Testing Laboratory
3787

RADIO TEST REPORT

FCC ID	:	N89-75W311AV1
Equipment	:	BE5000 Wireless Dual Band Wall Mount Access Point
Brand Name	:	SonicFi
Model Name	:	RAP750W-311A
Applicant	:	CyberTAN Technology Inc. No. 99, Park Avenue III Science-based Industrial Park Hsinchu Taiwan 308
Manufacturer	:	CyberTAN Technology Inc. No. 99, Park Avenue III Science-based Industrial Park Hsinchu Taiwan 308
Standard	:	47 CFR FCC Part 15.247

The product was received on Aug. 19, 2024, and testing was started from Aug. 20, 2024 and completed on Oct. 31, 2024. 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 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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History of this test report

Report No.	Version	Description	Issued Date
FR471503AA	01	Initial issue of report	Dec. 20, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Conformity Assessment Condition:

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

Disclaimer:

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

Reviewed by: Sam Chen
Report Producer: Muse Chan

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:
- Bluetooth LE uses a GFSK modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	BT	2.4GHz	5GHz					
1	-	1	1	GALTRONICS	02102140-08076-1	PCB Antenna	I-PEX	Note 1
2	-	2	2	GALTRONICS	02102140-08076-2	PCB Antenna	I-PEX	
3	1	-	-	GALTRONICS	02102073-08076	PCB Antenna	I-PEX	

Note 1:

Ant.	Gain (dBi)						
	Bluetooth	2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3	5GHz UNII 4
1	-	2.69	2.75	2.39	2.65	3.33	3.33
2	-	2.03	2.91	3.22	3.19	2.85	2.85
3	1.78	-	-	-	-	-	-

Note 2: The above information was declared by manufacturer.
Note 3: BT represents Bluetooth.

Note 4: Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$
BF	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$; NSS1(g1,2)= $10^{G3/20}$; NSS1(g1,2)= $10^{G4/20}$

gj,k =(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2

DG = 10 log[(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2 / N_{ANT}] => 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$ + $10^{G4/20}$)^2 / N_{ANT}]

Where ;

2.4G G1= 2.69 dBi ;G2= 2.03 dBi ;

5G UNII-1 G1 = 2.75 dBi; G2 = 2.91 dBi;

5G UNII-2A G1 = 2.39 dBi; G2 = 3.22 dBi;

5G UNII-2C G1 = 2.65 dBi; G2 = 3.19 dBi;

5G UNII-3 G1 = 3.33 dBi; G2 = 2.85 dBi;

5G UNII-4 G1 = 3.33 dBi; G2 = 2.85 dBi;

2.4G DG = 5.38 dBi

5G UNII-1 DG = 5.84 dBi

5G UNII-2A DG = 5.83 dBi

5G UNII-2C DG = 5.93 dB

5G UNII-3 DG = 6.10 dBi

5G UNII-4 DG = 6.10 dBi

Note 5: **For 2.4GHz function:**

For IEEE 802.11 b/g/n/VHT/ax/be (2TX/2RX):

Port 1~2 can be used as transmitting/receiving antenna.

Port 1~2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax/be (2TX/2RX):

Port 1~2 can be used as transmitting/receiving antenna.

Port 1~2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.632	1.99	395u	3k
BT-LE(2Mbps)	0.538	2.69	672.5u	3k

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power PoE			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	DOS v6.1.7601			
Support Mode	☒	LE 1M PHY: 1 Mb/s		
	☐	LE Coded PHY (S=2): 500 Kb/s		
	☐	LE Coded PHY (S=8): 125 Kb/s		
	☒	LE 2M PHY: 2 Mb/s		

Note: The above information was declared by manufacturer.

1.2 Applicable Standards

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

- 47 CFR FCC Part 15.247
- ANSI C63.10-2013

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

- FCC KDB 558074 D01 v05r02
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

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
RF Conducted	TH03-CB	Owen Hsu	22.3~24.1 / 60~63	Aug. 27, 2024~ Oct. 31, 2024
Radiated (below 1G)	03CH03-CB	Jackson Pong	22.2-22.6 / 59-61	Aug. 20, 2024~ Oct. 30, 2024
	03CH05-CB		21.6-22.7 / 56-59	
Radiated (above 1G)	03CH02-CB		22-23 / 61-63	
	03CH06-CB		22.5-22.9 / 58-60	
AC Conduction	CO01-CB	Ryan Huang	23~24 / 55~56	Aug. 22, 2024

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.0 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.1 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode
BT-LE(1Mbps)
2402MHz
2440MHz
2480MHz
BT-LE(2Mbps)
2402MHz
2440MHz
2480MHz

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT + PoE 1

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	After evaluating, the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis + PoE 2_WLAN 2.4GHz
2	EUT in Y axis + PoE 2_WLAN 5GHz
3	EUT in Y axis + PoE 2_Bluetooth
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
	After evaluating, the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth
Refer to Sporton Test Report No.: FA471503 for Co-location RF Exposure Evaluation.	

Note: The PoE below is for measurement only, would not be marketed.
The PoE information as below:

Support Unit	Brand	Model
PoE 1	DELTA	ADH-65AR N
PoE 2	DELTA	ADH-90AR B

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Wall-mounted rack*1

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	PoE 1	DELTA	ADH-65AR N	N/A
B	PoE PC	DELL	OPTIPLEX 3010	N/A
C	LAN PC	DELL	OPTIPLEX 3010	N/A
D	Device	SonicFi	RAP750W-311A	N89-75W311AV1
E	Device PC	DELL	OPTIPLEX 3010	N/A
F	Smart Phone	Samsung	Galaxy J2	N/A
G	2.4G NB	DELL	E6430	N/A
H	5G NB	DELL	E6430	N/A

For Radiated:

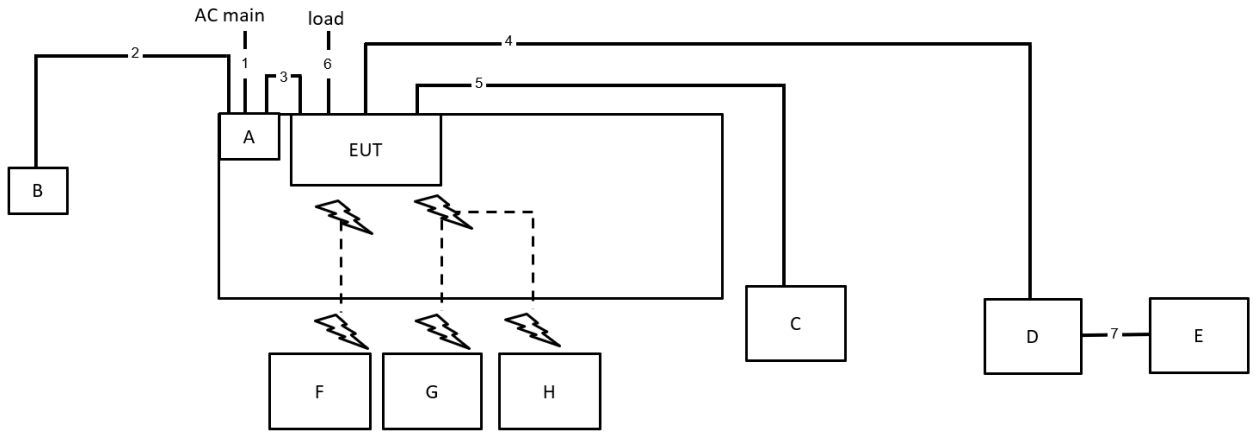
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E6230	N/A
B	PoE 2	DELTA	ADH-90AR B	N/A

For RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A

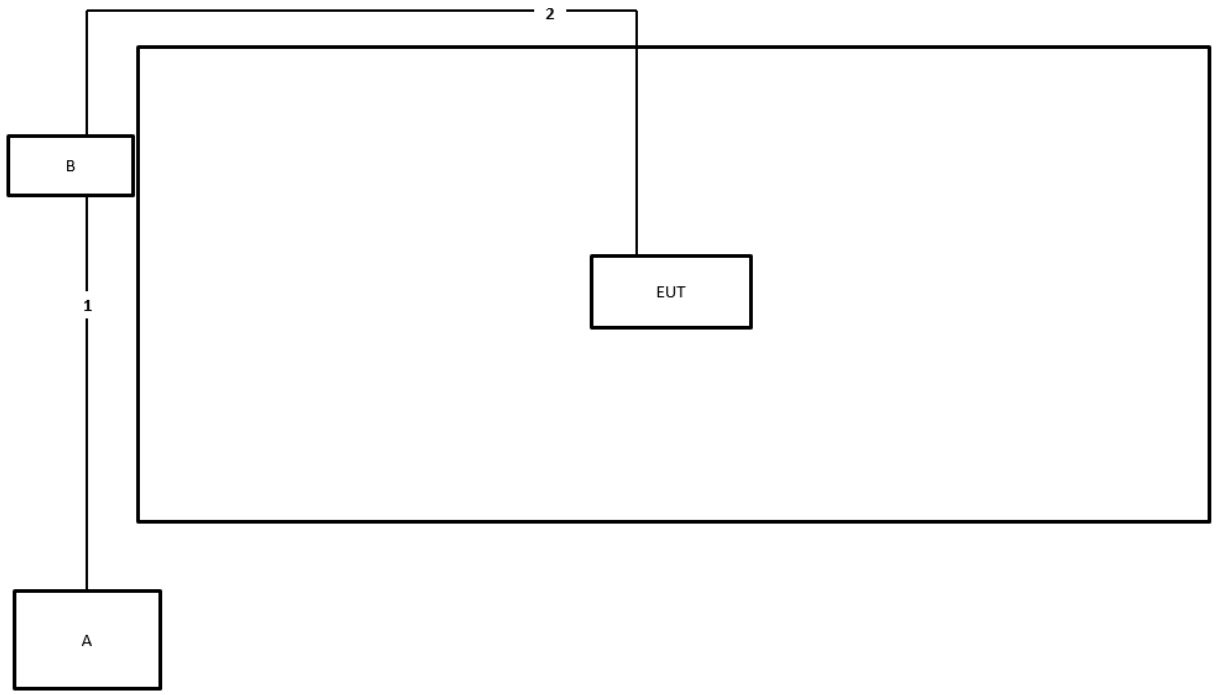
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	RJ-45 cable	No	1.5m
7	RJ-45 cable	No	1.5m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	1m
2	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

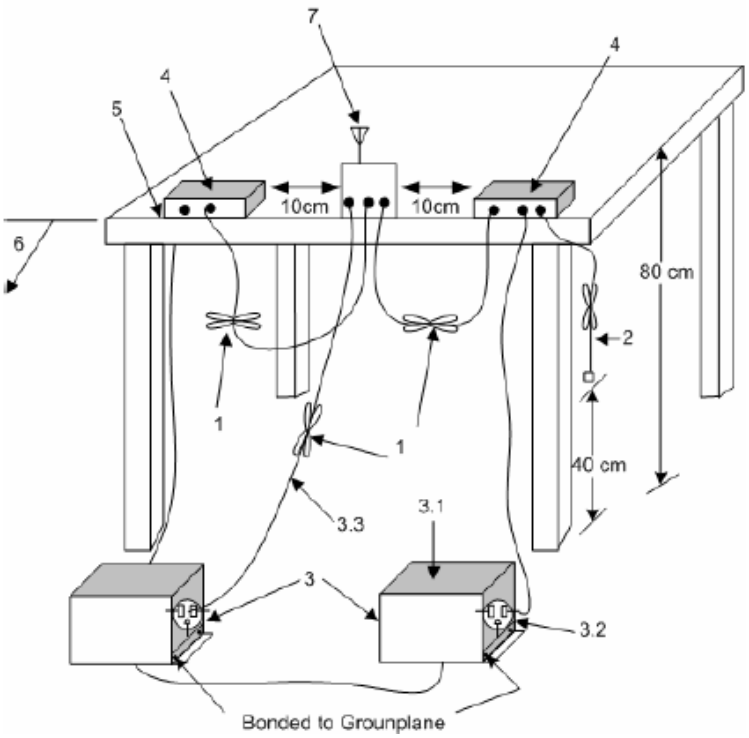
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

1.1.1. Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

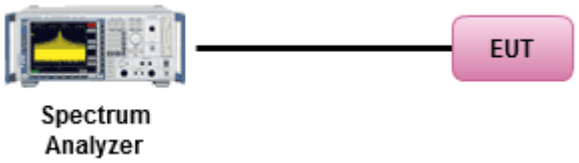
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
	Measurement using a power meter (PM)
	☐ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
	☒ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD)≤8 dBm/3kHz

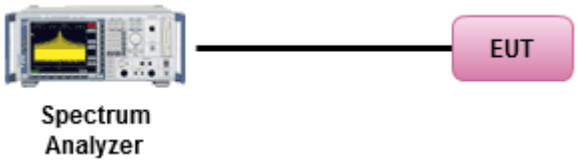
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.	
	[duty cycle ≥ 98% or external video / power trigger]	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		☐ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dBc)**
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.	

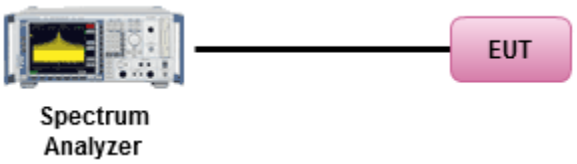
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

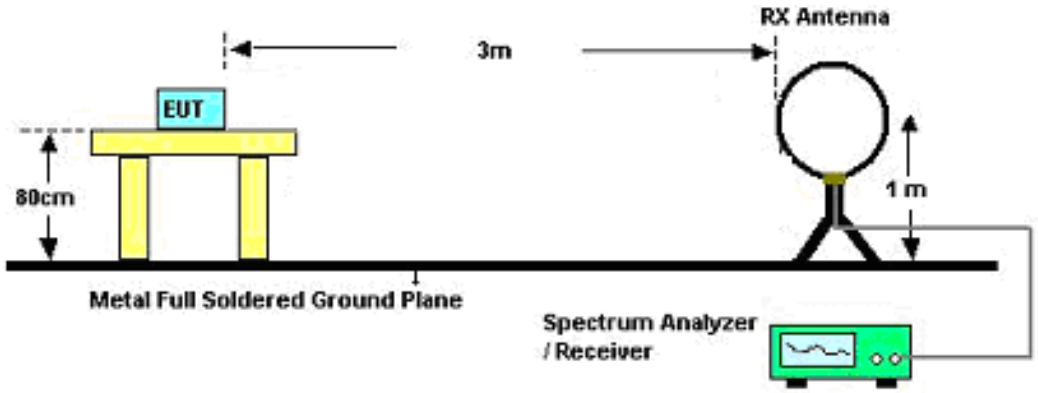
3.6.3 Test Procedures

Test Method			
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].			
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.			
▪ For the transmitter unwanted emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.		
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
		☐	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 clause 8.7 & c63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.		
	▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.		
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).		
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB		
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.		

