Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	2AU6R03993
Equipment	:	Security Router
Brand Name	:	ZYXEL
Model Name	:	SCR 60AX
Applicant	:	Zyxel Networks Corporation No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C
Manufacturer	:	Zyxel Networks Corporation No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C
Standard	:	47 CFR FCC Part 15.247

The product was received on Jul. 12, 2023, and testing was started from Aug. 24, 2023 and completed on Oct. 27, 2023. 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
FR352214AA	01	Initial issue of report	Dec. 12, 2023

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: Wendy Pan

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(500Kb/s)	1.0	1TX
2.4-2.4835GHz	BT-LE(125Kb/s)	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)
	2.4GHz	5GHz	Bluetooth					
1	1	-	-	PSA	WA-P-LA-06-008	PCB	I-PEX	Note1
2	2	-	-	PSA	WA-P-LA-05-015	PCB	I-PEX	
3	-	1	-	PSA	WA-P-LC-02-086	PCB	I-PEX	
4	-	2	-	PSA	WA-P-LC-03-025	PCB	I-PEX	
5	3	3	-	PSA	WA-P-LB-11-003	PCB	I-PEX	
6	4	4	-	PSA	WA-P-LB-01-323	PCB	I-PEX	
7	-	-	1	PSA	BT	Printed	N/A	

Note1:

Ant.	Gain (dBi)							
	WLAN 2.4GHz 2400~2500 MHz	WLAN 5GHz 5150~5250 MHz	WLAN 5GHz 5251~5300 MHz	WLAN 5GHz 5301~5490 MHz	WLAN 5GHz 5491~5725 MHz	WLAN 5GHz 5726~5835 MHz	WLAN 5GHz 5836~5930 MHz	Bluetooth
1	2.74	-	-	-		-		-
2	3.65	-	-	-		-		-
3	-	4.46	4.54	4.26	4.07	4.07	4.01	-
4	-	4.44	4.33	4.26	4.63	4.58	4.61	-
5	3.44	4.51	4.60	4.60	4.15	4.61	4.57	-
6	3.61	4.36	3.83	3.88	4.01	4.38	4.22	-
7	-	-	-	-	-	-	-	1.93

Note2: The above information was declared by manufacturer.

For 2.4GHz function:

For IEEE 802.11b/g/n/VHT/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4could transmit/receive simultaneously.

For Bluetooth function(1TX/1RX):

Port 1 can be used as transmitting/receiving antenna.

Port 1 could transmit/receive simultaneously.

Note 3: 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= 2.74 dBi ;G2= 3.65 dBi ;G3= 3.44 dBi ;G4= 3.61 dBi

5G UNII-1 G1 = 4.46 dBi; G2 = 4.44 dBi;G3 = 4.51 dBi; G4 = 4.36 dBi

5G UNII-2A G1 = 4.54 dBi; G2 = 4.33 dBi;G3 = 4.60 dBi; G4 = 3.83 dBi

5G UNII-2C G1 = 4.07 dBi; G2 = 4.63 dBi;G3 = 4.15 dBi; G4 = 4.01 dBi

5G UNII-3 G1 = 4.07 dBi; G2 = 4.58 dBi;G3 = 4.61 dBi; G4 = 4.38 dBi

5G UNII-4 G1 = 4.01 dBi; G2 = 4.61 dBi;G3 = 4.57 dBi; G4 = 4.22 dBi

2.4G DG = 9.39 dBi

5G UNII-1 DG = 10.46 dBi

5G UNII-2A DG = 10.35 dBi

5G UNII-2C DG = 10.24 dB

5G UNII-3 DG = 10.43 dBi

5G UNII-4 DG = 10.38 dBi

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.158	8.01	98.75u	10k
BT-LE(2Mbps)	0.097	10.13	60.938u	10k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	PUTTY V0.62			
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	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	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	TH01-CB	Eason Chen	24.2-25.1 / 61-68	Aug. 28, 2023~ Oct. 17, 2023
Radiated below 1GHz	03CH05-CB	Mark Hsu	22.2-23.3 / 56-59	Sep. 09, 2023~ Oct. 25, 2023
Radiated above1GHz	03CH05-CB	Mark Hsu	22.2-23.3 / 56-59	Aug. 24, 2023~ Oct. 16, 2023
AC Conduction	CO01-CB	Elvin Yeh	21~23 / 51~53	Sep. 15, 2023~ Oct. 27, 2023

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)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 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	2.2%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	0x14
2440MHz	0x14
2480MHz	0x14
BT-LE(2Mbps)	-
2402MHz	0x14
2440MHz	0x14
2480MHz	0x14

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	CTX
1	EUT + WLAN 2.4GHz + Adapter
2	EUT + WLAN 5GHz + Adapter
3	EUT + Bluetooth + Adapter
For operating mode 3 is the worst case and it was record in this test report.	

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, EUT in Y axis was the worst case, so the measurement will follow this same test configuration.	
1	EUT in Y axis + WLAN 2.4GHz + Adapter
2	EUT in Y axis + WLAN 5GHz + Adapter
3	EUT in Y axis + Bluetooth + Adapter
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
After evaluating, EUT in Y axis was the worst case, so the measurement will follow this same test configuration.	
1	EUT in Y axis

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter	APD	WA-36W12R	Input: 100-240V~, 50-60Hz, 0.9A Max Output: 12.0V, 3.0A, 36.0W
Other			
Plug*1			

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN NB	DELL	E6430	N/A

For Radiated (below 1GHz) and Radiated (above 1GHz):

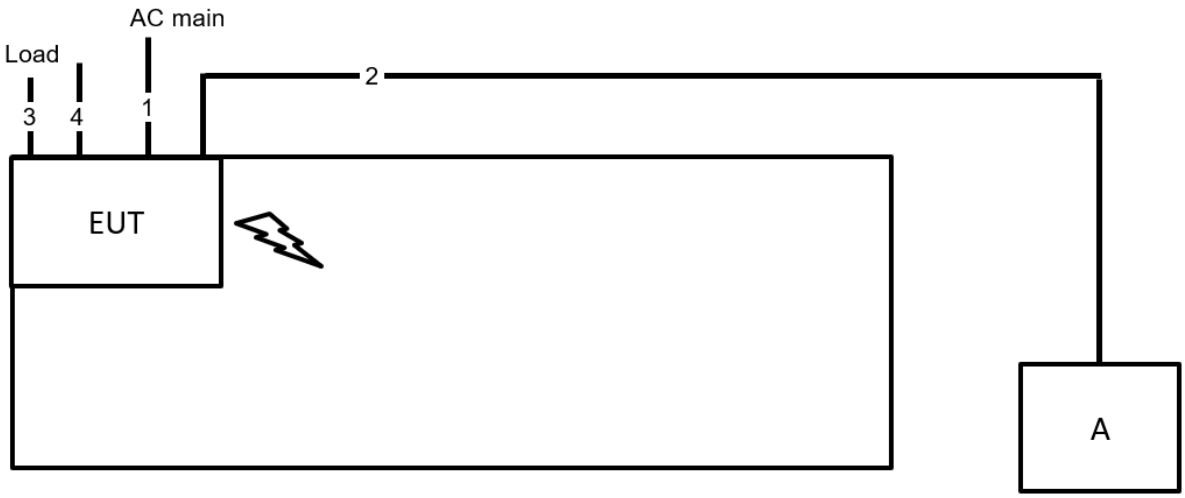
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A

For RF Conducted:

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

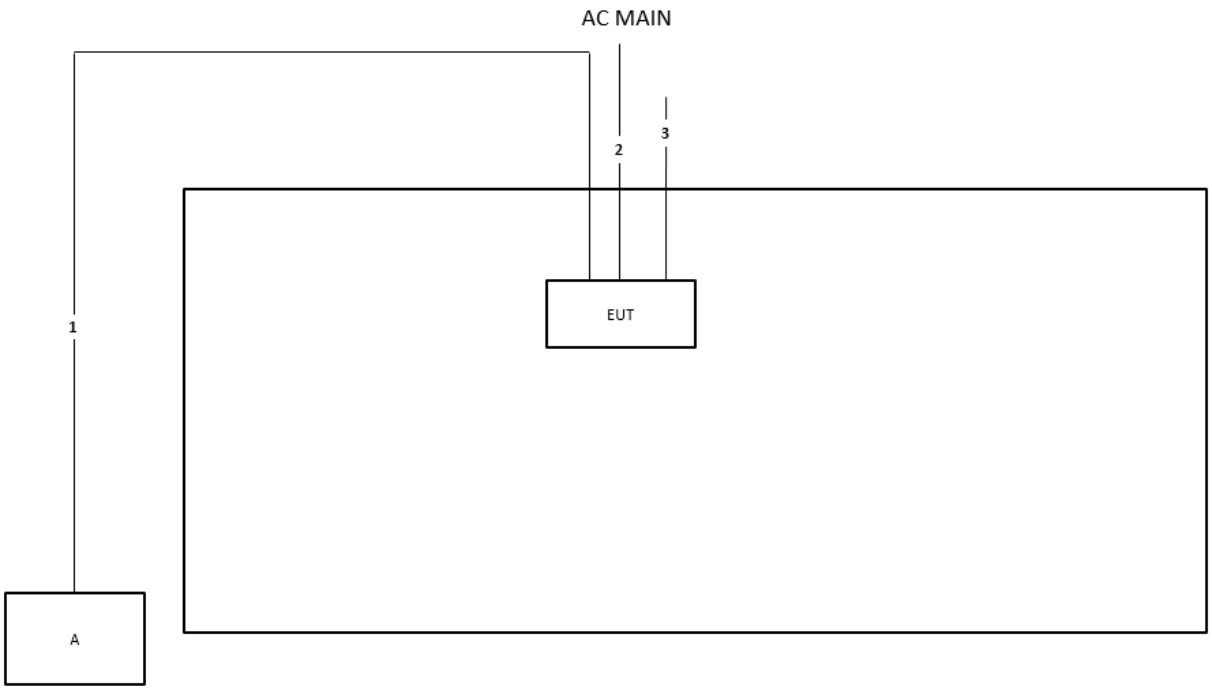
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



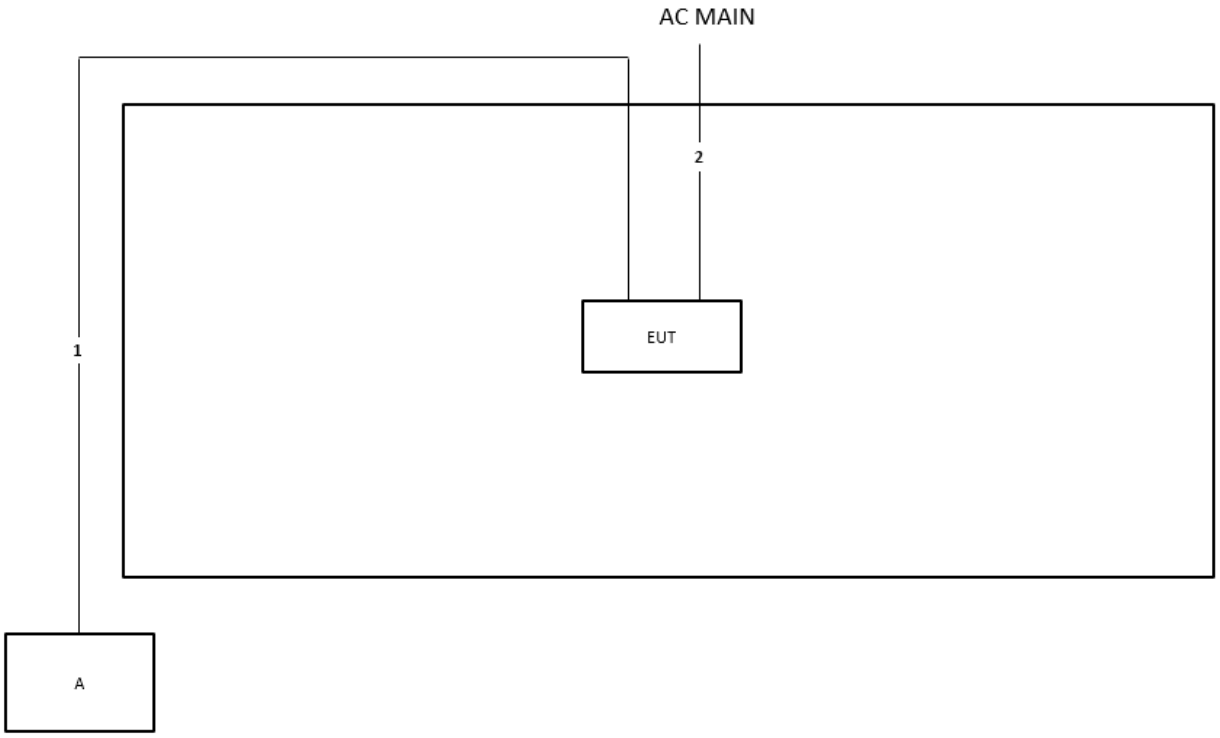
Item	Connection	Shielded	Length
1	Power cable	No	1.6m
2	RJ-45 cable	No	10m
3	RJ-45 cable*5	No	1.5m
4	Console cable	No	0.9m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.6m
3	Console cable	No	0.9m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.6m

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

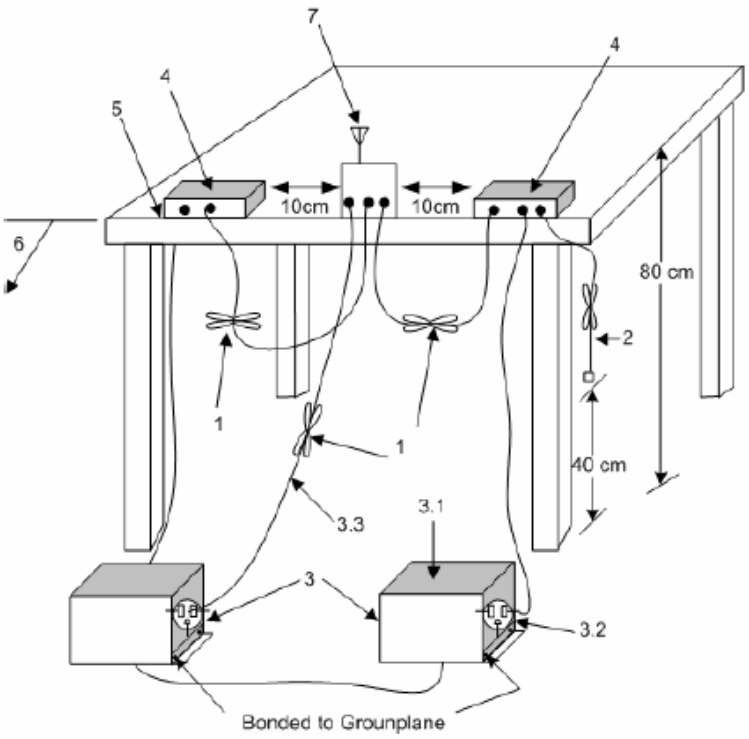
Refer a test equipment and calibration data table in this test report.

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

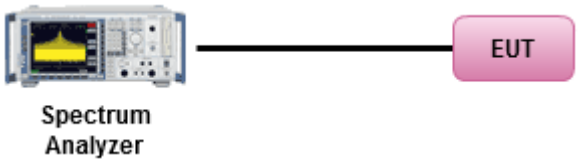
Refer a test equipment and calibration data table in this test report.

