Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	XXANGLE360W
Equipment	:	ANGLE360-W
Brand Name	:	J-MEX Inc.
Model Name	:	ANGLE360-W
Applicant	:	J-MEX Inc. B2, 3F, No. 1, Li-Hsin 1st Road, SBIP Hsin Chu, 300 Taiwan
Manufacturer	:	J-MEX Inc. B2, 3F, No. 1, Li-Hsin 1st Road, SBIP Hsin Chu, 300 Taiwan
Standard	:	47 CFR FCC Part 15 Subpart C § 15.249

The product was received on Sep. 15, 2021, and testing was started from Oct. 02, 2021 and completed on Oct. 21, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013, 47 CFR FCC Part 15 Subpart C, and shown compliance with the applicable technical standards.

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

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
FR191001	01	Initial issue of report	Nov. 03, 2021

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.207	AC Power Line Conducted Emissions	N/A	Note
2.1	15.249(a)	Field Strength of Fundamental Emissions	PASS	-
2.2	15.215(c)	20dB Spectrum Bandwidth	PASS	-
2.3	15.249(a)/(d)	Radiated Emissions	PASS	-
2.4	15.249(d)	Band Edge Emissions	PASS	-
2.5	15.203	Antenna Requirements	PASS	-
Note: It was supplied power by DC 9V; it's not necessary to apply to AC Power Port Conducted emissions test.				

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Vicky Huang

1. General Information

1.1. Product Details

Items	Description
Power Type	Battery DC 9V
Modulation	GFSK
Frequency Range	2400 ~ 2483.5MHz
Operation Frequency Range	2402-2480MHz
Channel Number	40
Channel Space	2 MHz
Channel Bandwidth (99%)	1.54 MHz
Max. Field Strength	78.28 dBuV/m at 3m (Average)
Carrier Frequencies	Please refer to section 1.2
Antenna	Brand: J-MEX Inc. Model Name: PCB_AR2002 Type: PCB Antenna Gain: 0 dBi
Accessories	N/A

Note: The above information was declared by manufacturer.

1.2. Table for Carrier Frequencies

Frequency Band	Channel No.	Frequency
2400 ~ 2483.5MHz	0	2402 MHz
	1	2404 MHz
	2	2406 MHz
	:	:
	18	2438 MHz
	19	2440 MHz
	20	2442 MHz
	:	:
	37	2476 MHz
	38	2478 MHz
	39	2480 MHz

1.3. Table for Test Modes

The following table is a list of the test modes shown in this test report.

Test Items	Mode	Channel	Antenna
Field Strength of Fundamental Emissions 20dB Spectrum Bandwidth	CTX	0/19/39	1
Radiated Emissions 30MHz ~ 1GHz	Normal Link	-	-
Radiated Emissions 1GHz~10th Harmonic	CTX	0/19/39	1
Band Edge Emissions	CTX	0/19/39	1

Note: CTX=continuously transmitting

The following table is a list of the test modes shown in this test report

Radiated Emissions 30MHz ~ 1GHz

Mode 1: Place EUT in Z axis

Mode 2: Place EUT in Y axis

Mode 3: Place EUT in X axis

Mode 1 generated the worst test result, so it was recorded in this report.

Radiated Emissions 1GHz~10th Harmonic

The EUT was performed at X axis, Y axis and Z axis position. The worst case was found at Y axis, so it was selected to perform test and its test result was written in the report.

Mode 1: Place EUT in Y axis

1.4. Applicable Standards

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

- ANSI C63.10-2013
- 47 CFR FCC Part 15 Subpart C

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 414788 D01 v01r01

1.5. Table for Testing Locations

Testing Location Information
Test Lab.：Sporton International Inc. Hsinchu Laboratory Hsinchu (TAF: 3787) ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated (For others test item)	03CH04-CB	Paul Chen	24.2-25.4 / 56-58	Oct. 02, 2021
Radiated (Below 1GHz)	03CH05-CB	Eason Chen	24.4-25.5 / 55-58	Oct. 21, 2021

1.6. Table for Supporting Units

For Radiated (Below 1GHz):

No.	Support Unit	Brand	Model	FCC ID
A	Phone	Apple	Iphone 12	N/A

For Radiated (others test item):

N/A

1.7. Duty Cycle

On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)
10	100	10	10

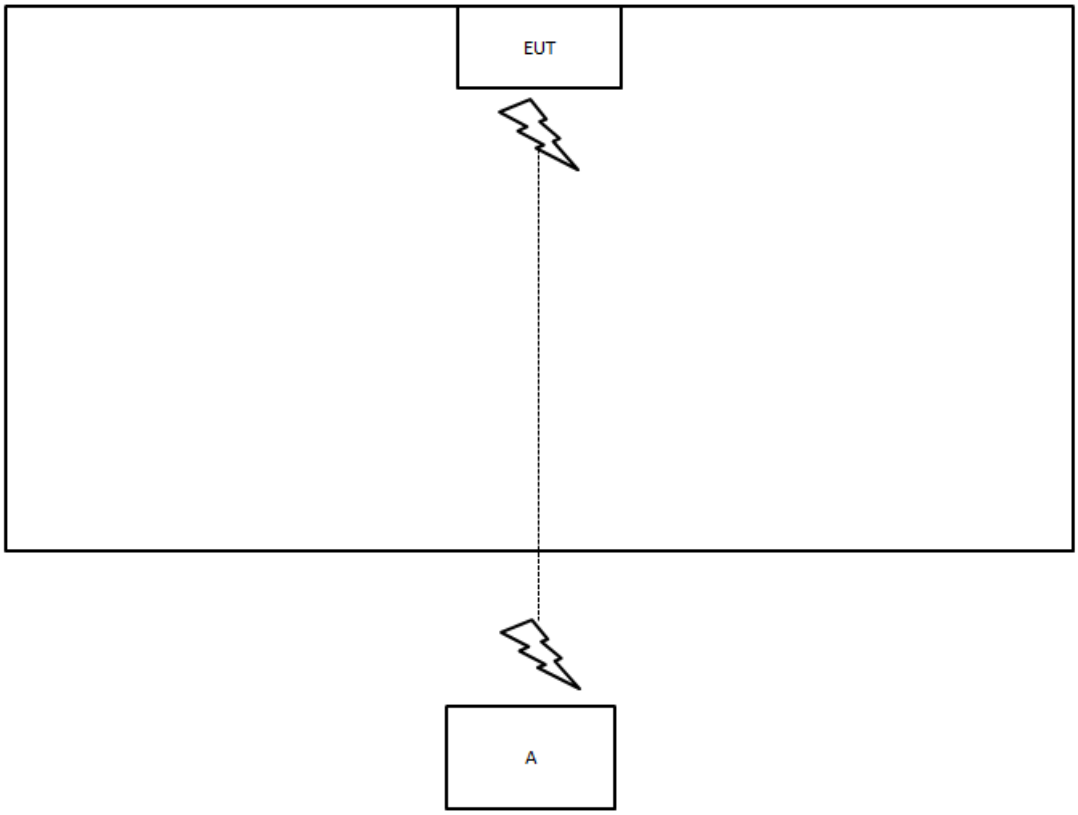
1.8. Table for Parameters of Test Software Setting

Test Software Version	Terminal v1.93b - 20141030?- by Br@y++		
Frequency	2402 MHz	2440 MHz	2480 MHz
Software Setting	Default	Default	Default

