Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	Z8H89FT0069
Equipment	:	ePMP 6 GHz Force 4600C SM / ePMP 4600L 6 GHz 2x2 Access Point
Brand Name	:	Cambium Networks
Model Name	:	ePMP 6 GHz Force 4600C SM / ePMP 4600L 6 GHz 2x2 Access Point
Model Number	:	C068940P151A
Applicant	:	Cambium Networks Inc. 3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA
Manufacturer	:	Cambium Networks, Ltd. Ashburton, TQ13 7UP, UK
Standard	:	47 CFR FCC Part 15.407

The product was received on May 29, 2024, and testing was started from Jun. 07, 2024 and completed on Jun. 22, 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 variant 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: Rex Liao

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
FR140145-09	01	Initial issue of report	Aug. 06, 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	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Equivalent Isotopically Radiated Power (E.I.R.P.)	PASS	-
3.3	15.407(a)	Peak Power Spectral Density (E.I.R.P.)	PASS	-
3.4	15.407(b)	Unwanted Emissions	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: Lavender Zeng

1 General Description

1.1 Information

1.1.1 RF General Information

For IEEE:

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5925-6425	ax (HEW20)	5955-6415	1-93 [24]
6525-6875		6535-6855	117-181 [17]
5925-6425	ax (HEW40)	5965-6405	3-91 [12]
6525-6875		6565-6845	123-179 [8]
5925-6425	ax (HEW80)	5985-6385	7-87 [6]
6525-6875		6625-6785	135-167 [3]
5925-6425	ax (HEW160)	6025-6345	15-79 [3]
6525-6875		6665	143 [1]

Band	Mode	BWch (MHz)	Nant
5.925-6.425GHz	802.11ax HEW20	20	2TX
5.925-6.425GHz	802.11ax HEW40	40	2TX
5.925-6.425GHz	802.11ax HEW80	80	2TX
5.925-6.425GHz	802.11ax HEW160	160	2TX
6.525-6.875GHz	802.11ax HEW20	20	2TX
6.525-6.875GHz	802.11ax HEW40	40	2TX
6.525-6.875GHz	802.11ax HEW80	80	2TX
6.525-6.875GHz	802.11ax HEW160	160	2TX

Note:
- HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.

For Non IEEE:

Frequency Range (MHz)	Mode	Ch. Frequency (MHz)
6525-6875	80	6835
6525-6875	160	6795

Band	Mode	BWch (MHz)	Nant
6.525-6.875GHz	80	80	2TX
6.525-6.875GHz	160	160	2TX

Note:
- 80 and 160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

For Dish Antenna:

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						UNII3	UNII5&7
1	1	Cambium	ePMP 6GHz 2x2 Dish Antenna	Dish (Directional Ant.)	RP-SMA	25.21	28.7
	2	Cambium	ePMP 6GHz 2x2 Dish Antenna	Dish (Directional Ant.)	RP-SMA	25.21	28.7

Note 1: The Dish antenna is cross polarization.

For Sector Antenna:

Ant.	Ant. CH	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
							UNII3&5	UNII7
1	0	-	Cambium	ePMP 2x2 6GHz MU-MIMO Sector Antenna	Sector (Directional Ant.)	RP-SMA	18	18.73
	1	1	Cambium	ePMP 2x2 6GHz MU-MIMO Sector Antenna	Sector (Directional Ant.)	RP-SMA	18	18.73
	2	2	Cambium	ePMP 2x2 6GHz MU-MIMO Sector Antenna	Sector (Directional Ant.)	RP-SMA	18	18.73
	3	-	Cambium	ePMP 2x2 6GHz MU-MIMO Sector Antenna	Sector (Directional Ant.)	RP-SMA	18	18.73

Note 2: The Sector antenna has four CH ports. Only two CH ports (CH1 and CH2) were used for the EUT. The Sector antenna is cross polarization: CH 1 is vertical and CH 2 is horizontal.

Note 3: The above information was declared by manufacturer.

Note 4: Directional gain information for Dish antenna

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 : $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

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;
Dish ANT
Cross-Polarized Antenna
6G UNII-5 G1= 28.70 dBi ; G2= 28.70 dBi ;DG= 28.70 dBi
6G UNII-7 G1= 28.70 dBi ; G2= 28.70 dBi ;DG= 28.70 dBi

Note 5: **For 5GHz function**

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 6GHz function

For IEEE 802.11ax (2TX/2RX):

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

For Dish Antenna:

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
80_Nss 1,(M0)	0.869	0.61	5.456m	300
160_Nss 1,(M0)	0.854	0.69	5.456m	300

For Sector Antenna:

Mode	DC	DCF (dB)	T (s)	VBW (Hz) ≥ 1/T
80_Nss 1,(M0)	0.853	0.69	5.46m	300
160_Nss 1,(M0)	0.865	0.63	5.46m	300

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

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Device Type	☐	Indoor Access Point	☐	Subordinate
	☐	Indoor Client	☒	Standard Power Access Point
	☐	Dual Client	☒	Standard Client
	☒	Fixed Client		
Condition of EUT	☐	Indoor	☒	Outdoor
Channel Puncturing Function	☐	Supported	☒	Unsupported
Support RU	☒	Full RU	☐	Partial RU
Test Software Version	QRCT V4.0.00192.0			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The two models are identical except for the difference listed below:

EUT	Equipment Name / Model Name	Model Number	WLAN Antenna
1	ePMP 6 GHz Force 4600C SM	C068940P151A	Dish Antenna
2	ePMP 4600L 6 GHz 2x2 Access Point		Sector Antenna

Note: The above information was declared by manufacturer.

1.1.6 Table for EUT Supports Function

Function	5GHz Support Band	6GHz Support Band		Support Non-IEEE Mode in 6GHz
Master	UNII 3	UNII 5	Standard Power Access Point (6SD)	X
		UNII 7		V
Client	UNII 3	UNII 5	Standard Client (6FX)	X
			Fixed Client (6FC)	X
		UNII 7	Standard Client (6FX)	X
			Fixed Client (6FC)	V

Note: The above information was declared by manufacturer.

1.1.7 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: 140145-01

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Adding frequencies for 6835 MHz at 80MHz and 6795 MHz at 160MHz for Non IEEE in UNII 7 for 6SD and 6FC modes through SW change.	For 6835 MHz and 6795 MHz with 6SD mode: 1. Emission Bandwidth 2. Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) 3. Peak Power Spectral Density (E.I.R.P.) 4. Unwanted Emissions 5. Emission Mask

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 15.407
- ANSI C63.10-2013
- FCC KDB 789033 D02 v02r01

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

- FCC KDB 662911 D01 v02r01
- FCC KDB 987594 D02 v02r01
- FCC KDB 412172 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	Nyle Chnag	23.7~24.1 / 61~65	Jun. 22, 2024
Radiated	03CH02-CB	Jackson Peng	21.8-22.9 / 55-58	Jun. 07, 2024~ Jun. 21, 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
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

For Dish Antenna:

Mode
80_Nss1,(MCS0)_2TX
6835MHz
160_Nss1,(MCS0)_2TX
6795MHz

For Sector Antenna:

Mode
80_Nss1,(MCS0)_2TX
6835MHz
160_Nss1,(MCS0)_2TX
6795MHz

Note: The power of the “Fixed Client” mode is exactly the same as the “Standard power access point” mode.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Emission MASK
Test Condition	Conducted measurement at transmit chains
Test Mode	
1	EUT 1 + Dish antenna
2	EUT 2 + Sector antenna

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Peak Power Spectral Density (E.I.R.P.)
Test Condition	Conducted measurement at transmit chains
Test Mode	
1	EUT 1 + Dish antenna

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) for Phi 30°
Test Condition	Conducted measurement at transmit chains
Test Mode	
1	EUT 2 + Sector antenna

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) for others Peak Power Spectral Density (E.I.R.P.)
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.
Test Mode	After evaluating, EUT in Y axis was the worst case, so the measurement will follow this same test configuration.
1	EUT 2 in Y axis + Sector antenna

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
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 1 in Y axis + Dish antenna
2	EUT 2 in Y axis + Sector antenna

Note: The PoE was for measurement only and would not be marketed.
Its information is shown as below:

Equipment	Brand Name	Model Name	FCC ID
PoE	Cambium Networks	NET-P30-56IN	N/A

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

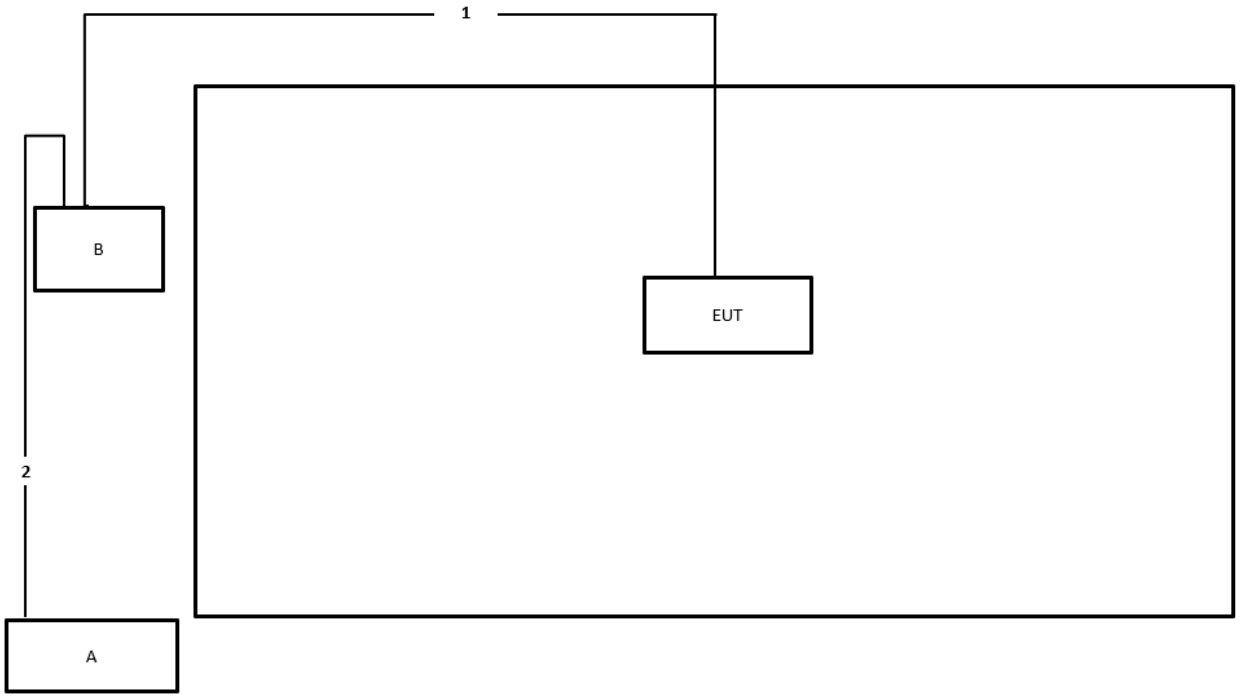
N/A

2.5 Support Equipment

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
B	PoE	Cambium Networks	NET-P30-56IN	N/A

2.6 Test Setup Diagram

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m

3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit
UNII Devices
☐ For the 5925-6425 GHz band, N/A
☐ For the 6425-6525 GHz band, N/A
☒ For the 6525-6875 GHz band, N/A
☐ For the 6875-7125 GHz band, N/A
RLAN Devices
☐ For the 5925-6425 GHz band, N/A
☐ For the 6425-6525 GHz band, N/A
☐ For the 6525-6875 GHz band, N/A
☐ For the 6875-7125 GHz band, N/A

3.1.2 Measuring Instruments

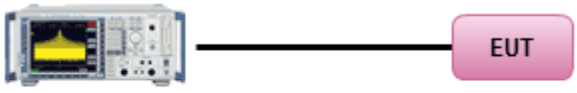
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
	☒ According to FCC KDB 987594 D02 clause II.C, measurement procedure shall refer to FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
	☐ Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.1.4 Test Setup

Emission Bandwidth



Spectrum Analyzer

3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Equivalent Isotopically Radiated Power (E.I.R.P.)

