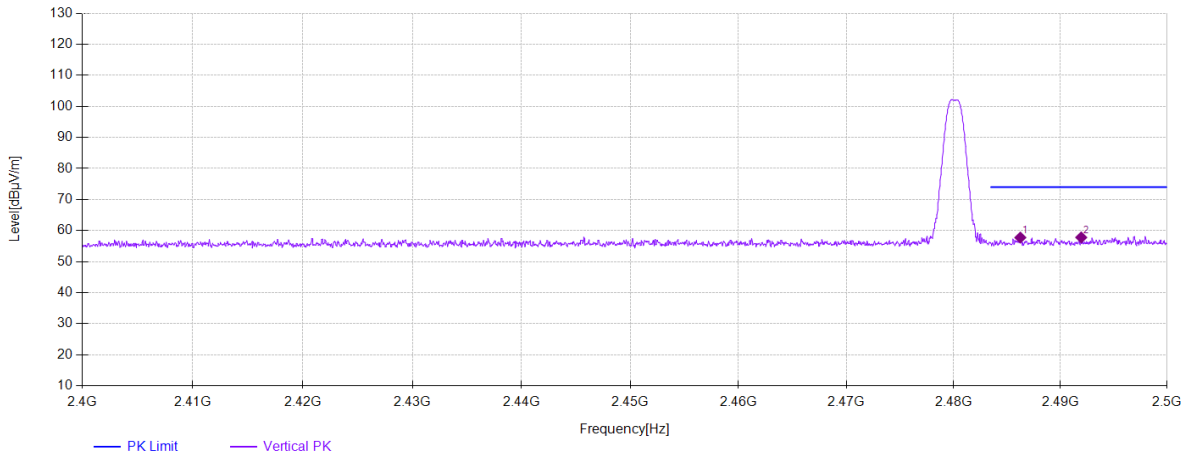
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2487.6938	47.59	27.75	-17.17	58.17	74.00	15.83	Horizontal
2	2492.8464	46.98	27.77	-17.20	57.55	74.00	16.45	Horizontal

BLE 1M_Channel 39



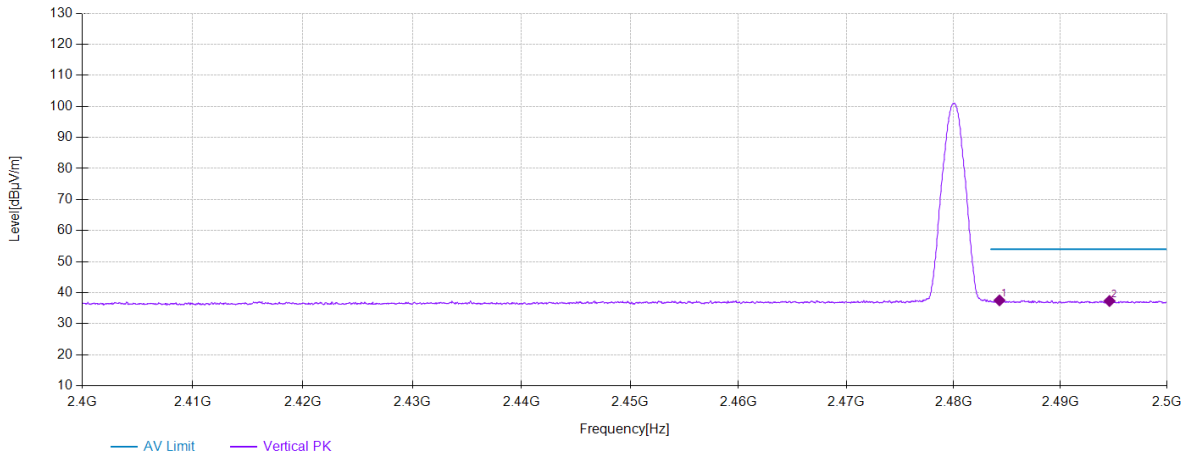
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2485.7429	26.99	27.74	-17.16	37.57	54.00	16.43	Horizontal
2	2491.5458	26.93	27.77	-17.20	37.50	54.00	16.50	Horizontal

