Report No. : FR0D2518-10AE



RADIO TEST REPORT

FCC ID : MSQ-RTAXE4P00

Equipment : AXE11000 Tri Band WiFi Router

Brand Name : ASUS

Model Name : ET12, ZenWiFi ET12, ASUS ZenWiFi ET12

Applicant : ASUSTeK COMPUTER INC.

1F., No. 15, Lide Rd., Beitou, Taipei 112, Taiwan

Standard : 47 CFR FCC Part 15.407

The product was received on Sep. 02, 2023, and testing was started from Jan. 25, 2024 and completed on Apr. 19, 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: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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

Report Template No.: CB-A12_5 Ver1.1

Page Number : 1 of 30

Issued Date : May 07, 2024

Report Version : 01

Table of Contents

Histo	ory of this test report	3
Sum	mary of Test Result	4
1	General Description	5
1.1	Information	5
1.2	Applicable Standards	10
1.3	Testing Location Information	10
1.4	Measurement Uncertainty	10
2	Test Configuration of EUT	11
2.1	Test Channel Mode	11
2.2	The Worst Case Measurement Configuration	12
2.3	EUT Operation during Test	13
2.4	Accessories	13
2.5	Support Equipment	14
2.6	Test Setup Diagram	15
3	Transmitter Test Result	17
3.1	Emission Bandwidth	17
3.2	Maximum Equivalent Isotopically Radiated Power (E.I.R.P.)	18
3.3	Peak Power Spectral Density (E.I.R.P.)	21
3.4	Unwanted Emissions	24
4	Test Equipment and Calibration Data	29
Appe	endix A. Test Results of Emission Bandwidth	
	endix B. Test Results of Maximum Equivalent Isotopically Radiated Power (E.I.	.R.P.)
Appe	endix C. Test Results of Peak Power Spectral Density (E.I.R.P.)	

TEL: 886-3-656-9065 FAX: 886-3-656-9085

Report Template No.: CB-A12_5 Ver1.1

Appendix E. Test Photos Photographs of EUT v01

Appendix D. Test Results of Unwanted Emissions

Page Number : 2 of 30

Issued Date : May 07, 2024

Report No.: FR0D2518-10AE

Report Version : 01

History of this test report

Report No.: FR0D2518-10AE

Report No.	Version	Description	Issued Date
FR0D2518-10AE	01	Initial issue of report	May 07, 2024

TEL: 886-3-656-9065 Page Number : 3 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

Summary of Test Result

Report No.: FR0D2518-10AE

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: Vicky Huang

TEL: 886-3-656-9065 Page Number : 4 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5925-7125	ax (HEW20)	6115-7095	33-229 [50]
5925-7125	ax (HEW40)	6125-7085	35-227 [25]
5925-7125	ax (HEW80)	6145-7025	39-215 [12]
5925-7125	ax (HEW160)	6185-6985	47-207 [6]

Report No.: FR0D2518-10AE

Band	Band Mode		Nant
5.925-7.125GHz	802.11ax HEW20	20	4TX
5.925-7.125GHz	802.11ax HEW20-BF	20	4TX
5.925-7.125GHz	802.11ax HEW40	40	4TX
5.925-7.125GHz	802.11ax HEW40-BF	40	4TX
5.925-7.125GHz	802.11ax HEW80	80	4TX
5.925-7.125GHz	802.11ax HEW80-BF	80	4TX
5.925-7.125GHz	5.925-7.125GHz 802.11ax HEW160		4TX
5.925-7.125GHz	802.11ax HEW160-BF	160	4TX

Note:

- HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.
- The channel defined in the IEEE Standard P802.11ax[™]/D6.1.

TEL: 886-3-656-9065 Page Number : 5 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1.1.2 Antenna Information

		Р	ort				Antenna		Gain
Ant.	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Bluetooth	Brand	Model Name	Туре	Connector	(dBi)
1	-	-	3	-	WHA YU	C660-510565-A	PIFA	I-PEX	
2	ı	-	2	-	WHA YU	C660-510565-A	PIFA	I-PEX	
3	-	-	1	-	WHA YU	C660-510565-A	PIFA	I-PEX	
4	-	-	4	-	WHA YU	C660-510565-A	PIFA	I-PEX	
5	3	2	-	-	WHA YU	C660-510565-A	PIFA	I-PEX	Note1
6	4	1	-	-	WHA YU	C660-510565-A	PIFA	I-PEX	
7	1	4	-	-	WHA YU	C660-510565-A	PIFA	I-PEX	
8	2	3	-	-	WHA YU	C660-510565-A	PIFA	I-PEX	
9	-	-	-	1	YAGEO	ANT3216A063R2400A	Chip	N/A	

Report No.: FR0D2518-10AE

Note1:

	Port				Antenna Gain (dBi)													
Ant.	WLAN	WLAN	WI AN		WLAN	1	WLAN	5GH	Z	1	NLAN	6GH	Z					
	2.4GHz	5GHz	6GHz	Bluetooth	2.4GHz	UNII		UNII	UNII	UNII		UNII	UNII	Bluetooth				
						1	2A	2C	3	5	6	7	8					
1	-	-	3	-	-	-	-	-	-									-
2	-	ı	2	-	-	-	-	-	-	0.97	0.81	1.07	1.14	-				
3	-	-	1	-	-	-	-	-	-	0.97	0.61	1.07	1.14	-				
4	-	-	4	-	-	-	-	-	-					-				
5	3	2	-	-	3.03	3.63	3.43	3.18	4.44	-	-	-	-	-				
6	4	1	-	-	2.13	4.04	3.59	2.73	3.14	-	-	-	-	-				
7	1	4	-	-	2.34	2.76	3.12	3.17	3.46	-	-	-	-	-				
8	2	3	-	-	3.67	4.17	4.44	4.41	4.94	-	-	-	•	-				
9	-	-	-	1	-	-	-	-	-	-	-	-		1.69				

	Directional Gain (dBi)										
WLAN 2.4GHz		WLAN 5GHz UNII 1		WLAN 5GHz UNII 2A		WLAN 5GHz UNII 2C		WLAN 5GHz UNII 3			
4T1S	4T2S	4T1S	4T2S	4T1S	4T2S	4T1S	4T2S	4T1S	4T2S		
6.66	3.67	4.32	4.17	5.3	4.44	4.83	4.41	5.09	4.94		

Note2: The above information was declared by manufacturer.

WLAN 6GHz: The directional gain is calculated which follows the procedure of KDB 662911 D01. WLAN 2.4GHz/5GHz: The directional gain is measured which follows the procedure of KDB 662911 D03.

For 2.4GHz function:

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

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

TEL: 886-3-656-9065 Page Number : 6 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

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

For 5GHz function:

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

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

Report No.: FR0D2518-10AE

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

For 6GHz function:

For IEEE 802.11ax (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 4 could transmit/receive simultaneously.

For Bluetooth Function:

For Bluetooth mode (1TX/1RX)

Only Port 1 can be use as transmit and receive antenna.

1.1.3 EUT Operational Condition

EUT Power Type	From Power Adapter					
	\boxtimes	With beamforming		Without beamforming		
Beamforming Function	The product has beamforming function for n/VHT/ax in 2.4GHz, n/ac/ax in 5GHz and ax in 6GHz.					
	\boxtimes	Indoor Access Point		Subordinate		
Device Type		Indoor Client		Standard Power Access Point		
Device Type		Dual Client		Standard Client		
		Fixed Client				
Test Software Version	Mtool (ver.3.2.1.3)					
Support RU			Partial RU			

Note: The above information was declared by manufacturer.

1.1.4 Table for Multiple Listing

Brand Name	Model Name	Description	
	ET12		
ASUS	ZenWiFi ET12	All the models are identical, the different model names served as a marketing strategy.	
	ASUS ZenWiFi ET12	solved as a marketing strategy.	

Note1: From the above model: ET12 was selected as representative model for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

TEL: 886-3-656-9065 Page Number : 7 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1.1.5 Table for Components Source Information

Items	Main Source	Second Source	
Transceiver (2.5G LAN)	Brand: MAXLINEAR Model: GPY211	Brand: Broadcom Model: BCM50991	
MLCC on the path of the CPU (Location: CA15,CA16,CA17,CA18,CB15,CB16,CB17,CB18,CE15,CE16,CE17,CE18)	Brand: MURATA Model: GRM0335C1E100JA01D	Brand: WALSIN Model: RF03N100J250CT	
MLCC on the path of the CPU (Location: CA281,CA282,CB121,CB221,CB281,CB282,CB321,CB421,CC117,CC119,CC121,CC217,CC219,CC221,CC317,CC319,CC321,CC417,CC419,CC421,CE281,CE282)		Brand: MURATA Model: GRM0335C1E1R0BA01D	

Report No.: FR0D2518-10AE

Note: The above information was declared by manufacturer.

1.1.6 Table for EUT Information

EUT	Transceiver (2.5G LAN)	MLCC on the path of the CPU (Location: CA15,CA16,CA17,CA18,CB15, CB16,CB17,CB18,CE15,CE16, CE17,CE18)	MLCC on the path of the CPU (Location: CA281,CA282,CB121,CB221,CB281, CB282,CB321,CB421,CC117,CC119, CC121,CC217,CC219,CC221,CC317,CC319, CC321,CC417,CC419,CC421,CE281, CE282)		
EUT 1	Main Source	Main Source	Main Source		
EUT 2	Second Source	Main Source	Main Source		
EUT 3	Main Source	Second Source	Second Source		

Note1: From the above, EUT 3 has been selected as representative mode for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

1.1.7 Table for EUT Supports Function

Function	Support Type	Remark
AP Router	Master	Support 2.4GHz/5GHz/6GHz
Bridge	Slave without radar detection	Support 2.4GHz/5GHz
Repeater	Master	Support 2.4GHz/5GHz
Mesh	Master	Support 2.4GHz/5GHz/6GHz

Note1: From the above, AP Router (Master) has been selected to test Unwanted Emissions below 1GHz Note2: The above information was declared by manufacturer.

TEL: 886-3-656-9065 Page Number : 8 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1.1.8 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR0D2518AE Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
CPU (Location:CA15,CA16,CA17,CA18,CB15,CB16,CB17,CB18,CE15,CE16,CE17,CE18,CA281,CA282,CB121,CB221,CB281,CB282,CB321,CB421,CC117,CC119,CC121,CC217,CC219,CC221,CC317,CC319,CC321,CC417,CC419,CC421,CE281,CE282)	 Unwanted Emissions below 1GHz test Emission Bandwidth Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Peak Power Spectral Density (E.I.R.P.) Unwanted Emissions above 1GHz test (For above item 2~5: Evaluating the affected frequencies only.)
Removing Manufacturer name and address.	After evaluating, it does not affect the test.

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 9 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1.2 Applicable Standards

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

Report No.: FR0D2518-10AE

- 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 987594 D02 v01r01
- FCC KDB 662911 D01 v02r01
- FCC KDB 412172 D01 v01r01
- 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	Richard Pai	23~24.1 / 62~66	Jan. 25, 2024~ Mar. 08, 2024
Radiated<1GHz	03CH05-CB	Roy Mai	21.9-22.4 / 55-58	Apr. 08, 2024
Radiated>1GHz	03CH06-CB	Stim Sung	22.7~23.7 / 64~67	Apr. 19, 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 (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%

TEL: 886-3-656-9065 Page Number : 10 of 30 FAX: 886-3-656-9085 Issued Date : May 07, 2024

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
6255MHz
802.11ax HEW40-BF_Nss1,(MCS0)_4TX
6245MHz
6685MHz
7005MHz
802.11ax HEW160-BF_Nss1,(MCS0)_4TX
6185MHz
6505MHz Straddle 6.425-6.525GHz
6665MHz
6985MHz
802.11ax HEW160-BF_Nss2,(MCS0)_4TX
6185MHz
6985MHz

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 11 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item	Emission Bandwidth Contention Based Protocol Emission MASK	
Test Condition Conducted measurement at transmit chains		
1	EUT 3	

Report No.: FR0D2518-10AE

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	The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
	Radiated measurement	
1	EUT 3	

Th	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.		
	Normal Link		
Operating Mode < 1GHz	 The EUT was performed at X axis, Y axis and Z axis position for Unwanted Emissions above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration. There are two Adapters, after evaluating, Adapter 1 has been evaluated to be the worst case, thus measurement will follow this same test configuration. 		
1	EUT 3 in Y axis + Adapter 1		
Operating Mode > 1GHz	The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.		
	CTX - EUT 3 in Y axis		

The Worst Case Mode for Following Conformance Tests			
Tests Item	Tests Item Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation		
Operating Mode			
1 EUT 3-WLAN 2.4GHz + WLAN 5GHz + WLAN 6GHz + Bluetooth			
Refer to Sporton Test Report No.: FA0D2518-10 for Co-location RF Exposure Evaluation.			

TEL: 886-3-656-9065 Page Number : 12 of 30 FAX: 886-3-656-9085 Issued Date : May 07, 2024

2.3 EUT Operation during Test

For CTX Mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

- 1. During the test, the EUT operation to normal function.
- 2. Executed command fixed test channel under DOS(ver 6.1.7601).
- 3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX Device and transmit duty cycle no less than 98%.

Report No.: FR0D2518-10AE

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories				
Equipment Name	Brand Name	Model Name	Rating	Remark
Adapter 1	DELTA	ADP-45FE	INPUT: 100-240V~1.2A, 50-60Hz OUTPUT: 19.0V, 2.37A, 45.0W	With the DC Power cable: Non-shielded, 1.5m
Adapter 2	AcBel	ADH011	INPUT: 100-240V~1.4A, 50-60Hz OUTPUT: 19.5V, 2.31A, 45.0W	With the DC Power cable: Non-shielded, 1.5m
Others				

Power cable*1: Non-shielded, 0.9m RJ-45 cable*1: Non-shielded, 1.5m

TEL: 886-3-656-9065 Page Number : 13 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

2.5 Support Equipment

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
Α	NB	DELL	E4300	N/A
В	2.4G NB	DELL	E4300	N/A
С	5G NB	DELL	E4300	N/A
D	WLAN module	Intel	AX210NGW	PD9AX210NG
Е	6G NB	DELL	E4300	N/A
F	2.5G LAN PC	DELL	E4300	N/A
G	2.5G WAN PC	DELL	E4300	N/A

Report No.: FR0D2518-10AE

For Radiated (above 1GHz):

	Support Equipment									
No.	No. Equipment Brand Name Model Name FCC ID									
Α	NB	DELL	E4300	N/A						
В	RX Device	ASUS	ET12	MSQ-RTAXE4P00						
С	NB	DELL	E4300	N/A						

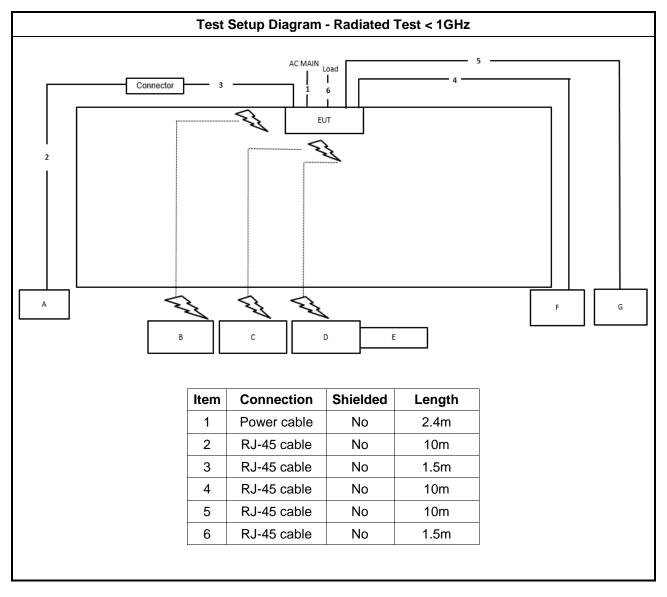
For RF Conducted:

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

TEL: 886-3-656-9065 Page Number : 14 of 30 FAX: 886-3-656-9085 Issued Date : May 07, 2024

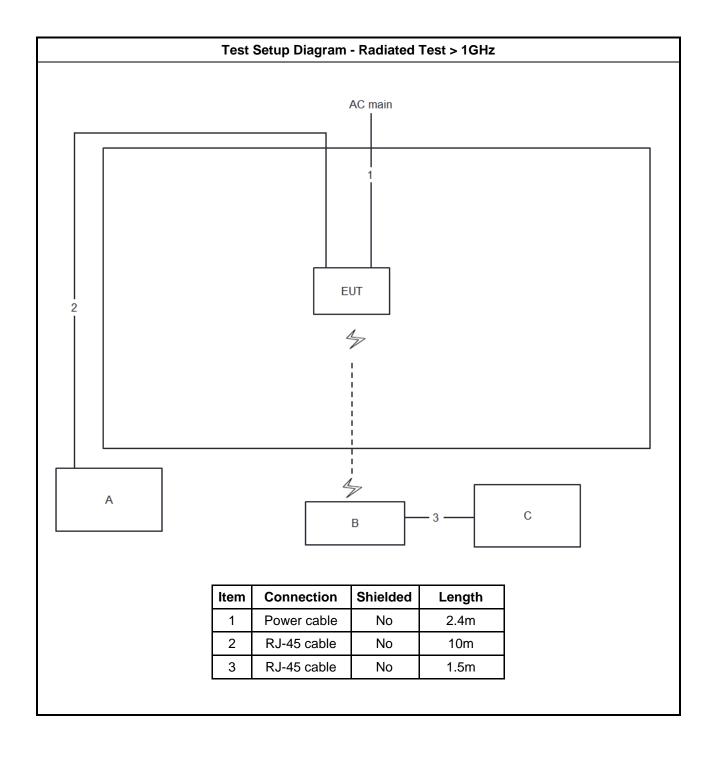


2.6 Test Setup Diagram



TEL: 886-3-656-9065 Page Number : 15 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024





TEL: 886-3-656-9065 Page Number : 16 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit							
UNII Devices							
⊠ For the 6425-6525 GHz band, N/A							
⊠ For the 6525-6875 GHz band, N/A							
☑ For the 6875-7125 GHz band, N/A							

Report No.: FR0D2518-10AE

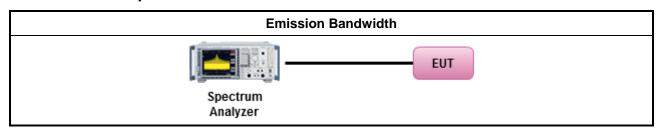
3.1.2 Measuring Instruments

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:									
	\boxtimes	According to 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.								

3.1.4 Test Setup



3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

TEL: 886-3-656-9065 Page Number : 17 of 30 FAX: 886-3-656-9085 Issued Date : May 07, 2024

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

Report No.: FR0D2518-10AE

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.

