FCC RADIO TEST REPORT

FCC ID	:	**ACJ9TGWL24A**
Equipment	:	**Radio Module**
Brand Name	:	**Panasonic**
Model Name	:	**WL24A**
Applicant	:	**Panasonic Corporation of North America Two Riverfront Plaza, Newark, New Jersey, 07102-5490, USA**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Aug. 15, 2025 and testing was performed from Aug. 26, 2025 to Oct. 09, 2025. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

Table of Contents

History of this test report **3**
Summary of Test Result **4**
1 General Description **5**
1.1 Product Feature of Equipment Under Test 5
1.2 Modification of EUT 7
1.3 Testing Location 7
1.4 Applicable Standards 7
2 Test Configuration of Equipment Under Test **8**
2.1 Carrier Frequency and Channel 8
2.2 Test Mode 8
2.3 Connection Diagram of Test System 10
2.4 Support Unit used in test configuration and system 10
2.5 EUT Operation Test Setup 10
3 Test Result **11**
3.1 Maximum E.I.R.P Output Power Measurement 11
3.2 Unwanted Emissions Measurement 12
3.3 Antenna Requirements 17
4 List of Measuring Equipment **18**
5 Measurement Uncertainty **20**
Appendix A. Conducted Test Results
Appendix B. Radiated Spurious Emission Test Data
Appendix C. Duty Cycle Plots
Appendix D. Setup Photographs

History of this test report

Report No.	Version	Description	Issue Date
FR4D1251-01F	01	Initial issue of report	Nov. 12, 2025
FR4D1251-01F	02	Revised Summary of Test Result and Applicable Standards. This report is an updated version, replacing the report issued on Nov. 12, 2025.	Nov. 19, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.407(e)	6dB & 26dB Bandwidth	-	See Note
-	2.1049	99% Occupied Bandwidth	-	See Note
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
-	15.407(a)	Power Spectral Density	-	See Note
3.2	15.407(b)	Unwanted Emissions	Pass	7.58 dB under the limit at 5895.01 MHz
-	15.207	AC Conducted Emission	-	See Note
3.3	15.203	Antenna Requirement	Pass	-

Note:

1. For host device, Radiated Spurious Emission is verified and complies with the limit in this test report.
2. For host device, the Conducted Output Power is no difference after compared to module (Model: Panasonic WL24A).

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 section “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: Keven Cheng

Report Producer: Julia Chang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Specification is subject to this standard	
General Specs	Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax/be, Wi-Fi 5GHz 802.11a/n/ac/ax/be, Wi-Fi 6GHz 802.11a/ax/be
Tx / Rx Frequency	5850 MHz ~ 5895 MHz
Type of Modulation	802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax/be: OFDMA (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)

Antenna Information				
Antenna	Brand Name	Panasonic	**Peak Gain**	Aux Ant .(Chain A): 4.30 dBi Main Ant. (Chain B): 0.28 dBi
	Model Name	Main Antenna: N1ZYYY000435 Aux Antenna: N1ZYYY000474	**Type**	PIFA Antenna

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.

Accessories Information		
AC Adapter	**Brand Name**	Panasonic
	Model Name	CF-AA5713A
Battery	**Brand Name**	Panasonic
	Model Name	FZ-VZSU1XU

Remark:

1. MIMO Main+ Aux Ant. Directional Gain is a calculated result from MIMO Main Ant. and MIMO Aux Ant..The formula used in calculation is documented in section 1.1.1.
2. Power of MIMO Main Ant. + Aux Ant. is a calculated result from sum of the power Main Ant. and MIMO Aux Ant..
3. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.
4. The product was installed into Portable Computer (Brand Name: Panasonic, Model Name: FZ-40(mk3) during test

1.1.1 Antenna Directional Gain

Follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)ii)

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

G_{ANT} is set equal to the gain of the antenna having the highest gain.

For PSD measurements, the directional gain calculation.

Array Gain = 10 log(NANT/NSS) dB.

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

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

As minimum N_{SS}=1 is supported by EUT, the formula can be simplified as:

Directional gain = $10*\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi

Where G1, G2….GN denote single antenna gain.

The directional gain "DG" is calculated as following table.

UNII-4	Chain A (dBi)	Chain B (dBi)	DG for Power (dBi)	DG for PSD (dBi)
	4.30	0.28	4.30	5.53

Calculation example:

If a device has two antenna, G_{Chain0}= 4.30 dBi; G_{Chain1}=0.28 dBi

Directional gain of power measurement = max(4.30, 0.28) + 0 = 4.30 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (4.30 dBi / 20) + 10^ (0.28 dBi / 20)] ^ 2 } / 2 }

= 5.53 dBi

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	TH05-HY 03CH11-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

1.4 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 291074 D02 EMC Measurement v01
- ANSI C63.10-2020

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

2.1 Carrier Frequency and Channel

Frequency Band	Bandwidth	Channel	Frequency (MHz)	Note
5850-5895 MHz (U-NII-4)	20 MHz	169	5845	Straddle
		173	5865	
		177	5885	
	40 MHz	167	5835	Straddle
		175	5875	
	80 MHz	171	5855	Straddle
	160 MHz	163	5815	Straddle

Note: The channel noted with “straddle” spans 5.725-5.850 GHz and 5.850-5.895 GHz.

2.2 Test Mode

The final test modes include the worst data rates for each modulation shown in the table below.

MIMO Mode

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0
802.11ac VHT160	MCS0
802.11ax HE20(Covered by EHT20)	MCS0
802.11ax HE40(Covered by EHT40)	MCS0
802.11ax HE80(Covered by EHT80)	MCS0
802.11ax HE160(Covered by EHT160)	MCS0
802.11be EHT20	MCS0
802.11be EHT40	MCS0
802.11be EHT80	MCS0
802.11be EHT160	MCS0

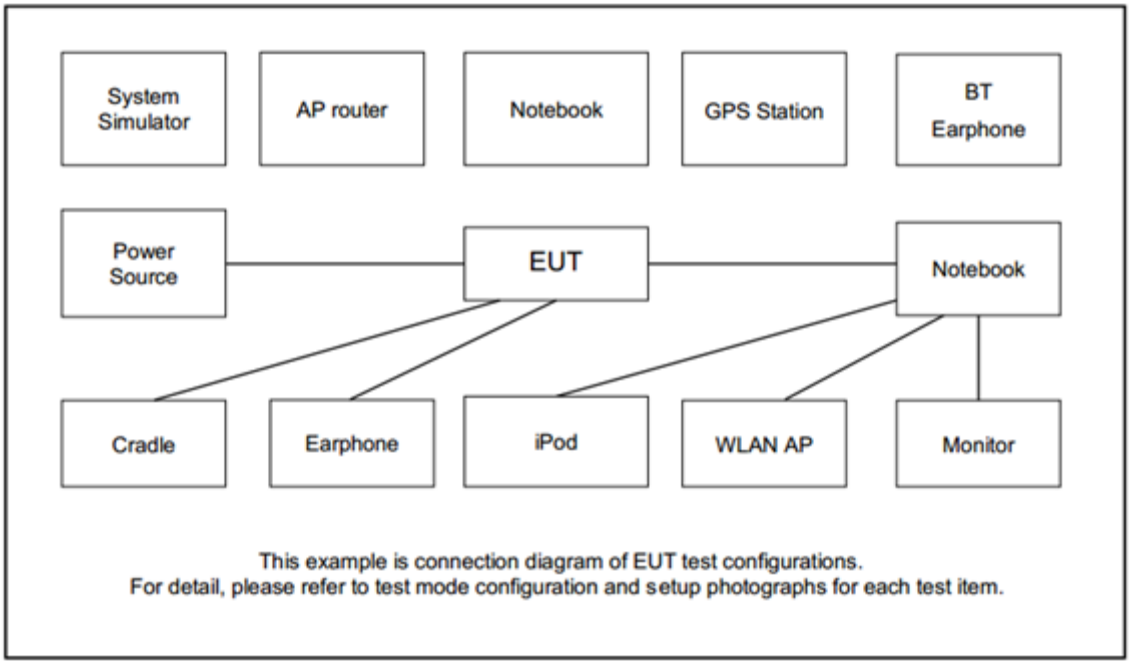
SISO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0
802.11ac VHT160	MCS0
802.11ax HE20(Covered by EHT20)	MCS0
802.11ax HE40(Covered by EHT40)	MCS0
802.11ax HE80(Covered by EHT80)	MCS0
802.11ax HE160(Covered by EHT160)	MCS0
802.11be EHT20	MCS0
802.11be EHT40	MCS0
802.11be EHT80	MCS0
802.11be EHT160	MCS0

Remark:

1. The detailed Radiated test modes are shown in Appendix B.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod Earphone	Apple	A1285	DoC UnShielded, 1.2m	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “DRTU Version:DRTU 0.8662.23.150.0” was installed in EUT which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 Maximum E.I.R.P Output Power Measurement

3.1.1 Limit of Maximum E.I.R.P Output Power

For client devices operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 14 dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm. Client devices operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 30 dBm.

3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

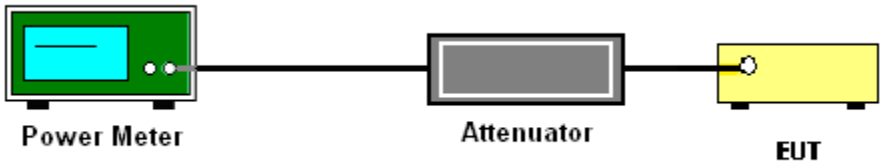
3.1.3 Test Procedures

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.2.1 Limit of Unwanted Emissions

(1) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as the following table:

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

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

(2) For transmitters operating solely in the 5.850-5.895 GHz band or operating on a channel that spans across 5.725-5.895 GHz:

15.407(b)(5)(ii), all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5 dBm/MHz and shall decrease linearly to an e.i.r.p. of −27 dBm/MHz at or above 5.925 GHz.

All emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

(3) KDB789033 D02 v02r01 G)2)c)

Use guidance in KDB Publication 789033 for all measurements. Unwanted emissions outside of restricted bands are measured with an RMS detector. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

Unwanted band-edge emissions may be measured using the integration method as described in KDB Publication 789033 3. d) (ii). Emissions below 5725 MHz should be measured using peak-detection while emission above 5895 MHz should be measured using average.