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

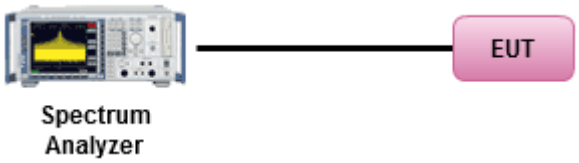
Refer a test equipment and calibration data table in this test report.

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

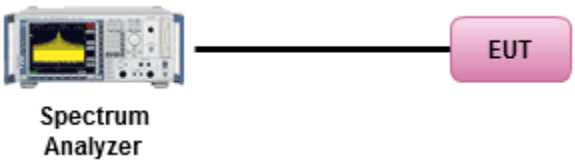
Refer a test equipment and calibration data table in this test report.

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.

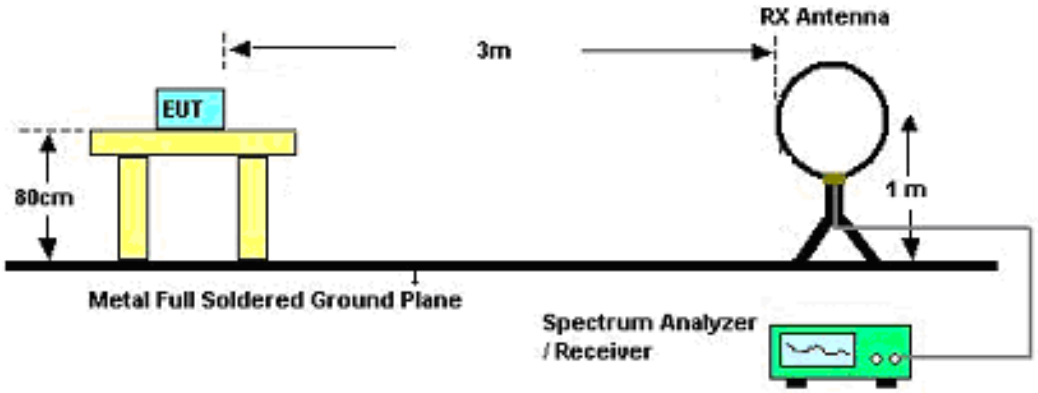
3.6.3 Test Procedures

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.		

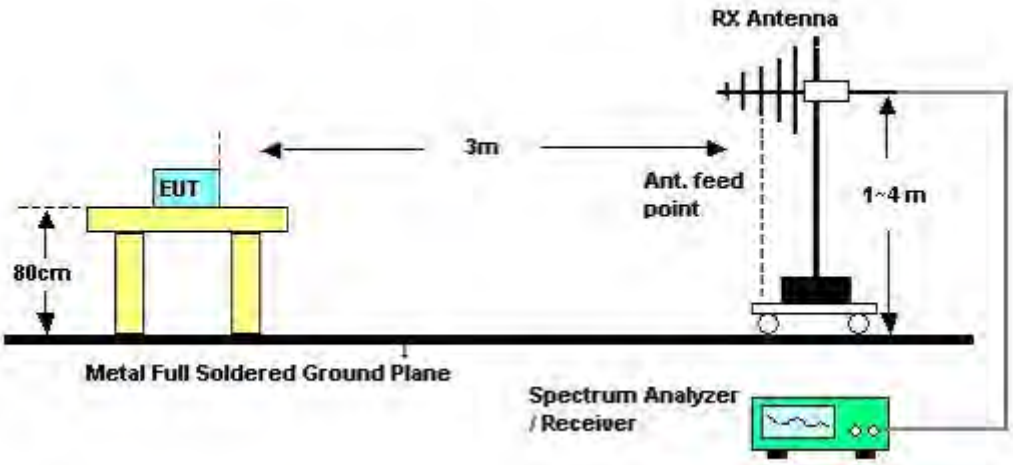
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

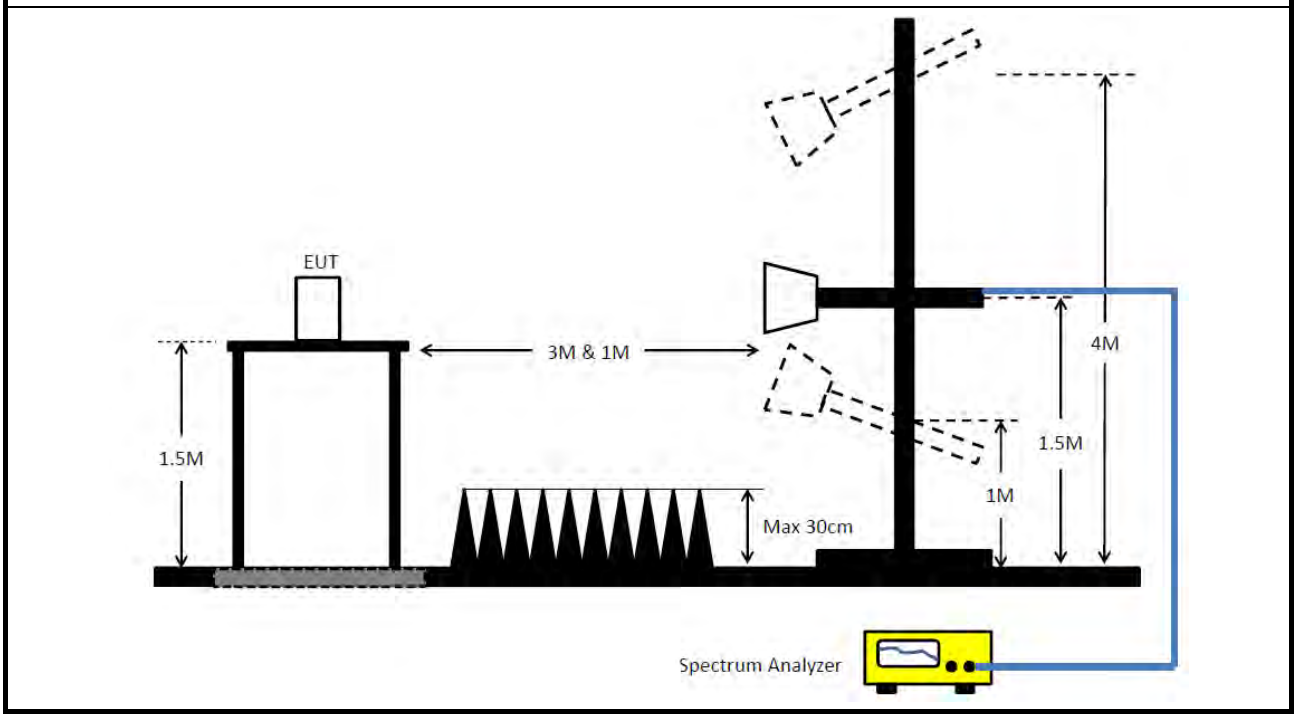
9kHz ~30MHz



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	Feb. 20, 2023	Feb. 19, 2024	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 16, 2023	Feb. 15, 2024	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 27, 2023	Apr. 26, 2024	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 09, 2023	Feb. 08, 2024	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 18, 2022	Oct. 17, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 17, 2023	Oct. 16, 2024	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 23, 2023	Mar. 22, 2024	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 02, 2023	Aug. 01, 2024	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 06, 2022	Nov. 05, 2023	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 24, 2023	Mar. 23, 2024	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Jun. 08, 2023	Jun. 07, 2024	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 28, 2023	Jun. 27, 2024	Radiation (03CH05-CB)
Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 03, 2023	May 02, 2024	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jun. 30, 2023	Jun. 29, 2024	Radiation (03CH05-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 16, 2022	Nov. 15, 2023	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 18, 2023	Apr. 17, 2024	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 13, 2023	Jun. 12, 2024	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Aug. 16, 2023	Aug. 15, 2024	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH05-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 29, 2023	May 28, 2024	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1 GHz –26.5 GHz	Oct. 04, 2022	Oct. 03, 2023	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 22, 2023	Feb. 21, 2024	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 22, 2023	Feb. 21, 2024	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

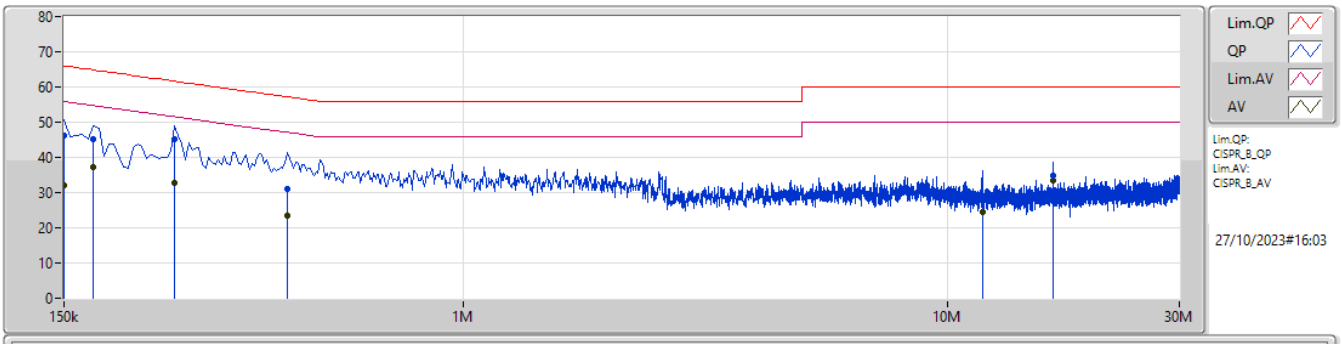
Note: Calibration Interval of instruments listed above is one year.

N.C.R. means Non-Calibration required.

Summary

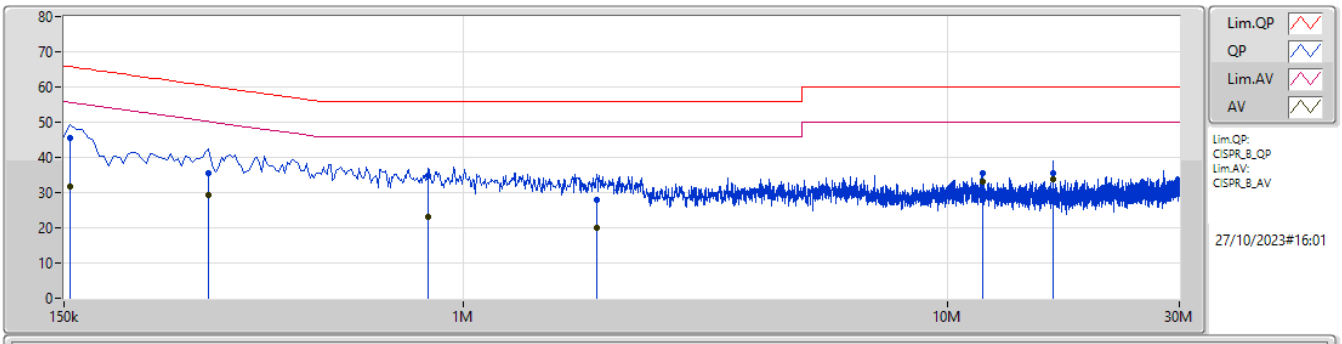
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	AV	16.467M	33.91	50.00	-16.09	Neutral

Mode 3



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	46.27	66.00	-19.73	9.98	Line	-	36.29	0.09	0.02	9.87
AV	150k	32.21	56.00	-23.79	9.98	Line	-	22.23	0.09	0.02	9.87
QP	172.5k	45.09	64.83	-19.74	9.98	Line	-	35.11	0.09	0.02	9.87
AV	172.5k	37.31	54.83	-17.52	9.98	Line	-	27.33	0.09	0.02	9.87
QP	253.5k	45.08	61.64	-16.56	9.97	Line	-	35.11	0.08	0.02	9.87
AV	253.5k	32.73	51.64	-18.91	9.97	Line	-	22.76	0.08	0.02	9.87
QP	433.5k	30.92	57.19	-26.27	10.01	Line	-	20.91	0.09	0.02	9.90
AV	433.5k	23.60	47.19	-23.59	10.01	Line	-	13.59	0.09	0.02	9.90
QP	11.765M	27.70	60.00	-32.30	10.38	Line	-	17.32	0.26	0.16	9.96
AV	11.765M	24.53	50.00	-25.47	10.38	Line	-	14.15	0.26	0.16	9.96
QP	16.467M	34.90	60.00	-25.10	10.48	Line	-	24.42	0.29	0.20	9.99
AV	16.467M	33.45	50.00	-16.55	10.48	Line	"Worst"	22.97	0.29	0.20	9.99

Mode 3



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	45.50	65.75	-20.25	9.96	Neutral	-	35.54	0.07	0.02	9.87
AV	154.5k	31.75	55.75	-24.00	9.96	Neutral	-	21.79	0.07	0.02	9.87
QP	298.5k	35.35	60.28	-24.93	9.97	Neutral	-	25.38	0.07	0.02	9.88
AV	298.5k	29.25	50.28	-21.03	9.97	Neutral	-	19.28	0.07	0.02	9.88
QP	847.5k	34.74	56.00	-21.26	9.99	Neutral	-	24.75	0.08	0.01	9.90
AV	847.5k	23.19	46.00	-22.81	9.99	Neutral	-	13.20	0.08	0.01	9.90
QP	1.887M	27.79	56.00	-28.21	10.07	Neutral	-	17.72	0.10	0.07	9.90
AV	1.887M	20.12	46.00	-25.88	10.07	Neutral	-	10.05	0.10	0.07	9.90
QP	11.76M	35.38	60.00	-24.62	10.36	Neutral	-	25.02	0.24	0.16	9.96
AV	11.76M	33.27	50.00	-16.73	10.36	Neutral	-	22.91	0.24	0.16	9.96
QP	16.467M	35.36	60.00	-24.64	10.46	Neutral	-	24.90	0.27	0.20	9.99
AV	16.467M	33.91	50.00	-16.09	10.46	Neutral	"Worst"	23.45	0.27	0.20	9.99

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)	503.75k	1.014M	1M01F1D	501.25k	1.014M
BT-LE(2Mbps)	845k	2.034M	2M03F1D	842.5k	2.029M

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

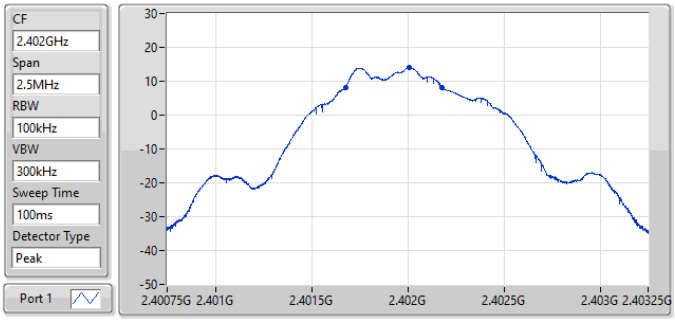
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	503.75k	1.014M
2440MHz	Pass	500k	502.5k	1.014M
2480MHz	Pass	500k	501.25k	1.014M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	842.5k	2.031M
2440MHz	Pass	500k	845k	2.034M
2480MHz	Pass	500k	845k	2.029M