TEL: 886-3-656-9065 Page Number : 18 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

3.2.2 Measuring Instruments

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

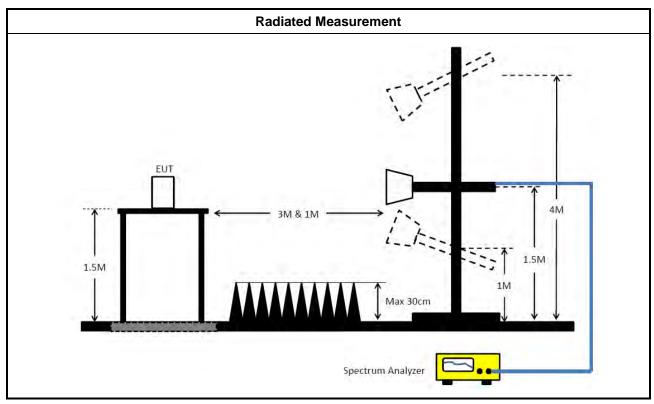
3.2.3 Test Procedures

	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									
	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)									
	Wideband RF power meter and average over on/off periods with duty factor									
	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an 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: Ptotal = P1 + P2 + + Pn (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRPtotal = Ptotal + DG									
\boxtimes	For radiated measurement.									
	 Refer as FCC KDB 987594 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. 									

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 19 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

3.2.4 Test Setup



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

Refer as Appendix B

TEL: 886-3-656-9065 Page Number : 20 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

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 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.

Report No.: FR0D2518-10AE

3.3.2 Measuring Instruments

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

TEL: 886-3-656-9065 Page Number : 21 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

3.3.3 Test Procedures

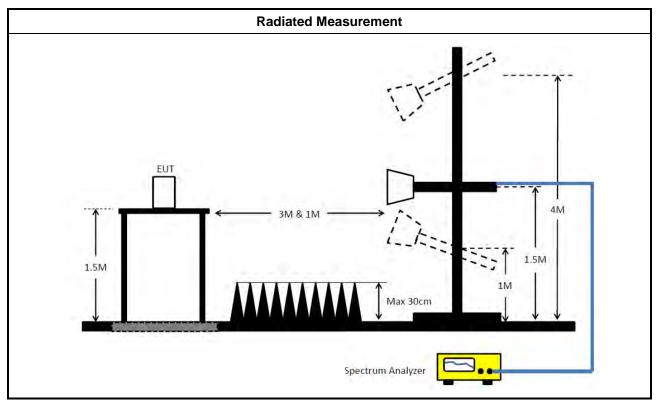
		Test Method
•	Pea outp	ording to KDB 987594 D02 clause II.F, the measurement procedure shall refer to KDB 789033. It power spectral density procedures that the same method as used to determine the conducted put power shall be used to determine the peak power spectral density and use the peak search extion on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density I 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
	[dut	y cycle ≥ 98% or external video / power trigger]
	\boxtimes	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
	\boxtimes	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.
	•	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 + + PPSD_n \\ (calculated in linear unit [mW] and transfer to log unit [dBm]) \\ EIRP_{total} = PPSD_{total} + DG $
	For	radiated measurement.
	•	Refer as FCC KDB 987594 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.

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 22 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024



3.3.4 Test Setup



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

Refer as Appendix C

TEL: 886-3-656-9065 Page Number : 23 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

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						

Report No.: FR0D2518-10AE

- 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.

TEL: 886-3-656-9065 Page Number : 24 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

Un-restricted band emissions above 1GHz Limit Limit Frequency Any outside the 5.945 e.i.r.p. -27 dBm [68.2 dBuV/m@3m] 7.125 GHz emission 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) = $20\log(3/1) = 9.54dB$. 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. **Emission MASK Limit** Frequency 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 oneand one-half times the channel bandwidth must be suppressed by at least 40 dB. Fc - EBW Fc + EBW

> 20 dB 28 dB

> 40 dB

EBW/2

Fc + EBW/2

1.5 X EBW

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 25 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

1.5 X EBW

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method

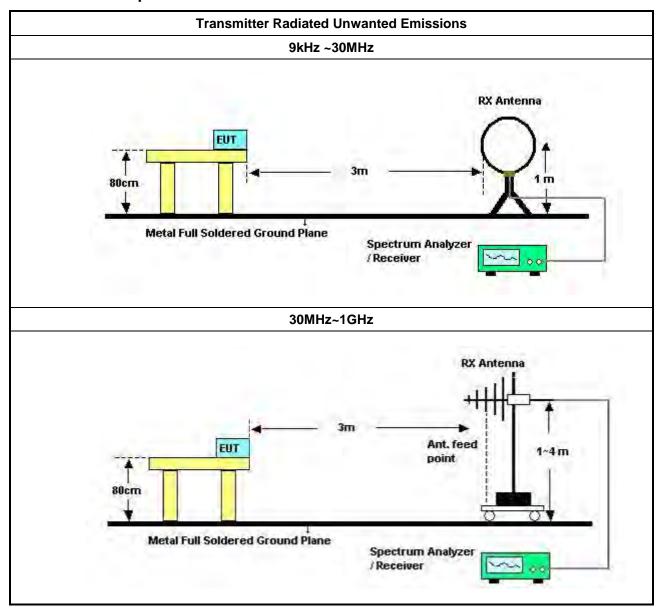
Report No.: FR0D2518-10AE

- According to 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.
- For emission MASK shall be measured using following options below:
 - Refer as FCC draft 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.

TEL: 886-3-656-9065 Page Number : 26 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

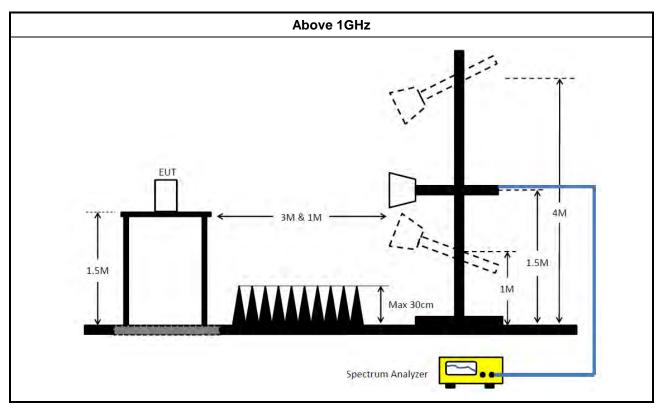


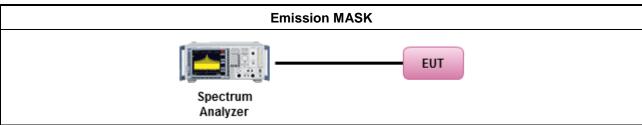
3.4.4 Test Setup



TEL: 886-3-656-9065 Page Number : 27 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024







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 Transmitter Unwanted Emissions (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.

3.4.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D

TEL: 886-3-656-9065 Page Number : 28 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 02, 2023	Aug. 01, 2024	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	with 6dB FMCI N-6-06 AT-N06		35236 & AT-N0610	30MHz ~ 2GHz	Mar. 23, 2024	Mar. 22, 2025	Radiation (03CH05-CB)
Amplifier	mplifier EMCI EMC330N 980331		980331	20MHz ~ 3GHz May 03, 2023 May 02		May 02, 2024	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 18, 2023	Apr. 17, 2024	Radiation (03CH05-CB)
EMI Test Receiver	EMI Test PAS ESCS 836547/0		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	Dec. 06, 2023	Dec. 05, 2024	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH05-CB)
Test Software	st Software SPORTON SENSE		V5.10	-	N.C.R. N.C.R.		Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBE CK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Jul. 31, 2023	Jul. 30, 2024	Radiation (03CH06-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023 Sep. 03, 2024		Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	Aug. 01, 2023	Jul. 31, 2024	Radiation (03CH06-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH06-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 21, 2023	Apr. 20, 2024	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+68	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	~40GHz May 29, 2023 May 28, 2024		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	402 High Cable-06 1 GHz – 18 0		Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)

Report No.: FR0D2518-10AE

TEL: 886-3-656-9065 Page Number : 29 of 30
FAX: 886-3-656-9085 Issued Date : May 07, 2024

Instrument	Brand	Brand Model No.		Characteristics	Calibration Date	Calibration Due Date	Remark
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. 02, 2023	Oct. 01, 2024	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. 02, 2023	Oct. 01, 2024	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Mar. 01, 2024	Feb. 28, 2025	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Mar. 04, 2024	Mar. 03, 2025	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

Report No.: FR0D2518-10AE

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

TEL: 886-3-656-9065 Page Number : 30 of 30 FAX: 886-3-656-9085 Issued Date : May 07, 2024



Appendix A **EBW**

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.925-6.425GHz	=	=	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22M	19.051M	19M1D1D	20.9M	18.98M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.7M	37.978M	38M0D1D	39.93M	37.656M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	162.8M	396.444M	396MD1D	161.92M	395.382M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	165M	156.576M	157MD1D	161.92M	156.073M
6.425-6.525GHz	-	-	-	-	-
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	163M	156.561M	157MD1D	161.8M	155.867M
6.525-6.875GHz	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	42.02M	37.91M	37M9D1D	40.26M	37.62M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	164.56M	156.59M	157MD1D	162.36M	155.395M
6.875-7.125GHz	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	42.46M	37.749M	37M7D1D	40.48M	37.679M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	163.68M	157.038M	157MD1D	161.92M	156.26M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	162.36M	157.276M	157MD1D	161.92M	155.978M

Sporton International Inc. Hsinchu Laboratory

Page No.



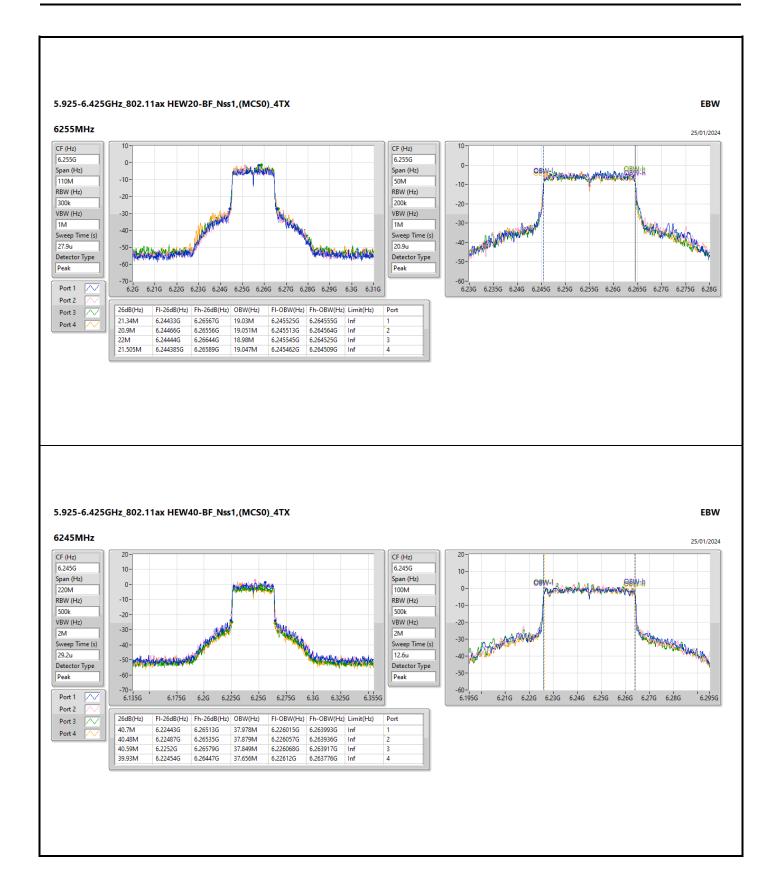
Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW	Port 4-N dB	Port 4-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	=	=	=	=	-	-	=	=
6255MHz	Pass	Inf	21.34M	19.03M	20.9M	19.051M	22M	18.98M	21.505M	19.047M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6245MHz	Pass	Inf	40.7M	37.978M	40.48M	37.879M	40.59M	37.849M	39.93M	37.656M
6685MHz	Pass	Inf	41.36M	37.62M	42.02M	37.652M	41.03M	37.832M	40.26M	37.91M
7005MHz	Pass	Inf	40.7M	37.749M	40.48M	37.723M	42.35M	37.679M	42.46M	37.734M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6185MHz	Pass	Inf	162.8M	396.275M	161.92M	396.444M	162.36M	396.223M	162.36M	395.382M
6505MHz Straddle 6.425-6.525GHz	Pass	Inf	161.8M	156.561M	162M	156.13M	162.8M	155.867M	163M	156.292M
6665MHz	Pass	Inf	162.36M	155.95M	162.8M	155.395M	164.56M	156.59M	162.36M	155.919M
6985MHz	Pass	Inf	161.92M	157.038M	162.8M	156.467M	162.36M	157.033M	163.68M	156.26M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6185MHz	Pass	Inf	161.92M	156.576M	161.92M	156.318M	165M	156.073M	162.36M	156.254M
6985MHz	Pass	Inf	162.36M	156.034M	161.92M	156.748M	162.36M	157.276M	162.36M	155.978M

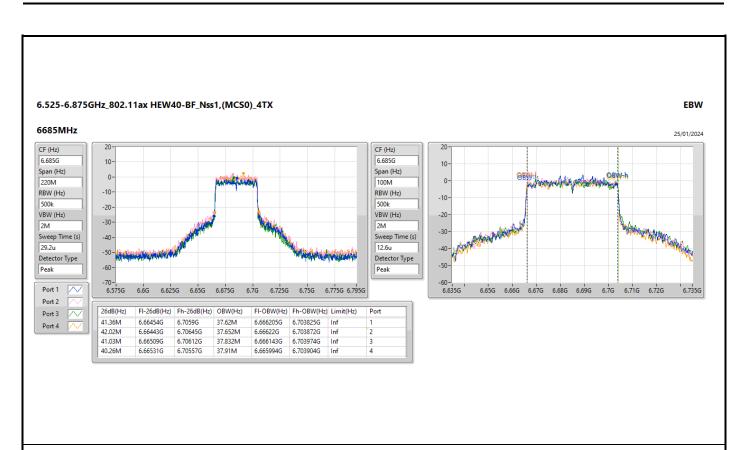
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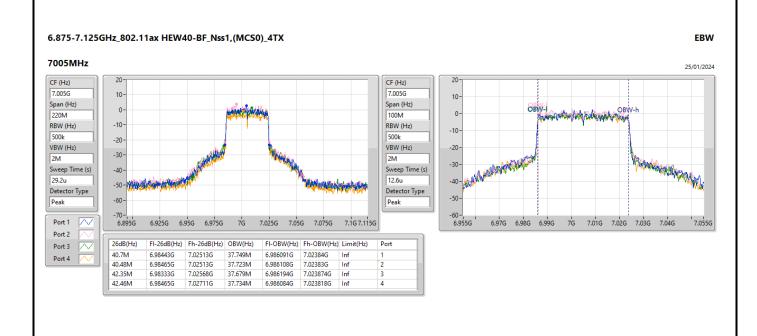
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Page No. : 2 of 7

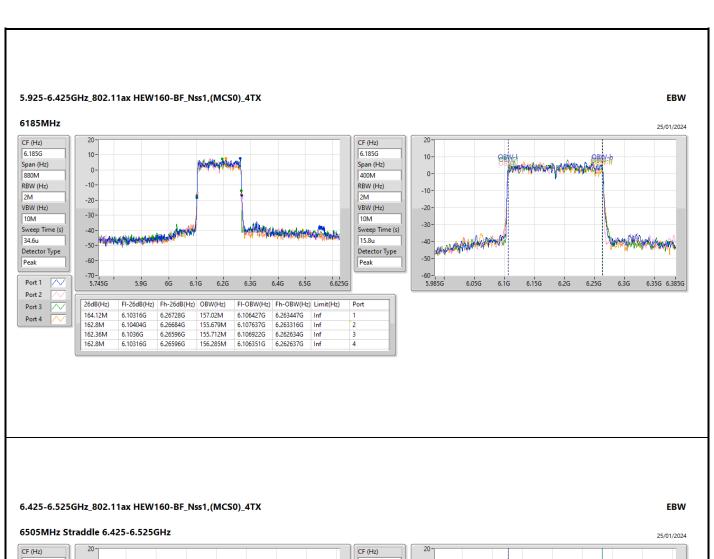


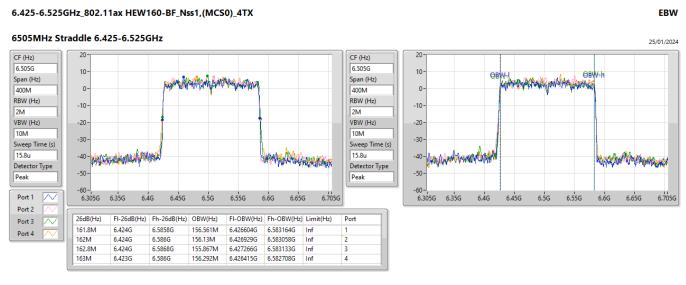
Page No. : 3 of 7



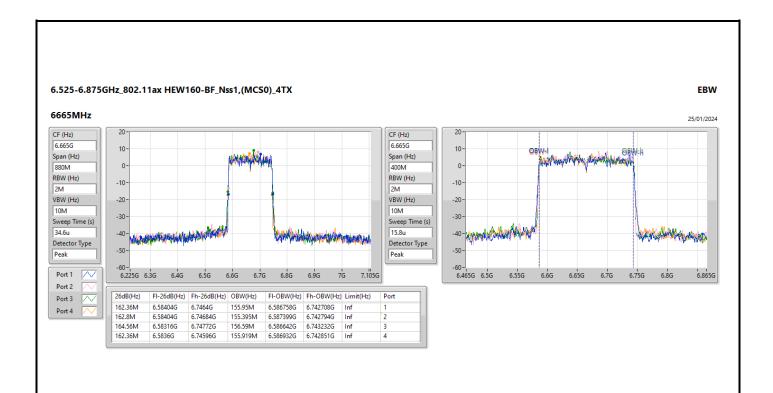


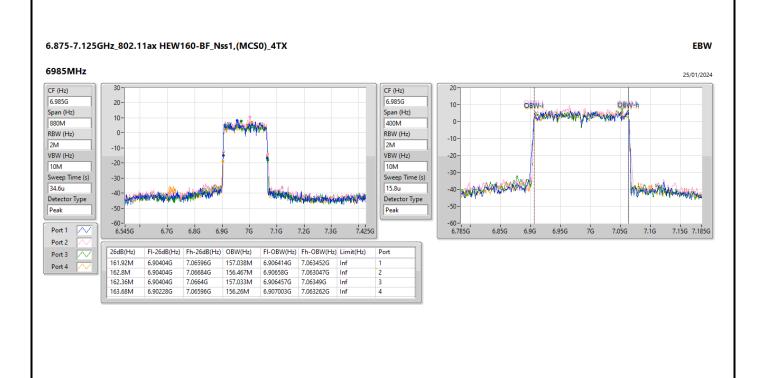
Page No. : 4 of 7





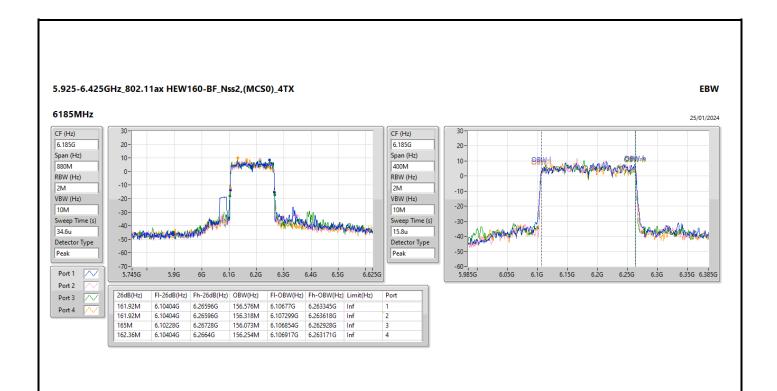
Page No. : 5 of 7

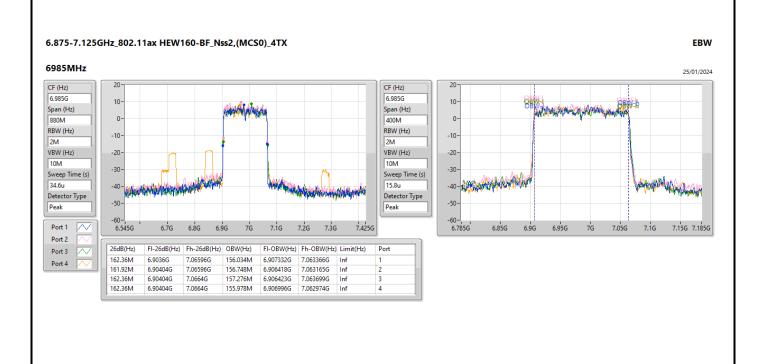




Page No. : 6 of 7

EBW Appendix A





Page No. : 7 of 7



Radiated EIRP Appendix B

Summary

Mode	EIRP	EIRP		
	(dBm)	(W)		
5.925-6.425GHz	-	-		
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	17.86	0.06109		
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	18.93	0.07816		
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	24.91	0.30974		
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	26.60	0.45709		
6.425-6.525GHz	-	-		
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	25.79	0.37931		
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	26.95	0.49545		
6.525-6.875GHz	-	-		
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	19.96	0.09908		
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	25.98	0.39628		
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	26.57	0.45394		
6.875-7.125GHz	-	-		
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	19.32	0.08551		
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	25.56	0.35975		
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	25.05	0.31989		