Frequency(GHz)	EIRP (dBm)	Field Strength @3m distance (dBuV/m)	Note
Below 5.65	-27dBm/MHz	68.2	Peak
5.7	10dBm/MHz	105.2	Peak
5.72	15.6dBm/MHz	110.8	Peak
5.725	27dBm/MHz	122.2	Peak
5.895	-5dBm/MHz	90.2	Average
5.895	15dBm/MHz	110.2	Peak
Above 5.925	-27dBm/MHz	68.2	Average
Above 5.925	-7dBm/MHz	88.2	Peak

Note: Field strength at 3 m distance is converted to EIRP as the following equation:

EIRP[dBm] = E[dBμV/m]− 95.2

3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

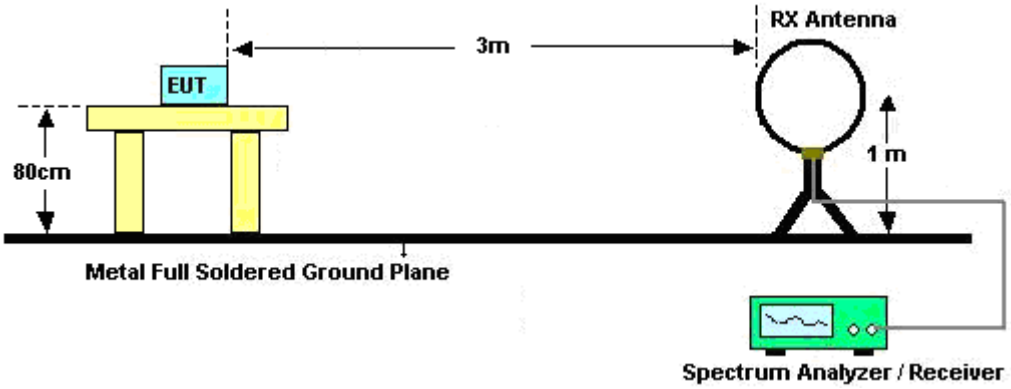
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

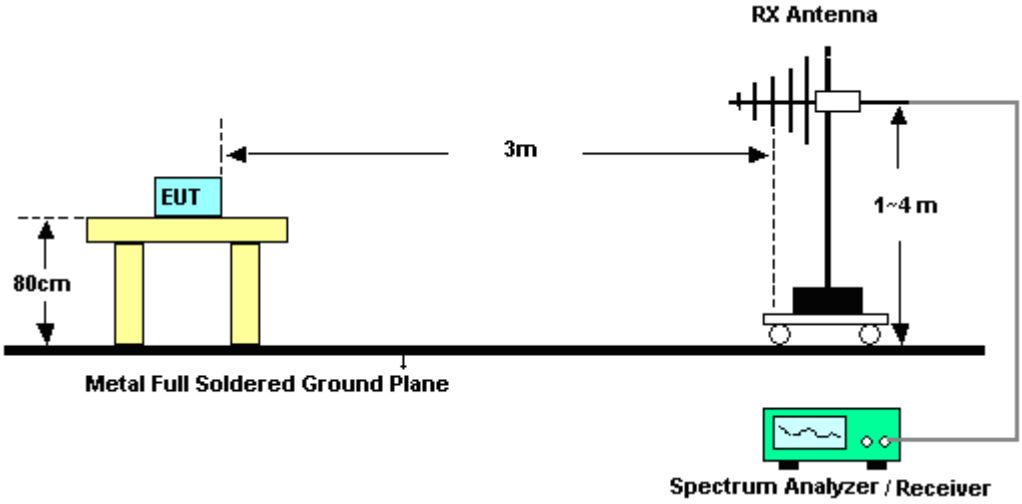
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT was placed at distance 3 meter from measurement antenna which was mounted on the top of a variable height antenna tower.
4. The measurement antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Radiated testing below 1GHz was performed by adjusting the antenna tower from 1m to 4m and by rotating the turn table from 0 degree to 360 degree to find the peak maximum hold reading.
   When there is no suspected emission found and the emission level is with at least 6dB margin against QP limit line, the position is marked as "-".
7. Radiated testing above 1GHz was performed by adjusting the antenna tower from 1m to 4m and by rotating the turn table from 0 degree to 360 degree to find the peak maximum hold reading for scanning all frequencies.
   When there is no suspected emission found and the harmonic emission level is with at least 6dB margin against average limit line, the position is marked as "-".

3.2.4 Test Setup

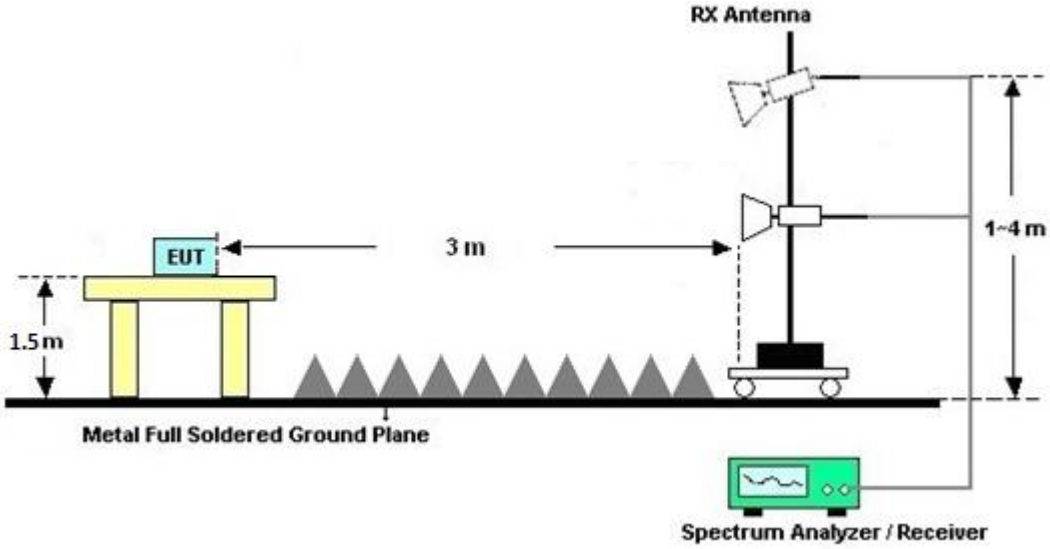
For radiated emissions below 30MHz



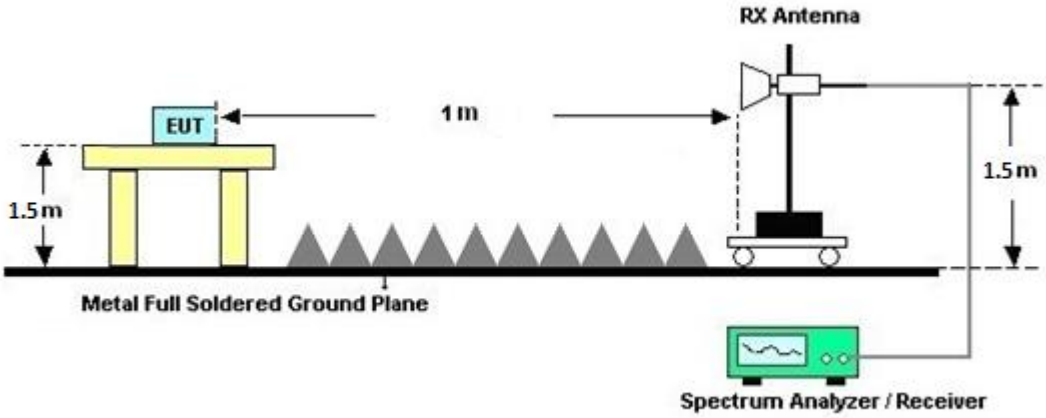
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.2.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.2.6 Test Results of Radiated Spurious Emissions (above 18 GHz)

For frequency above 18GHz, the pre-scanned result is 20dB lower than the limit line is not reported.

3.2.7 Test Result of Radiated Band Edges

Please refer to Appendix B.

3.2.8 Duty Cycle

Please refer to Appendix C.

3.2.9 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B.

3.3 Antenna Requirements

3.3.1 Standard Applicable

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.3.2 Antenna Anti-Replacement Construction

Unique (non-standard) antenna connector.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	37059 & 01	30MHz~1GHz	Nov. 27, 2024	Sep. 24, 2025 ~ Sep. 27, 2025	Nov. 26, 2025	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2E	101108	9 kHz~30 MHz	Dec. 18, 2024	Sep. 24, 2025 ~ Sep. 27, 2025	Dec. 17, 2025	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Sep. 15, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Sep. 14, 2026	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1230	18GHz~40GHz	Oct. 25, 2024	Sep. 24, 2025 ~ Sep. 27, 2025	Oct. 24, 2025	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 07, 2024	Sep. 24, 2025 ~ Sep. 27, 2025	Dec. 06, 2025	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Mar. 24, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Mar. 23, 2026	Radiation (03CH11-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz~18GHz	Jan. 21, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Jan. 20, 2026	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	May 26, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	May 25, 2026	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 14, 2024	Sep. 24, 2025 ~ Sep. 27, 2025	Oct. 13, 2025	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	20MHz~8.4GHz	Jul. 22, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Jul. 21, 2026	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Sep. 24, 2025 ~ Sep. 27, 2025	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Sep. 24, 2025 ~ Sep. 27, 2025	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Sep. 24, 2025 ~ Sep. 27, 2025	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Sep. 24, 2025 ~ Sep. 27, 2025	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP200722	N/A	Mar. 03, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Mar. 02,2026	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP200880	N/A	Aug. 26, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Aug. 25,2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	Mar. 05, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 05, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 05, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Mar. 04, 2026	Radiation (03CH11-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 102	805139 2	30M~40G	May 10, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	May 09, 2026	Radiation (03CH11-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40SS	SN3	6.75GHz High Pass Filter	Sep. 09, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Sep. 08, 2026	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1.53GHz Low Pass Filter	Sep. 09, 2025	Sep. 24, 2025 ~ Sep. 27, 2025	Sep. 08, 2026	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 01, 2024	Aug.26, 2025~ Oct. 09, 2025	Oct. 31, 2025	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO31 (NO:182)	9kHz~6GHz	Jan. 09, 2025	Aug.26, 2025~ Oct. 09, 2025	Jan. 08, 2026	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101565	10Hz~40GHz	Jan.14, 2025	Aug.26, 2025~ Oct. 09, 2025	Jan.13, 2026	Conducted (TH05-HY)
Switch Control Mainframe	E-Instument	ETF-1405-0	EC1900157 (BOX6)	N/A	Feb. 10, 2025	Aug.26, 2025~ Oct. 09, 2025	Feb. 09, 2026	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_version_240513	N/A	Conducted Other Test Item	N/A	Aug.26, 2025~ Oct. 09, 2025	N/A	Conducted (TH05-HY)

5 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.4 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1 dB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.3 dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.3 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Junyu Jhou	Temperature:	21~25	°C
Test Date:	2025/8/26~2025/10/09	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

UNII-4 single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	
					Chain A	Chain B	SUM	Chain A	Chain B	Chain A	Chain B	Chain A	Chain B
11a	6Mbps	1	169	5845	8.60	8.70		4.30	0.28	12.90	8.98	30	30
11a	6Mbps	1	173	5865	8.70	8.60		4.30	0.28	13.00	8.88	30	30
11a	6Mbps	1	177	5885	8.40	8.50		4.30	0.28	12.70	8.78	30	30
HT20	MCS0	1	169	5845	8.50	8.50		4.30	0.28	12.80	8.78	30	30
HT20	MCS0	1	173	5865	8.50	8.50		4.30	0.28	12.80	8.78	30	30
HT20	MCS0	1	177	5885	8.30	8.40		4.30	0.28	12.60	8.68	30	30
HT40	MCS0	1	167	5835	8.40	8.50		4.30	0.28	12.70	8.78	30	30
HT40	MCS0	1	175	5875	8.30	8.40		4.30	0.28	12.60	8.68	30	30
VHT20	MCS0	1	169	5845	8.60	8.60		4.30	0.28	12.90	8.88	30	30
VHT20	MCS0	1	173	5865	8.60	8.60		4.30	0.28	12.90	8.88	30	30
VHT20	MCS0	1	177	5885	8.30	8.40		4.30	0.28	12.60	8.68	30	30
VHT40	MCS0	1	167	5835	8.50	8.50		4.30	0.28	12.80	8.78	30	30
VHT40	MCS0	1	175	5875	8.40	8.50		4.30	0.28	12.70	8.78	30	30
VHT80	MCS0	1	171	5855	8.40	8.40		4.30	0.28	12.70	8.68	30	30
VHT160	MCS0	1	163	5815	8.30	8.40		4.30	0.28	12.60	8.68	30	30