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

27/09/2023

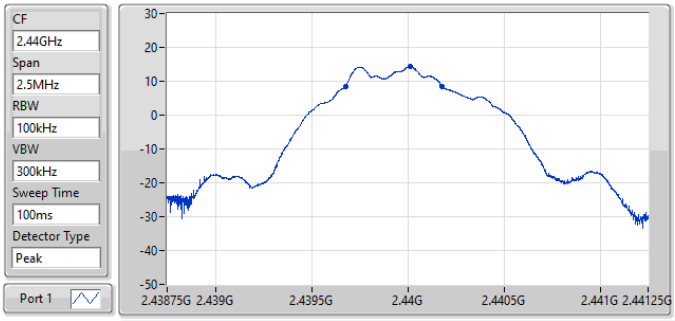


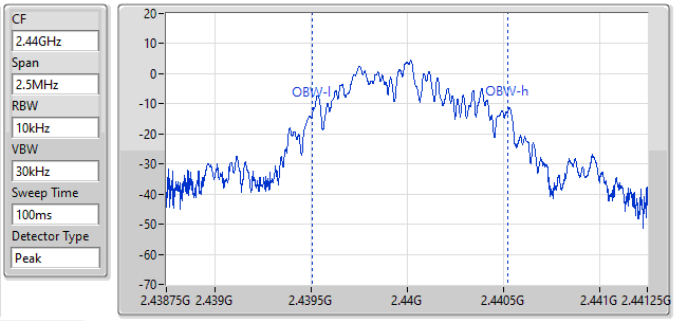
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
503.75k	2.401676G	2.40218G	1.014M	2.401511G	2.402525G	500k	1

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

2440MHz

27/09/2023



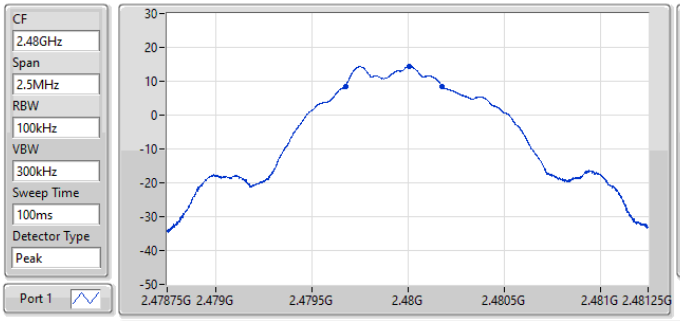


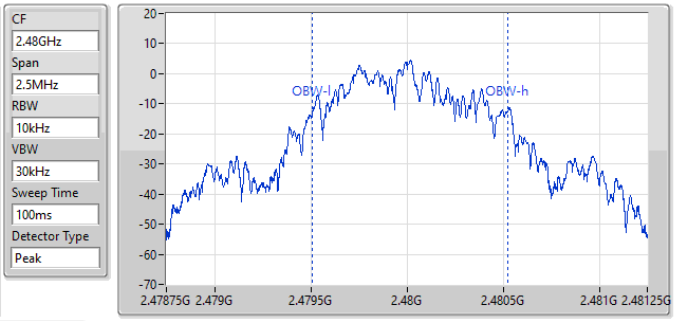
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
502.5k	2.439678G	2.44018G	1.014M	2.43951G	2.440525G	500k	1

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

2480MHz

27/09/2023



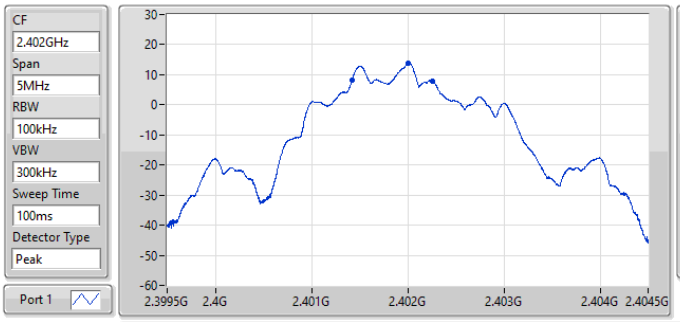


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
501.25k	2.479678G	2.480179G	1.014M	2.47951G	2.480523G	500k	1

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

2402MHz

27/09/2023

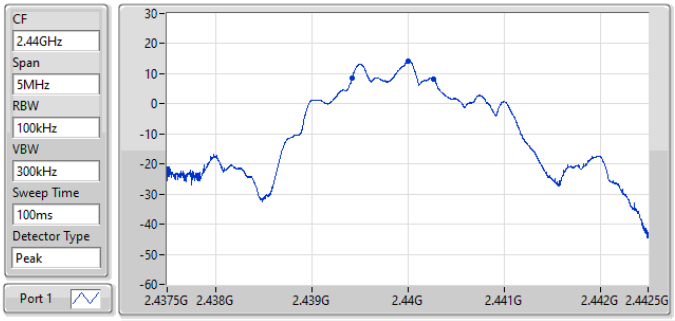


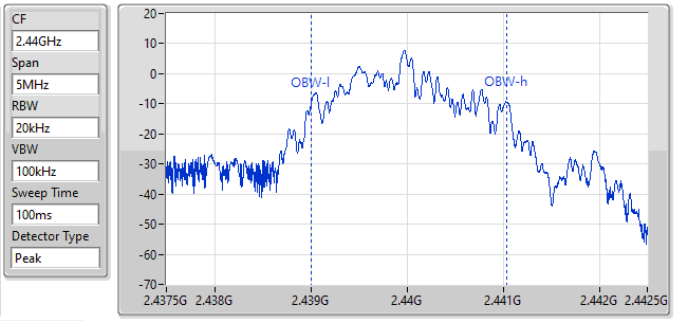
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
842.5k	2.40142G	2.402263G	2.031M	2.401009G	2.40304G	500k	1

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

2440MHz

27/09/2023



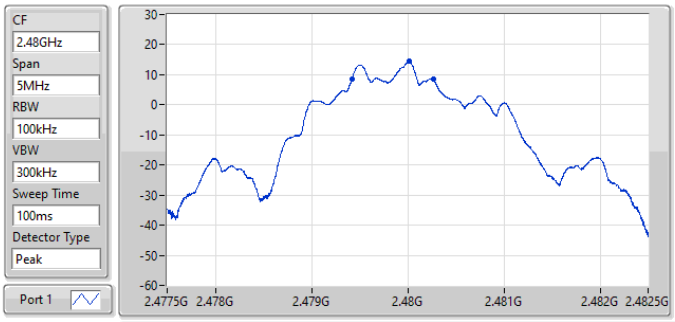


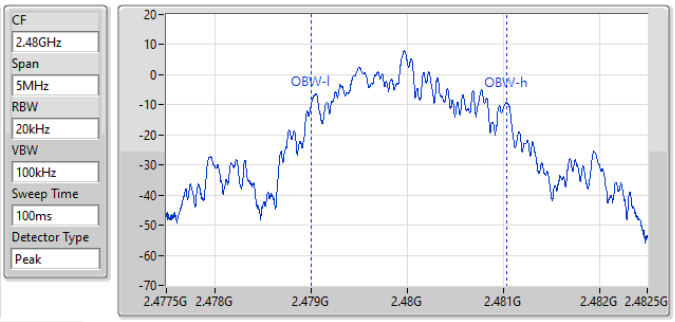
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
845k	2.43942G	2.440265G	2.034M	2.439006G	2.44104G	500k	1

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

2480MHz

27/09/2023





6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
845k	2.47942G	2.480265G	2.029M	2.47901G	2.481039G	500k	1

Summary

Mode	Total Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	13.51	0.02244
BT-LE(2Mbps)	13.38	0.02178

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.93	13.21	30.00
2440MHz	Pass	1.93	13.41	30.00
2480MHz	Pass	1.93	13.51	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	1.93	12.57	30.00
2440MHz	Pass	1.93	13.05	30.00
2480MHz	Pass	1.93	13.38	30.00

DG = Directional Gain; Port X = Port X output power

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-0.49
BT-LE(2Mbps)	-2.01

RBW = 3kHz;

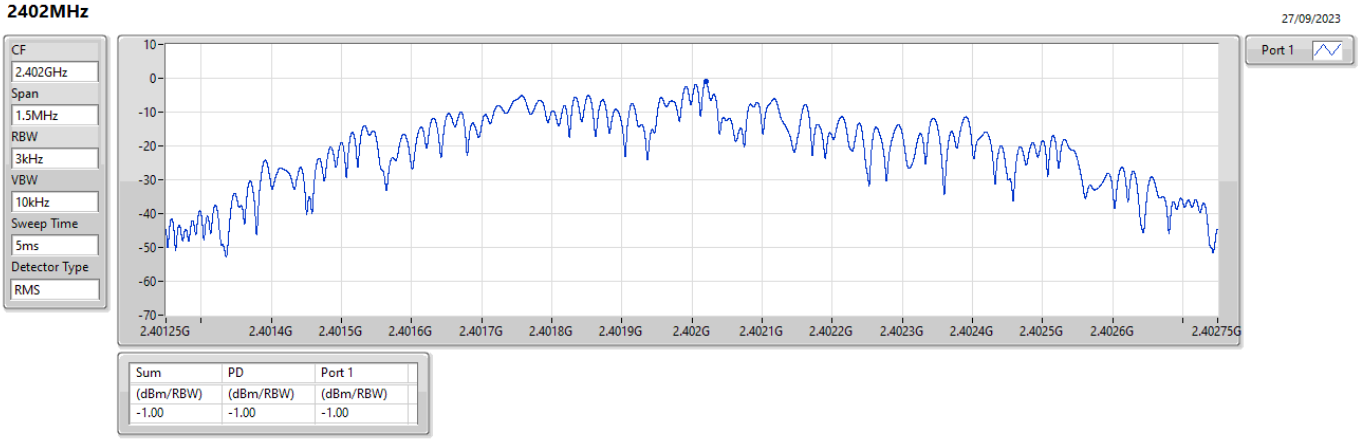
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.93	-1.00	8.00
2440MHz	Pass	1.93	-0.49	8.00
2480MHz	Pass	1.93	-0.57	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	1.93	-2.34	8.00
2440MHz	Pass	1.93	-2.29	8.00
2480MHz	Pass	1.93	-2.01	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;

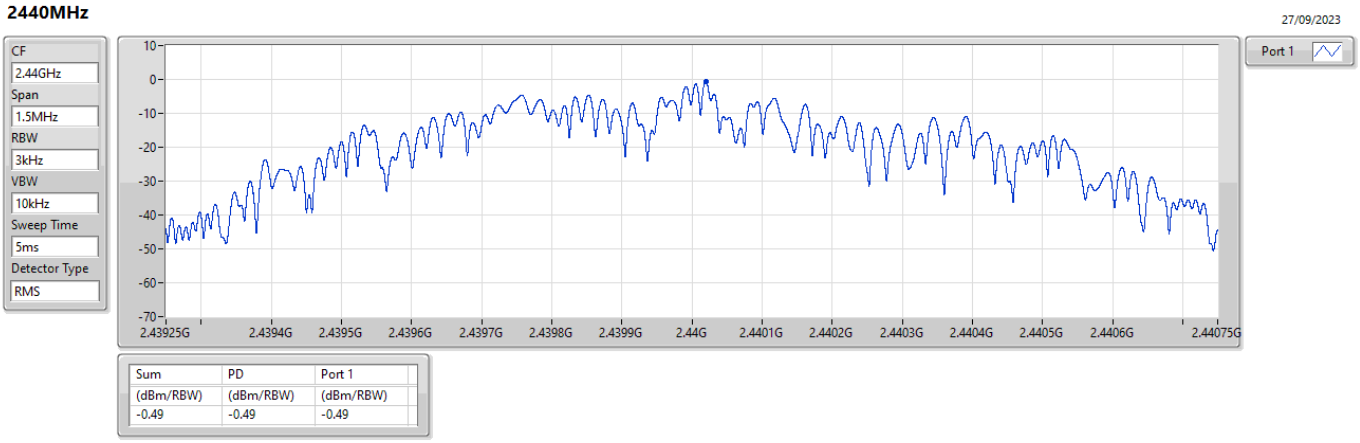
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2402MHz



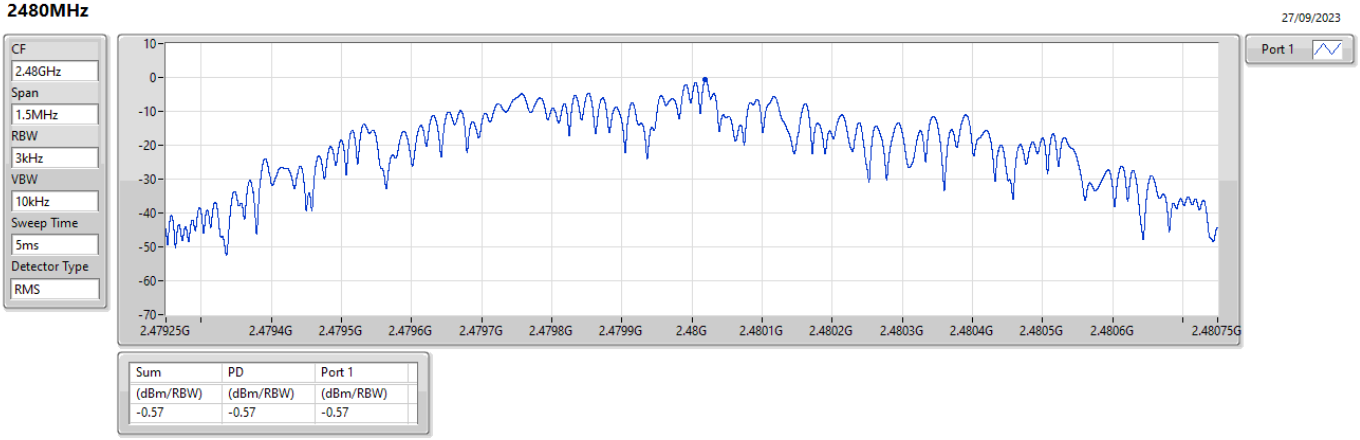
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2440MHz



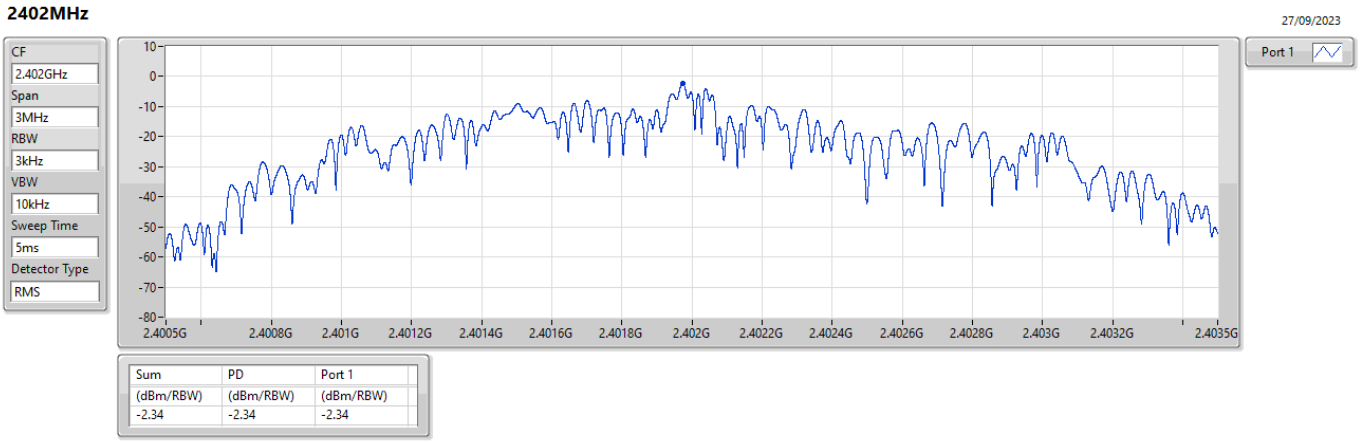
2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2480MHz