Sporton International Inc. Hsinchu Laboratory Page No. : 1 of 8



Radiated EIRP Appendix B

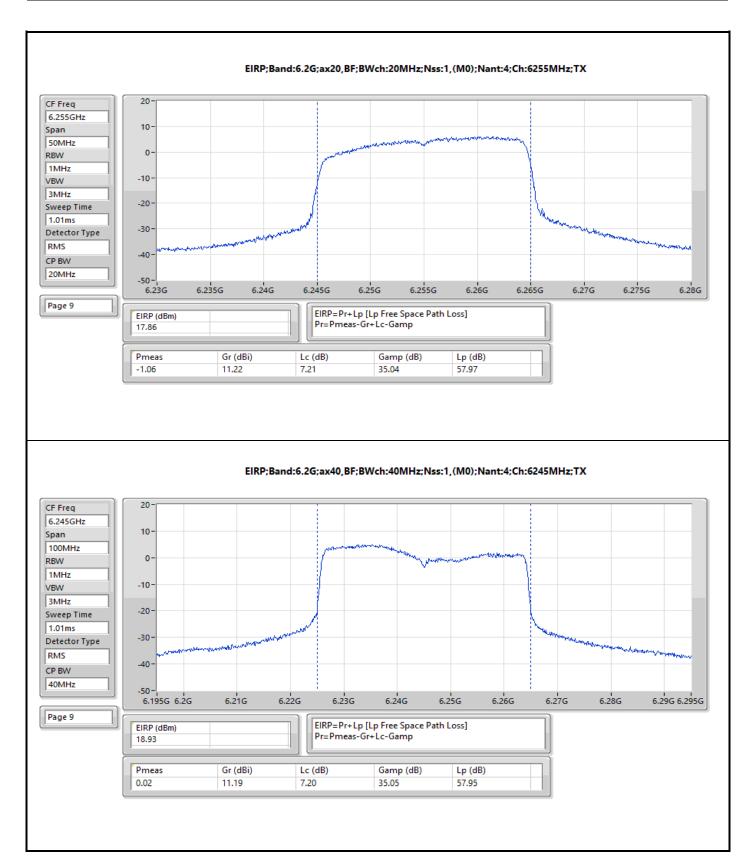
Result

Mode	Result	EIRP	EIRP Limit	
		(dBm)	(dBm)	
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	=	=	-	
6255MHz	Pass	17.86	30.00	
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	=	=	-	
6245MHz	Pass	18.93	30.00	
6685MHz	Pass	19.96	30.00	
7005MHz	Pass	19.32	30.00	
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	
6185MHz	Pass	24.91	30.00	
6505MHz Straddle 6.425-6.525GHz	Pass	25.79	30.00	
6665MHz	Pass	25.98	30.00	
6985MHz	Pass	25.56	30.00	
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	=	=	-	
6185MHz	Pass	26.60	30.00	
6505MHz Straddle 6.425-6.525GHz	Pass	26.95	30.00	
6665MHz	Pass	26.57	30.00	
6985MHz	Pass	25.05	30.00	

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

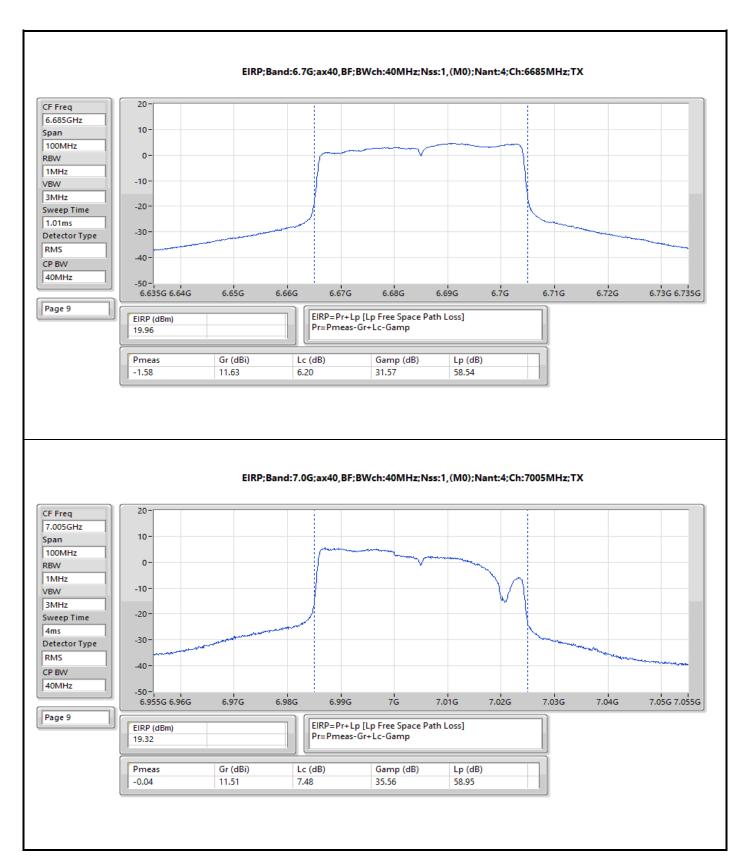
Page No. : 2 of 8





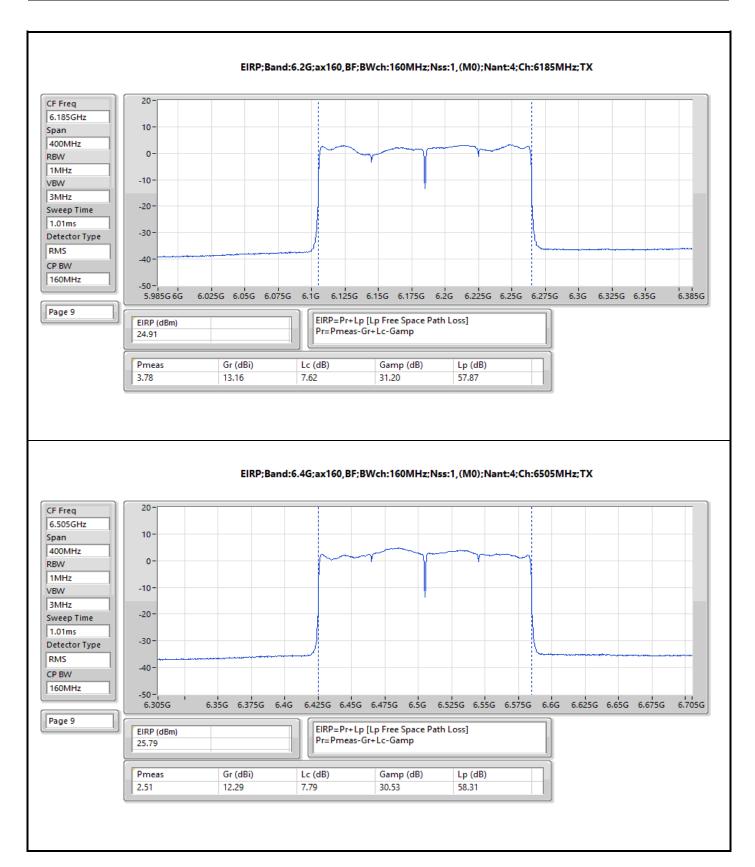
Page No. : 3 of 8





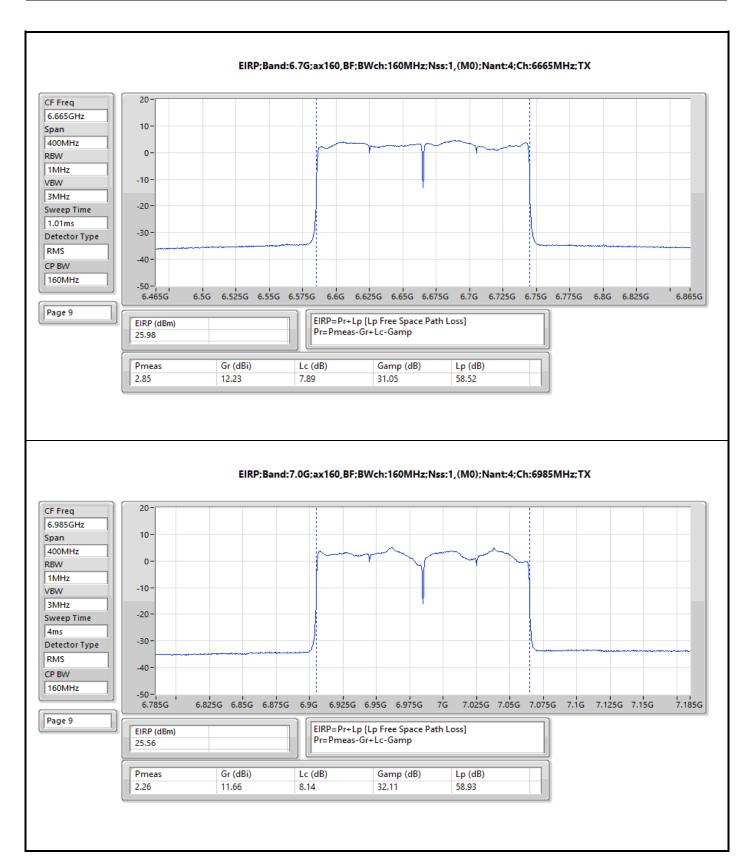
Page No. : 4 of 8





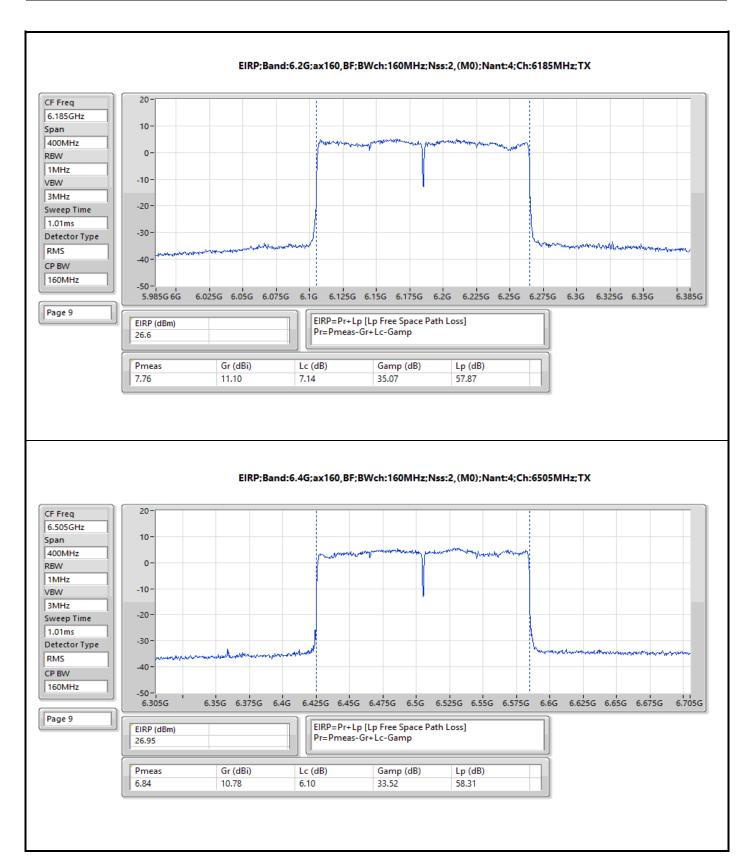
Page No. : 5 of 8





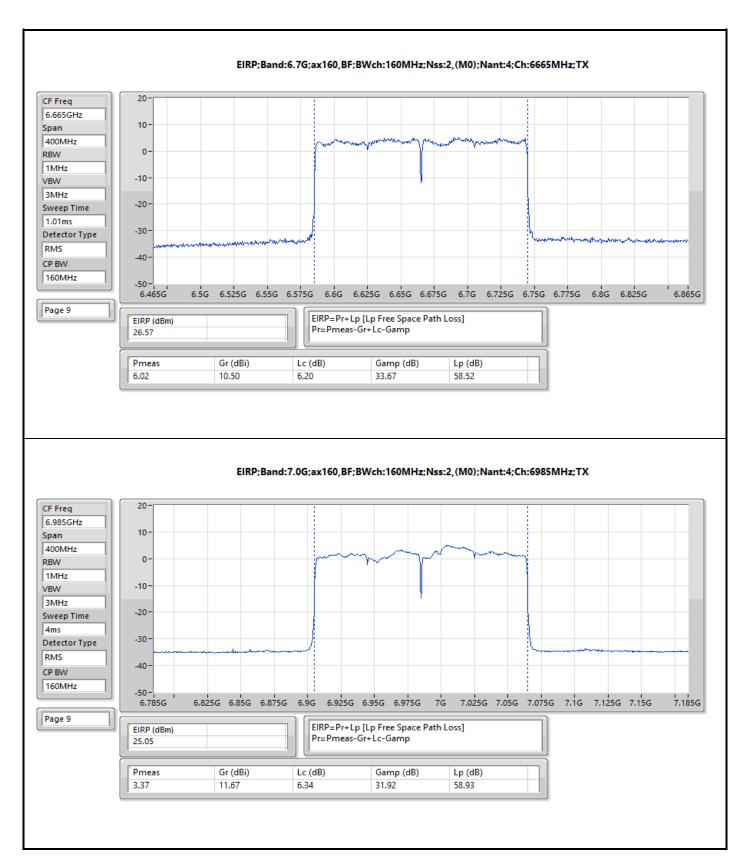
Page No. : 6 of 8





Page No. : 7 of 8





Page No. : 8 of 8



Radiated PSD Appendix C

Summary

Mode	EIRP PD (dBm/RBW)
5.925-6.425GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	4.91
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	4.86
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	4.76
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	3.87
6.425-6.525GHz	-
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	4.87
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	3.79
6.525-6.875GHz	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	4.98
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	4.79
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	4.88
6.875-7.125GHz	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	4.97
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	4.77
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	4.79

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

Page No. : 1 of 8



Radiated PSD Appendix C

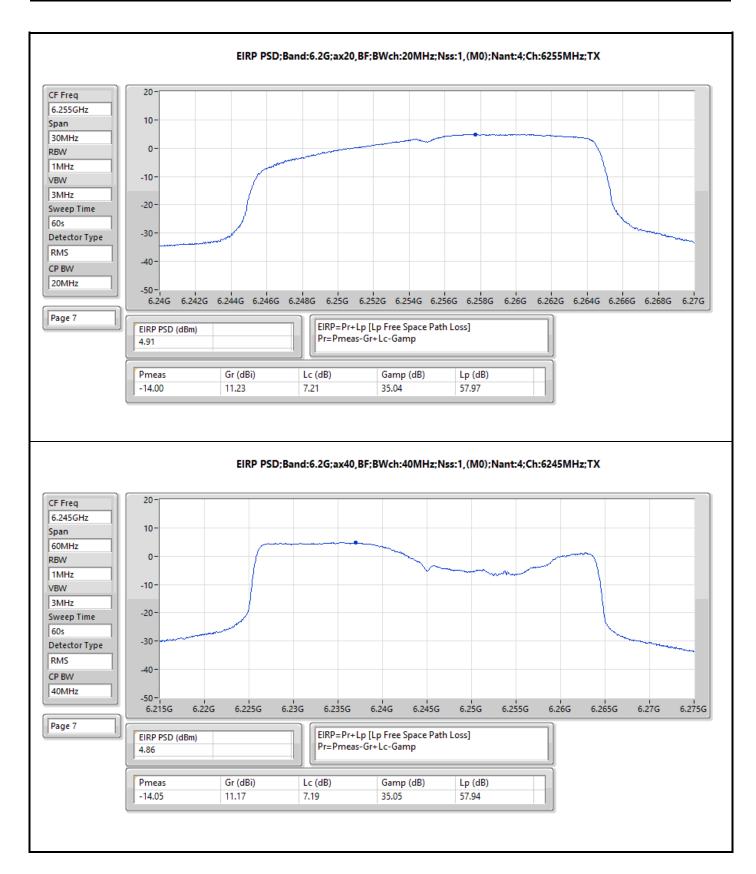
Result

Mode	Result	EIRP PD	EIRP PD Limit		
		(dBm/RBW)	(dBm/RBW)		
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-		
6255MHz	Pass	4.91	5.00		
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-		
6245MHz	Pass	4.86	5.00		
6685MHz	Pass	4.98	5.00		
7005MHz	Pass	4.97	5.00		
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-		
6185MHz	Pass	4.76	5.00		
6505MHz Straddle 6.425-6.525GHz	Pass	4.87	5.00		
6665MHz	Pass	4.79	5.00		
6985MHz	Pass	4.77	5.00		
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-	-	-		
6185MHz	Pass	3.87	5.00		
6505MHz Straddle 6.425-6.525GHz	Pass	3.79	5.00		
6665MHz	Pass	4.88	5.00		
6985MHz	Pass	4.79	5.00		

Sporton International Inc. Hsinchu Laboratory Page No.