UNII-4 MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	
					Chain A	Chain B	SUM	Chain A	Chain B	Chain A	Chain B	Chain A	Chain B
HT20	MCS0	2	169	5845	8.50	8.50	11.51	4.30		15.81		30	
HT20	MCS0	2	173	5865	8.40	8.50	11.46	4.30		15.76		30	
HT20	MCS0	2	177	5885	8.30	8.40	11.36	4.30		15.66		30	
HT40	MCS0	2	167	5835	8.40	8.50	11.46	4.30		15.76		30	
HT40	MCS0	2	175	5875	8.30	8.40	11.36	4.30		15.66		30	
VHT20	MCS0	2	169	5845	8.50	8.60	11.56	4.30		15.86		30	
VHT20	MCS0	2	173	5865	8.50	8.50	11.51	4.30		15.81		30	
VHT20	MCS0	2	177	5885	8.30	8.40	11.36	4.30		15.66		30	
VHT40	MCS0	2	167	5835	8.50	8.50	11.51	4.30		15.81		30	
VHT40	MCS0	2	175	5875	8.30	8.50	11.41	4.30		15.71		30	
VHT80	MCS0	2	171	5855	8.40	8.40	11.41	4.30		15.71		30	
VHT160	MCS0	2	163	5815	8.30	8.40	11.36	4.30		15.66		30	

TEST RESULTS DATA
Average Power Table

UNII-4 single antenna														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	
						Chain A	Chain B	SUM	Chain A	Chain B	Chain A	Chain B	Chain A	Chain B
EHT20	MCS0	1	169	5845	Full	8.40	8.50		4.30	0.28	12.70	8.78	30	30
EHT20	MCS0	1	173	5865	Full	8.40	8.40		4.30	0.28	12.70	8.68	30	30
EHT20	MCS0	1	177	5885	Full	8.70	8.30		4.30	0.28	13.00	8.58	30	30
EHT40	MCS0	1	167	5835	Full	8.30	8.40		4.30	0.28	12.60	8.68	30	30
EHT40	MCS0	1	175	5875	Full	8.30	8.30		4.30	0.28	12.60	8.58	30	30
EHT80	MCS0	1	171	5855	Full	8.30	8.40		4.30	0.28	12.60	8.68	30	30
EHT160	MCS0	1	163	5815	Full	8.30	8.40		4.30	0.28	12.60	8.68	30	30

UNII-4 MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	
						Chain A	Chain B	SUM	Chain A	Chain B	Chain A	Chain B	Chain A	Chain B
EHT20	MCS0	2	169	5845	Full	8.40	8.40	11.41	4.30		15.71		30	
EHT20	MCS0	2	173	5865	Full	8.40	8.40	11.41	4.30		15.71		30	
EHT20	MCS0	2	177	5885	Full	8.30	8.30	11.31	4.30		15.61		30	
EHT40	MCS0	2	167	5835	Full	8.30	8.40	11.36	4.30		15.66		30	
EHT40	MCS0	2	175	5875	Full	8.60	8.70	11.66	4.30		15.96		30	
EHT80	MCS0	2	171	5855	Full	8.30	8.30	11.31	4.30		15.61		30	
EHT160	MCS0	2	163	5815	Full	8.30	8.40	11.36	4.30		15.66		30	

Appendix B. Radiated Spurious Emission Test Data

Test Engineer :	Daniel Lee, Fu Chen, Troye Hsieh	**Temperature :**	19.1~21.9°C
		Relative Humidity :	51.1~66.9%

Note symbol

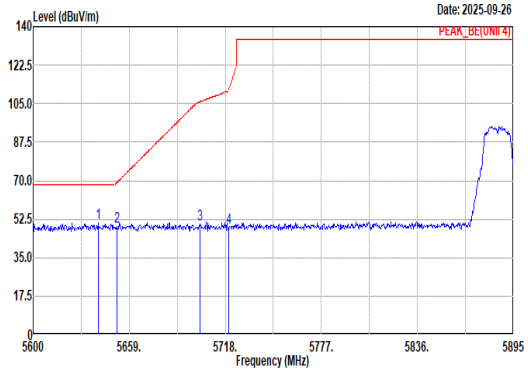
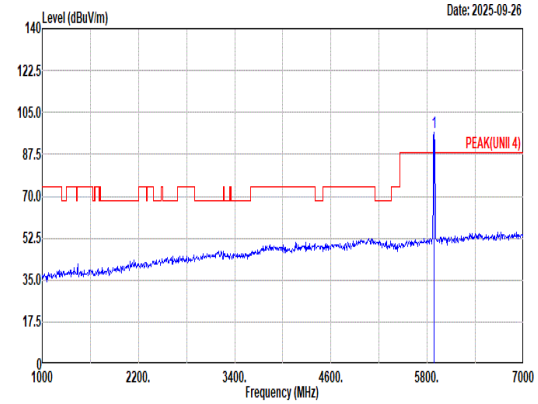
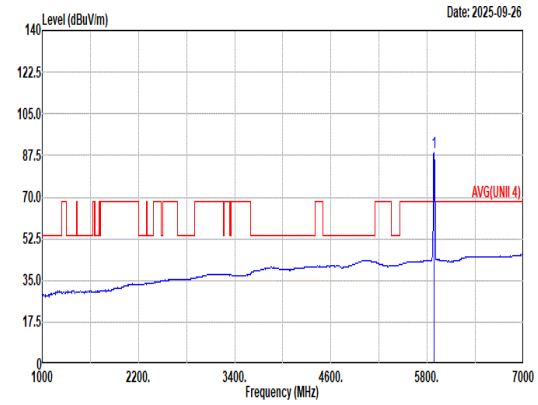
-L	**Low channel location**
-R	**High channel location**

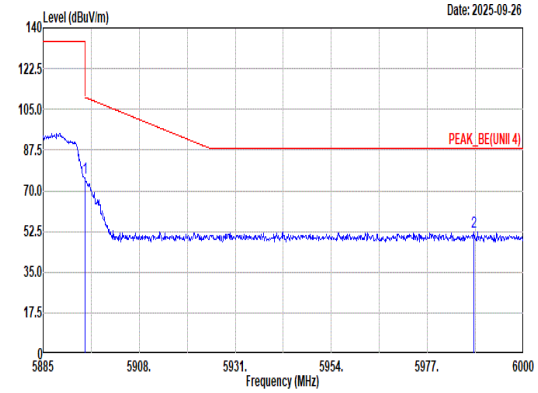
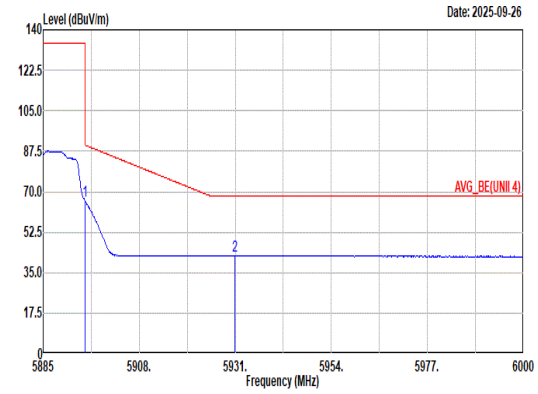
B1.Radiated Spurious Emission Test Modes

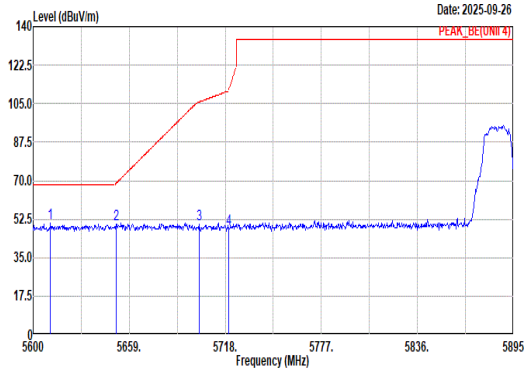
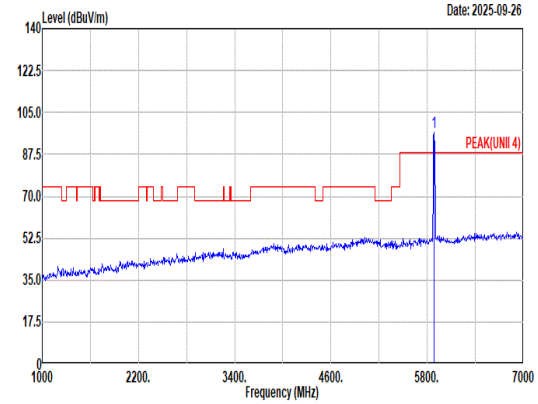
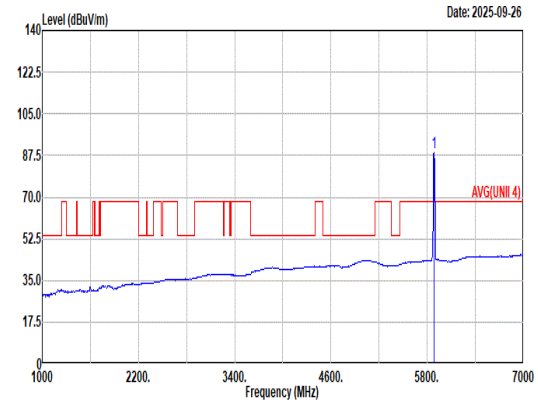
Mode	Band	Band (GHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 20	U-NII-4	5.85-5.895	Chain B	802.11a	177	5885	6Mbps	-	-
Mode 21	U-NII-4	5.85-5.895	Chain A	802.11a	177	5885	6Mbps	-	-
Mode 22	U-NII-4	5.85-5.895	Chain B+A	802.11be EHT20	177	5885	MCS0	Full RU	-
Mode 23	U-NII-4	5.85-5.895	Chain B+A	802.11be EHT160	163	5815	MCS0	Full RU	-
Mode 24	U-NII-4	5.85-5.895	Chain B+A	802.11be EHT20	177	5885	MCS0	Full RU	LF
Mode 25	U-NII-4	5.85-5.895	Chain B+A	802.11be EHT20	177	5885	MCS0	Full RU	SHF

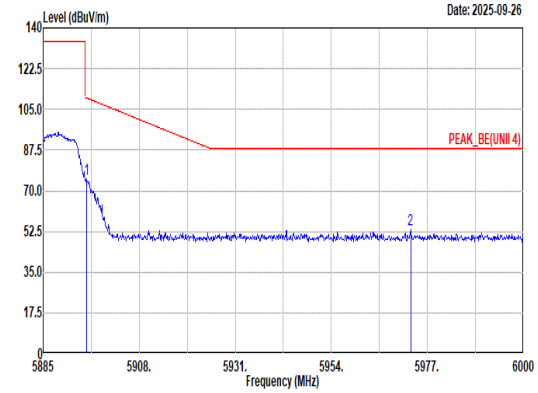
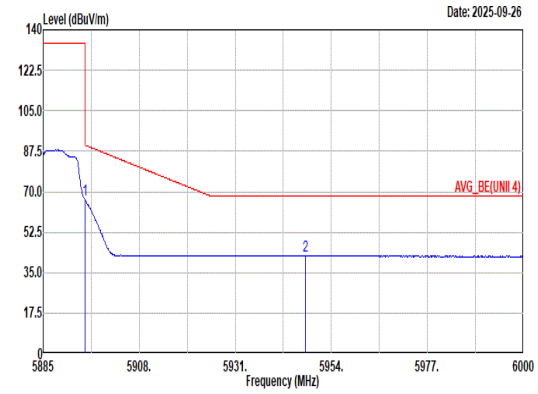
B2.Summary of each worse mode