3.2.1 Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Limit

Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Limit	
UNII Devices	
☐	For the 5.925 ~ 6.425 GHz band:
	▪ For standard power access point and fixed client device : e.i.r.p < 36 dBm , For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125 mW (21 dBm).
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For subordinate device control of an indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of a standard power access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☐	For the 6.425 ~ 6.525 GHz band:
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☒	For the 6.525 ~ 6.875 GHz band:
	▪ For standard power access point and fixed client device : e.i.r.p < 36 dBm , For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125 mW (21 dBm).
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For subordinate device control of an indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of a standard power access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☐	For the 6.875 ~ 7.125 GHz band:
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
RLAN Devices	
☐	For the 5.925 ~ 7.125 GHz band:
	▪ For low-power indoor access-points & indoor subordinate devices < 30 dBm .
	▪ For low-power client devices < 24 dBm.
☐	For the 5.925 ~ 6.875 GHz band:
	▪ For standard-power access points & fixed client devices < 36 dBm.
	▪ For standard client devices < 30 dBm.

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

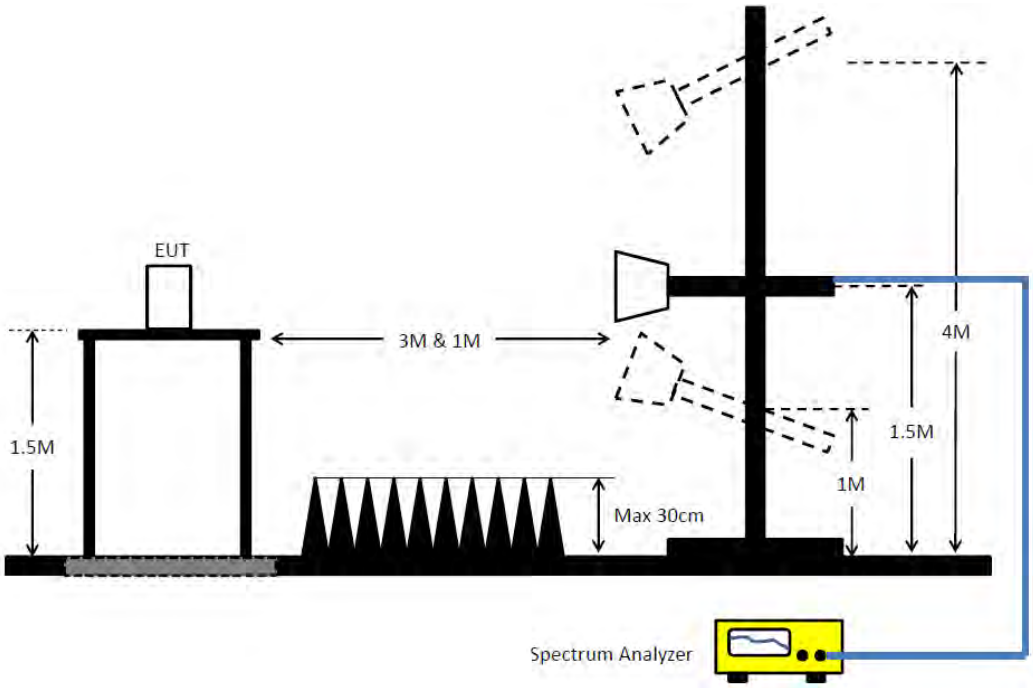
Test Method	
▪	According to FCC KDB 987594 D02 clause II.E, the test measurement procedure shall refer to KDB 789033.
	Average over on/off periods with duty factor
	☒ For 6SD mode with Sector antenna (For others): Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging). Spectrum analyzer setting: RBW/VBW : 1/3MHz ; Detector : RMS ; Trace mode : Average ; Sweep Count 100.
	☐ Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
	☒ For 6SD mode with Dish antenna and with Sector antenna (For Phi 30°) and for 6FX mode: Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).
☒	For conducted measurement: For 6SD mode with Dish antenna and with Sector antenna (For Phi 30°) and for 6FX mode.
	▪ 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]) $EIRP_{total} = P_{total} + DG$
☒	For radiated measurement: For 6SD mode with Sector antenna (For others)
	▪ Refer as FCC KDB 789033 D02 clause II A.1.F ”Antenna-port Conducted versus Radiated Testing”
	▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	▪ Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.2.4 Test Setup

For Dish antenna and Sector antenna (For Phi 30°):

Conducted Measurement (Power Meter)


For Sector antenna (For others):

Radiated Measurement


3.2.5 Test Result of Maximum Equivalent Isotopically Radiated Power (E.I.R.P)

Refer as Appendix B

3.3 Peak Power Spectral Density (E.I.R.P.)

3.3.1 Peak Power Spectral Density (E.I.R.P.) Limit

Peak Power Spectral Density (E.I.R.P.) Limit	
UNII Devices	
☐	For the 5.925 ~ 6.425 GHz band:
	▪ For standard power access point and fixed client device : e.i.r.p PSD < 23 dBm/MHz.
	▪ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For subordinate device control of an indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For client device control of a standard power access point : e.i.r.p PSD < 17 dBm/MHz.
	▪ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☐	For the 6.425 ~ 6.525 GHz band:
	▪ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☒	For the 6.525 ~ 6.875 GHz band:
	▪ For standard power access point and fixed client device : e.i.r.p PSD < 23 dBm/MHz.
	▪ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For subordinate device control of an indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For client device control of a standard power access point : e.i.r.p PSD < 17 dBm/MHz.
	▪ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☐	For the 6.875 ~ 7.125 GHz band:
	▪ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	▪ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
RLAN Devices	
☐	For the 5.925 ~ 7.125 GHz band:
	▪ For low-power indoor access-points & indoor subordinate devices < 5 dBm / MHz.
	▪ For low-power client devices < -1 dBm / MHz.
☐	For the 5.925 ~ 6.875 GHz band:
	▪ For standard-power access points & fixed client devices < 23 dBm / MHz.
	▪ For standard client devices < 17 dBm / MHz.

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

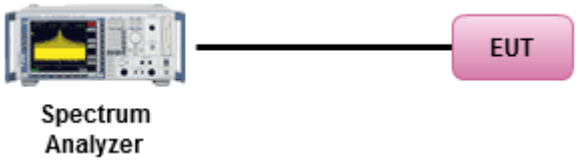
Test Method	
▪ According to FCC KDB 987594 D02 clause II.F, the measurement procedure shall refer to KDB 789033. Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
	☐ Refer as FCC KDB 789033 D02, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	[duty cycle ≥ 98% or external video / power trigger]
	☒ Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
	☒ Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
☒ For conducted measurement: For 6SD mode with Dish antenna and for 6FX mode	
	▪ 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.
	▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

☒	For radiated measurement: For 6SD mode with Sector antenna
	▪ Refer as FCC KDB 789033 D02 clause II A.1.F ”Antenna-port Conducted versus Radiated Testing”
	▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	▪ Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.3.4 Test Setup

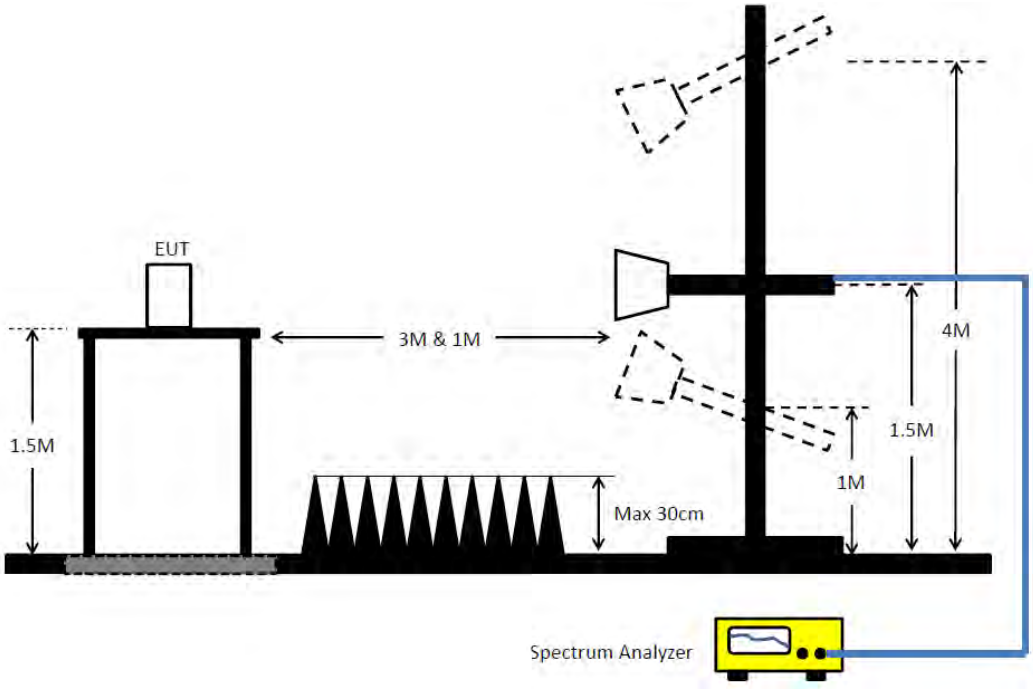
For Dish antenna:

Conducted Measurement



For Sector antenna:

Radiated Measurement



3.3.5 Test Result of Peak Power Spectral Density (E.I.R.P.)

Refer as Appendix C

3.4 Unwanted Emissions

3.4.1 Transmitter Unwanted Emissions Limit

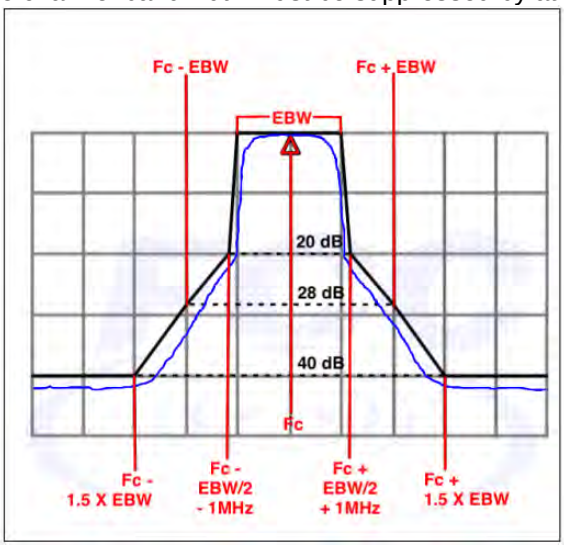
Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	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 below 30 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(20 x log (standard distance/ test distance) = 20log(3/1) = 9.54dB.
EX. Above 18GHz emission limit calculation (3m to 1m) = 54dBuV/m at 3m + 9.54dB = 63.54 dBuV/m at 1m.