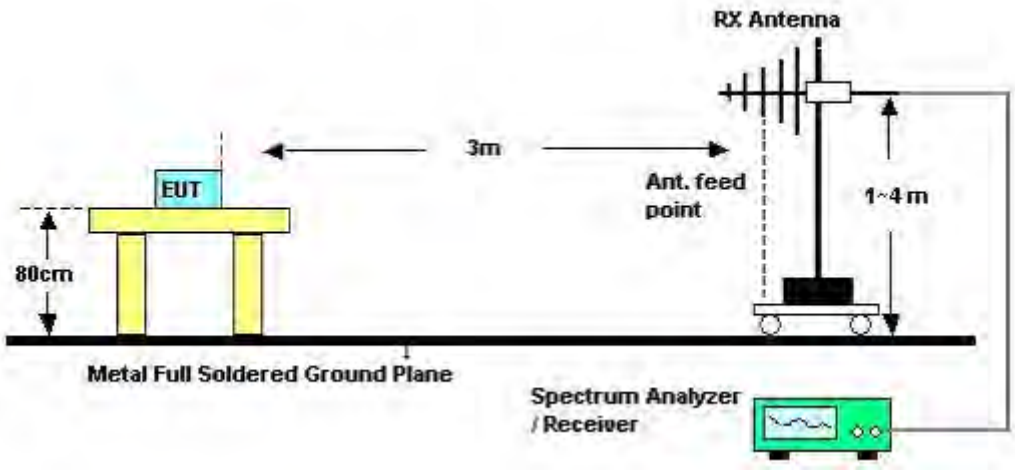
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

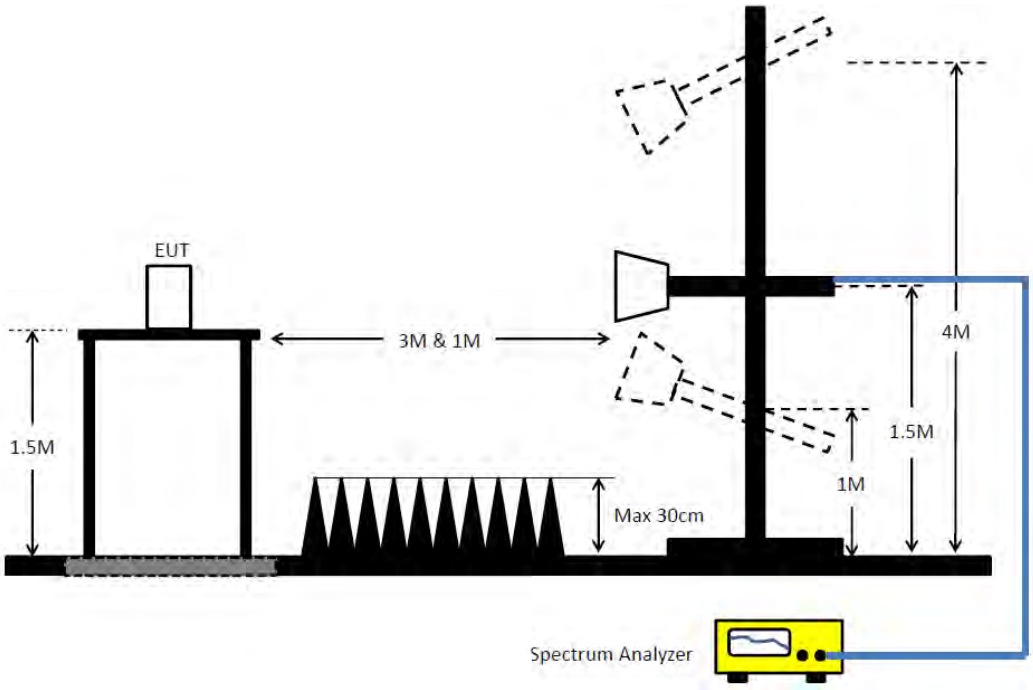
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 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.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 01, 2024	Feb. 28, 2025	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 19, 2024	Feb. 18, 2025	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 24, 2024	Apr. 23, 2025	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 08, 2024	Feb. 07, 2025	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 17, 2023	Oct. 16, 2024	Conduction (CO01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH03-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 16, 2024	Oct. 15, 2025	Radiation (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30 MHz ~ 1 GHz	Jan. 18, 2024	Jan. 17, 2025	Radiation (03CH03-CB)
Bilog Antenna with 6dB Attenator	Schaffner & EMCI	CBL6112B& N-6-06	2888&AT-N0605	30MHz ~ 1GHz	Jan. 18, 2024	Jan. 17, 2025	Radiation (03CH03-CB)
Amplifier	SGH	SGH301	20240606-1	30MHz ~ 1GHz	Jun. 04, 2024	Jun. 03, 2025	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 11, 2024	Jun. 10, 2025	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 21, 2024	Oct. 20, 2025	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+29	30MHz ~ 1GHz	Jun. 20, 2024	Jun. 19, 2025	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 16, 2024	Oct. 15, 2025	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 01, 2024	Jul. 31, 2025	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 23, 2024	Mar. 22, 2025	Radiation (03CH05-CB)
Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 02, 2024	May 01, 2025	Radiation (03CH05-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 17, 2024	Apr. 16, 2025	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 21, 2024	Oct. 20, 2025	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Dec. 06, 2023	Dec. 05, 2024	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz	Mar. 24, 2024	Mar. 23, 2025	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 12, 2024	Apr. 11, 2025	Radiation (03CH02-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jul. 09, 2024	Jul. 08, 2025	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jun. 29, 2024	Jun. 28, 2025	Radiation (03CH02-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH02-CB)
Signal Analyzer	R&S	FSV3044	101536	10kHz ~ 44GHz	Aug. 14, 2024	Aug. 13, 2025	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Jun. 20, 2024	Jun. 19, 2025	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Jun. 20, 2024	Jun. 19, 2025	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE-15247_FS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 09, 2023	Oct. 08, 2024	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Jul. 29, 2024	Jul. 28, 2025	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jul. 09, 2024	Jul. 08, 2025	Radiation (03CH06-CB)
Pre-Amplifier	EMCI	EMC12630SE	980383	1GHz ~ 18GHz	Jul. 31, 2024	Jul. 30, 2025	Radiation (03CH06-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH06-CB)
Signal analyzer	R&S	FSV3044	101667	9kHz~44GHz	Aug. 20, 2024	Aug. 19, 2025	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+68	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH06-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE-15247_FS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Dec. 22, 2023	Dec. 21, 2024	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 06, 2024	Sep. 05, 2025	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 06, 2024	Sep. 05, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 ~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1~18GHz	Oct. 02, 2024	Oct. 01, 2025	Conducted (TH03-CB)
Test Software	SPORTON	SENSE-15247_FS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Conducted (TH03-CB)

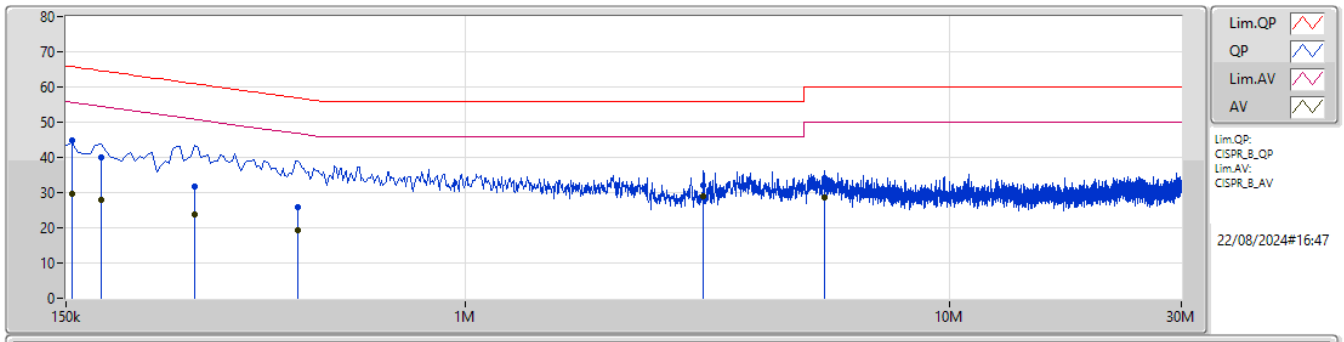
Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.

Summary

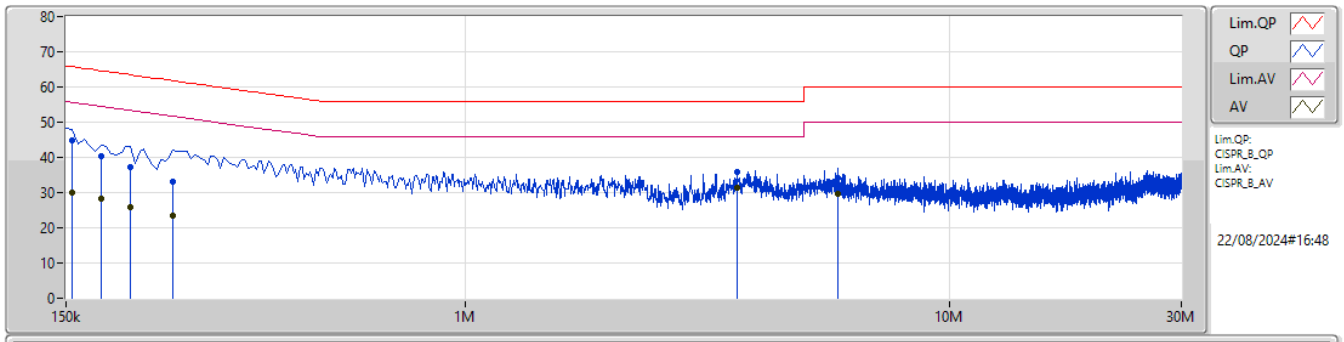
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	3.633M	31.44	46.00	-14.56	Neutral

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	44.70	65.75	-21.05	9.92	Line	-	34.78	0.04	0.02	9.86
AV	154.5k	29.62	55.75	-26.13	9.92	Line	-	19.70	0.04	0.02	9.86
QP	177k	40.13	64.62	-24.49	9.92	Line	-	30.21	0.04	0.02	9.86
AV	177k	28.05	54.62	-26.57	9.92	Line	-	18.13	0.04	0.02	9.86
QP	276k	31.58	60.93	-29.35	9.93	Line	-	21.65	0.04	0.02	9.87
AV	276k	23.93	50.93	-27.00	9.93	Line	-	14.00	0.04	0.02	9.87
QP	451.5k	25.93	56.84	-30.91	9.96	Line	-	15.97	0.05	0.02	9.89
AV	451.5k	19.14	46.84	-27.70	9.96	Line	-	9.18	0.05	0.02	9.89
QP	3.102M	32.09	56.00	-23.91	10.13	Line	-	21.96	0.12	0.11	9.90
AV	3.102M	29.13	46.00	-16.87	10.13	Line	"Worst"	19.00	0.12	0.11	9.90
QP	5.505M	33.98	60.00	-26.02	10.20	Line	-	23.78	0.16	0.14	9.90
AV	5.505M	28.77	50.00	-21.23	10.20	Line	-	18.57	0.16	0.14	9.90

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	44.95	65.75	-20.80	9.94	Neutral	-	35.01	0.06	0.02	9.86
AV	154.5k	29.98	55.75	-25.77	9.94	Neutral	-	20.04	0.06	0.02	9.86
QP	177k	40.39	64.62	-24.23	9.94	Neutral	-	30.45	0.06	0.02	9.86
AV	177k	28.22	54.62	-26.40	9.94	Neutral	-	18.28	0.06	0.02	9.86
QP	204k	37.15	63.44	-26.29	9.93	Neutral	-	27.22	0.06	0.02	9.85
AV	204k	25.78	53.44	-27.66	9.93	Neutral	-	15.85	0.06	0.02	9.85
QP	249k	33.18	61.79	-28.61	9.94	Neutral	-	23.24	0.06	0.02	9.86
AV	249k	23.59	51.79	-28.20	9.94	Neutral	-	13.65	0.06	0.02	9.86
QP	3.633M	35.87	56.00	-20.13	10.16	Neutral	-	25.71	0.13	0.13	9.90
AV	3.633M	31.44	46.00	-14.56	10.16	Neutral	"Worst"	21.28	0.13	0.13	9.90
QP	5.874M	34.00	60.00	-26.00	10.22	Neutral	-	23.78	0.18	0.14	9.90
AV	5.874M	29.67	50.00	-20.33	10.22	Neutral	-	19.45	0.18	0.14	9.90

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	735k	1.044M	1M04F1D	696.25k	1.038M
BT-LE(2Mbps)	1.225M	2.097M	2M10F1D	927.5k	2.07M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

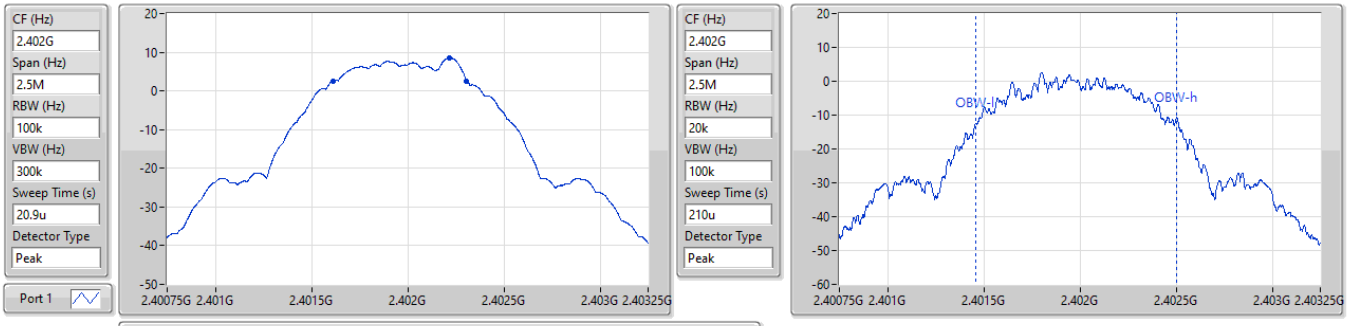
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	696.25k	1.044M
2440MHz	Pass	500k	735k	1.038M
2480MHz	Pass	500k	727.5k	1.042M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.225M	2.07M
2440MHz	Pass	500k	1.11M	2.097M
2480MHz	Pass	500k	927.5k	2.07M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2402MHz

06/09/2024

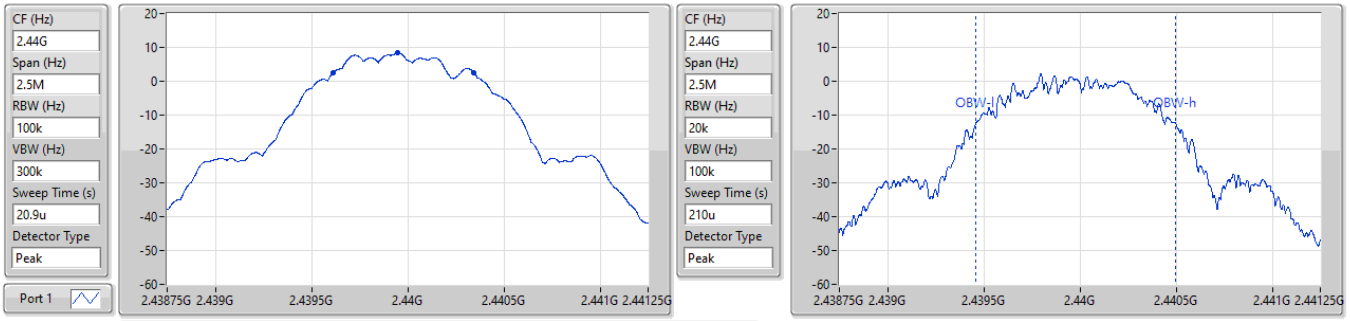


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
696.25k	2.40161G	2.402306G	1.044M	2.40146G	2.402505G	500k	1