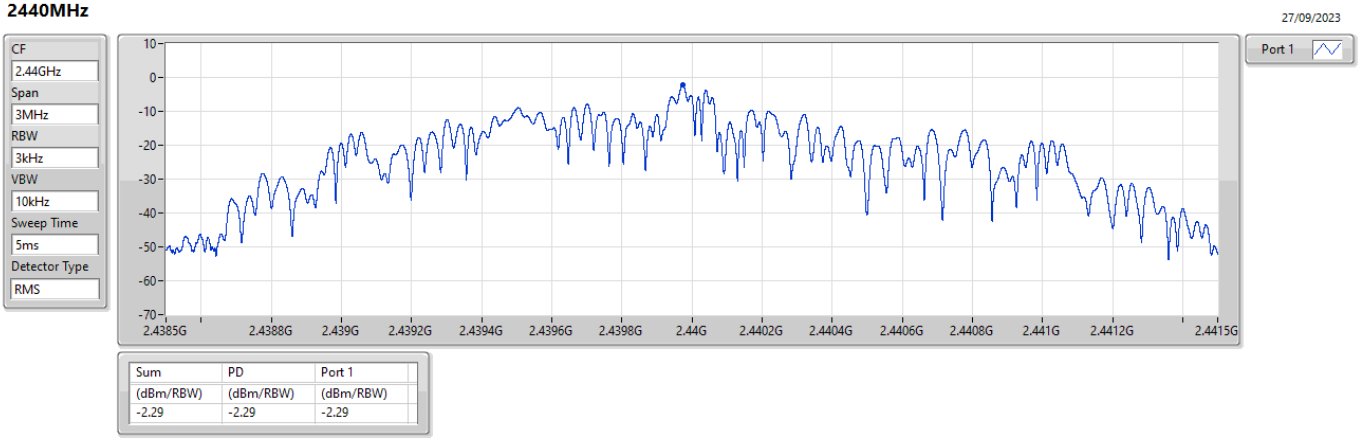
2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

2402MHz



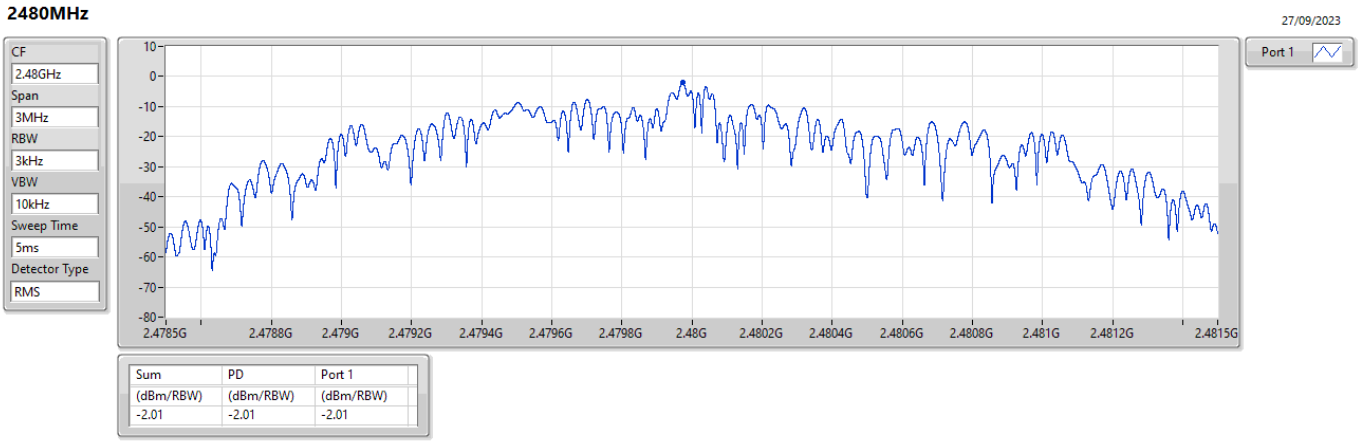
2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

2440MHz



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

2480MHz



Summary

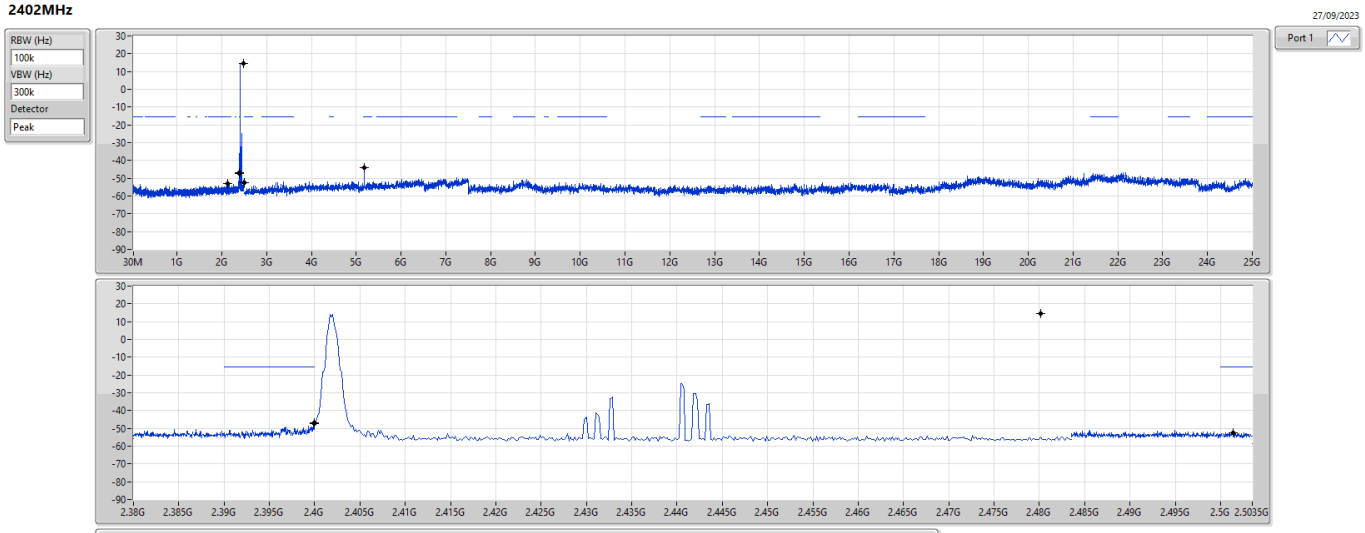
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.48016G	14.31	-15.69	2.13208G	-53.17	2.4G	-47.26	2.4G	-46.91	2.50134G	-52.45	5.17777G	-44.11	1
BT-LE(2Mbps)	Pass	2.48016G	14.22	-15.78	1.84538G	-53.48	2.4G	-18.12	2.4G	-18.08	2.50086G	-51.66	21.81675G	-46.69	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	2.48016G	14.31	-15.69	2.13208G	-53.17	2.4G	-47.26	2.4G	-46.91	2.50134G	-52.45	5.17777G	-44.11	1
2440MHz	Pass	2.48016G	14.31	-15.69	1.91118G	-52.41	2.39284G	-50.19	2.4G	-56.21	2.50158G	-51.67	21.59459G	-47.60	1
2480MHz	Pass	2.48016G	14.31	-15.69	1.7878G	-53.34	2.39212G	-51.17	2.4G	-55.06	2.50314G	-51.65	21.66489G	-47.18	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48016G	14.22	-15.78	1.84538G	-53.48	2.4G	-18.12	2.4G	-18.08	2.50086G	-51.66	21.81675G	-46.69	1
2440MHz	Pass	2.48016G	14.22	-15.78	2.30128G	-53.44	2.39068G	-51.05	2.4G	-56.88	2.5017G	-50.91	21.90673G	-47.18	1
2480MHz	Pass	2.48016G	14.22	-15.78	2.02398G	-54.00	2.3988G	-51.24	2.4G	-56.08	2.5027G	-51.97	21.54398G	-46.42	1

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

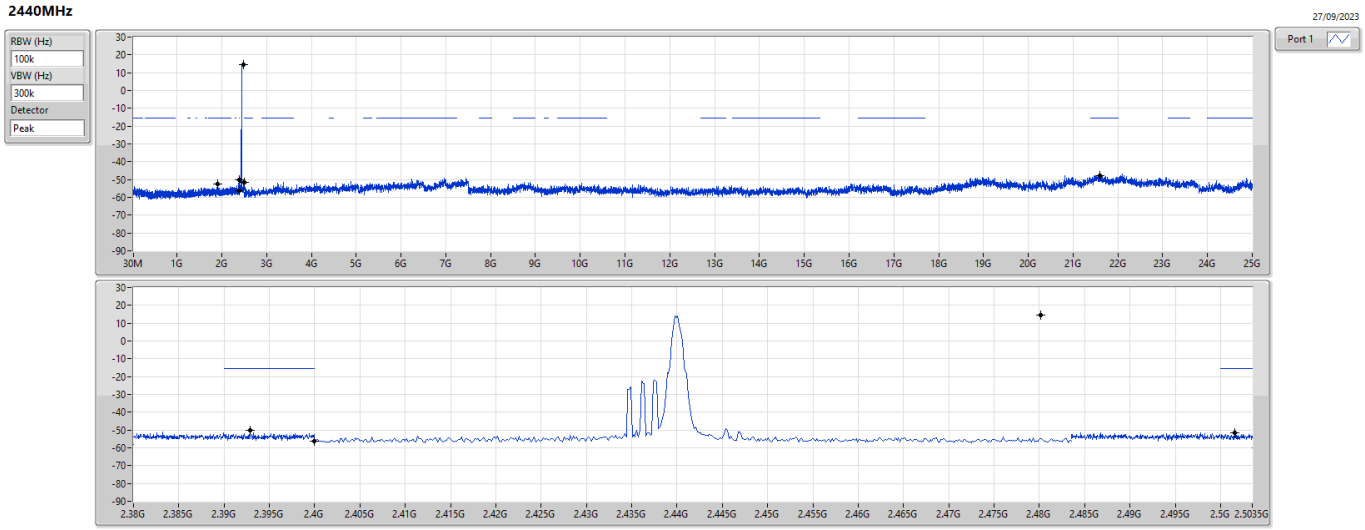
2402MHz



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
2.48016G	14.31	-15.69	2.13208G	-53.17	2.4G	-47.26	2.4G	-46.91	2.50134G	-52.45	5.17777G	-44.11	1

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

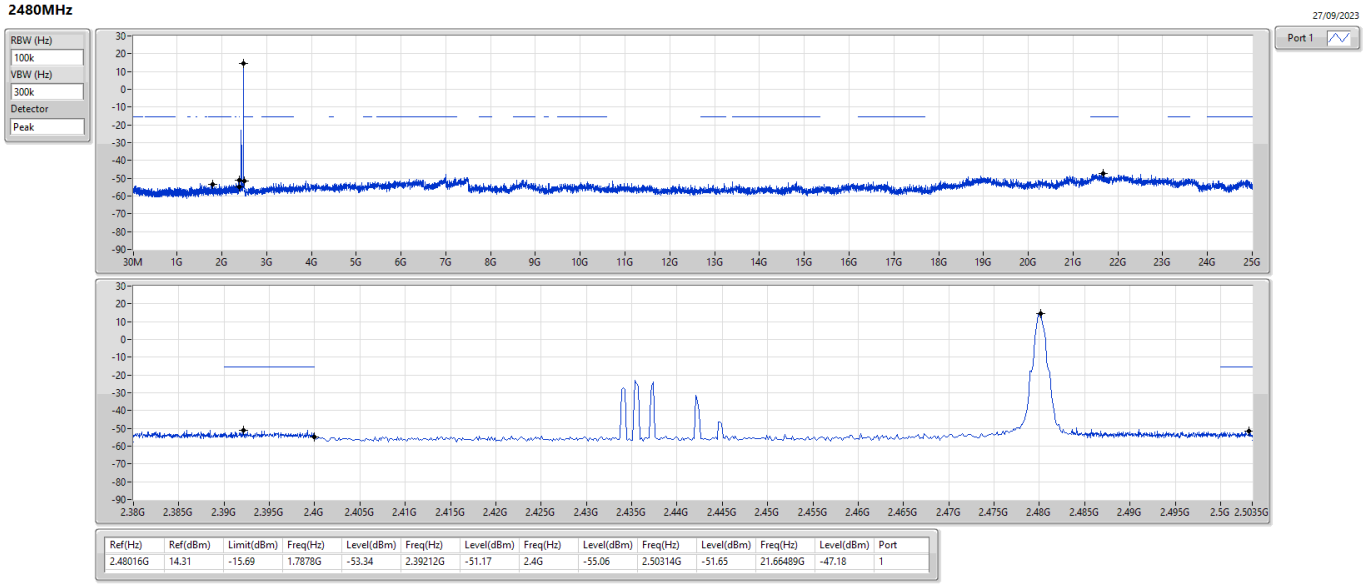
2440MHz



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
2.48016G	14.31	-15.69	1.91118G	-52.41	2.39284G	-50.19	2.4G	-56.21	2.50158G	-51.67	21.59459G	-47.60	1

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

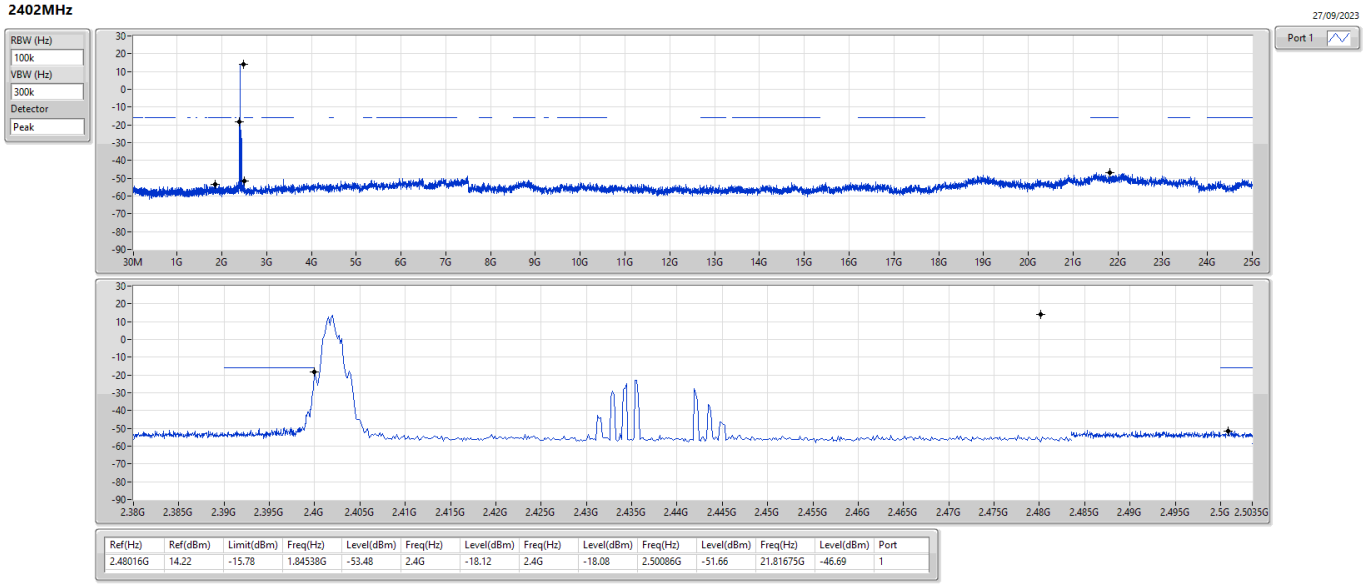
2480MHz



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
2.48016G	14.31	-15.69	1.7878G	-53.34	2.39212G	-51.17	2.4G	-55.06	2.50314G	-51.65	21.66489G	-47.18	1