Un-restricted band emissions above 1GHz Limit	
Frequency	**Limit**
Any outside the 5.945 – 7.125 GHz emission	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
	Note 1: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m(20 x log (standard distance/ test distance) = 20log(3/1) = 9.54dB. EX. Above 18GHz emission limit calculation (3m to 1m) = 68.2dBuV/m at 3m + 9.54dB = 77.74 dBuV/m at 1m. Note 2:-27 dBm EIRP OOBE is measured RMS which is a deviation from the current 15E rules for 5 GHz bands. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

Frequency	Emission MASK Limit
5.945 – 7.125 GHz	Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB. 

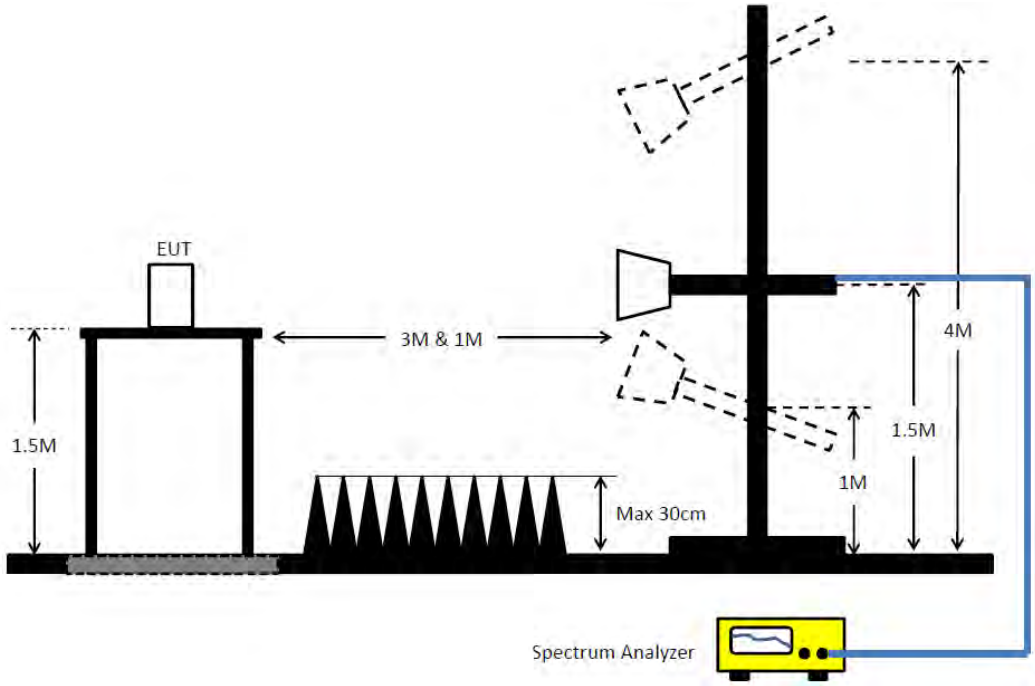
3.4.2 Measuring Instruments

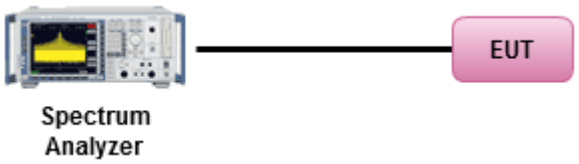
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method
▪ According to FCC KDB 987594 D02 II.G. the unwanted emission measurement procedure shall refer to KDB 789300(except emission MASK). 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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).
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands.
▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands.
☒ Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging). (For unrestricted band measurement)
☐ Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).
☒ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.(For restricted band average measurement)
☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒ Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.
☐ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
▪ Refer as FCC KDB 789033 D02, clause G)3)d)ii) for Band edge Integration measurements.
▪ For emission MASK shall be measured using following options below:
☒ Refer as FCC KDB 987594 D02, J) In-Band Emissions
▪ For radiated measurement.
▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
▪ The any unwanted emissions level shall not exceed the fundamental emission level.
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.4.4 Test Setup

Transmitter Radiated Unwanted Emissions
Above 1GHz


Emission MASK


3.4.5 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

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
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	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023	Sep. 03, 2024	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jun. 30, 2023	Jun. 29, 2024	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	Jul. 24, 2023	Jul. 23, 2024	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 02, 2023	Oct. 01, 2024	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	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-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 Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	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-12	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	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-15	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 ~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Band Rejector	MTJ	6G Band Rejector	6G-BRJ-01	1 ~ 18GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Band Rejector	MTJ	6G Band Rejector	6G-BRJ-02	1~ 18GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

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

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
6.525-6.875GHz	-	-	-	-	-
80_Nss1,(MCS0)_2TX	81.18M	77.417M	77M4D1D	80.08M	77.126M
160_Nss1,(MCS0)_2TX	161.92M	155.139M	155MD1D	161.92M	154.116M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth

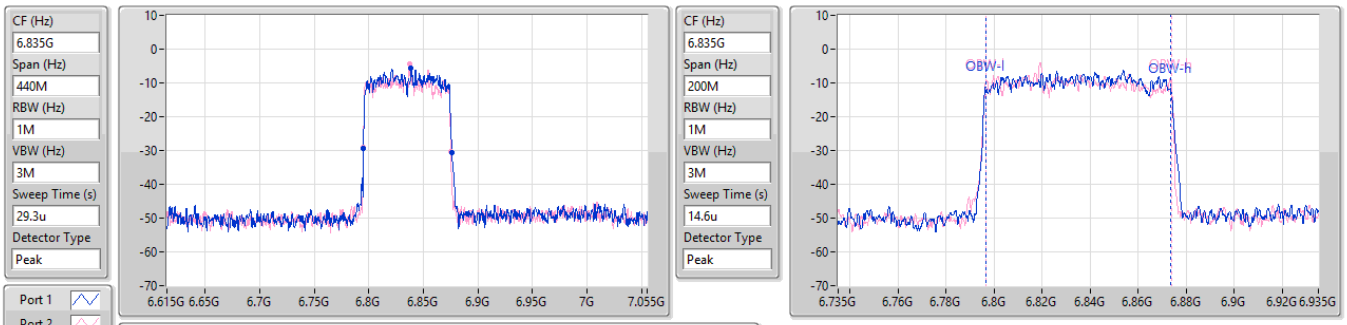
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
6835MHz	Pass	Inf	81.18M	77.126M	80.08M	77.417M
160_Nss1,(MCS0)_2TX	-	-	-	-	-	-
6795MHz	Pass	Inf	161.92M	154.116M	161.92M	155.139M

Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

6.525-6.875GHz_80_Nss1,(MCS0)_2TX **EBW**

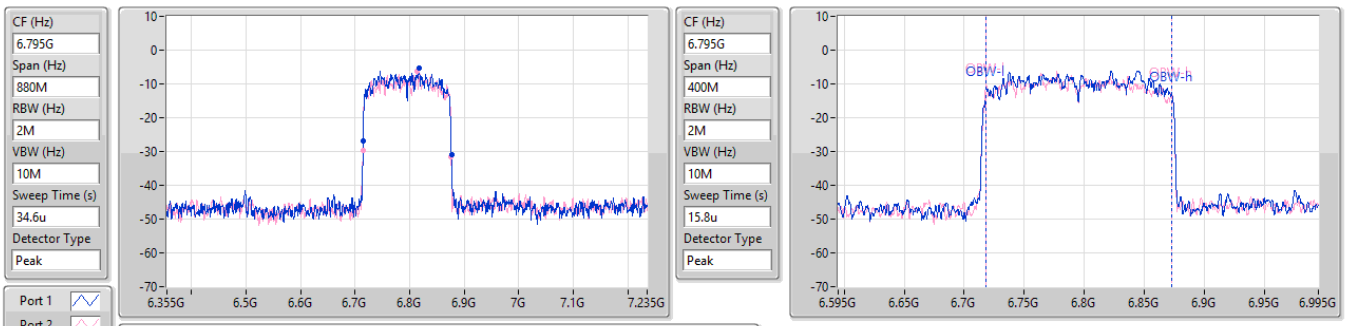
6835MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.18M	6.79496G	6.87614G	77.126M	6.796365G	6.873491G	Inf	1
80.08M	6.79496G	6.87504G	77.417M	6.796322G	6.873739G	Inf	2

6.525-6.875GHz_160_Nss1,(MCS0)_2TX **EBW**

6795MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
161.92M	6.71448G	6.8764G	154.116M	6.71838G	6.872496G	Inf	1
161.92M	6.71404G	6.87596G	155.139M	6.717748G	6.872887G	Inf	2

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
6.525-6.875GHz	-	-	-	-	-
80_Nss1,(MCS0)_2TX	80.74M	77.056M	77M1D1D	80.08M	76.875M
160_Nss1,(MCS0)_2TX	161.92M	155.772M	156MD1D	161.48M	154.67M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth

Result

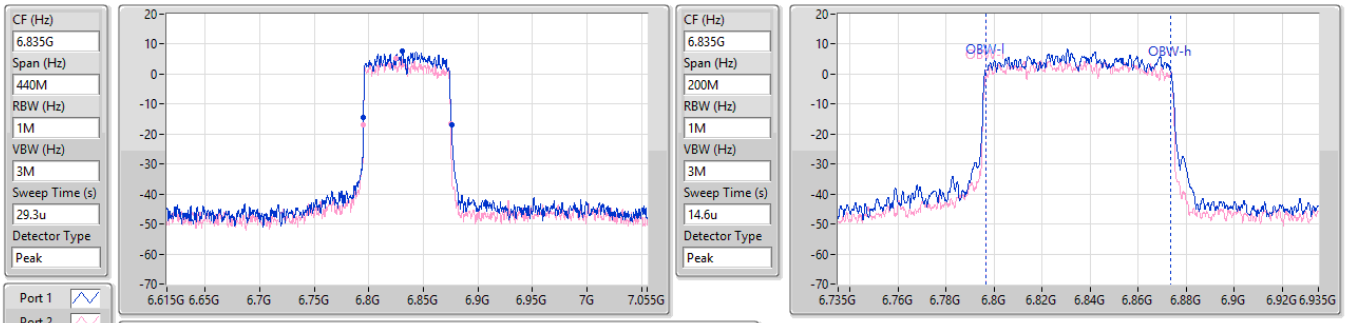
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
6835MHz	Pass	Inf	80.74M	76.875M	80.08M	77.056M
160_Nss1,(MCS0)_2TX	-	-	-	-	-	-
6795MHz	Pass	Inf	161.48M	154.67M	161.92M	155.772M

Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

6.525-6.875GHz_80_Nss1,(MCS0)_2TX **EBW**

6835MHz

22/06/2024

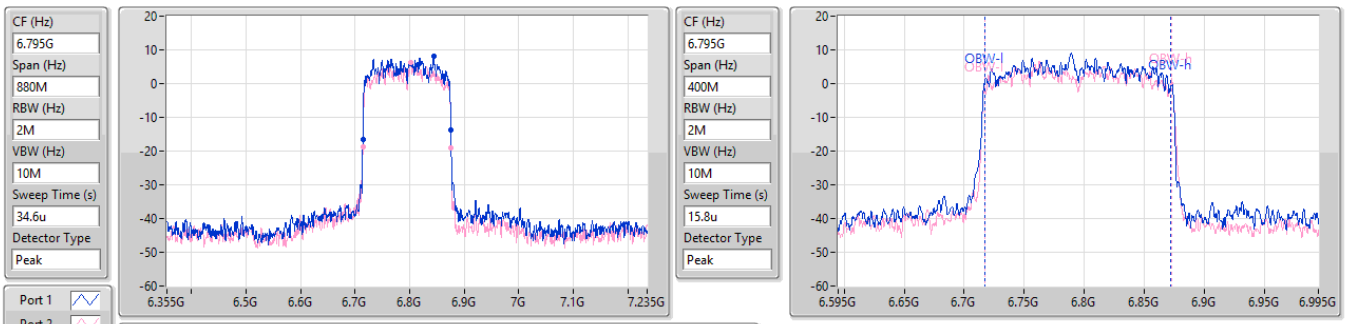


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
80.74M	6.79496G	6.8757G	76.875M	6.79648G	6.873355G	Inf	1
80.08M	6.79496G	6.87504G	77.056M	6.79659G	6.873646G	Inf	2