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2440MHz

06/09/2024

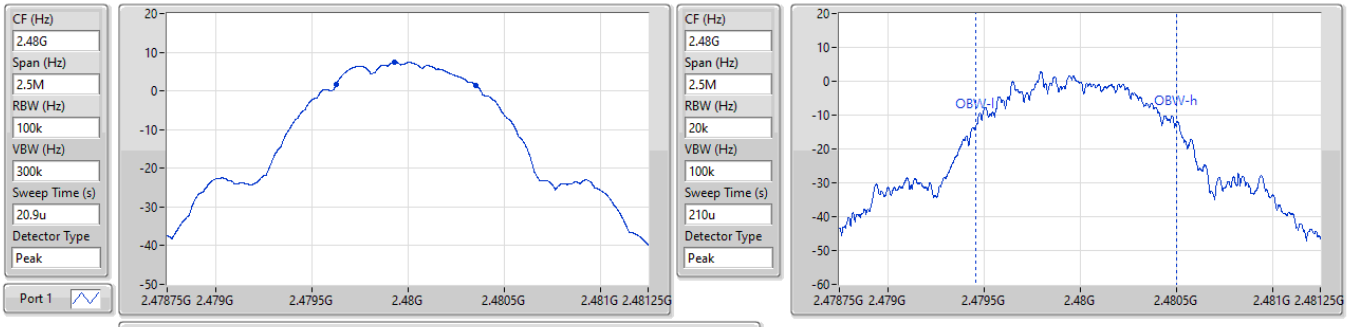


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
735k	2.43961G	2.440345G	1.038M	2.439459G	2.440498G	500k	1

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2480MHz

06/09/2024

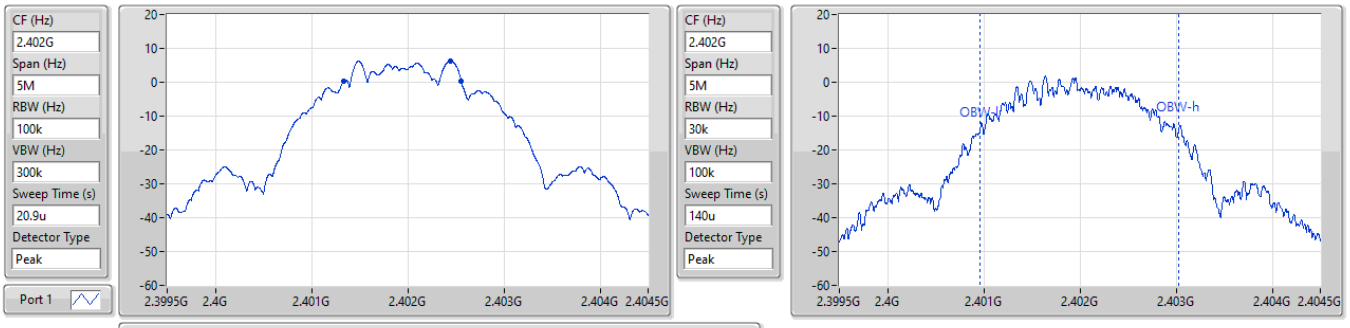


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
727.5k	2.479628G	2.480355G	1.042M	2.479461G	2.480503G	500k	1

2.4-2.4835GHz_BT-LE(2Mbps) **EBW-DTS**

2402MHz

06/09/2024

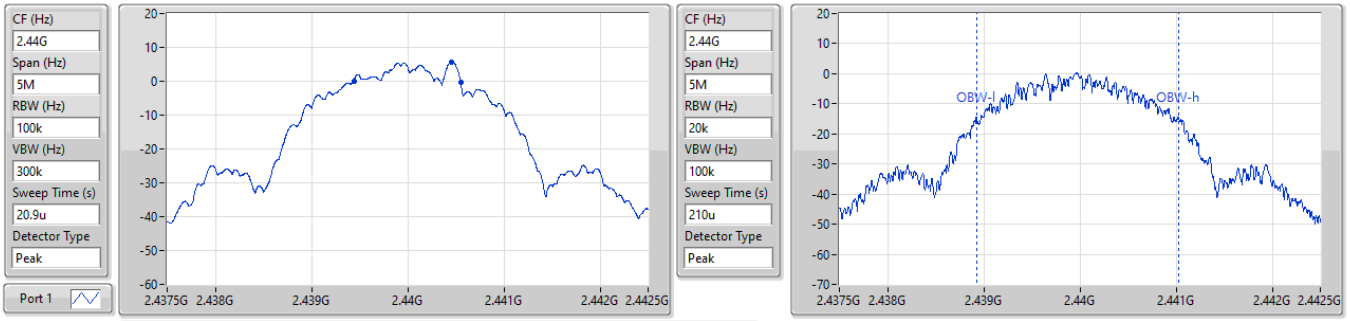


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.225M	2.401333G	2.402558G	2.07M	2.40096G	2.40303G	500k	1

2.4-2.4835GHz_BT-LE(2Mbps) **EBW-DTS**

2440MHz

06/09/2024

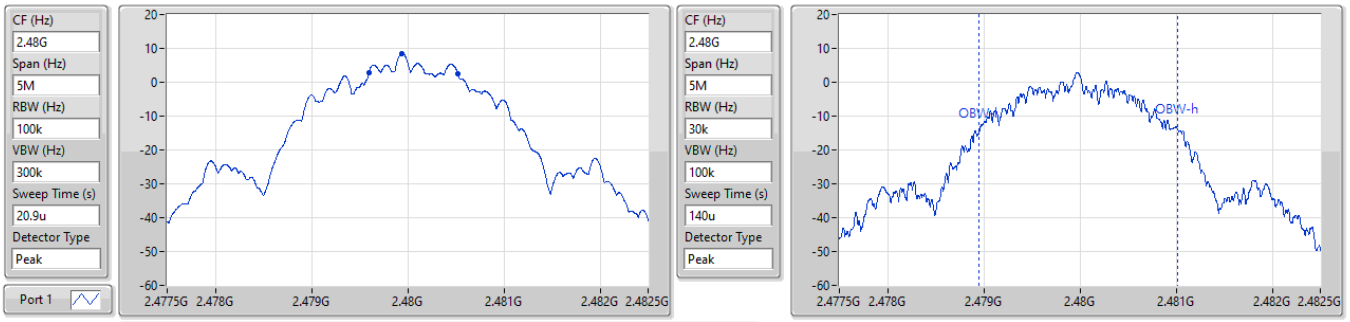


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.11M	2.43944G	2.44055G	2.097M	2.43893G	2.441027G	500k	1

2.4-2.4835GHz_BT-LE(2Mbps) **EBW-DTS**

2480MHz

06/09/2024



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
927.5k	2.479595G	2.480523G	2.07M	2.478949G	2.481019G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	9.73	0.00940
BT-LE(2Mbps)	9.35	0.00861

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.78	9.46	30.00
2440MHz	Pass	1.78	9.73	30.00
2480MHz	Pass	1.78	9.40	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	1.78	9.23	30.00
2440MHz	Pass	1.78	9.35	30.00
2480MHz	Pass	1.78	9.11	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-7.05
BT-LE(2Mbps)	-8.14

RBW = 3kHz;

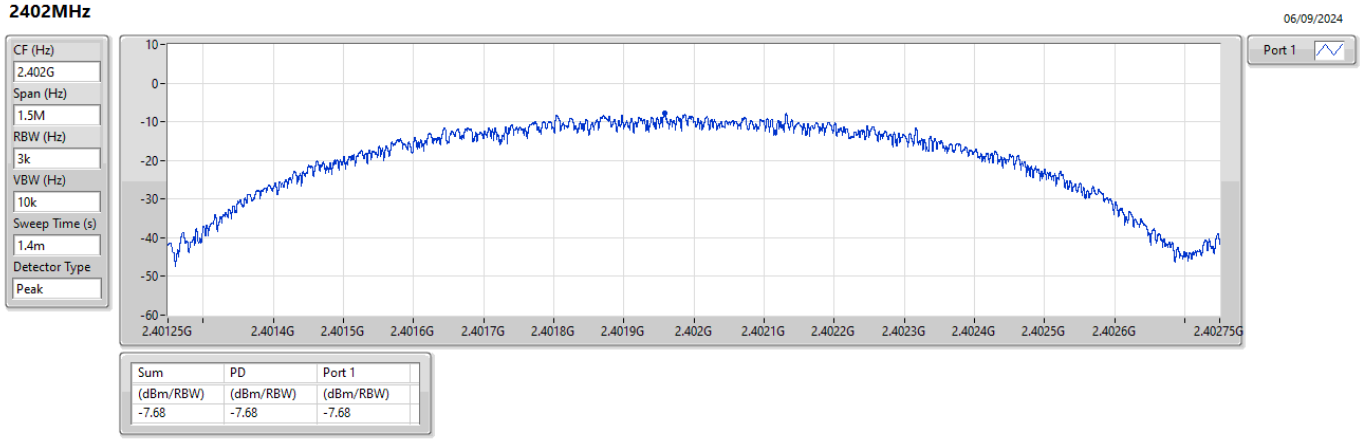
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.78	-7.68	8.00
2440MHz	Pass	1.78	-7.05	8.00
2480MHz	Pass	1.78	-8.43	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	1.78	-8.72	8.00
2440MHz	Pass	1.78	-8.14	8.00
2480MHz	Pass	1.78	-8.59	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

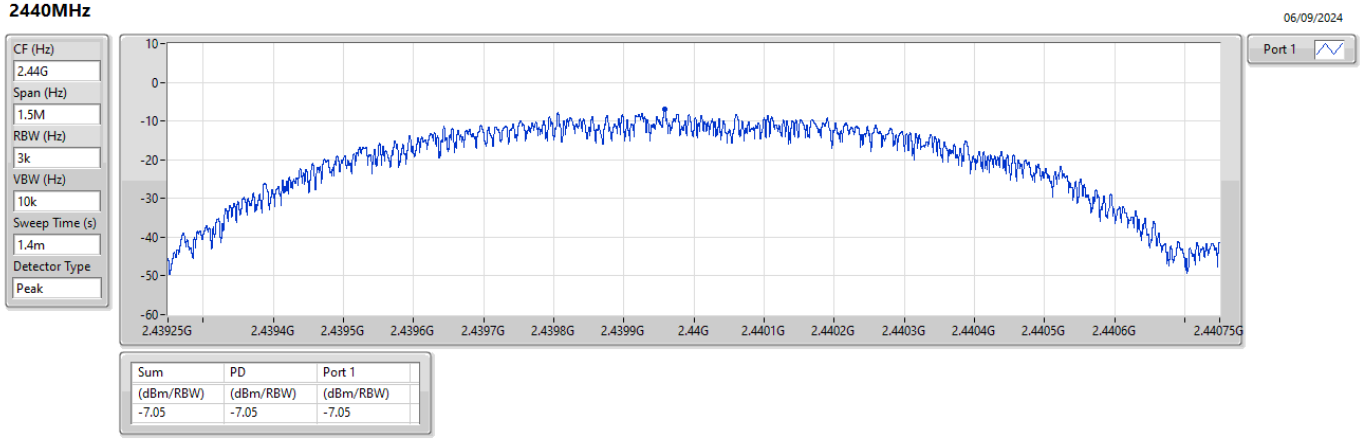
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2402MHz



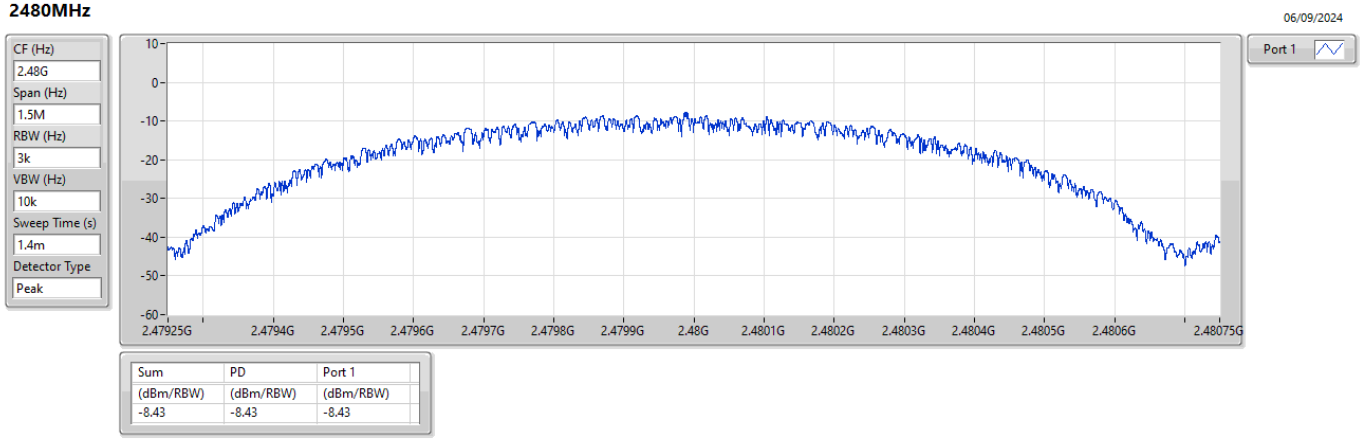
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2440MHz



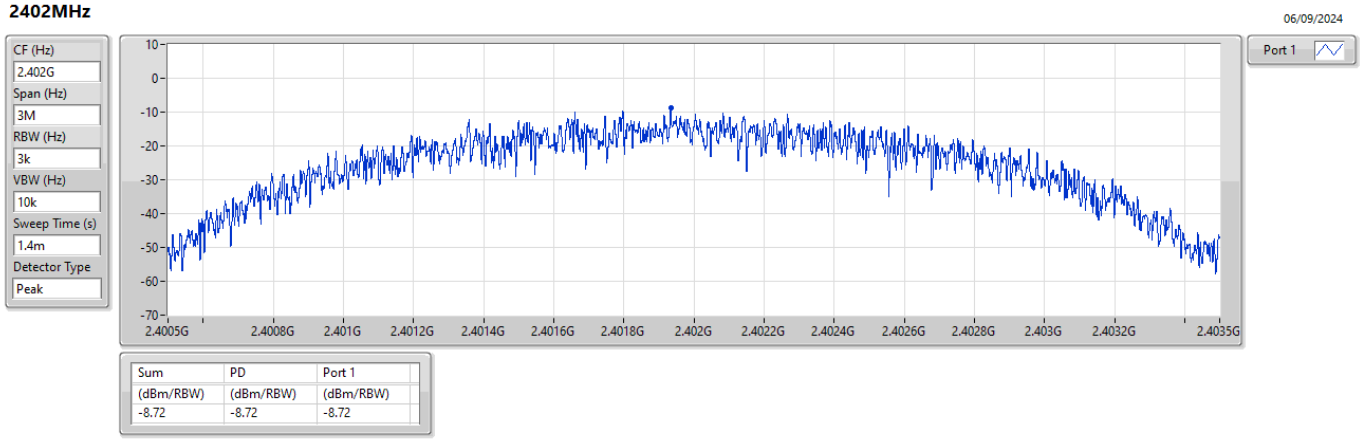
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2480MHz