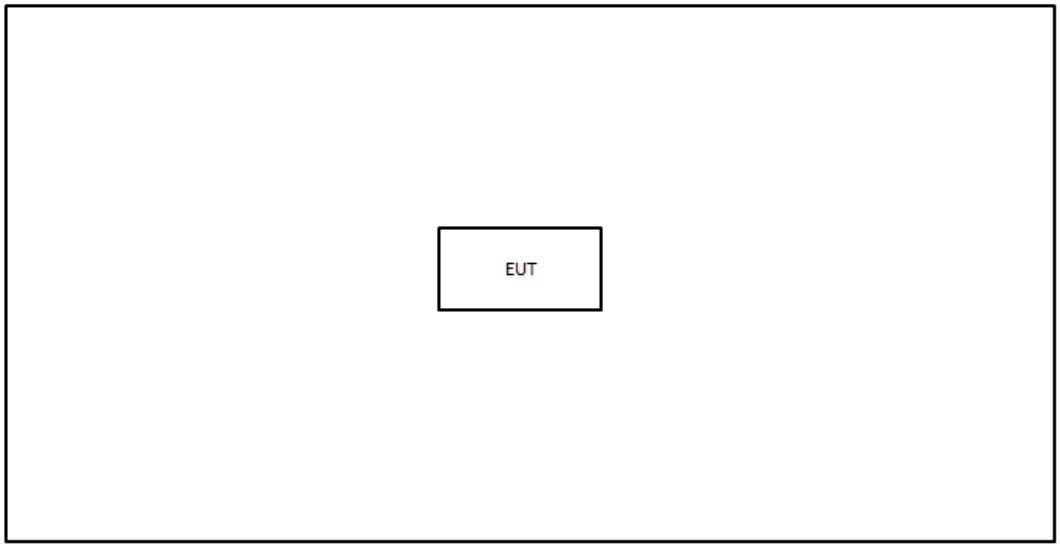
1.9. Test Configurations

1.9.1. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Test Configuration: Above 1GHz



2. Test Result

2.1. Field Strength of Fundamental Emissions Measurement

2.1.1. Limit

The field strength of fundamental emissions within these bands specified at a distance of 3 meters (measurement instrumentation employing an average detector) shall comply with the following table.

Frequency Band (MHz)	Fundamental Emissions Limit (dBuV/m) at 3m
2400-2483.5	94 (Average)
	114 (Peak)

Measuring Instruments and Setting

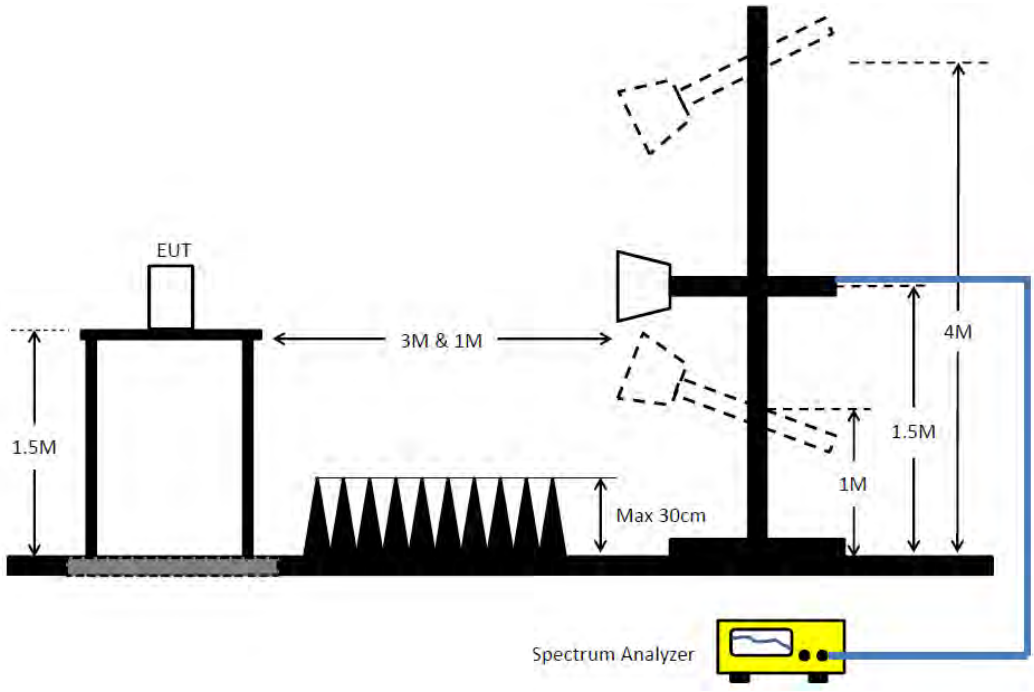
Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Power Meter Parameter	Setting
RBW	1 MHz Peak / 3MHz Peak
VBW	1 MHz Peak / 1/T Average
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

2.1.2. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. For Fundamental emissions, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
6. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

2.1.3. Test Setup Layout



2.1.4. Test Deviation

There is no deviation with the original standard.

2.1.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.1.6. Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

2.1.7. Test Result of Field Strength of Fundamental Emissions

Refer as Appendix A

2.2. 20dB Spectrum Bandwidth Measurement

2.2.1. Limit

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emissions in the specific band (2400 ~ 2483.5MHz).

2.2.2. Measuring Instruments and Setting

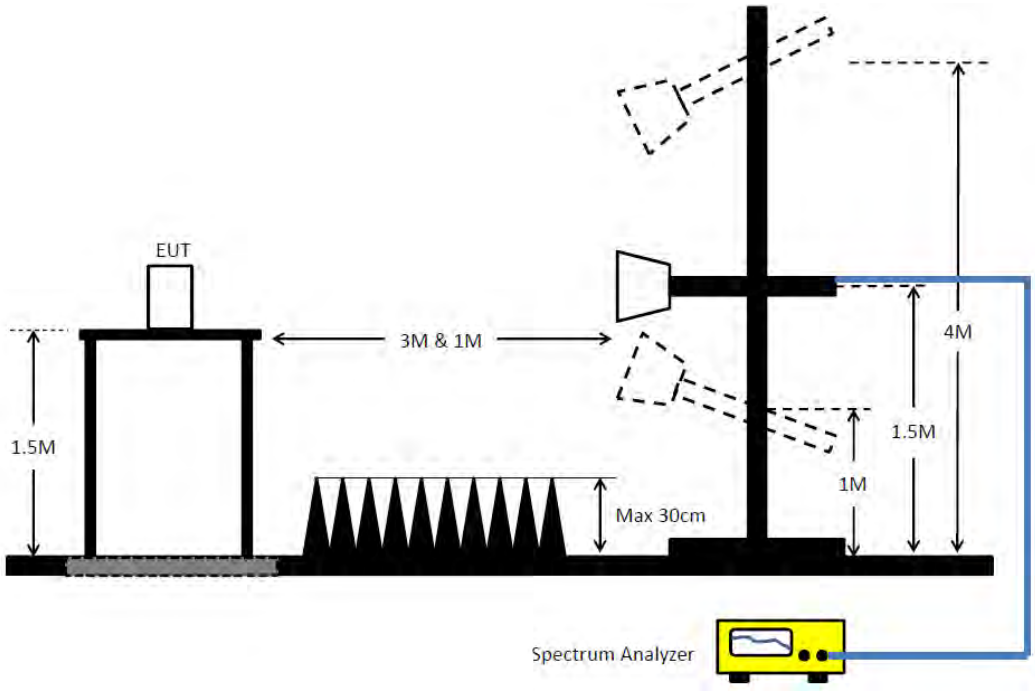
Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 20dB Bandwidth
RBW	100 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

2.2.3. Test Procedures

1. The test procedure is the same as section 2.3.3.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were used.
3. Measured the spectrum width with power higher than 20dB below carrier.

2.2.4. Test Setup Layout



2.2.5. Test Deviation

There is no deviation with the original standard.