BLE 1M_Channel 39



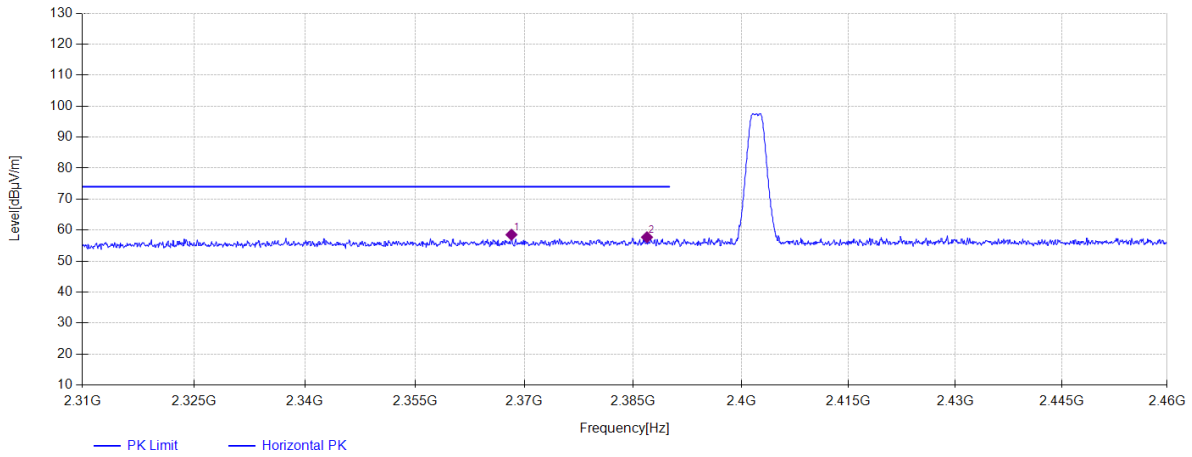
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2486.2431	47.18	27.74	-17.16	57.76	74.00	16.24	Vertical
2	2491.946	47.23	27.77	-17.20	57.80	74.00	16.20	Vertical

BLE 1M_Channel 39



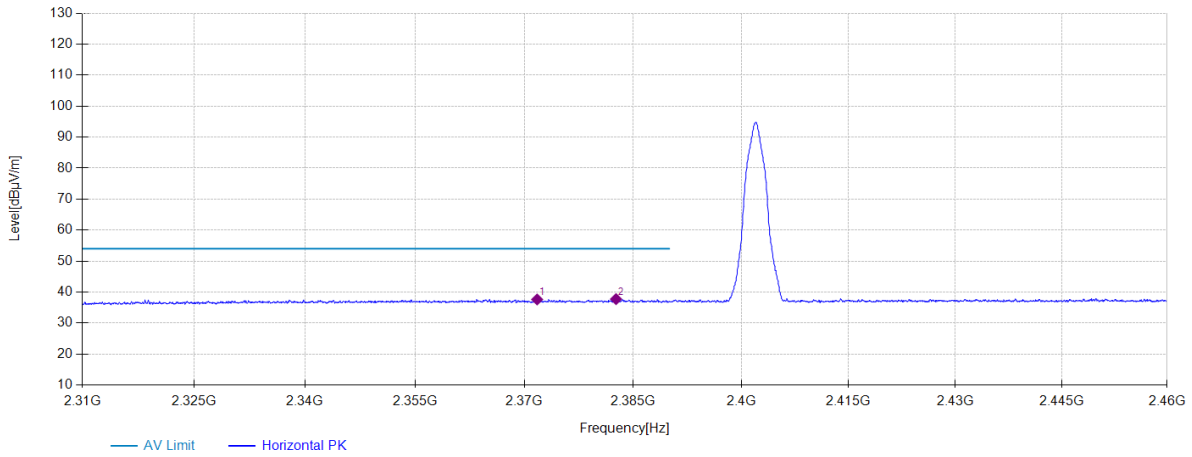
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.2921	26.95	27.74	-17.15	37.54	54.00	16.46	Vertical
2	2494.5973	26.77	27.78	-17.22	37.33	54.00	16.67	Vertical