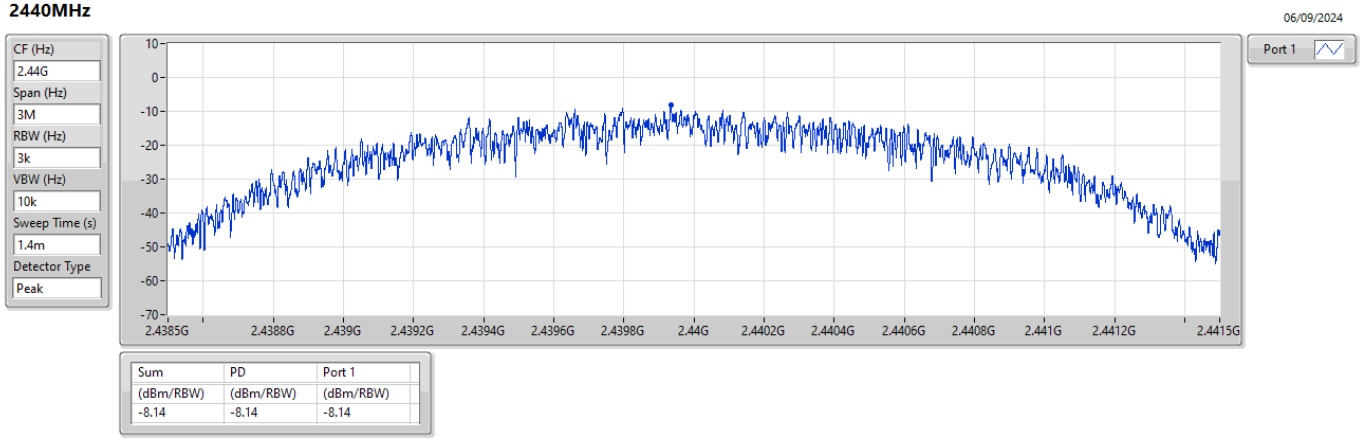
2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

2402MHz



2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

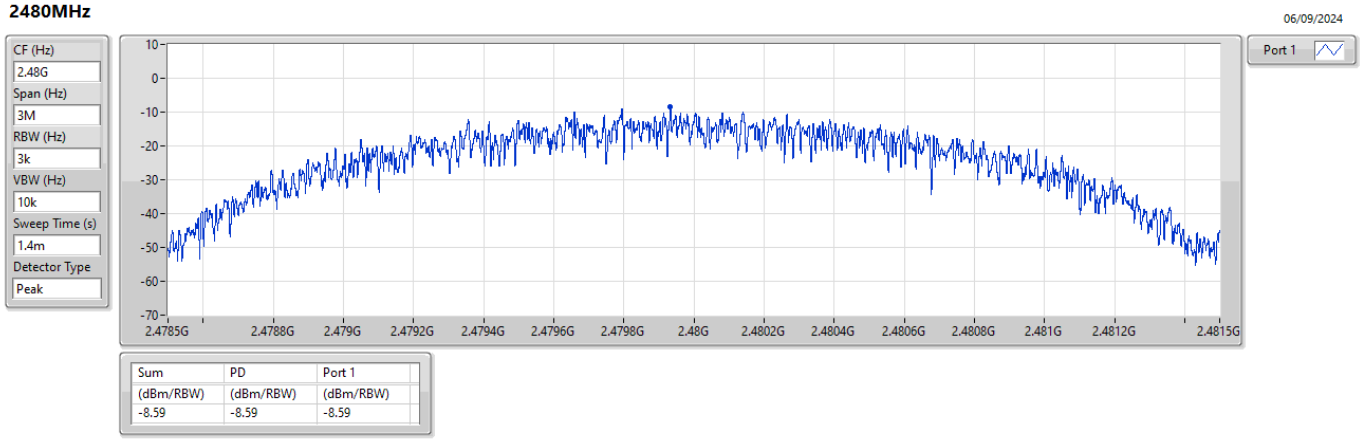
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.14	-8.14	-8.14

2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.59	-8.59	-8.59

Summary

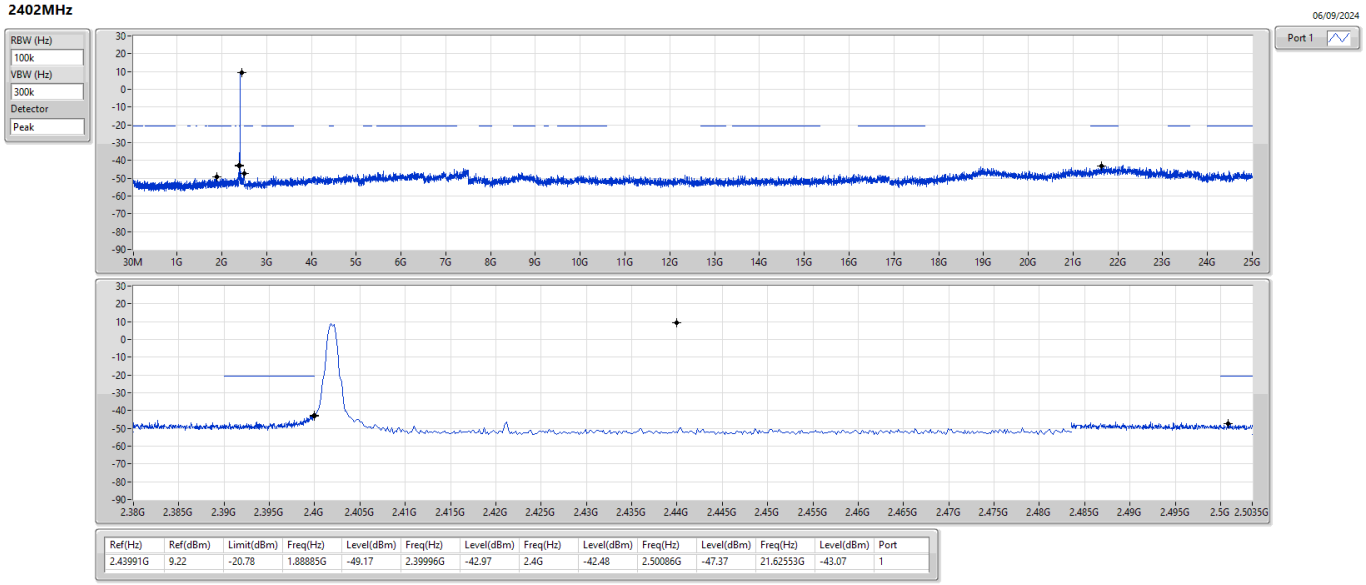
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.43991G	9.22	-20.78	1.88885G	-49.17	2.39996G	-42.97	2.4G	-42.48	2.50086G	-47.37	21.62553G	-43.07	1
BT-LE(2Mbps)	Pass	2.43991G	9.24	-20.76	2.0181G	-49.89	2.39996G	-23.69	2.4G	-23.81	2.50302G	-46.92	21.76332G	-42.91	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43991G	9.22	-20.78	1.88885G	-49.17	2.39996G	-42.97	2.4G	-42.48	2.50086G	-47.37	21.62553G	-43.07	1
2440MHz	Pass	2.43991G	9.22	-20.78	2.17438G	-49.63	2.39036G	-46.97	2.4G	-50.98	2.50122G	-47.32	21.74082G	-42.57	1
2480MHz	Pass	2.43991G	9.22	-20.78	1.73845G	-49.24	2.39408G	-46.56	2.4G	-52.61	2.5011G	-47.08	21.52429G	-43.09	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43991G	9.24	-20.76	2.0181G	-49.89	2.39996G	-23.69	2.4G	-23.81	2.50302G	-46.92	21.76332G	-42.91	1
2440MHz	Pass	2.43991G	9.24	-20.76	1.77488G	-49.52	2.39036G	-47.40	2.4G	-53.02	2.5013G	-47.37	21.99391G	-42.43	1
2480MHz	Pass	2.43991G	9.24	-20.76	1.863G	-49.53	2.39604G	-47.37	2.4G	-51.45	2.50106G	-47.34	21.90111G	-42.69	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

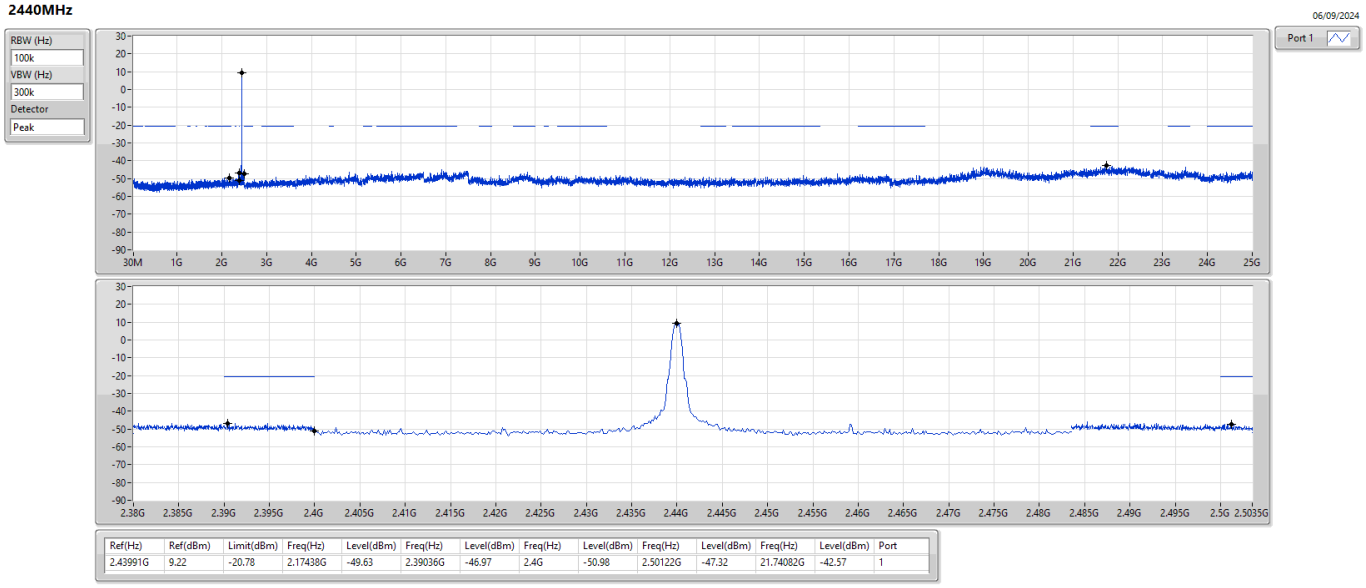
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.22	-20.78	1.88885G	-49.17	2.39996G	-42.97	2.4G	-42.48	2.50086G	-47.37	21.62553G	-43.07	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

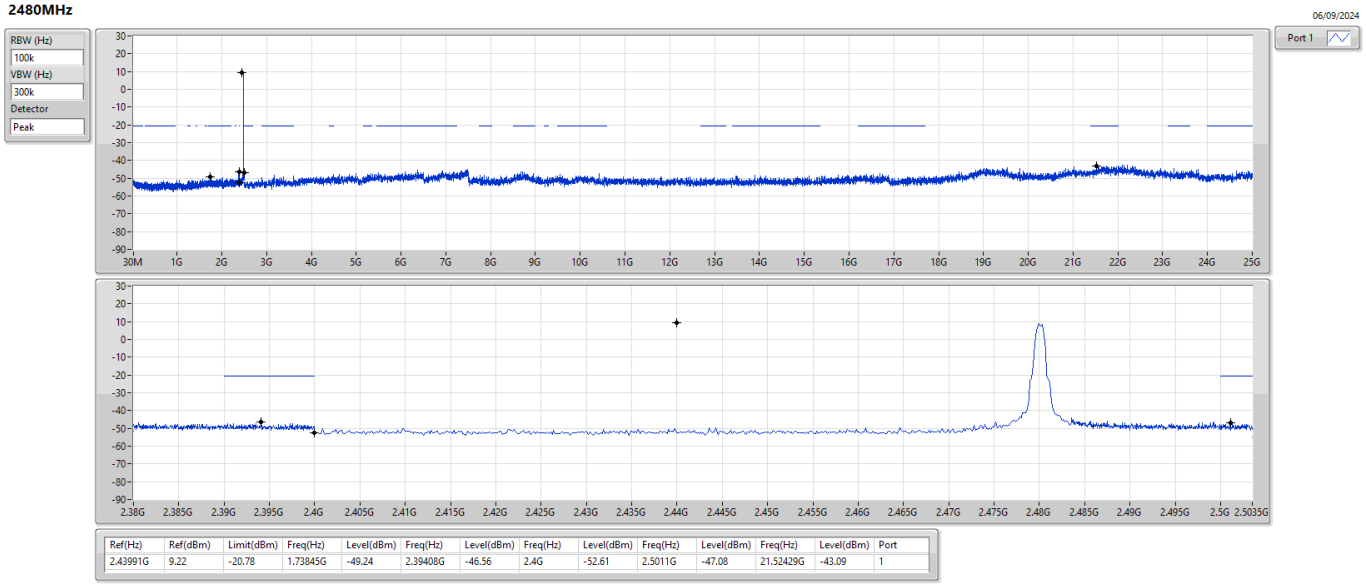
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.22	-20.78	2.17438G	-49.63	2.39036G	-46.97	2.4G	-50.98	2.50122G	-47.32	21.74082G	-42.57	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

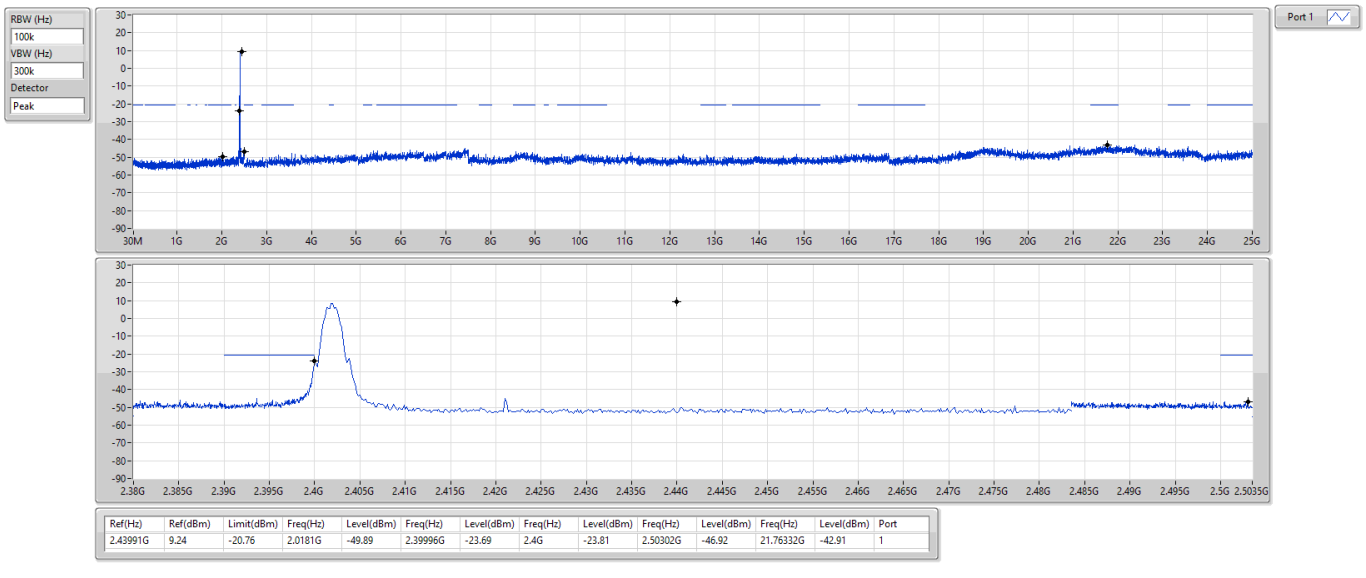
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.22	-20.78	1.73845G	-49.24	2.39408G	-46.56	2.4G	-52.61	2.5011G	-47.08	21.52429G	-43.09	1