2.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.2.7. Test Result of 20dB Spectrum Bandwidth

Refer as Appendix B

2.3. Radiated Emissions Measurement

2.3.1. Limit

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

2.3.2. Measuring Instruments and Setting

Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	100kHz/300kHz for Peak

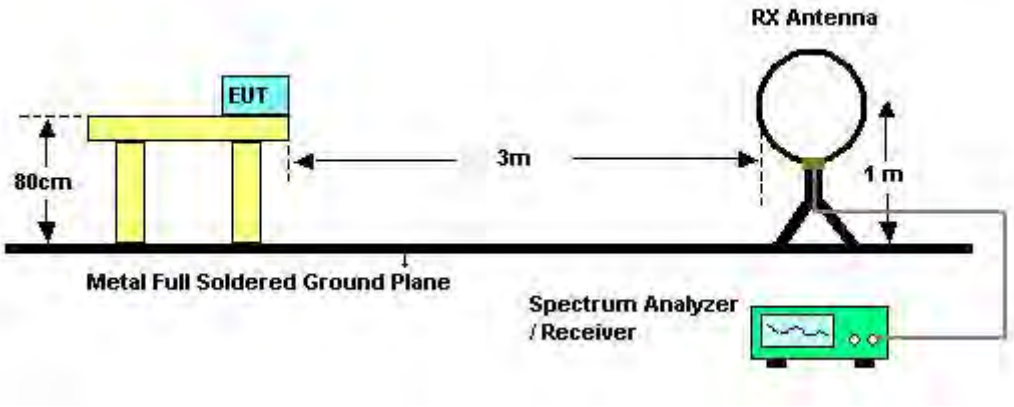
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

2.3.3. Test Procedures

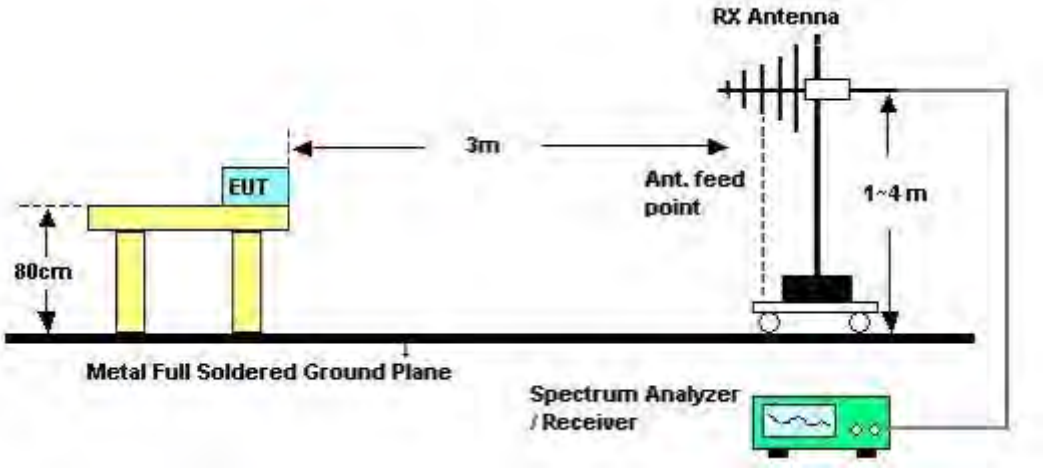
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

2.3.4. Test Setup Layout

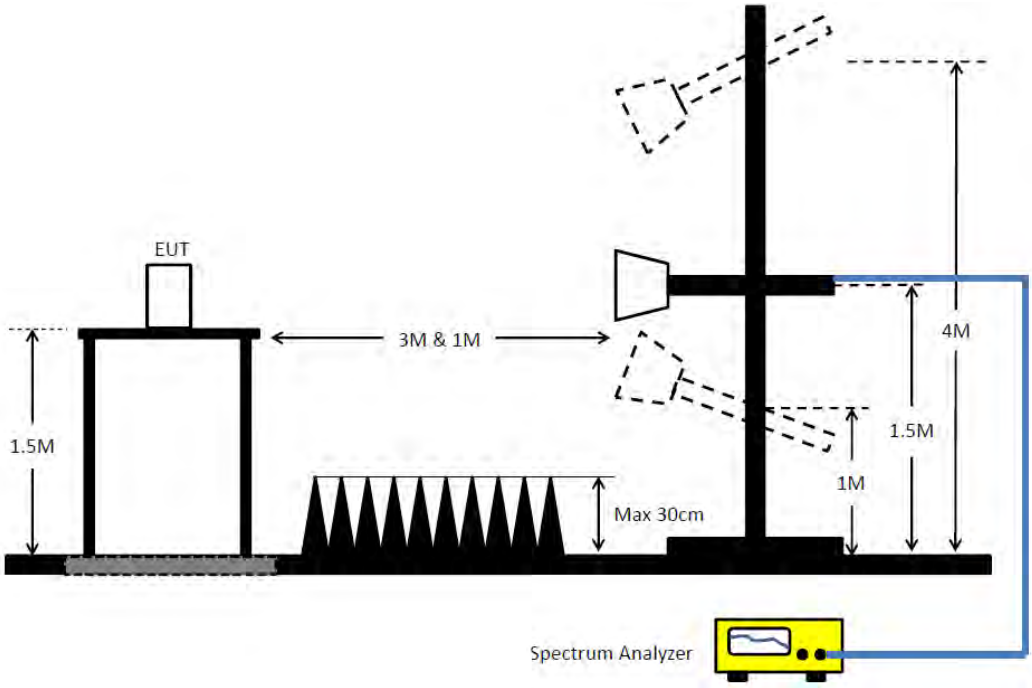
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



2.3.5. Test Deviation

There is no deviation with the original standard.

2.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.3.7. Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

2.3.8. Results of Radiated Emissions below 1GHz

Refer as Appendix C

2.3.9. Results of Radiated Emissions above 1GHz

Refer as Appendix A

2.4. Band Edge Emissions Measurement

2.4.1. Limit

Band edge emissions radiated outside of the specified frequency bands shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

2.4.2. Measuring Instruments and Setting

Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	100kHz/300kHz for Peak

2.4.3. Test Procedures

The test procedure is the same as section 2.3.3.

2.4.4. Test Setup Layout

This test setup layout is the same as that shown in section 2.3.4.

2.4.5. Test Deviation

There is no deviation with the original standard.

2.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4.7. Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

2.4.8. Test Result of Band Edge and Fundamental Emissions

Refer as Appendix A

2.5. Antenna Requirements

2.5.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. 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 shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

2.5.2. Antenna Connector Construction

The antenna connector complied with the requirements.

3. List of Measuring Equipments

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 25, 2021	Feb. 24, 2022	Radiation (03CH04-CB)
Horn Antenna	ETS·Lindgren	3115	00143147	750MHz~18GHz	Oct. 23, 2020	Oct. 22, 2021	Radiation (03CH04-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH04-CB
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH04-CB
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Feb. 19, 2021	Feb. 18, 2022	Radiation (03CH04-CB
High Pass Filter	WI	2.4G High pass	CB2.4G-HP-04	1 GHz - 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH04-CB
High Pass Filter	WI	5G High pass	CB5G-HP-04	1 GHz - 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH04-CB
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Nov. 10, 2020	Nov. 09, 2021	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)

Note: Calibration Interval of instruments listed above is one year.
N.C.R. means Non-Calibration required.

