FCC RADIO TEST REPORT

FCC ID	:	UZ7TCX010
Equipment	:	Touch Computer
Brand Name	:	Zebra
Model Name	:	TCX010
Applicant	:	Zebra Technologies Corporation 3 Overlook Point, Lincolnshire, IL 60069 USA
Manufacturer	:	Zebra Technologies Corporation 3 Overlook Point, Lincolnshire, IL 60069 USA
Standard	:	FCC Part 15 Subpart C §15.247

The product was received on Oct. 03, 2025 and testing was performed from Oct. 30, 2025 to Dec. 06, 2025. We, Sporton International Inc. EMC & Wireless Communications 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 report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, 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 Product Specification of Equipment Under Test 7
1.3 Modification of EUT 9
1.4 Testing Location 9
1.5 Applicable Standards 9
2 Test Configuration of Equipment Under Test **10**
2.1 Carrier Frequency Channel 10
2.2 Test Mode 11
2.3 Connection Diagram of Test System 12
2.4 Support Unit used in test configuration and system 13
2.5 EUT Operation Test Setup 13
2.6 Measurement Results Explanation Example 13
3 Test Result **14**
3.1 6dB and 99% Bandwidth Measurement 14
3.2 Output Power Measurement 15
3.3 Power Spectral Density Measurement 16
3.4 Conducted Band Edges and Spurious Emission Measurement 17
3.5 Radiated Band Edges and Spurious Emission Measurement 18
3.6 AC Conducted Emission Measurement 22
3.7 Antenna Requirements 24
4 List of Measuring Equipment **25**
5 Measurement Uncertainty **27**
Appendix A. Conducted Test Results
Appendix B. AC Conducted Emission Test Result
Appendix C. Radiated Spurious Emission Test Result
Appendix D. Duty Cycle Plots
Appendix E. Setup Photographs

History of this test report

Report No.	Version	Description	Issue Date
FR571515-01B	01	Initial issue of report	Dec. 15, 2025
FR571515-01B	02	Revise Product Specification of Equipment Under Test, Appendix A1 and Appendix C This report is an updated version, replacing the report issued on Dec. 15, 2025.	Jan. 22, 2026

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Pass	-
3.2	15.247(b)(3) 15.247(b)(4)	Output Power	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	Pass	5.65 dB under the limit at 2483.52 MHz
3.6	15.207	AC Conducted Emission	Pass	6.54 dB under the limit at 0.16 MHz
3.7	15.203	Antenna Requirement	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 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: Wei Chen

Report Producer: Aya Yang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Touch Computer
Brand Name	Zebra
Model Name	TCX010
FCC ID	UZ7TCX010
EUT supports Radios application	NFC/UHF RFID WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 WLAN 11be ETH20/ ETH 40/ ETH 80/ ETH 160/ ETH 320 Bluetooth BR/EDR/LE
SW Version	eris_A15_userdebug_GMS_RelKey_2025-10-07-205955_main_SE
FW Version	eris_A15_userdebug_GMS_RelKey_2025-10-07-205955_main_SE
MFD	30-Sep-25
EUT Stage	Identical Prototype

Remark: The EUT's information above is declared by manufacturer.

<Sample list>

	Scanner	Camera	Bumper
Sample 1	SE4730	Main	w/o
Sample 2	SE4780	Main+Indirect Time-of-Flight	w/o
Sample 3	SE4780	Main+Ultra wide Camera	w/o
Sample 4	SE4730	Main+Indirect Time-of-Flight	w/o
Sample 5	SE4730	Main+Ultra wide Camera	w/o
Sample 6	SE4730	Main	w/
Sample 7	SE4780	Main+Indirect Time-of-Flight	w/
Sample 8	SE4780	Main+Ultra wide Camera	w/
Sample 9	SE4730	Main+Indirect Time-of-Flight	w/
Sample 10	SE4730	Main+Ultra wide Camera	w/

Specification of Accessories				
AC Adapter 1 (TYPE C Wall Charger 1)	**Brand Name**	Zebra	**Model Name**	SAWA-102-22520A
AC Adapter 2 (TYPE A Wall Charger 2)	**Brand Name**	Zebra	**Model Name**	SAWA-65-20005A
Trigger Handle 1	**Brand Name**	Zebra	**Part Number**	TRG-TC5A-ELEC-01
Trigger Handle 2	**Brand Name**	Zebra	**Part Number**	TRG-TC7A-ELEC-01
Trigger Handle 3	**Brand Name**	Zebra	**Part Number**	TRG-TC5AB-ELEC-01
Arm Mount 1	**Brand Name**	Zebra	**Part Number**	SG-TC5A-WMADP1-01
Arm Mount 2	**Brand Name**	Zebra	**Part Number**	SG-TC5A-WMADP2-01
Soft Holster	**Brand Name**	Zebra	**Part Number**	SG-NGTC5TC7-HLSTR-01
Rugged boot	**Brand Name**	Zebra	**Part Number**	SG-TC5AEXO-01
Earphone 1 (Wired headset USB-C)	**Brand Name**	Zebra	**Part Number**	HDST-USBC-PTT1-01
Earphone 2 (3.5mm PTT Headset)	**Brand Name**	Zebra	**Part Number**	HDST-35MM-PTT1-01
Earphone 3 （Rugged Headset）	**Brand Name**	Zebra	**Part Number**	HS2100-OTH
Battery	**Brand Name**	Zebra	**Model Name**	BT-000535-0020
3.5mm to 3.5mm audio connector	**Brand Name**	Zebra	**Part Number**	CBL-HS2100-3MS1-01
USB Cable 1 USB-C to C Cable	**Brand Name**	Zebra	**Part Number**	CBL-EC5X-USBC3A-01
USB Cable 2 USB-A to C Cable	**Brand Name**	Zebra	**Part Number**	CBL-TC5X-USBC2A-01

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	40
Carrier Frequency of Each Channel	40 Channel (37 hopping + 3 advertising channel)
Maximum Output Power to Antenna	**<Class 1>** **<Ant. 6>** Bluetooth – LE (1Mbps): 15.60 dBm / 0.0363 W Bluetooth – LE (2Mbps): 15.70 dBm / 0.0372 W **<Ant. 7>** Bluetooth – LE (1Mbps): 14.90 dBm / 0.0309 W Bluetooth – LE (2Mbps): 14.90 dBm / 0.0309 W **<Class 2>** **<Ant. 6>** Bluetooth – LE (1Mbps): 2.30 dBm / 0.0017 W Bluetooth – LE (2Mbps): 2.30 dBm / 0.0017 W **<Ant. 7>** Bluetooth – LE (1Mbps): 3.20 dBm / 0.0021 W Bluetooth – LE (2Mbps): 3.30 dBm / 0.0021 W
99% Occupied Bandwidth	**<Class 1>** **<Ant. 6>** 1.016 MHz for 1Mbps 2.031 MHz for 2Mbps **<Ant. 7>** 1.020 MHz for 1Mbps 2.032 MHz for 2Mbps
Antenna Type / Gain	**<Ant. 6>:** PIFA with gain 2.30 dBi **<Ant. 7>:** PIFA with gain 1.67 dBi
Type of Modulation	Bluetooth LE: GFSK

Remark:

1. MIMO Ant. 7+6 Directional Gain is a calculated result from MIMO Ant. 7 and MIMO Ant. 6. The formula used in calculation is documented in section 1.2.1.
2. Power of MIMO Ant. 7 + Ant. 6 is a calculated result from sum of the power MIMO Ant. 7 and MIMO Ant. 6.
3. The SISO mode conducted power is covered by MIMO mode per chain, so only the MIMO mode is tested.
4. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2.1 Antenna Directional Gain

<For CDD Mode>

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.

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

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.

	Ant 7 (dBi)	Ant 6 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Bluetooth	1.67	2.30	2.30	5.00	0.00	0.00

Calculation example:

If a device has two antenna, G_{ANT7}= 1.67dBi; G_{ANT6}=2.30dBi

Directional gain of power measurement = max(1.67, 2.30) + 0 = 2.30 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (1.67 dBi / 20) + 10^ (2.30 dBi / 20)] ^ 2 } / 2 }

= 5.00 dBi

Power and PSD limit reduction = Composite gain – 6dBi, (min = 0)

1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

The test location is accredited based on TAF code 1190 and 3786 designated by NCC (National Communication Commission).

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

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.)

FCC designation No.: TW1190 and TW3786

Note:

1.The test site complies with ANSI C63.4 2014 requirement.

2.The Conducted test item subcontracted to Sporton International Inc. Wensan Laboratory. (TAF Code: 3786)

1.5 Applicable Standards

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

- FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC Part 15 Subpart C §15.247
- 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.

3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	0	2402	21	2444
	1	2404	22	2446
	2	2406	23	2448
	3	2408	24	2450
	4	2410	25	2452
	5	2412	26	2454
	6	2414	27	2456
	7	2416	28	2458
	8	2418	29	2460
	9	2420	30	2462
	10	2422	31	2464
	11	2424	32	2466
	12	2426	33	2468
	13	2428	34	2470
	14	2430	35	2472
	15	2432	36	2474
	16	2434	37	2476
	17	2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

2.2 Test Mode

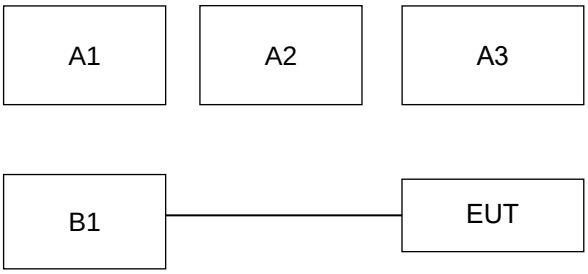
a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

b. AC power line Conducted Emission was tested under maximum output power.

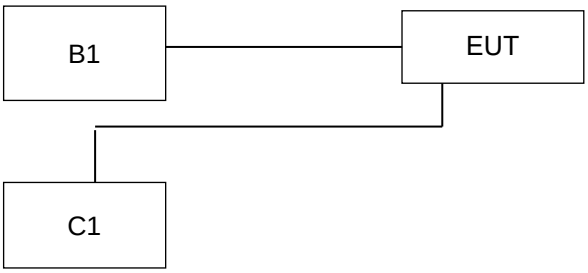
The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	**Data Rate / Modulation**
Conducted Test Cases	**Bluetooth – LE / GFSK**
	Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps Mode 2: Bluetooth Tx CH19_2440 MHz_1Mbps Mode 3: Bluetooth Tx CH39_2480 MHz_1Mbps Mode 4: Bluetooth Tx CH00_2402 MHz_2Mbps Mode 5: Bluetooth Tx CH19_2440 MHz_2Mbps Mode 6: Bluetooth Tx CH39_2480 MHz_2Mbps
AC Conducted Emission	Mode 1: Bluetooth Link + WLAN (2.4GHz) Link + USB TYPE-A to TYPE-C cable (Charging with Adapter) for Sample 1
Remark: 1. For Radiated Test Cases, the tests were performed with Sample 1. 2. For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power. 3. The detailed Radiated test modes are shown in Appendix C.	

2.3 Connection Diagram of Test System



Conduction Test Setup									
No.	Wireless Station	Connection Type	Test Mode						
			1	-	-	-	-	-	-
A1	BT Earphone	Bluetooth	X	-	-	-	-	-	-
A2	AP router	WiFi	X	-	-	-	-	-	-
A3	Notebook	WiFi	X	-	-	-	-	-	-
No.	Power Source	Connection Type	1	-	-	-	-	-	-
B1	AC : 120V/60Hz	AC Power Cable	X	-	-	-	-	-	-



Radiation Tx Test Setup			
No.	Power Source	Connection Type	Test Mode
			Tx
B1	AC : 120V/60Hz	USB Cable e	X
No.	Setup Peripherals	Connection Type	Tx
C1	Adapter	USB to Type C	X

2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Jlab Jbund Mini	2AHYV	N/A	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
3.	Notebook	Dell	Latitude 3420	FCC DoC	N/A	AC I/P：Unshielded, 1.2m DC O/P：Shielded, 1.8m

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT v4.1 Version 4.0.170.1" was installed in Notebook 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.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

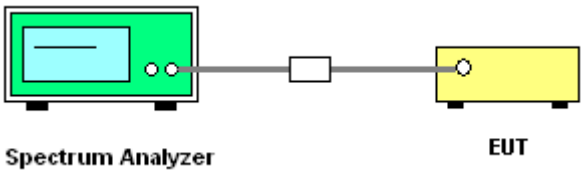
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1% to 5% of the OBW but not less than 100 kHz. Set the Video bandwidth VBW ≥ 3 * RBW. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth, and set the Video bandwidth (VBW) ≥ 3 * RBW.
6. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

3.1.6 Test Result of 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna of directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

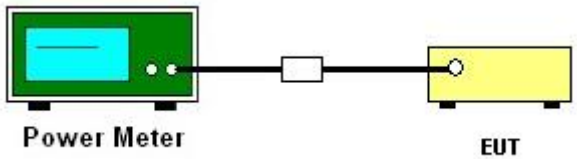
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
2. The RF output of EUT is connected to the power meter by RF cable and attenuator.
3. The path loss is compensated to the results for each measurement.
4. Set the maximum power setting and enable the EUT to transmit continuously.
5. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

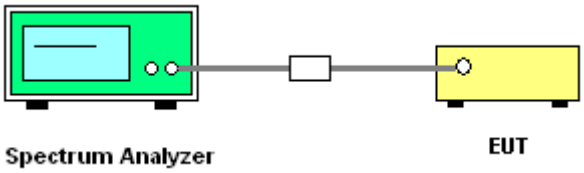
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth (VBW) = 10 kHz. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6 dB BW)
5. Detector = peak, Sweep time = No faster than coupled (auto) time, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. The Measured power density (dBm)/ 100 kHz is a reference level and is used as 20 dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 30 dB down from the highest emission level within the authorized band.

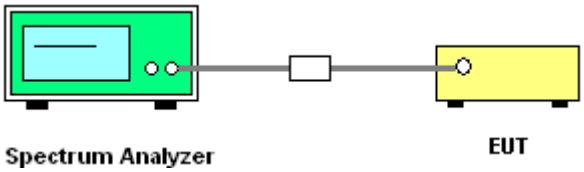
3.4.2 Measuring Instruments

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

3.4.3 Test Procedure

1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Set RBW = 100 kHz, VBW = 300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges Plots

Please refer to Appendix A.

3.4.6 Test Result of Conducted Spurious Emission Plots

Please refer to Appendix A.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.5.2 Measuring Instruments

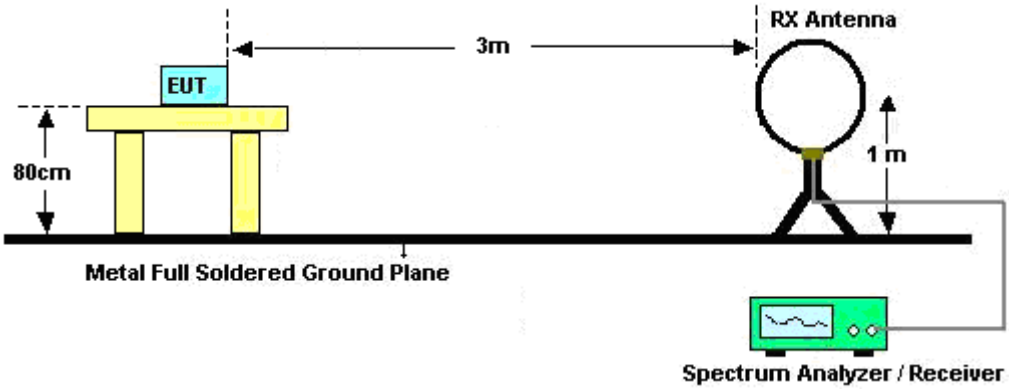
Please refer to the measuring equipment list in this test report.

3.5.3 Test Procedures

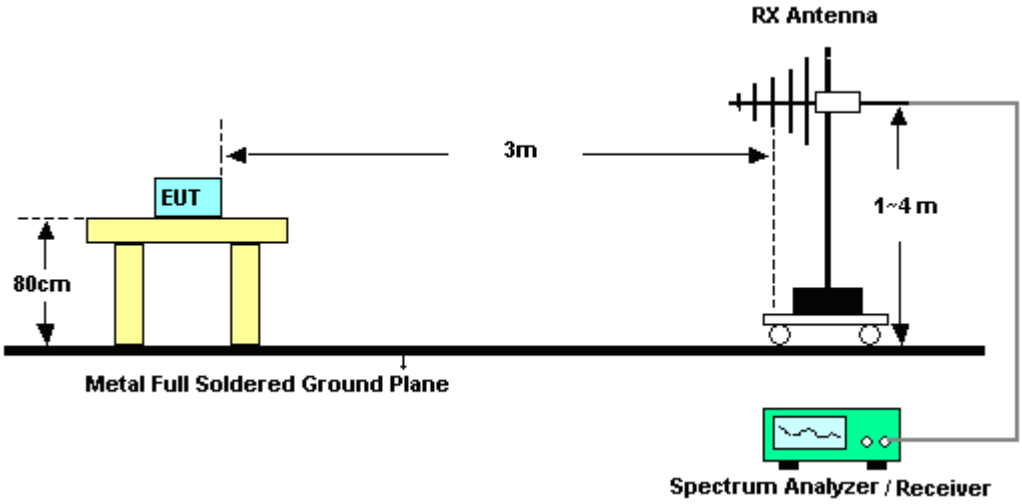
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT is 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.
4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-“.
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees 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 6 dB margin against average limit line, the position is marked as “-“.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW = 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW = 3 MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - 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.

3.5.4 Test Setup

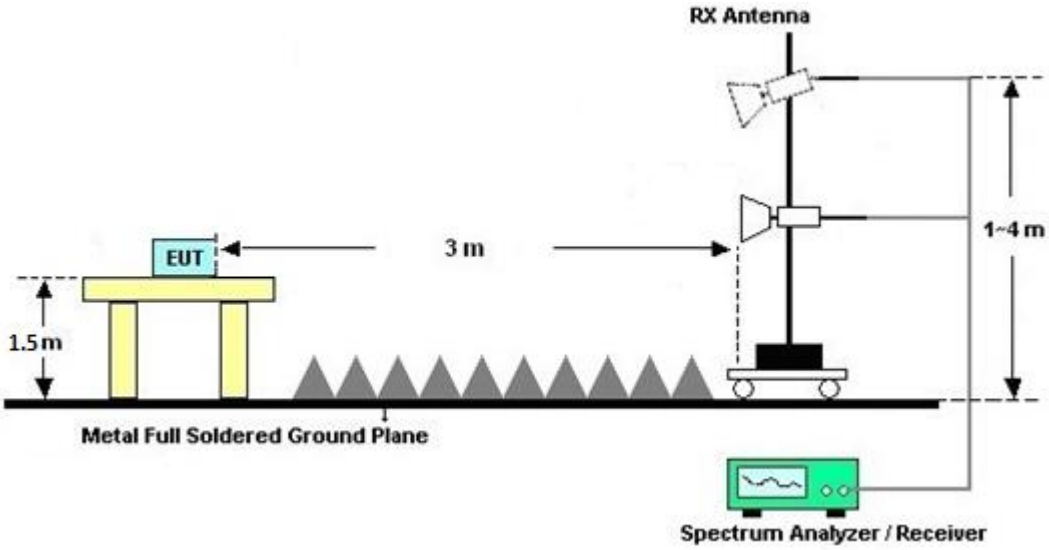
For radiated test below 30MHz



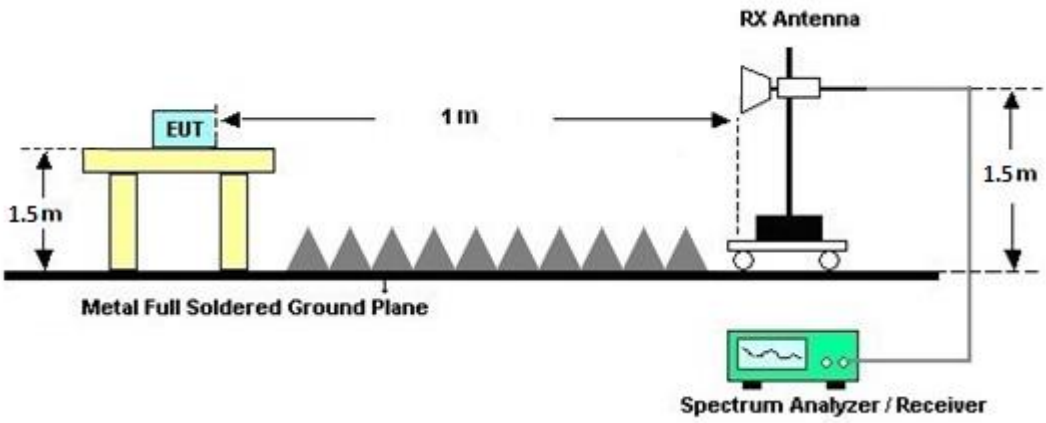
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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 comes out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30 MHz ~ 10th Harmonic)

Please refer to Appendix C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

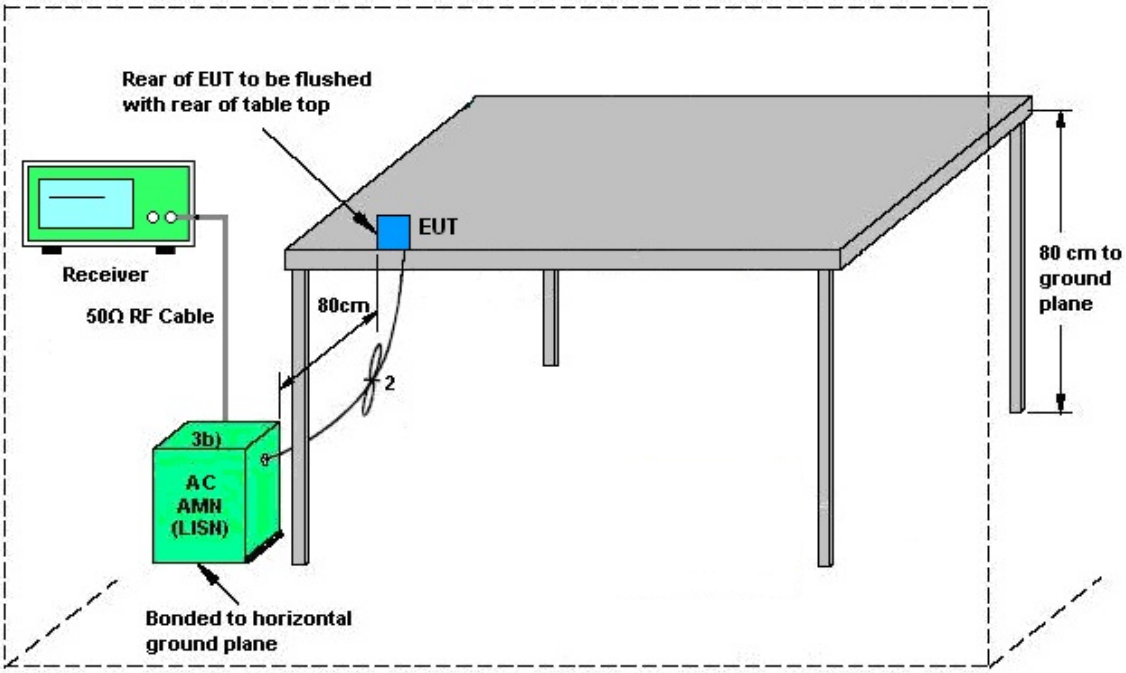
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
6. The frequency range from 150 kHz to 30 MHz is scanned.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 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.