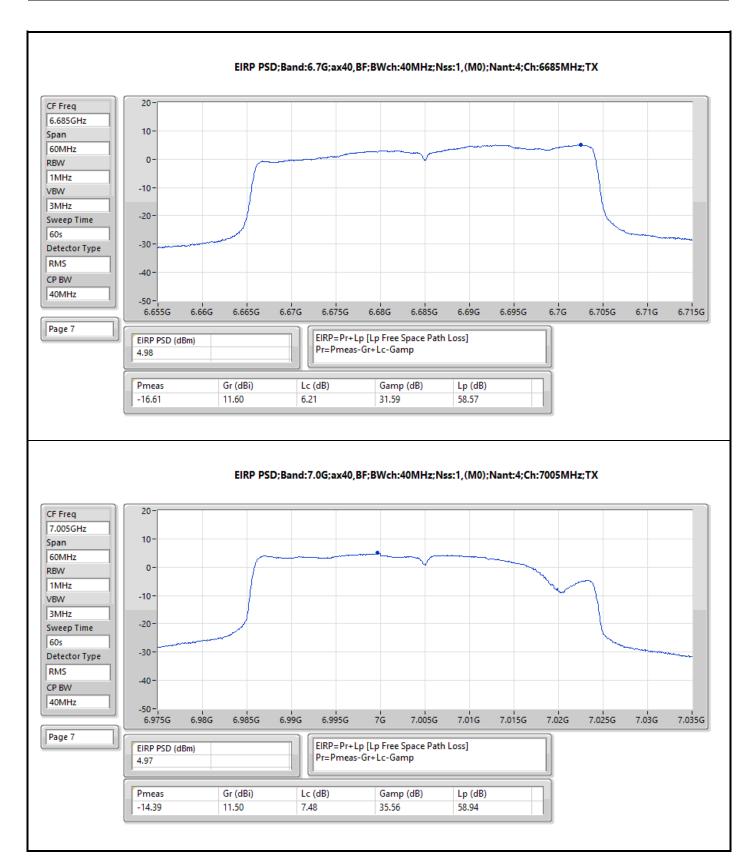
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band; PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;





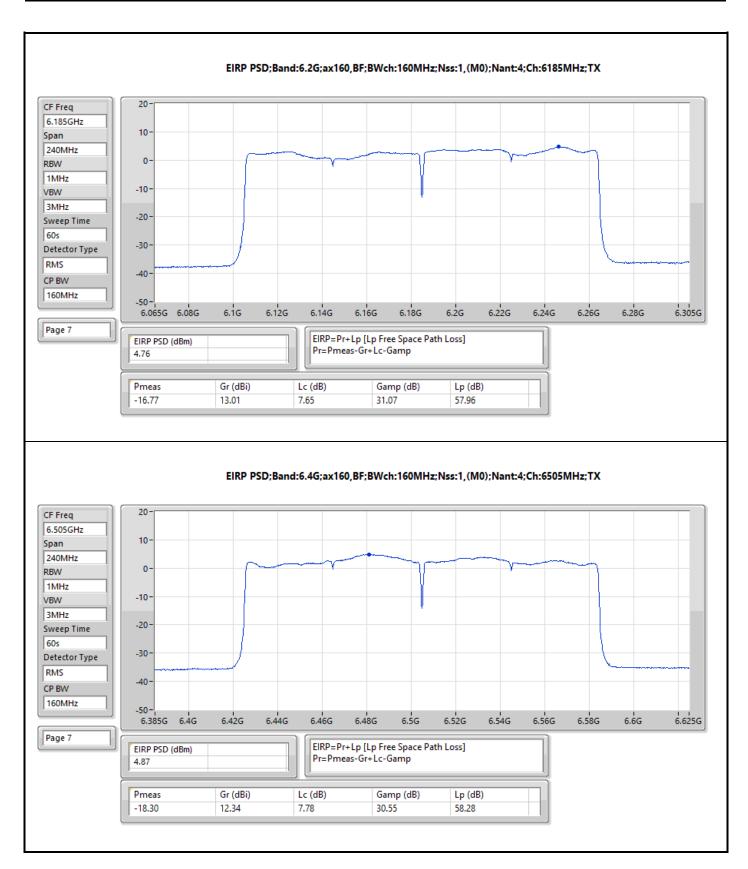
Page No. : 3 of 8





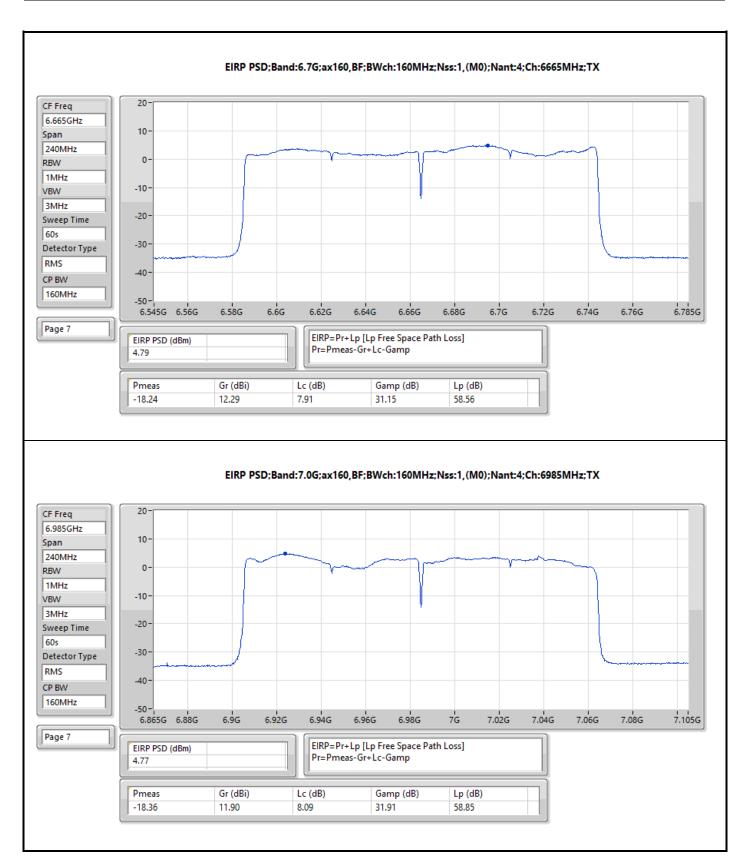
Page No. : 4 of 8





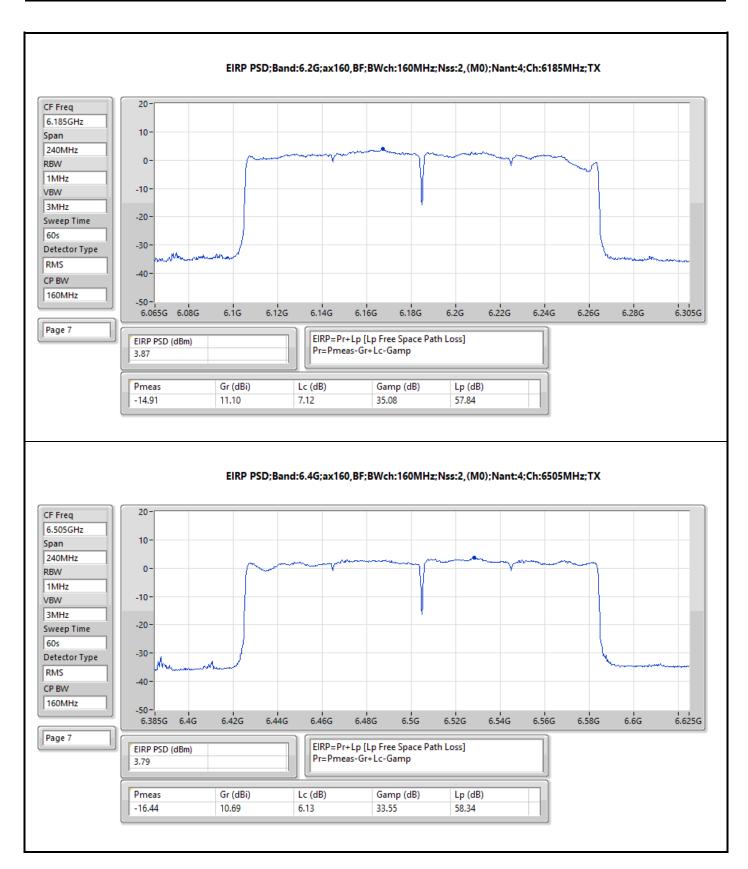
Page No. : 5 of 8





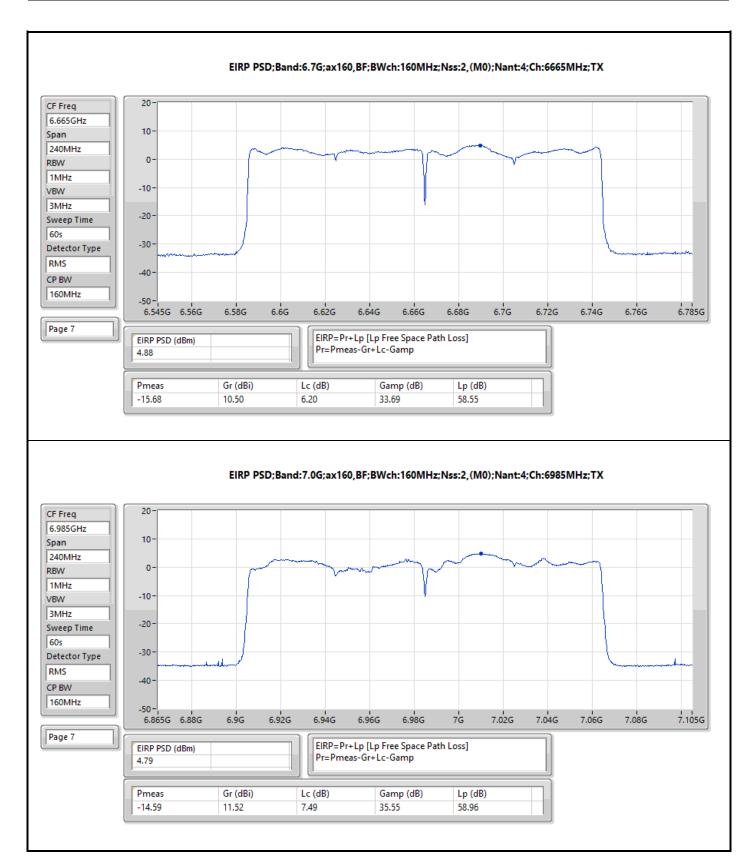
Page No. : 6 of 8





Page No. : 7 of 8





Page No. : 8 of 8



Radiated Emissions below 1GHz

Appendix D.1

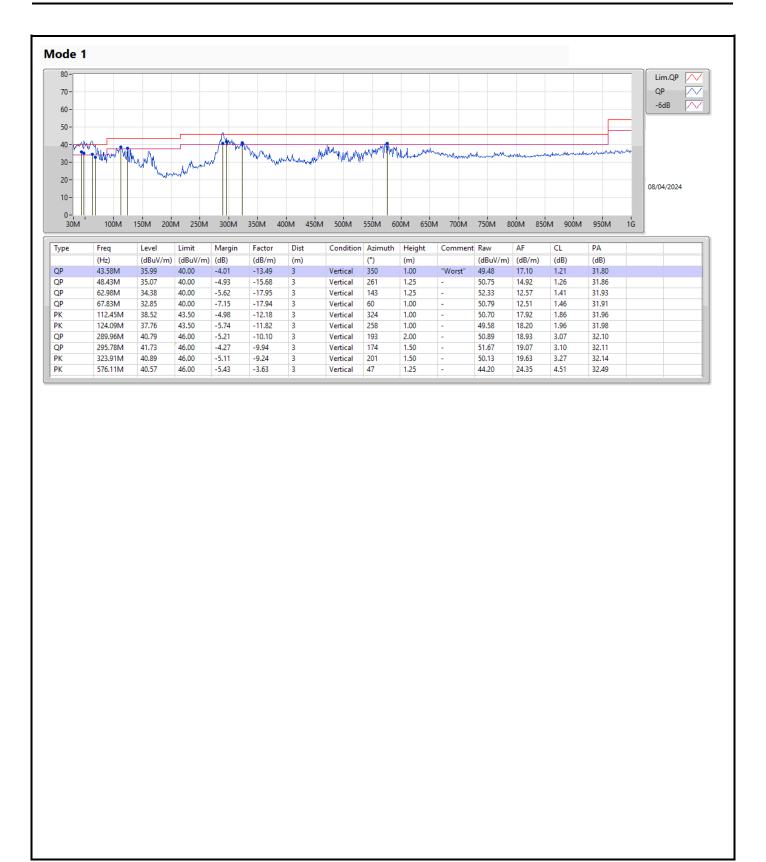
Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	43.58M	35.99	40.00	-4.01	Vertical

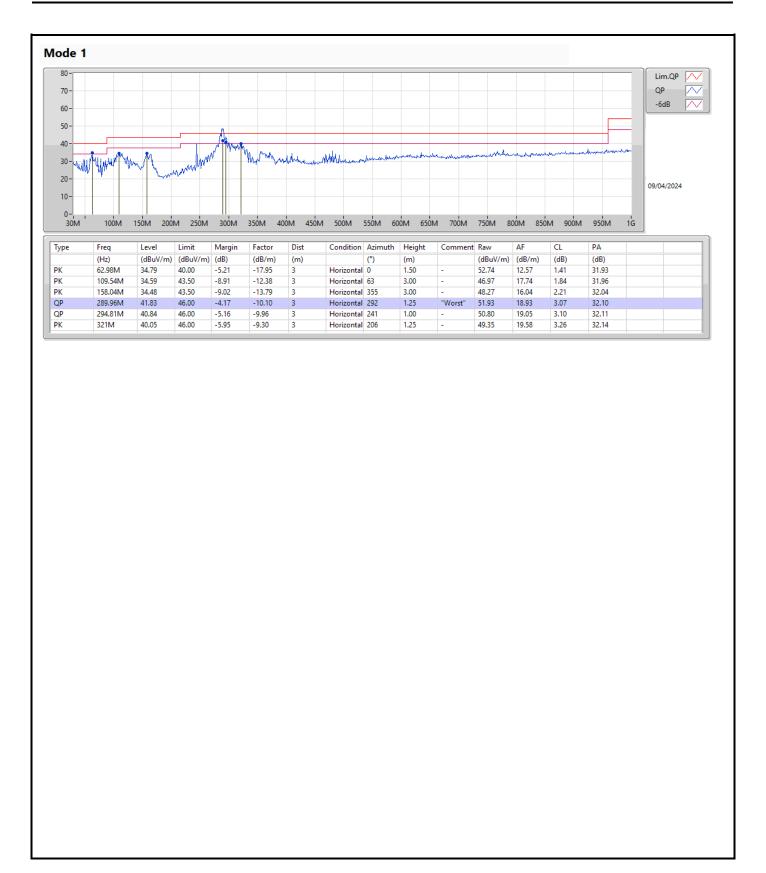
Sporton International Inc. Hsinchu Laboratory

Page No. : 1 of 3

Report No. : FR0D2518-10AE



Page No. : 2 of 3



Page No. : 3 of 3



RSE TX above 1GHz

Appendix D.2

Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth	Height (m)	Comments
6.525-6.875GHz	-	-	-	-	-	- -	-	-	-	-	
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	Pass	AV	13.31722G	45.72	54.00	-8.28	3	Horizontal	7	1.85	-