4. Measurement Uncertainty

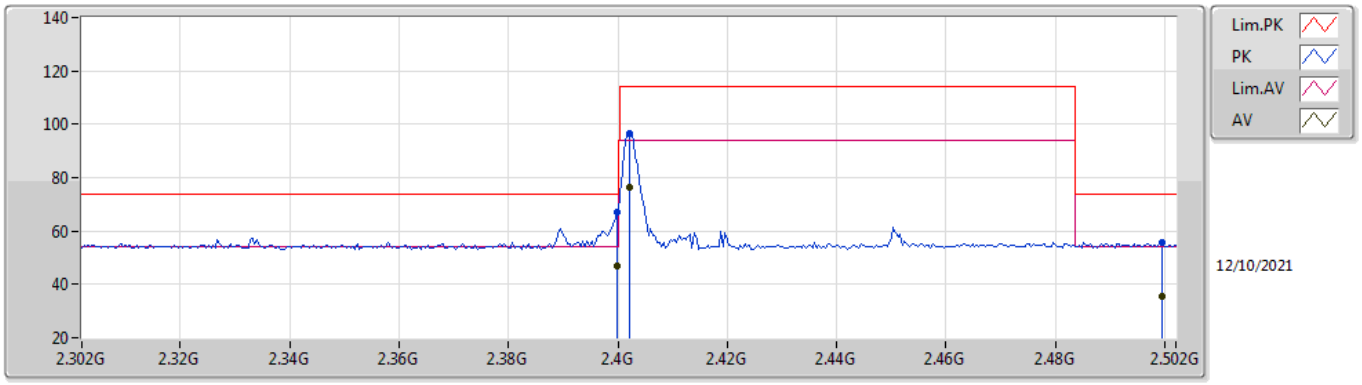
Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	2.3999G	71.45	74.00	-2.55	3	Horizontal	40	1.30	-

BT-LE(1Mbps)

2402MHz_TX

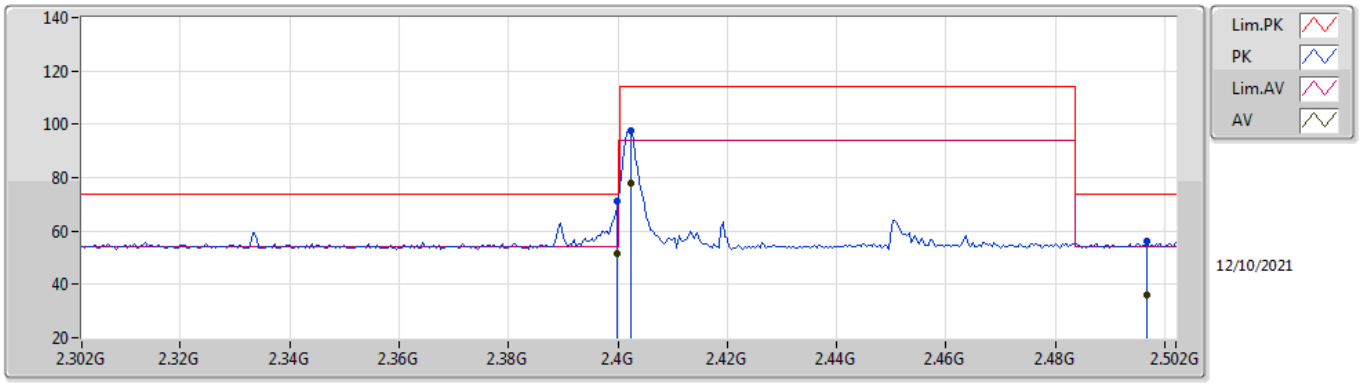


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3999G	66.95	74.00	-7.05	36.25	3	Vertical	142	1.15	-	27.50	3.20	-
AV	2.3999G	46.95	54.00	-7.05	16.25	3	Vertical	142	1.15	-	27.50	3.20	-
PK	2.402G	96.40	114.00	-17.60	65.70	3	Vertical	142	1.15	-	27.50	3.20	-
AV	2.402G	76.40	94.00	-17.60	45.70	3	Vertical	142	1.15	-	27.50	3.20	-
PK	2.4996G	55.71	74.00	-18.29	24.61	3	Vertical	142	1.15	-	27.80	3.30	-
AV	2.4996G	35.71	54.00	-18.29	4.61	3	Vertical	142	1.15	-	27.80	3.30	-

BT-LE(1Mbps)

2402MHz_TX

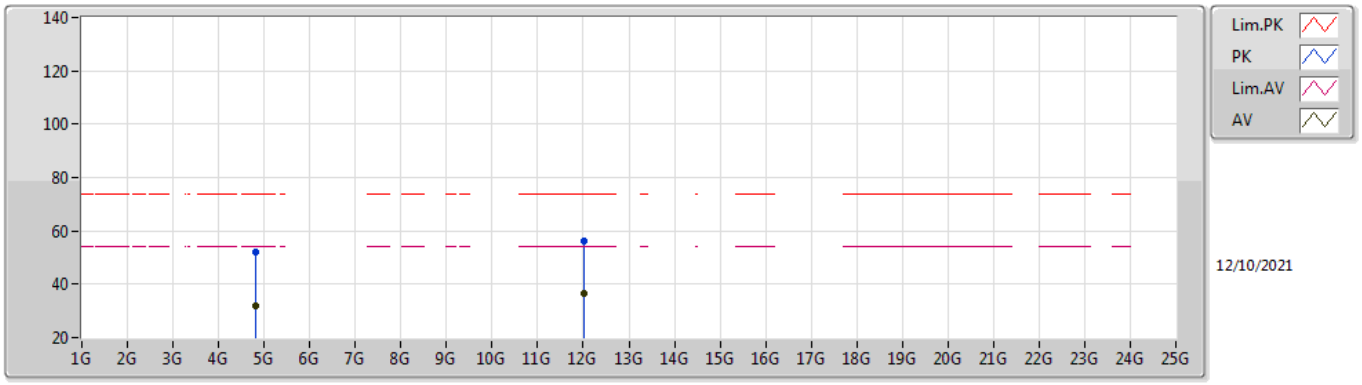


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3999G	71.45	74.00	-2.55	40.75	3	Horizontal	40	1.30	-	27.50	3.20	-
AV	2.3999G	51.45	54.00	-2.55	20.75	3	Horizontal	40	1.30	-	27.50	3.20	-
PK	2.4024G	97.69	114.00	-16.31	66.99	3	Horizontal	40	1.30	-	27.50	3.20	-
AV	2.4024G	77.69	94.00	-16.31	46.99	3	Horizontal	40	1.30	-	27.50	3.20	-
PK	2.4968G	55.99	74.00	-18.01	24.90	3	Horizontal	40	1.30	-	27.79	3.30	-
AV	2.4968G	35.99	54.00	-18.01	4.90	3	Horizontal	40	1.30	-	27.79	3.30	-

BT-LE(1Mbps)

2402MHz_TX

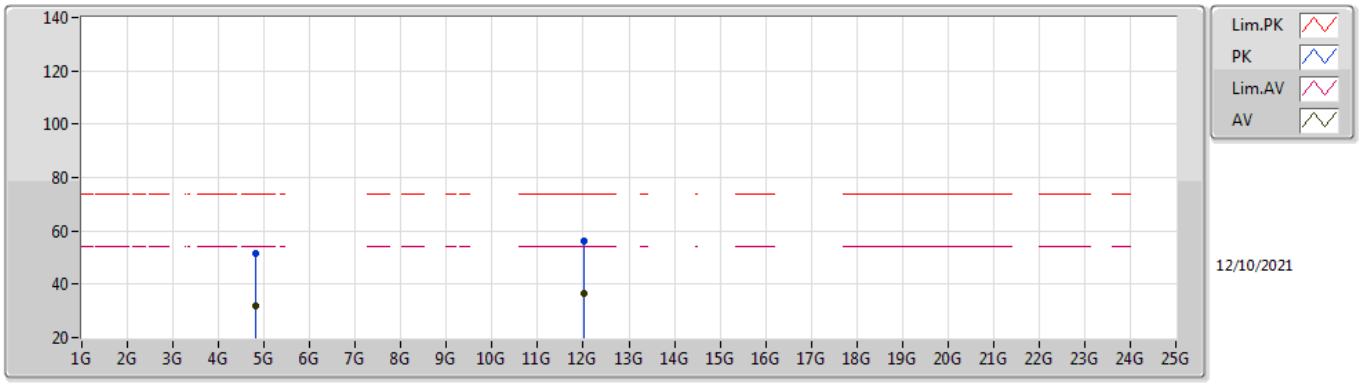


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80428G	52.10	74.00	-21.90	47.53	3	Vertical	158	1.11	-	32.43	5.40	33.26
AV	4.80428G	32.10	54.00	-21.90	27.53	3	Vertical	158	1.11	-	32.43	5.40	33.26
PK	12.01058G	56.41	74.00	-17.59	42.95	3	Vertical	148	3.00	-	38.80	9.61	34.95
AV	12.01058G	36.41	54.00	-17.59	22.95	3	Vertical	148	3.00	-	38.80	9.61	34.95