2.4-2.4835GHz_BT-LE(2Mbps) CSENdB-DTS

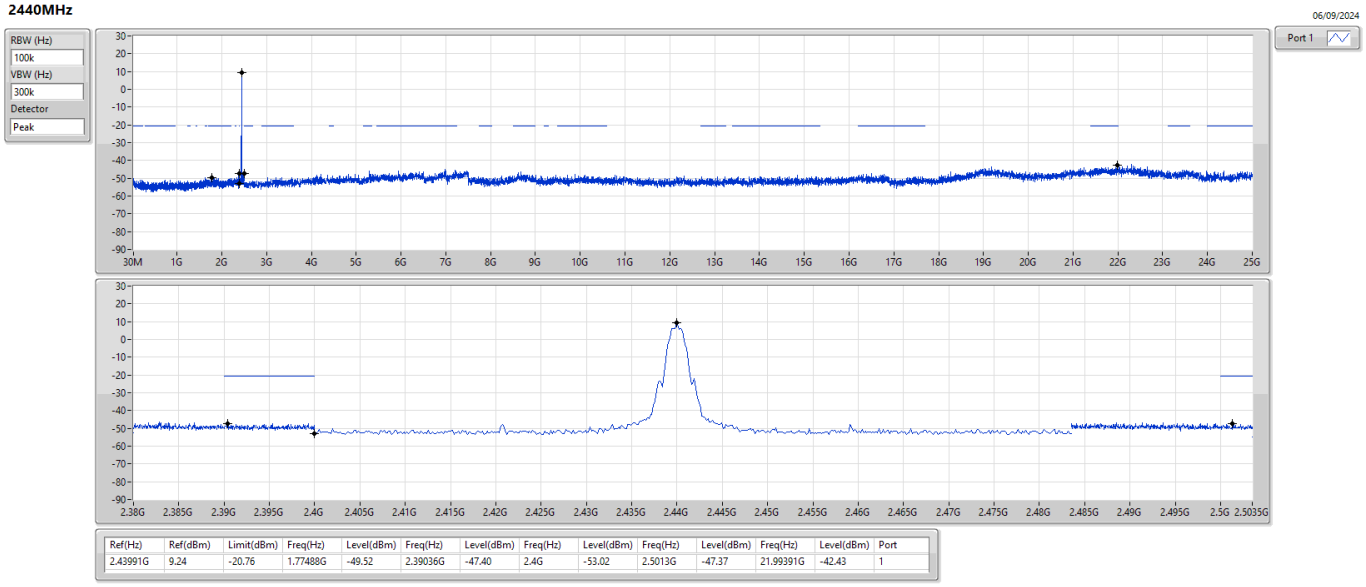
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.24	-20.76	2.0181G	-49.89	2.39996G	-23.69	2.4G	-23.81	2.50302G	-46.92	21.76332G	-42.91	1

2.4-2.4835GHz_BT-LE(2Mbps) CSENdB-DTS

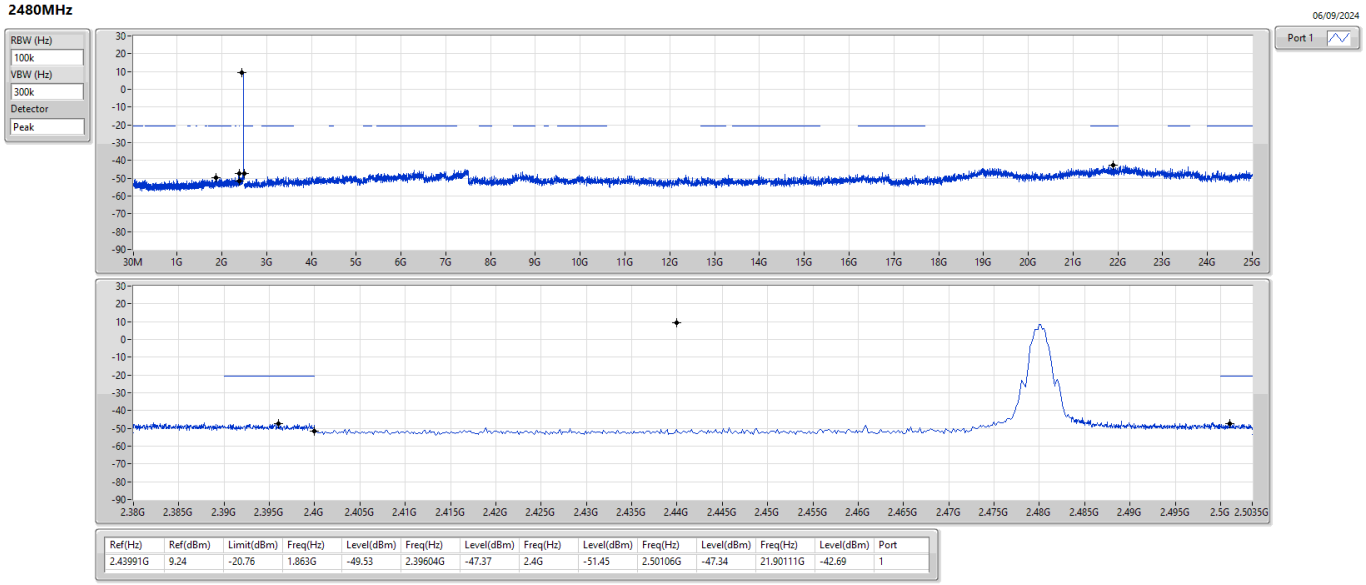
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.24	-20.76	1.77488G	-49.52	2.39036G	-47.40	2.4G	-53.02	2.5013G	-47.37	21.99391G	-42.43	1

2.4-2.4835GHz_BT-LE(2Mbps) CSENdB-DTS

2480MHz

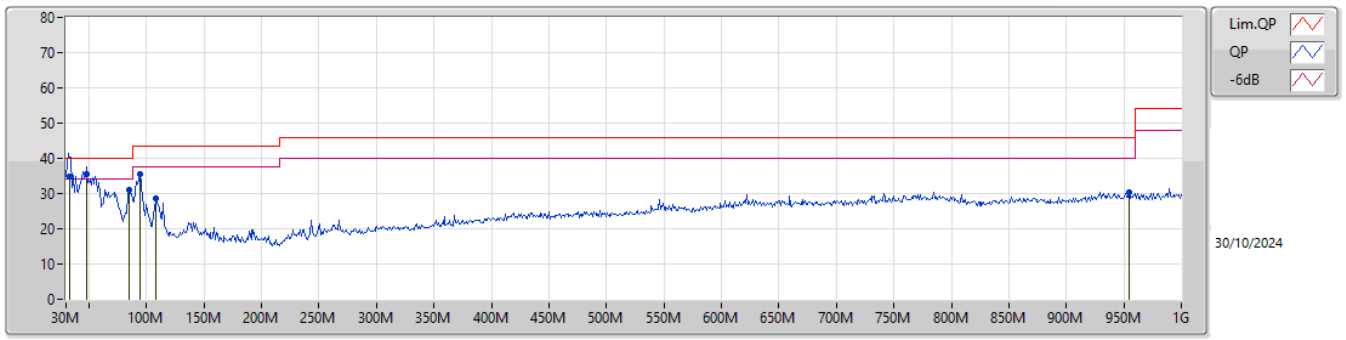


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	9.24	-20.76	1.863G	-49.53	2.39604G	-47.37	2.4G	-51.45	2.50106G	-47.34	21.90111G	-42.69	1

Summary

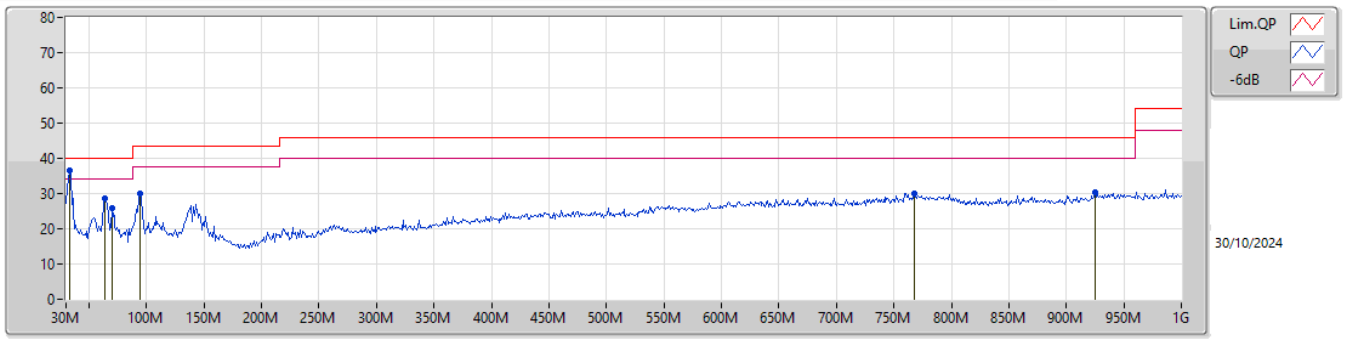
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	32.91M	36.57	40.00	-3.43	Horizontal

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)	(dB/m)	(dB)	(dB)
QP	32.91M	34.90	40.00	-5.10	-9.17	3	Vertical	210	1.00	-	44.07	22.68	0.56	32.41
PK	48.43M	35.42	40.00	-4.58	-16.94	3	Vertical	1	1.00	"Worst"	52.36	14.74	0.66	32.34
PK	85.29M	31.04	40.00	-8.96	-17.60	3	Vertical	138	1.50	-	48.64	13.80	0.98	32.38
PK	94.02M	35.60	43.50	-7.90	-15.89	3	Vertical	283	1.25	-	51.49	15.49	1.00	32.38
PK	108.57M	28.63	43.50	-14.87	-13.85	3	Vertical	168	1.25	-	42.48	17.46	1.02	32.33
PK	954.41M	30.27	46.00	-15.73	-0.72	3	Vertical	186	2.00	-	30.99	26.63	3.08	30.43

Mode 1



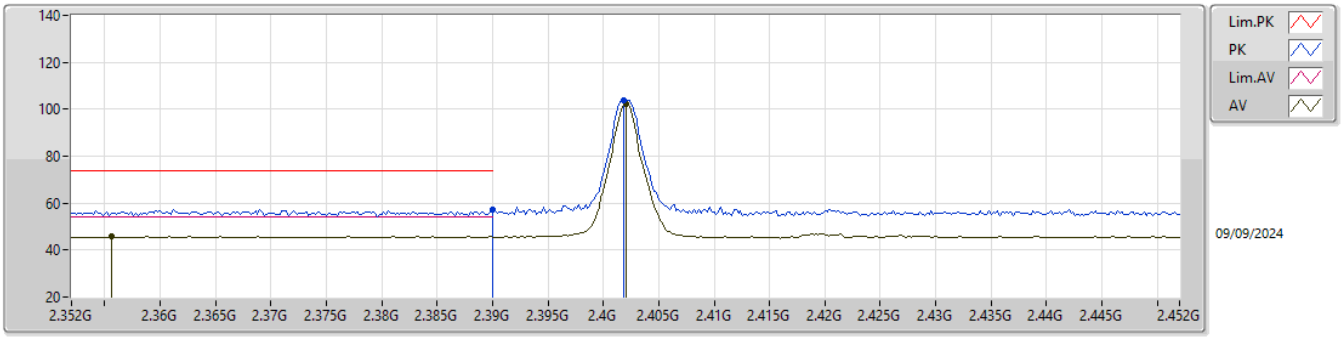
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	32.91M	36.57	40.00	-3.43	-9.17	3	Horizontal	241	1.25	"Worst"	45.74	22.68	0.56	32.41
PK	63.95M	28.71	40.00	-11.29	-19.37	3	Horizontal	360	1.00	-	48.08	12.16	0.75	32.28
PK	69.77M	25.76	40.00	-14.24	-19.24	3	Horizontal	17	2.00	-	45.00	12.18	0.87	32.29
PK	94.02M	29.97	43.50	-13.53	-15.89	3	Horizontal	204	2.00	-	45.86	15.49	1.00	32.38
PK	768.17M	30.11	46.00	-15.89	-2.99	3	Horizontal	140	1.50	-	33.10	25.70	2.75	31.44
PK	925.31M	30.33	46.00	-15.67	-1.45	3	Horizontal	6	2.00	-	31.78	26.48	3.06	30.99

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(2Mbps)	Pass	AV	2.4835G	53.83	54.00	-0.17	3	Horizontal	359.9	2.25	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

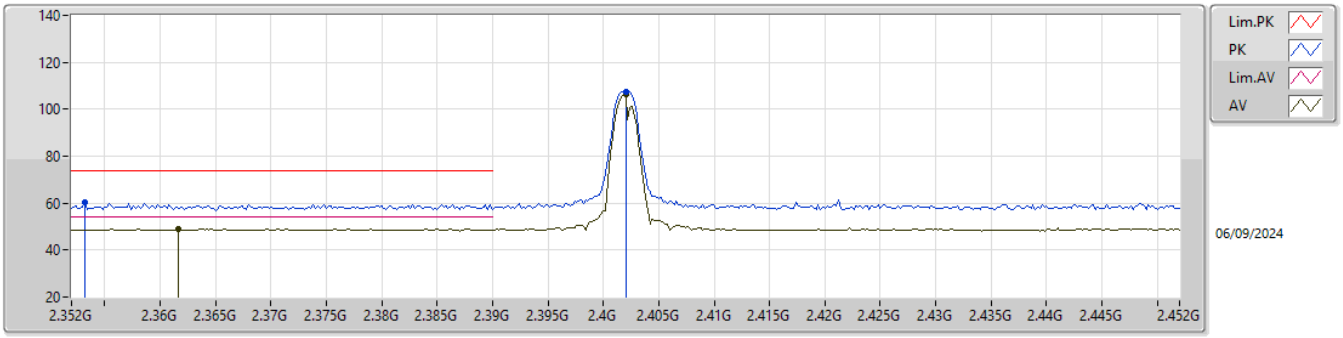


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	2.39G	57.38	74.00	-16.62	24.82	3	Vertical	278	3.00	-	28.50	4.06	-
AV	2.3556G	45.77	54.00	-8.23	13.37	3	Vertical	278	3.00	-	28.36	4.04	-
PK	2.4018G	103.90	Inf	-Inf	71.35	3	Vertical	278	3.00	-	28.48	4.07	-
AV	2.402G	102.49	Inf	-Inf	69.94	3	Vertical	278	3.00	-	28.48	4.07	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