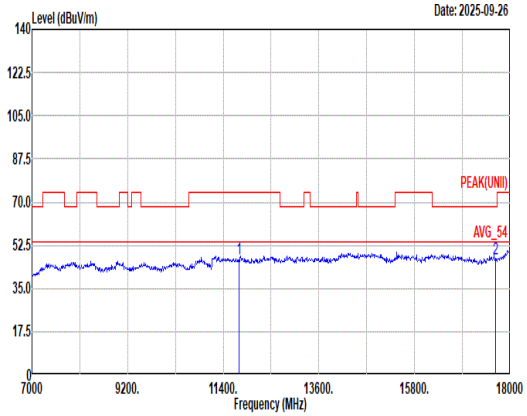
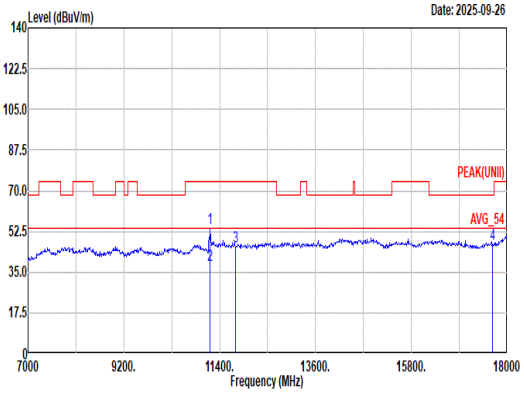
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
20	802.11a	177	5610.62	50.85	68.20	-17.35	V	Peak	Pass	-	Band Edge
	802.11a	177	11169.00	38.25	54.00	-15.75	V	Avg.	Pass	-	Harmonic
21	802.11a	177	5895.01	73.38	90.20	-16.82	H	Avg.	Pass	-	Band Edge
	802.11a	177	11180.00	38.60	54.00	-15.40	V	Avg.	Pass	-	Harmonic
22	802.11be EHT20	177	5895.01	82.62	90.20	-7.58	H	Avg.	Pass	Full RU	Band Edge
	802.11be EHT20	177	-	-	-	-	-	-	-	Full RU	Harmonic
23	802.11be EHT160	163	5604.52	51.22	68.20	-16.98	H	Peak	Pass	Full RU	Band Edge
	802.11be EHT160	163	-	-	-	-	-	-	-	Full RU	Harmonic
24	LF	177	78.50	33.46	40.00	-6.54	H	Peak	Pass	-	LF
25	SHF	177	39654.61	49.51	54.00	-4.49	H	Avg.	Pass	-	SHF

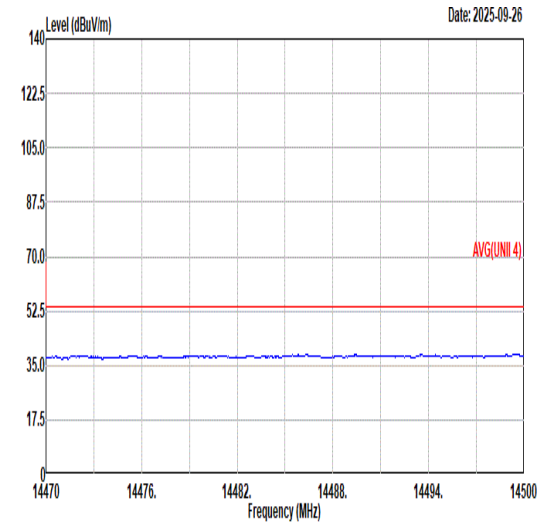
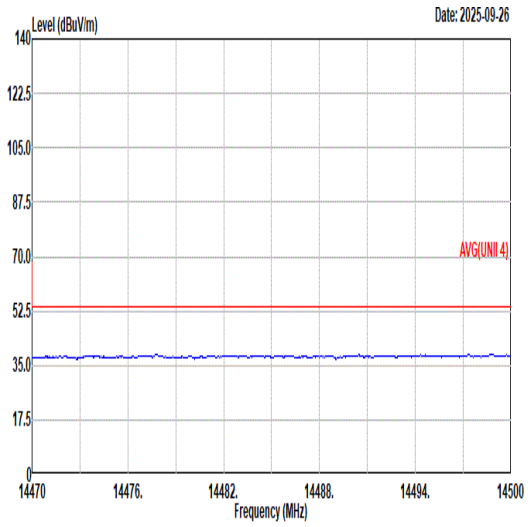
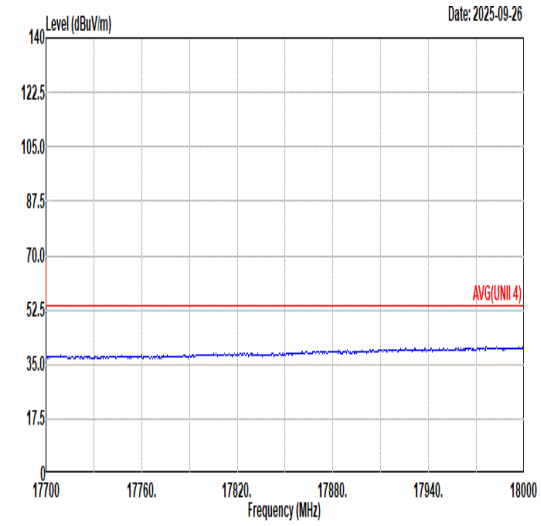
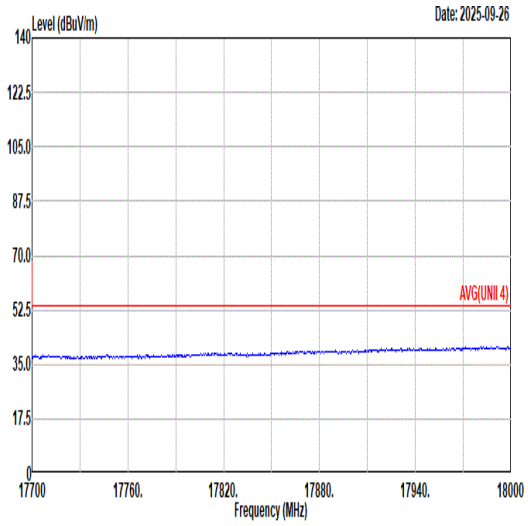
Mode	20	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5639.83 50.74 68.20 -17.46 40.23 32.94 10.35 32.78 0.00 190 105 Peak 2 5651.33 49.32 69.19 -19.87 38.77 33.01 10.33 32.79 0.00 190 105 Peak 3 5702.37 50.17 105.86 -55.69 39.32 33.41 10.25 32.81 0.00 190 105 Peak 4 5720.07 48.83 110.95 -62.12 37.94 33.48 10.22 32.81 0.00 190 105 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 96.46 ------ ------ 84.91 34.06 10.37 32.88 0.00 190 105 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 88.57 ------ ------ 77.06 34.04 10.35 32.88 0.00 190 105 Average

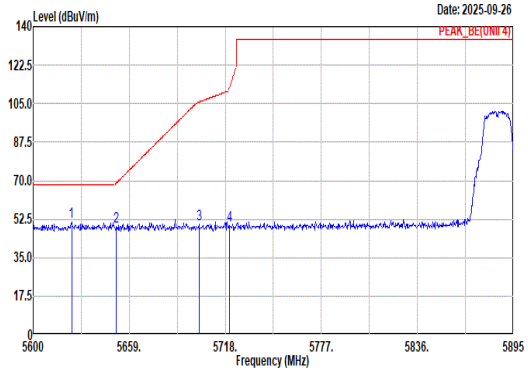
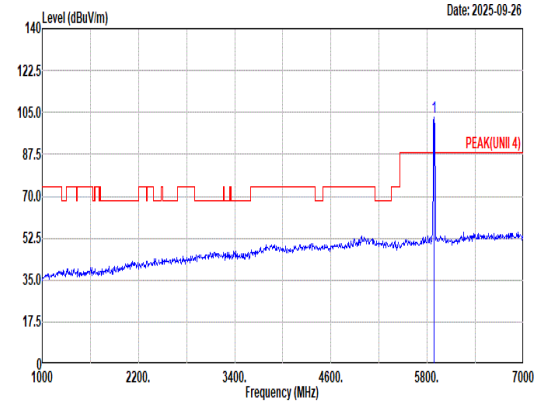
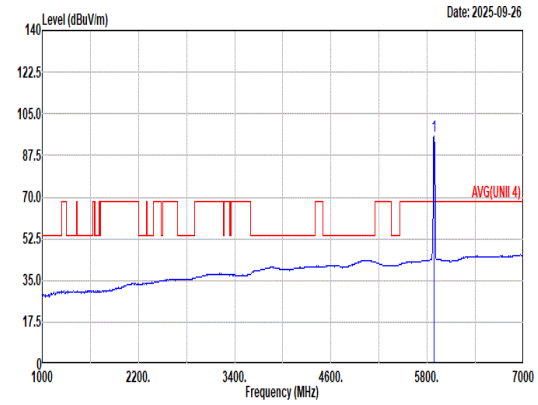
Mode	20	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 75.68 110.20 -34.52 64.10 34.08 10.38 32.88 0.00 190 105 Peak 2 5988.04 52.50 88.20 -35.70 40.62 34.12 10.68 32.92 0.00 190 105 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 65.92 90.20 -24.28 54.34 34.08 10.38 32.88 0.00 190 105 Average 2 5930.89 42.50 68.20 -25.70 30.73 34.16 10.50 32.89 0.00 190 105 Average	Blank

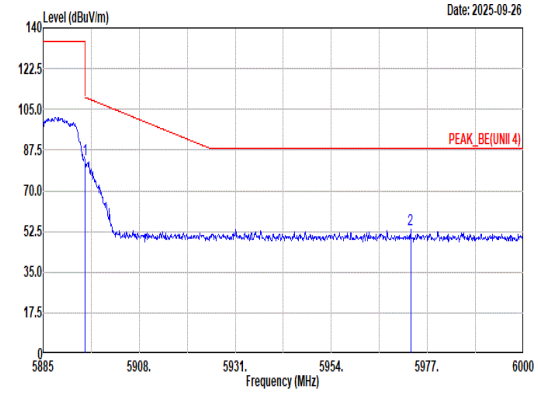
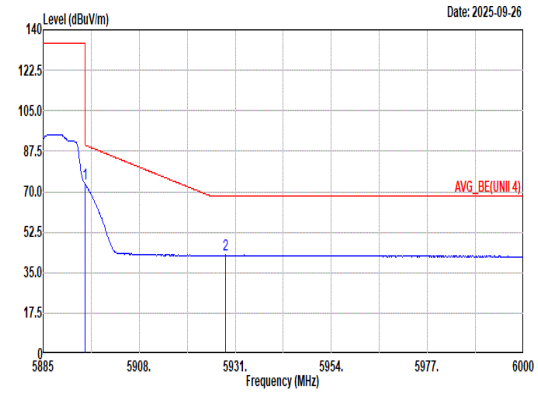
Mode	20	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5610.62 50.85 68.20 -17.35 40.46 32.76 10.40 32.77 0.00 100 237 Peak 2 5651.04 50.13 68.97 -18.84 39.58 33.01 10.33 32.79 0.00 100 237 Peak 3 5701.78 50.26 105.70 -55.44 39.41 33.41 10.25 32.81 0.00 100 237 Peak 4 5720.07 48.03 110.95 -62.92 37.14 33.48 10.22 32.81 0.00 100 237 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 96.78 ------ ------ 85.27 34.04 10.35 32.88 0.00 100 237 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 88.93 ------ ------ 77.38 34.06 10.37 32.88 0.00 100 237 Average