BT-LE(1Mbps)

2402MHz_TX

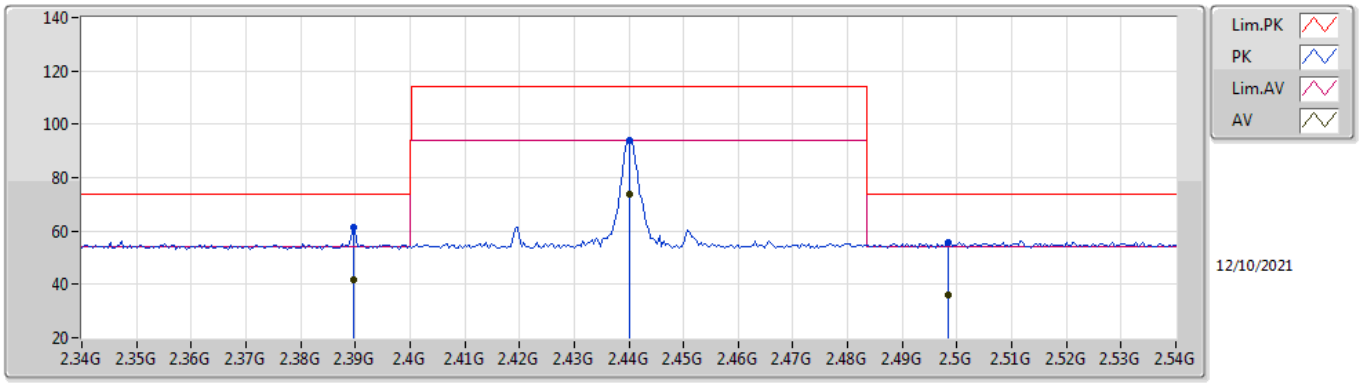


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80442G	51.72	74.00	-22.28	47.15	3	Horizontal	199	2.38	-	32.43	5.40	33.26
AV	4.80442G	31.72	54.00	-22.28	27.15	3	Horizontal	199	2.38	-	32.43	5.40	33.26
PK	12.0071G	56.32	74.00	-17.68	42.87	3	Horizontal	360	2.01	-	38.80	9.60	34.95
AV	12.0071G	36.32	54.00	-17.68	22.87	3	Horizontal	360	2.01	-	38.80	9.60	34.95

BT-LE(1Mbps)

2440MHz_TX

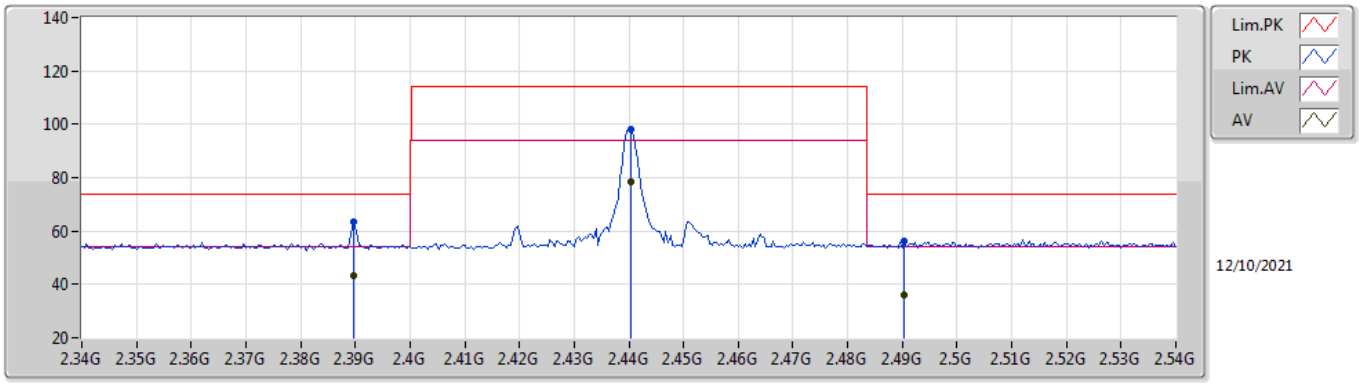


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3896G	61.47	74.00	-12.53	30.79	3	Vertical	146	1.80	-	27.48	3.20	-
AV	2.3896G	41.47	54.00	-12.53	10.79	3	Vertical	146	1.80	-	27.48	3.20	-
PK	2.44G	93.99	114.00	-20.01	63.17	3	Vertical	146	1.80	-	27.58	3.24	-
AV	2.44G	73.99	94.00	-20.01	43.17	3	Vertical	146	1.80	-	27.58	3.24	-
PK	2.4984G	55.94	74.00	-18.06	24.85	3	Vertical	146	1.80	-	27.79	3.30	-
AV	2.4984G	35.94	54.00	-18.06	4.85	3	Vertical	146	1.80	-	27.79	3.30	-

BT-LE(1Mbps)

2440MHz_TX

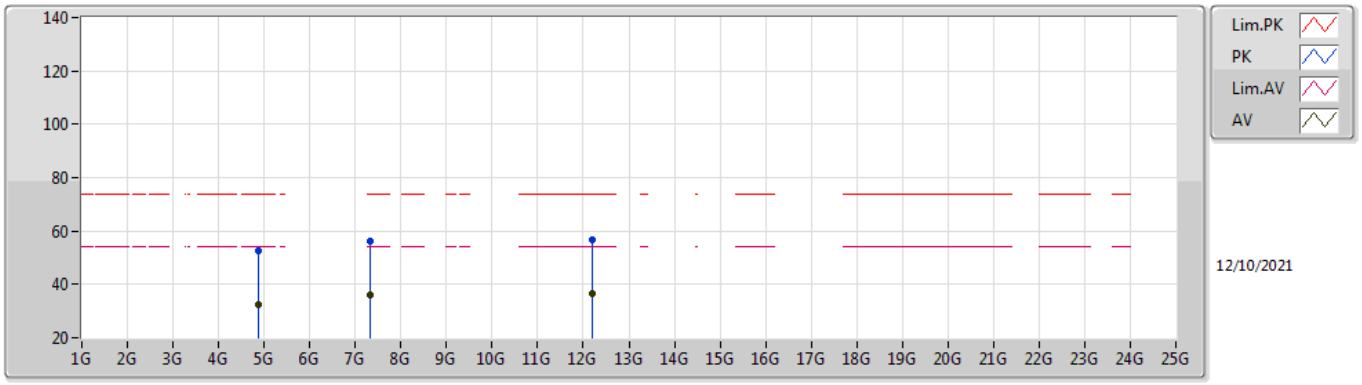


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3896G	63.26	74.00	-10.74	32.58	3	Horizontal	40	1.28	-	27.48	3.20	-
AV	2.3896G	43.26	54.00	-10.74	12.58	3	Horizontal	40	1.28	-	27.48	3.20	-
PK	2.4404G	98.28	114.00	-15.72	67.46	3	Horizontal	40	1.28	-	27.58	3.24	-
AV	2.4404G	78.28	94.00	-15.72	47.46	3	Horizontal	40	1.28	-	27.58	3.24	-
PK	2.4904G	55.98	74.00	-18.02	24.93	3	Horizontal	40	1.28	-	27.76	3.29	-
AV	2.4904G	35.98	54.00	-18.02	4.93	3	Horizontal	40	1.28	-	27.76	3.29	-