Sporton International Inc. Hsinchu Laboratory Page No. : 1 of 45





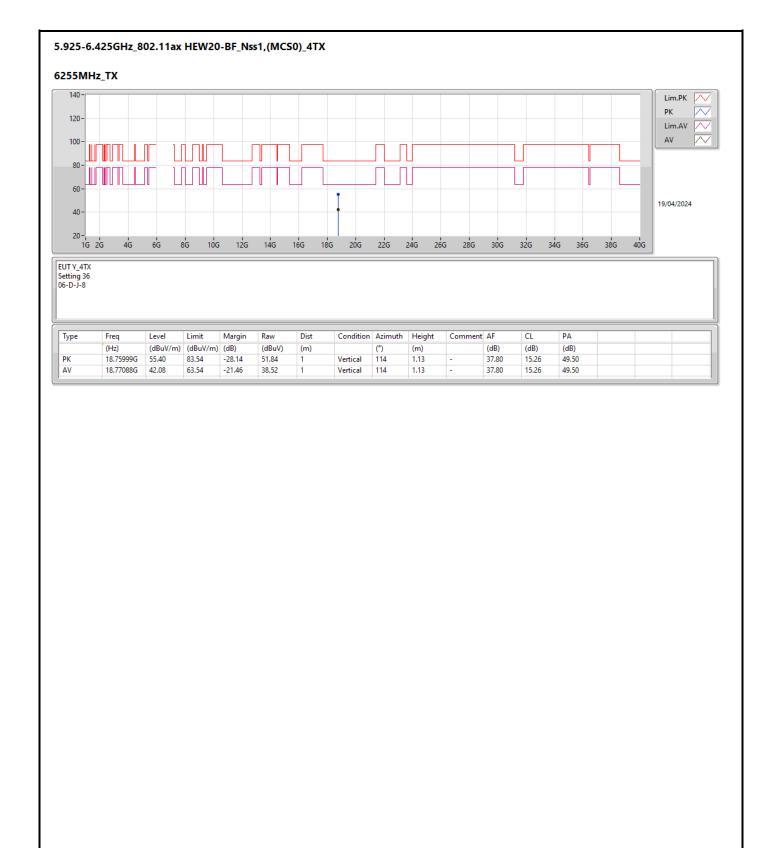
Page No. : 2 of 45





Page No. : 3 of 45





Page No. : 4 of 45



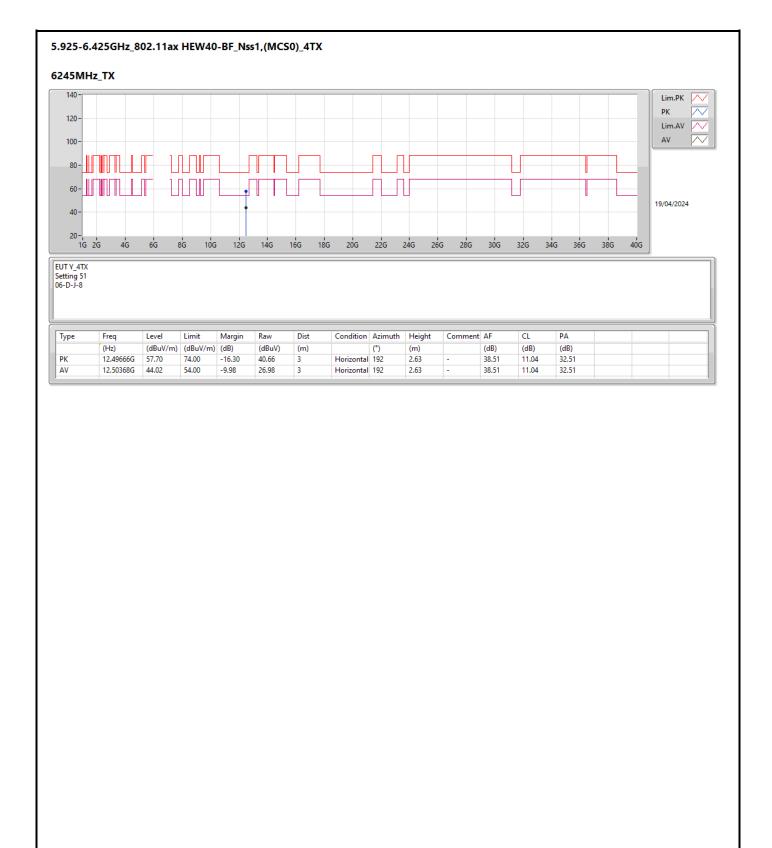
Page No. : 5 of 45



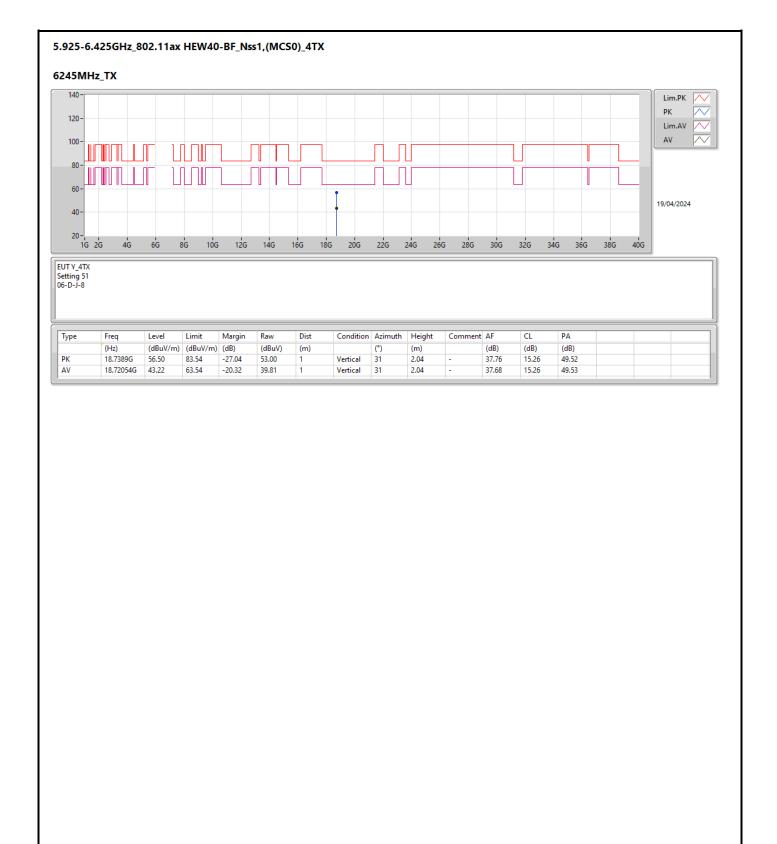


Page No. : 6 of 45

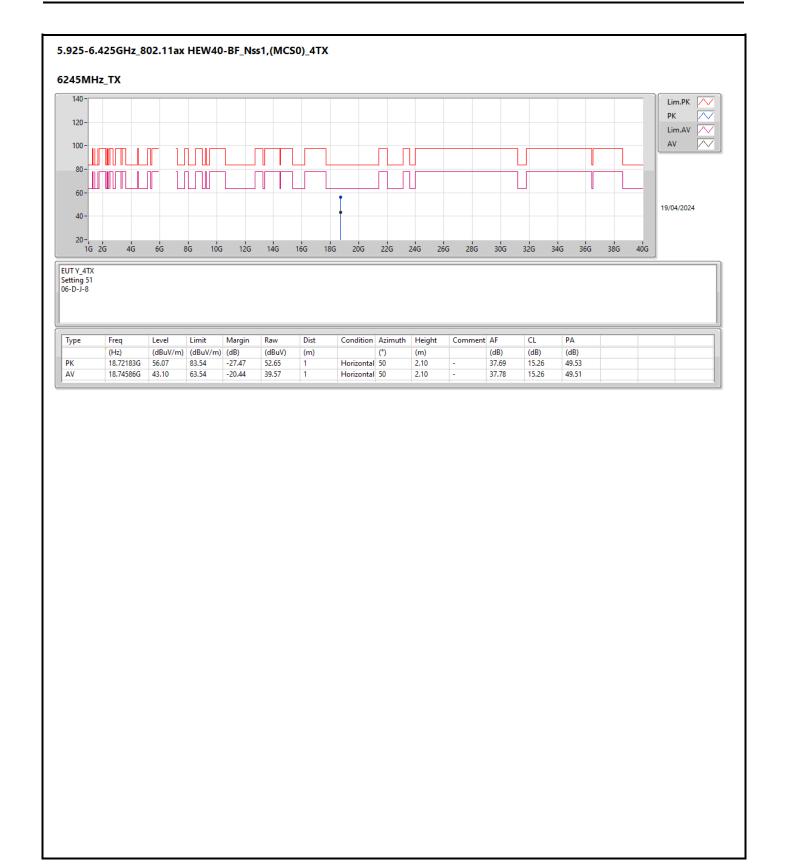








Page No. : 8 of 45



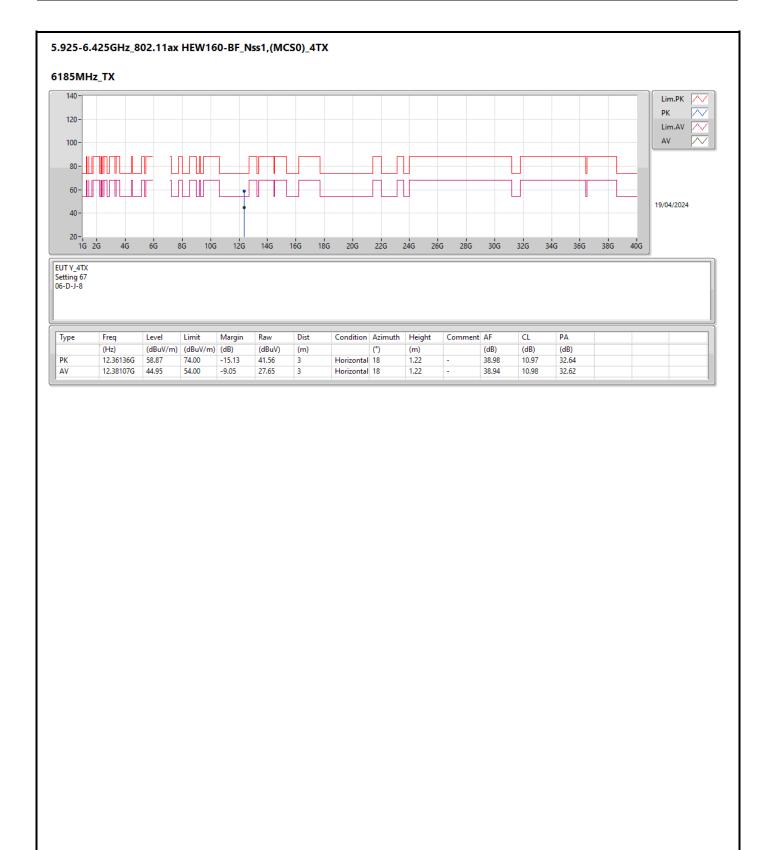
Page No. : 9 of 45



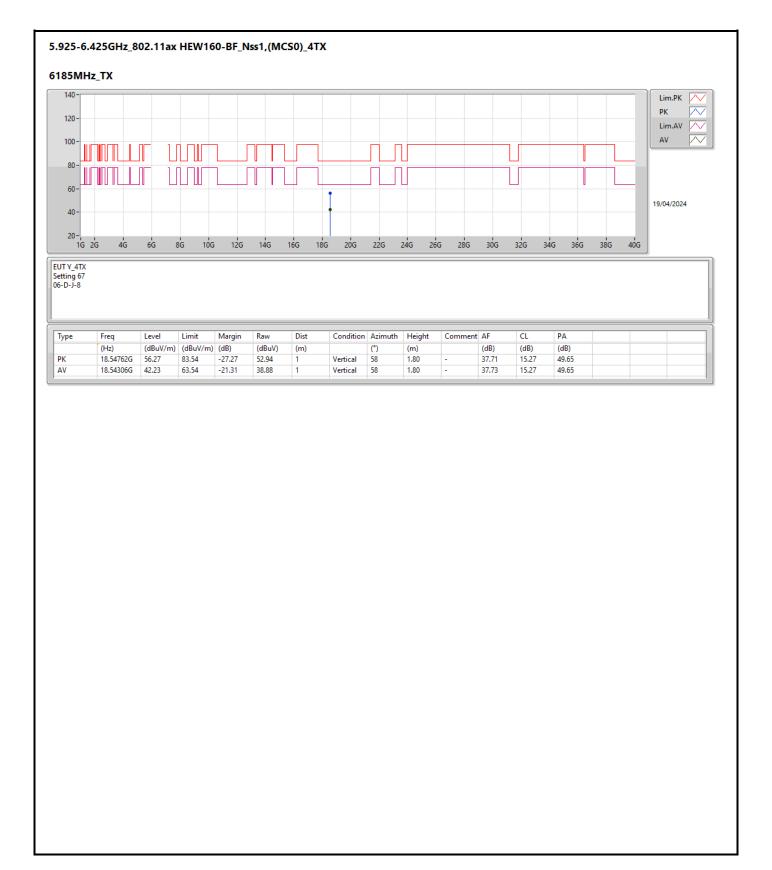


Page No. : 10 of 45

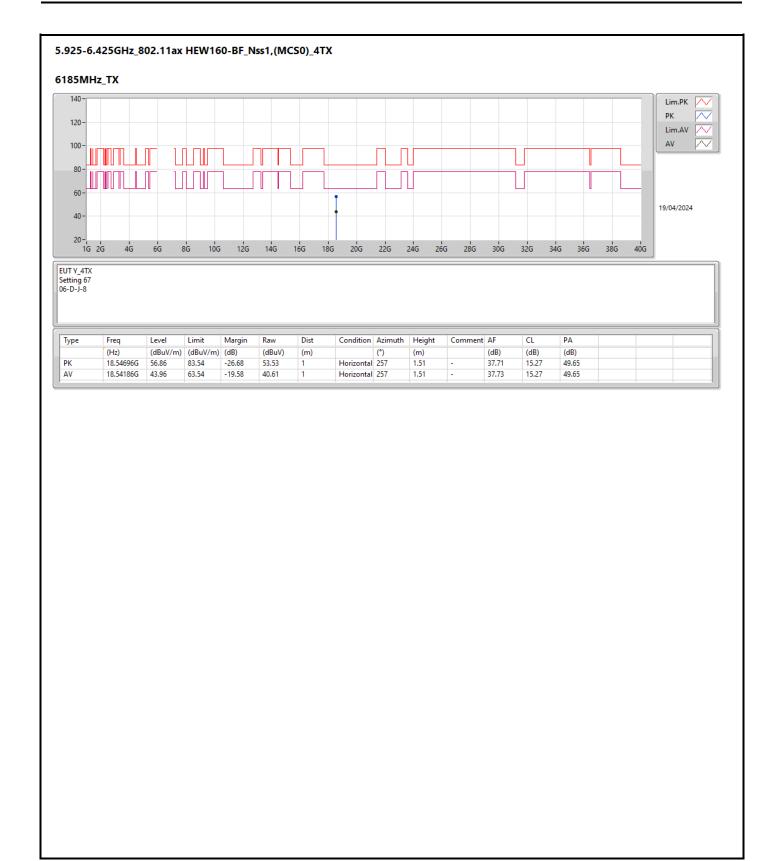








Page No. : 12 of 45



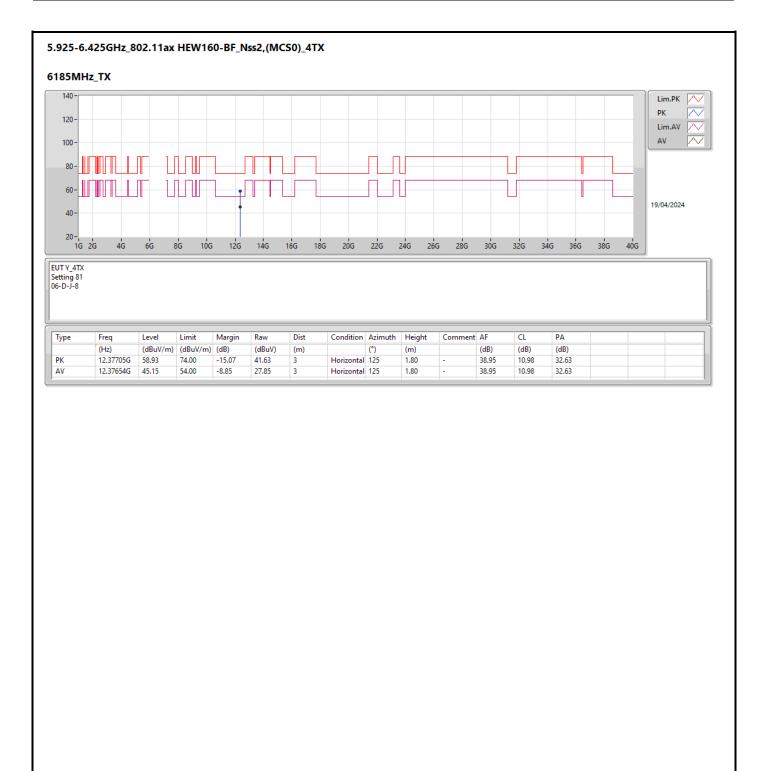
Page No. : 13 of 45



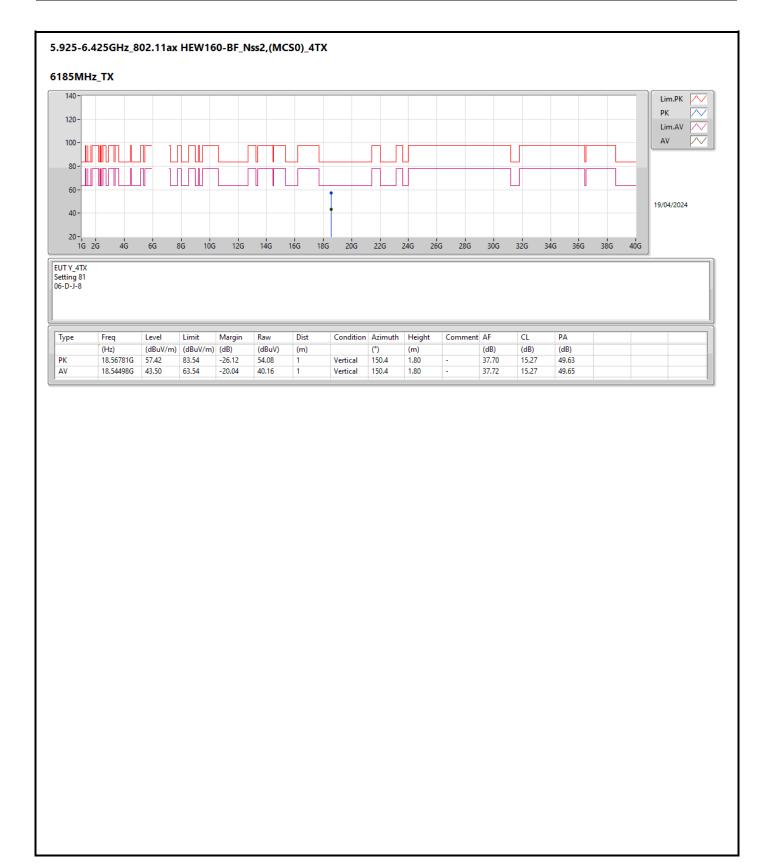


Page No. : 14 of 45



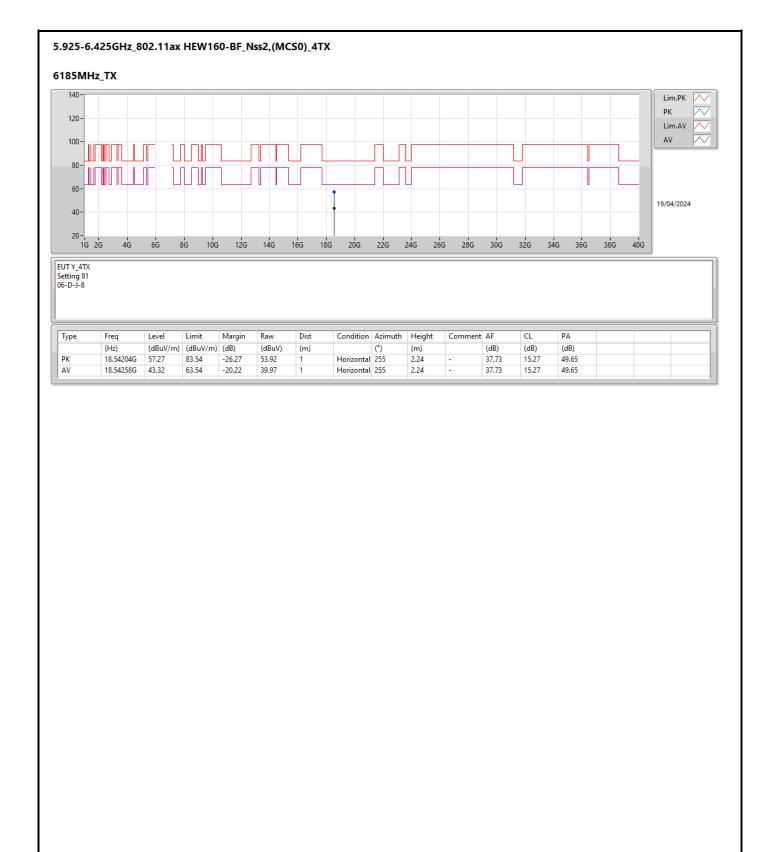






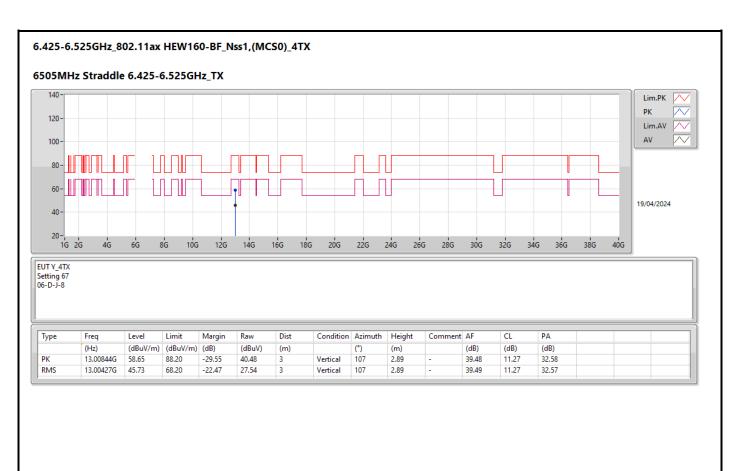
Page No. : 16 of 45





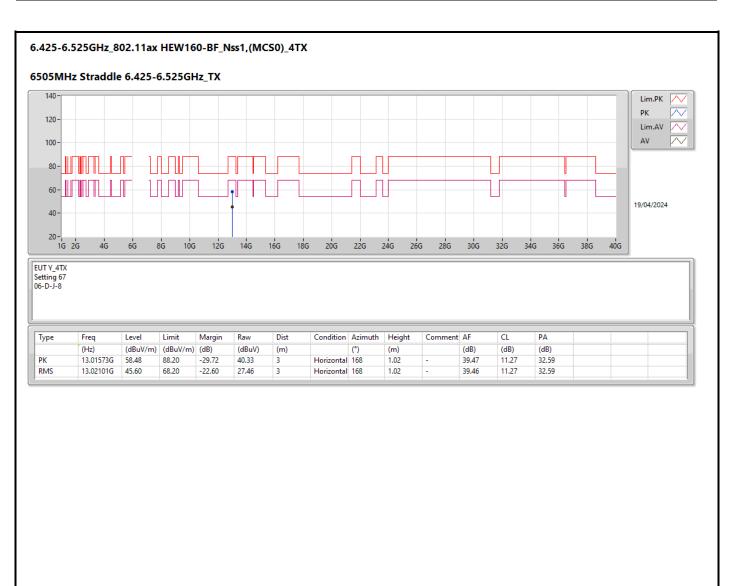
Page No. : 17 of 45





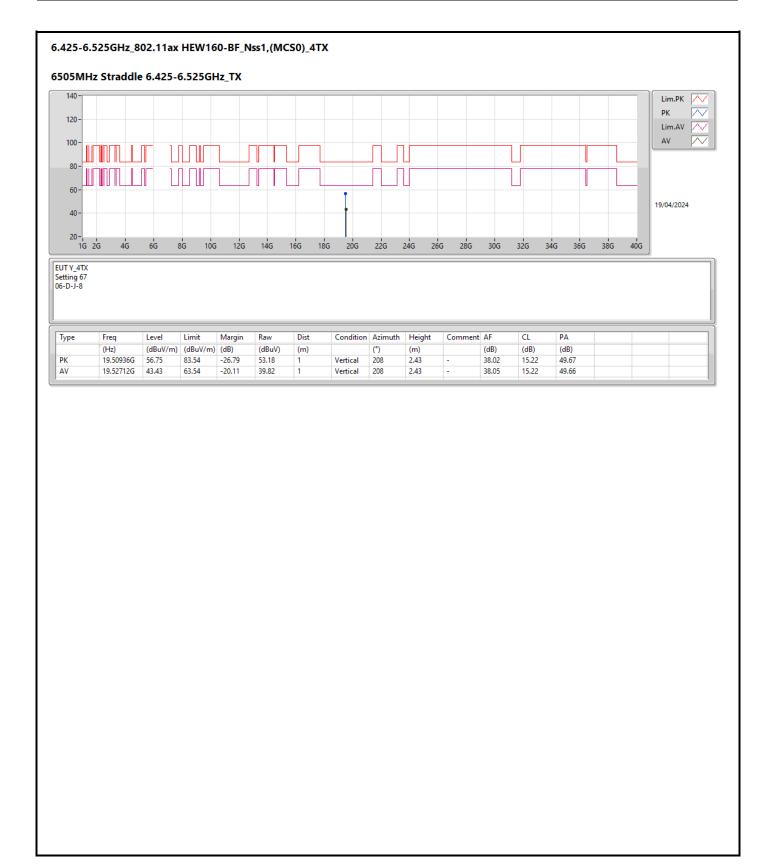
Page No. : 18 of 45





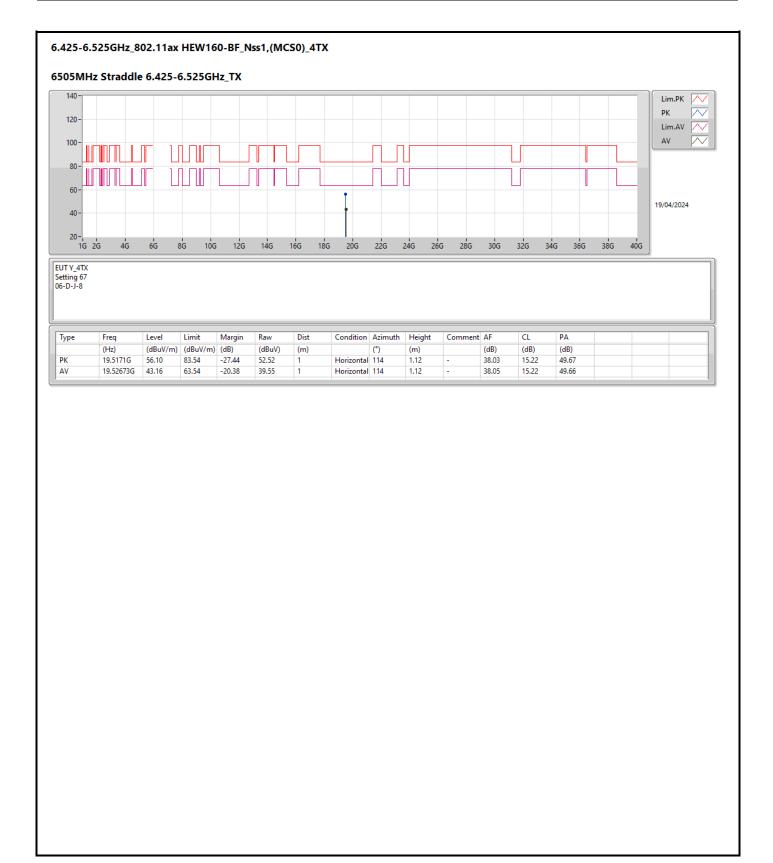
Page No. : 19 of 45





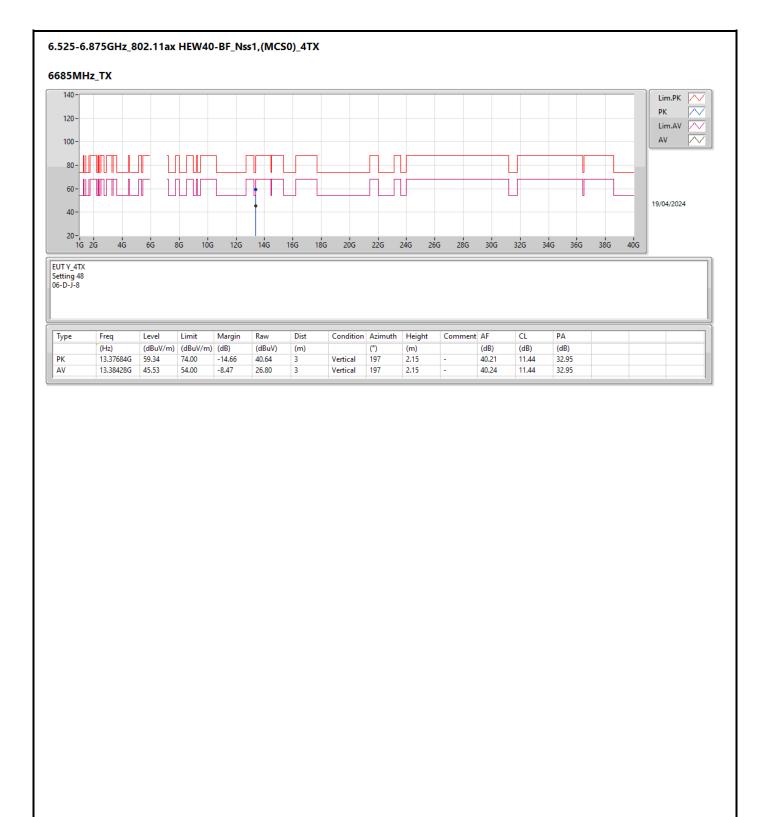
Page No. : 20 of 45

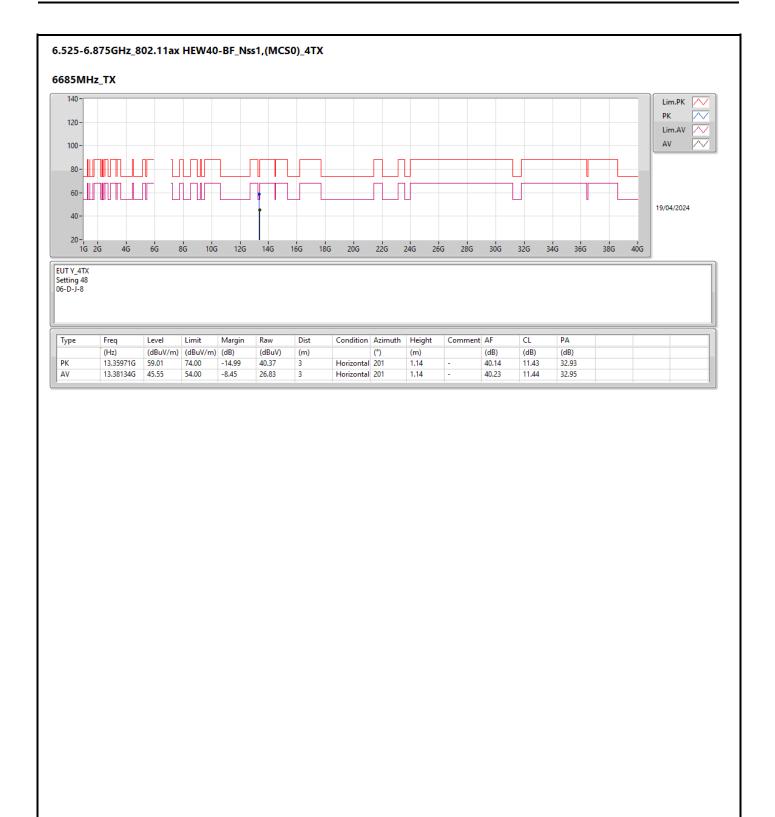




Page No. : 21 of 45

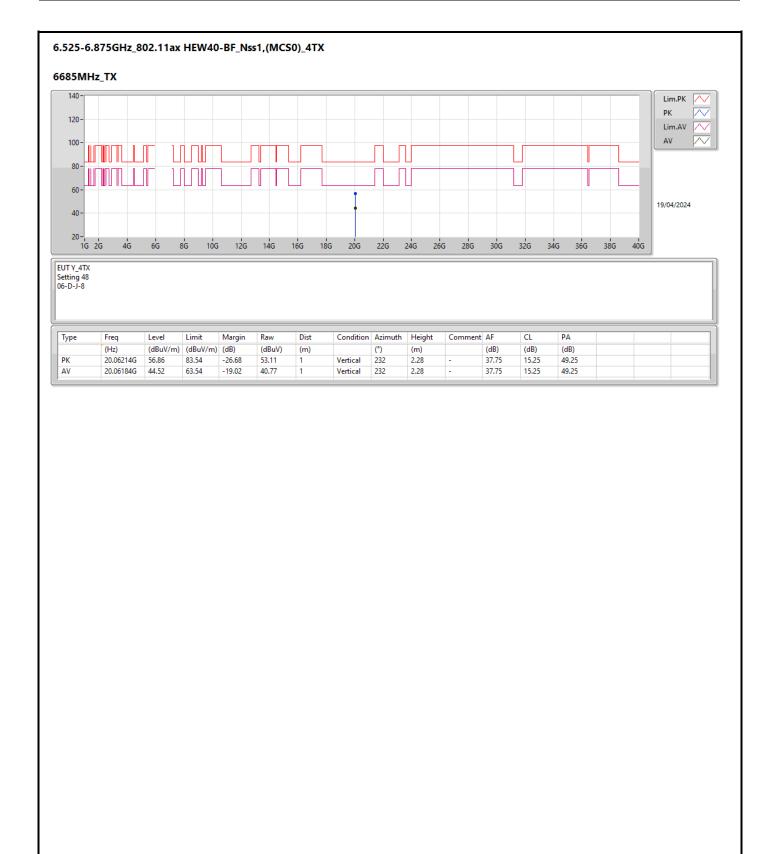






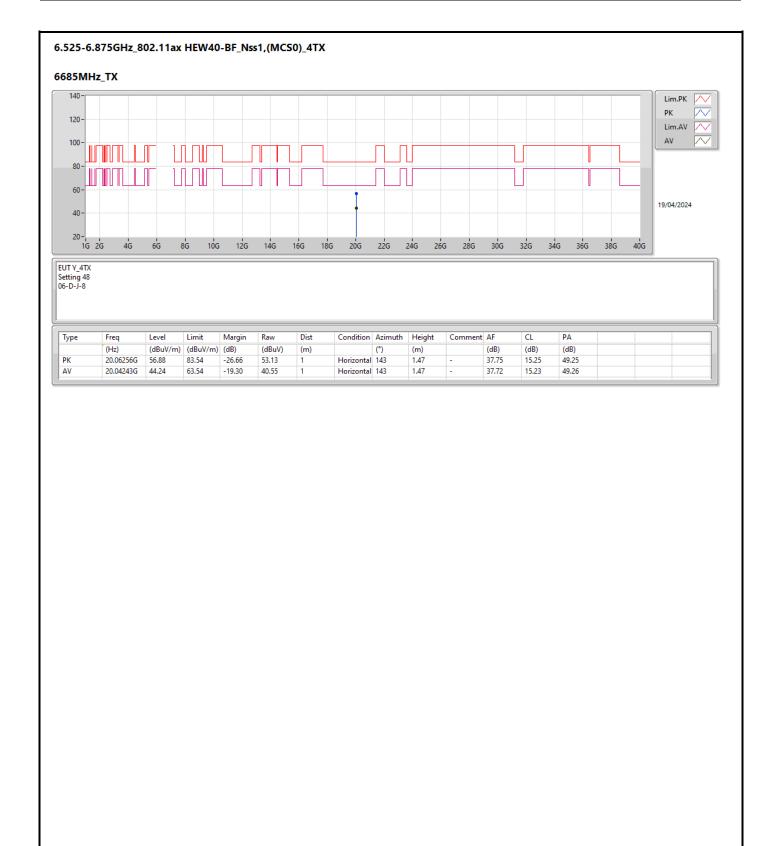
Page No. : 23 of 45





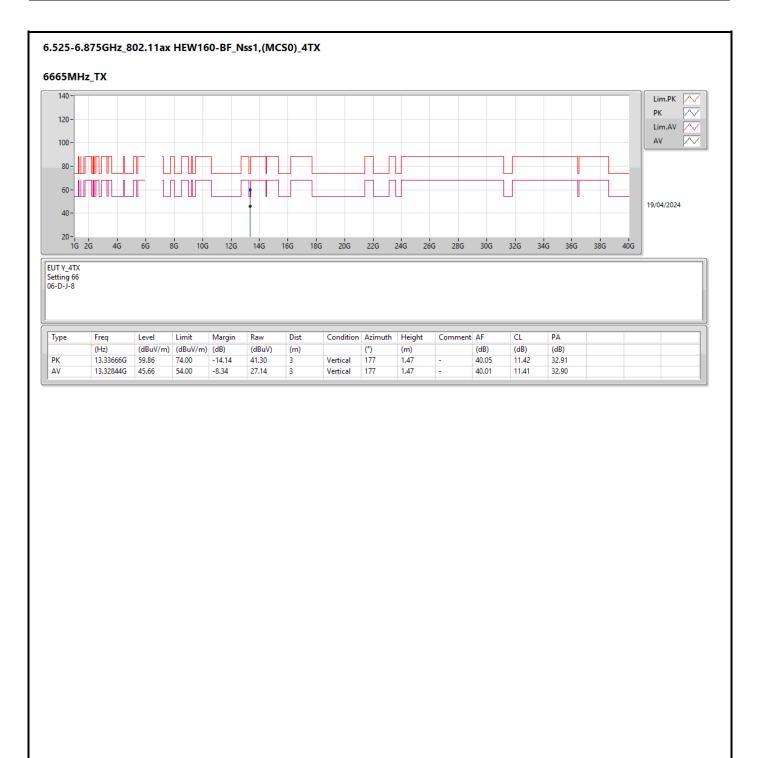
Page No. : 24 of 45





Page No. : 25 of 45





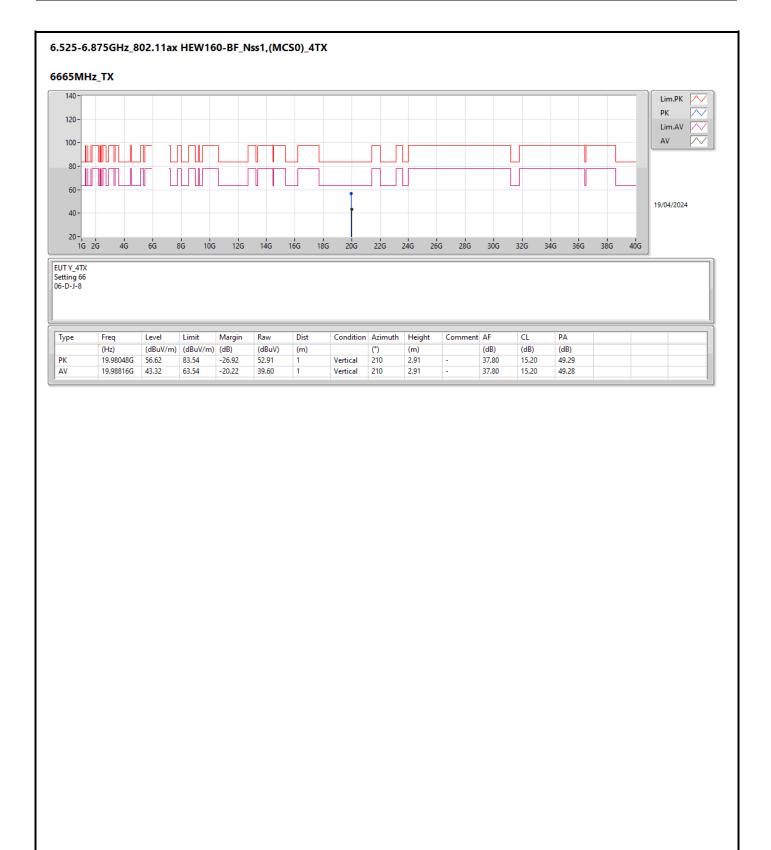
Page No. : 26 of 45



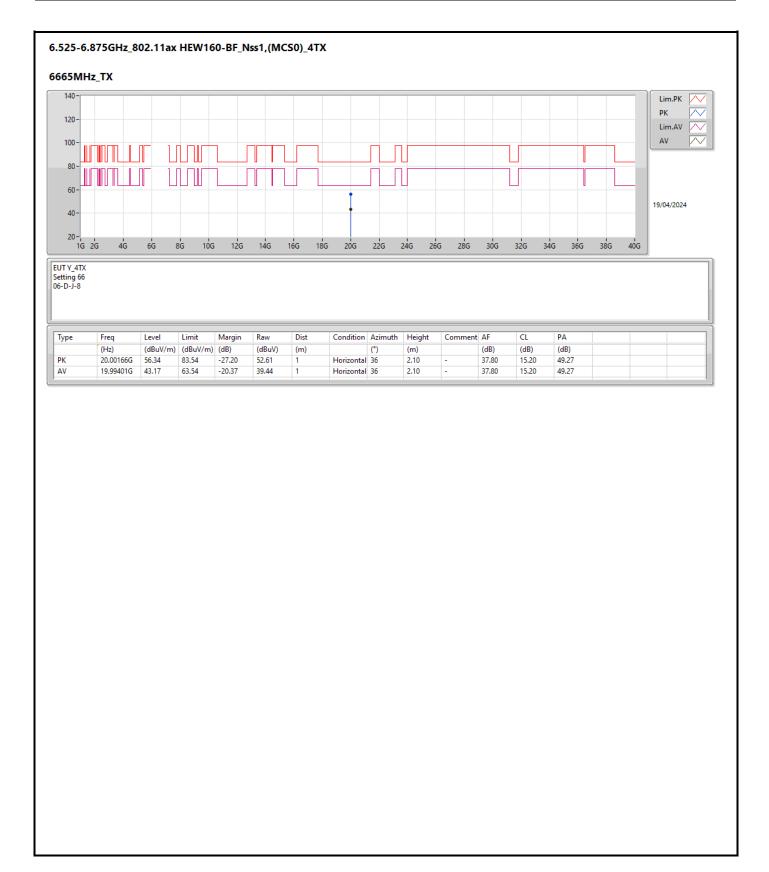


Page No. : 27 of 45









Page No. : 29 of 45





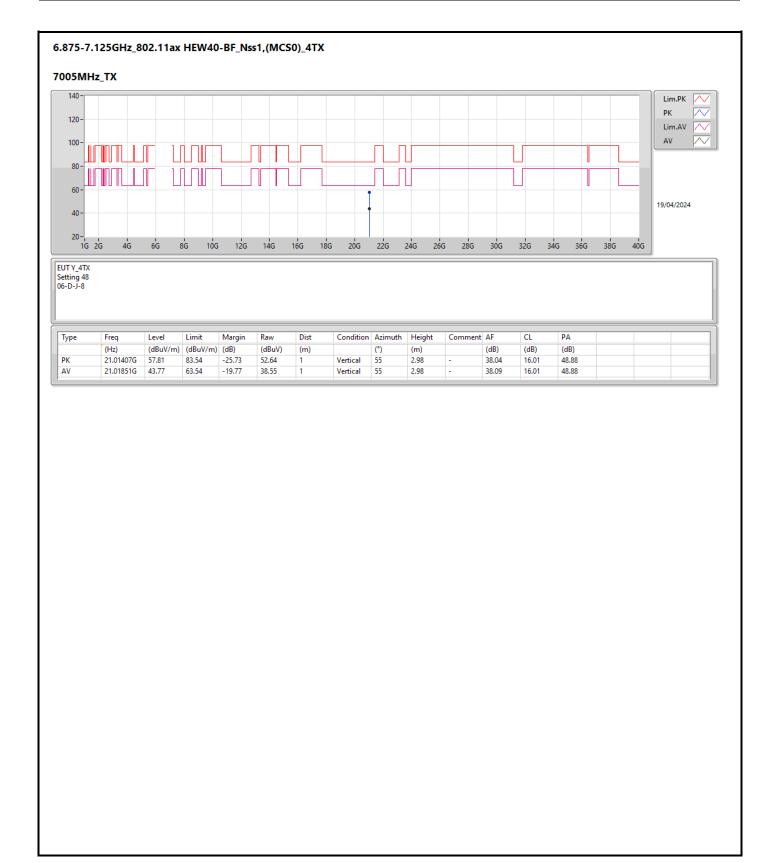
Page No. : 30 of 45





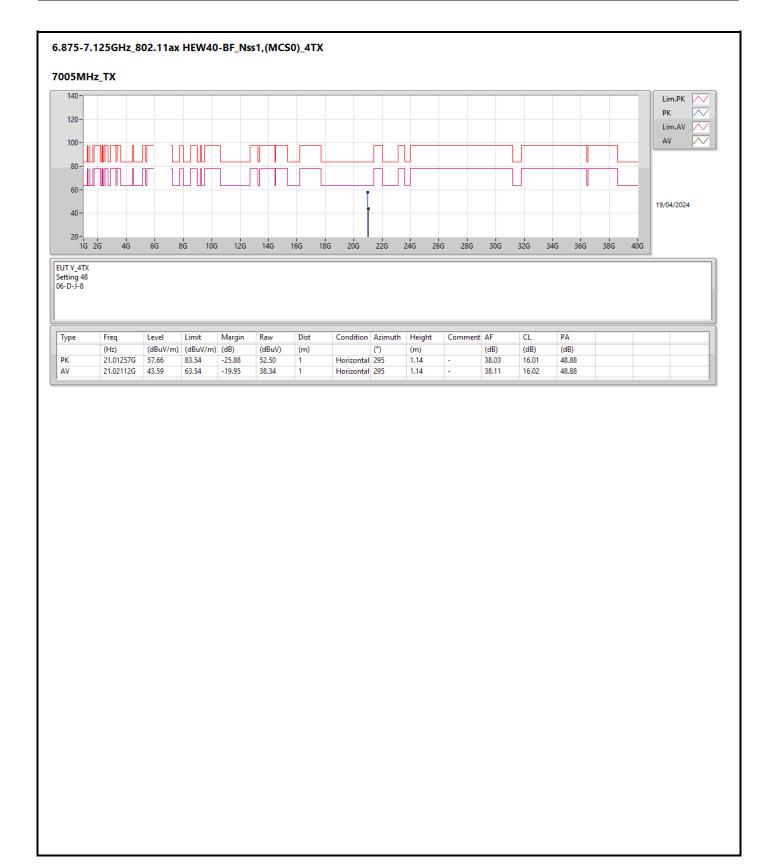
Page No. : 31 of 45





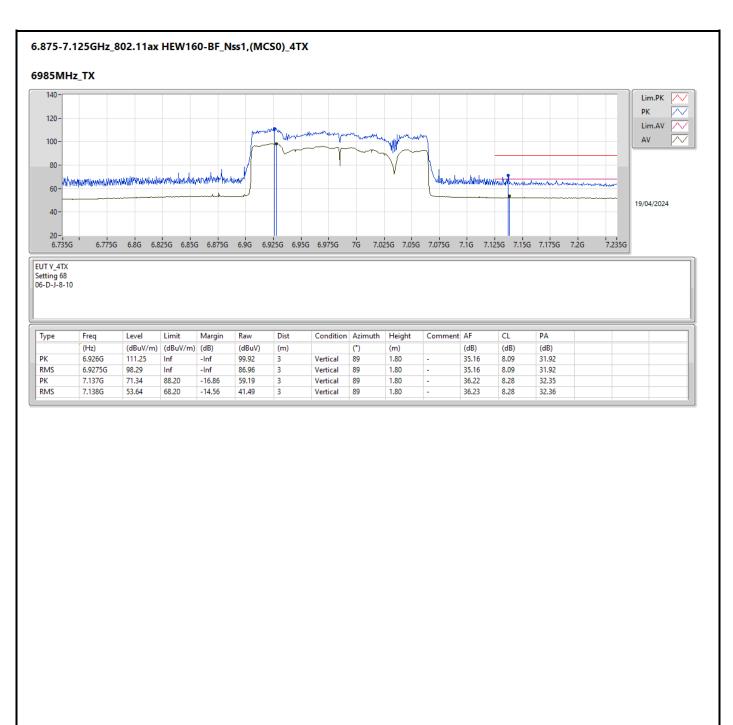