3.7.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303A	TP224371	N/A	Jun. 16, 2025	Nov. 05. 2025~ Dec. 06.2025	Jun. 15, 2026	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 29, 2025	Nov. 05. 2025~ Dec. 06.2025	Aug. 28, 2026	Conducted (TH05-HY)
Switch Control Mainframe	E-Instument	ETF-1405-0	EC1900157 (BOX6)	N/A	Feb. 10, 2025	Nov. 05. 2025~ Dec. 06.2025	Feb. 09, 2026	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_version_240513	N/A	Conducted Other Test Item	N/A	Nov. 05. 2025~ Dec. 06.2025	N/A	Conducted (TH05-HY)
USB Power Sensor	DARE	RPR3008W	RPR8W-2301016 (NO:54)	10MHz~8GHz	Jul. 14, 2025	Nov. 05. 2025~ Dec. 06.2025	Jul. 13, 2026	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO31 (NO:182)	9kHz~6GHz	Jan. 09, 2025	Nov. 05. 2025~ Dec. 06.2025	Jan. 08, 2026	Conducted (TH05-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 23, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Jan. 22, 2026	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 21, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Apr. 20, 2026	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Mar. 06, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Mar. 05, 2026	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590075	1GHz~18GHz	Apr. 18, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Apr. 17, 2026	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Sep. 30, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Sep. 29, 2026	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Mar. 22, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Mar. 21, 2026	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Aug. 08, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Aug. 07, 2026	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Mar. 28, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Mar. 27, 2026	Radiation (03CH07-HY)
Double Ridged Guide Horn Antenna	ETS-Lindgren	3117	00075962	1GHz ~ 18GHz	Nov. 28, 2024	Oct. 30, 2025 ~ Nov. 19, 2025	Nov. 27, 2025	Radiation (03CH07-HY)
Double Ridged Guide Horn Antenna	ETS-Lindgren	3117	00066584	1GHz~18GHz	Dec. 20, 2024	Nov. 19, 2025 ~ Dec. 06, 2025	Dec. 19, 2025	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4 MY24971/4 MY15682/4	30MHz to 18GHz	Feb. 20, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Feb. 19, 2026	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4 MY24971/4	9kHz to 30MHz	Feb. 20, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Feb. 19, 2026	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 13, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Sep. 12, 2026	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 20, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Feb. 19, 2026	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801606/2	9KHz ~ 40GHz	Apr. 23, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Apr. 22, 2026	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Oct. 30, 2025 ~ Dec. 06, 2025	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Oct. 30, 2025 ~ Dec. 06, 2025	N/A	Radiation (03CH07-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Antenna Mast	MF	MF-7802	N/A	Control Turn table	N/A	Oct. 30, 2025 ~ Dec. 06, 2025	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Oct. 30, 2025 ~ Dec. 06, 2025	N/A	Radiation (03CH07-HY)
Attenuator	HONOVA	5910 SMA-50-005-19-NE	ATT-36	30MHz~18GHz	Feb. 11, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Feb. 10, 2026	Radiation (03CH07-HY)
Software	Audix	E3	RK-002396	N/A	N/A	Oct. 30, 2025 ~ Dec. 06, 2025	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Feb. 24, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	Feb. 23, 2026	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	00991	18GHz-40GHz	May. 29, 2025	Oct. 30, 2025 ~ Dec. 06, 2025	May. 28, 2026	Radiation (03CH07-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Nov. 14, 2025	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	N/A	Dec. 10, 2024	Nov. 14, 2025	Dec. 09, 2025	Conduction (CO05-HY)
Hygrometer	TECPEL	DTM-303A	TP210031	N/A	Jun. 26, 2025	Nov. 14, 2025	Jun. 25, 2026	Conduction (CO05-HY)
Two-Line V-Network	Rohde & Schwarz	ENV216	100081	N/A	Jul. 25, 2025	Nov. 14, 2025	Jul. 24, 2026	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Nov. 14, 2025	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Jul. 29, 2025	Nov. 14, 2025	Jul. 28, 2026	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	MQT24082501	N/A	Oct. 14, 2025	Nov. 14, 2025	Oct. 13, 2026	Conduction (CO05-HY)

5 Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.7 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.3 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.7 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.5 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.9 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Junyu Jhou / Hank Hsu	Temperature:	21~25	°C
Test Date:	2025/11/5~12/6	Relative Humidity:	51~54	%

<Class 1>

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	1Mbps	2	0	2402	1.020	0.678	0.50	Pass
BLE	1Mbps	2	19	2440	1.020	0.677	0.50	Pass
BLE	1Mbps	2	39	2480	1.014	0.669	0.50	Pass

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power Ant 7 (dBm)	Average Conducted Power Ant 6 (dBm)	Total Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	Total EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	2	0	2402	14.00	15.60	17.88	30.00	2.30	20.18	36.00	Pass
BLE	1Mbps	2	19	2440	14.90	15.50	18.22	30.00	2.30	20.52	36.00	Pass
BLE	1Mbps	2	39	2480	13.40	14.10	16.77	30.00	2.30	19.07	36.00	Pass

TEST RESULTS DATA
Peak Power Density

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	Peak PSD Worst +3.01 (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	1Mbps	2	0	2402	13.18	-1.56	1.45	2.30	8.00	Pass
BLE	1Mbps	2	19	2440	14.06	-0.51	2.50	2.30	8.00	Pass
BLE	1Mbps	2	39	2480	12.78	-1.75	1.26	2.30	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	2Mbps	2	0	2402	2.032	1.157	0.50	Pass
BLE	2Mbps	2	19	2440	2.031	1.152	0.50	Pass
BLE	2Mbps	2	39	2480	2.029	1.154	0.50	Pass

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power Ant 7 (dBm)	Average Conducted Power Ant 6 (dBm)	Total Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	Total EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	2	0	2402	14.10	15.70	17.98	30.00	2.30	20.28	36.00	Pass
BLE	2Mbps	2	19	2440	13.50	14.20	16.87	30.00	2.30	19.17	36.00	Pass
BLE	2Mbps	2	39	2480	14.90	15.60	18.27	30.00	2.30	20.57	36.00	Pass

TEST RESULTS DATA
Peak Power Density

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	Peak PSD Worst +3.01 (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	2Mbps	2	0	2402	13.14	-3.76	-0.75	2.30	8.00	Pass
BLE	2Mbps	2	19	2440	14.03	-2.84	0.17	2.30	8.00	Pass
BLE	2Mbps	2	39	2480	12.77	-4.14	-1.13	2.30	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2025/11/28	Relative Humidity:	51~54	%

<Class 2>

<Ant 6>

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	1.50	30.00	2.30	3.80	36.00	Pass
BLE	1Mbps	1	19	2440	2.30	30.00	2.30	4.60	36.00	Pass
BLE	1Mbps	1	39	2480	0.00	30.00	2.30	2.30	36.00	Pass

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	1.50	30.00	2.30	3.80	36.00	Pass
BLE	2Mbps	1	19	2440	2.30	30.00	2.30	4.60	36.00	Pass
BLE	2Mbps	1	39	2480	0.00	30.00	2.30	2.30	36.00	Pass

<Class 2>

<Ant 7>

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	3.10	30.00	1.67	4.77	36.00	Pass
BLE	1Mbps	1	19	2440	3.20	30.00	1.67	4.87	36.00	Pass
BLE	1Mbps	1	39	2480	2.80	30.00	1.67	4.47	36.00	Pass

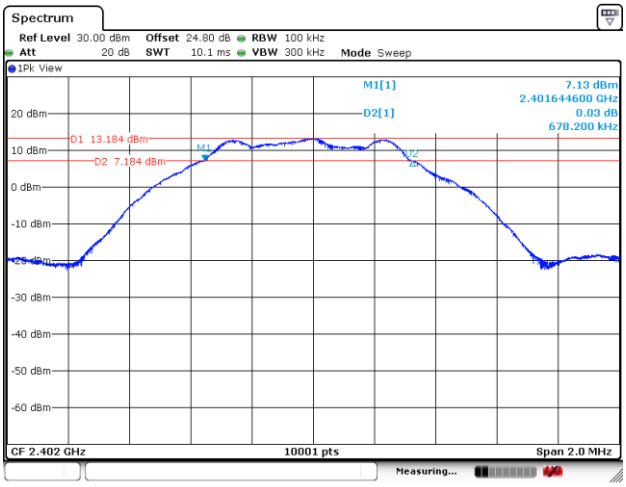
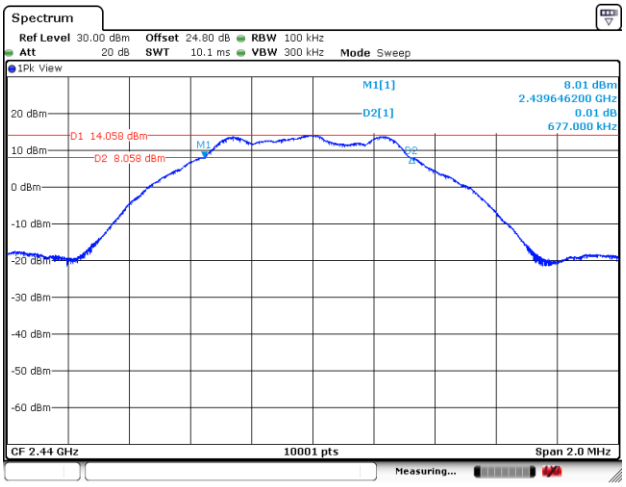
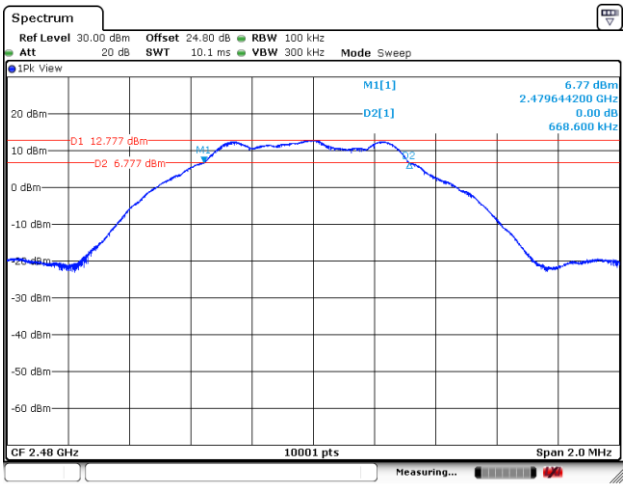
TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	3.20	30.00	1.67	4.87	36.00	Pass
BLE	2Mbps	1	19	2440	3.30	30.00	1.67	4.97	36.00	Pass
BLE	2Mbps	1	39	2480	2.90	30.00	1.67	4.57	36.00	Pass

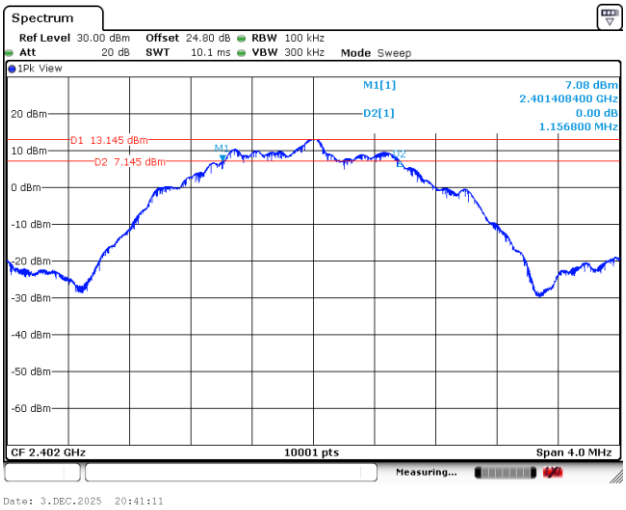
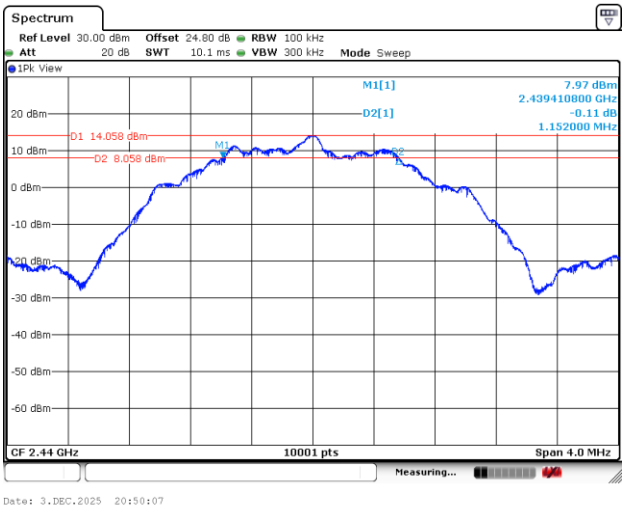
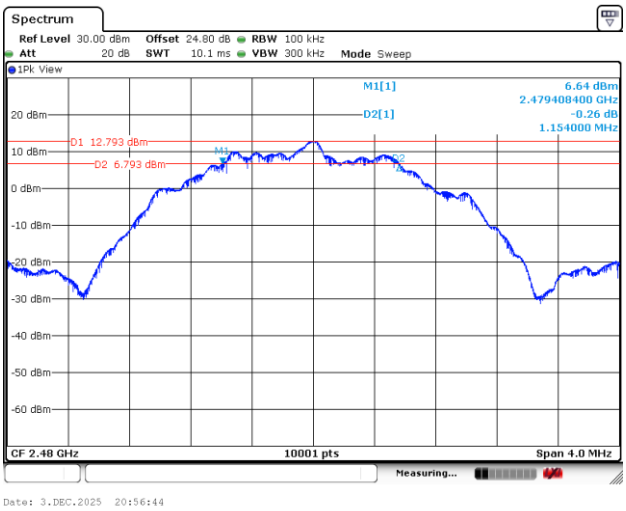
Number of TX = 2, Ant. 7 (Measured)

6dB Bandwidth

<1M>

6 dB Bandwidth Plot on Channel 00	6 dB Bandwidth Plot on Channel 19
	
6 dB Bandwidth Plot on Channel 39	
	

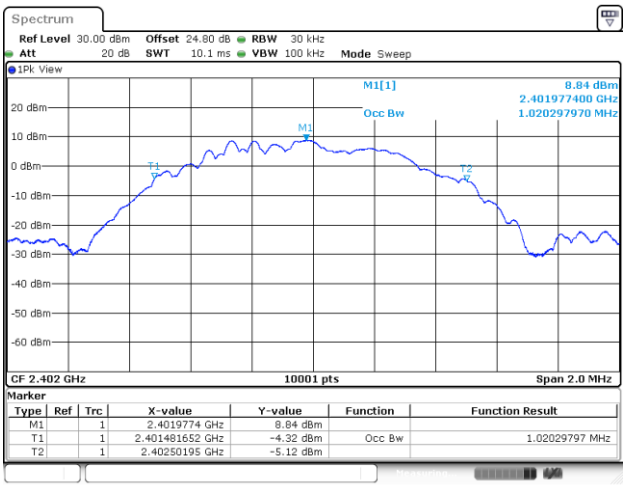
<2M>

6 dB Bandwidth Plot on Channel 00	6 dB Bandwidth Plot on Channel 19
	
6 dB Bandwidth Plot on Channel 39	
	

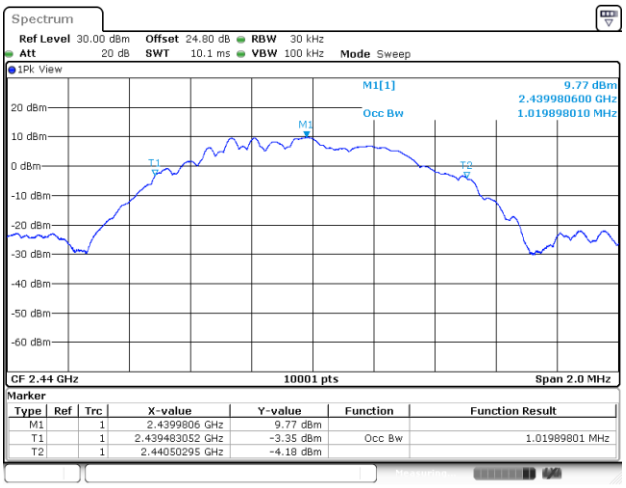
99% Occupied Bandwidth

<1M>

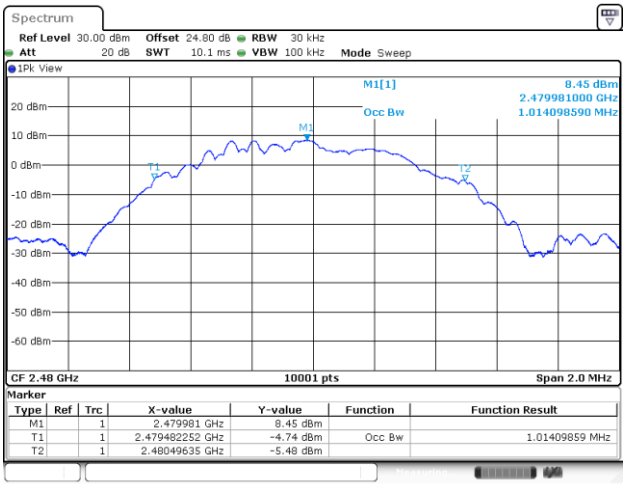
99% Occupied Bandwidth Plot on Channel 00



99% Occupied Bandwidth Plot on Channel 19

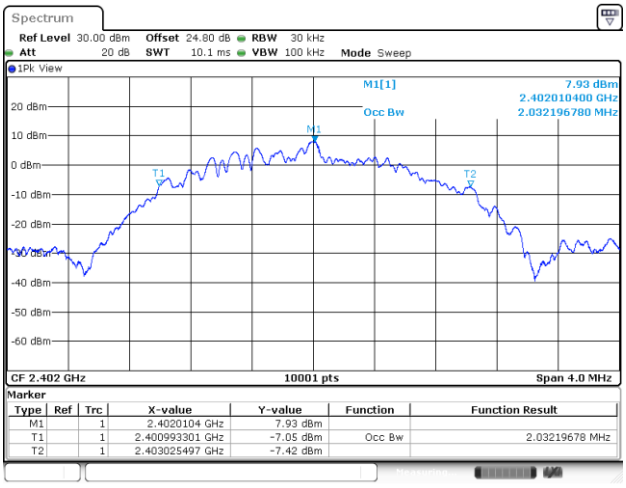


99% Occupied Bandwidth Plot on Channel 39

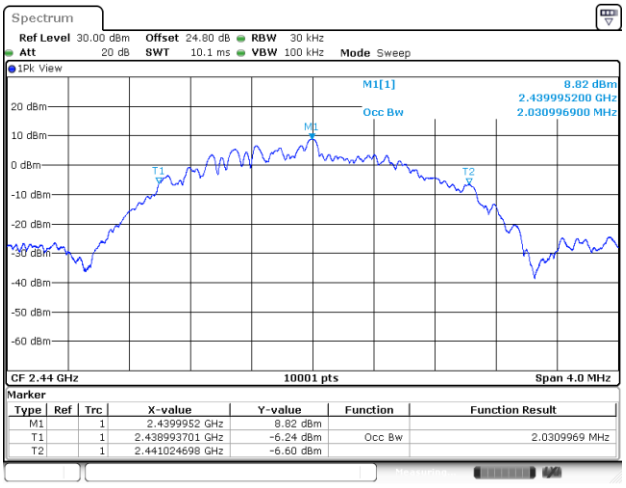


<2M>

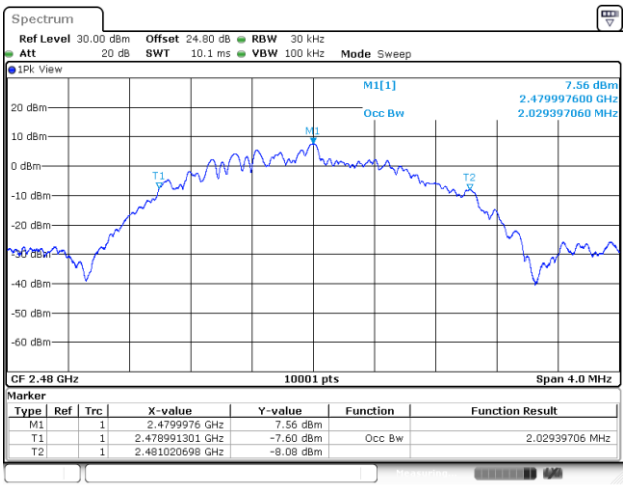
99% Occupied Bandwidth Plot on Channel 00



99% Occupied Bandwidth Plot on Channel 19



99% Occupied Bandwidth Plot on Channel 39



Power Spectral Density (dBm/3kHz)

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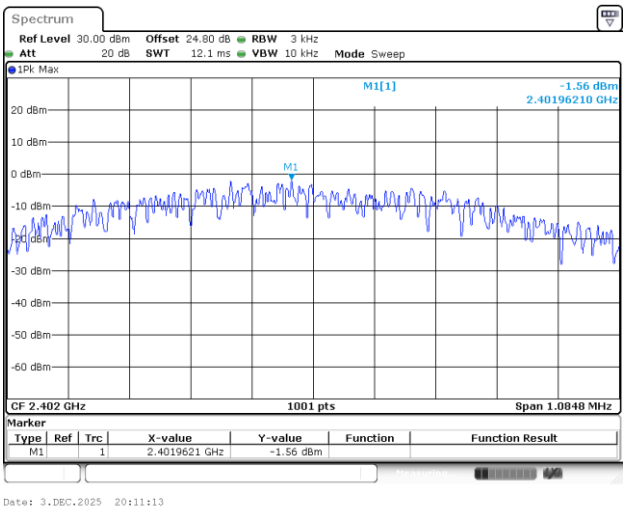
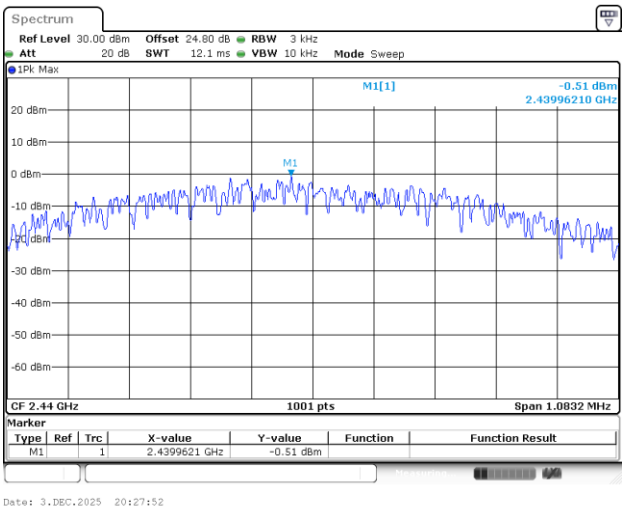
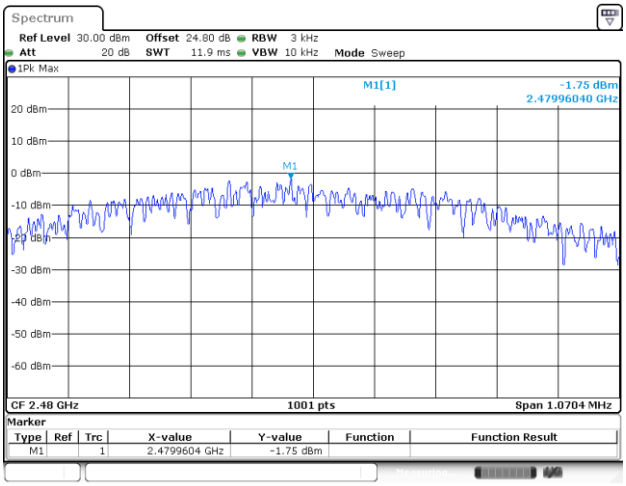
Power Density (dBm/3kHz) Plot Channel 00	Power Density (dBm/3kHz) Plot Channel 19
	