BT-LE(1Mbps)

2440MHz_TX

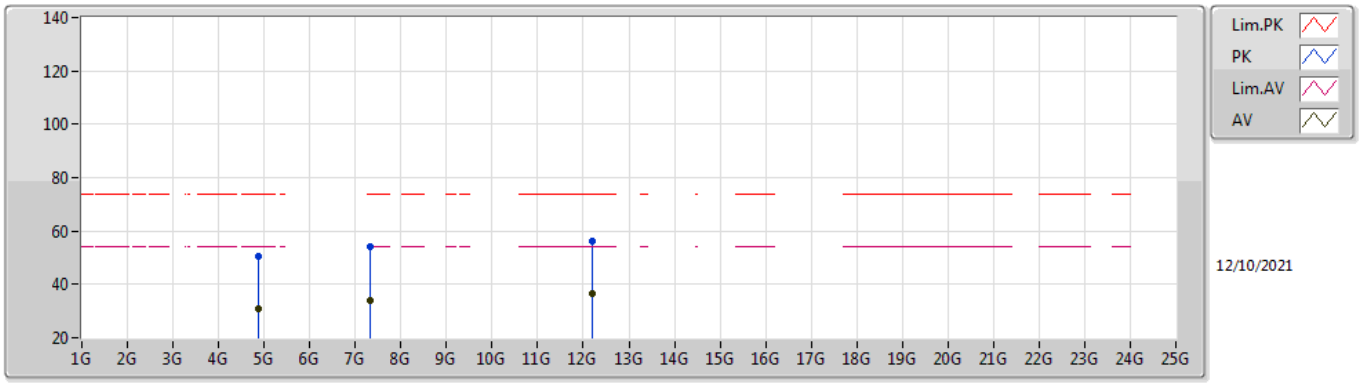


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87988G	52.34	74.00	-21.66	47.36	3	Vertical	163	2.47	-	32.76	5.44	33.22
AV	4.87988G	32.34	54.00	-21.66	27.36	3	Vertical	163	2.47	-	32.76	5.44	33.22
PK	7.32054G	55.97	74.00	-18.03	45.38	3	Vertical	320	1.00	-	37.40	6.86	33.67
AV	7.32054G	35.97	54.00	-18.03	25.38	3	Vertical	320	1.00	-	37.40	6.86	33.67
PK	12.20334G	56.51	74.00	-17.49	43.19	3	Vertical	293	1.88	-	38.51	9.70	34.89
AV	12.20334G	36.51	54.00	-17.49	23.19	3	Vertical	293	1.88	-	38.51	9.70	34.89

BT-LE(1Mbps)

2440MHz_TX

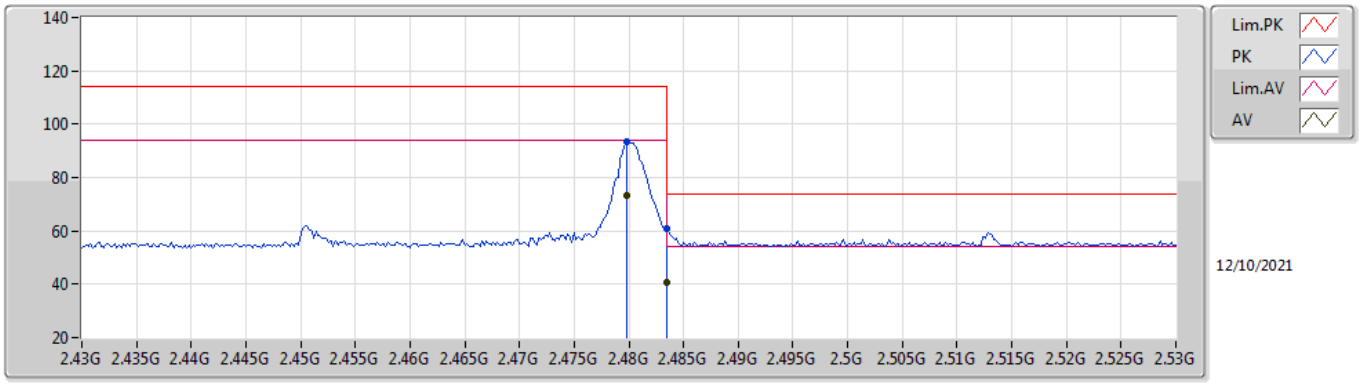


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87982G	50.70	74.00	-23.30	45.72	3	Horizontal	159	2.53	-	32.76	5.44	33.22
AV	4.87982G	30.70	54.00	-23.30	25.72	3	Horizontal	159	2.53	-	32.76	5.44	33.22
PK	7.3206G	54.12	74.00	-19.88	43.53	3	Horizontal	156	2.77	-	37.40	6.86	33.67
AV	7.3206G	34.12	54.00	-19.88	23.53	3	Horizontal	156	2.77	-	37.40	6.86	33.67
PK	12.20278G	56.31	74.00	-17.69	42.99	3	Horizontal	182	2.92	-	38.51	9.70	34.89
AV	12.20278G	36.31	54.00	-17.69	22.99	3	Horizontal	182	2.92	-	38.51	9.70	34.89

BT-LE(1Mbps)

2480MHz_TX

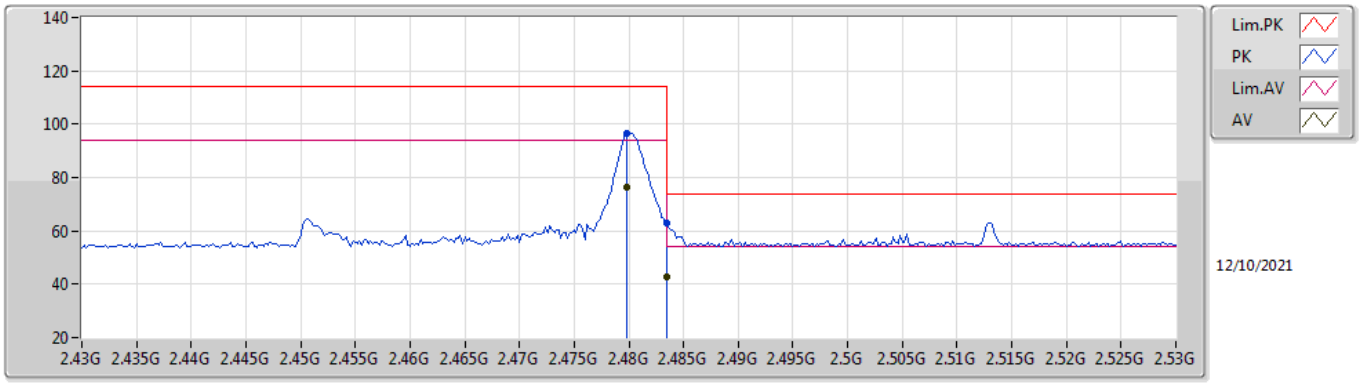


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	93.21	114.00	-20.79	62.21	3	Vertical	213	2.90	-	27.72	3.28	-
AV	2.4798G	73.21	94.00	-20.79	42.21	3	Vertical	213	2.90	-	27.72	3.28	-
PK	2.4835G	60.92	74.00	-13.08	29.91	3	Vertical	213	2.90	-	27.73	3.28	-
AV	2.4835G	40.92	54.00	-13.08	9.91	3	Vertical	213	2.90	-	27.73	3.28	-

BT-LE(1Mbps)