BLE 2M_Channel 0



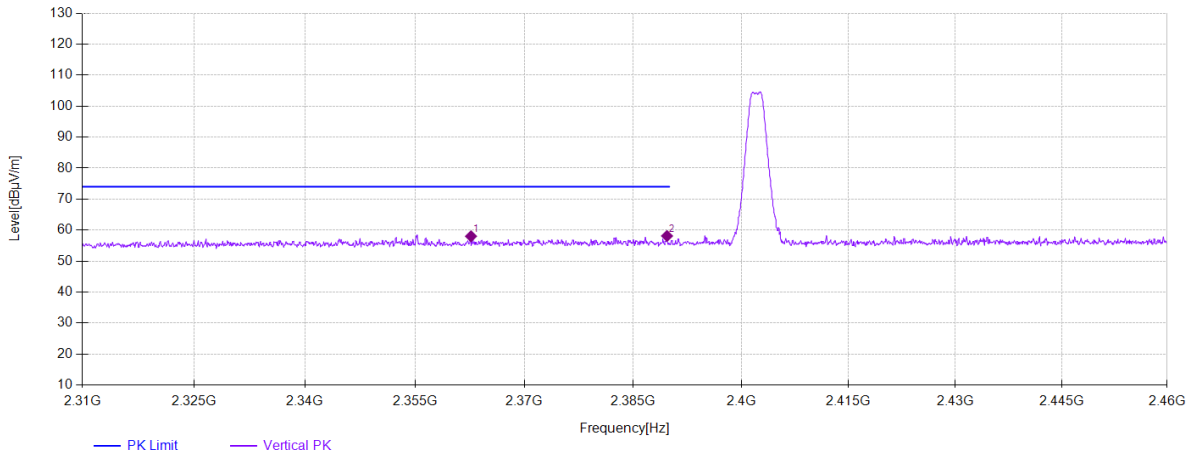
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2368.2291	48.33	27.53	-17.34	58.52	74.00	15.48	Horizontal
2	2386.9135	47.53	27.45	-17.26	57.72	74.00	16.28	Horizontal

BLE 2M_Channel 0



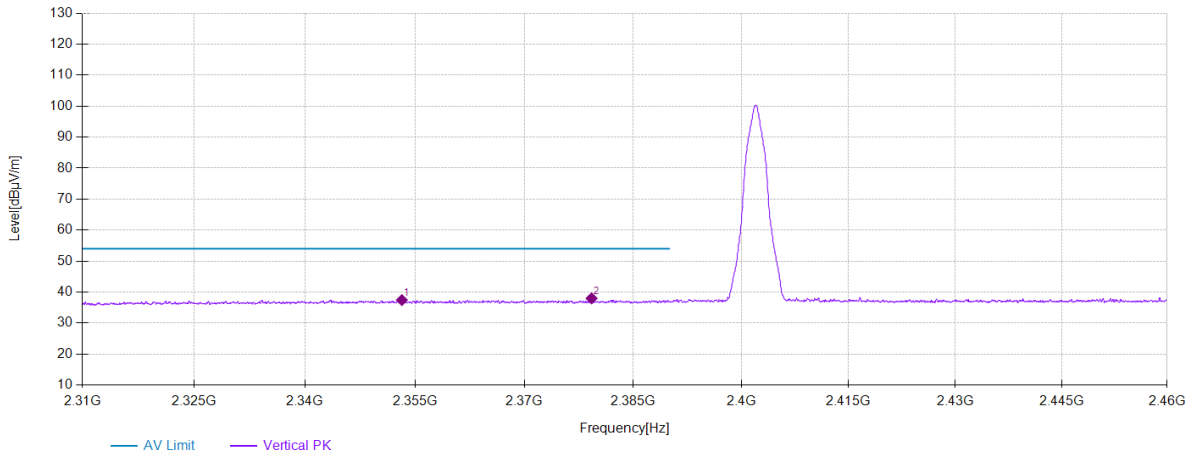
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2371.7559	27.46	27.51	-17.33	37.64	54.00	16.36	Horizontal
2	2382.6363	27.57	27.47	-17.28	37.76	54.00	16.24	Horizontal