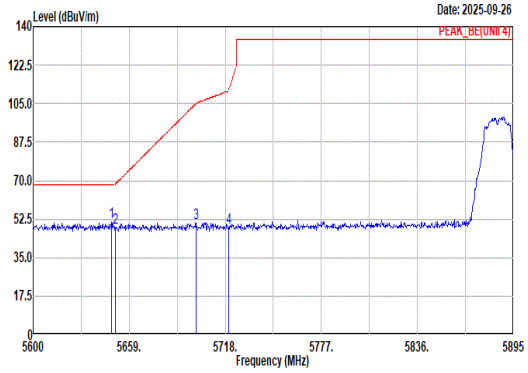
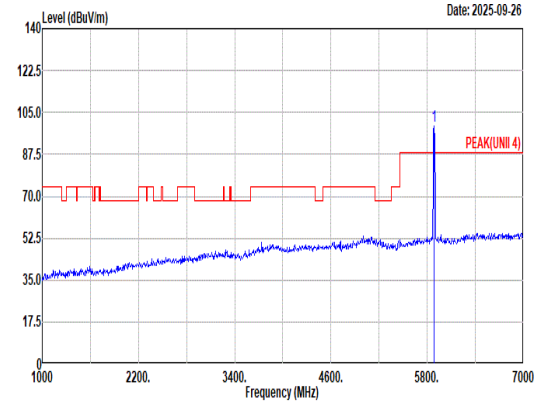
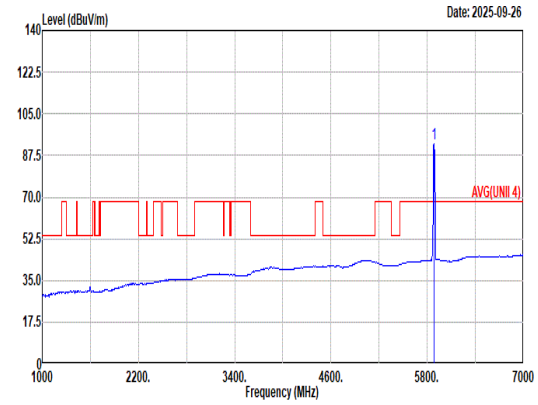
Mode	20	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.47 75.21 109.86 -34.65 63.62 34.08 10.39 32.88 0.00 100 237 Peak 2 5972.98 53.31 88.20 -34.89 41.44 34.15 10.63 32.91 0.00 100 237 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 66.71 90.20 -23.49 55.13 34.08 10.38 32.88 0.00 100 237 Average 2 5947.79 42.48 68.20 -25.72 30.63 34.20 10.55 32.90 0.00 100 237 Average	Blank

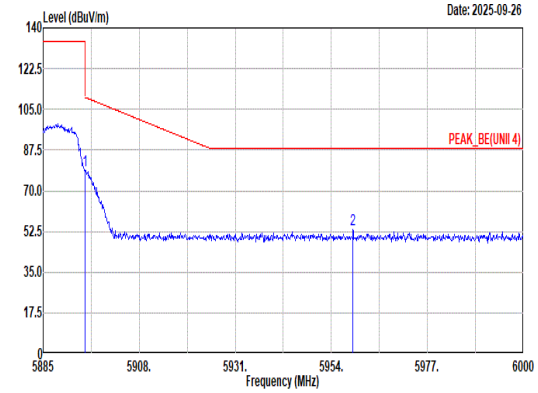
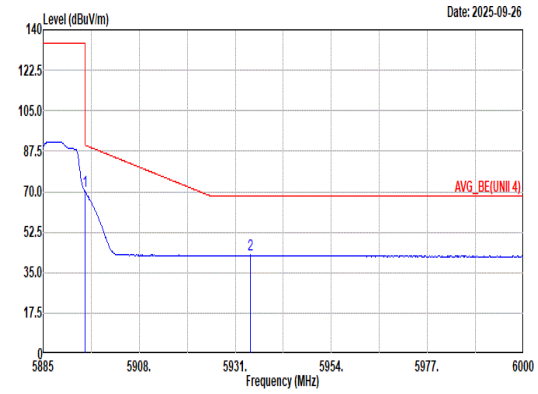
Mode	20	
	Harmonic	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_1212_250327 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 11770.00 47.08 74.00 -26.92 56.18 38.70 17.73 65.99 0.46 -- -- Peak 2 17655.00 46.83 68.20 -21.37 53.01 38.44 21.84 66.97 0.51 -- -- Peak	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_1212_250327 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 11169.00 53.71 74.00 -20.29 63.89 38.74 17.19 66.50 0.39 133 77 Peak 2 11169.00 38.25 54.00 -15.75 48.43 38.74 17.19 66.50 0.39 133 77 Average 3 11770.00 46.06 74.00 -27.94 55.16 38.70 17.73 65.99 0.46 -- -- Peak 4 17655.00 47.23 68.20 -20.97 53.41 38.44 21.84 66.97 0.51 -- -- Peak

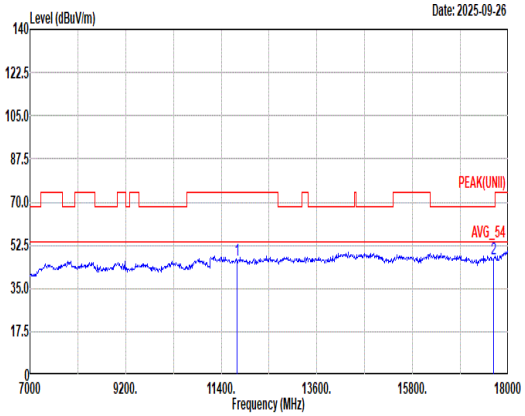
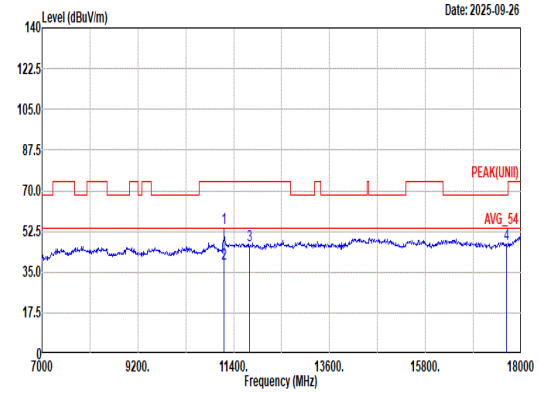
Mode	20	
	Harmonic	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain B	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 HORIZONTAL	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 VERTICAL
17.7G ~18G Avg	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 HORIZONTAL	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 VERTICAL

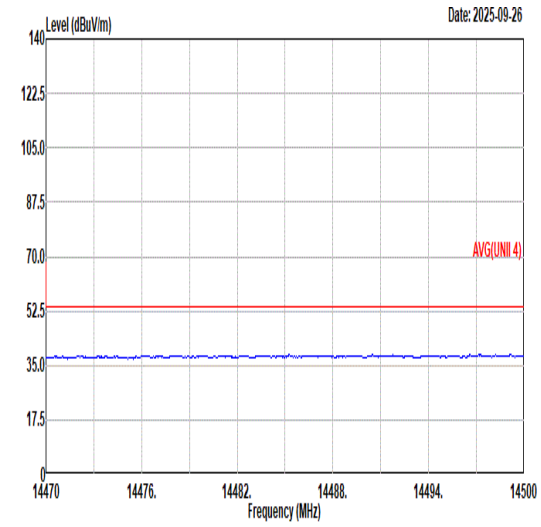
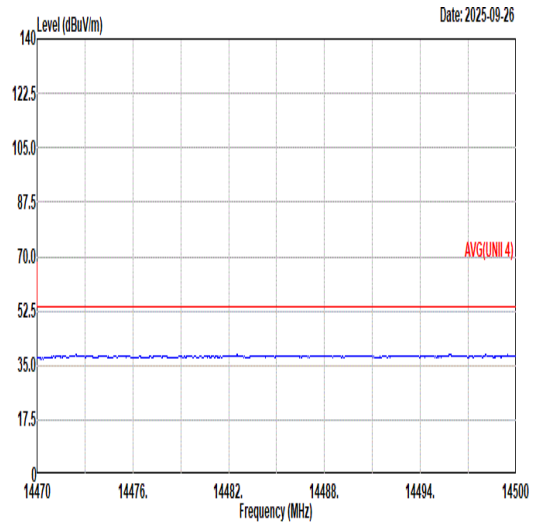
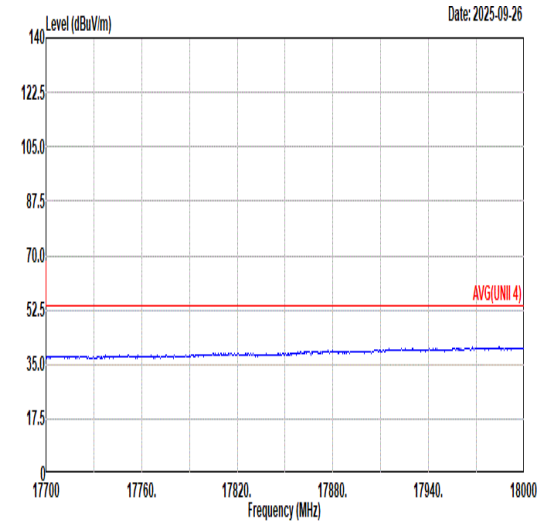
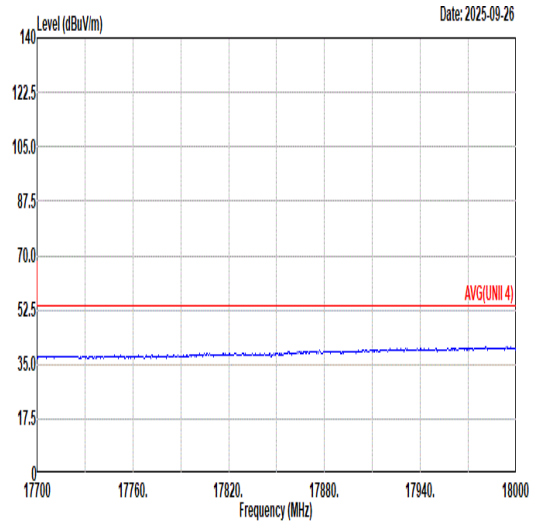
Mode	21	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5623.60 51.33 68.20 -16.87 40.89 32.84 10.38 32.78 0.00 211 129 Peak 2 5651.04 49.16 68.97 -19.81 38.61 33.01 10.33 32.79 0.00 211 129 Peak 3 5701.78 50.20 105.70 -55.50 39.35 33.41 10.25 32.81 0.00 211 129 Peak 4 5720.36 49.58 111.62 -62.04 38.69 33.48 10.22 32.81 0.00 211 129 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 103.08 ------ ------ 91.57 34.04 10.35 32.88 0.00 211 129 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 95.47 ------ ------ 83.92 34.06 10.37 32.88 0.00 211 129 Average