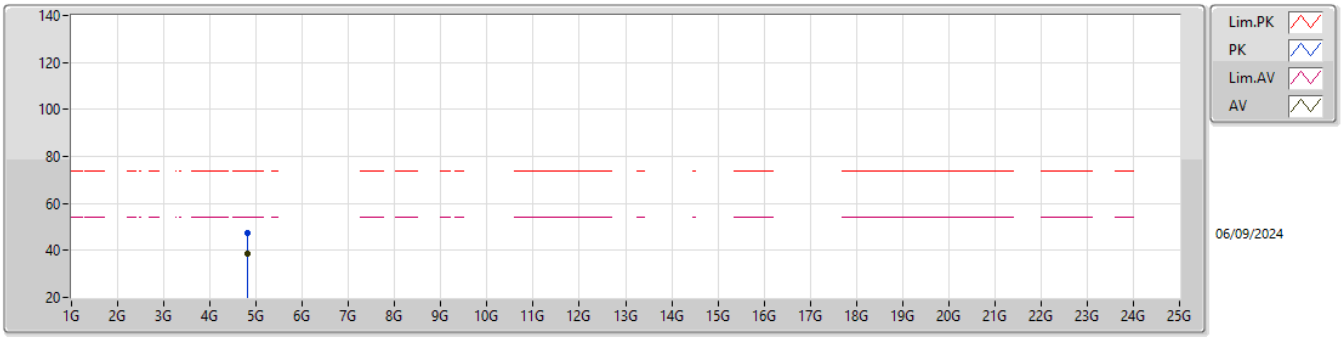


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.3532G	60.09	74.00	-13.91	27.62	3	Horizontal	351	2.38	-	27.80	4.67	-
AV	2.3616G	49.11	54.00	-4.89	16.65	3	Horizontal	351	2.38	-	27.78	4.68	-
PK	2.402G	107.50	Inf	-Inf	75.18	3	Horizontal	351	2.38	-	27.60	4.72	-
AV	2.402G	106.60	Inf	-Inf	74.28	3	Horizontal	351	2.38	-	27.60	4.72	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

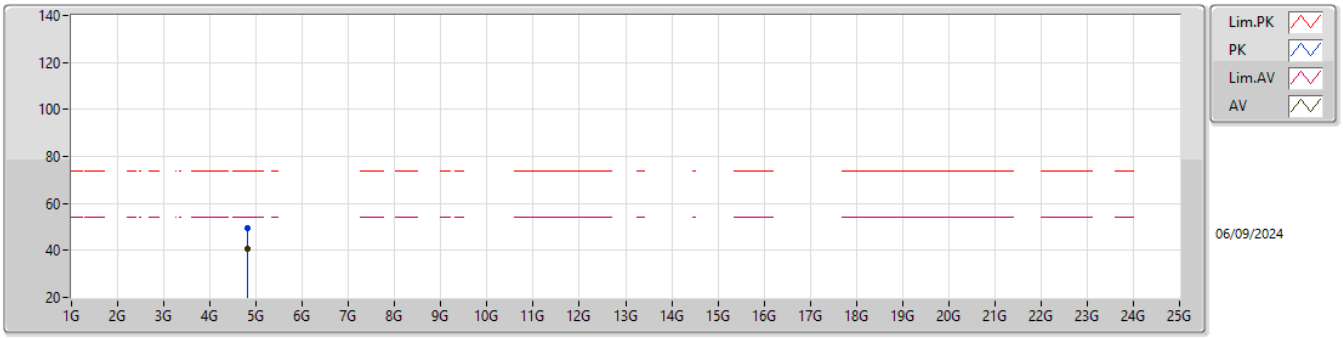


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	4.80354G	47.63	74.00	-26.37	41.62	3	Vertical	119	2.42	-	31.39	6.67	32.05
AV	4.80438G	38.80	54.00	-15.20	32.79	3	Vertical	119	2.42	-	31.39	6.67	32.05

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

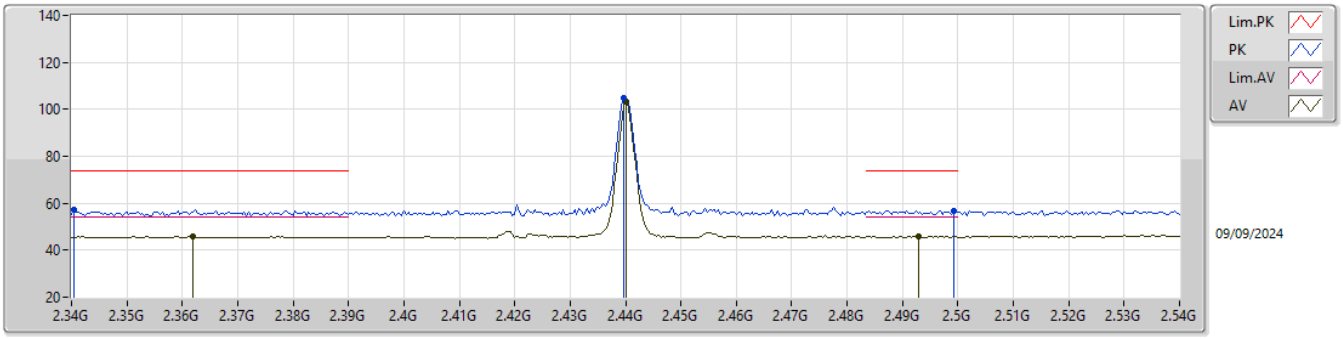


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	4.80338G	49.57	74.00	-24.43	43.56	3	Horizontal	171	1.60	-	31.39	6.67	32.05
AV	4.80362G	40.79	54.00	-13.21	34.78	3	Horizontal	171	1.60	-	31.39	6.67	32.05

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

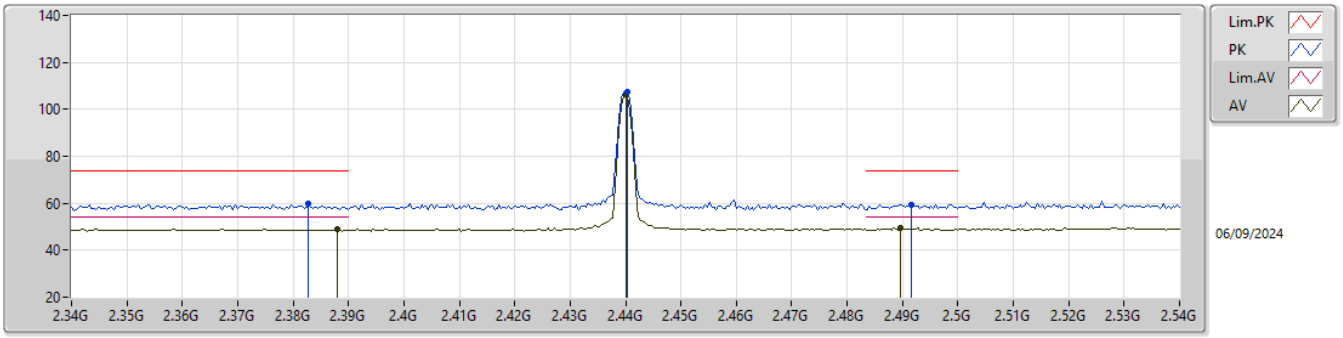


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	2.3404G	57.19	74.00	-16.81	24.86	3	Vertical	259	2.91	-	28.30	4.03	-
AV	2.362G	45.94	54.00	-8.06	13.50	3	Vertical	259	2.91	-	28.40	4.04	-
PK	2.4396G	104.68	Inf	-Inf	72.08	3	Vertical	259	2.91	-	28.50	4.10	-
AV	2.44G	103.16	Inf	-Inf	70.56	3	Vertical	259	2.91	-	28.50	4.10	-
PK	2.4992G	56.88	74.00	-17.12	24.14	3	Vertical	259	2.91	-	28.60	4.14	-
AV	2.4928G	45.88	54.00	-8.12	13.14	3	Vertical	259	2.91	-	28.60	4.14	-

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

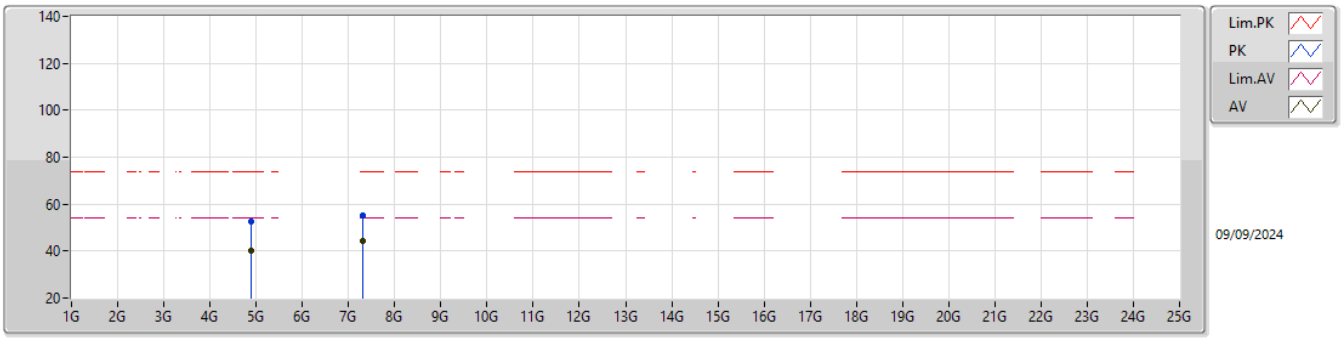


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.3828G	59.92	74.00	-14.08	27.62	3	Horizontal	348	2.08	-	27.60	4.70	-
AV	2.388G	49.12	54.00	-4.88	16.81	3	Horizontal	348	2.08	-	27.60	4.71	-
PK	2.4404G	107.28	Inf	-Inf	75.12	3	Horizontal	348	2.08	-	27.40	4.76	-
AV	2.44G	106.44	Inf	-Inf	74.28	3	Horizontal	348	2.08	-	27.40	4.76	-
PK	2.4916G	59.46	74.00	-14.54	27.18	3	Horizontal	348	2.08	-	27.48	4.80	-
AV	2.4896G	49.25	54.00	-4.75	16.95	3	Horizontal	348	2.08	-	27.50	4.80	-

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

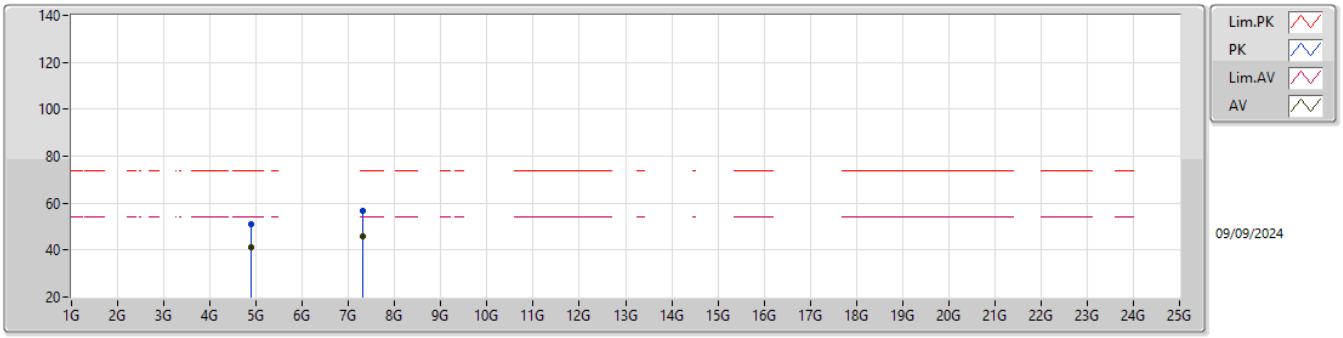


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.88492G	52.48	74.00	-21.52	43.39	3	Vertical	103	1.80	-	33.27	6.82	31.00
AV	4.88924G	39.96	54.00	-14.04	30.86	3	Vertical	103	1.80	-	33.28	6.82	31.00
PK	7.31916G	54.98	74.00	-19.02	40.56	3	Vertical	324	1.50	-	36.48	9.37	31.43
AV	7.31916G	44.51	54.00	-9.49	30.09	3	Vertical	324	1.50	-	36.48	9.37	31.43

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

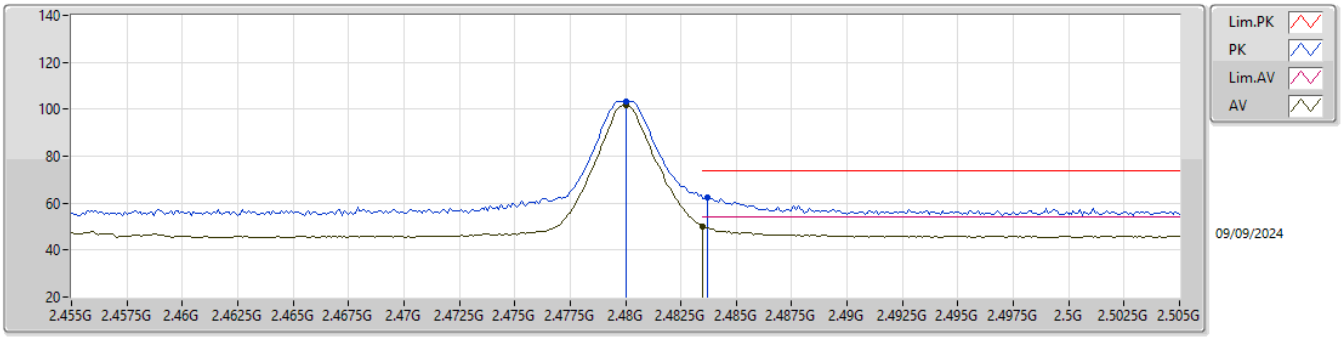


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.88024G	51.08	74.00	-22.92	42.01	3	Horizontal	300	2.53	-	33.26	6.81	31.00
AV	4.88006G	41.02	54.00	-12.98	31.95	3	Horizontal	300	2.53	-	33.26	6.81	31.00
PK	7.32048G	56.60	74.00	-17.40	42.18	3	Horizontal	284	1.57	-	36.48	9.37	31.43
AV	7.31916G	45.89	54.00	-8.11	31.47	3	Horizontal	284	1.57	-	36.48	9.37	31.43