6.525-6.875GHz_160_Nss1,(MCS0)_2TX **EBW**

6795MHz

22/06/2024



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
161.48M	6.71404G	6.87552G	154.67M	6.717474G	6.872145G	Inf	1
161.92M	6.71404G	6.87596G	155.772M	6.717252G	6.873024G	Inf	2

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
6.525-6.875GHz	-	-	-	-
80_Nss1,(MCS0)_2TX	7.24	0.00530	35.94/9.26	3.92645/0.008433
160_Nss1,(MCS0)_2TX	7.22	0.00527	35.92/9.24	3.90841/0.008395

Result

Mode	Result	DG[Power] / DG [Phi 30] (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP / EIRP [Phi 30°] (dBm)	EIRP Limit / EIRP Limit [Phi 30°] (dBm)
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
6835MHz	Pass	28.70/2.02	4.74	3.64	7.24	Inf	35.94/9.26	36.00/21.00
160_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
6795MHz	Pass	28.70/2.02	4.63	3.74	7.22	Inf	35.92/9.24	36.00/21.00

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

Summary

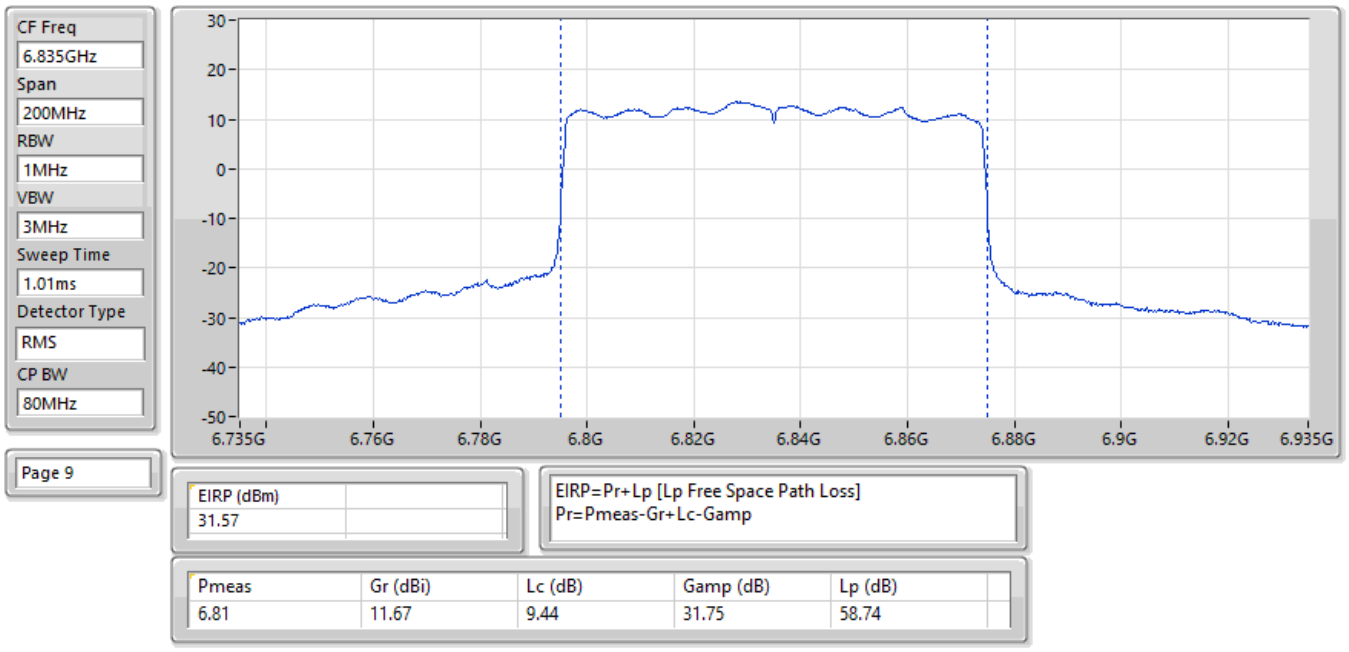
Mode	EIRP (dBm)	EIRP (W)
6.525-6.875GHz	-	-
80_Nss1,(MCS0)_2TX	31.57	1.43549
160_Nss1,(MCS0)_2TX	30.76	1.19124

Result

Mode	Result	EIRP (dBm)	EIRP Limit (dBm)
80_Nss1,(MCS0)_2TX	-	-	-
6835MHz	Pass	31.57	36.00
160_Nss1,(MCS0)_2TX	-	-	-
6795MHz	Pass	30.76	36.00

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

EIRP;Band:6.7G;ax80;BWch:80MHz;Nss:1,(M0);Nant:2;Ch:6835MHz;TX

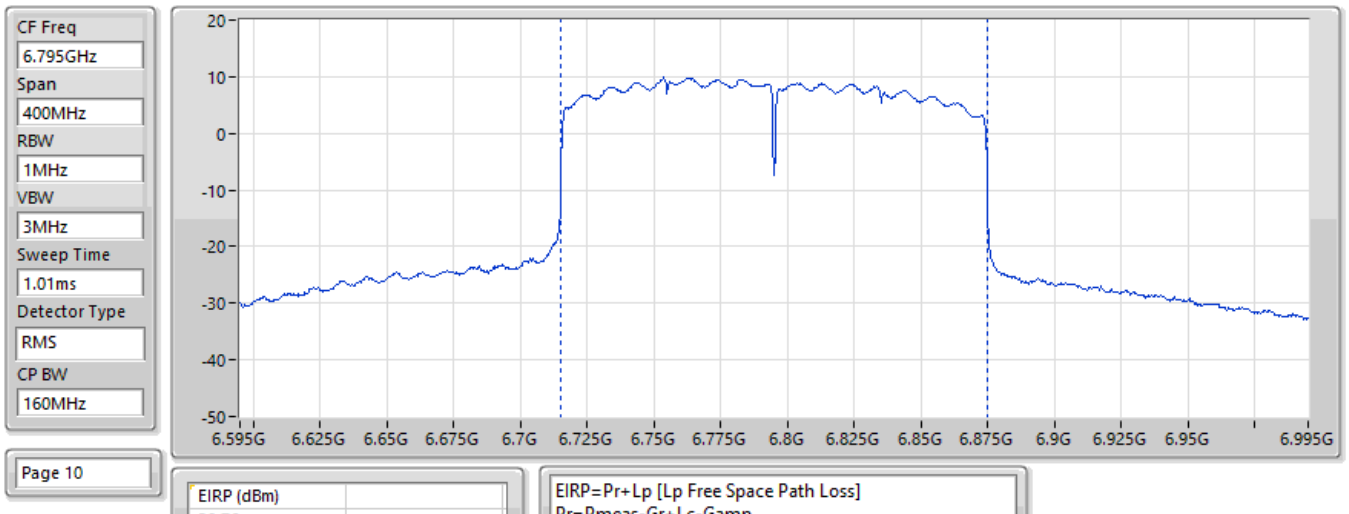


EIRP (dBm)
31.57

EIRP=Pr+Lp [Lp Free Space Path Loss]
Pr=Pmeas-Gr+Lc-Gamp

Pmeas	Gr (dBi)	Lc (dB)	Gamp (dB)	Lp (dB)
6.81	11.67	9.44	31.75	58.74

EIRP;Band:6.7G;ax160;BWch:160MHz;Nss:1,(M0);Nant:2;Ch:6795MHz;TX



EIRP (dBm)
30.76

EIRP=Pr+Lp [Lp Free Space Path Loss]
Pr=Pmeas-Gr+Lc-Gamp

Pmeas	Gr (dBi)	Lc (dB)	Gamp (dB)	Lp (dB)
5.85	11.60	9.52	31.70	58.69

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
6.525-6.875GHz	-	-	-	-
80_Nss1,(MCS0)_2TX	19.66	0.09247	20.64	0.115878
160_Nss1,(MCS0)_2TX	19.99	0.09977	20.97	0.125026

Result

Mode	Result	DG [Phi 30°] (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	EIRP [Phi 30°] (dBm)	EIRP Limit [Phi 30°] (dBm)
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
6835MHz	Pass	0.98	17.52	15.56	19.66	20.64	21.00
160_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
6795MHz	Pass	0.98	17.72	16.09	19.99	20.97	21.00

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

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
6.525-6.875GHz	-	-
80_Nss1,(MCS0)_2TX	-12.40	16.30
160_Nss1,(MCS0)_2TX	-15.07	13.63

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

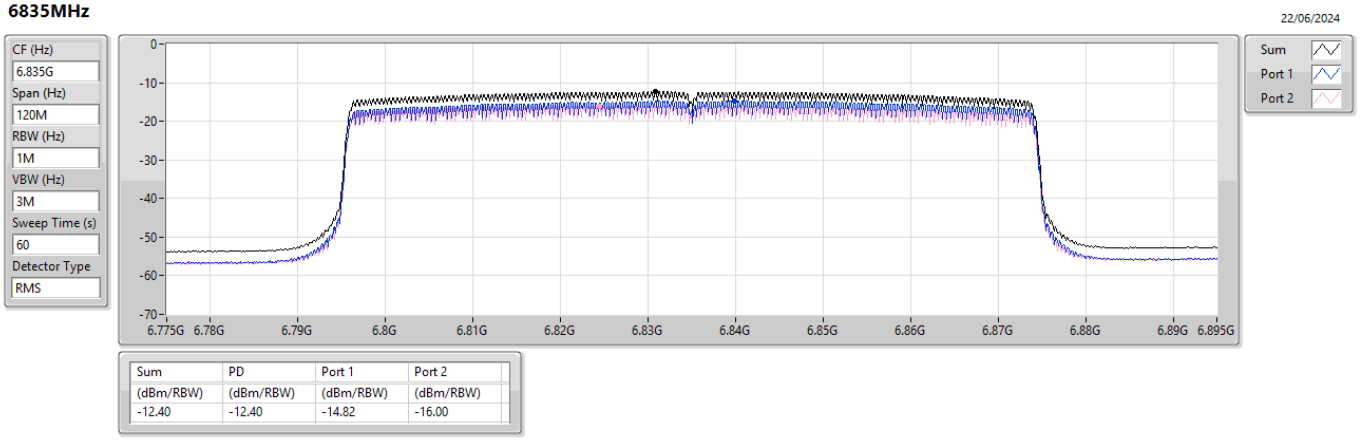
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
6835MHz	Pass	28.70	-14.82	-16.00	-12.40	Inf	16.30	23.00
160_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
6795MHz	Pass	28.70	-17.63	-18.42	-15.07	Inf	13.63	23.00

DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

6.525-6.875GHz_80_Nss1,(MCS0)_2TX **PSD**

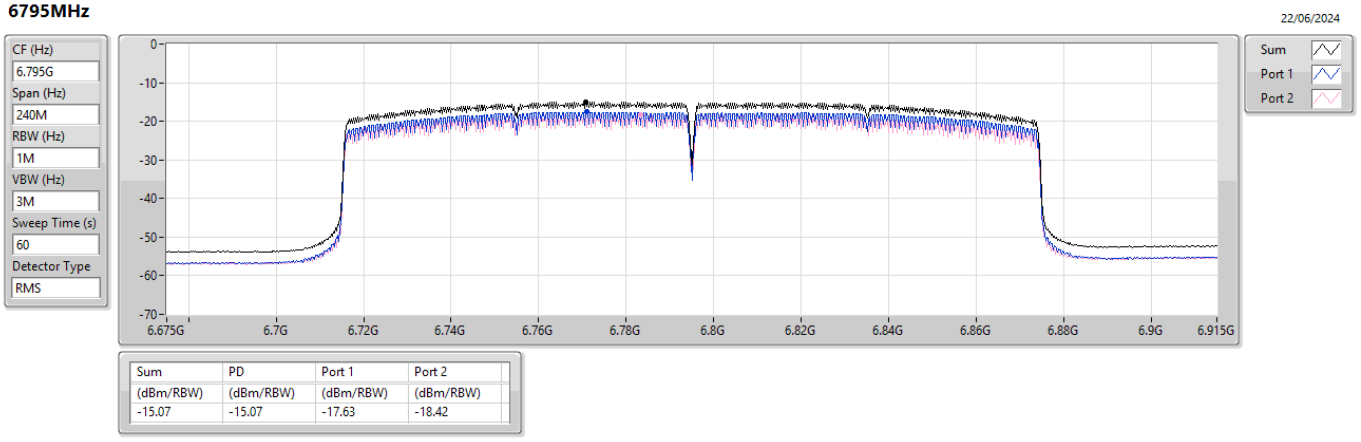
6835MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.40	-12.40	-14.82	-16.00

6.525-6.875GHz_160_Nss1,(MCS0)_2TX **PSD**

6795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-15.07	-15.07	-17.63	-18.42

Summary

Mode	EIRP PD (dBm/RBW)
6.525-6.875GHz	-
80_Nss1,(MCS0)_2TX	13.87
160_Nss1,(MCS0)_2TX	9.07

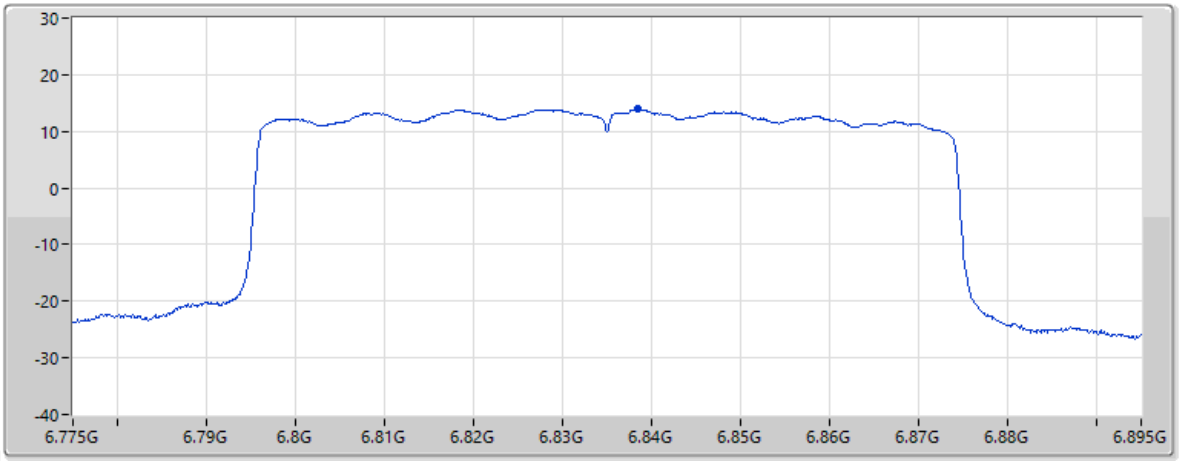
RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
80_Nss1,(MCS0)_2TX	-	-	-
6835MHz	Pass	13.87	23.00
160_Nss1,(MCS0)_2TX	-	-	-
6795MHz	Pass	9.07	23.00

DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
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.

EIRP PSD;Band:6.7G;80;BWch:80MHz;Nss:1,(M0);Nant:2;Ch:6835MHz;TX



CF Freq	6.835GHz
Span	120MHz
RBW	1MHz
VBW	3MHz
Sweep Time	20ms
Detector Type	RMS
CP BW	80MHz

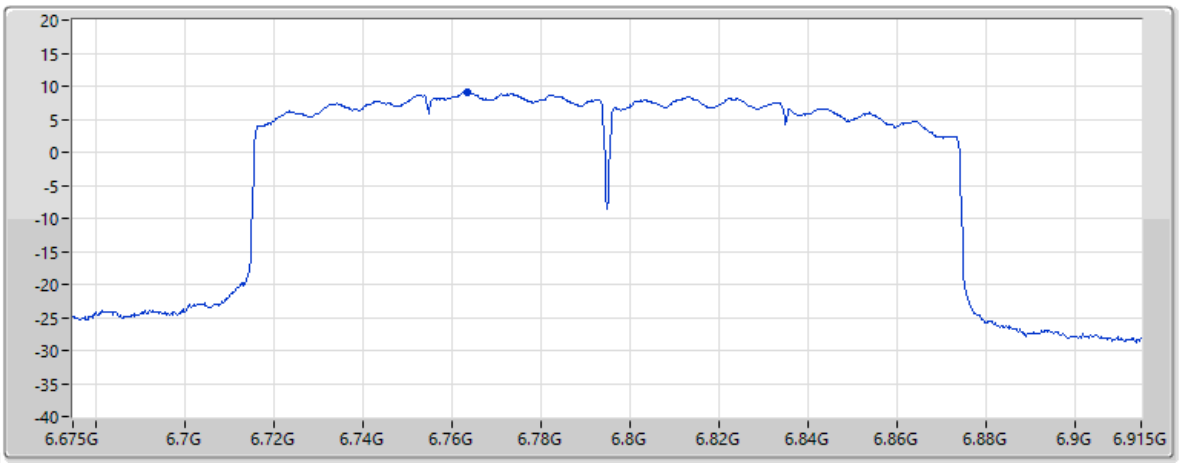
Page 7

EIRP PSD (dBm)
13.87

EIRP=Pr+Lp [Lp Free Space Path Loss]
Pr=Pmeas-Gr+Lc-Gamp

Pmeas	Gr (dBi)	Lc (dB)	Gamp (dB)	Lp (dB)
-10.87	11.68	9.43	31.75	58.74

EIRP PSD;Band:6.7G;160;BWch:160MHz;Nss:1,(M0);Nant:2;Ch:6795MHz;TX



CF Freq	6.795GHz
Span	240MHz
RBW	1MHz
VBW	3MHz
Sweep Time	20ms
Detector Type	RMS
CP BW	160MHz

Page 8

EIRP PSD (dBm)
9.07

EIRP=Pr+Lp [Lp Free Space Path Loss]
Pr=Pmeas-Gr+Lc-Gamp

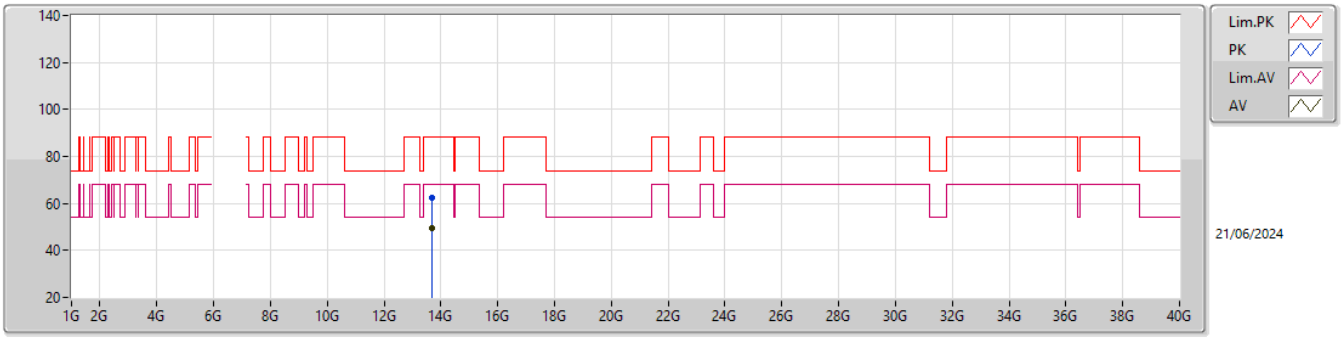
Pmeas	Gr (dBi)	Lc (dB)	Gamp (dB)	Lp (dB)
-15.76	11.60	9.45	31.67	58.65

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
6.525-6.875GHz	-	-	-	-	-	-	-	-	-	-	-
80_Nss1,(MCS0)_2TX	Pass	RMS	13.685G	49.76	68.20	-18.44	3	Horizontal	155	2.59	-

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

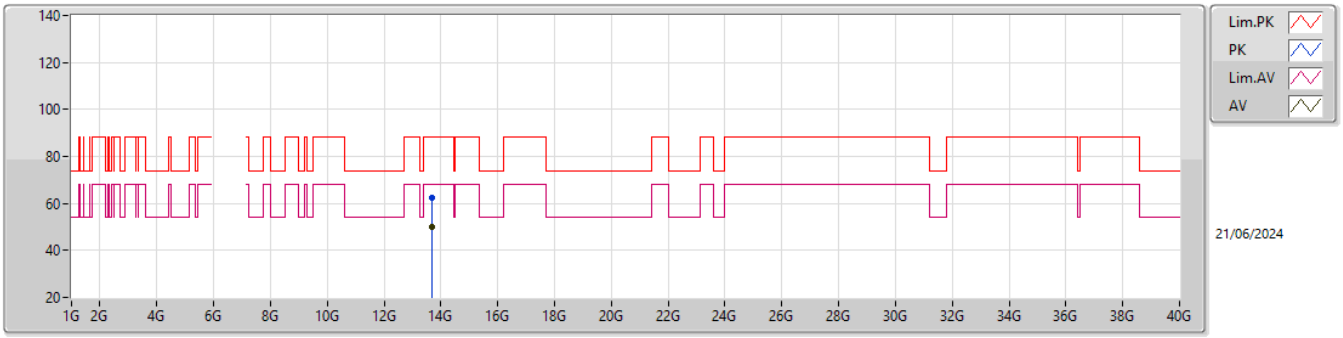


EUT Y_2TX
Setting 15.5
02-E-V-1

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	13.6757G	62.17	88.20	-26.03	41.31	3	Vertical	316	1.62	-	40.80	12.34	32.28
RMS	13.67933G	49.71	68.20	-18.49	28.83	3	Vertical	316	1.62	-	40.82	12.34	32.28