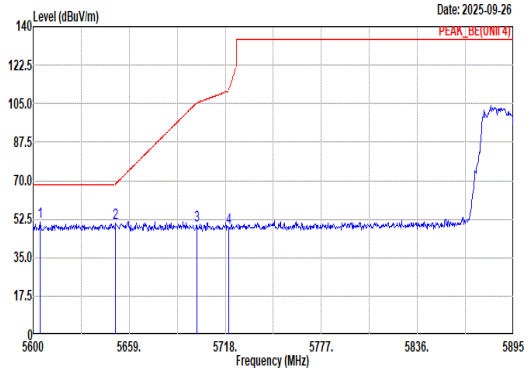
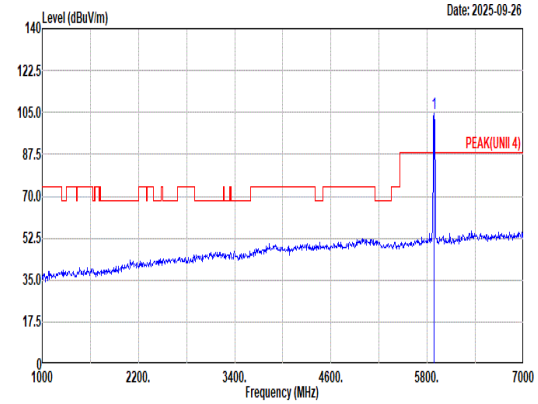
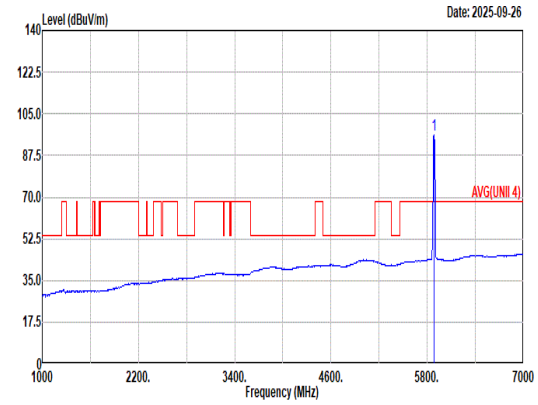
Mode	21	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.12 83.46 110.11 -26.65 71.88 34.08 10.38 32.88 0.00 211 129 Peak 2 5972.98 53.23 88.20 -34.97 41.36 34.15 10.63 32.91 0.00 211 129 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 73.38 90.20 -16.82 61.80 34.08 10.38 32.88 0.00 211 129 Average 2 5928.59 42.55 68.20 -25.65 30.79 34.16 10.49 32.89 0.00 211 129 Average	Blank

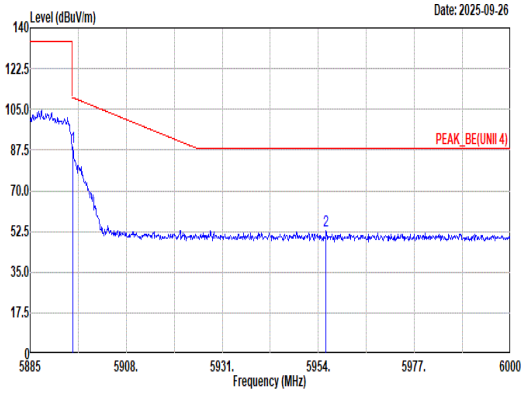
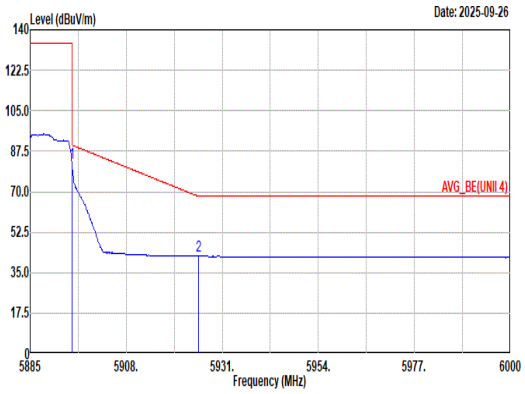
Mode	21	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5648.09 51.05 68.20 -17.15 40.51 32.99 10.34 32.79 0.00 377 118 Peak 2 5650.74 48.68 68.75 -20.07 38.13 33.01 10.33 32.79 0.00 377 118 Peak 3 5700.01 50.74 105.20 -54.46 39.90 33.40 10.25 32.81 0.00 377 118 Peak 4 5720.07 48.78 110.95 -62.17 37.89 33.48 10.22 32.81 0.00 377 118 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 99.32 ------ ------ 87.81 34.04 10.35 32.88 0.00 377 118 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 92.36 ------ ------ 80.81 34.06 10.37 32.88 0.00 377 118 Average

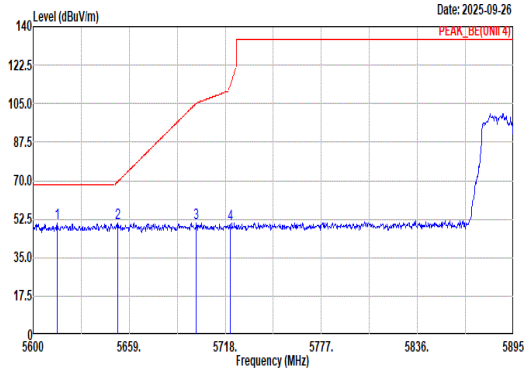
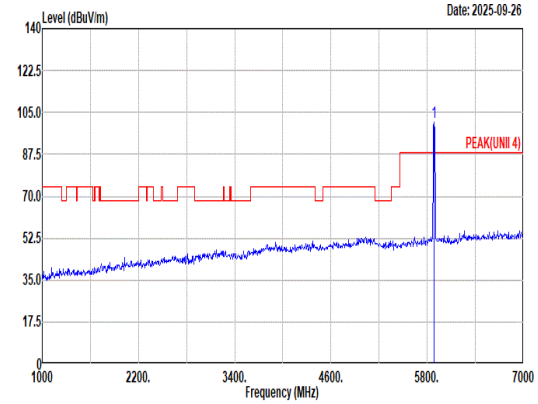
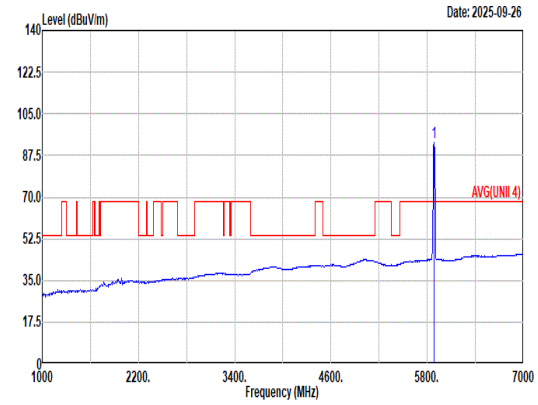
Mode	21	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 78.83 110.20 -31.37 67.25 34.08 10.38 32.88 0.00 377 118 Peak 2 5959.18 53.35 88.20 -34.85 41.48 34.18 10.59 32.90 0.00 377 118 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.510kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 70.10 90.20 -20.10 58.52 34.08 10.38 32.88 0.00 377 118 Average 2 5934.68 42.54 68.20 -25.66 30.76 34.17 10.51 32.90 0.00 377 118 Average	Blank

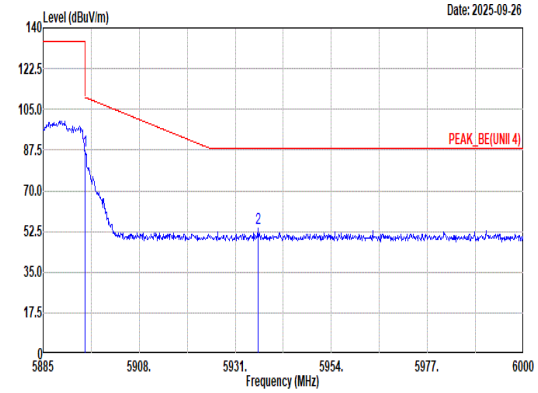
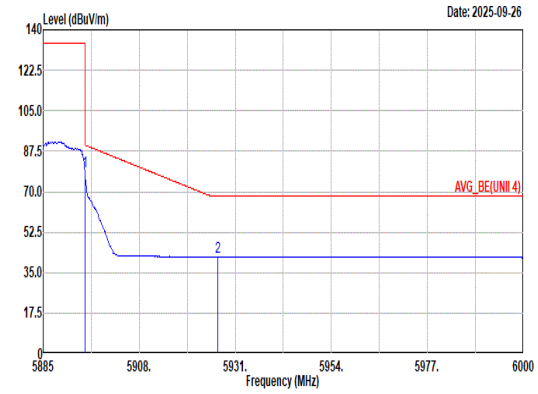
Mode	21	
	Harmonic	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_1212_250327 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 11770.00 46.46 74.00 -27.54 55.56 38.70 17.73 65.99 0.46 -- -- Peak 2 17655.00 46.96 68.20 -21.24 53.14 38.44 21.84 66.97 0.51 -- -- Peak	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_1212_250327 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 11180.00 53.94 74.00 -20.06 64.07 38.76 17.20 66.48 0.39 134 76 Peak 2 11180.00 38.60 54.00 -15.40 48.73 38.76 17.20 66.48 0.39 134 76 Average 3 11770.00 46.36 74.00 -27.64 55.46 38.70 17.73 65.99 0.46 -- -- Peak 4 17655.00 47.18 68.20 -21.02 53.36 38.44 21.84 66.97 0.51 -- -- Peak

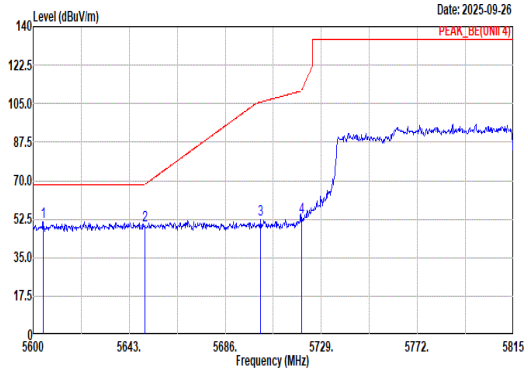
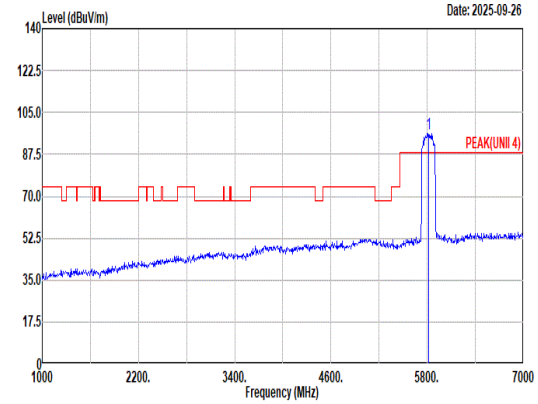
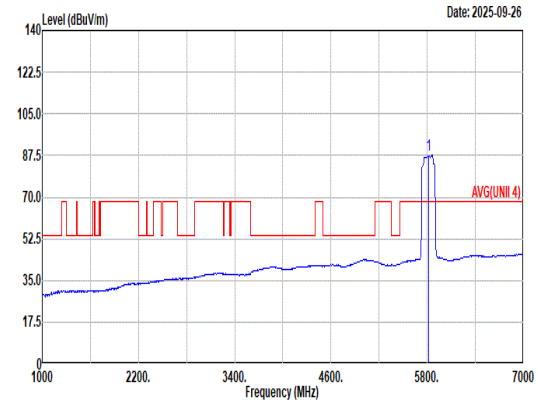
Mode	21	
	Harmonic	
	U-NII-4_5.85-5.895_802.11a_CH177_5885MHz	
ANT	Chain A	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 HORIZONTAL	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 VERTICAL
17.7G ~18G Avg	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 HORIZONTAL	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_1212_250327 VERTICAL