Power Density (dBm/3kHz) Plot Channel 39	
	

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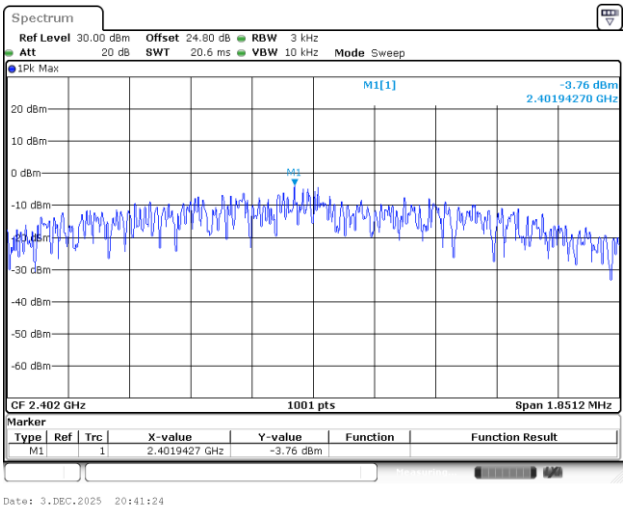
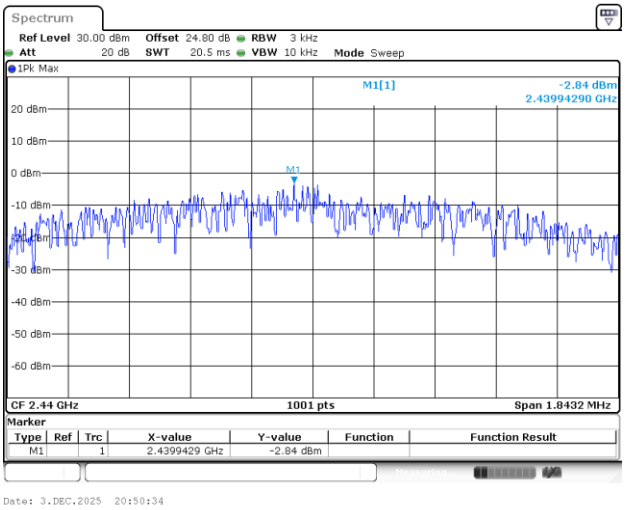
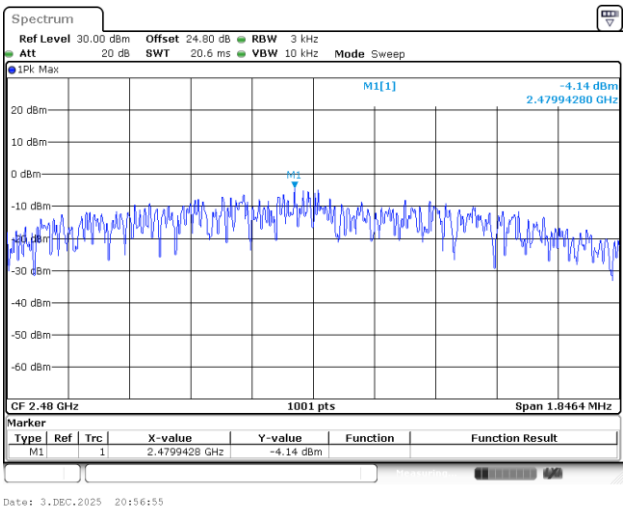
Power Density (dBm/3kHz) Plot Channel 00	Power Density (dBm/3kHz) Plot Channel 19
	
Power Density (dBm/3kHz) Plot Channel 39	
	

Band Edge and Conducted Spurious Emission

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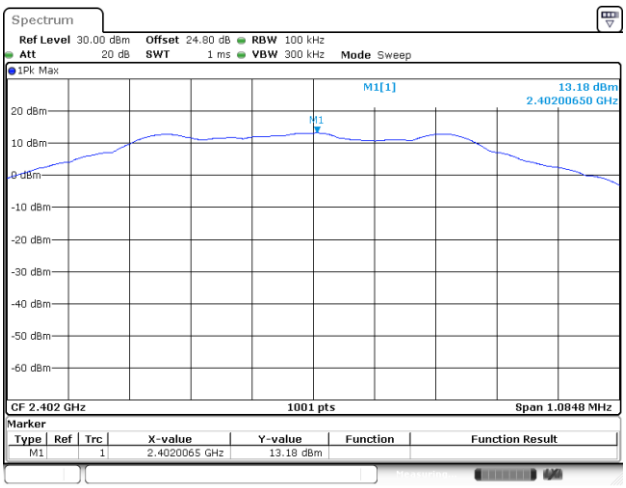
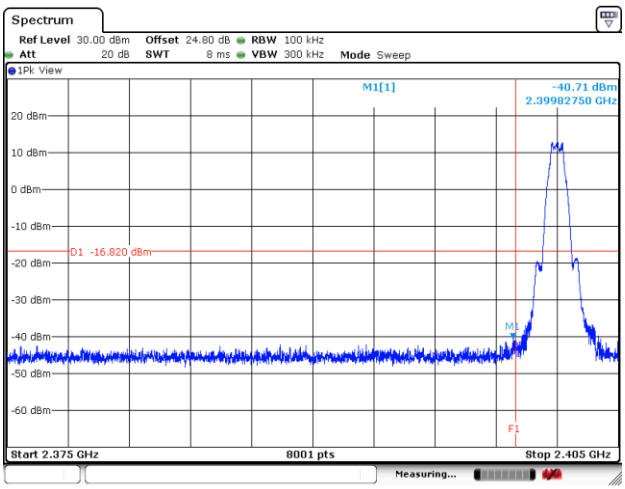
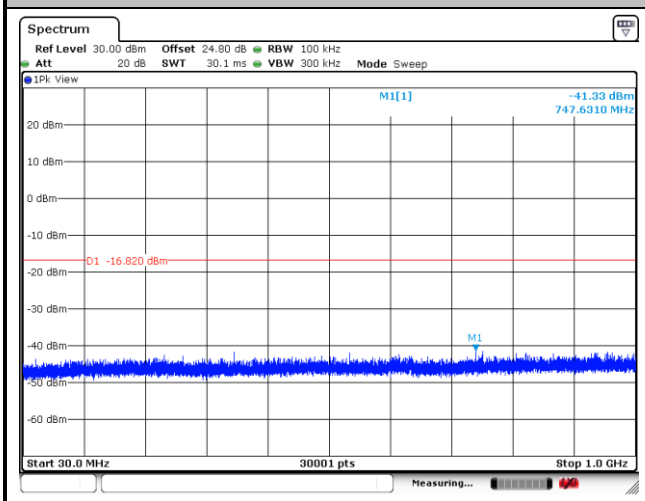
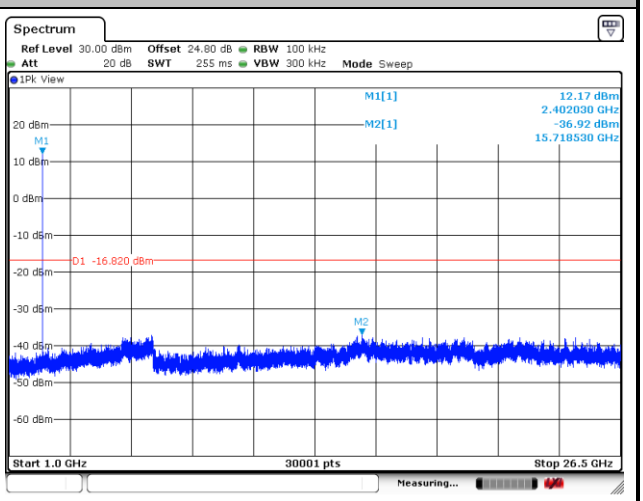
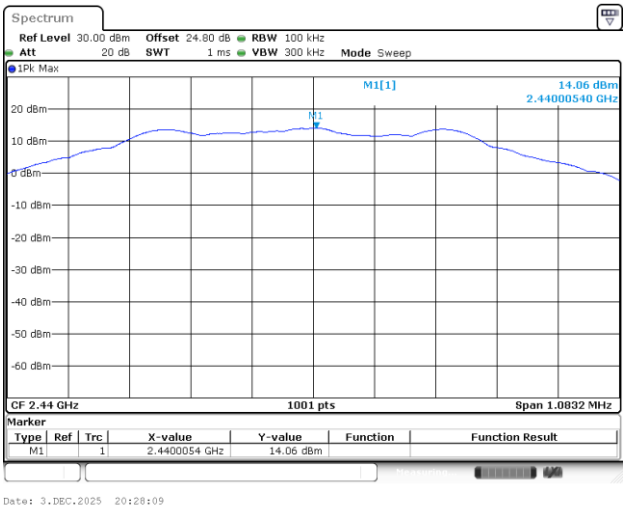
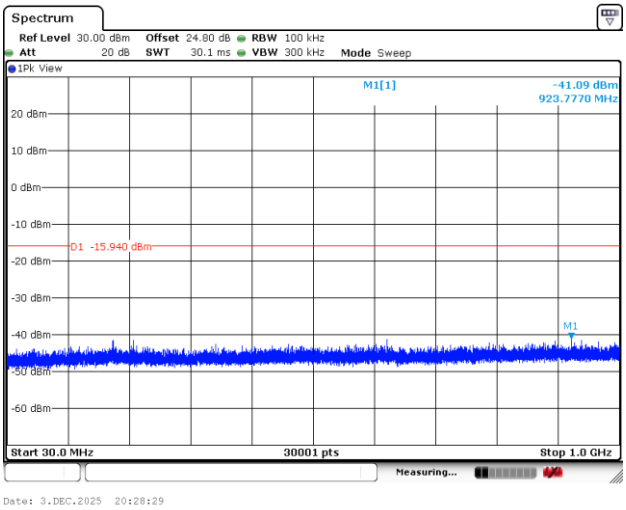
Channel 00	
100kHz PSD reference Level Plot	**Plot on Channel 00**
	
Spurious Emission 30MHz~1GHz Plot	**Spurious Emission 1GHz~26.5GHz Plot**
	

Channel 19

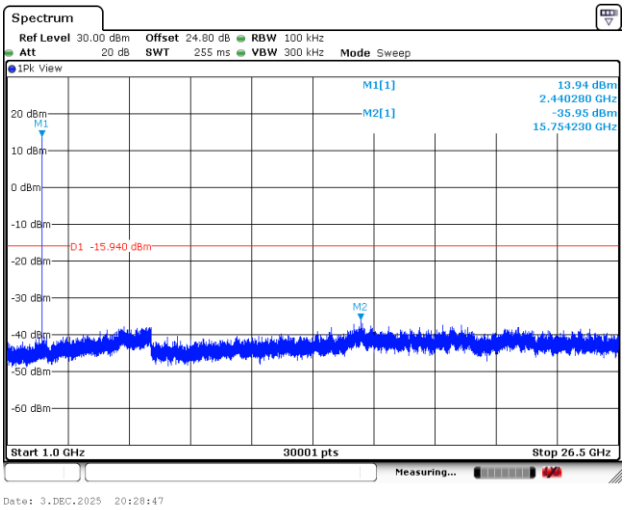
100kHz PSD reference Level Plot



Spurious Emission 30MHz~1GHz Plot

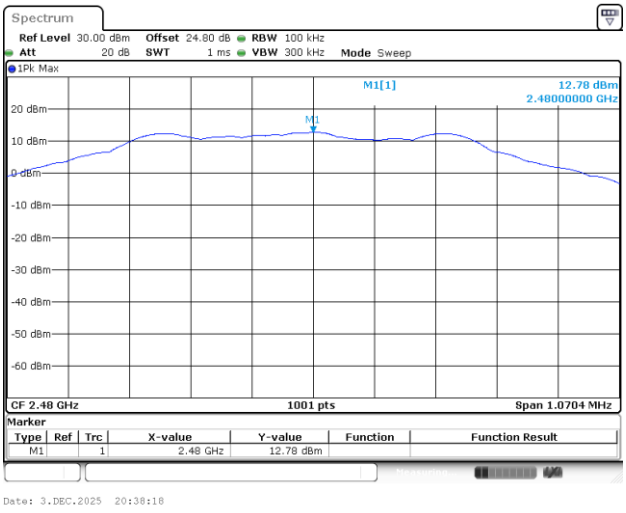


Spurious Emission 1GHz~26.5GHz Plot

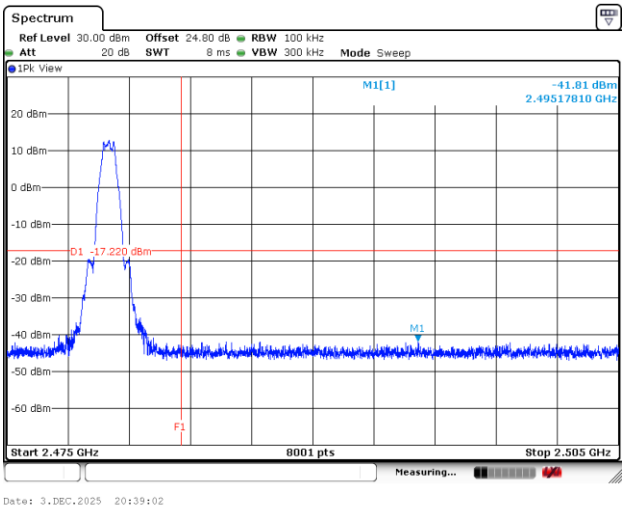


Channel 39

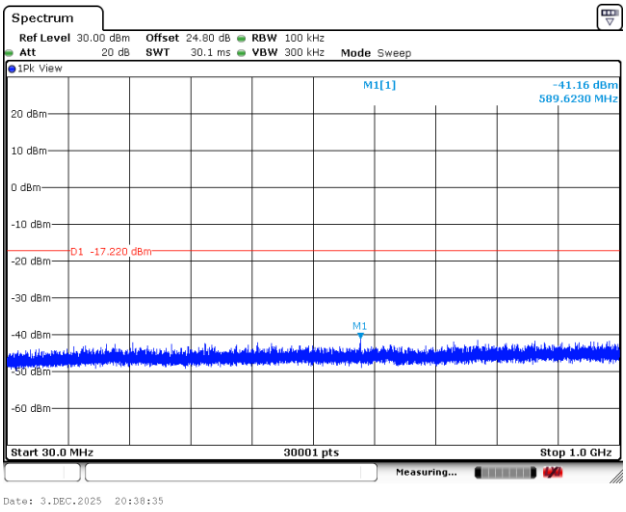
100kHz PSD reference Level Plot



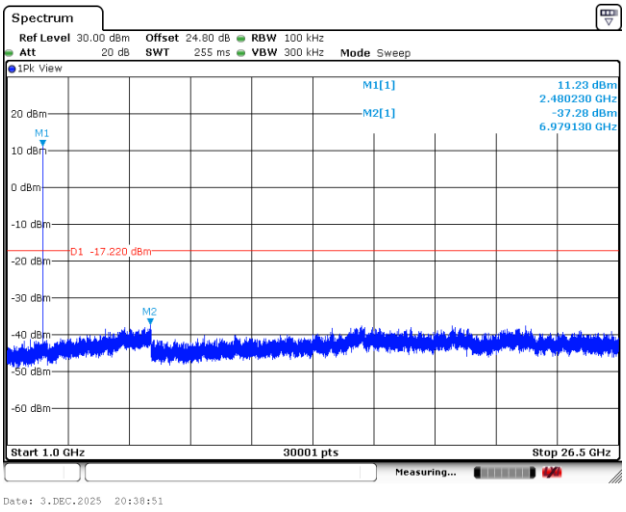
Plot on Channel 39



Spurious Emission 30MHz~1GHz Plot



Spurious Emission 1GHz~26.5GHz Plot



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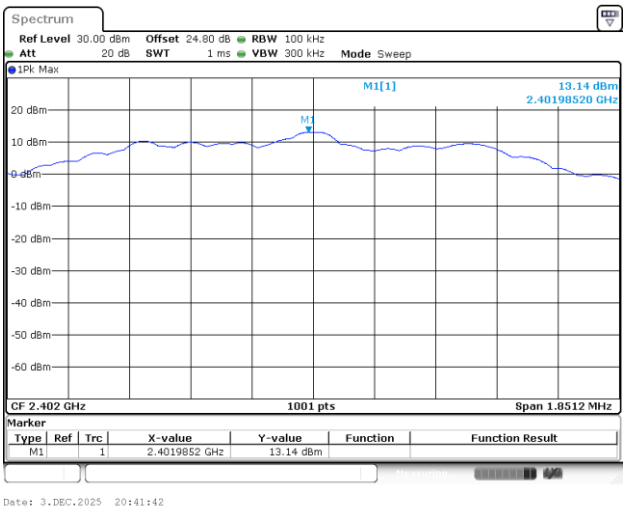
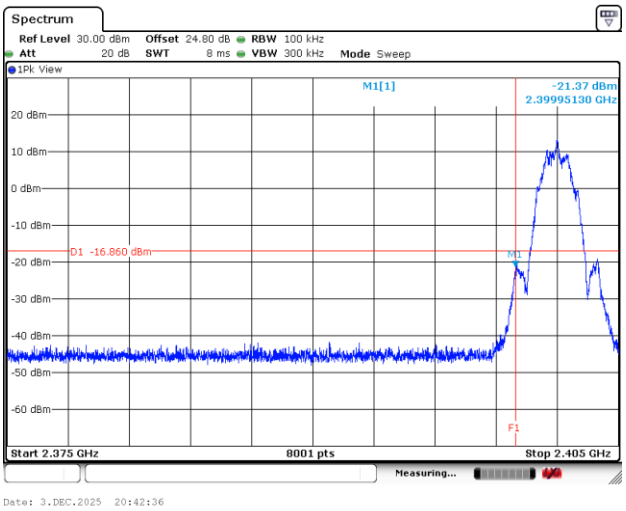
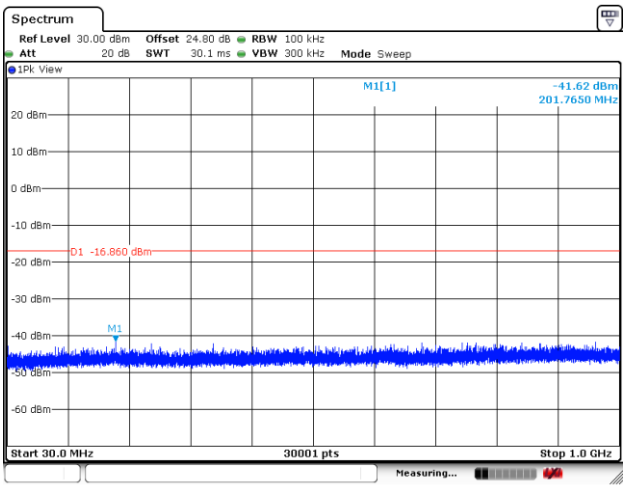
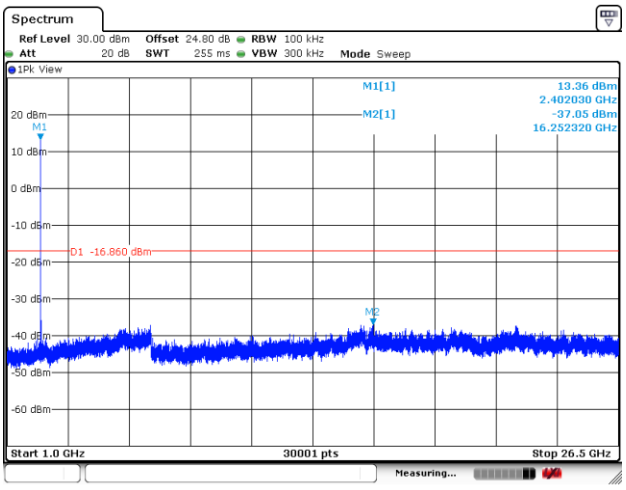
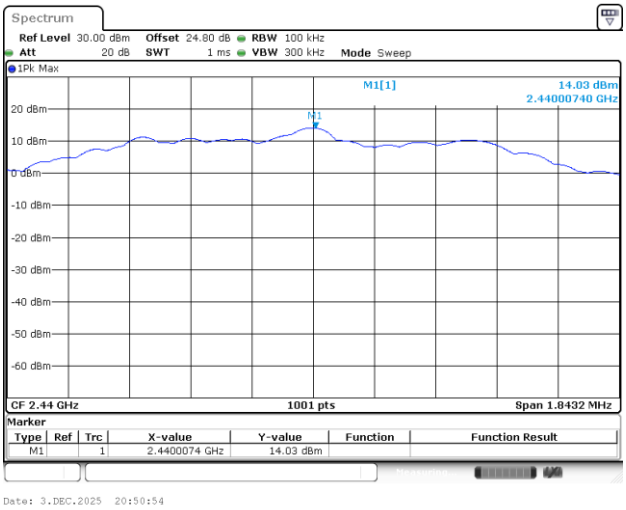
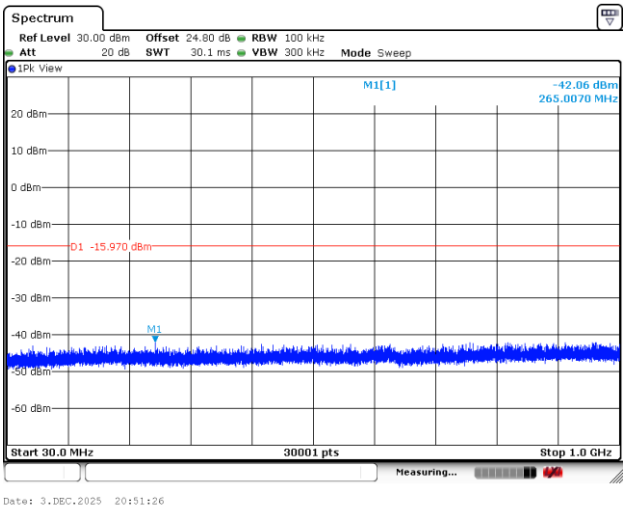
Channel 00	
100kHz PSD reference Level Plot	**Plot on Channel 00**
	