BLE 2M_Channel 0



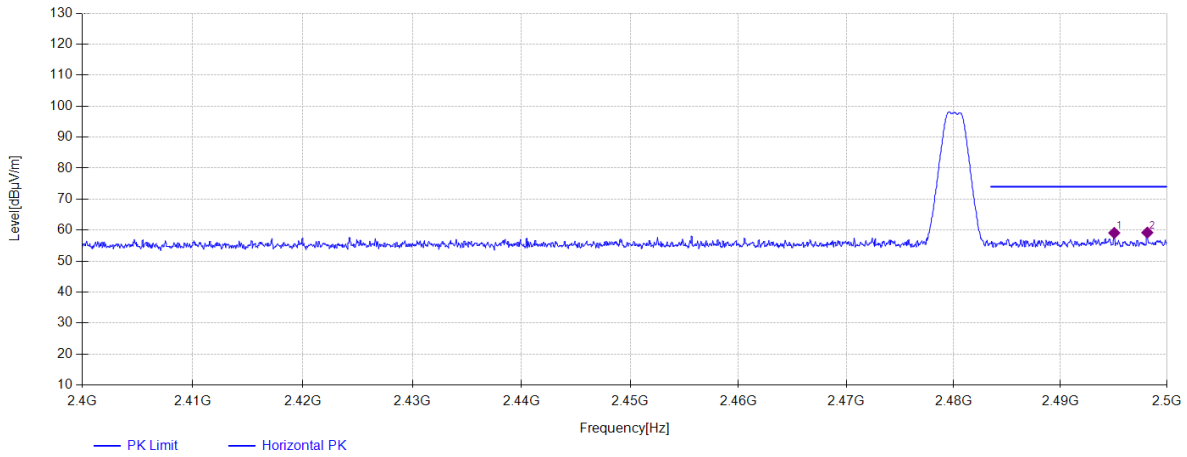
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2362.6763	47.84	27.55	-17.37	58.02	74.00	15.98	Vertical
2	2389.6898	47.93	27.44	-17.25	58.12	74.00	15.88	Vertical

BLE 2M_Channel 0



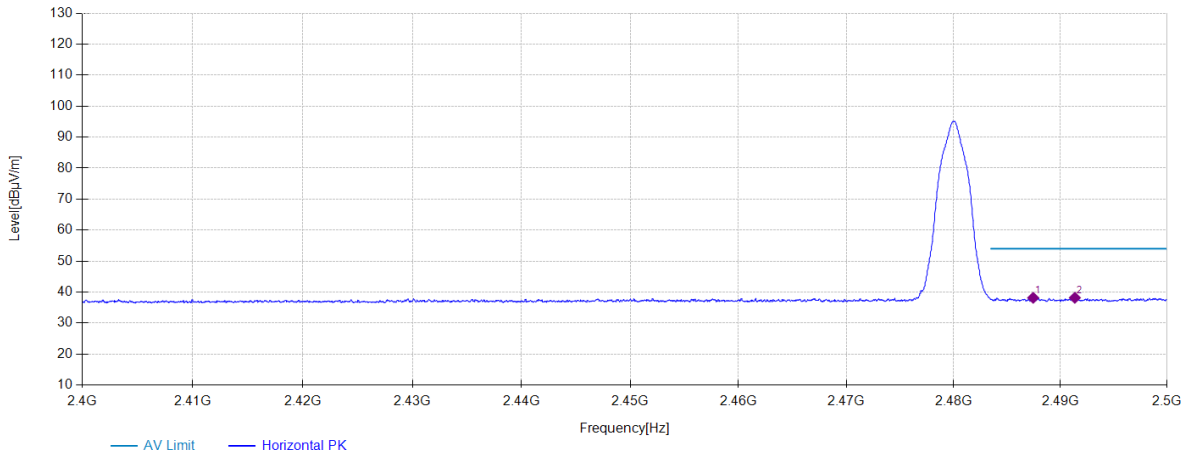
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2353.2216	27.25	27.59	-17.41	37.43	54.00	16.57	Vertical
2	2379.2596	27.81	27.48	-17.30	37.99	54.00	16.01	Vertical