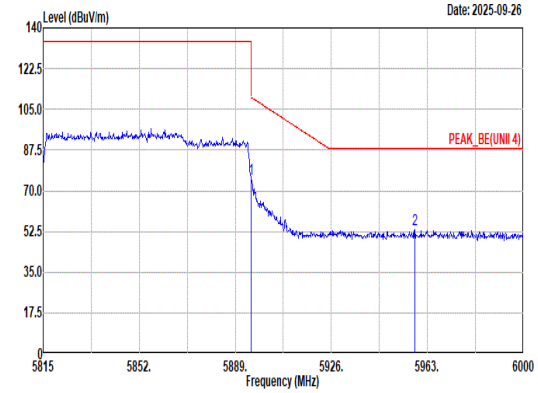
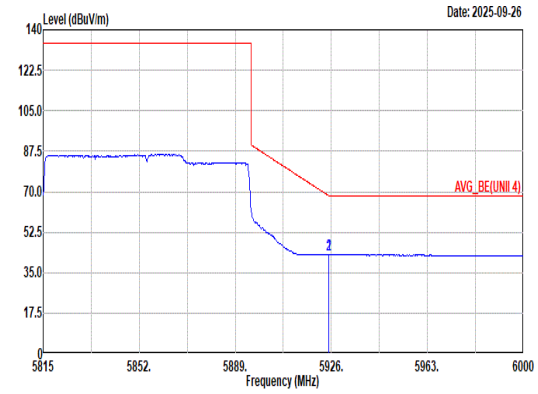
Mode	22	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5604.13 51.16 68.20 -17.04 40.80 32.72 10.41 32.77 0.00 200 132 Peak 2 5650.74 50.90 68.75 -17.85 40.35 33.01 10.33 32.79 0.00 200 132 Peak 3 5700.60 49.75 105.37 -55.62 38.91 33.40 10.25 32.81 0.00 200 132 Peak 4 5720.07 48.64 110.95 -62.31 37.75 33.48 10.22 32.81 0.00 200 132 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 104.35 ------ ------ 92.80 34.06 10.37 32.88 0.00 200 132 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 96.03 ------ ------ 84.48 34.06 10.37 32.88 0.00 200 132 Average

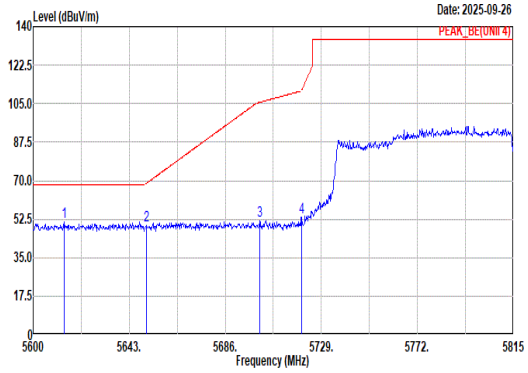
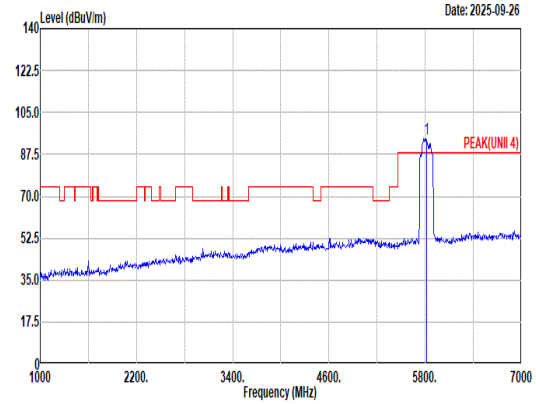
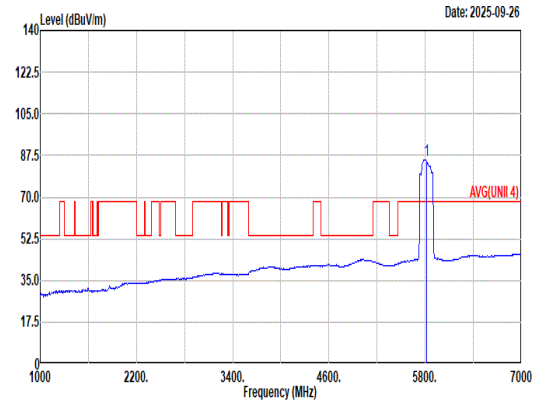
Mode	22	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.24 88.82 110.03 -21.21 77.24 34.08 10.38 32.88 0.00 200 132 Peak 2 5955.84 52.68 88.20 -35.52 40.81 34.19 10.58 32.90 0.00 200 132 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 82.62 90.20 -7.58 71.04 34.08 10.38 32.88 0.00 200 132 Average 2 5925.37 42.07 68.20 -26.13 30.33 34.15 10.48 32.89 0.00 200 132 Average	Blank

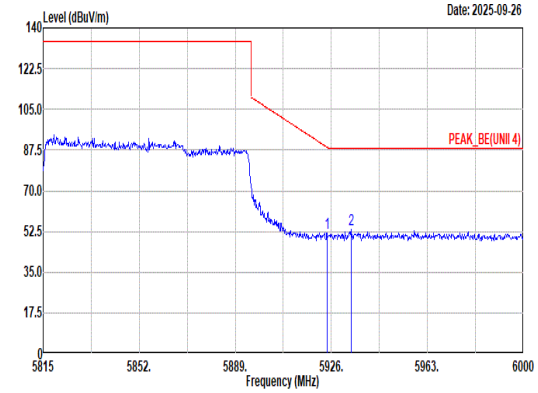
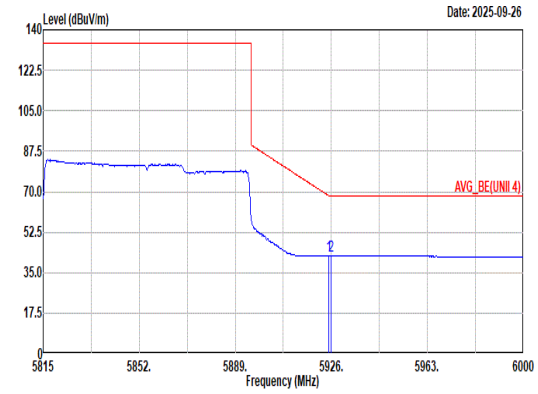
Mode	22	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5614.75 50.70 68.20 -17.50 40.29 32.79 10.39 32.77 0.00 102 12 Peak 2 5651.92 50.53 69.63 -19.10 39.97 33.02 10.33 32.79 0.00 102 12 Peak 3 5700.30 50.70 105.28 -54.58 39.86 33.40 10.25 32.81 0.00 102 12 Peak 4 5720.95 50.21 112.97 -62.76 39.33 33.48 10.21 32.81 0.00 102 12 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 100.77 ------ ------ 89.26 34.04 10.35 32.88 0.00 102 12 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5885.00 92.85 ------ ------ 81.30 34.06 10.37 32.88 0.00 102 12 Average

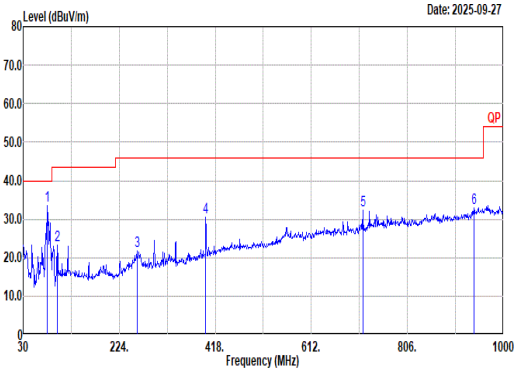
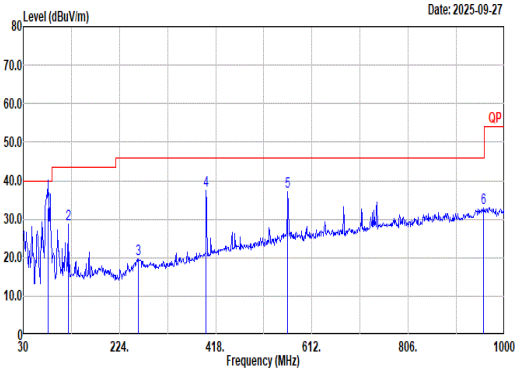
Mode	22	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.12 87.03 110.11 -23.08 75.45 34.08 10.38 32.88 0.00 102 12 Peak 2 5936.41 53.76 88.20 -34.44 41.97 34.17 10.52 32.90 0.00 102 12 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.01 78.87 90.20 -11.33 67.29 34.08 10.38 32.88 0.00 102 12 Average 2 5926.75 41.90 68.20 -26.30 30.15 34.15 10.49 32.89 0.00 102 12 Average	Blank