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

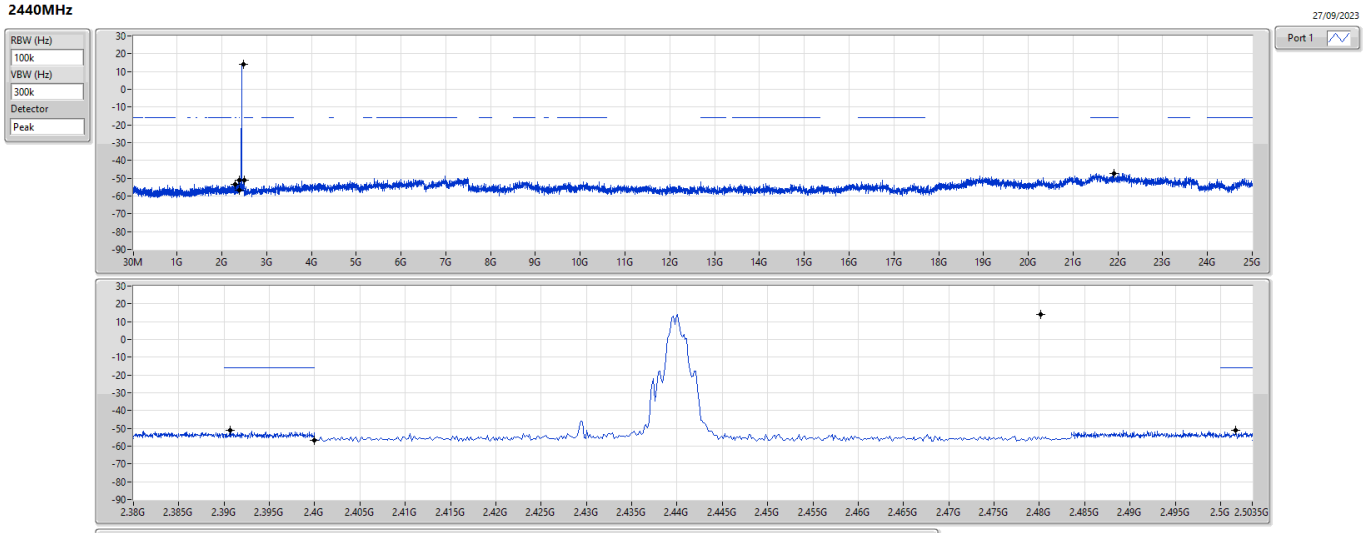
2402MHz



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
2.48016G	14.22	-15.78	1.84538G	-53.48	2.4G	-18.12	2.4G	-18.08	2.50086G	-51.66	21.81675G	-46.69	1

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

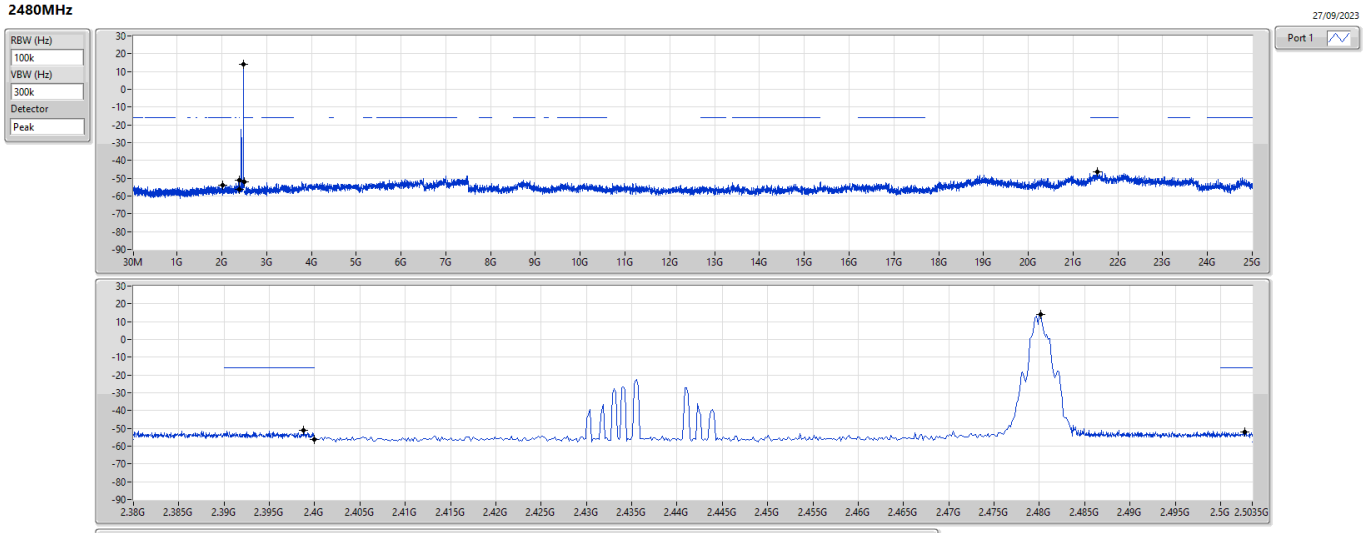
2440MHz



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
2.48016G	14.22	-15.78	2.30128G	-53.44	2.39068G	-51.05	2.4G	-56.88	2.5017G	-50.91	21.90673G	-47.18	1

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

2480MHz

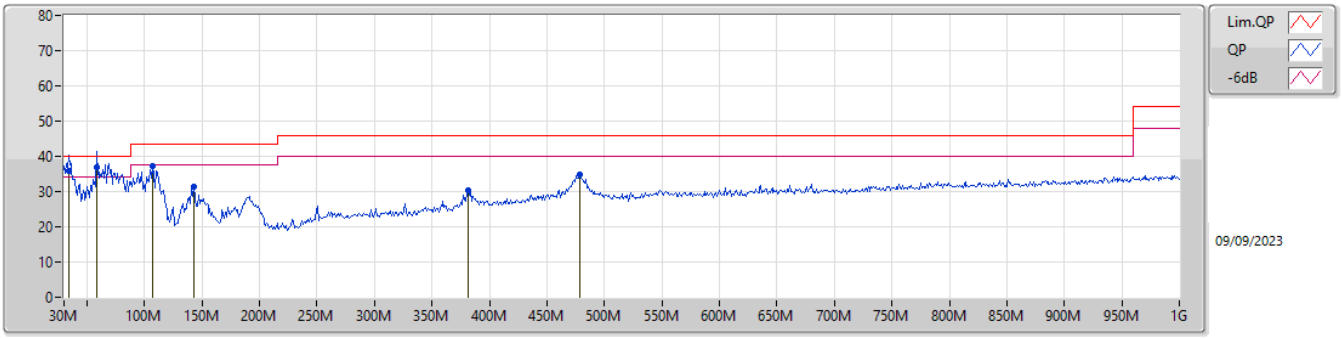


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	14.22	-15.78	2.02398G	-54.00	2.3988G	-51.24	2.4G	-56.08	2.5027G	-51.97	21.54398G	-46.42	1

Summary

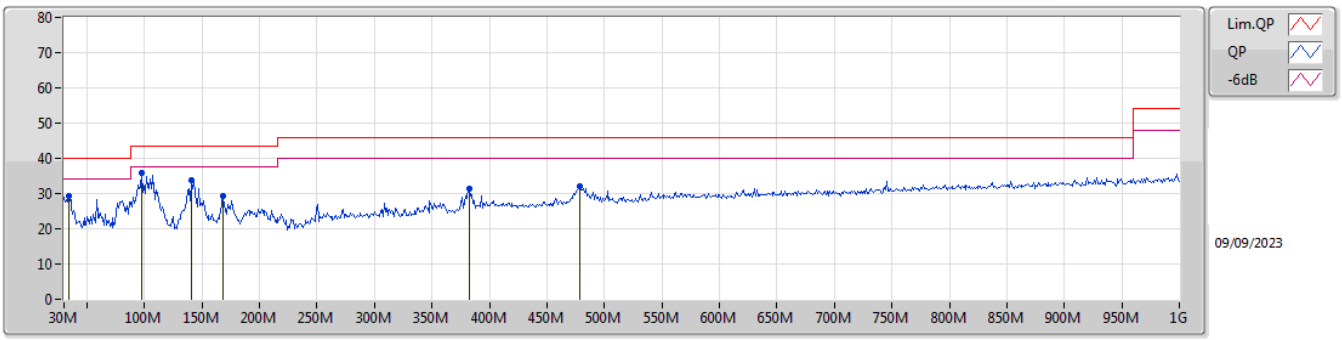
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	58.13M	36.96	40.00	-3.04	Vertical

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)
QP	33.88M	35.86	40.00	-4.14	-8.37	3	Vertical	220	1.00	-	44.23	22.15	1.12	31.64
QP	58.13M	36.96	40.00	-3.04	-18.05	3	Vertical	1	1.00	"Worst"	55.01	12.45	1.40	31.90
PK	106.63M	37.21	43.50	-6.29	-12.41	3	Vertical	182	1.00	-	49.62	17.70	1.84	31.95
PK	142.52M	31.51	43.50	-11.99	-12.91	3	Vertical	194	1.00	-	44.42	16.97	2.10	31.98
PK	381.14M	30.23	46.00	-15.77	-7.77	3	Vertical	210	1.00	-	38.00	20.84	3.56	32.17
PK	479.11M	34.85	46.00	-11.15	-5.22	3	Vertical	360	1.00	-	40.07	23.09	3.99	32.30

Mode 1



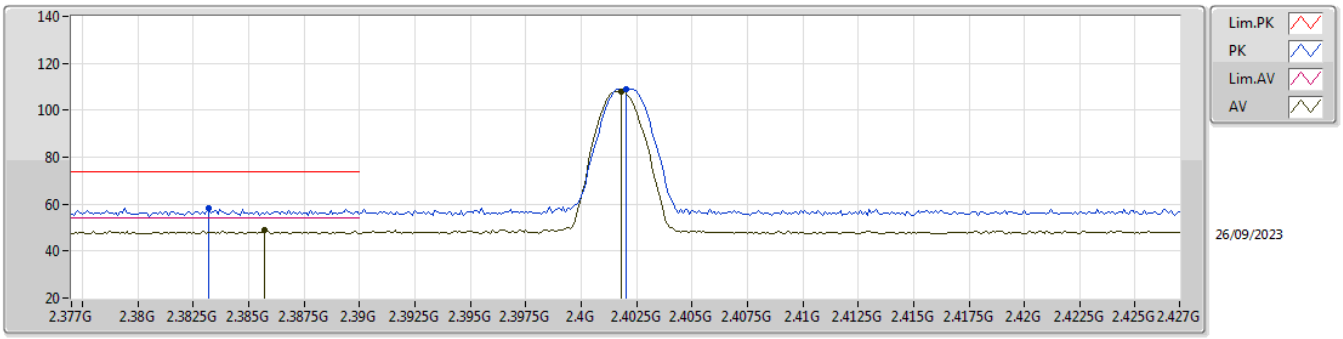
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	33.88M	29.37	40.00	-10.63	-8.37	3	Horizontal	244	1.50	-	37.74	22.15	1.12	31.64
PK	97.9M	35.93	43.50	-7.57	-13.81	3	Horizontal	257	3.00	"Worst"	49.74	16.39	1.77	31.97
PK	140.58M	33.76	43.50	-9.74	-12.80	3	Horizontal	267	2.00	-	46.56	17.09	2.08	31.97
PK	168.71M	29.16	43.50	-14.34	-14.09	3	Horizontal	77	2.00	-	43.25	15.65	2.29	32.03
PK	382.11M	31.37	46.00	-14.63	-7.73	3	Horizontal	144	1.00	-	39.10	20.88	3.56	32.17
PK	479.11M	32.07	46.00	-13.93	-5.22	3	Horizontal	288	1.50	-	37.29	23.09	3.99	32.30

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	50.81	54.00	-3.19	3	Vertical	213	1.00	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

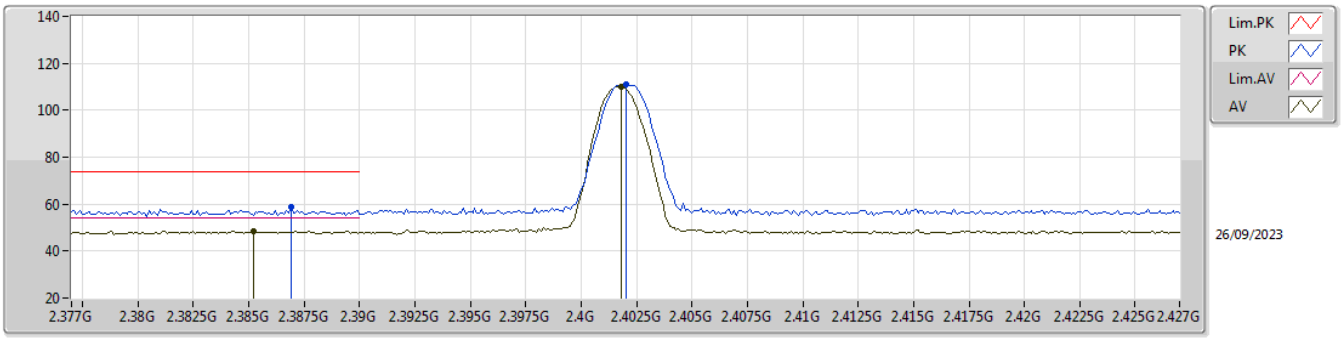


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3832G	58.41	74.00	-15.59	27.59	3	Vertical	214	1.80	-	27.33	3.49	-
AV	2.3857G	49.04	54.00	-4.96	18.19	3	Vertical	214	1.80	-	27.36	3.49	-
PK	2.402G	109.03	Inf	-Inf	78.03	3	Vertical	214	1.80	-	27.50	3.50	-
AV	2.4018G	108.16	Inf	-Inf	77.16	3	Vertical	214	1.80	-	27.50	3.50	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