Spurious Emission 30MHz~1GHz Plot	**Spurious Emission 1GHz~26.5GHz Plot**
	

Channel 19

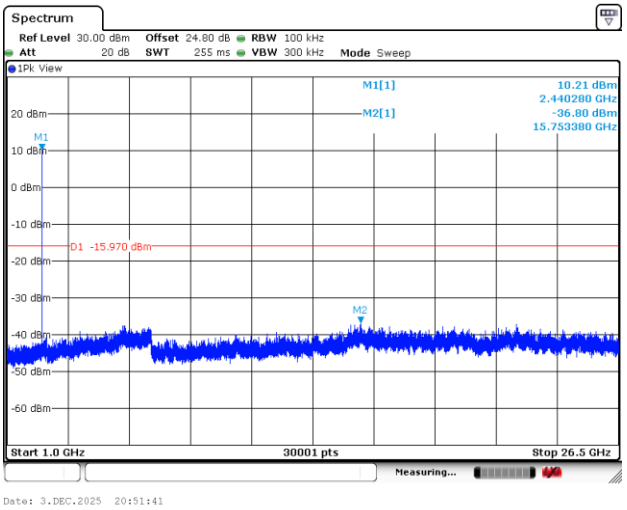
100kHz PSD reference Level Plot



Spurious Emission 30MHz~1GHz Plot

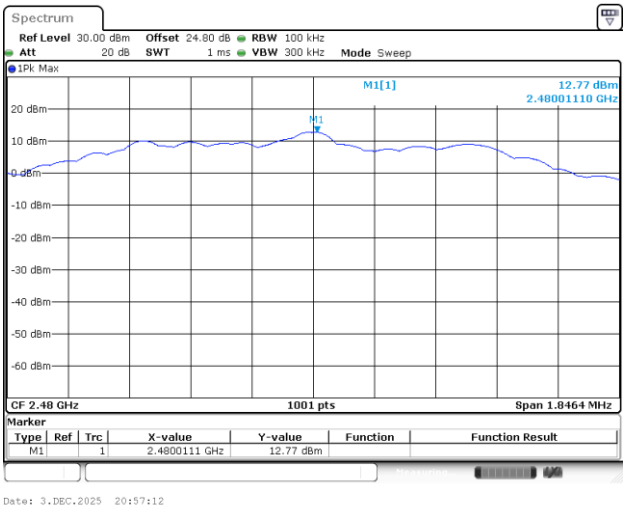


Spurious Emission 1GHz~26.5GHz Plot

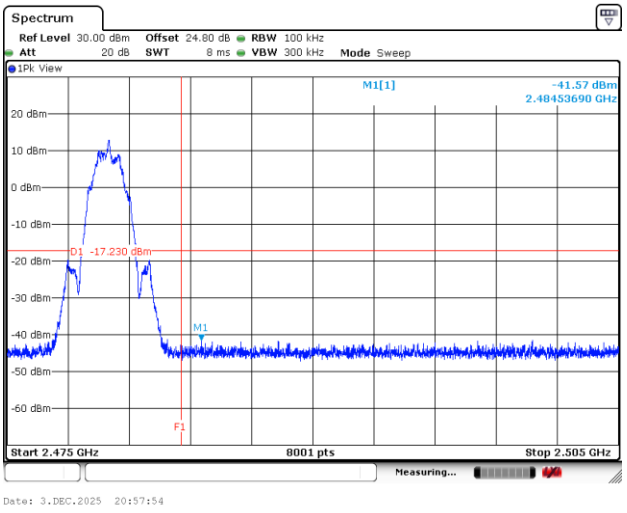


Channel 39

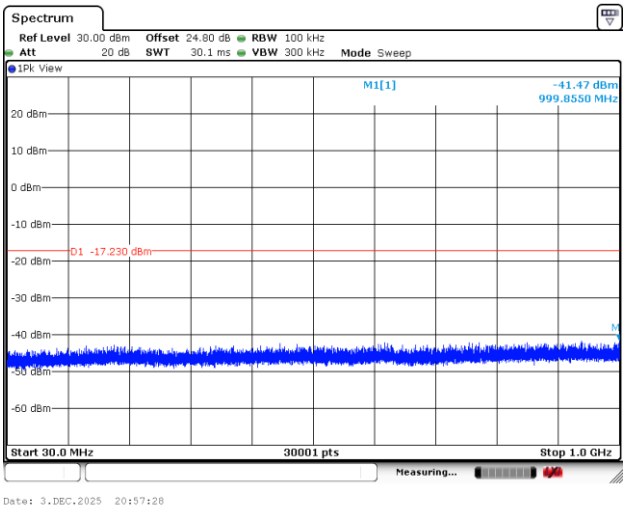
100kHz PSD reference Level Plot



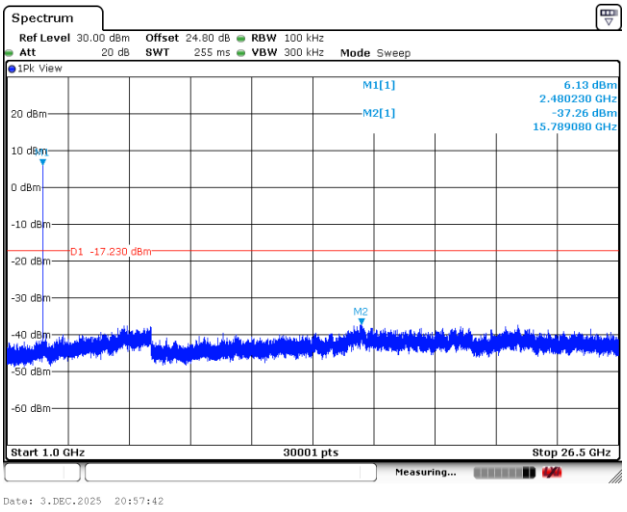
Plot on Channel 39



Spurious Emission 30MHz~1GHz Plot



Spurious Emission 1GHz~26.5GHz Plot



Number of TX = 2, Ant. 6 (Measured)

6dB Bandwidth

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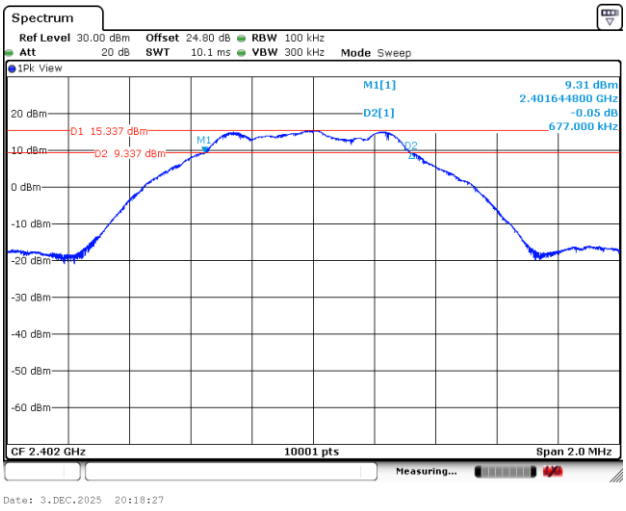
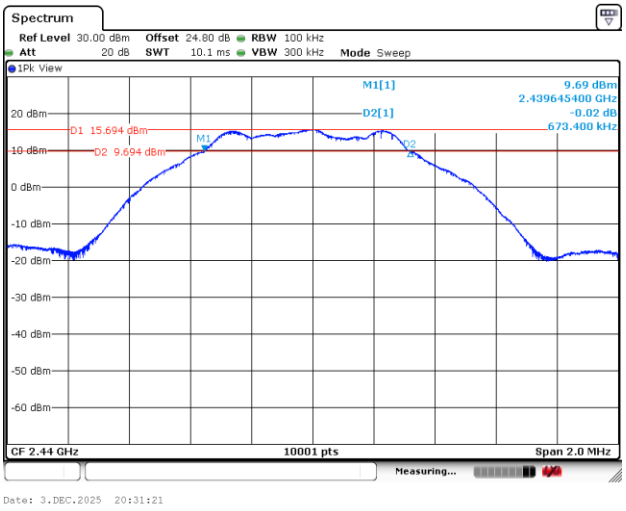
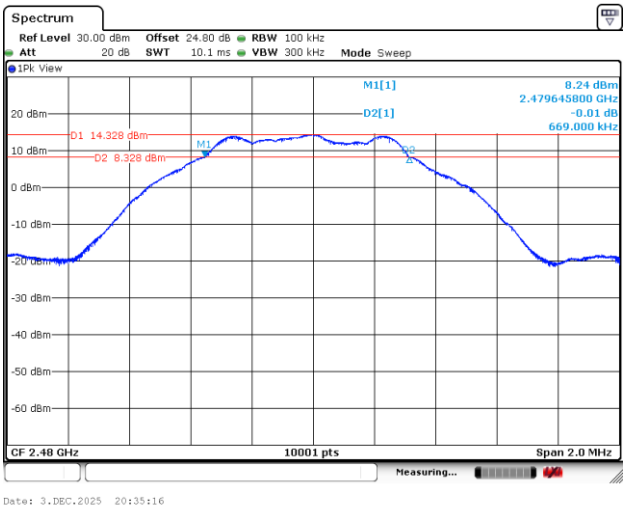
6 dB Bandwidth Plot on Channel 00	6 dB Bandwidth Plot on Channel 19
	
6 dB Bandwidth Plot on Channel 39	
	

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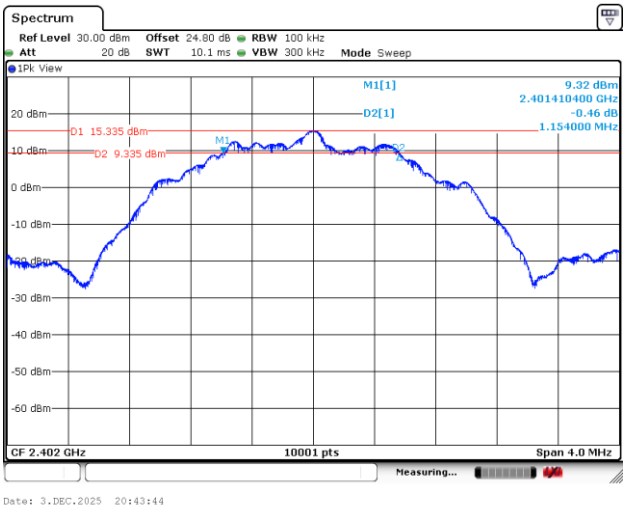
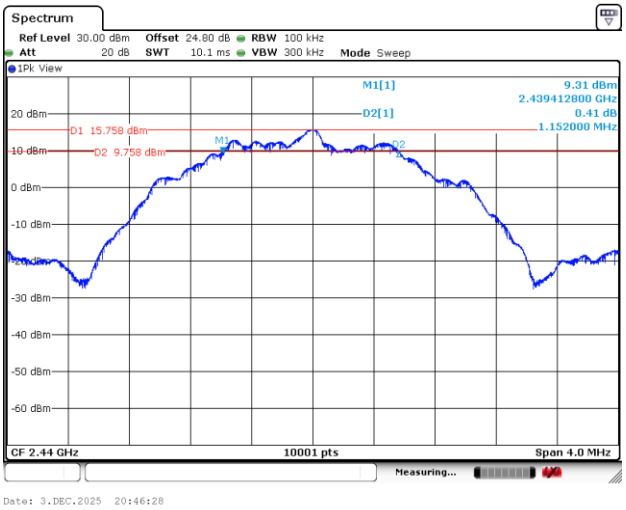
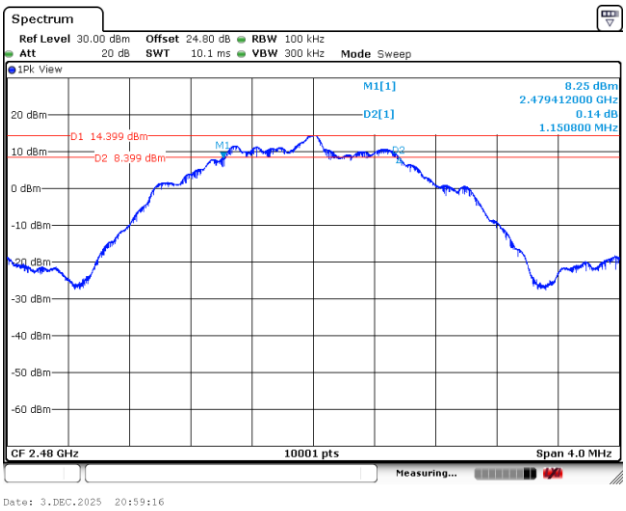
6 dB Bandwidth Plot on Channel 00	6 dB Bandwidth Plot on Channel 19
	
6 dB Bandwidth Plot on Channel 39	
	

99% Occupied Bandwidth

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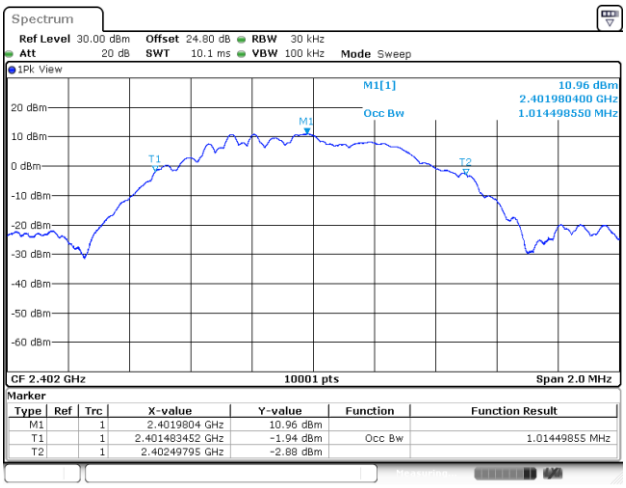
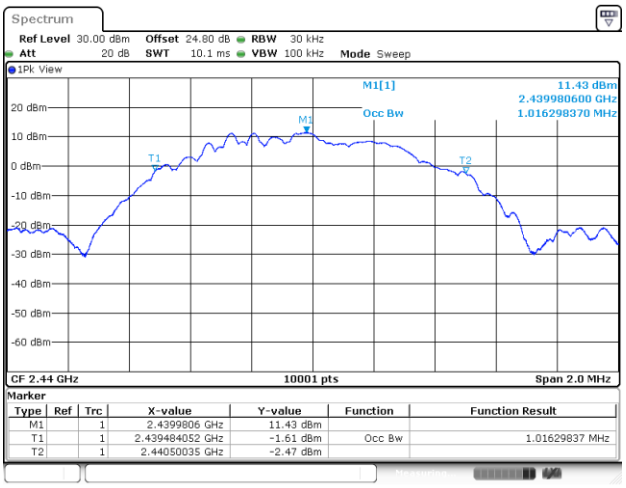
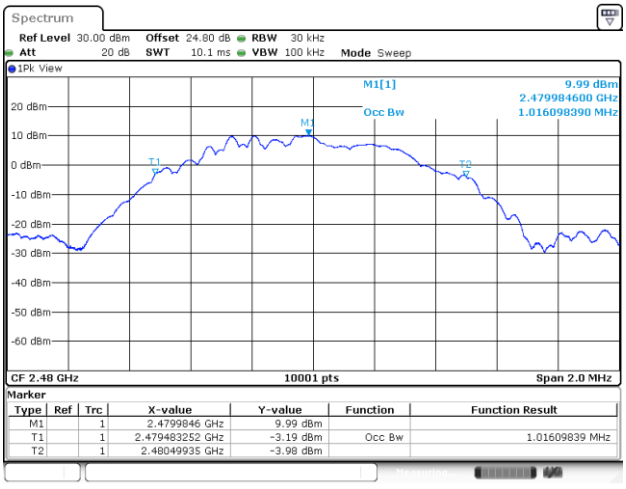
99% Occupied Bandwidth Plot on Channel 00



99% Occupied Bandwidth Plot on Channel 19



99% Occupied Bandwidth Plot on Channel 39



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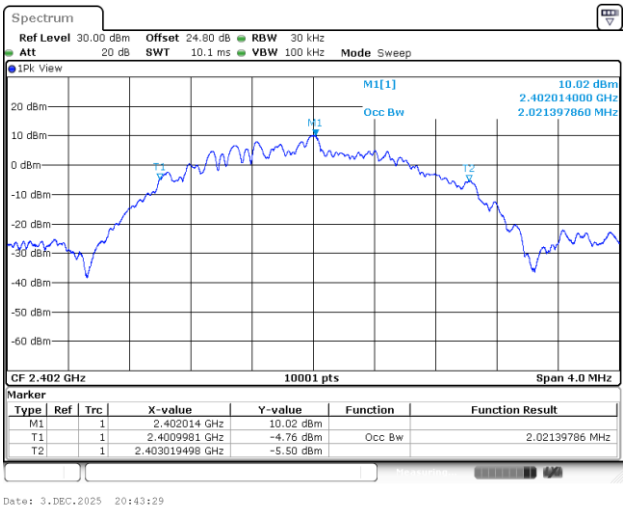
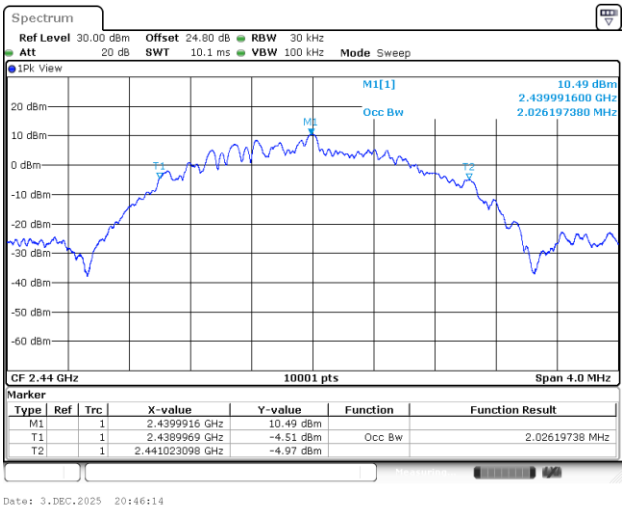
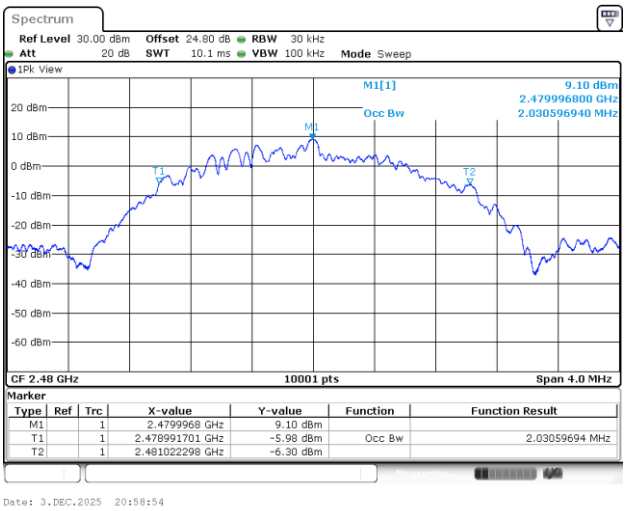
99% Occupied Bandwidth Plot on Channel 00



99% Occupied Bandwidth Plot on Channel 19



99% Occupied Bandwidth Plot on Channel 39



Power Spectral Density (dBm/3kHz)

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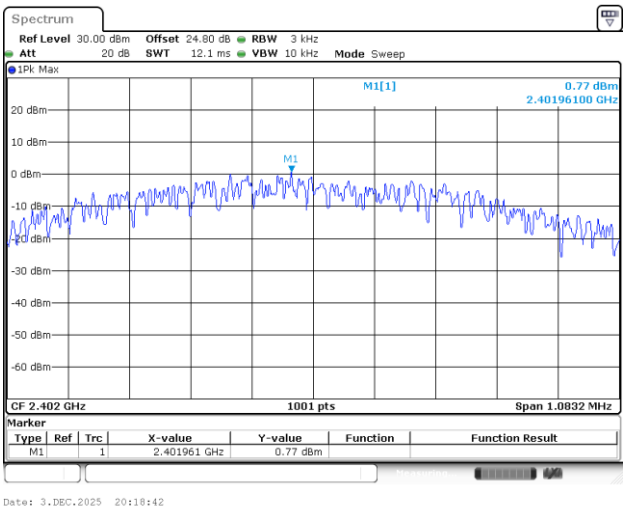
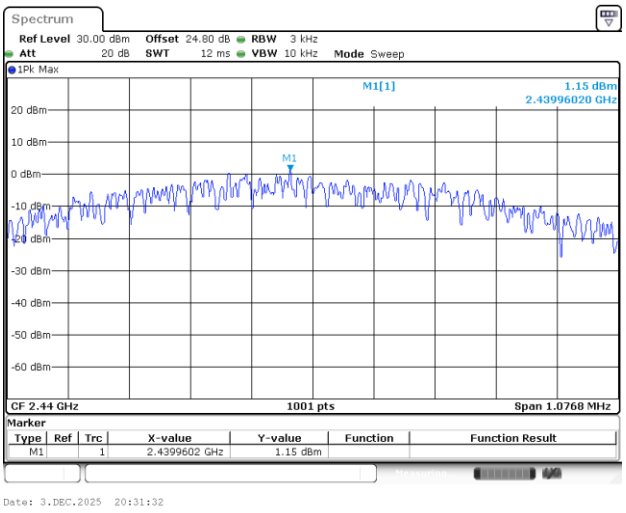
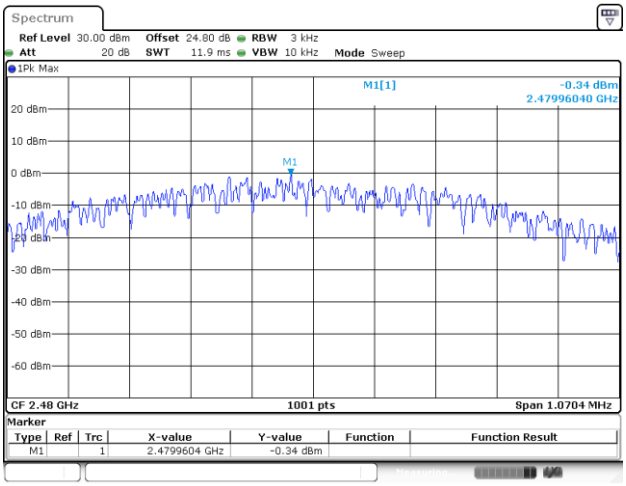
Power Density (dBm/3kHz) Plot Channel 00	Power Density (dBm/3kHz) Plot Channel 19
	