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

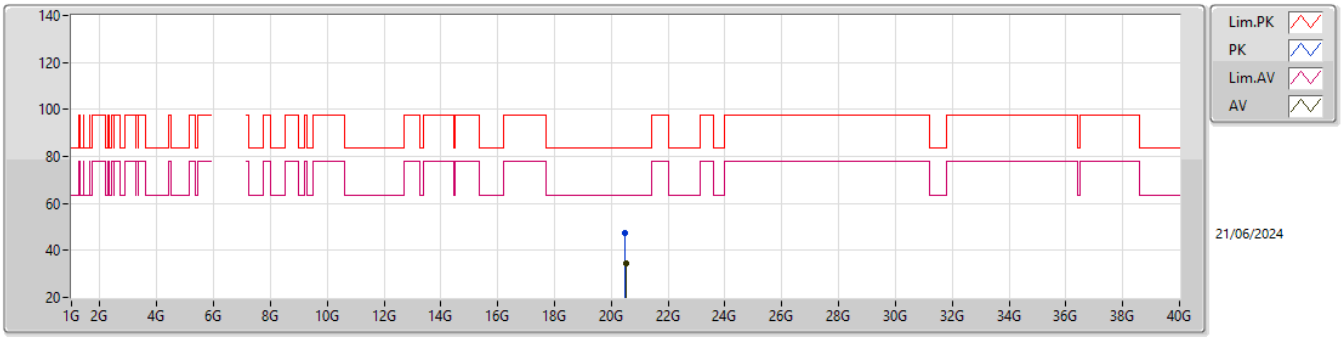


EUT Y_2TX
Setting 15.5
02-E-V-1

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	13.68116G	62.67	88.20	-25.53	41.79	3	Horizontal	155	2.59	-	40.82	12.34	32.28
RMS	13.685G	49.76	68.20	-18.44	28.86	3	Horizontal	155	2.59	-	40.84	12.34	32.28

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

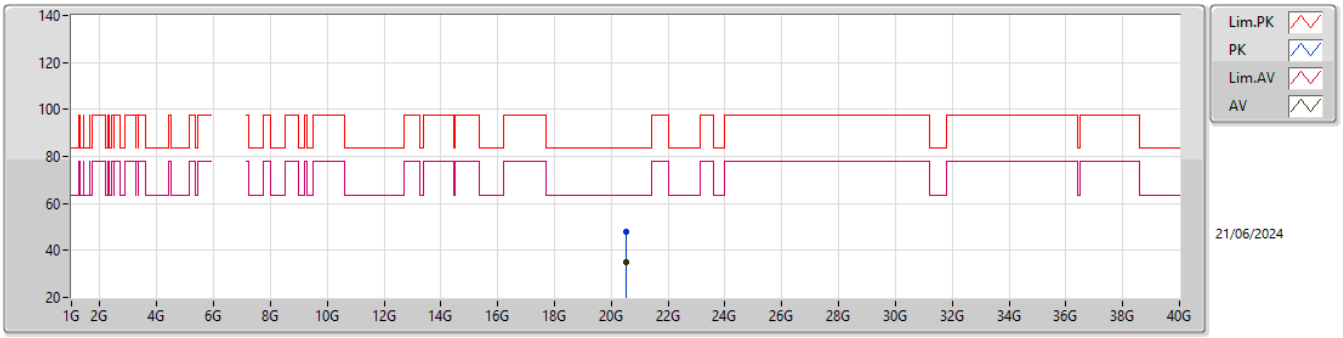


EUT Y_2TX
Setting 15.5
02-E-V-1

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	20.49309G	47.23	74.00	-26.77	43.12	1	Vertical	331	1.06	-	37.66	15.59	49.14
AV	20.51853G	34.73	54.00	-19.27	30.54	1	Vertical	331	1.06	-	37.71	15.61	49.13

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

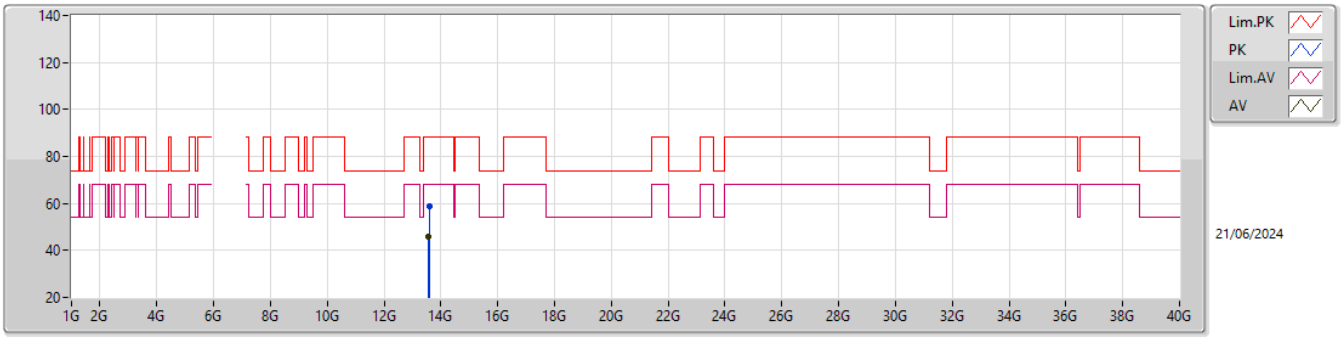


EUT Y_2TX
Setting 15.5
02-E-V-1

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	20.511G	47.77	74.00	-26.23	43.62	1	Horizontal	194	1.90	-	37.67	15.61	49.13
AV	20.51919G	34.76	54.00	-19.24	30.55	1	Horizontal	194	1.90	-	37.72	15.62	49.13

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

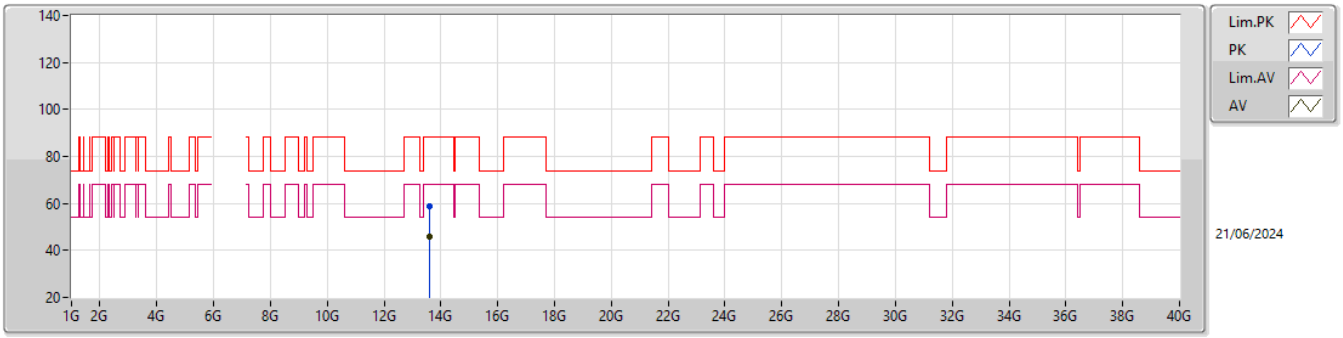


EUT Y_2TX
Setting 15.5
02-E-V-1

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	13.59741G	58.89	88.20	-29.31	38.24	3	Vertical	4	2.32	-	40.60	12.32	32.27
RMS	13.57791G	46.05	68.20	-22.15	25.39	3	Vertical	4	2.32	-	40.60	12.32	32.26

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

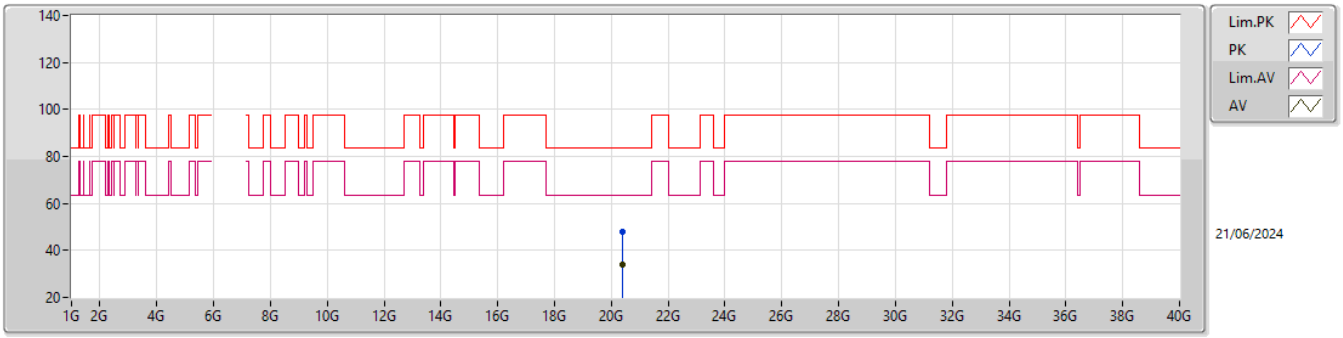


EUT Y_2TX
Setting 15.5
02-E-V-1

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	13.60482G	58.76	88.20	-29.44	38.10	3	Horizontal	28	2.45	-	40.61	12.32	32.27
RMS	13.58115G	46.01	68.20	-22.19	25.35	3	Horizontal	28	2.45	-	40.60	12.32	32.26

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

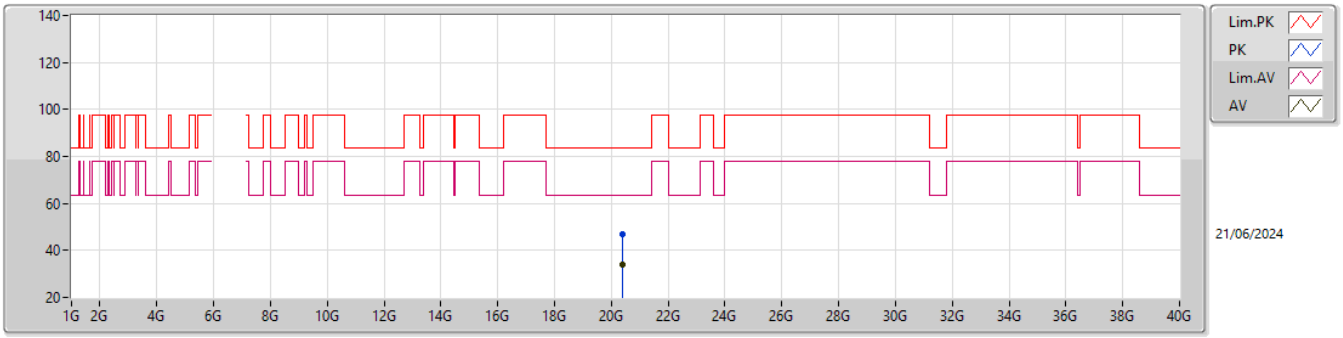


EUT Y_2TX
Setting 15.5
02-E-V-1

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	20.38692G	47.68	74.00	-26.32	43.31	1	Vertical	71	2.03	-	38.03	15.51	49.17
AV	20.39805G	34.10	54.00	-19.90	29.75	1	Vertical	71	2.03	-	38.00	15.52	49.17