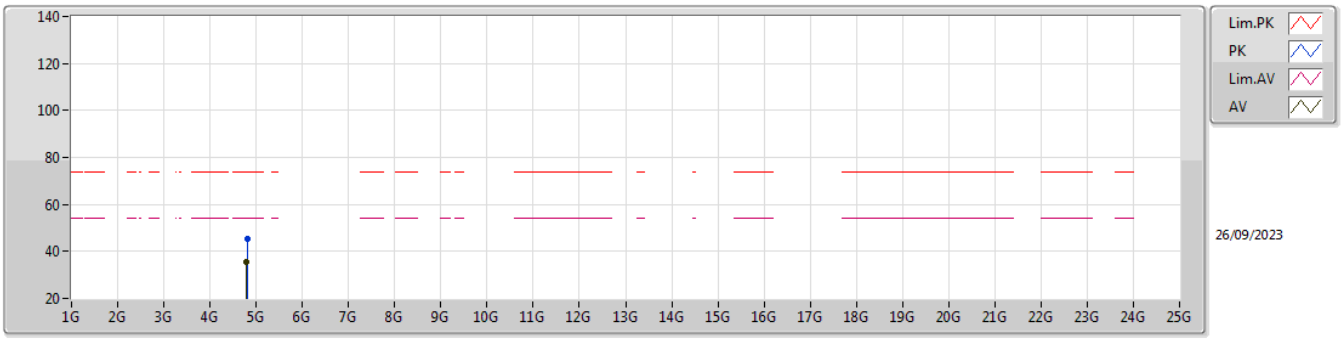


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3869G	58.73	74.00	-15.27	27.87	3	Horizontal	134	1.02	-	27.37	3.49	-
AV	2.3852G	48.68	54.00	-5.32	17.84	3	Horizontal	134	1.02	-	27.35	3.49	-
PK	2.402G	110.80	Inf	-Inf	79.80	3	Horizontal	134	1.02	-	27.50	3.50	-
AV	2.4018G	109.93	Inf	-Inf	78.93	3	Horizontal	134	1.02	-	27.50	3.50	-

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

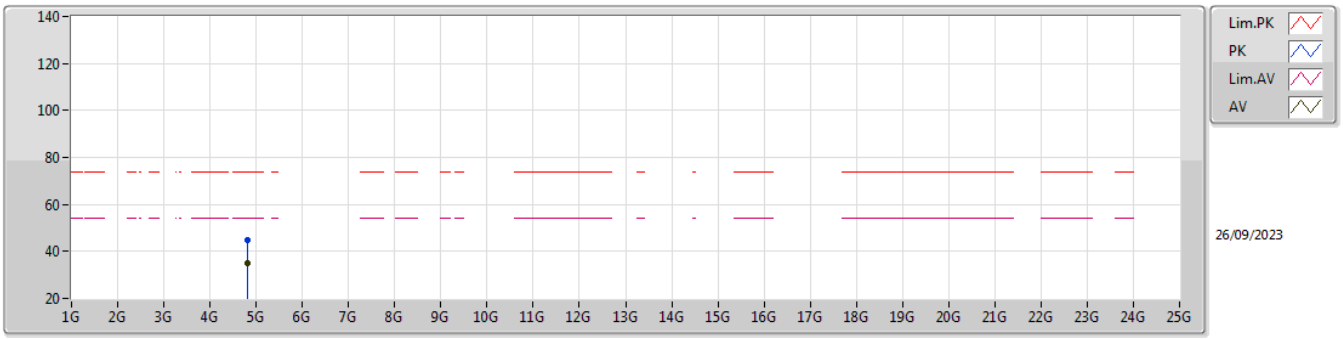


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.79952G	45.25	74.00	-28.75	42.56	3	Vertical	260	1.74	-	32.40	5.90	35.61
AV	4.7984G	35.42	54.00	-18.58	32.74	3	Vertical	260	1.74	-	32.39	5.90	35.61

2.4-2.4835GHz_BT-LE(1Mbps)

2402MHz_TX

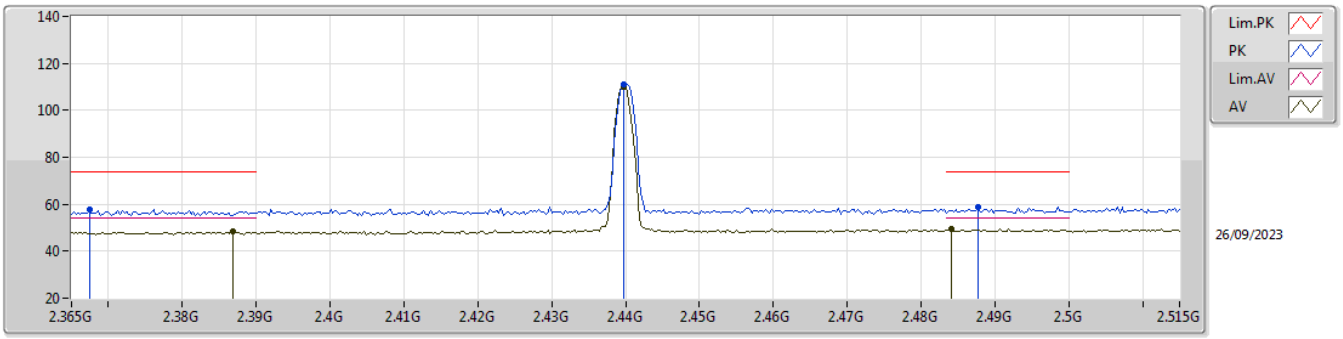


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.79932G	44.86	74.00	-29.14	42.17	3	Horizontal	117	1.72	-	32.40	5.90	35.61
AV	4.81148G	35.20	54.00	-18.80	32.43	3	Horizontal	117	1.72	-	32.47	5.91	35.61

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

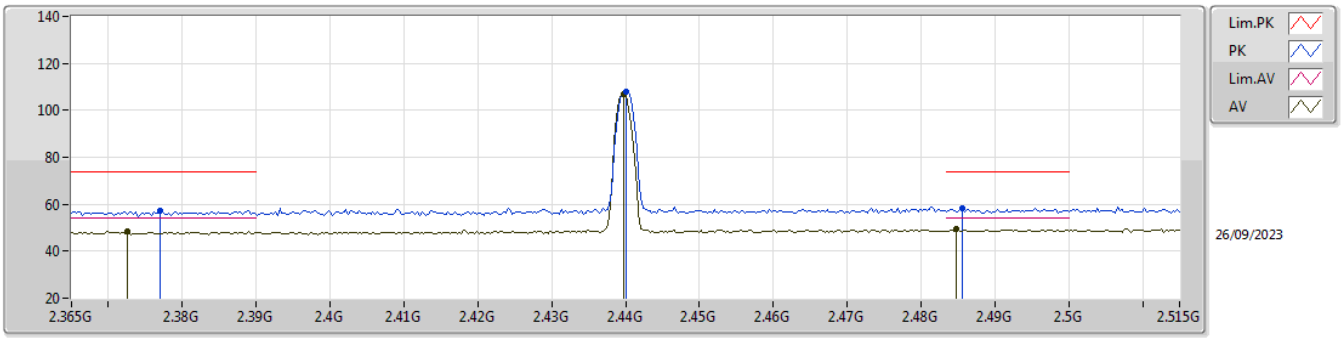


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3674G	57.91	74.00	-16.09	27.13	3	Vertical	215	1.16	-	27.30	3.48	-
AV	2.3869G	48.49	54.00	-5.51	17.63	3	Vertical	215	1.16	-	27.37	3.49	-
PK	2.4397G	110.90	Inf	-Inf	79.66	3	Vertical	215	1.16	-	27.70	3.54	-
AV	2.4397G	110.12	Inf	-Inf	78.88	3	Vertical	215	1.16	-	27.70	3.54	-
PK	2.4877G	58.68	74.00	-15.32	27.19	3	Vertical	215	1.16	-	27.90	3.59	-
AV	2.4841G	49.23	54.00	-4.77	17.75	3	Vertical	215	1.16	-	27.90	3.58	-

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

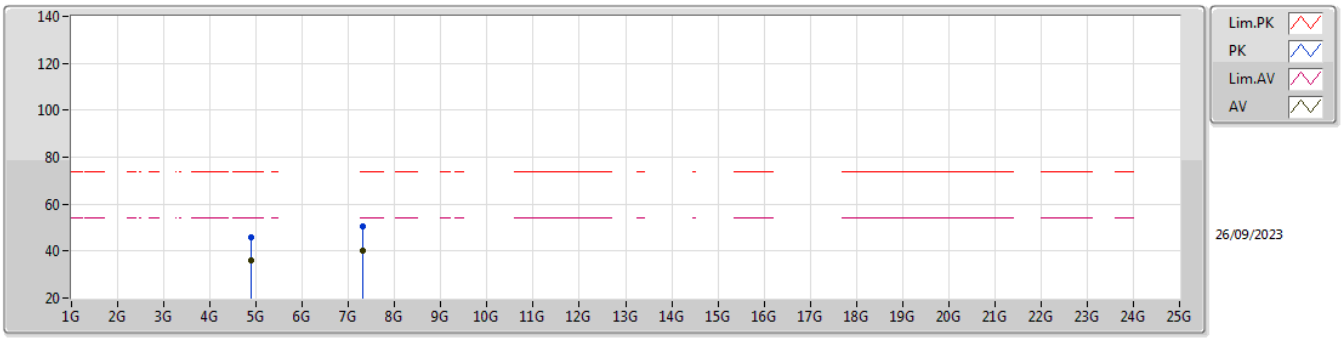


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.377G	57.44	74.00	-16.56	26.65	3	Horizontal	171	1.83	-	27.30	3.49	-
AV	2.3725G	48.65	54.00	-5.35	17.86	3	Horizontal	171	1.83	-	27.30	3.49	-
PK	2.44G	107.85	Inf	-Inf	76.61	3	Horizontal	171	1.83	-	27.70	3.54	-
AV	2.4397G	107.00	Inf	-Inf	75.76	3	Horizontal	171	1.83	-	27.70	3.54	-
PK	2.4856G	58.42	74.00	-15.58	26.93	3	Horizontal	171	1.83	-	27.90	3.59	-
AV	2.4847G	49.42	54.00	-4.58	17.94	3	Horizontal	171	1.83	-	27.90	3.58	-

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

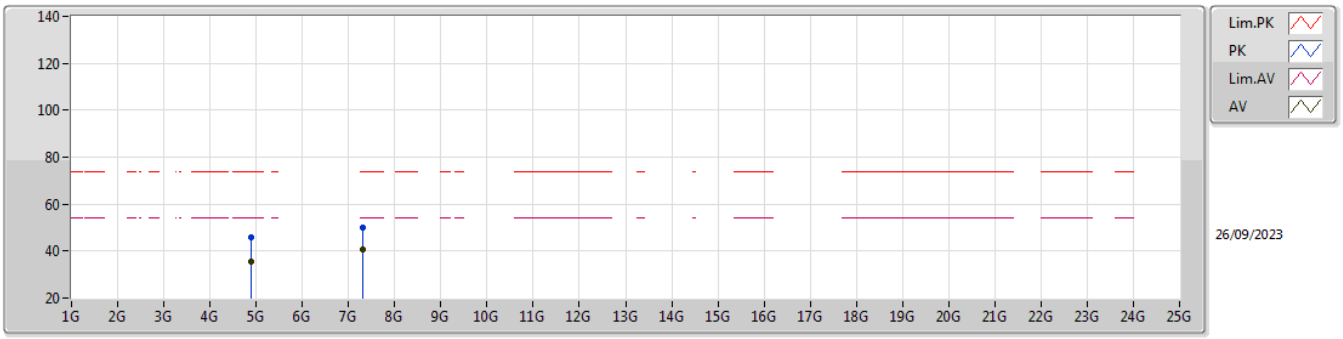


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.88144G	45.63	74.00	-28.37	42.54	3	Vertical	170	1.37	-	32.70	5.98	35.59
AV	4.88832G	36.08	54.00	-17.92	32.98	3	Vertical	170	1.37	-	32.70	5.99	35.59
PK	7.31184G	50.43	74.00	-23.57	40.95	3	Vertical	125	2.15	-	36.85	7.40	34.77
AV	7.31244G	40.42	54.00	-13.58	30.94	3	Vertical	125	2.15	-	36.85	7.40	34.77

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX

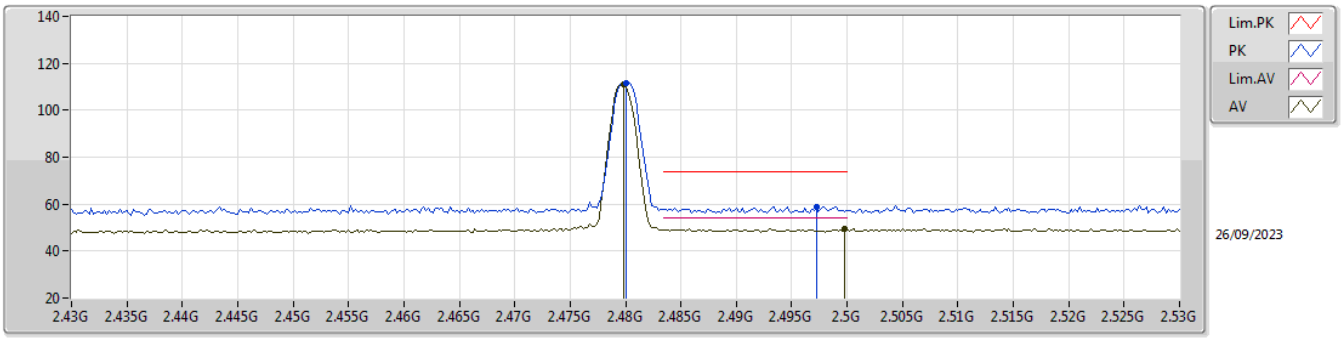


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.88912G	45.63	74.00	-28.37	42.53	3	Horizontal	58	2.17	-	32.70	5.99	35.59
AV	4.88796G	35.55	54.00	-18.45	32.45	3	Horizontal	58	2.17	-	32.70	5.99	35.59
PK	7.31728G	50.13	74.00	-23.87	40.66	3	Horizontal	175	2.96	-	36.83	7.40	34.76
AV	7.31184G	40.76	54.00	-13.24	31.28	3	Horizontal	175	2.96	-	36.85	7.40	34.77