Power Density (dBm/3kHz) Plot Channel 39	
	

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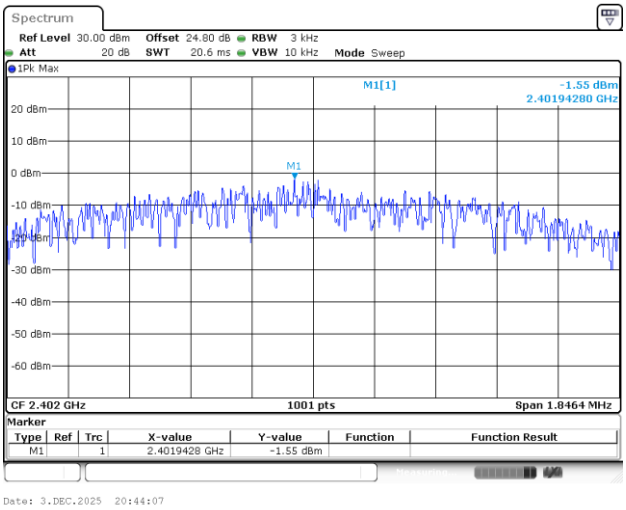
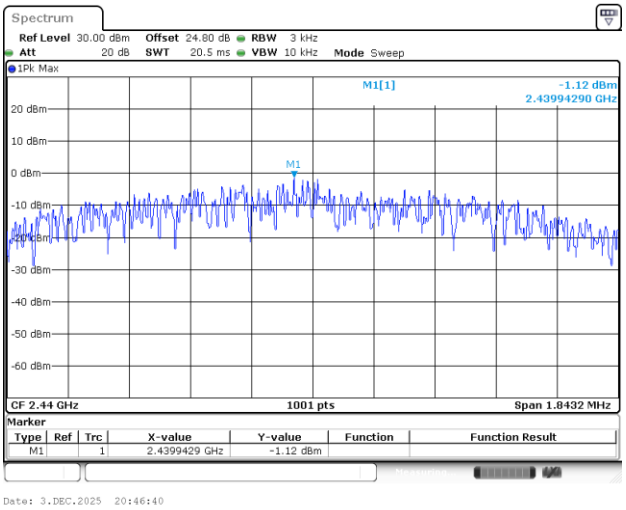
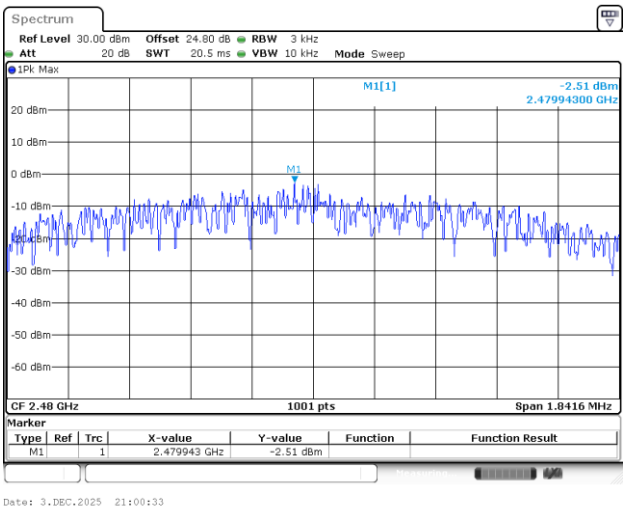
Power Density (dBm/3kHz) Plot Channel 00	Power Density (dBm/3kHz) Plot Channel 19
	
Power Density (dBm/3kHz) Plot Channel 39	
	

Band Edge and Conducted Spurious Emission

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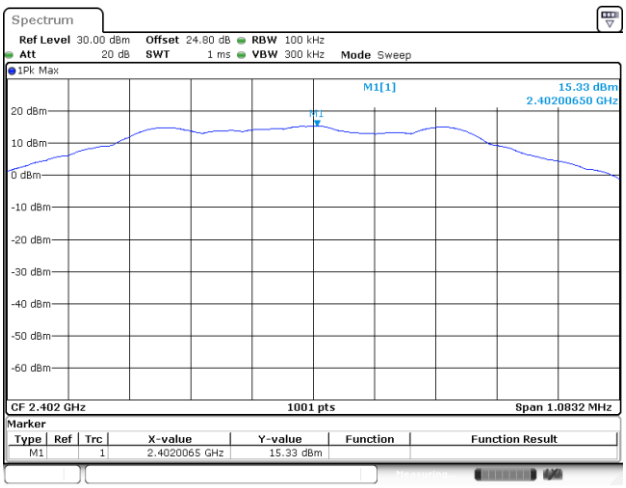
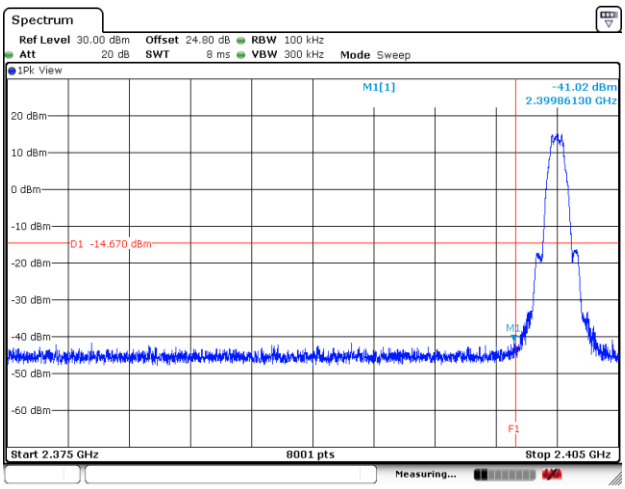
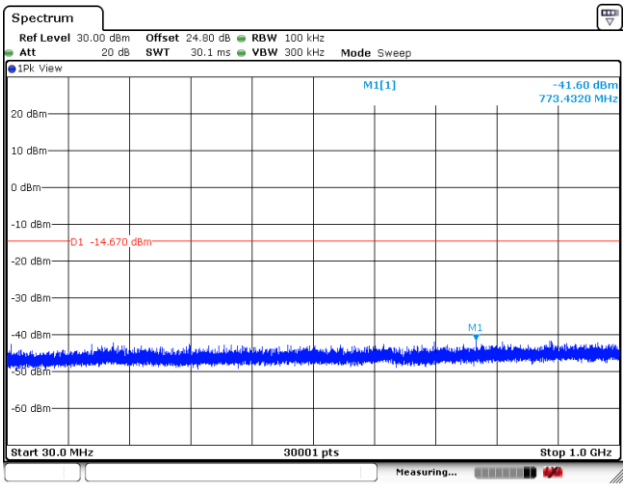
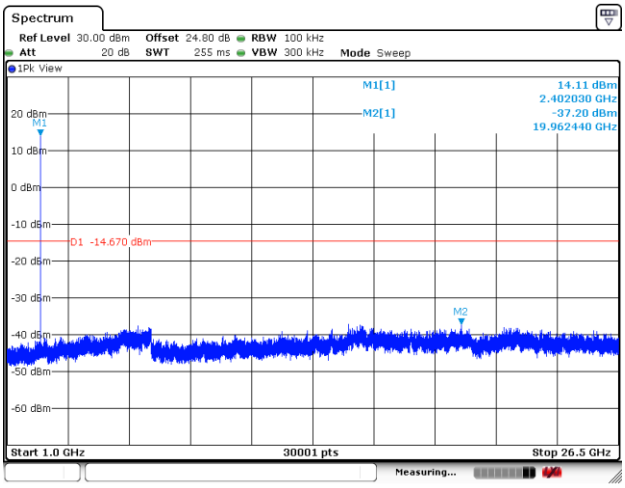
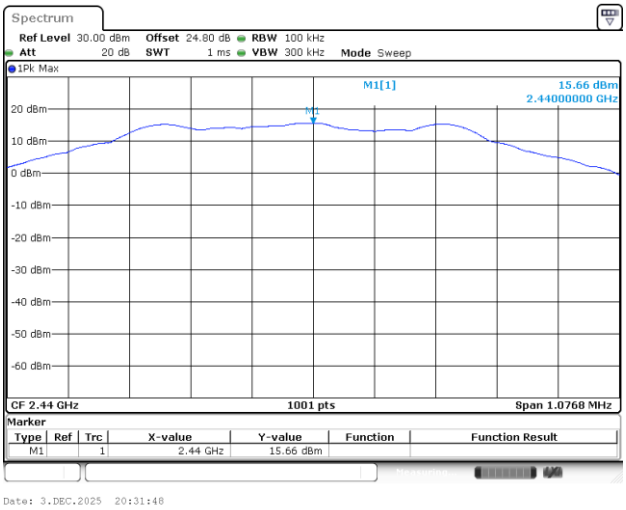
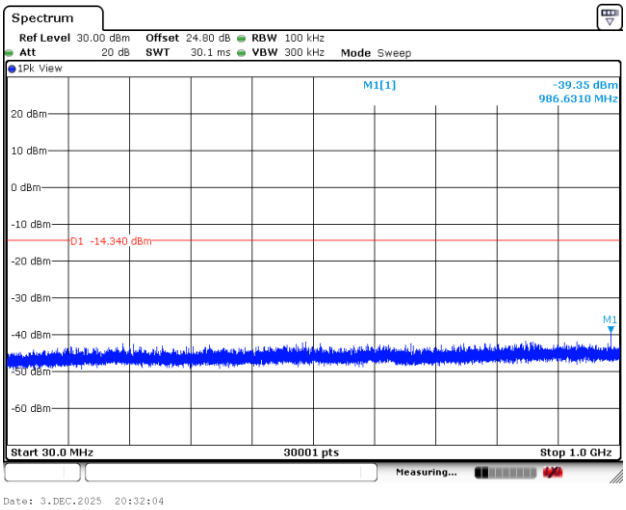
Channel 00	
100kHz PSD reference Level Plot	**Plot on Channel 00**
	
Spurious Emission 30MHz~1GHz Plot	**Spurious Emission 1GHz~26.5GHz Plot**
	

Channel 19

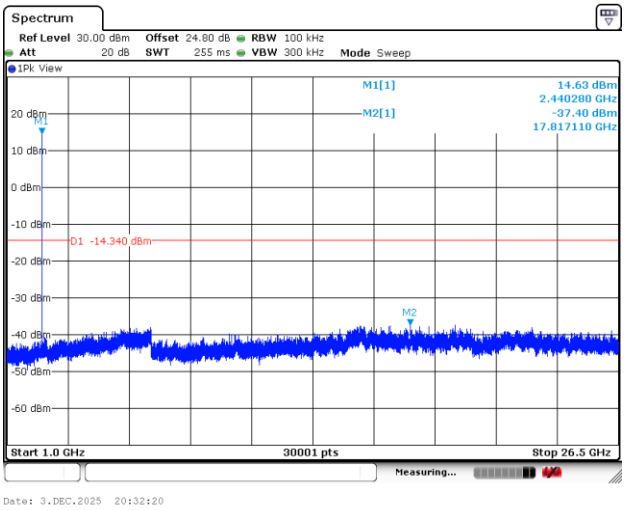
100kHz PSD reference Level Plot



Spurious Emission 30MHz~1GHz Plot

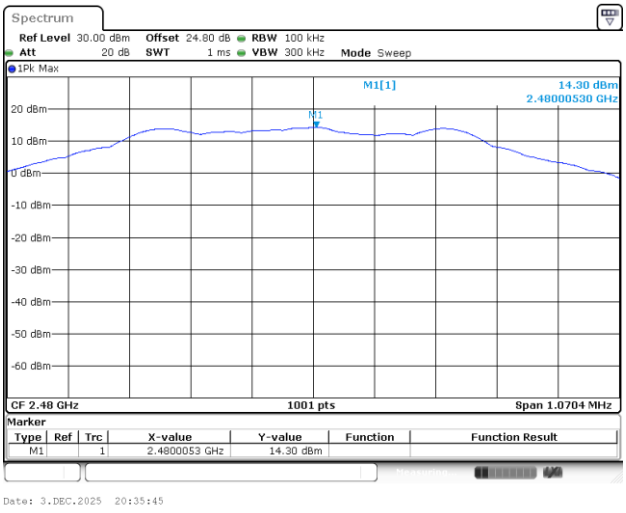


Spurious Emission 1GHz~26.5GHz Plot

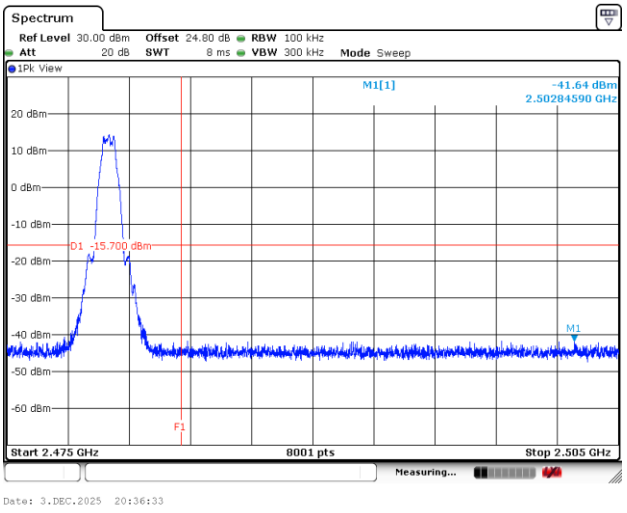


Channel 39

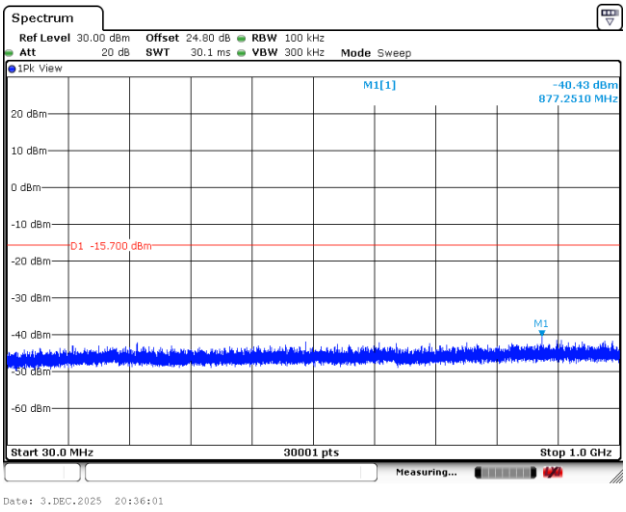
100kHz PSD reference Level Plot



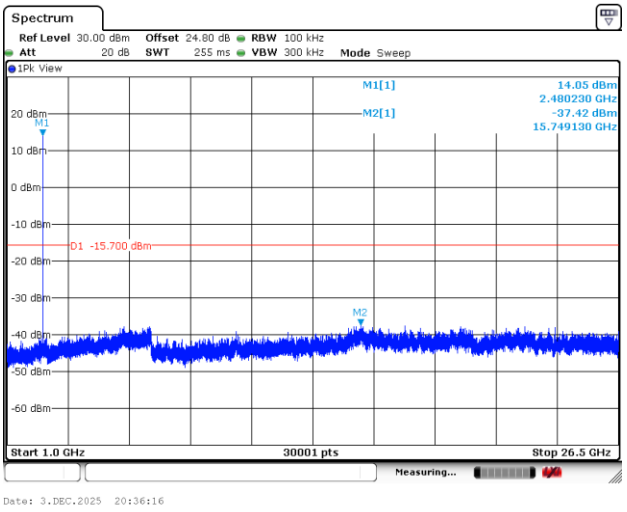
Plot on Channel 39



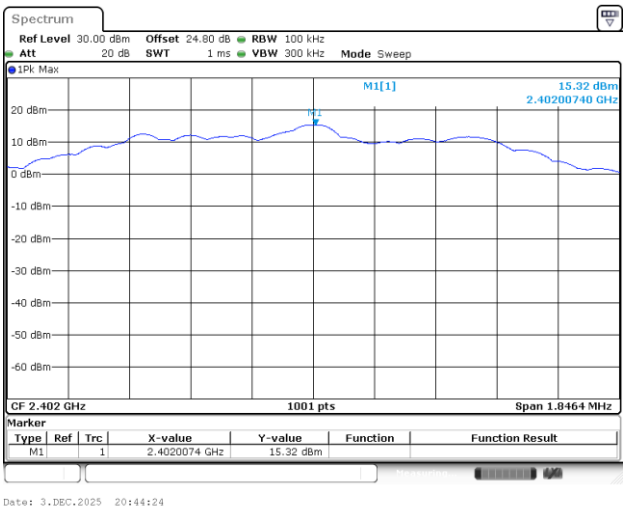
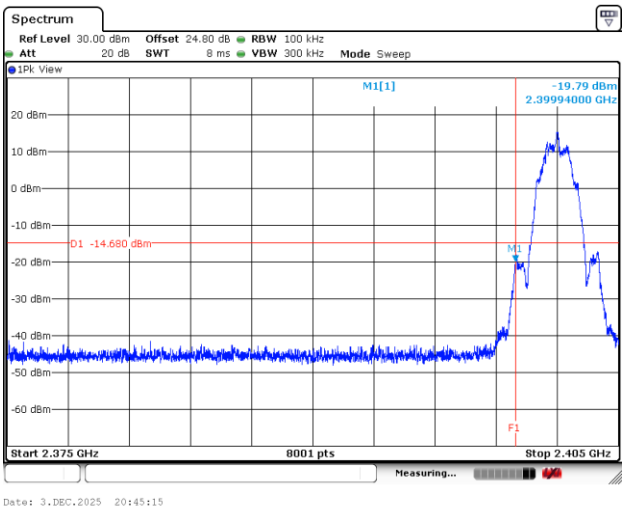
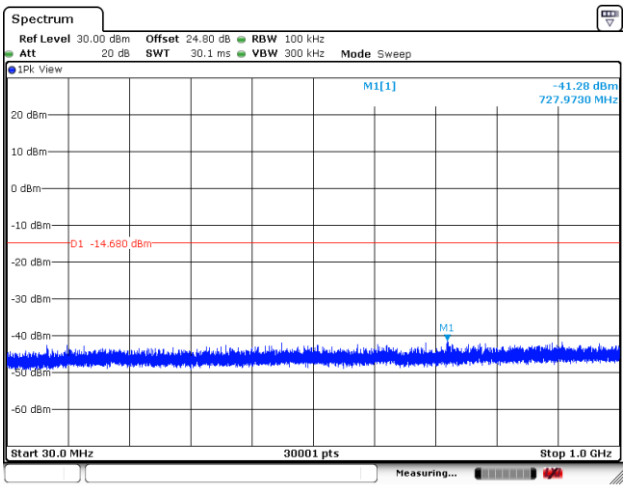
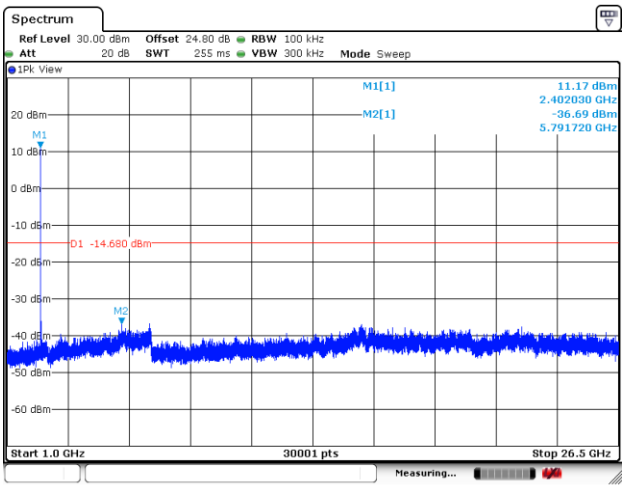
Spurious Emission 30MHz~1GHz Plot



Spurious Emission 1GHz~26.5GHz Plot

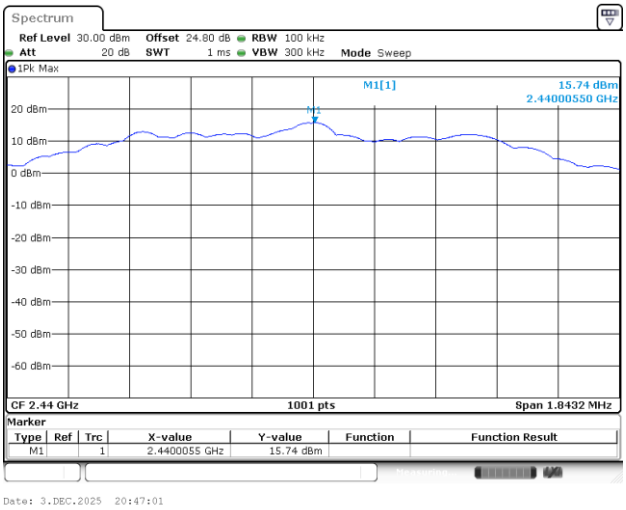


<2M>

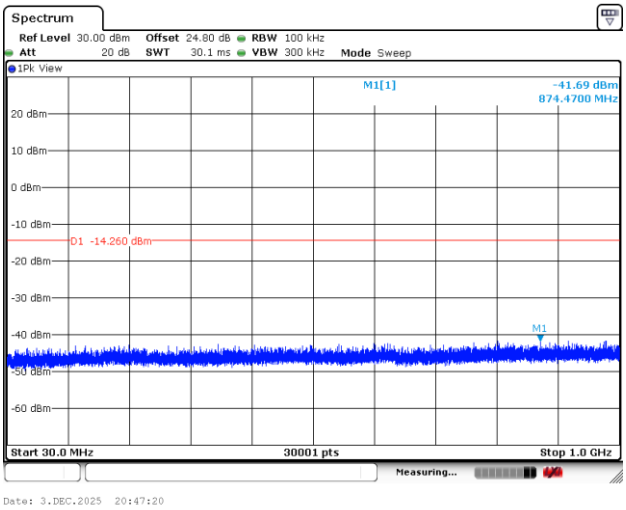
Channel 00	
100kHz PSD reference Level Plot	**Plot on Channel 00**
	