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX



EUT Y_2TX
Setting 15.5
02-E-V-1

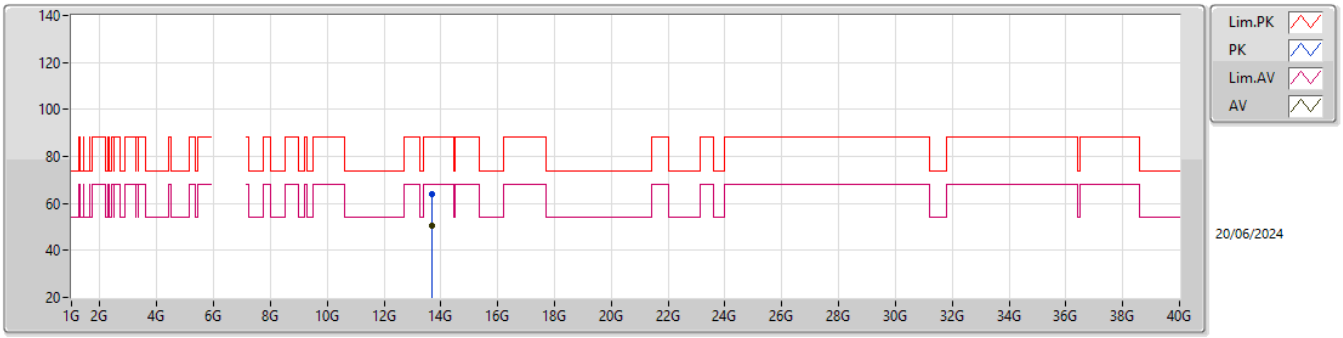
Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	20.37957G	46.91	74.00	-27.09	42.54	1	Horizontal	242	1.67	-	38.04	15.50	49.17
AV	20.38524G	34.04	54.00	-19.96	29.67	1	Horizontal	242	1.67	-	38.03	15.51	49.17

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
6.525-6.875GHz	-	-	-	-	-	-	-	-	-	-	-
80_Nss1,(MCS0)_2TX	Pass	AV	13.68383G	50.63	68.20	-17.57	3	Vertical	168	1.80	-

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

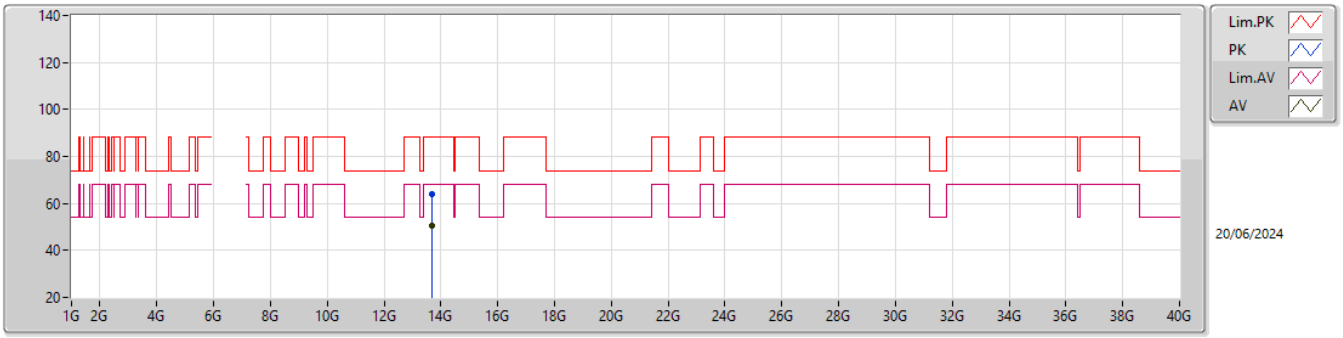


EUT Y_2TX
Setting 14
02-E-V-1

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	13.67102G	64.17	88.20	-24.03	43.33	3	Vertical	168	1.80	-	40.78	12.34	32.28
AV	13.68383G	50.63	68.20	-17.57	29.73	3	Vertical	168	1.80	-	40.84	12.34	32.28

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

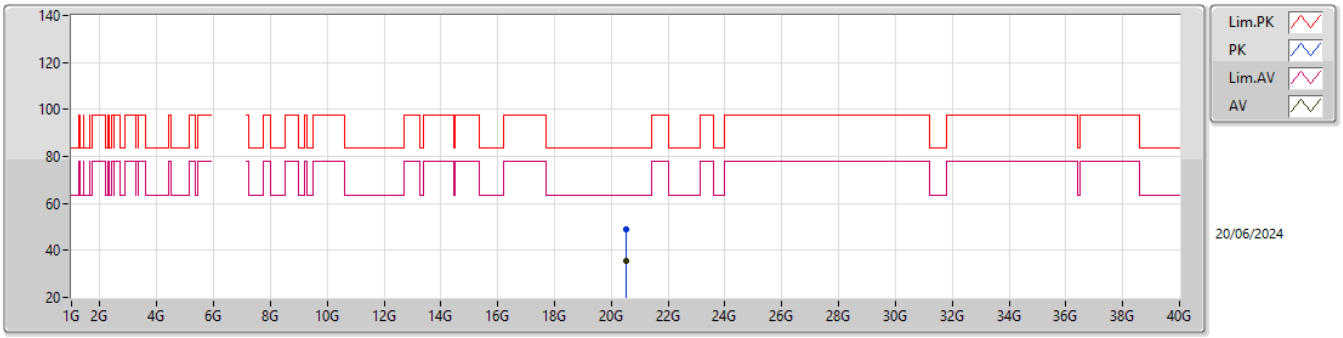


EUT Y_2TX
Setting 14
02-E-V-1

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	13.67936G	63.97	88.20	-24.23	43.09	3	Horizontal	232	2.00	-	40.82	12.34	32.28
AV	13.68491G	50.51	68.20	-17.69	29.61	3	Horizontal	232	2.00	-	40.84	12.34	32.28

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

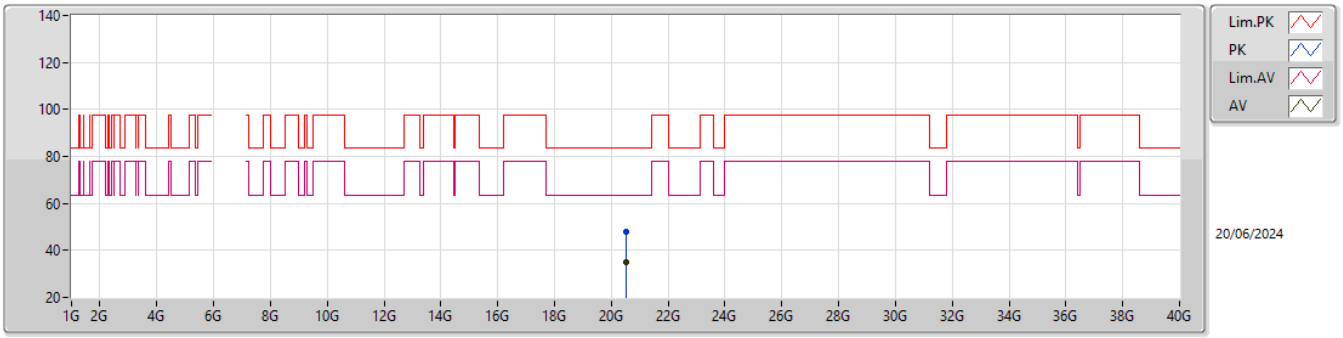


EUT Y_2TX
Setting 14
02-E-V-1

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	20.50473G	49.03	74.00	-24.97	44.94	1	Vertical	346	2.40	-	37.63	15.60	49.14
AV	20.51808G	35.28	54.00	-18.72	31.09	1	Vertical	346	2.40	-	37.71	15.61	49.13

6.525-6.875GHz_80_Nss1,(MCS0)_2TX

6835MHz_TX

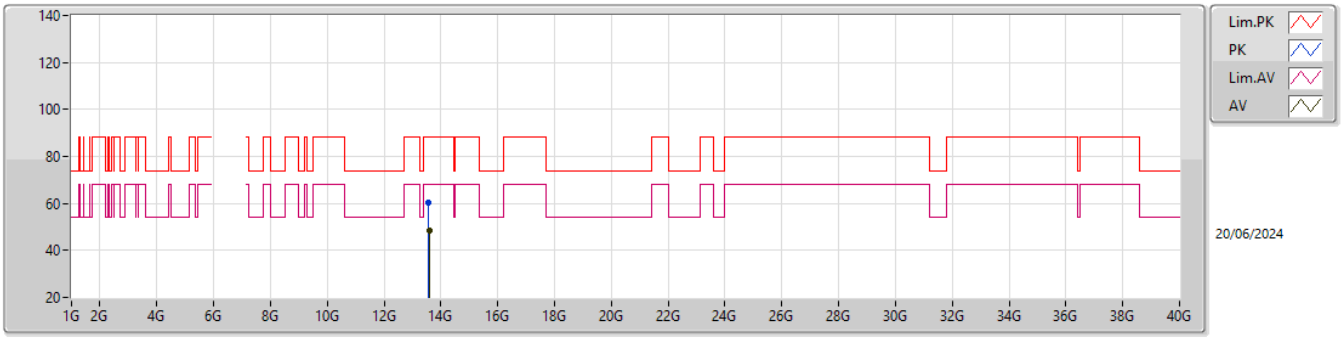


EUT Y_2TX
Setting 14
02-E-V-1

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	20.50779G	47.74	74.00	-26.26	43.62	1	Horizontal	46	1.47	-	37.65	15.61	49.14
AV	20.51979G	35.24	54.00	-18.76	31.03	1	Horizontal	46	1.47	-	37.72	15.62	49.13

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

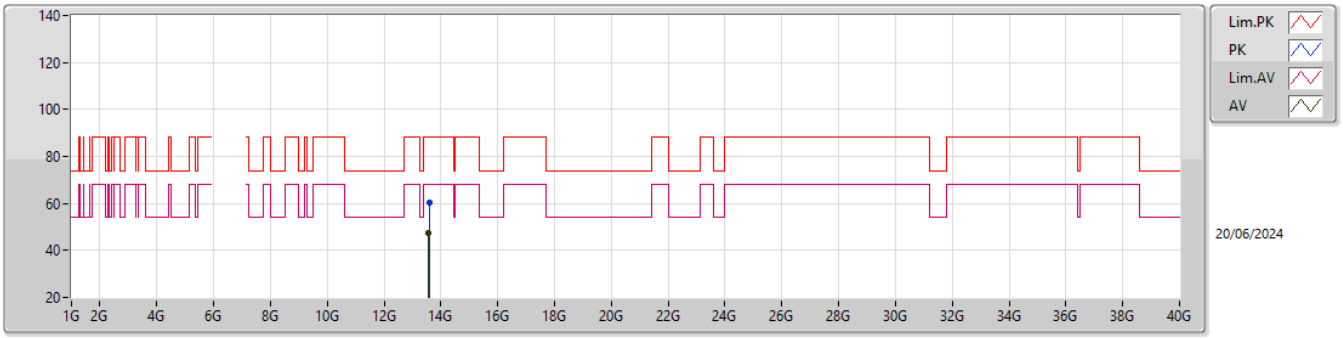


EUT Y_2TX
Setting 14
02-E-V-1

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	13.57857G	60.39	88.20	-27.81	39.73	3	Vertical	205	1.15	-	40.60	12.32	32.26
AV	13.59006G	48.53	68.20	-19.67	27.87	3	Vertical	205	1.15	-	40.60	12.32	32.26