BLE 2M_Channel 39



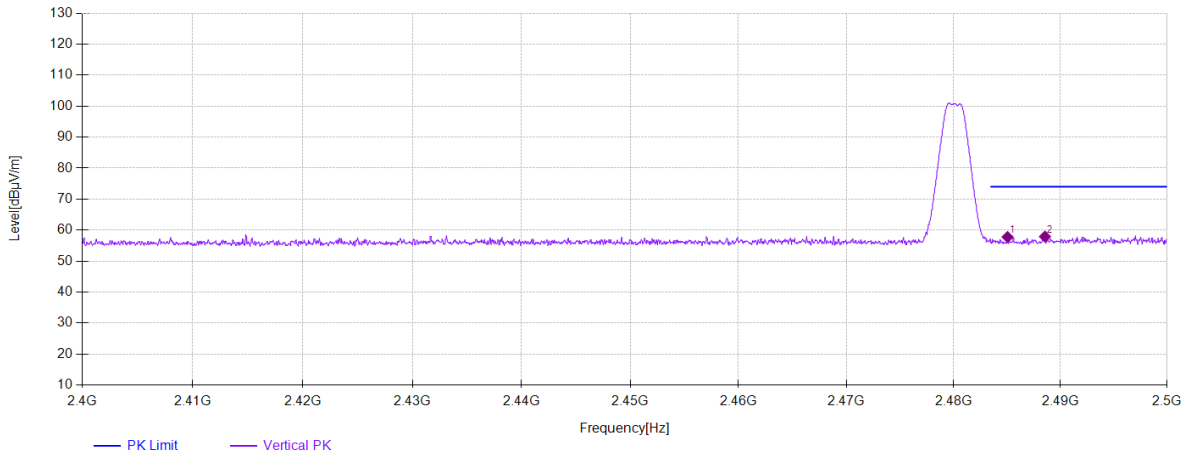
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2495.0475	48.54	27.78	-17.22	59.10	74.00	14.90	Horizontal
2	2498.1491	48.65	27.79	-17.24	59.20	74.00	14.80	Horizontal

BLE 2M_Channel 39



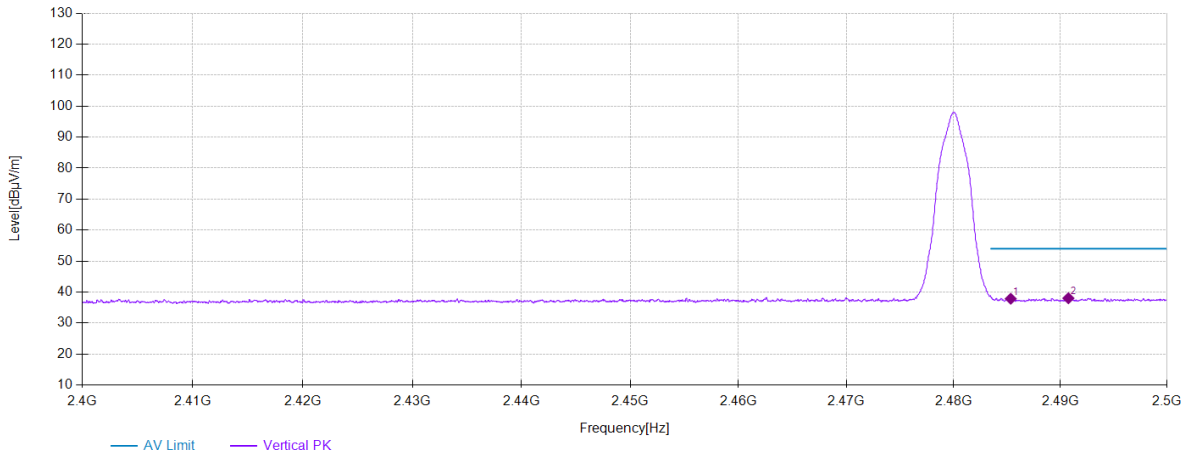
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2487.4437	27.59	27.75	-17.17	38.17	54.00	15.83	Horizontal
2	2491.3457	27.60	27.77	-17.19	38.18	54.00	15.82	Horizontal

BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2485.0425	47.19	27.74	-17.15	57.78	74.00	16.22	Vertical
2	2488.5443	47.35	27.75	-17.18	57.92	74.00	16.08	Vertical

BLE 2M_Channel 39



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF[dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2485.3427	27.29	27.74	-17.16	37.87	54.00	16.13	Vertical
2	2490.7454	27.47	27.76	-17.19	38.04	54.00	15.96	Vertical

Remark:

2) 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---