Page No. : 32 of 45





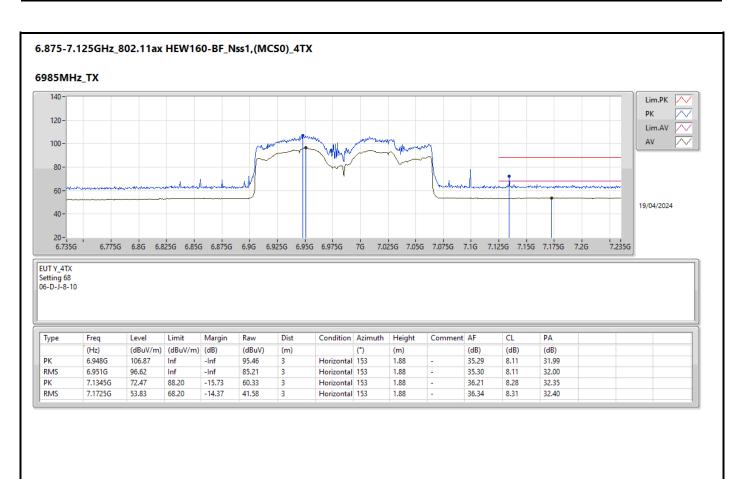
Page No. : 33 of 45





Page No. : 34 of 45





Page No. : 35 of 45

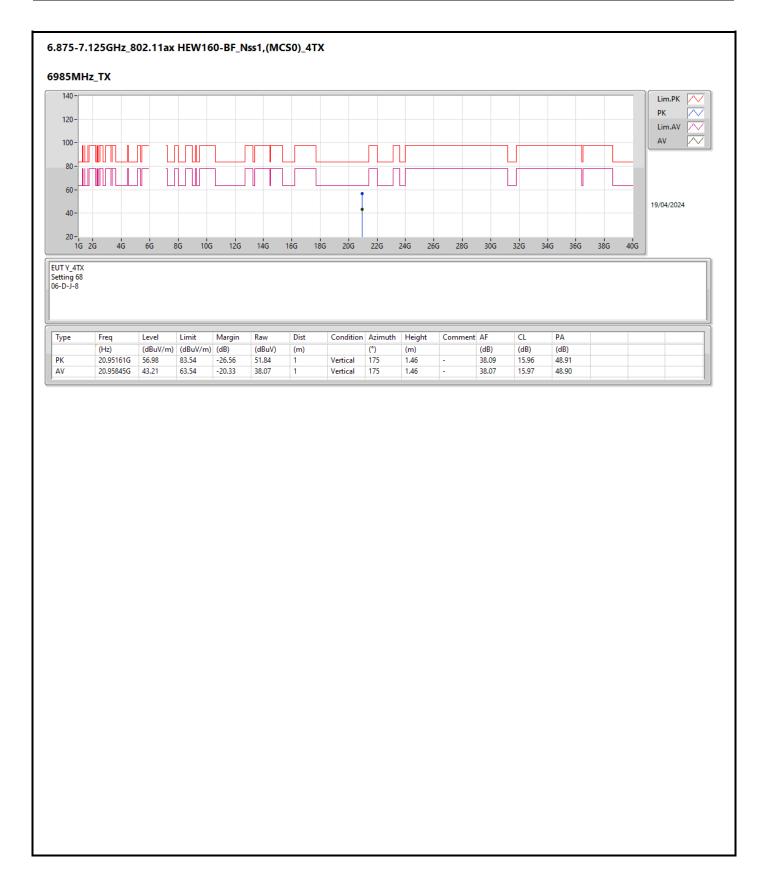




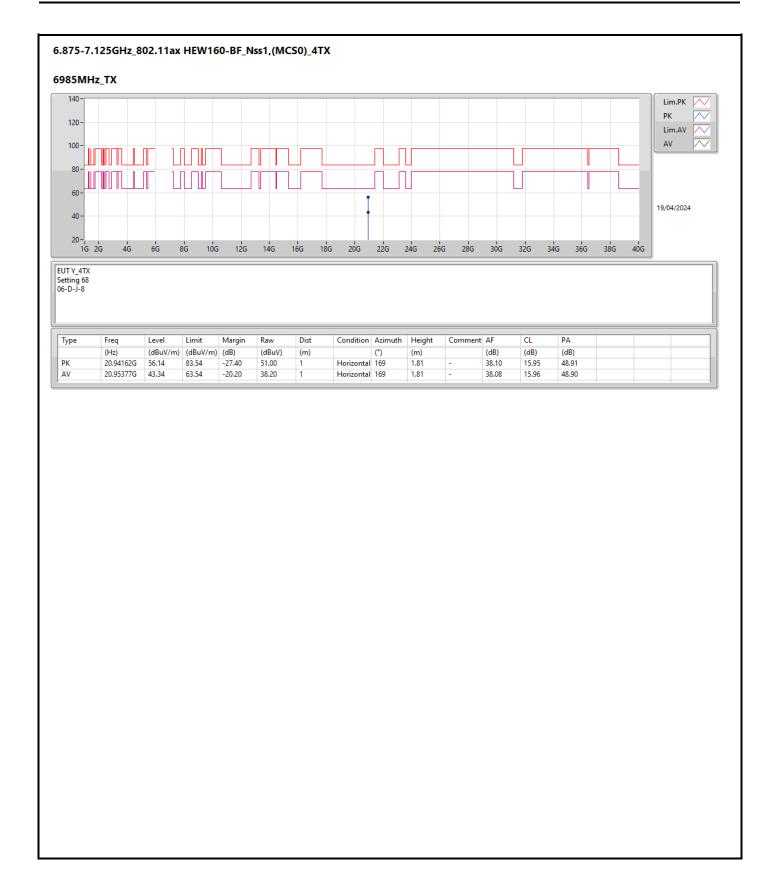
Page No. : 36 of 45





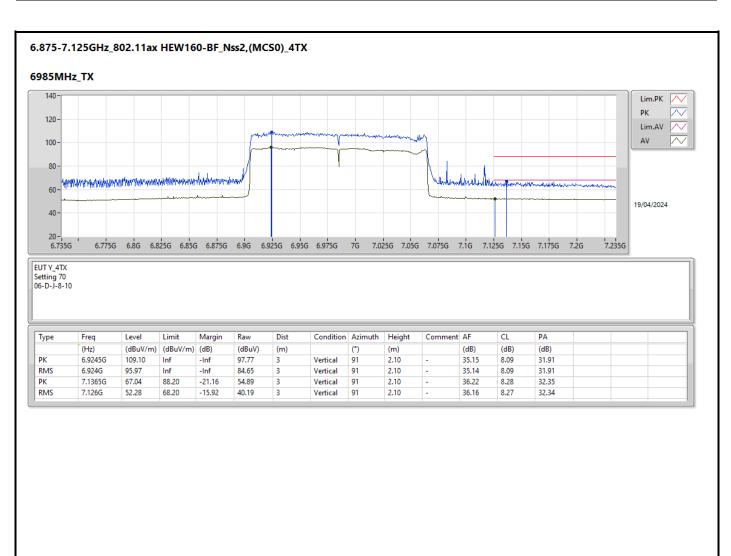


Page No. : 38 of 45



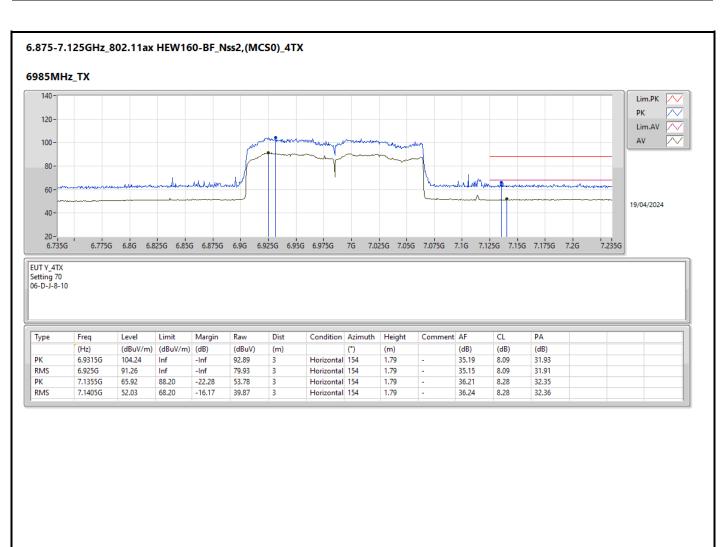
Page No. : 39 of 45





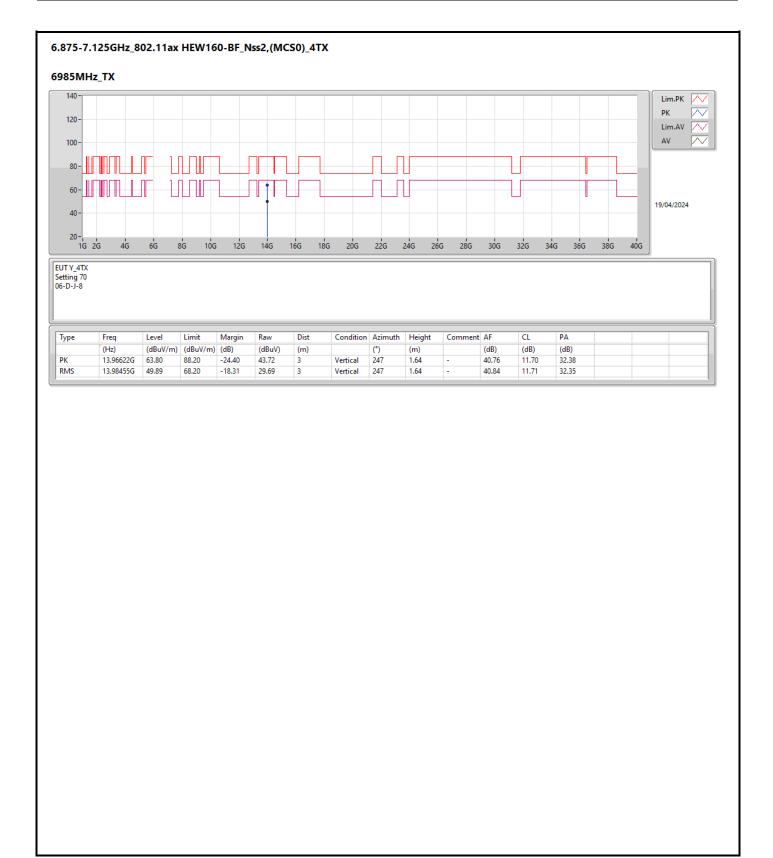
Page No. : 40 of 45





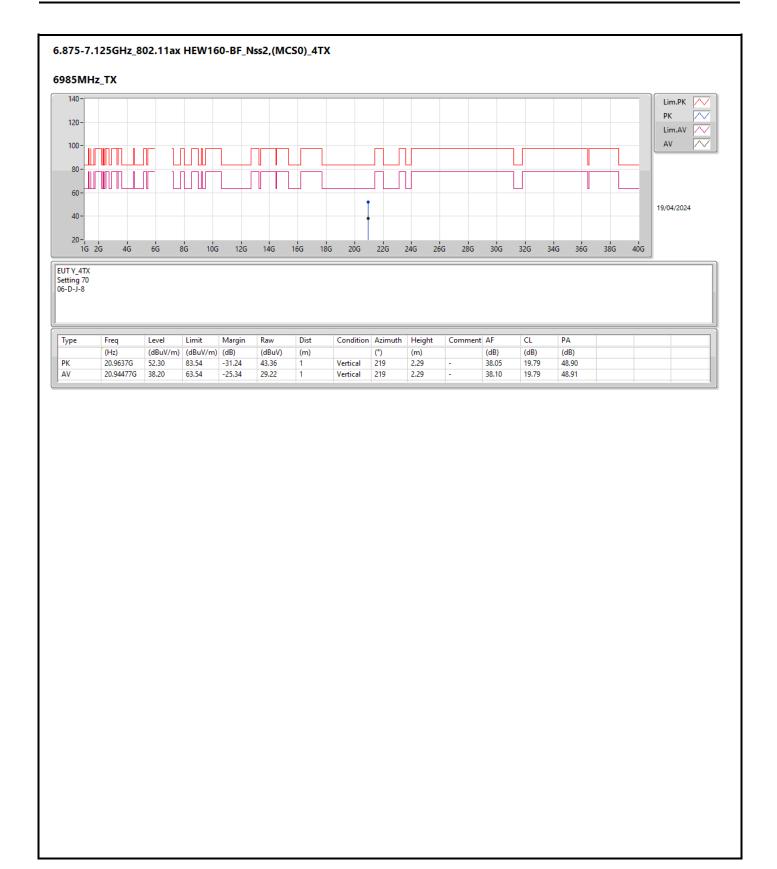
Page No. : 41 of 45





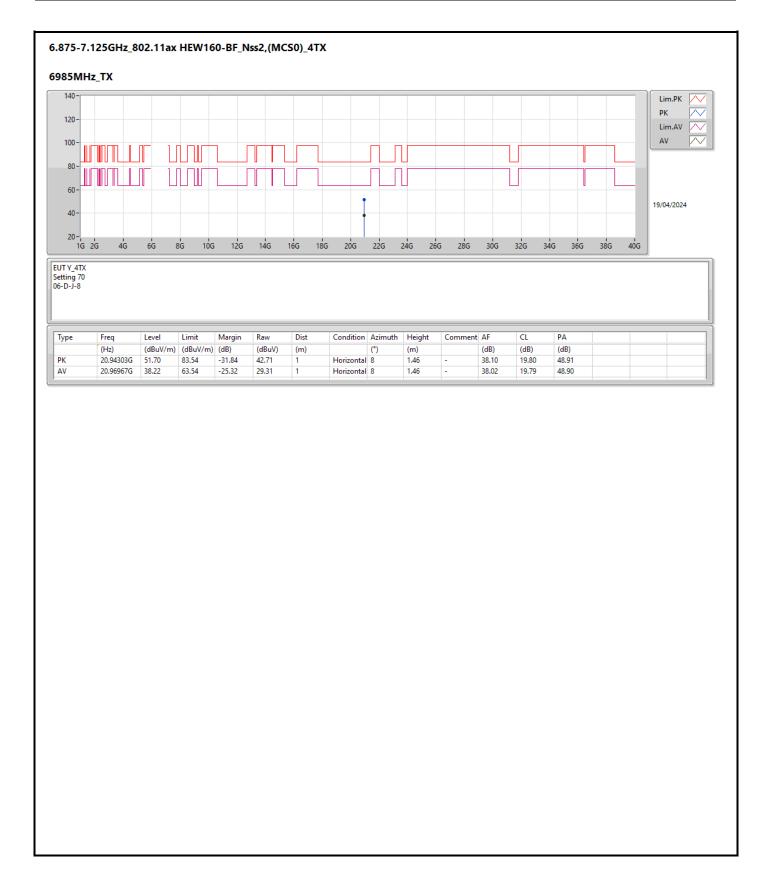


Page No. : 43 of 45



Page No. : 44 of 45







Summary

Mode	Result	Ref	Ref	Freq	Level	Limit	Margin	Port
		(Hz)	(dBm)	(Hz)	(dBm)	(dBm)	(dB)	
5.925-6.425GHz	-	-	-	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	Pass	6.25585G	-10.08	6.236925G	-42.06	-35.27	-6.79	4
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	Pass	6.238952G	-7.36	6.2239G	-34.28	-27.42	-6.86	4
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	Pass	6.21159G	-0.21	6.4596G	-40.47	-40.21	-0.26	1
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	Pass	6.210919G	3.95	6.44108G	-36.57	-36.05	-0.52	1
6.425-6.525GHz	-	-	-	-	-	-	-	-
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	Pass	6.478788G	-0.21	6.853427G	-46.07	-40.21	-5.86	2
6.525-6.875GHz	-	-	-	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	Pass	6.6839G	-5.73	6.7062G	-32.51	-25.76	-6.75	4
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	Pass	6.639348G	-0.25	6.42044G	-42.68	-40.25	-2.43	4
6.875-7.125GHz	-	-	-	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	Pass	7.002601G	-5.81	7.03975G	-37.77	-31.35	-6.42	1
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	Pass	6.961961G	0.06	6.70452G	-39.95	-39.94	-0.01	4