2480MHz_TX

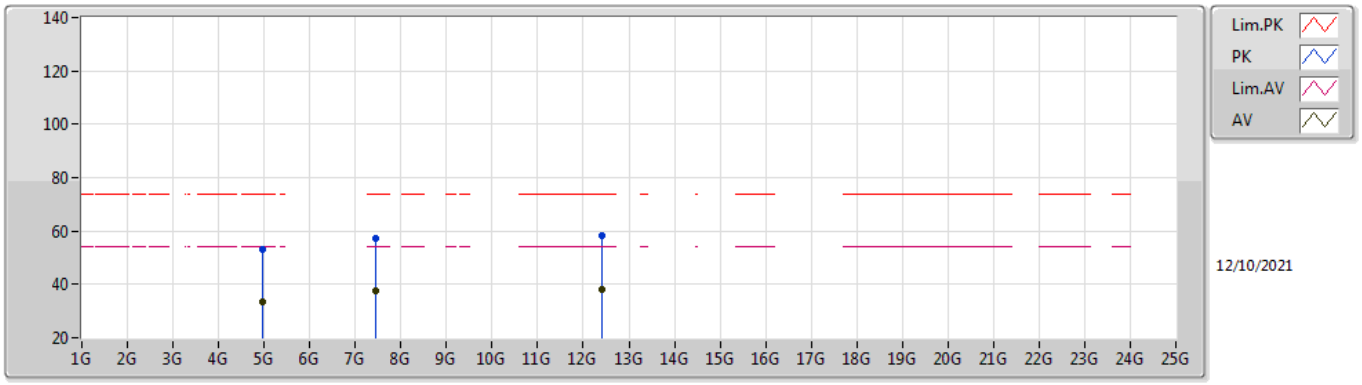


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	96.48	114.00	-17.52	65.48	3	Horizontal	41	1.04	-	27.72	3.28	-
AV	2.4798G	76.48	94.00	-17.52	45.48	3	Horizontal	41	1.04	-	27.72	3.28	-
PK	2.4835G	62.74	74.00	-11.26	31.73	3	Horizontal	41	1.04	-	27.73	3.28	-
AV	2.4835G	42.74	54.00	-11.26	11.73	3	Horizontal	41	1.04	-	27.73	3.28	-

BT-LE(1Mbps)

2480MHz_TX

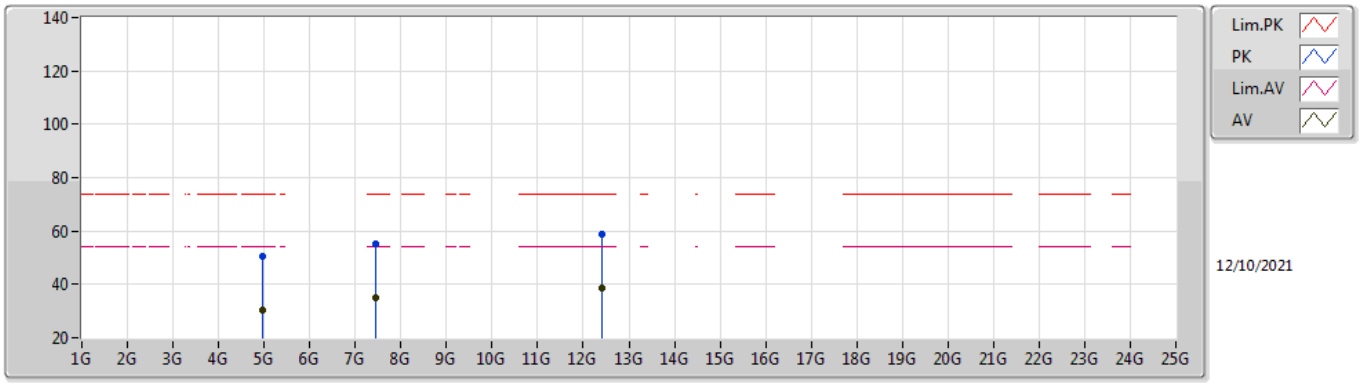


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95978G	53.30	74.00	-20.70	48.02	3	Vertical	169	2.93	-	32.98	5.48	33.18
AV	4.95978G	33.30	54.00	-20.70	28.02	3	Vertical	169	2.93	-	32.98	5.48	33.18
PK	7.4396G	57.34	74.00	-16.66	46.74	3	Vertical	324	1.02	-	37.48	6.94	33.82
AV	7.4396G	37.34	54.00	-16.66	26.74	3	Vertical	324	1.02	-	37.48	6.94	33.82
PK	12.39818G	58.09	74.00	-15.91	44.42	3	Vertical	326	1.80	-	38.70	9.80	34.83
AV	12.39818G	38.09	54.00	-15.91	24.42	3	Vertical	326	1.80	-	38.70	9.80	34.83

BT-LE(1Mbps)

2480MHz_TX

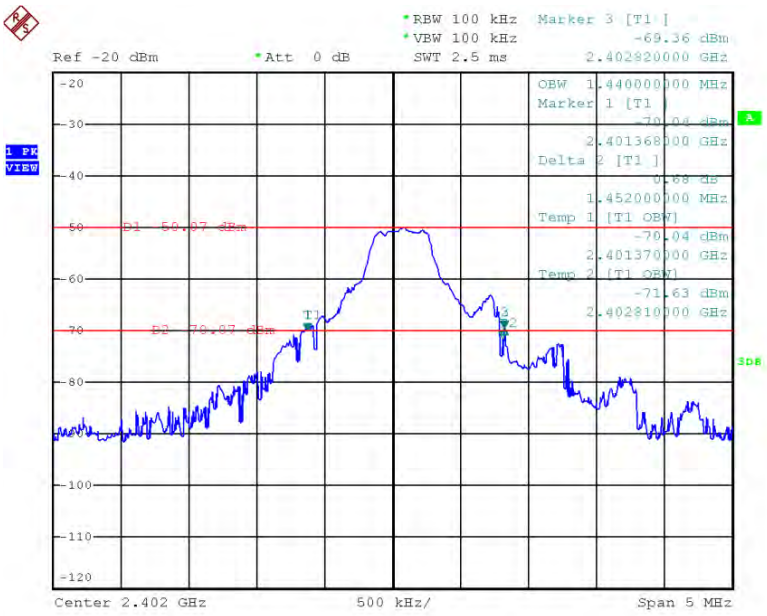


EUT Y_1TX
Setting default
04-E-P-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95998G	50.56	74.00	-23.44	45.28	3	Horizontal	153	2.75	-	32.98	5.48	33.18
AV	4.95998G	30.56	54.00	-23.44	25.28	3	Horizontal	153	2.75	-	32.98	5.48	33.18
PK	7.43974G	55.11	74.00	-18.89	44.51	3	Horizontal	148	2.98	-	37.48	6.94	33.82
AV	7.43974G	35.11	54.00	-18.89	24.51	3	Horizontal	148	2.98	-	37.48	6.94	33.82
PK	12.40408G	58.73	74.00	-15.27	45.06	3	Horizontal	61	2.86	-	38.70	9.80	34.83
AV	12.40408G	38.73	54.00	-15.27	25.06	3	Horizontal	61	2.86	-	38.70	9.80	34.83

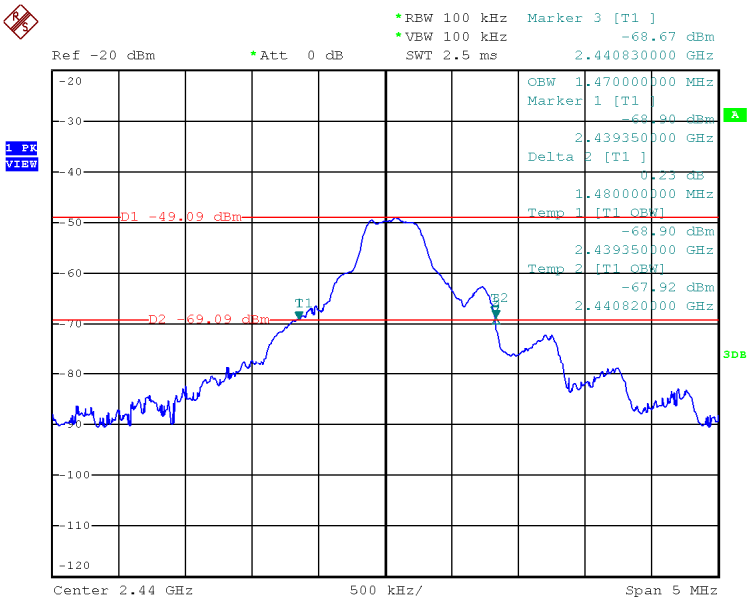
Test Frequency (MHz)	20dB BW (MHz)	99% OBW (MHz)	Frequency range (MHz) $f_L > 2400MHz$	Frequency range (MHz) $f_H < 2483.5MHz$	Test Result
2402	1.452	1.44	2401.3680	-	PASS
2440	1.480	1.47	-	-	PASS
2480	1.680	1.54	-	2479.2100	PASS