Spurious Emission 30MHz~1GHz Plot	**Spurious Emission 1GHz~26.5GHz Plot**
	

Channel 19

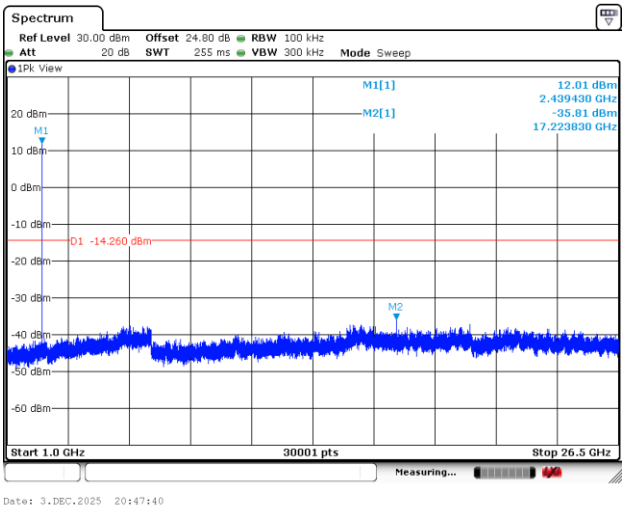
100kHz PSD reference Level Plot



Spurious Emission 30MHz~1GHz Plot

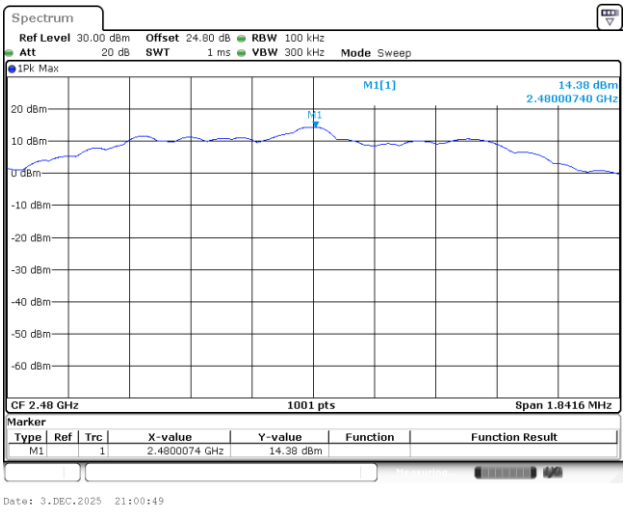


Spurious Emission 1GHz~26.5GHz Plot

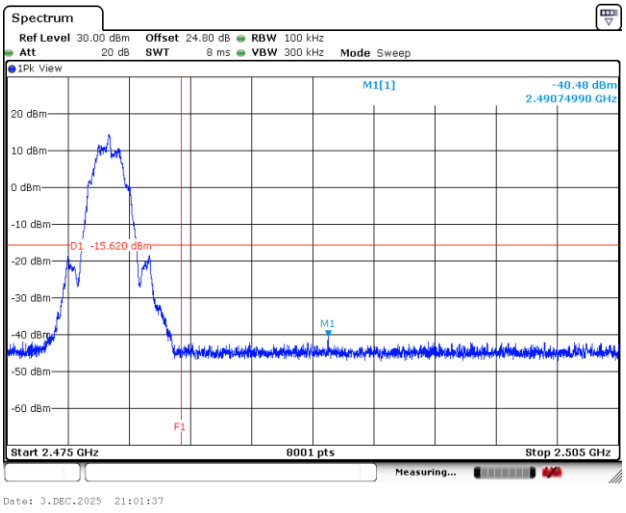


Channel 39

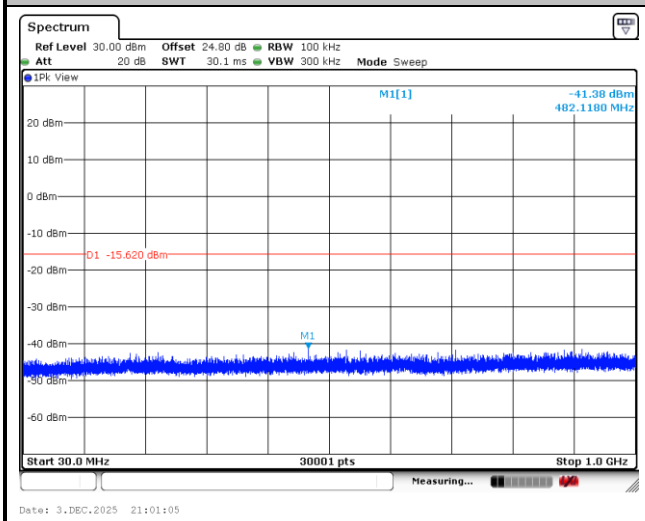
100kHz PSD reference Level Plot



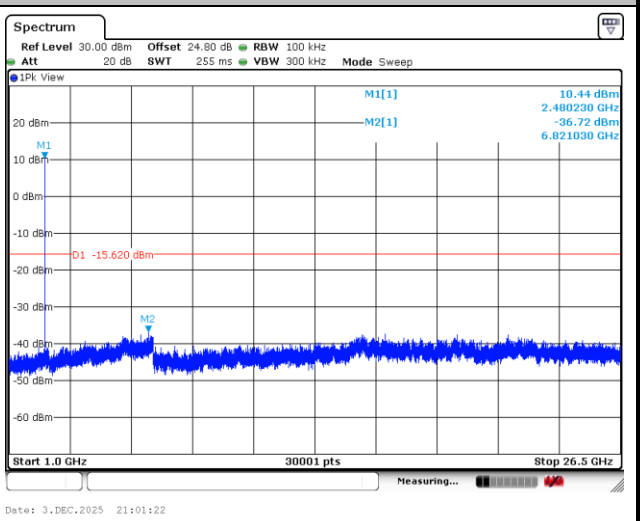
Plot on Channel 39



Spurious Emission 30MHz~1GHz Plot



Spurious Emission 1GHz~26.5GHz Plot

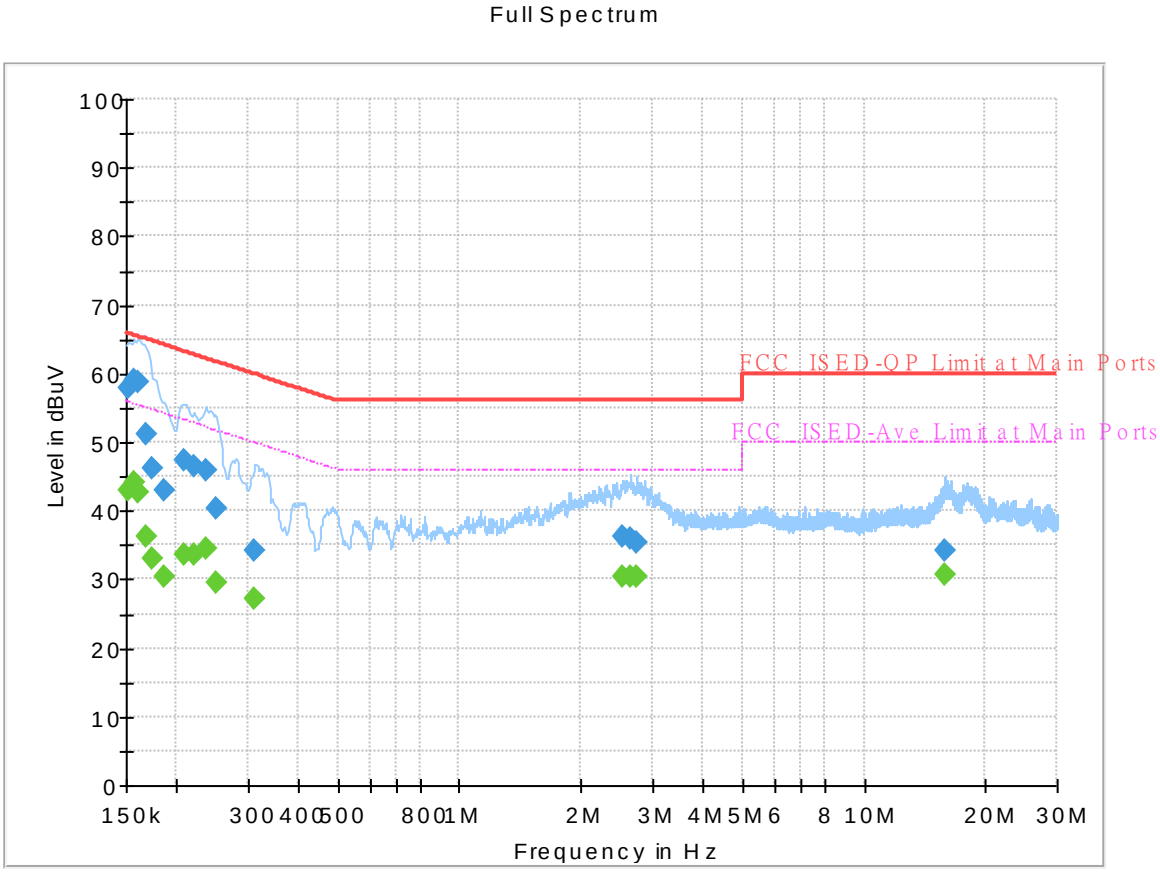


Appendix B. AC Conducted Emission Test Results

Test Engineer :	Brian Chen	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	571515-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



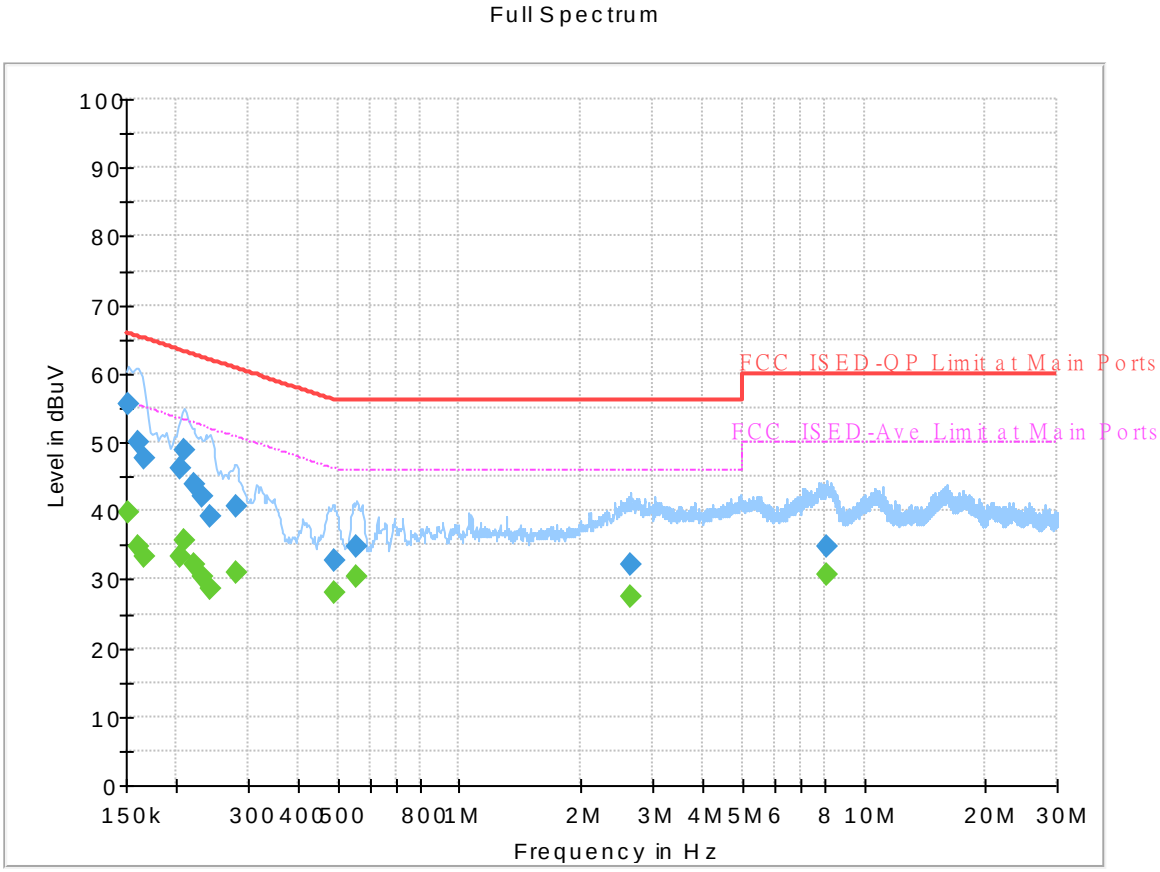
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	42.95	55.88	12.93	L1	OFF	19.8
0.152250	57.86	---	65.88	8.02	L1	OFF	19.8
0.156750	---	44.25	55.63	11.38	L1	OFF	19.8
0.156750	59.09	---	65.63	6.54	L1	OFF	19.8
0.161250	---	42.76	55.40	12.64	L1	OFF	19.8
0.161250	58.69	---	65.40	6.71	L1	OFF	19.8
0.168000	---	36.34	55.06	18.72	L1	OFF	19.8
0.168000	51.15	---	65.06	13.91	L1	OFF	19.8
0.174750	---	32.94	54.73	21.79	L1	OFF	19.8
0.174750	46.27	---	64.73	18.46	L1	OFF	19.8
0.186000	---	30.40	54.21	23.81	L1	OFF	19.8
0.186000	43.08	---	64.21	21.13	L1	OFF	19.8
0.208500	---	33.61	53.27	19.66	L1	OFF	19.8
0.208500	47.43	---	63.27	15.84	L1	OFF	19.8
0.219750	---	33.58	52.83	19.25	L1	OFF	19.8
0.219750	46.47	---	62.83	16.36	L1	OFF	19.8
0.235500	---	34.37	52.25	17.88	L1	OFF	19.8
0.235500	46.01	---	62.25	16.24	L1	OFF	19.8
0.251250	---	29.67	51.72	22.05	L1	OFF	19.8
0.251250	40.36	---	61.72	21.36	L1	OFF	19.8
0.312000	---	27.10	49.92	22.82	L1	OFF	19.8

0.312000	34.23	---	59.92	25.69	L1	OFF	19.8
2.519250	---	30.51	46.00	15.49	L1	OFF	19.9
2.519250	36.20	---	56.00	19.80	L1	OFF	19.9
2.647500	---	30.44	46.00	15.56	L1	OFF	19.9
2.647500	35.85	---	56.00	20.15	L1	OFF	19.9
2.742000	---	30.46	46.00	15.54	L1	OFF	20.0
2.742000	35.42	---	56.00	20.58	L1	OFF	20.0
15.882000	---	30.70	50.00	19.30	L1	OFF	20.6
15.882000	34.32	---	60.00	25.68	L1	OFF	20.6

EUT Information

Report NO :	571515-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	39.75	55.88	16.13	N	OFF	19.8
0.152250	55.53	---	65.88	10.35	N	OFF	19.8
0.161250	---	34.92	55.40	20.48	N	OFF	19.8
0.161250	50.05	---	65.40	15.35	N	OFF	19.8
0.165750	---	33.22	55.17	21.95	N	OFF	19.8
0.165750	47.53	---	65.17	17.64	N	OFF	19.8
0.204000	---	33.38	53.45	20.07	N	OFF	19.8
0.204000	46.16	---	63.45	17.29	N	OFF	19.8
0.208500	---	35.56	53.27	17.71	N	OFF	19.8
0.208500	48.89	---	63.27	14.38	N	OFF	19.8
0.219750	---	32.24	52.83	20.59	N	OFF	19.8
0.219750	43.79	---	62.83	19.04	N	OFF	19.8
0.231000	---	30.28	52.41	22.13	N	OFF	19.8
0.231000	42.03	---	62.41	20.38	N	OFF	19.8
0.242250	---	28.64	52.02	23.38	N	OFF	19.8
0.242250	39.29	---	62.02	22.73	N	OFF	19.8
0.280500	---	31.11	50.80	19.69	N	OFF	19.8
0.280500	40.65	---	60.80	20.15	N	OFF	19.8
0.489750	---	28.09	46.17	18.08	N	OFF	19.8
0.489750	32.78	---	56.17	23.39	N	OFF	19.8
0.557250	---	30.50	46.00	15.50	N	OFF	19.8

0.557250	**34.84**	**---**	**56.00**	**21.16**	**N**	**OFF**	**19.8**
2.654250	**---**	**27.42**	**46.00**	**18.58**	**N**	**OFF**	**19.9**
2.654250	**32.25**	**---**	**56.00**	**23.75**	**N**	**OFF**	**19.9**
8.094750	**---**	**30.82**	**50.00**	**19.18**	**N**	**OFF**	**20.4**
8.094750	**34.90**	**---**	**60.00**	**25.10**	**N**	**OFF**	**20.4**

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	Jesse Wang, Stan Hsieh, Ken Wu	**Temperature :**	20.8~28.1°C
		Relative Humidity :	54.6~66.8%

Note symbol

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

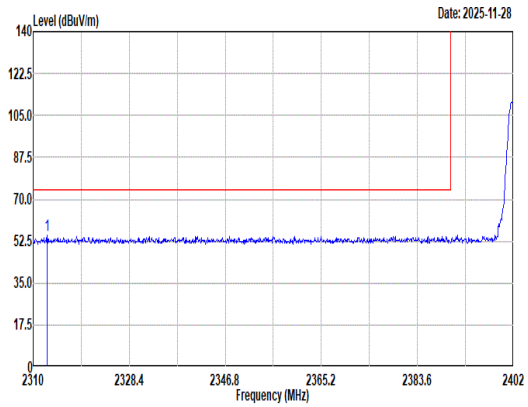
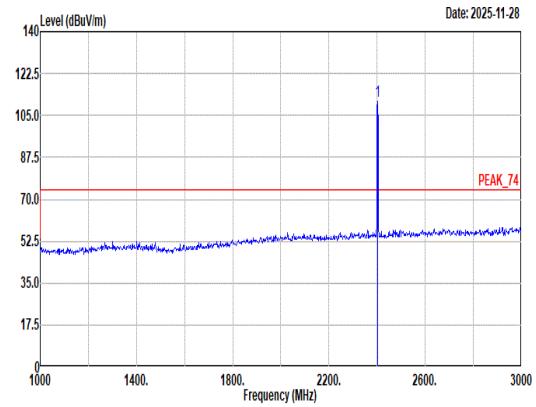
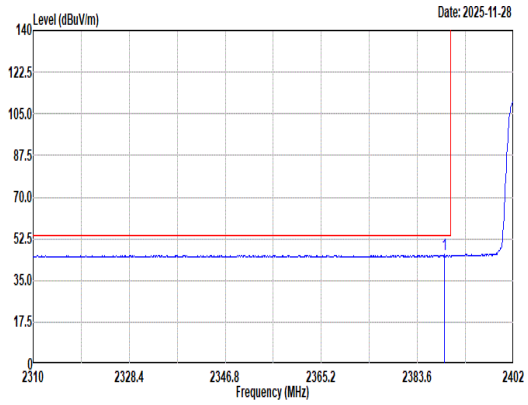
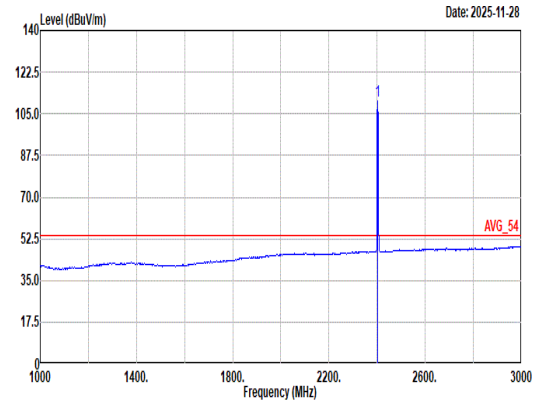
C1.Radiated Spurious Emission Test Modes

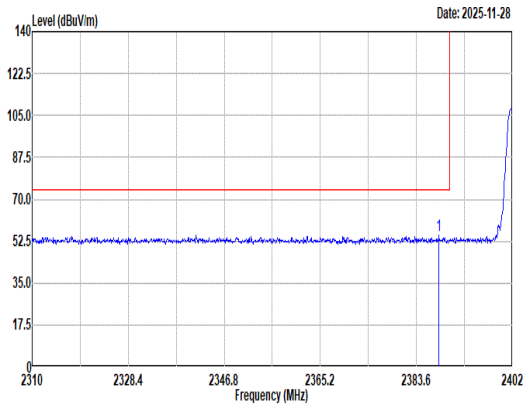
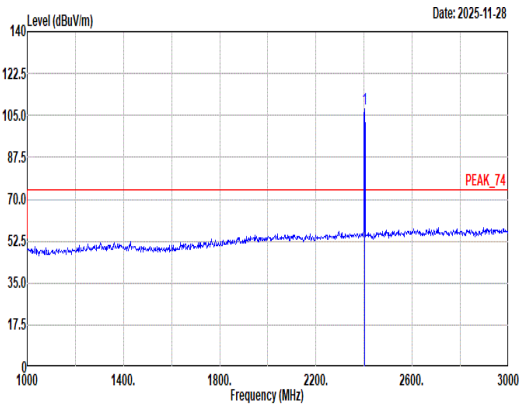
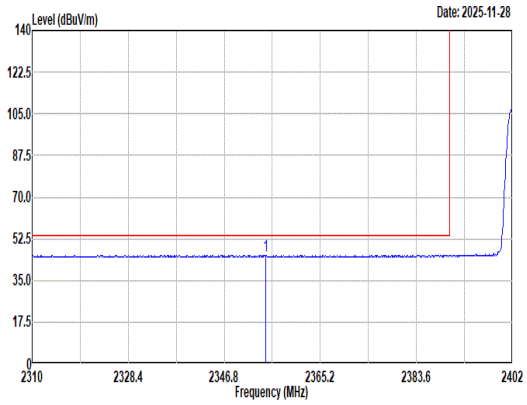
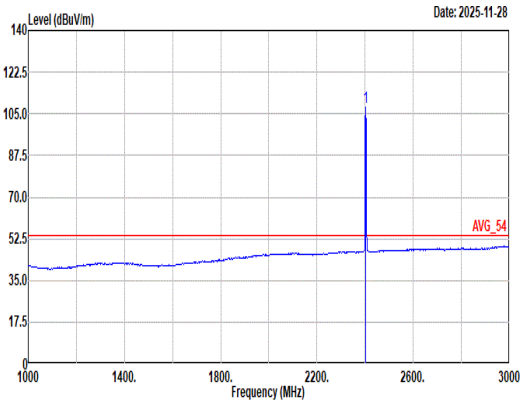
Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 4	2400-2483.5	7+6	Bluetooth-LE GSFK	00	2402	1Mbps	-	-
Mode 5	2400-2483.5	7+6	Bluetooth-LE GSFK	19	2440	1Mbps	-	-
Mode 6	2400-2483.5	7+6	Bluetooth-LE GSFK	39	2480	1Mbps	-	-
Mode 7	2400-2483.5	7+6	Bluetooth-LE GSFK	00	2402	2Mbps	-	-
Mode 8	2400-2483.5	7+6	Bluetooth-LE GSFK	19	2440	2Mbps	-	-
Mode 9	2400-2483.5	7+6	Bluetooth-LE GSFK	39	2480	2Mbps	-	-

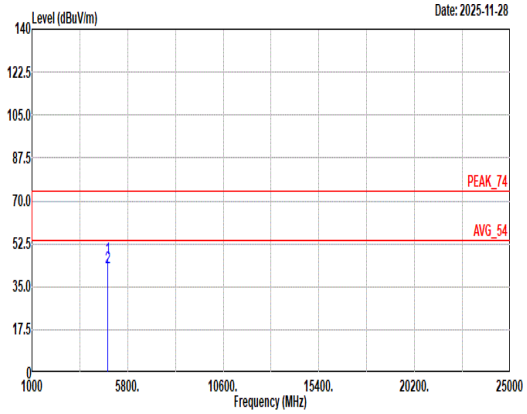
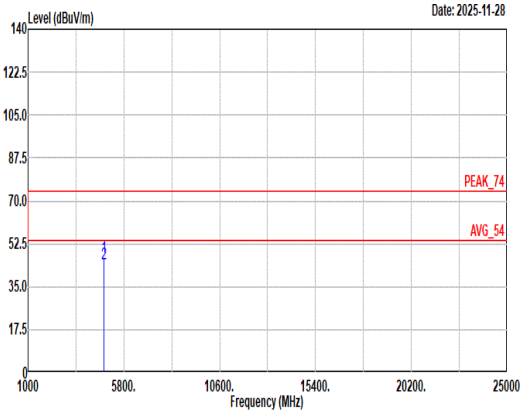
C2.Summary of each worse mode