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

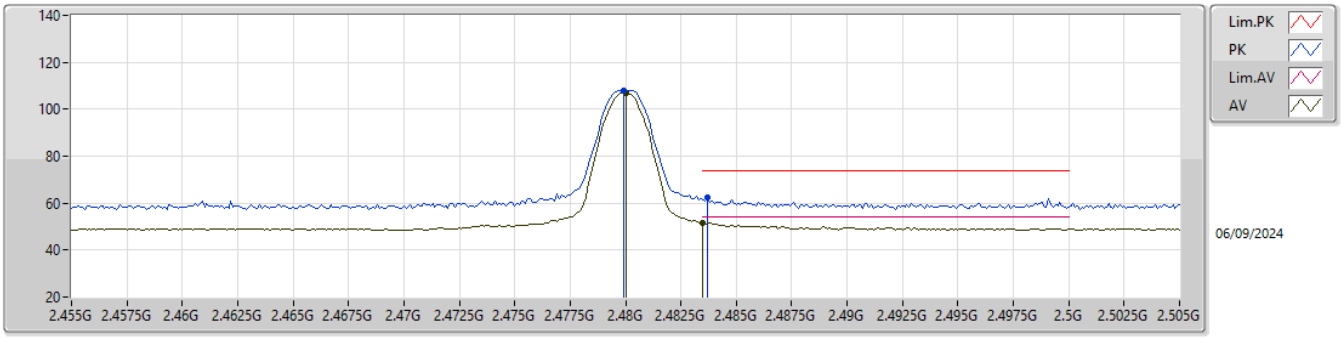


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	2.48G	103.35	Inf	-Inf	70.62	3	Vertical	283	2.97	-	28.60	4.13	-
AV	2.48G	101.86	Inf	-Inf	69.13	3	Vertical	283	2.97	-	28.60	4.13	-
PK	2.4837G	62.47	74.00	-11.53	29.74	3	Vertical	283	2.97	-	28.60	4.13	-
AV	2.4835G	49.97	54.00	-4.03	17.24	3	Vertical	283	2.97	-	28.60	4.13	-

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

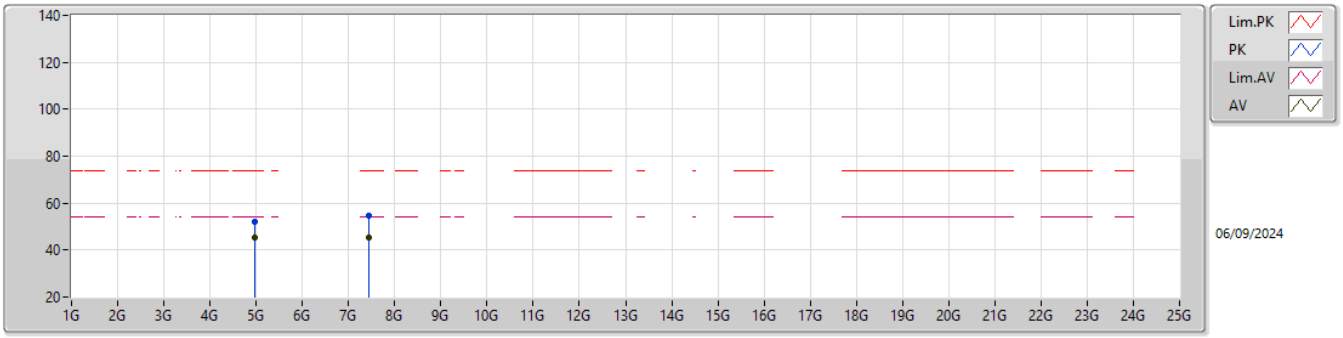


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.4799G	107.80	Inf	-Inf	75.61	3	Horizontal	360	2.27	-	27.40	4.79	-
AV	2.48G	106.92	Inf	-Inf	74.73	3	Horizontal	360	2.27	-	27.40	4.79	-
PK	2.4837G	62.60	74.00	-11.40	30.36	3	Horizontal	360	2.27	-	27.44	4.80	-
AV	2.4835G	51.39	54.00	-2.61	19.15	3	Horizontal	360	2.27	-	27.44	4.80	-

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

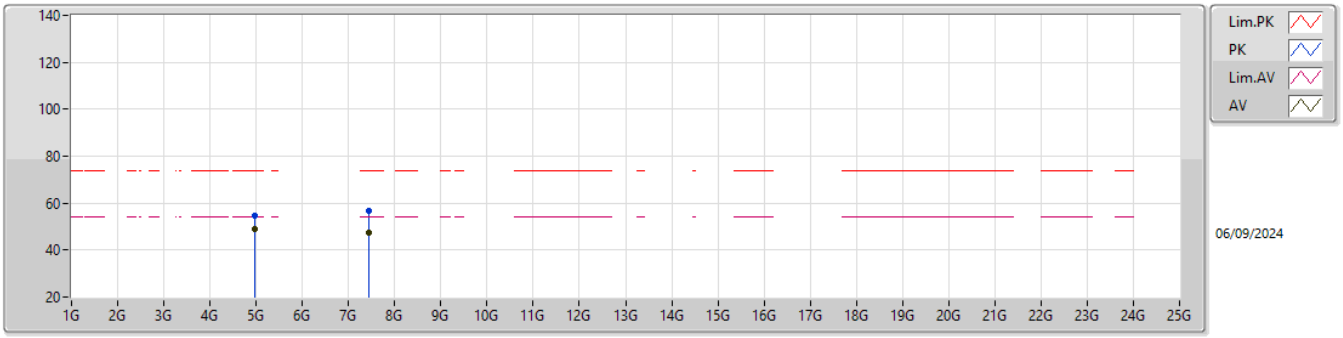


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	4.959448G	52.09	74.00	-21.91	45.72	3	Vertical	188	2.83	-	31.52	6.81	31.96
AV	4.959776G	45.52	54.00	-8.48	39.15	3	Vertical	188	2.83	-	31.52	6.81	31.96
PK	7.43952G	54.66	74.00	-19.34	43.14	3	Vertical	332	1.53	-	36.48	8.38	33.34
AV	7.4406G	45.49	54.00	-8.51	33.97	3	Vertical	332	1.53	-	36.48	8.38	33.34

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

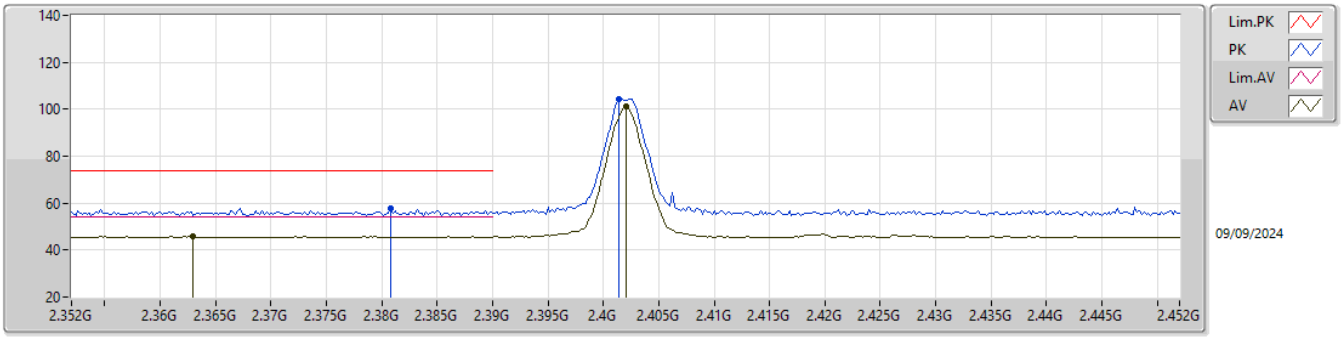


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	4.96056G	54.79	74.00	-19.21	48.42	3	Horizontal	60	1.75	-	31.52	6.81	31.96
AV	4.96006G	49.22	54.00	-4.78	42.85	3	Horizontal	60	1.75	-	31.52	6.81	31.96
PK	7.43936G	56.47	74.00	-17.53	44.95	3	Horizontal	302	2.82	-	36.48	8.38	33.34
AV	7.43916G	47.53	54.00	-6.47	36.01	3	Horizontal	302	2.82	-	36.48	8.38	33.34

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

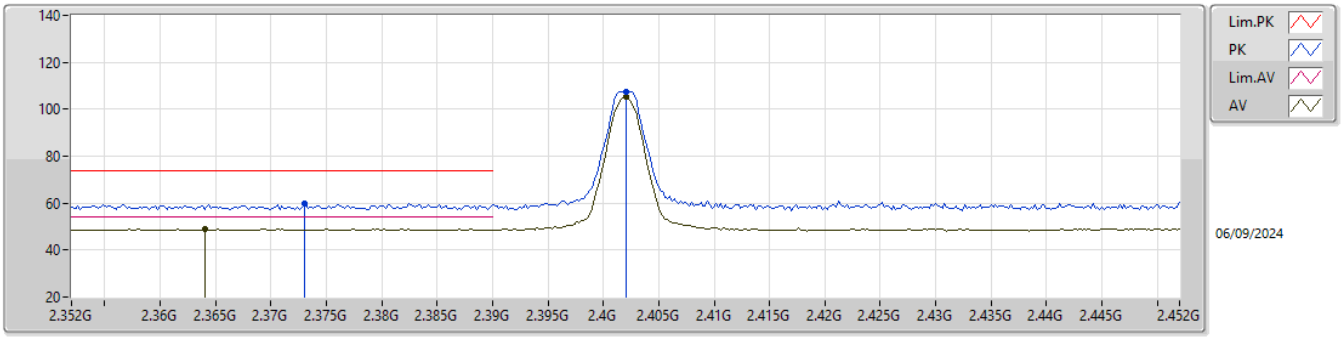


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	2.3808G	57.68	74.00	-16.32	25.21	3	Vertical	274	2.98	-	28.41	4.06	-
AV	2.363G	45.86	54.00	-8.14	13.42	3	Vertical	274	2.98	-	28.40	4.04	-
PK	2.4014G	104.38	Inf	-Inf	71.82	3	Vertical	274	2.98	-	28.49	4.07	-
AV	2.402G	101.19	Inf	-Inf	68.64	3	Vertical	274	2.98	-	28.48	4.07	-

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

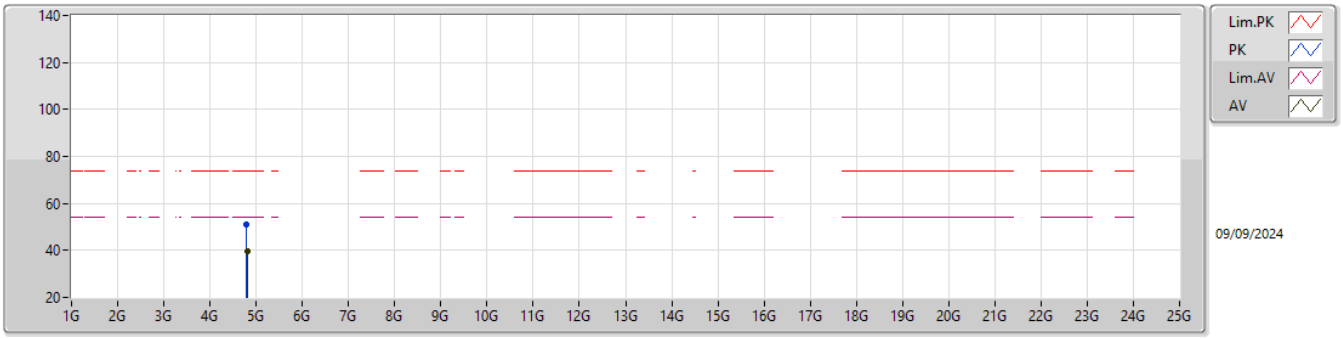


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.373G	60.07	74.00	-13.93	27.71	3	Horizontal	351	2.37	-	27.67	4.69	-
AV	2.364G	49.10	54.00	-4.90	16.66	3	Horizontal	351	2.37	-	27.76	4.68	-
PK	2.402G	107.45	Inf	-Inf	75.13	3	Horizontal	351	2.37	-	27.60	4.72	-
AV	2.402G	105.16	Inf	-Inf	72.84	3	Horizontal	351	2.37	-	27.60	4.72	-

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

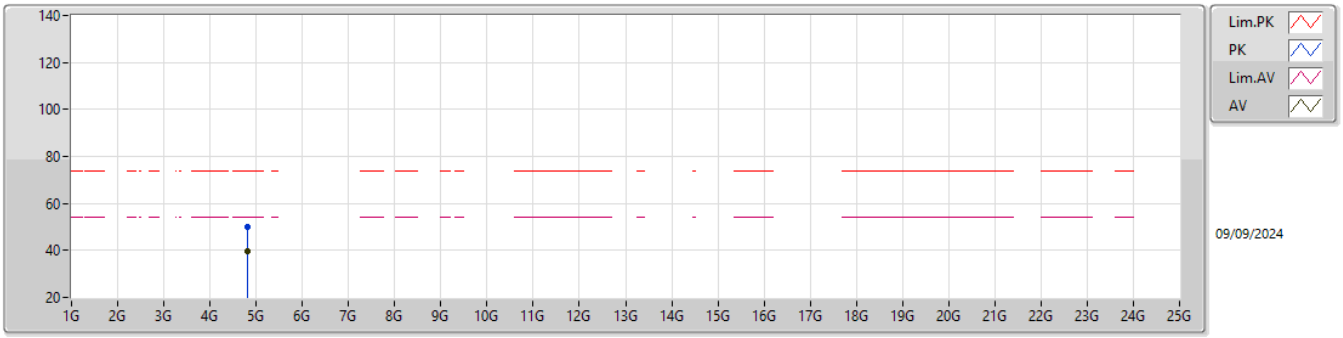


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.7941G	50.85	74.00	-23.15	42.00	3	Vertical	23	2.62	-	33.08	6.77	31.00
AV	4.80388G	39.44	54.00	-14.56	30.56	3	Vertical	23	2.62	-	33.11	6.77	31.00

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

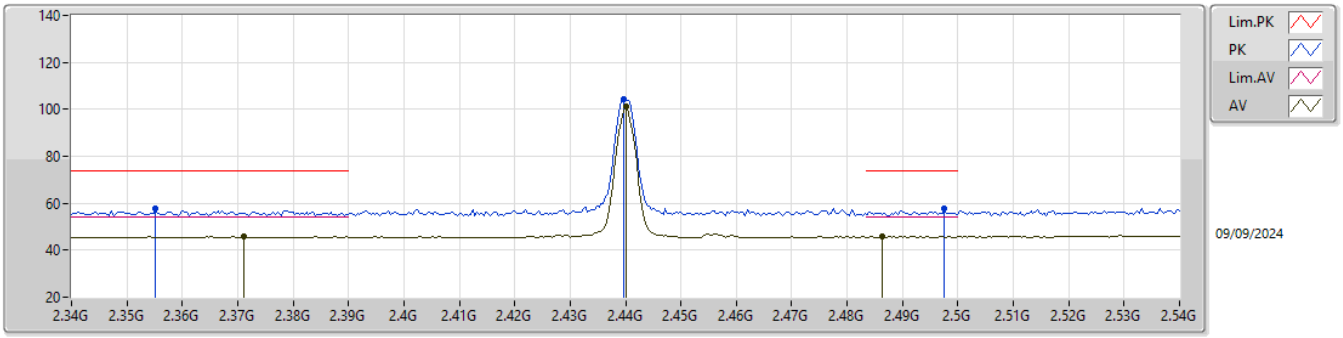


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.80478G	50.06	74.00	-23.94	41.18	3	Horizontal	159	1.91	-	33.11	6.77	31.00
AV	4.80304G	39.59	54.00	-14.41	30.71	3	Horizontal	159	1.91	-	33.11	6.77	31.00