20 dB Bandwidth and 99% Bandwidth Plot on 2402 MHz



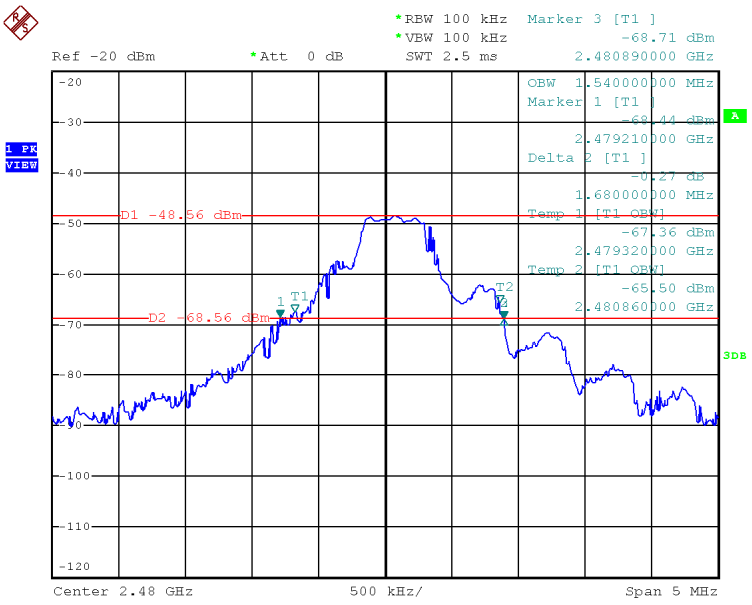
Date: 18.OCT.2021 10:40:51

20 dB Bandwidth and 99% Bandwidth Plot on 2440 MHz



Date: 18.OCT.2021 10:49:11

20 dB Bandwidth and 99% Bandwidth Plot on 2480 MHz

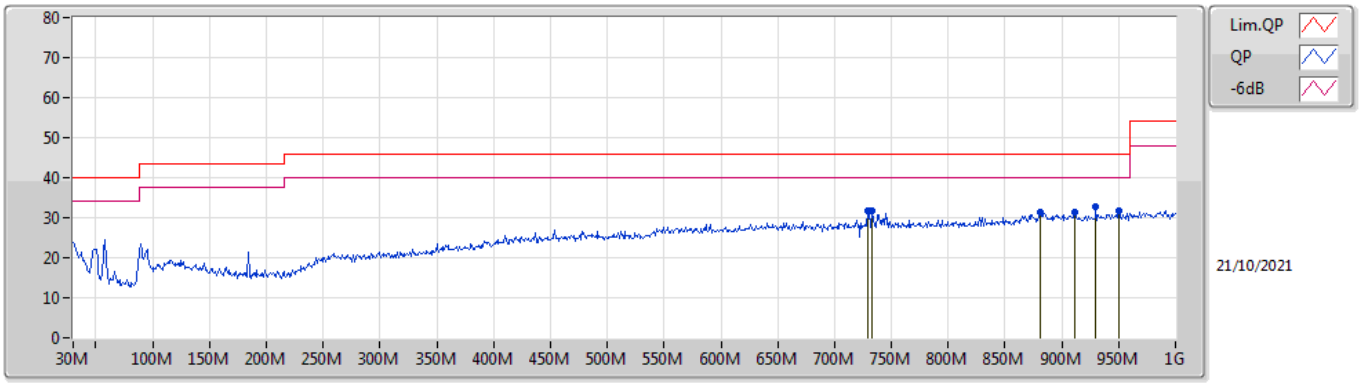


Date: 18.OCT.2021 10:52:17

Summary

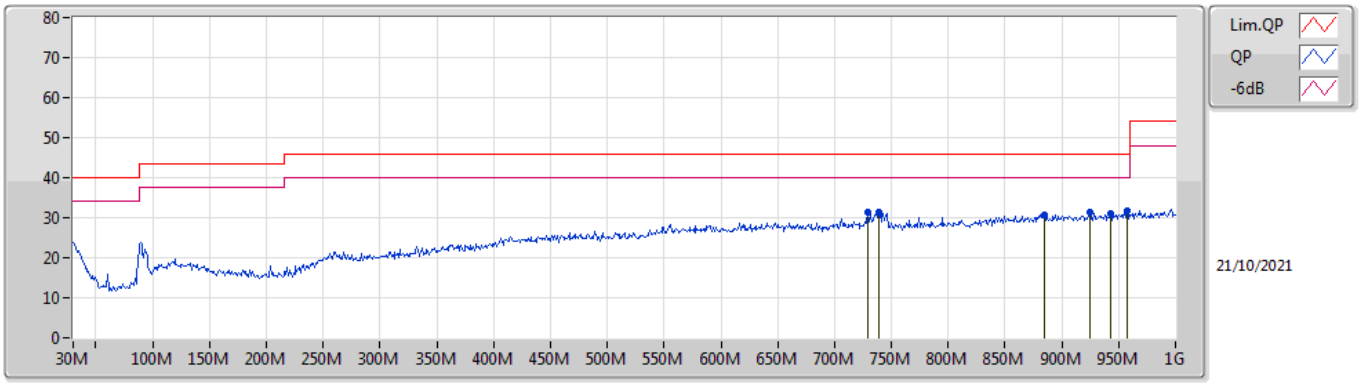
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	930M	32.66	46.00	-13.34	Vertical

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	729.37M	31.85	46.00	-14.15	-3.50	3	Vertical	211	1.50	-	35.35	24.93	4.26	32.69
PK	733.25M	31.57	46.00	-14.43	-3.42	3	Vertical	209	2.00	-	34.99	25.00	4.27	32.69
PK	880.69M	31.22	46.00	-14.78	-1.62	3	Vertical	360	1.25	-	32.84	26.14	4.88	32.64
PK	911.73M	31.23	46.00	-14.77	-1.45	3	Vertical	38	3.00	-	32.68	26.19	5.00	32.64
PK	930M	32.66	46.00	-13.34	-1.39	3	Vertical	0	3.00	"Worst"	34.05	26.22	5.00	32.61
PK	950.53M	31.74	46.00	-14.26	-1.10	3	Vertical	182	2.00	-	32.84	26.47	5.00	32.57

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	729.37M	31.23	46.00	-14.77	-3.50	3	Horizontal	308	3.00	-	34.73	24.93	4.26	32.69
PK	739.07M	31.49	46.00	-14.51	-3.32	3	Horizontal	54	3.00	-	34.81	25.10	4.28	32.70
PK	884.57M	30.69	46.00	-15.31	-1.56	3	Horizontal	174	2.00	-	32.25	26.18	4.91	32.65
PK	925.31M	31.24	46.00	-14.76	-1.44	3	Horizontal	0	2.00	-	32.68	26.17	5.00	32.61
PK	942.77M	31.00	46.00	-15.00	-1.22	3	Horizontal	97	2.00	-	32.22	26.36	5.00	32.58
PK	957.32M	31.63	46.00	-14.37	-0.98	3	Horizontal	0	1.25	"Worst"	32.61	26.56	5.03	32.57