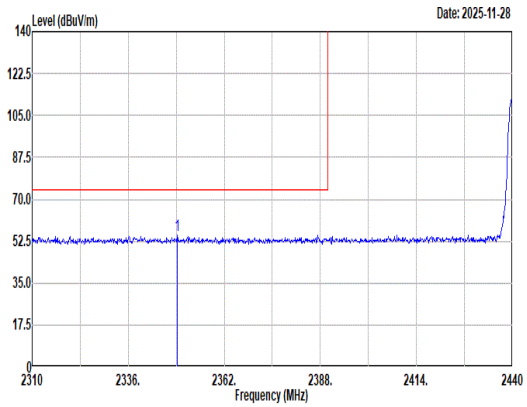
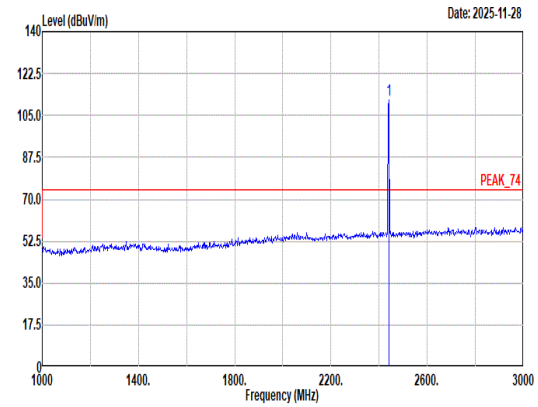
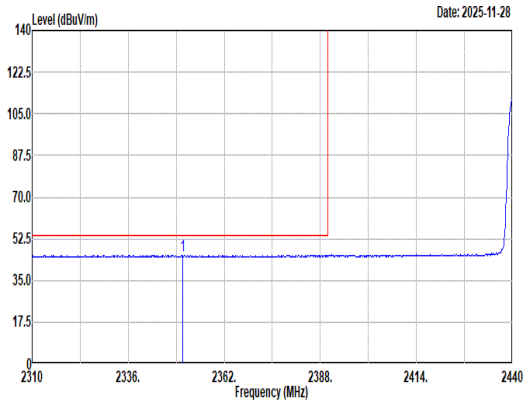
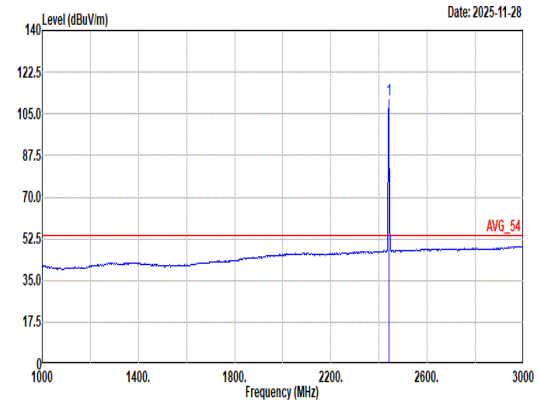
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
4	Bluetooth-LE GSFK	00	2388.84	45.89	54.00	-8.11	H	Avg.	Pass	-	Band Edge
	Bluetooth-LE GSFK	00	4804.00	44.27	54.00	-9.73	V	Avg.	Pass	-	Harmonic
5	Bluetooth-LE GSFK	19	2490.04	46.41	54.00	-7.59	V	Avg.	Pass	-	Band Edge
	Bluetooth-LE GSFK	19	4880.00	48.45	74.00	-25.55	V	Peak	Pass	-	Harmonic
6	Bluetooth-LE GSFK	39	2485.16	46.26	54.00	-7.74	H	Avg.	Pass	-	Band Edge
	Bluetooth-LE GSFK	39	4960.00	47.43	54.00	-6.57	H	Avg.	Pass	-	Harmonic
7	Bluetooth-LE GSFK	00	2354.90	46.76	54.00	-7.24	V	Avg.	Pass	-	Band Edge
	Bluetooth-LE GSFK	00	4804.00	41.37	54.00	-12.63	V	Avg.	Pass	-	Harmonic
8	Bluetooth-LE GSFK	19	2486.38	47.21	54.00	-6.79	H	Avg.	Pass	-	Band Edge
	Bluetooth-LE GSFK	19	4880.00	44.18	54.00	-9.82	V	Avg.	Pass	-	Harmonic
9	Bluetooth-LE GSFK	39	2483.52	48.35	54.00	-5.65	H	Avg.	Pass	-	Band Edge

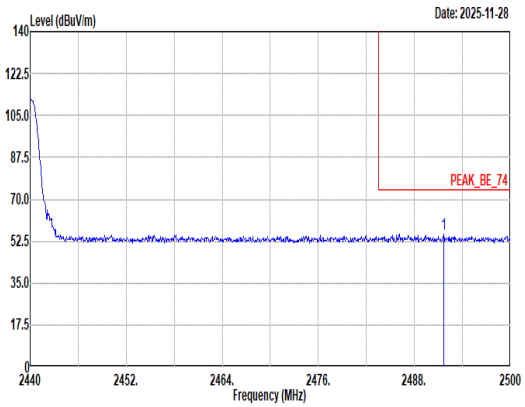
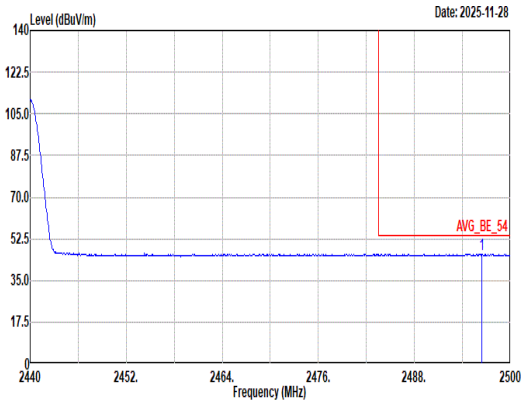
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
9	Bluetooth-LE GSFK	39	4960.00	45.90	54.00	-8.10	H	Avg.	Pass	-	Harmonic

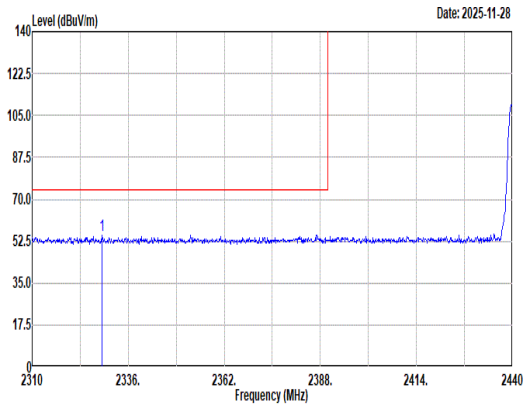
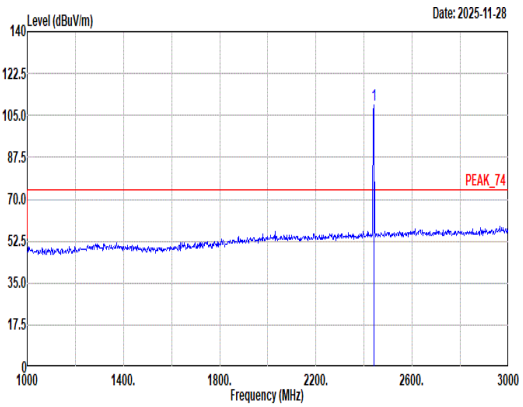
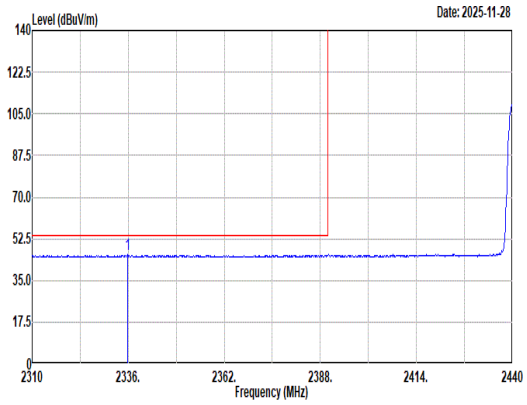
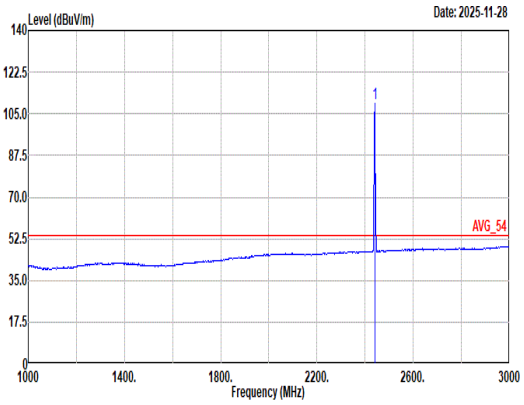
Mode	4	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH00_2402MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2312.67 54.68 74.00 -19.32 39.15 32.07 8.22 34.66 9.90 132 341 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2402.00 110.71 ------ ------ 95.08 32.02 8.38 34.67 9.90 132 341 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto 1 2388.84 45.89 54.00 -8.11 30.20 32.10 8.36 34.67 9.90 132 341 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto 1 2402.00 110.28 ------ ------ 94.65 32.02 8.38 34.67 9.90 132 341 Average

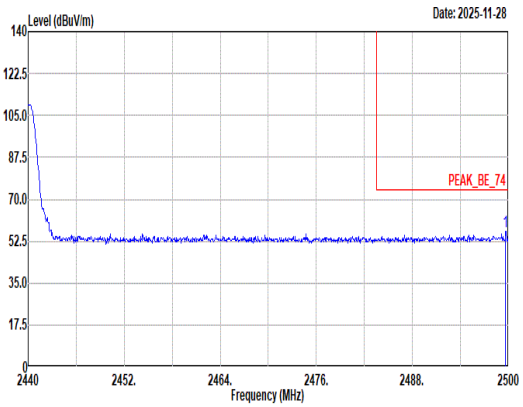
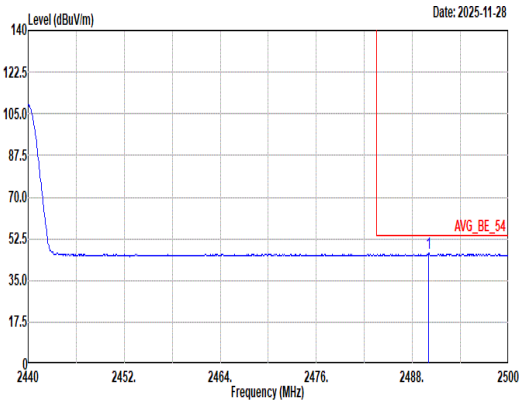
Mode	4	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH00_2402MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2387.92 54.70 74.00 -19.30 39.01 32.10 8.36 34.67 9.90 362 283 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : PEAK Mode : 4 Setting : Default 1 2402.00 107.96 ------ ------ 92.33 32.02 8.38 34.67 9.90 362 283 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto 1 2354.71 45.69 54.00 -8.31 30.10 32.05 8.30 34.66 9.90 362 283 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto Detector : PEAK Mode : 4 Setting : Default 1 2402.00 107.55 ------ ------ 91.92 32.02 8.38 34.67 9.90 362 283 Average

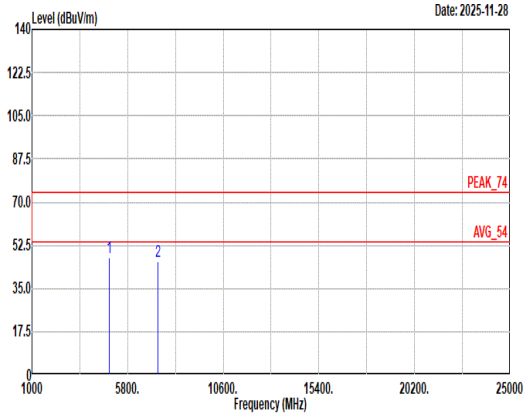
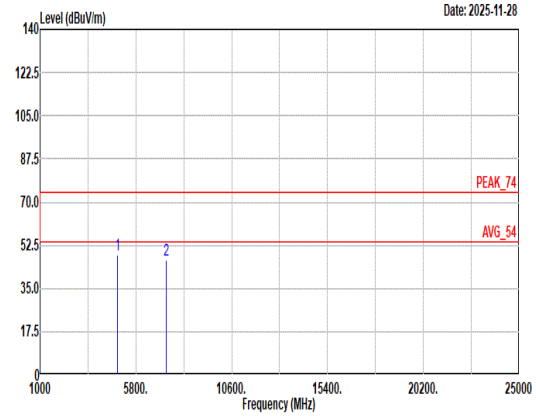
Mode	4	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK_CH00_2402MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4804.00 46.75 74.00 -27.25 57.78 34.39 11.93 58.41 1.06 100 301 Peak 2 4804.00 42.97 54.00 -11.03 54.00 34.39 11.93 58.41 1.06 100 301 Average	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4804.00 47.14 74.00 -26.86 58.17 34.39 11.93 58.41 1.06 100 208 Peak 2 4804.00 44.27 54.00 -9.73 55.30 34.39 11.93 58.41 1.06 100 208 Average

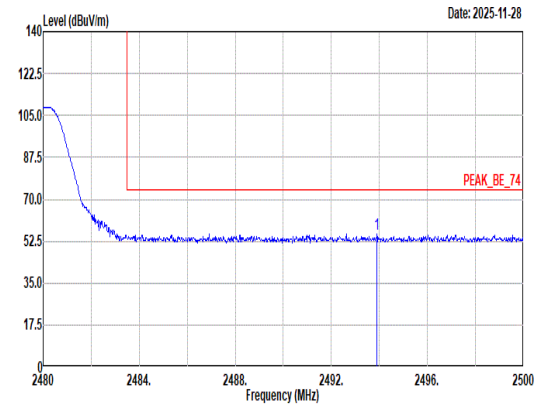
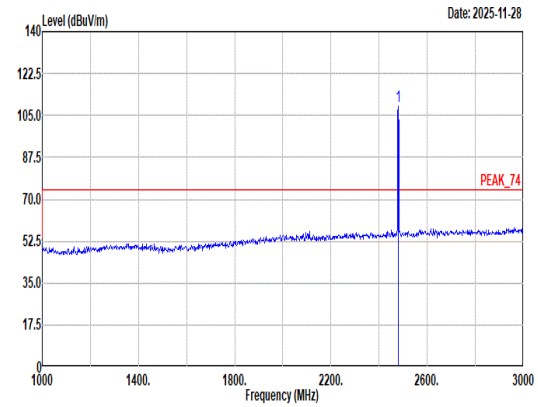
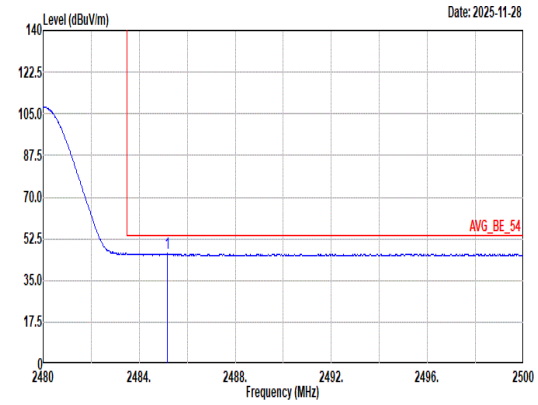
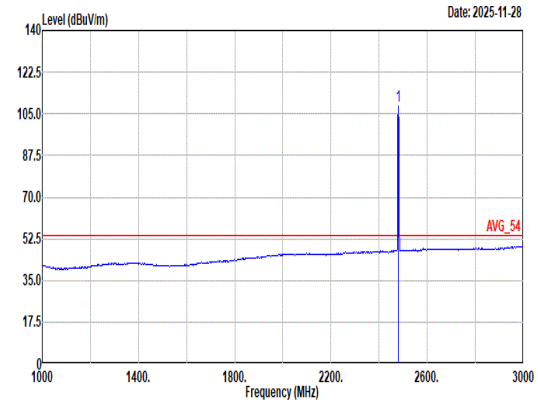
Mode	5	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE GSFK_CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2349.26 54.78 74.00 -19.22 39.15 32.10 8.29 34.66 9.90 108 338 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2440.00 111.56 ------ ------ 95.86 32.00 8.45 34.67 9.92 108 338 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz 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 2350.69 45.67 54.00 -8.33 30.05 32.09 8.29 34.66 9.90 108 338 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz 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 2440.00 111.14 ------ ------ 95.44 32.00 8.45 34.67 9.92 108 338 Average

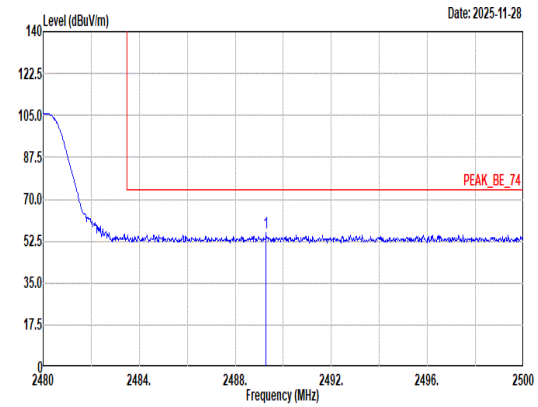
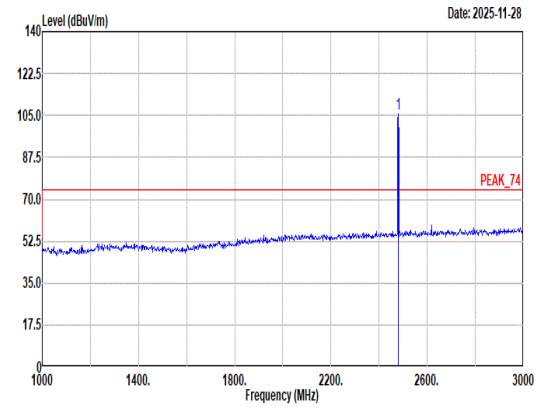
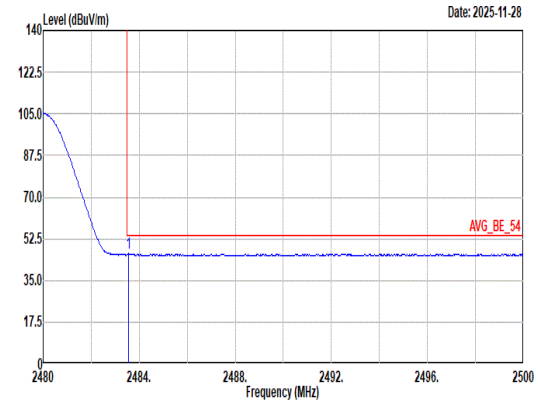
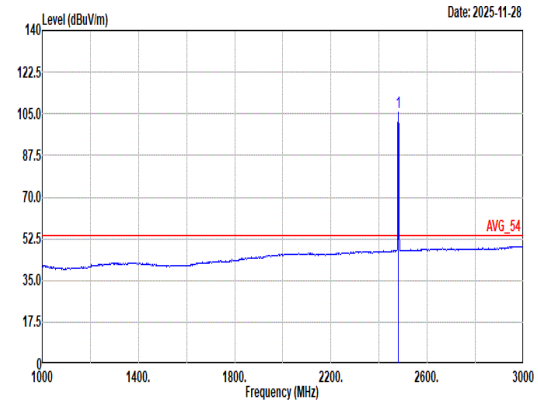
Mode	5	
	Band Edge - R	
	2400-2483.5_Bluetooth-LE GSFK_CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2491.66 55.57 74.00 -18.43 39.46 32.32 8.53 34.68 9.94 108 338 Peak	Blank
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz 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 2496.46 46.16 54.00 -7.84 30.00 32.36 8.54 34.68 9.94 108 338 Average	Blank

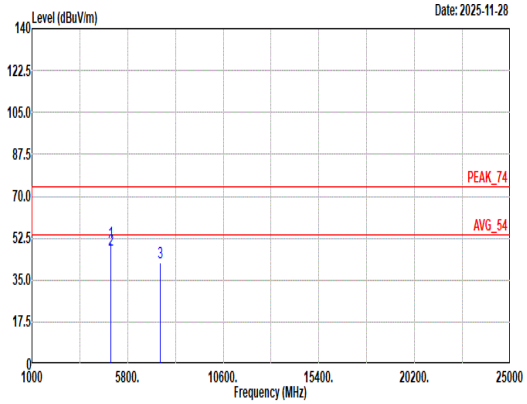
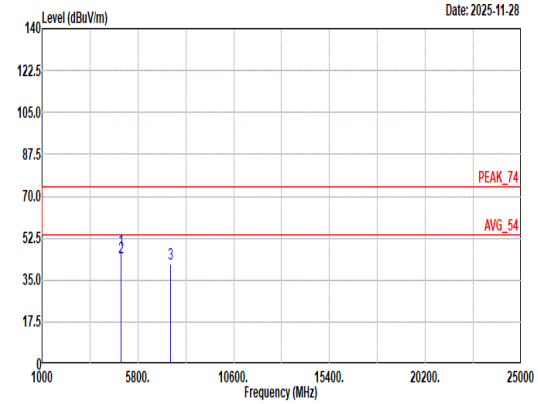
Mode	5	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE GSFK_CH19_2440MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2328.85 55.10 74.00 -18.90 39.52 32.09 8.25 34.66 9.90 386 282 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2440.00 109.54 ------ ------ 93.84 32.00 8.45 34.67 9.92 386 282 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto 1 2335.74 45.82 54.00 -8.18 30.22 32.10 8.26 34.66 9.90 386 282 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto 1 2440.00 109.14 ------ ------ 93.44 32.00 8.45 34.67 9.92 386 282 Average