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

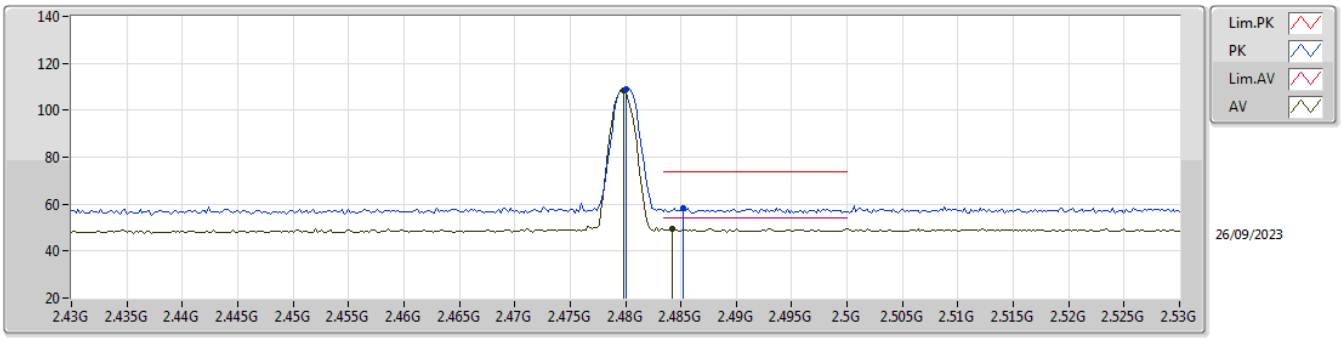


EUT Y_1TX
Setting 0x14
05-M-R-6

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	111.71	Inf	-Inf	80.23	3	Vertical	214	1.32	-	27.90	3.58	-
AV	2.4798G	110.84	Inf	-Inf	79.36	3	Vertical	214	1.32	-	27.90	3.58	-
PK	2.4972G	58.81	74.00	-15.19	27.31	3	Vertical	214	1.32	-	27.90	3.60	-
AV	2.4998G	49.42	54.00	-4.58	17.92	3	Vertical	214	1.32	-	27.90	3.60	-

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

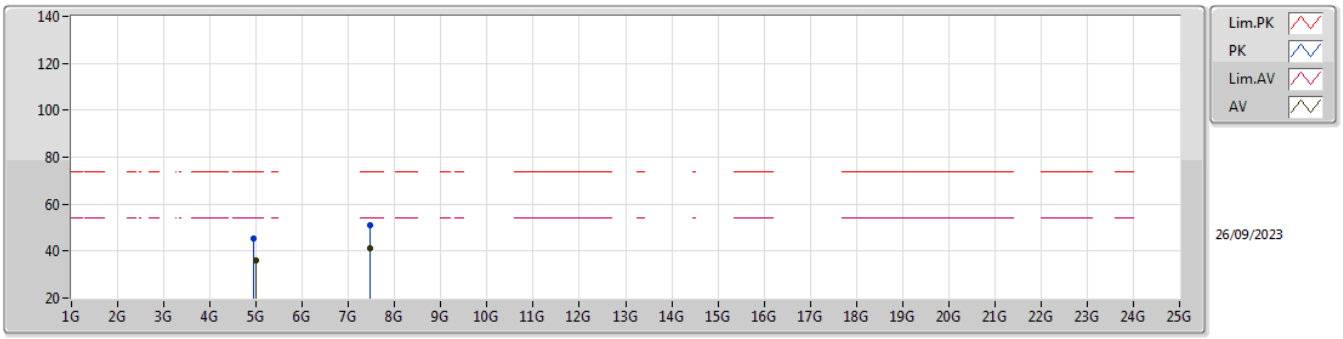


EUT Y_1TX
Setting 0x14
05-M-R-6

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	109.10	Inf	-Inf	77.62	3	Horizontal	168	1.75	-	27.90	3.58	-
AV	2.4798G	108.20	Inf	-Inf	76.72	3	Horizontal	168	1.75	-	27.90	3.58	-
PK	2.4852G	58.48	74.00	-15.52	26.99	3	Horizontal	168	1.75	-	27.90	3.59	-
AV	2.4842G	49.61	54.00	-4.39	18.13	3	Horizontal	168	1.75	-	27.90	3.58	-

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

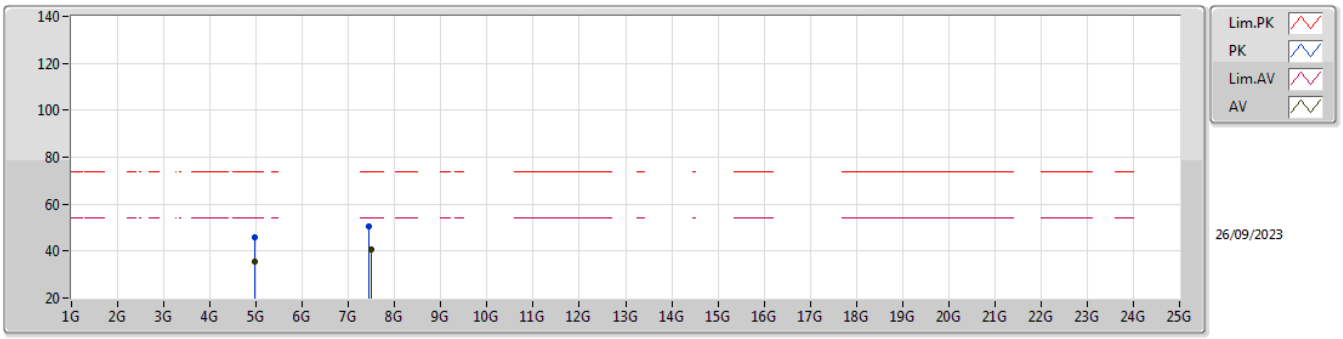


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.932G	45.36	74.00	-28.64	42.08	3	Vertical	335	1.29	-	32.83	6.03	35.58
AV	4.9972G	35.83	54.00	-18.17	32.30	3	Vertical	335	1.29	-	32.99	6.10	35.56
PK	7.4656G	51.02	74.00	-22.98	41.60	3	Vertical	350	1.55	-	36.44	7.47	34.49
AV	7.4788G	41.10	54.00	-12.90	31.71	3	Vertical	350	1.55	-	36.38	7.48	34.47

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX

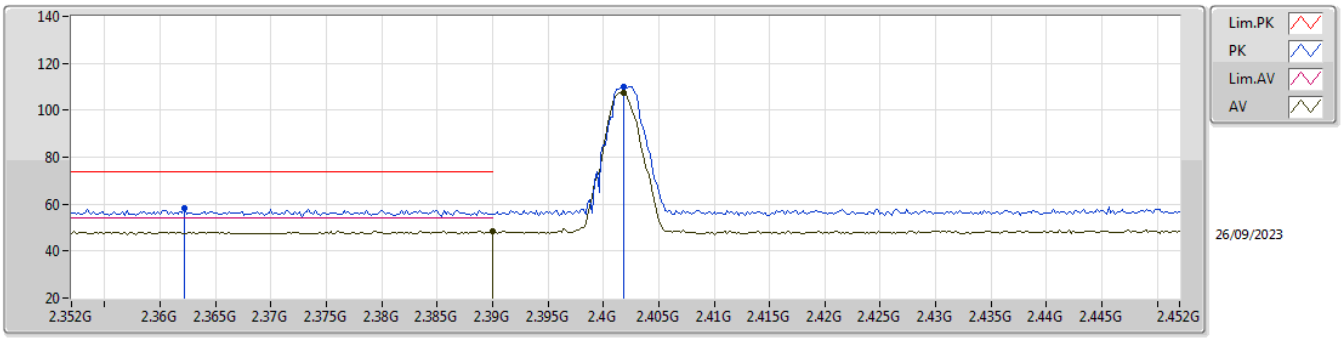


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.96588G	45.68	74.00	-28.32	42.25	3	Horizontal	164	2.44	-	32.93	6.07	35.57
AV	4.9616G	35.64	54.00	-18.36	32.23	3	Horizontal	164	2.44	-	32.92	6.06	35.57
PK	7.4414G	50.63	74.00	-23.37	41.21	3	Horizontal	157	1.19	-	36.52	7.44	34.54
AV	7.4862G	40.71	54.00	-13.29	31.32	3	Horizontal	157	1.19	-	36.36	7.49	34.46

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

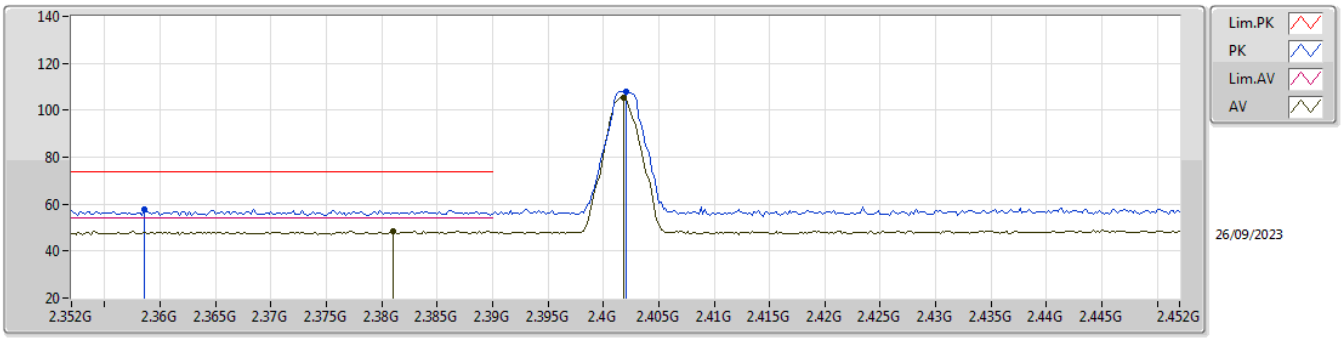


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3622G	58.47	74.00	-15.53	27.69	3	Vertical	216	1.12	-	27.30	3.48	-
AV	2.39G	48.70	54.00	-5.30	17.80	3	Vertical	216	1.12	-	27.40	3.50	-
PK	2.4018G	109.88	Inf	-Inf	78.88	3	Vertical	216	1.12	-	27.50	3.50	-
AV	2.4018G	107.58	Inf	-Inf	76.58	3	Vertical	216	1.12	-	27.50	3.50	-

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

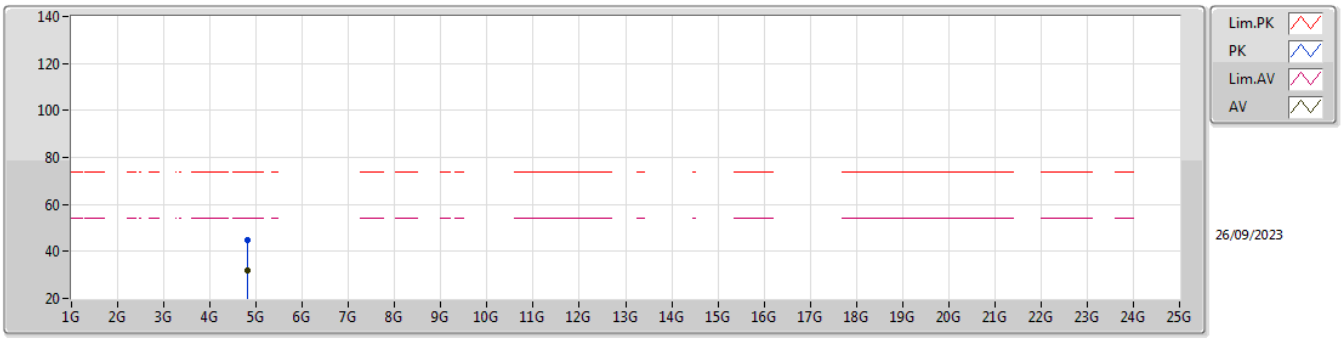


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3586G	57.77	74.00	-16.23	27.00	3	Horizontal	168	1.86	-	27.29	3.48	-
AV	2.381G	48.65	54.00	-5.35	17.85	3	Horizontal	168	1.86	-	27.31	3.49	-
PK	2.402G	107.86	Inf	-Inf	76.86	3	Horizontal	168	1.86	-	27.50	3.50	-
AV	2.4018G	105.28	Inf	-Inf	74.28	3	Horizontal	168	1.86	-	27.50	3.50	-

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

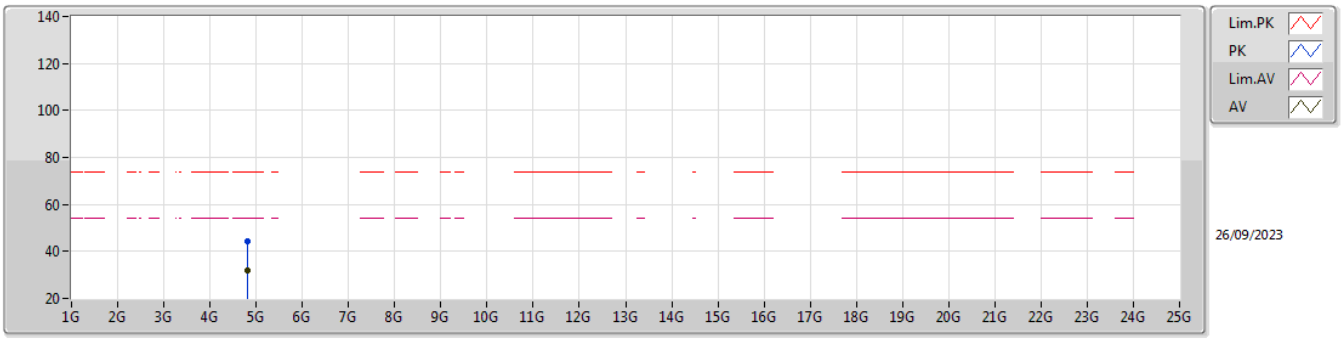


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.8094G	44.72	74.00	-29.28	41.96	3	Vertical	318	1.66	-	32.46	5.91	35.61
AV	4.81364G	31.82	54.00	-22.18	29.04	3	Vertical	318	1.66	-	32.48	5.91	35.61

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_TX

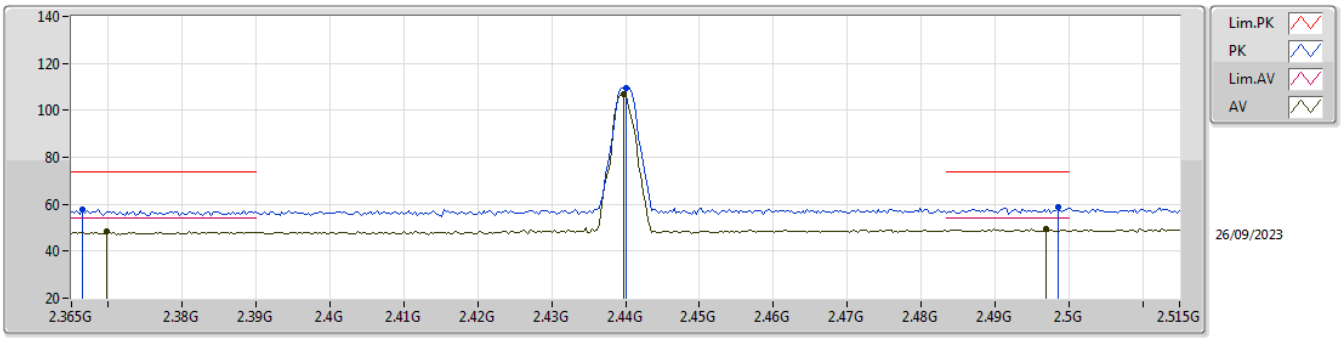


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.80928G	44.56	74.00	-29.44	41.80	3	Horizontal	37	2.78	-	32.46	5.91	35.61
AV	4.79896G	32.07	54.00	-21.93	29.38	3	Horizontal	37	2.78	-	32.40	5.90	35.61