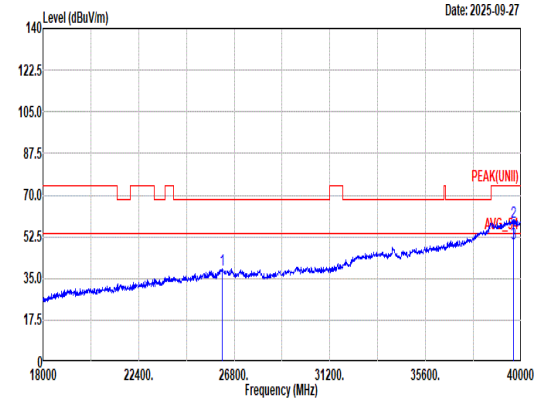
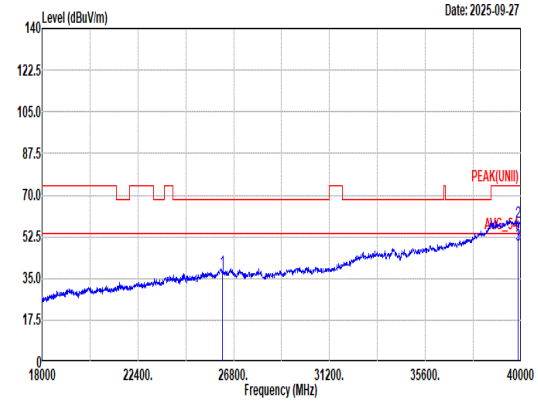
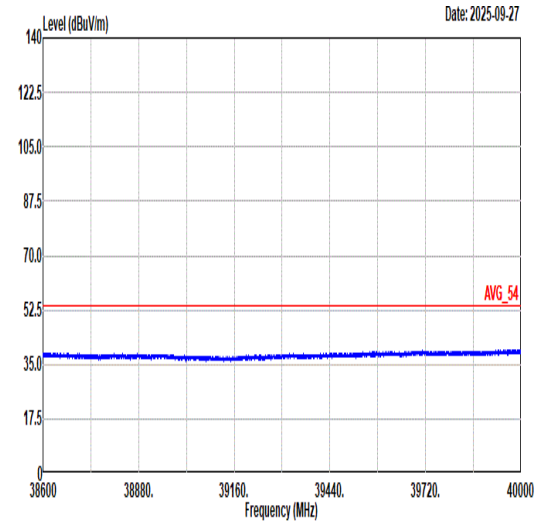
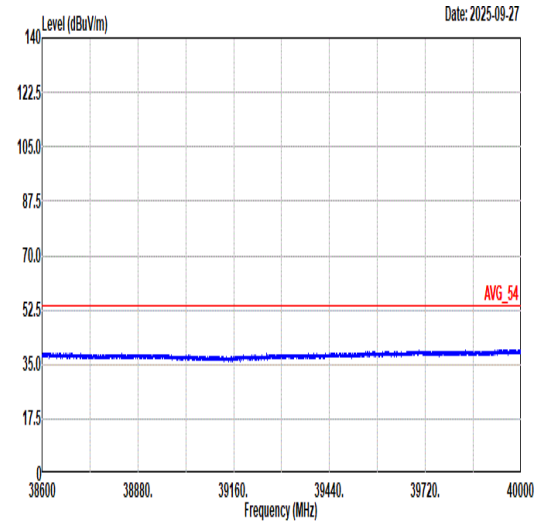
Mode	23	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11be EHT160_CH163_Full RU_5815MHz	
ANT	Chain B+A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 5604.52 51.22 68.20 -16.98 40.85 32.73 10.41 32.77 0.00 190 134 Peak 2 5650.10 49.84 68.27 -18.43 39.30 33.00 10.33 32.79 0.00 190 134 Peak 3 5701.91 52.19 105.74 -53.55 41.34 33.41 10.25 32.81 0.00 190 134 Peak 4 5720.19 53.15 111.22 -58.07 42.26 33.48 10.22 32.81 0.00 190 134 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 5815.00 96.14 ------ ------ 84.80 33.94 10.27 32.87 0.00 190 134 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 1 5815.00 87.48 ------ ------ 76.14 33.94 10.27 32.87 0.00 190 134 Average

Mode	23	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11be EHT160_CH163_Full RU_5815MHz	
ANT	Chain B+A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5895.11 74.98 110.12 -35.14 63.40 34.08 10.38 32.88 0.00 190 134 Peak 2 5958.19 53.14 88.20 -35.06 41.27 34.18 10.59 32.90 0.00 190 134 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5924.89 42.95 68.28 -25.33 31.21 34.15 10.48 32.89 0.00 190 134 Average 2 5925.08 42.94 68.20 -25.26 31.20 34.15 10.48 32.89 0.00 190 134 Average	Blank

Mode	23	
	Band Edge - L	
	U-NII-4_5.85-5.895_802.11be EHT160_CH163_Full RU_5815MHz	
ANT	Chain B+A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5613.98 51.04 68.20 -17.16 40.63 32.78 10.40 32.77 0.00 400 121 Peak 2 5650.74 49.46 68.75 -19.29 38.91 33.01 10.33 32.79 0.00 400 121 Peak 3 5701.27 52.01 105.55 -53.54 41.16 33.41 10.25 32.81 0.00 400 121 Peak 4 5720.19 53.12 111.22 -58.10 42.23 33.48 10.22 32.81 0.00 400 121 Peak	 Site : 03CH11-HY Condition: PEAK(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5815.00 94.27 ------ ------ 83.10 33.90 10.12 32.85 0.00 400 121 Peak
Avg	Blank	 Site : 03CH11-HY Condition: AVG(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5815.00 85.78 ------ ------ 74.67 33.86 10.09 32.84 0.00 400 121 Average

Mode	23	
	Band Edge - R	
	U-NII-4_5.85-5.895_802.11be EHT160_CH163_Full RU_5815MHz	
ANT	Chain B+A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5924.34 51.53 88.69 -37.16 39.79 34.15 10.48 32.89 0.00 400 121 Peak 2 5933.59 53.11 88.20 -35.09 41.32 34.17 10.51 32.89 0.00 400 121 Peak	Blank
Avg	 Site : 03CH11-HY Condition: AVG_BE(UNII 4) 3m 9120D_01620_250915 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5924.89 42.32 68.28 -25.96 30.58 34.15 10.48 32.89 0.00 400 121 Average 2 5925.82 42.36 68.20 -25.84 30.62 34.15 10.48 32.89 0.00 400 121 Average	Blank

Mode	24	
	LF	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Horizontal	Vertical
QP/ Peak	 Site : 03CH11-HY Condition: QP 3m BILOG_37059&01_241127 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 78.50 33.46 40.00 -6.54 50.86 13.59 1.28 32.33 0.06 -- -- Peak 2 98.87 23.30 43.50 -20.20 38.07 16.07 1.44 32.31 0.03 -- -- Peak 3 259.89 21.88 46.00 -24.12 31.71 20.06 2.24 32.20 0.07 -- -- Peak 4 398.60 30.34 46.00 -15.66 37.61 21.92 2.78 32.05 0.08 -- -- Peak 5 715.79 32.19 46.00 -13.81 32.79 27.17 3.71 32.13 0.65 -- -- Peak 6 939.86 33.02 46.00 -12.98 28.89 30.45 4.26 31.00 0.42 -- -- Peak	 Site : 03CH11-HY Condition: QP 3m BILOG_37059&01_241127 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 79.47 32.92 40.00 -7.08 50.24 13.67 1.29 32.33 0.05 150 343 QP 2 120.21 28.54 43.50 -14.96 41.68 17.59 1.53 32.31 0.05 -- -- Peak 3 261.83 19.70 46.00 -26.30 29.47 20.11 2.25 32.20 0.07 -- -- Peak 4 398.60 37.50 46.00 -8.50 44.77 21.92 2.78 32.05 0.08 -- -- Peak 5 563.50 37.07 46.00 -8.93 39.25 26.47 3.31 32.18 0.22 -- -- Peak 6 957.32 32.91 46.00 -13.09 27.85 31.17 4.29 30.82 0.42 -- -- Peak

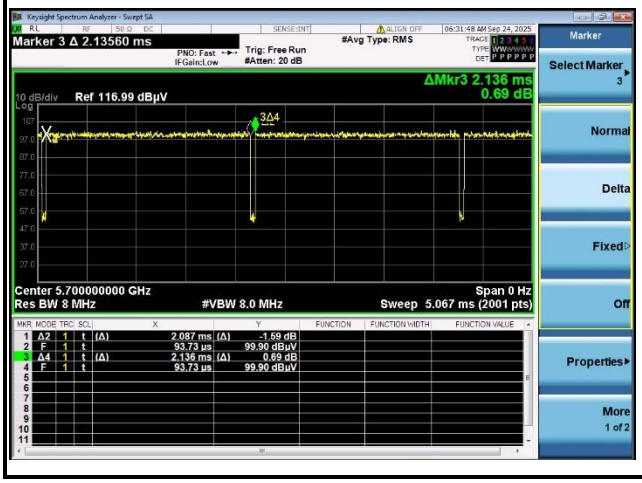
Mode	25	
	SHF	
	U-NII-4_5.85-5.895_802.11be EHT20_CH177_Full RU_5885MHz	
ANT	Chain B+A	
Pol.	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition: PEAK(UNII) 1m SHF_1230_241025 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 26254.35 38.64 68.20 -29.56 34.52 39.20 27.36 52.90 -9.54 -- -- PEAK 2 39654.61 58.78 74.00 -15.22 37.96 45.64 34.37 49.65 -9.54 150 49 PEAK 3 39654.61 49.51 54.00 -4.49 28.74 45.60 34.37 49.66 -9.54 150 49 Average	 Site : 03CH11-HY Condition: PEAK(UNII) 1m SHF_1230_241025 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 26297.13 38.08 68.20 -30.12 33.95 39.20 27.37 52.90 -9.54 -- -- PEAK 2 39846.49 58.62 74.00 -15.38 37.38 45.59 34.54 49.35 -9.54 150 258 PEAK 3 39846.49 49.23 54.00 -4.77 28.05 45.48 34.56 49.32 -9.54 150 258 Average
Avg	 Site : 03CH11-HY Condition: AVG_54 1m SHF_1230_241025 HORIZONTAL	 Site : 03CH11-HY Condition: AVG_54 1m SHF_1230_241025 VERTICAL

Appendix C. Duty Cycle Plots

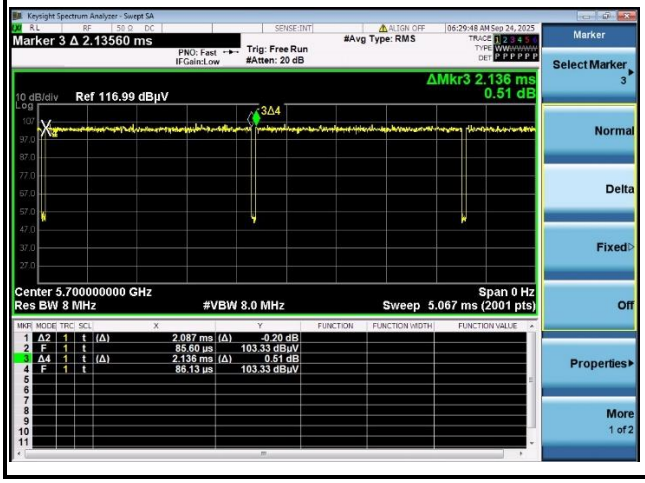
Antenna	Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting
Chain A	802.11a	97.71	2087	0.479	0.51KHz
Chain B	802.11a	97.71	2087	0.479	0.51KHz
Chain B+A	5GHz 802.11be EHT20 Full RU	98.88	3985	0.251	10Hz
Chain B+A	5GHz 802.11be EHT160 Full RU	98.64	3985	0.251	10Hz

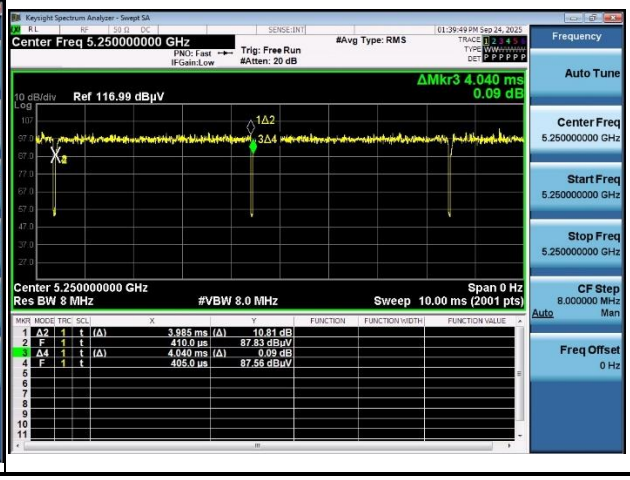
<Chain A>

5G 11a



<Chain B>

5G 11a	
	

<Chain B+A>

11EHT20	11EHT160