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	Pass	6.961081G	0.59	6.732227G	-39.49	-39.41	-0.08	4

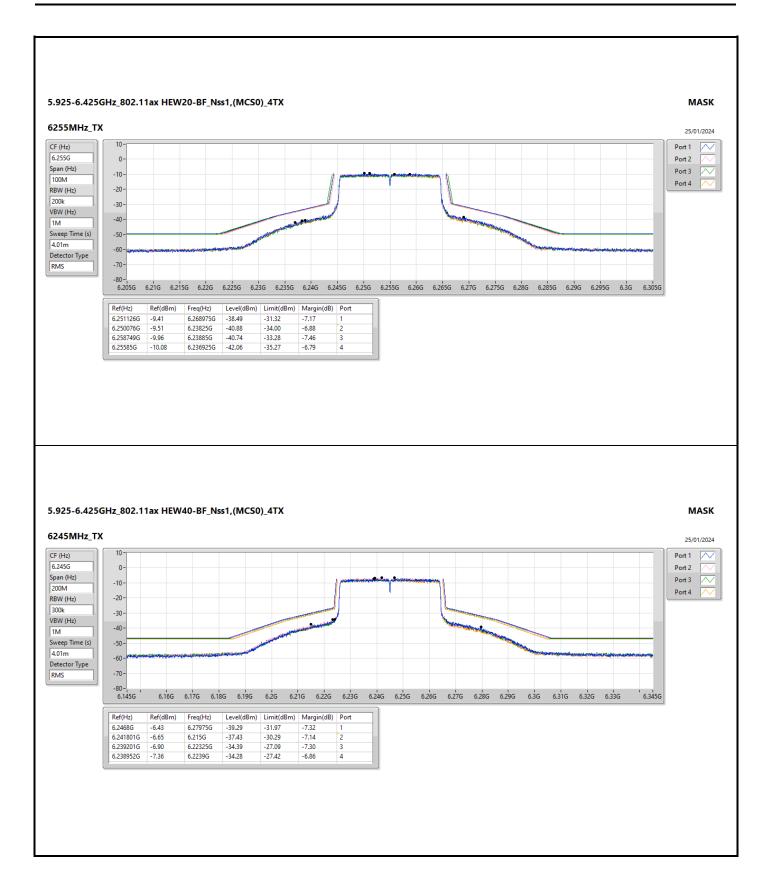
Sporton International Inc. Hsinchu Laboratory Page No. : 1 of 7



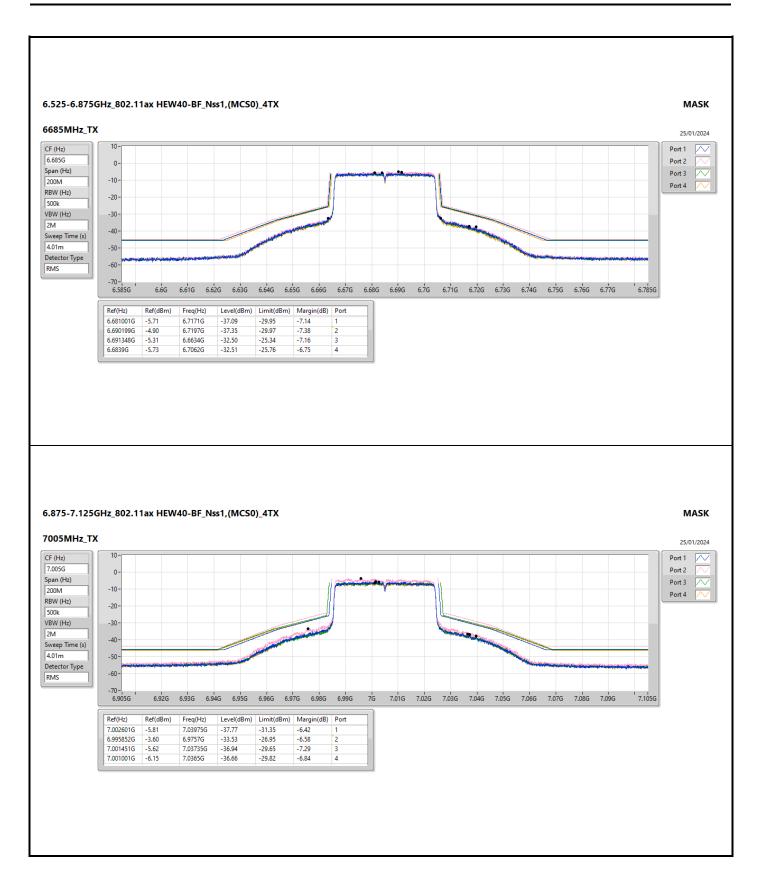
Result

Mode	Result	Ref	Ref	Freq	Level	Limit	Margin	Port
		(Hz)	(dBm)	(Hz)	(dBm)	(dBm)	(dB)	
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	=	-	-	-	-	-	-
6255MHz	Pass	6.251126G	-9.41	6.268975G	-38.49	-31.32	-7.17	1
6255MHz	Pass	6.250076G	-9.51	6.23825G	-40.88	-34.00	-6.88	2
6255MHz	Pass	6.258749G	-9.96	6.23885G	-40.74	-33.28	-7.46	3
6255MHz	Pass	6.25585G	-10.08	6.236925G	-42.06	-35.27	-6.79	4
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	=	-	-	-	-	-	-
6245MHz	Pass	6.2468G	-6.43	6.27975G	-39.29	-31.97	-7.32	1
6245MHz	Pass	6.241801G	-6.65	6.215G	-37.43	-30.29	-7.14	2
6245MHz	Pass	6.239201G	-6.90	6.22325G	-34.39	-27.09	-7.30	3
6245MHz	Pass	6.238952G	-7.36	6.2239G	-34.28	-27.42	-6.86	4
6685MHz	Pass	6.681001G	-5.71	6.7171G	-37.09	-29.95	-7.14	1
6685MHz	Pass	6.690199G	-4.90	6.7197G	-37.35	-29.97	-7.38	2
6685MHz	Pass	6.691348G	-5.31	6.6634G	-32.50	-25.34	-7.16	3
6685MHz	Pass	6.6839G	-5.73	6.7062G	-32.51	-25.76	-6.75	4
7005MHz	Pass	7.002601G	-5.81	7.03975G	-37.77	-31.35	-6.42	1
7005MHz	Pass	6.995852G	-3.60	6.9757G	-33.53	-26.95	-6.58	2
7005MHz	Pass	7.001451G	-5.62	7.03735G	-36.94	-29.65	-7.29	3
7005MHz	Pass	7.001001G	-6.15	7.0365G	-36.66	-29.82	-6.84	4
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
6185MHz	Pass	6.21159G	-0.21	6.4596G	-40.47	-40.21	-0.26	1
6185MHz	Pass	6.21079G	0.15	6.502G	-47.20	-39.85	-7.35	2
6185MHz	Pass	6.1692G	-0.28	6.5038G	-46.28	-40.28	-6.00	3