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

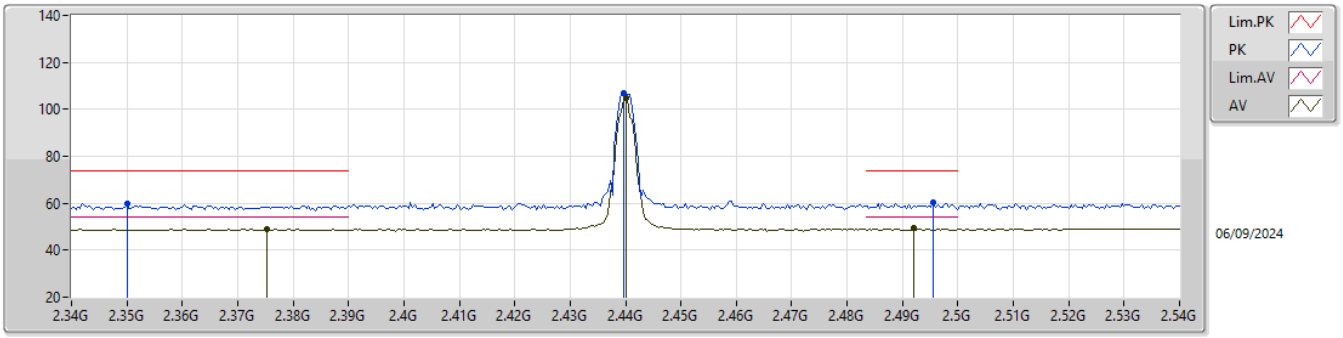


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	2.3552G	57.67	74.00	-16.33	25.28	3	Vertical	258	2.89	-	28.35	4.04	-
AV	2.3712G	45.88	54.00	-8.12	13.43	3	Vertical	258	2.89	-	28.40	4.05	-
PK	2.4396G	104.35	Inf	-Inf	71.75	3	Vertical	258	2.89	-	28.50	4.10	-
AV	2.44G	101.26	Inf	-Inf	68.66	3	Vertical	258	2.89	-	28.50	4.10	-
PK	2.4976G	57.57	74.00	-16.43	24.83	3	Vertical	258	2.89	-	28.60	4.14	-
AV	2.4864G	45.90	54.00	-8.10	13.17	3	Vertical	258	2.89	-	28.60	4.13	-

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

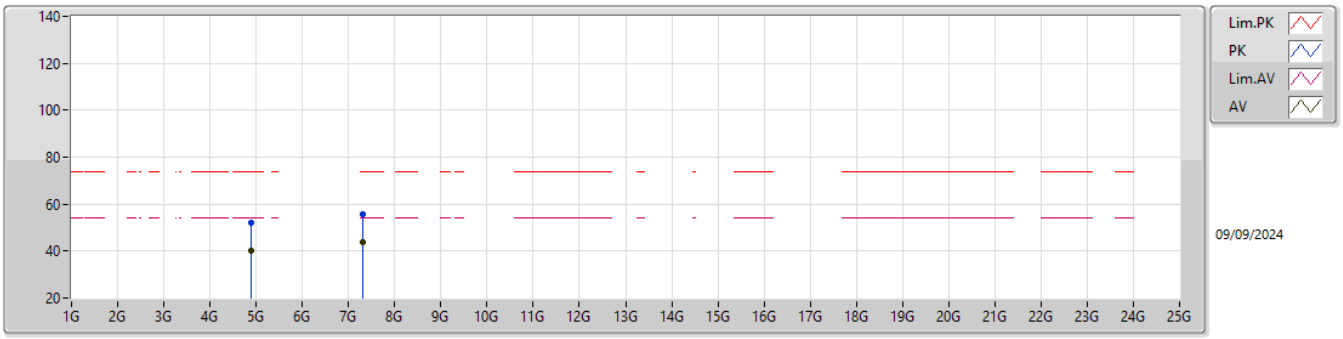


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.35G	60.00	74.00	-14.00	27.53	3	Horizontal	350	2.09	-	27.80	4.67	-
AV	2.3752G	49.07	54.00	-4.93	16.73	3	Horizontal	350	2.09	-	27.65	4.69	-
PK	2.4396G	106.99	Inf	-Inf	74.83	3	Horizontal	350	2.09	-	27.40	4.76	-
AV	2.44G	104.60	Inf	-Inf	72.44	3	Horizontal	350	2.09	-	27.40	4.76	-
PK	2.4956G	60.41	74.00	-13.59	28.16	3	Horizontal	350	2.09	-	27.44	4.81	-
AV	2.492G	49.23	54.00	-4.77	16.95	3	Horizontal	350	2.09	-	27.48	4.80	-

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

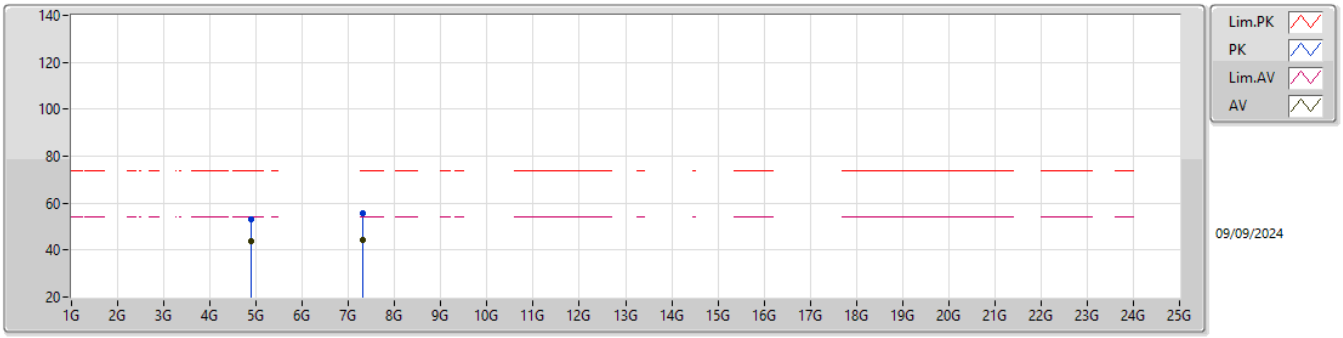


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.88084G	52.31	74.00	-21.69	43.24	3	Vertical	103	2.31	-	33.26	6.81	31.00
AV	4.89464G	40.03	54.00	-13.97	30.92	3	Vertical	103	2.31	-	33.29	6.82	31.00
PK	7.32144G	55.50	74.00	-18.50	41.07	3	Vertical	21	2.83	-	36.49	9.37	31.43
AV	7.3212G	44.00	54.00	-10.00	29.58	3	Vertical	21	2.83	-	36.48	9.37	31.43

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

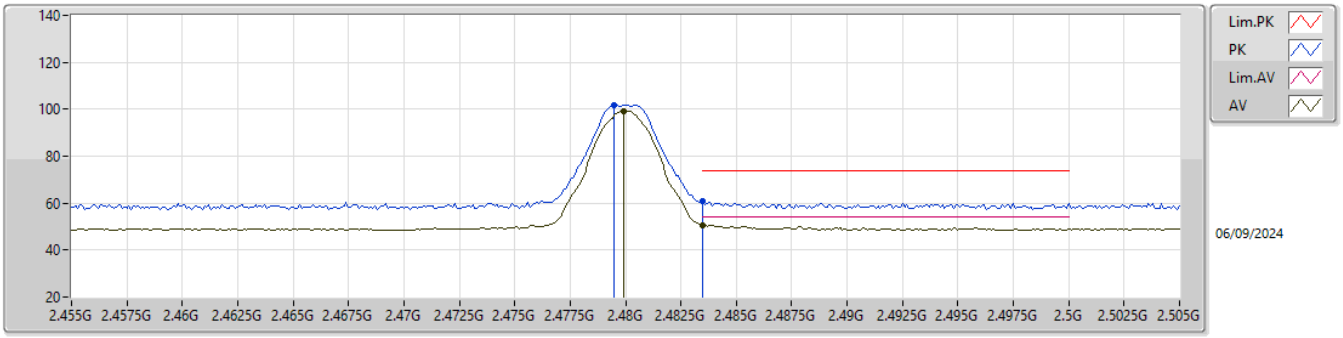


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.87892G	53.09	74.00	-20.91	44.02	3	Horizontal	65	2.88	-	33.26	6.81	31.00
AV	4.88084G	43.55	54.00	-10.45	34.48	3	Horizontal	65	2.88	-	33.26	6.81	31.00
PK	7.32114G	55.58	74.00	-18.42	41.16	3	Horizontal	54	1.94	-	36.48	9.37	31.43
AV	7.31868G	44.42	54.00	-9.58	30.01	3	Horizontal	54	1.94	-	36.47	9.37	31.43

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

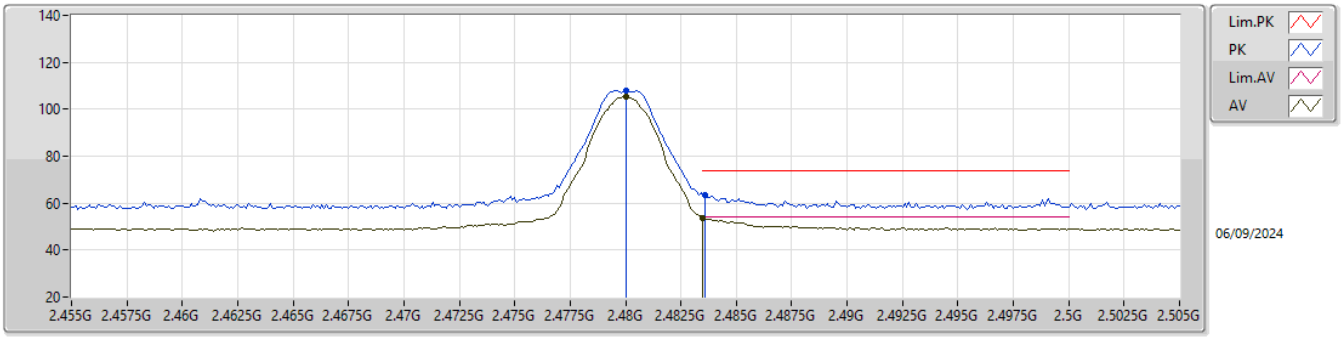


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.4795G	101.74	Inf	-Inf	69.56	3	Vertical	281	2.80	-	27.39	4.79	-
AV	2.4799G	99.38	Inf	-Inf	67.19	3	Vertical	281	2.80	-	27.40	4.79	-
PK	2.4835G	60.75	74.00	-13.25	28.51	3	Vertical	281	2.80	-	27.44	4.80	-
AV	2.4835G	50.71	54.00	-3.29	18.47	3	Vertical	281	2.80	-	27.44	4.80	-

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

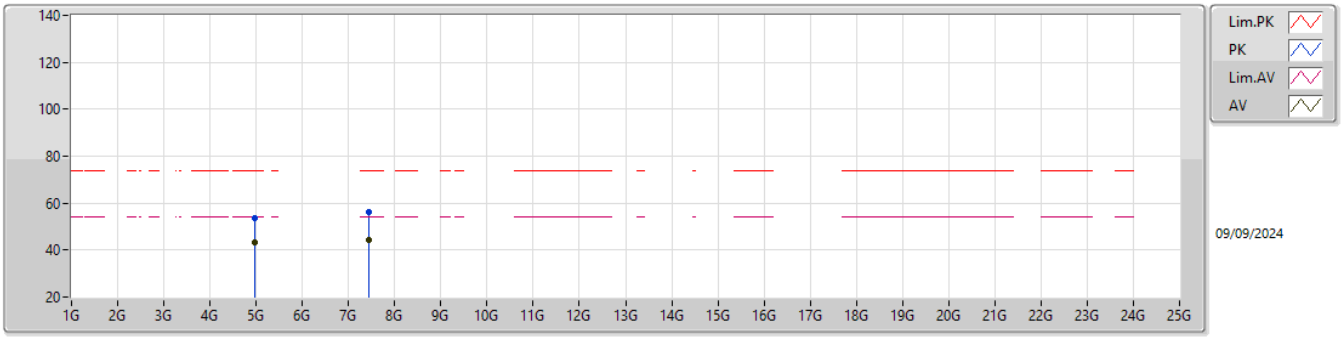


EUT Y_1TX
Setting 0x0a
06-P-J-8

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	2.48G	107.78	Inf	-Inf	75.59	3	Horizontal	359.9	2.25	-	27.40	4.79	-
AV	2.48G	105.41	Inf	-Inf	73.22	3	Horizontal	359.9	2.25	-	27.40	4.79	-
PK	2.4836G	63.39	74.00	-10.61	31.15	3	Horizontal	359.9	2.25	-	27.44	4.80	-
AV	2.4835G	53.83	54.00	-0.17	21.59	3	Horizontal	359.9	2.25	-	27.44	4.80	-

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

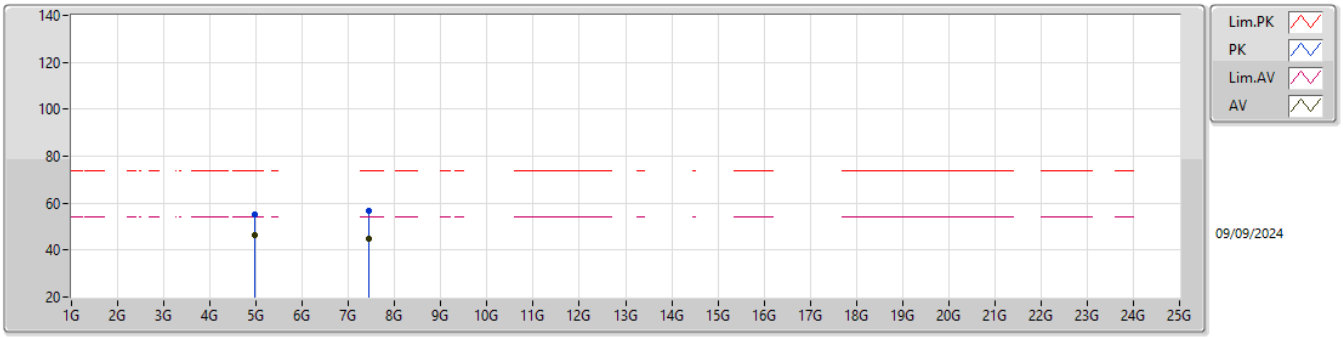


EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.9597G	53.71	74.00	-20.29	44.46	3	Vertical	174	2.80	-	33.40	6.86	31.01
AV	4.96096G	43.53	54.00	-10.47	34.28	3	Vertical	174	2.80	-	33.40	6.86	31.01
PK	7.44156G	55.95	74.00	-18.05	41.42	3	Vertical	328	1.54	-	36.60	9.36	31.43
AV	7.43868G	44.41	54.00	-9.59	29.88	3	Vertical	328	1.54	-	36.60	9.36	31.43

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



EUT Y_1TX
Setting 0x0a
02-C-V-1

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	4.9609G	55.43	74.00	-18.57	46.18	3	Horizontal	310	1.70	-	33.40	6.86	31.01
AV	4.9591G	46.54	54.00	-7.46	37.29	3	Horizontal	310	1.70	-	33.40	6.86	31.01
PK	7.43844G	56.91	74.00	-17.09	42.38	3	Horizontal	48	1.50	-	36.60	9.36	31.43
AV	7.43898G	45.08	54.00	-8.92	30.55	3	Horizontal	48	1.50	-	36.60	9.36	31.43