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

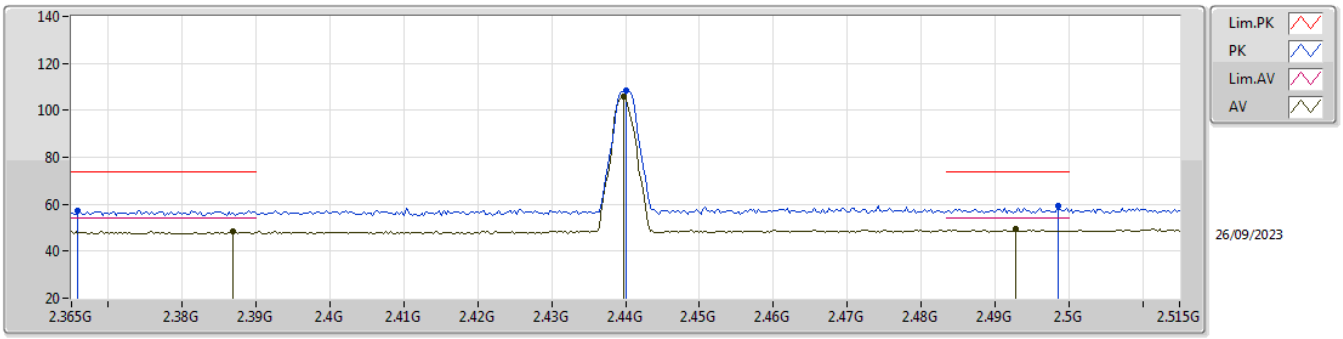


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3665G	57.52	74.00	-16.48	26.74	3	Vertical	126	1.80	-	27.30	3.48	-
AV	2.3698G	48.27	54.00	-5.73	17.49	3	Vertical	126	1.80	-	27.30	3.48	-
PK	2.44G	109.63	Inf	-Inf	78.39	3	Vertical	126	1.80	-	27.70	3.54	-
AV	2.4397G	107.13	Inf	-Inf	75.89	3	Vertical	126	1.80	-	27.70	3.54	-
PK	2.4985G	58.80	74.00	-15.20	27.30	3	Vertical	126	1.80	-	27.90	3.60	-
AV	2.497G	49.43	54.00	-4.57	17.93	3	Vertical	126	1.80	-	27.90	3.60	-

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

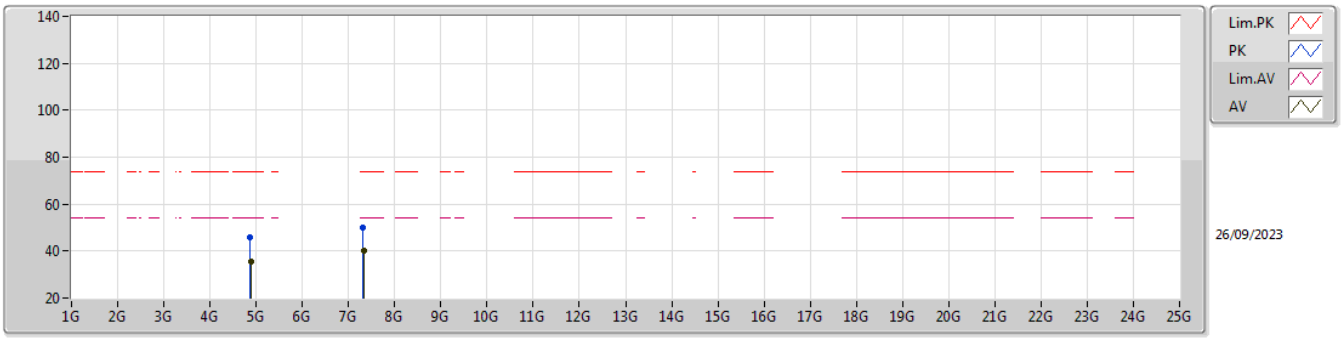


EUT Y_1TX
Setting 0x14
05-M-R-6

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	2.3659G	57.32	74.00	-16.68	26.54	3	Horizontal	168	1.80	-	27.30	3.48	-
AV	2.3869G	48.30	54.00	-5.70	17.44	3	Horizontal	168	1.80	-	27.37	3.49	-
PK	2.44G	108.21	Inf	-Inf	76.97	3	Horizontal	168	1.80	-	27.70	3.54	-
AV	2.4397G	105.72	Inf	-Inf	74.48	3	Horizontal	168	1.80	-	27.70	3.54	-
PK	2.4985G	59.12	74.00	-14.88	27.62	3	Horizontal	168	1.80	-	27.90	3.60	-
AV	2.4928G	49.23	54.00	-4.77	17.74	3	Horizontal	168	1.80	-	27.90	3.59	-

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

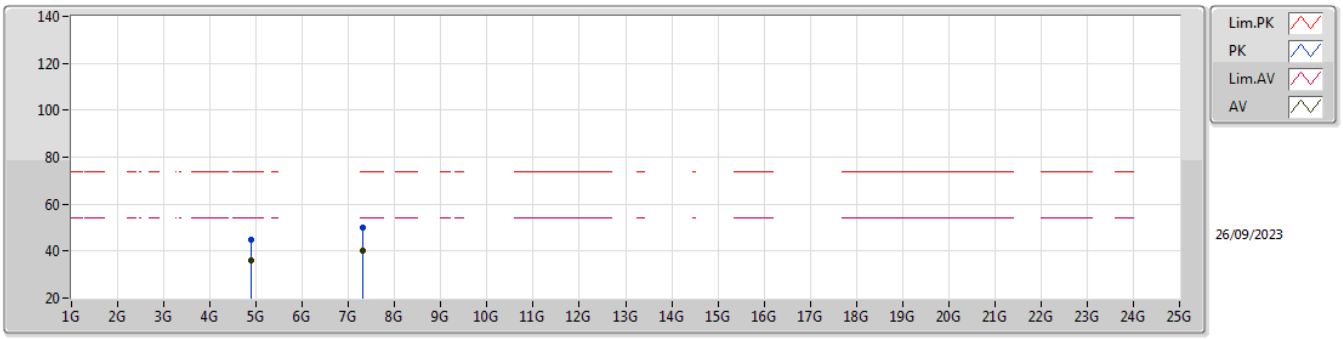


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.87614G	45.91	74.00	-28.09	42.82	3	Vertical	82	2.63	-	32.70	5.98	35.59
AV	4.87812G	35.53	54.00	-18.47	32.44	3	Vertical	82	2.63	-	32.70	5.98	35.59
PK	7.31682G	49.82	74.00	-24.18	40.35	3	Vertical	359	1.02	-	36.83	7.40	34.76
AV	7.32454G	40.43	54.00	-13.57	30.98	3	Vertical	359	1.02	-	36.80	7.40	34.75

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX

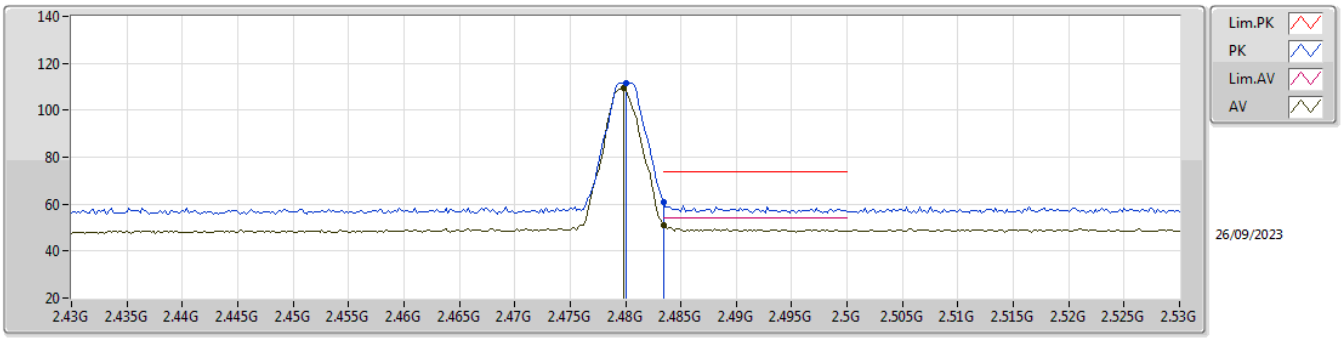


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.88442G	44.83	74.00	-29.17	41.74	3	Horizontal	307	2.27	-	32.70	5.98	35.59
AV	4.88454G	35.79	54.00	-18.21	32.70	3	Horizontal	307	2.27	-	32.70	5.98	35.59
PK	7.32022G	49.80	74.00	-24.20	40.34	3	Horizontal	251	2.56	-	36.82	7.40	34.76
AV	7.32154G	40.26	54.00	-13.74	30.80	3	Horizontal	251	2.56	-	36.81	7.40	34.75

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

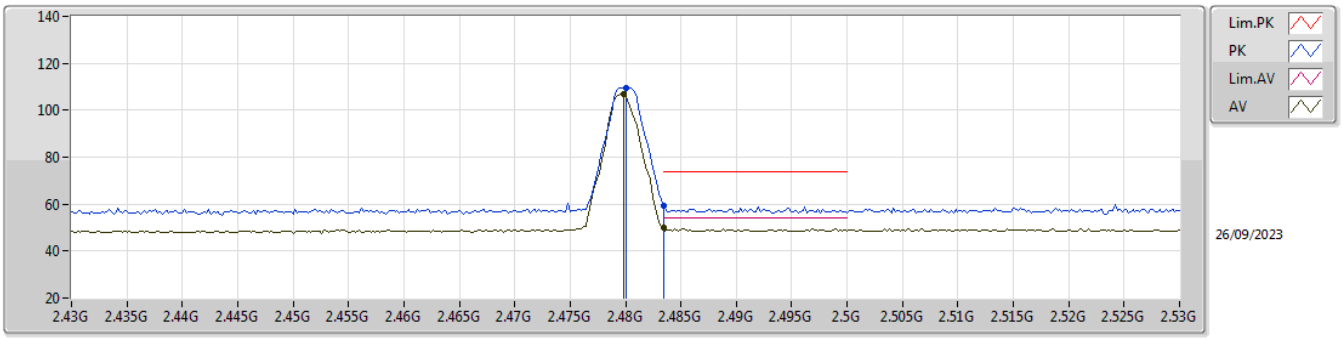


EUT Y_1TX
Setting 0x14
05-M-R-6

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	111.77	Inf	-Inf	80.29	3	Vertical	213	1.00	-	27.90	3.58	-
AV	2.4798G	109.23	Inf	-Inf	77.75	3	Vertical	213	1.00	-	27.90	3.58	-
PK	2.4835G	61.09	74.00	-12.91	29.61	3	Vertical	213	1.00	-	27.90	3.58	-
AV	2.4835G	50.81	54.00	-3.19	19.33	3	Vertical	213	1.00	-	27.90	3.58	-

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

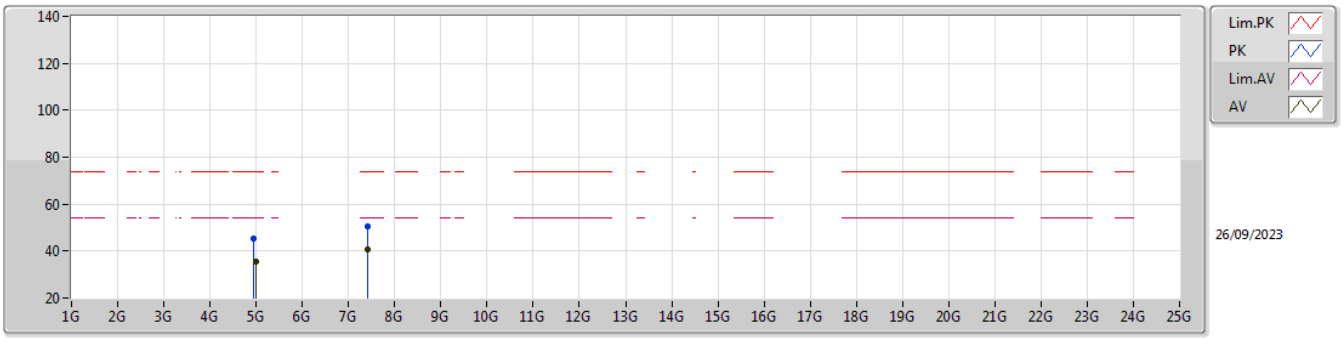


EUT Y_1TX
Setting 0x14
05-M-R-6

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	109.59	Inf	-Inf	78.11	3	Horizontal	166	1.74	-	27.90	3.58	-
AV	2.4798G	107.03	Inf	-Inf	75.55	3	Horizontal	166	1.74	-	27.90	3.58	-
PK	2.4835G	59.53	74.00	-14.47	28.05	3	Horizontal	166	1.74	-	27.90	3.58	-
AV	2.4835G	49.97	54.00	-4.03	18.49	3	Horizontal	166	1.74	-	27.90	3.58	-

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

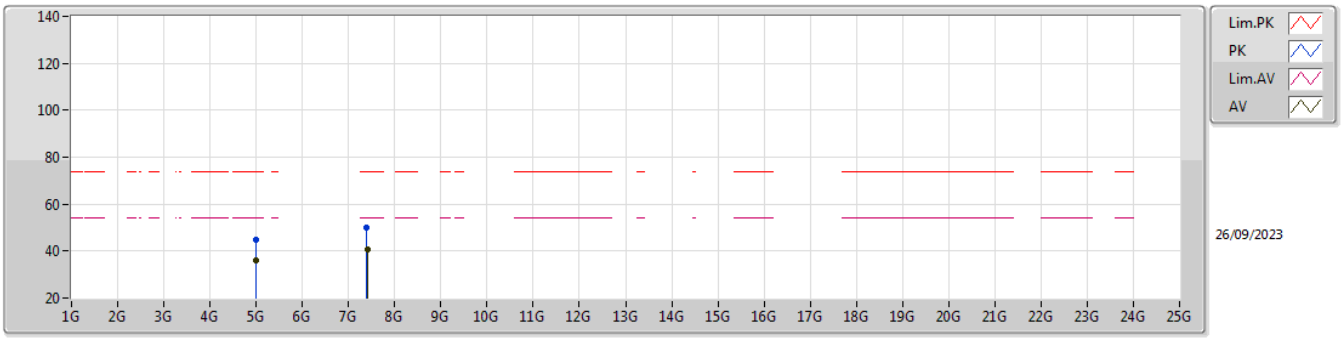


EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.9466G	45.18	74.00	-28.82	41.81	3	Vertical	161	1.42	-	32.89	6.05	35.57
AV	4.997G	35.51	54.00	-18.49	31.98	3	Vertical	161	1.42	-	32.99	6.10	35.56
PK	7.4174G	50.36	74.00	-23.64	40.95	3	Vertical	156	1.83	-	36.57	7.42	34.58
AV	7.4202G	40.58	54.00	-13.42	31.18	3	Vertical	156	1.83	-	36.56	7.42	34.58

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



EUT Y_1TX
Setting 0x14
05-M-R-6

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	4.9924G	45.04	74.00	-28.96	41.53	3	Horizontal	303	1.64	-	32.98	6.09	35.56
AV	4.9898G	35.92	54.00	-18.08	32.41	3	Horizontal	303	1.64	-	32.98	6.09	35.56
PK	7.3984G	49.81	74.00	-24.19	40.42	3	Horizontal	131	2.73	-	36.60	7.40	34.61
AV	7.4098G	40.83	54.00	-13.17	31.43	3	Horizontal	131	2.73	-	36.58	7.41	34.59