6185MHz	Pass	6.15761G	-0.35	6.5018G	-47.31	-40.35	-6.96	4
6505MHz Straddle 6.425-6.525GHz	Pass	6.481081G	-0.89	6.857133G	-47.05	-40.89	-6.16	1
6505MHz Straddle 6.425-6.525GHz	Pass	6.478788G	-0.21	6.853427G	-46.07	-40.21	-5.86	2
6505MHz Straddle 6.425-6.525GHz	Pass	6.530146G	-0.86	6.882253G	-46.82	-40.86	-5.96	3
6505MHz Straddle 6.425-6.525GHz	Pass	6.530919G	-0.50	6.84956G	-47.53	-40.50	-7.03	4
6665MHz	Pass	6.641187G	-0.57	6.989987G	-46.33	-40.57	-5.76	1
6665MHz	Pass	6.641854G	0.29	7.004627G	-45.94	-39.71	-6.23	2
6665MHz	Pass	6.637908G	-0.16	6.99876G	-46.08	-40.16	-5.92	3
6665MHz	Pass	6.639348G	-0.25	6.42044G	-42.68	-40.25	-2.43	4
6985MHz	Pass	6.960601G	0.04	6.670253G	-47.46	-39.96	-7.50	1
6985MHz	Pass	6.959774G	1.48	6.654573G	-45.59	-38.52	-7.07	2
6985MHz	Pass	6.927135G	-0.07	6.657453G	-47.10	-40.07	-7.03	3
6985MHz	Pass	6.961961G	0.06	6.70452G	-39.95	-39.94	-0.01	4
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
6185MHz	Pass	6.210919G	3.95	6.44108G	-36.57	-36.05	-0.52	1
6185MHz	Pass	6.208253G	4.18	6.403187G	-38.54	-32.16	-6.38	2
6185MHz	Pass	6.157481G	4.43	6.497027G	-38.28	-35.57	-2.71	3
6185MHz	Pass	6.161774G	3.57	6.427053G	-43.61	-36.21	-7.40	4
6985MHz	Pass	6.959508G	0.71	6.653107G	-46.94	-39.29	-7.65	1
6985MHz	Pass	6.961481G	2.46	6.642973G	-45.04	-37.54	-7.50	2
6985MHz	Pass	6.923429G	0.58	6.633G	-46.47	-39.42	-7.05	3
6985MHz	Pass	6.961081G	0.59	6.732227G	-39.49	-39.41	-0.08	4

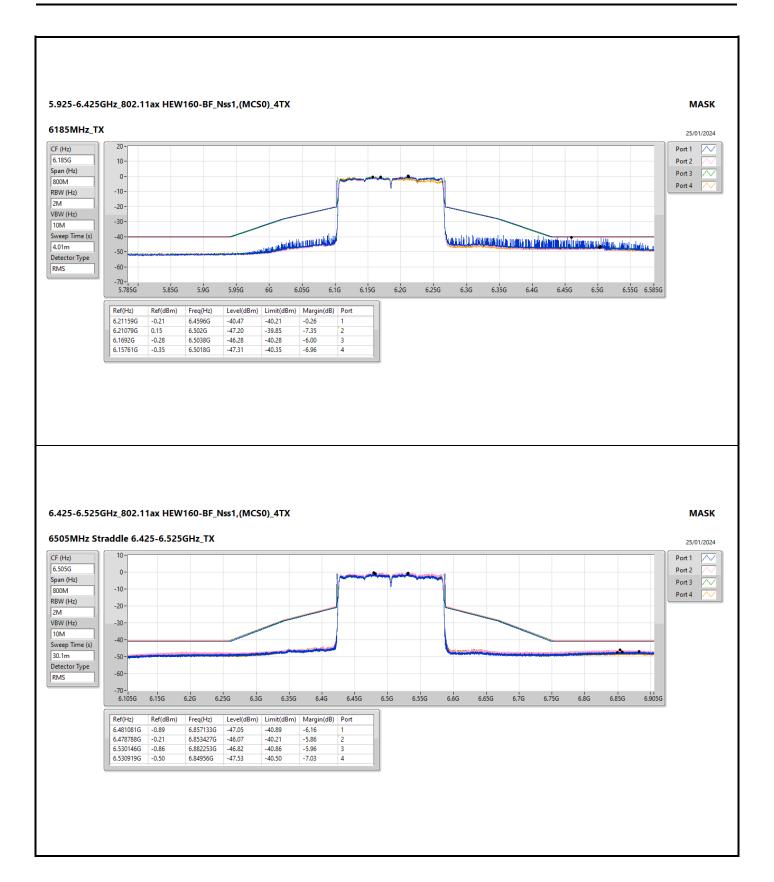
Sporton International Inc. Hsinchu Laboratory Page No. : 2 of



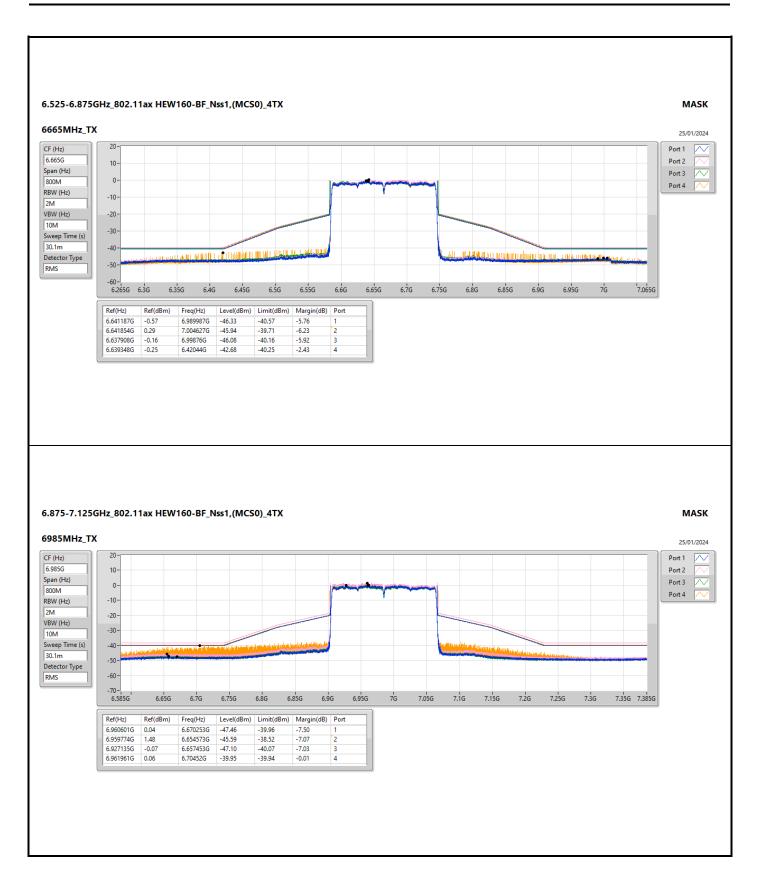
Page No. : 3 of 7



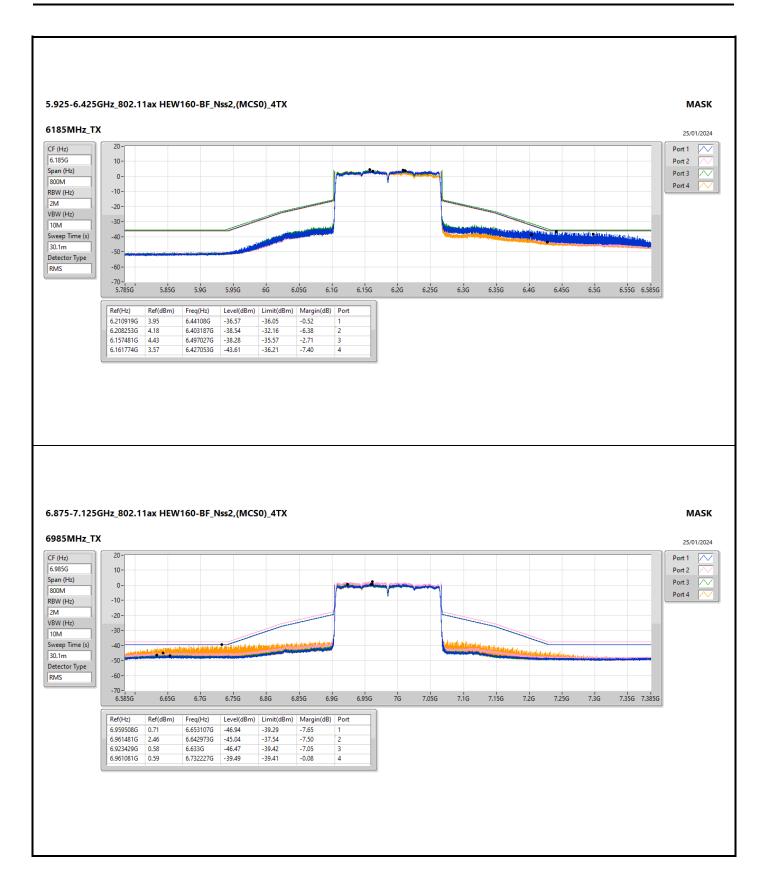
Page No. : 4 of 7



Page No. : 5 of 7



Page No. : 6 of 7



Page No. : 7 of 7