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

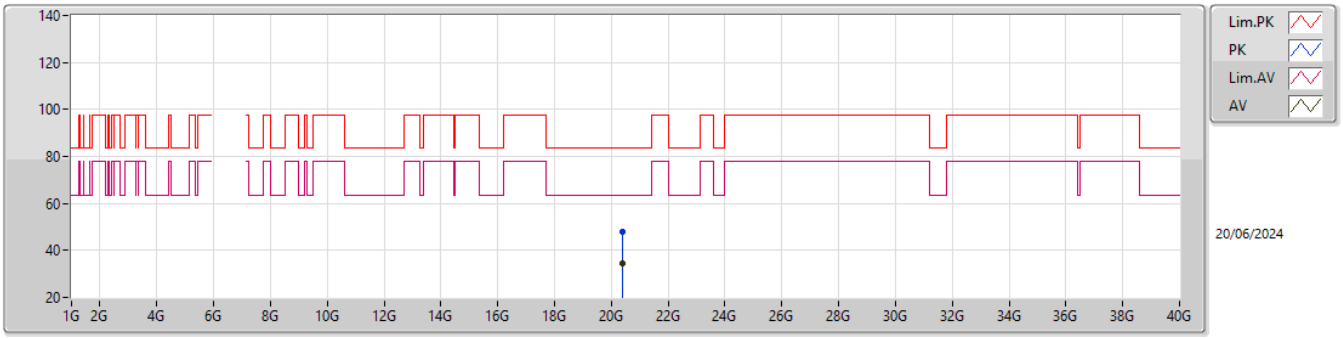


EUT Y_2TX
Setting 14
02-E-V-1

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	13.59057G	60.50	88.20	-27.70	39.84	3	Horizontal	229	2.02	-	40.60	12.32	32.26
AV	13.57869G	47.49	68.20	-20.71	26.83	3	Horizontal	229	2.02	-	40.60	12.32	32.26

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

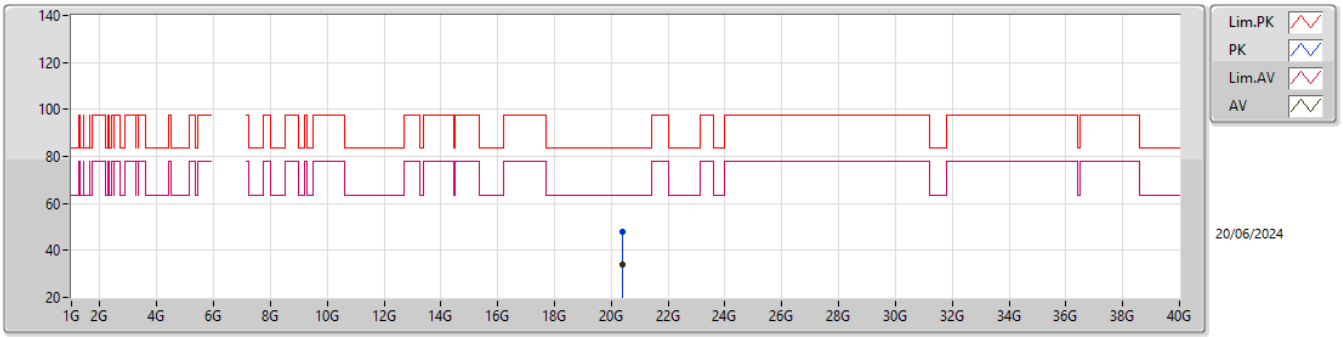


EUT Y_2TX
Setting 14
02-E-V-1

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	20.39349G	48.10	74.00	-25.90	43.75	1	Vertical	272	2.86	-	38.01	15.51	49.17
AV	20.38704G	34.42	54.00	-19.58	30.05	1	Vertical	272	2.86	-	38.03	15.51	49.17

6.525-6.875GHz_160_Nss1,(MCS0)_2TX

6795MHz_TX

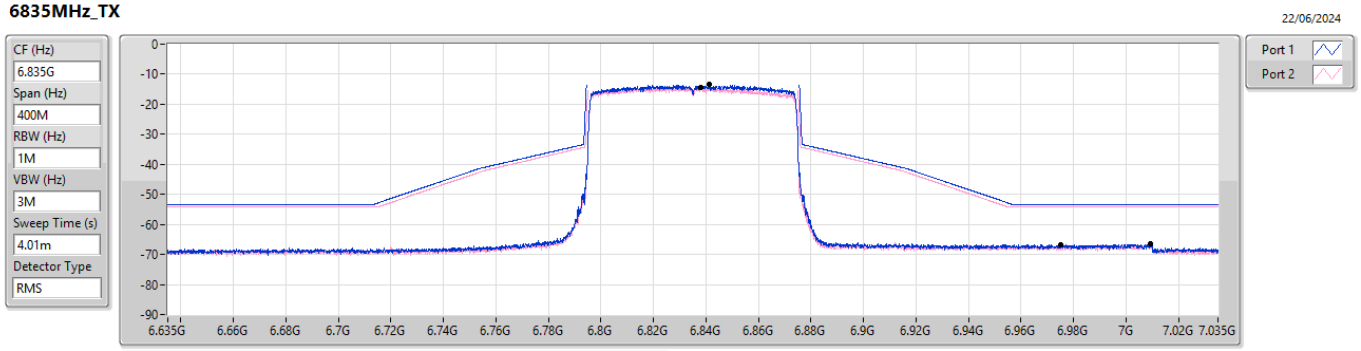


EUT Y_2TX
Setting 14
02-E-V-1

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	20.38467G	47.81	74.00	-26.19	43.44	1	Horizontal	52	1.57	-	38.03	15.51	49.17
AV	20.38365G	34.22	54.00	-19.78	29.85	1	Horizontal	52	1.57	-	38.03	15.51	49.17

6.525-6.875GHz_80_Nss1,(MCS0)_2TX **MASK**

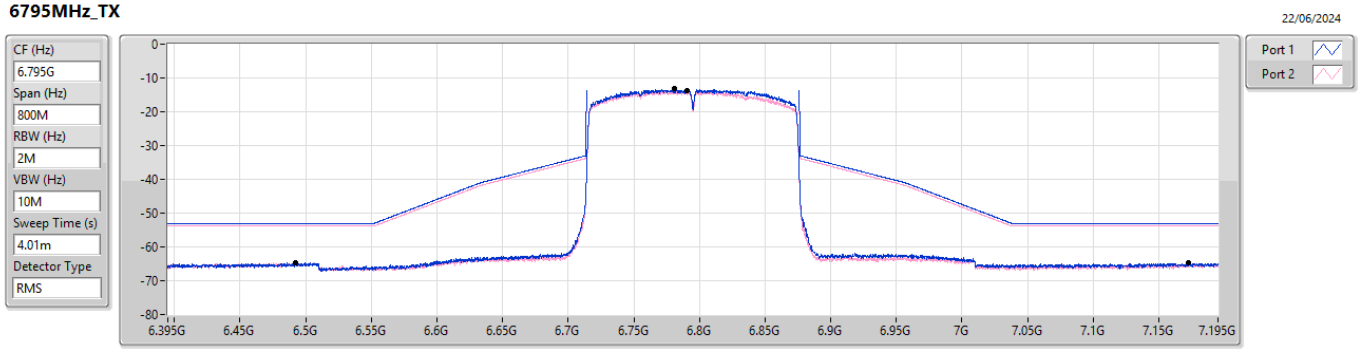
6835MHz_TX



Ref(Hz)	Ref(dBm)	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Port
6.8413G	-13.38	7.0091G	-66.59	-53.38	-13.21	1
6.8379G	-14.25	6.9751G	-66.66	-54.25	-12.41	2

6.525-6.875GHz_160_Nss1,(MCS0)_2TX **MASK**

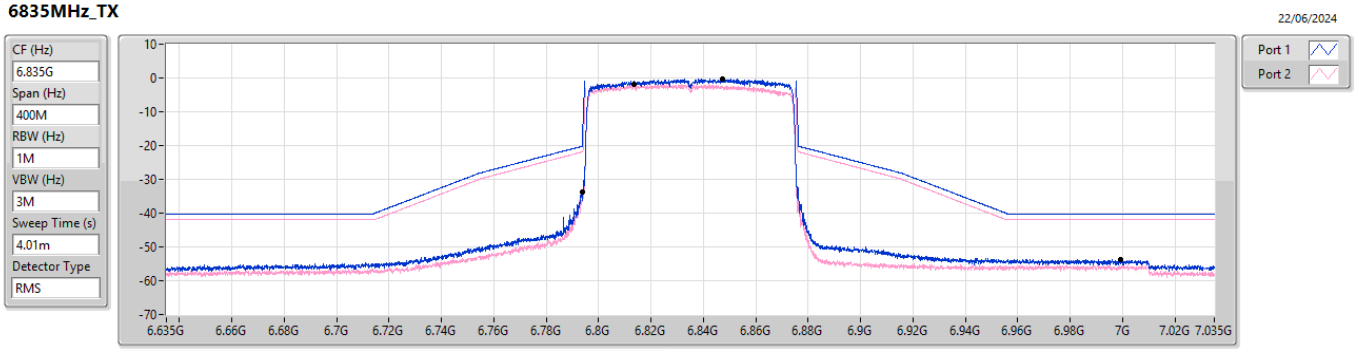
6795MHz_TX



Ref(Hz)	Ref(dBm)	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Port
6.7806G	-13.04	7.1726G	-64.71	-53.04	-11.67	1
6.7902G	-13.84	6.4922G	-64.71	-53.84	-10.87	2

6.525-6.875GHz_80_Nss1,(MCS0)_2TX **MASK**

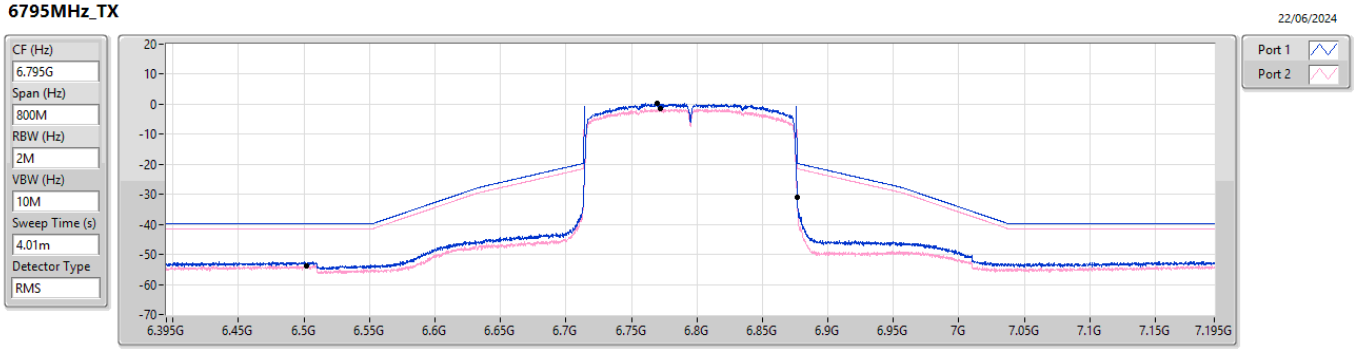
6835MHz_TX



Ref(Hz)	Ref(dBm)	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Port
6.8474G	-0.22	6.9994G	-53.72	-40.22	-13.50	1
6.81351G	-1.83	6.7937G	-33.73	-21.88	-11.85	2

6.525-6.875GHz_160_Nss1,(MCS0)_2TX **MASK**

6795MHz_TX



Ref(Hz)	Ref(dBm)	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Port
6.76941G	0.29	6.8768G	-30.83	-19.72	-11.11	1
6.77241G	-1.50	6.5022G	-53.67	-41.50	-12.17	2