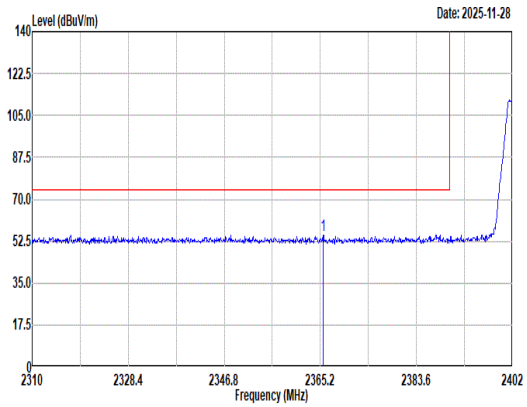
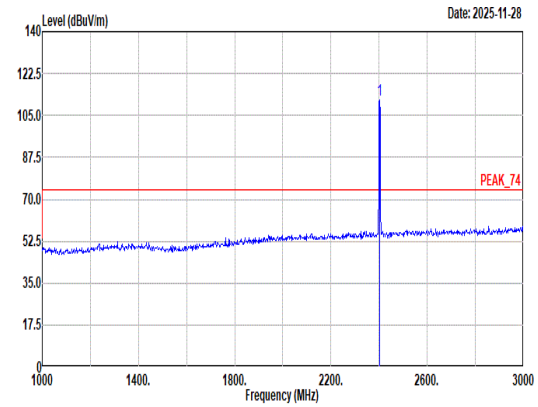
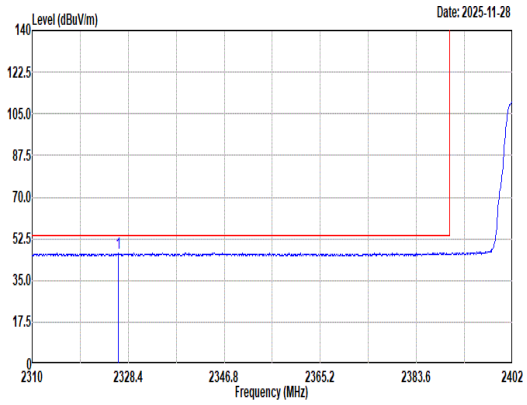
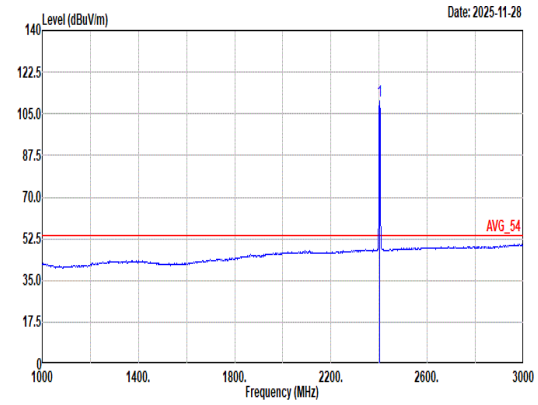
Mode	5	
	Band Edge - R	
	2400-2483.5_Bluetooth-LE GSFK_CH19_2440MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2499.64 56.65 74.00 -17.35 40.45 32.40 8.54 34.68 9.94 386 282 Peak	Blank
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz 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 2490.04 46.41 54.00 -7.59 30.32 32.30 8.53 34.68 9.94 386 282 Average	Blank

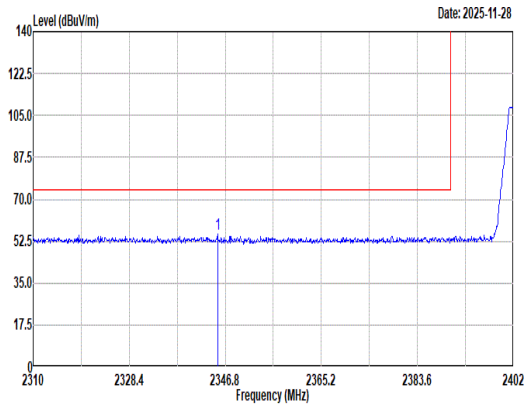
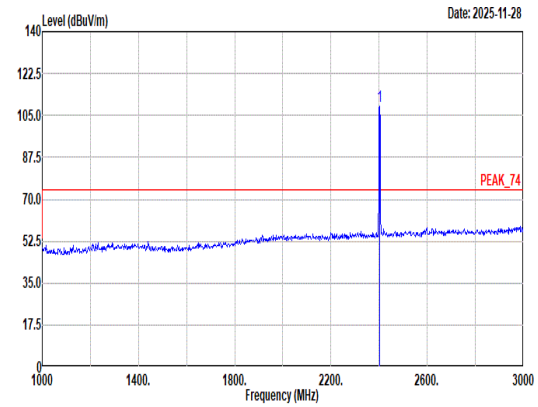
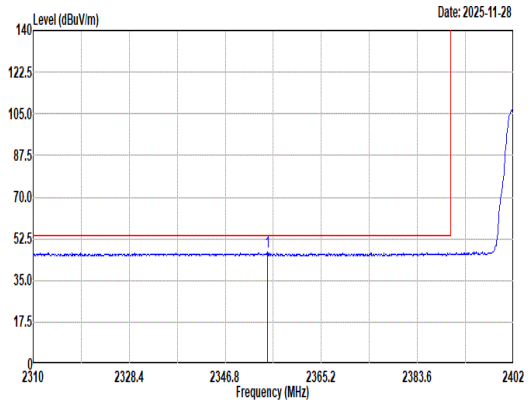
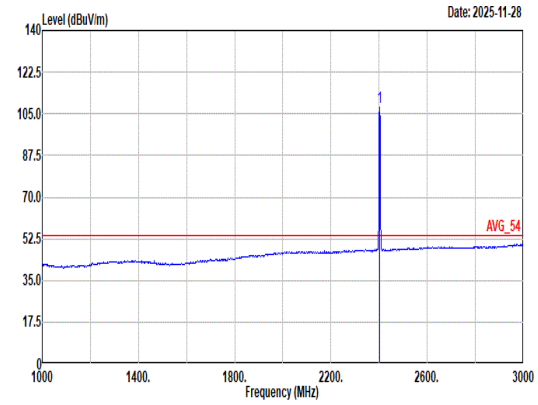
Mode	5	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK_CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4880.00 47.48 74.00 -26.52 58.41 34.30 12.03 58.25 0.99 -- -- Peak 2 7320.00 45.83 74.00 -28.17 52.01 35.66 14.70 57.70 1.16 -- -- Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4880.00 48.45 74.00 -25.55 59.38 34.30 12.03 58.25 0.99 -- -- Peak 2 7320.00 46.35 74.00 -27.65 52.53 35.66 14.70 57.70 1.16 -- -- Peak

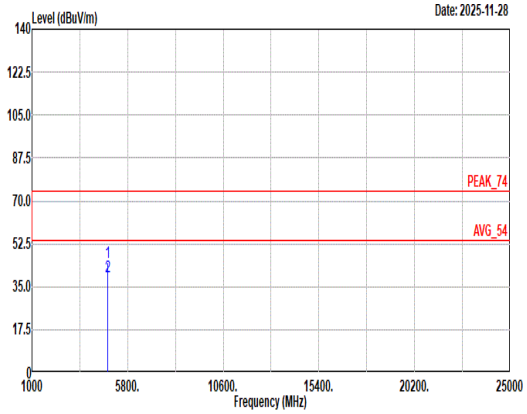
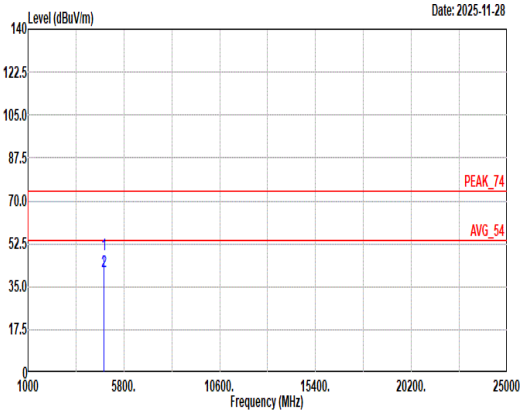
Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2493.90 55.32 74.00 -18.68 39.19 32.34 8.53 34.68 9.94 121 300 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2480.00 108.76 ------ ------ 92.80 32.20 8.51 34.68 9.93 121 300 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz 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 2485.16 46.26 54.00 -7.74 30.24 32.25 8.52 34.68 9.93 121 300 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz 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 2480.00 108.32 ------ ------ 92.36 32.20 8.51 34.68 9.93 121 300 Average

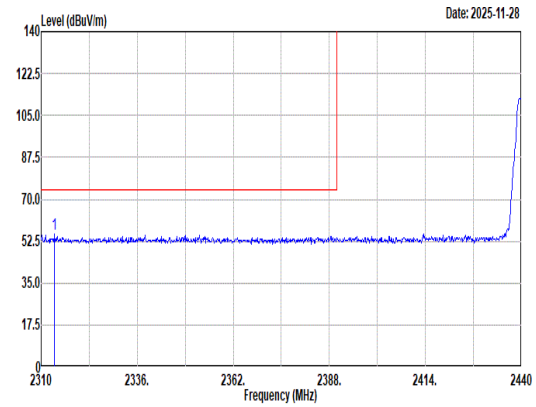
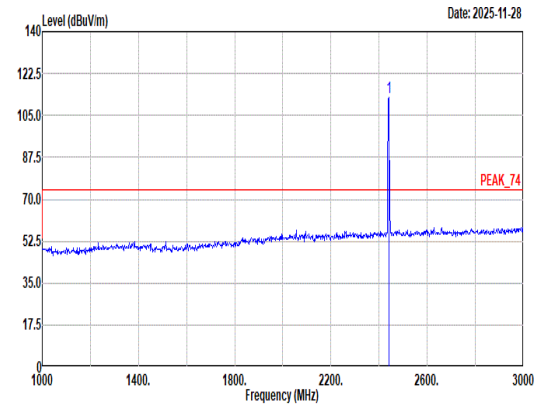
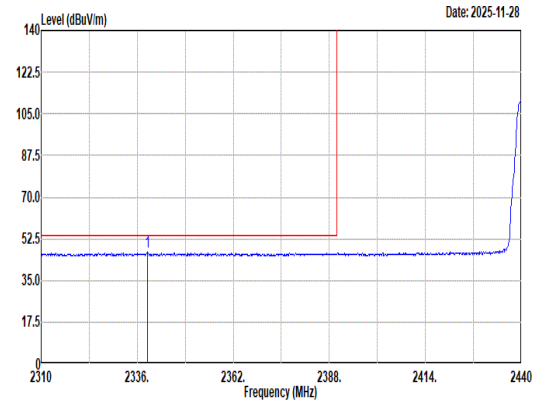
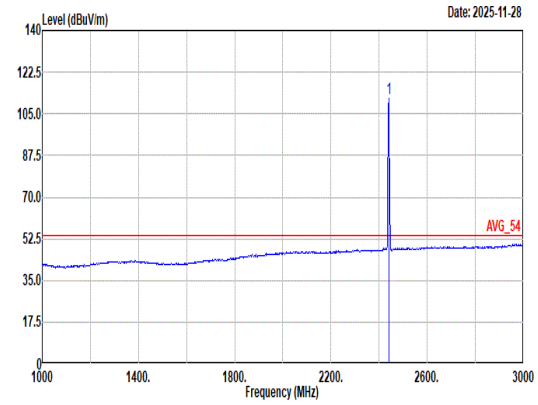
Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2489.28 55.77 74.00 -18.23 39.69 32.29 8.53 34.68 9.94 300 282 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2480.00 105.88 ------ ------ 89.92 32.20 8.51 34.68 9.93 300 282 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz 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 2483.56 46.25 54.00 -7.75 30.24 32.24 8.52 34.68 9.93 300 282 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3.000kHz 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 2480.00 105.41 ------ ------ 89.45 32.20 8.51 34.68 9.93 300 282 Average

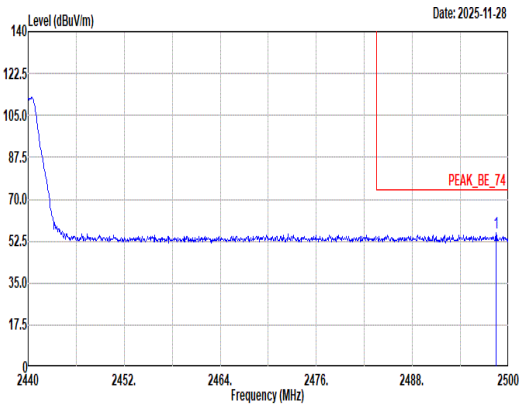
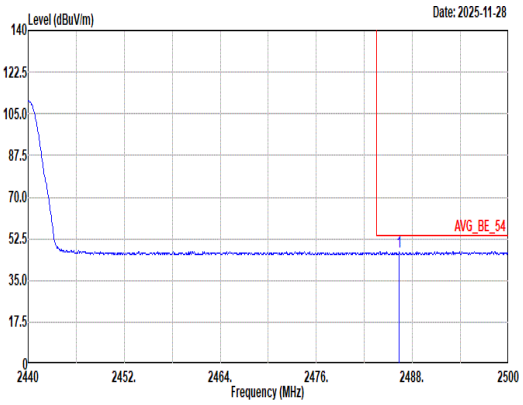
Mode	6	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4960.00 50.80 74.00 -23.20 61.50 34.32 12.14 58.08 0.92 100 190 Peak 2 4960.00 47.43 54.00 -6.57 58.13 34.32 12.14 58.08 0.92 100 190 Average 3 7440.00 42.44 74.00 -31.56 48.67 35.70 14.87 57.91 1.11 -- -- Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4960.00 47.47 74.00 -26.53 58.17 34.32 12.14 58.08 0.92 100 331 Peak 2 4960.00 44.19 54.00 -9.81 54.89 34.32 12.14 58.08 0.92 100 331 Average 3 7440.00 41.65 74.00 -32.35 47.88 35.70 14.87 57.91 1.11 -- -- Peak

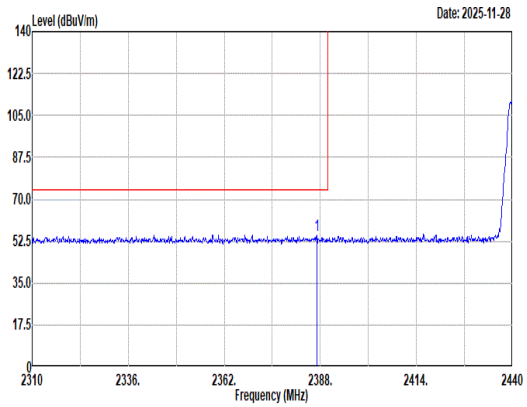
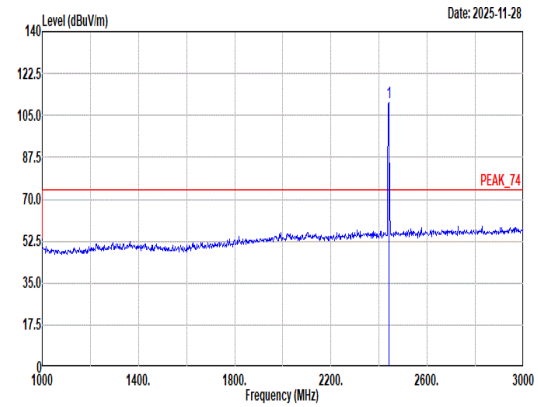
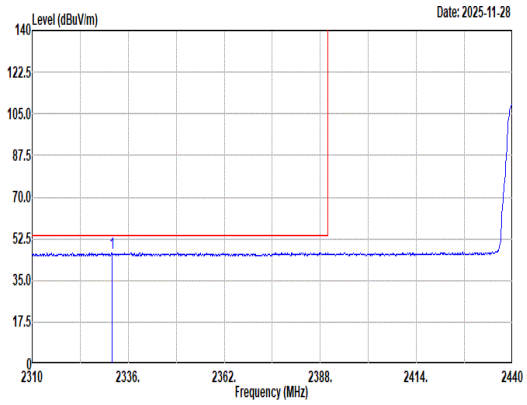
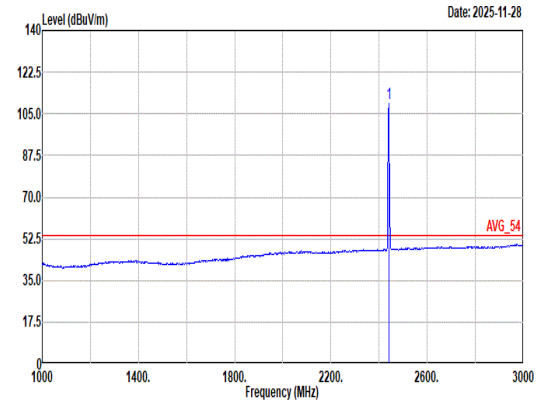
Mode	7	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK _CH00_2402MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2365.75 55.03 74.00 -18.97 39.47 32.00 8.32 34.66 9.90 131 340 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2402.00 111.74 ------ ------ 96.11 32.02 8.38 34.67 9.90 131 340 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz 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 2326.47 46.74 54.00 -7.26 31.20 32.06 8.24 34.66 9.90 131 340 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz 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 2402.00 110.42 ------ ------ 94.79 32.02 8.38 34.67 9.90 131 340 Average

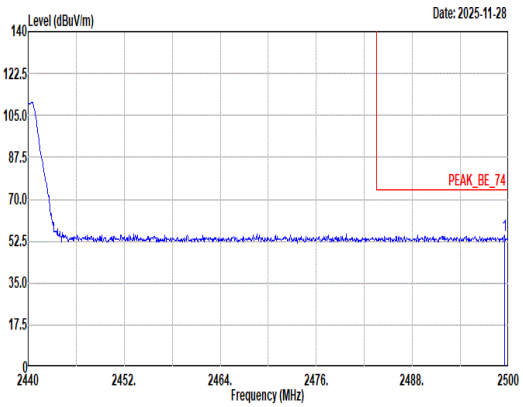
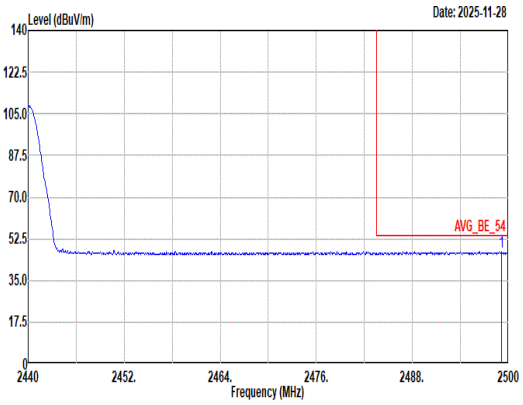
Mode	7	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK _CH00_2402MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2345.33 55.21 74.00 -18.79 39.59 32.10 8.28 34.66 9.90 361 284 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2402.00 108.86 ------ ------ 93.23 32.02 8.38 34.67 9.90 361 284 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2354.90 46.76 54.00 -7.24 31.17 32.05 8.30 34.66 9.90 361 284 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2402.00 107.60 ------ ------ 91.97 32.02 8.38 34.67 9.90 361 284 Average

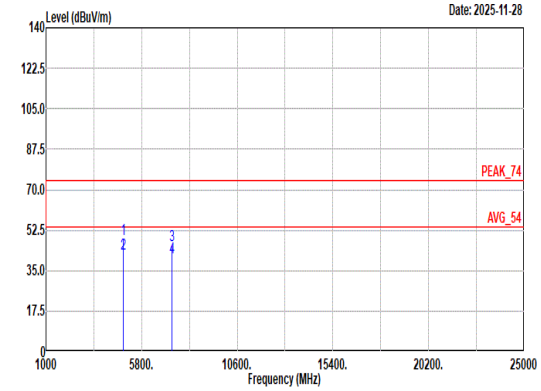
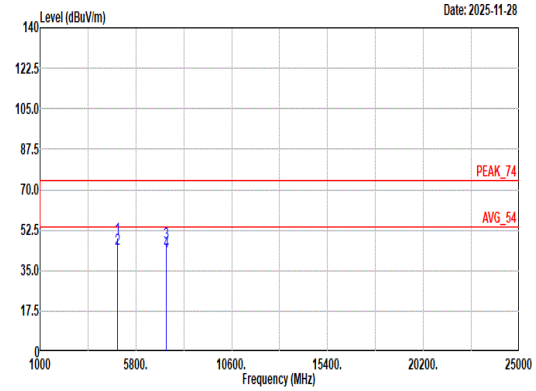
Mode	7	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK _CH00_2402MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4804.00 45.11 74.00 -28.89 56.14 34.39 11.93 58.41 1.06 100 13 Peak 2 4804.00 39.36 54.00 -14.64 50.39 34.39 11.93 58.41 1.06 100 13 Average	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4804.00 47.88 74.00 -26.12 58.91 34.39 11.93 58.41 1.06 100 192 Peak 2 4804.00 41.37 54.00 -12.63 52.40 34.39 11.93 58.41 1.06 100 192 Average

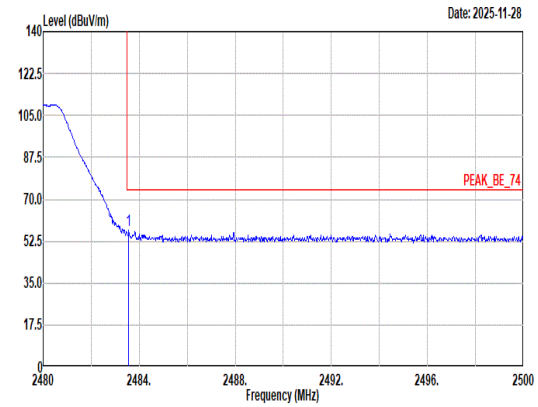
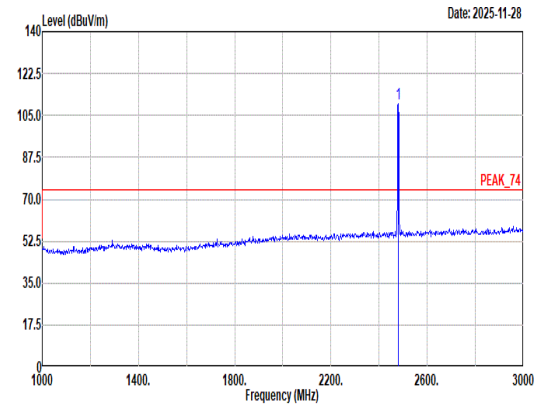
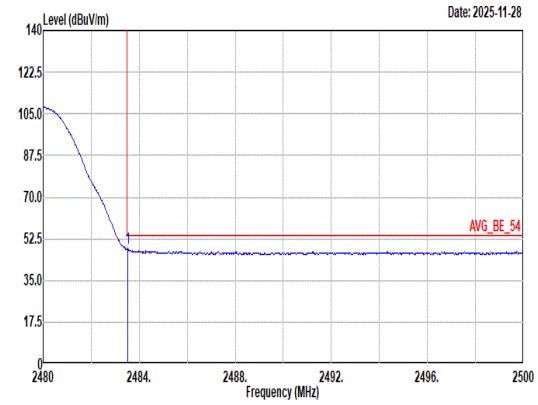
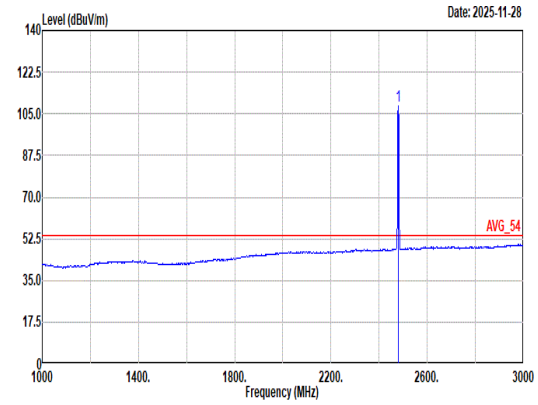
Mode	8	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE GSFK _CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2313.64 55.56 74.00 -18.44 40.04 32.06 8.22 34.66 9.90 106 336 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2440.00 112.47 ------ ------ 96.77 32.00 8.45 34.67 9.92 106 336 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz 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 2338.86 46.97 54.00 -7.03 31.36 32.10 8.27 34.66 9.90 106 336 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz 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 2440.00 111.30 ------ ------ 95.60 32.00 8.45 34.67 9.92 106 336 Average

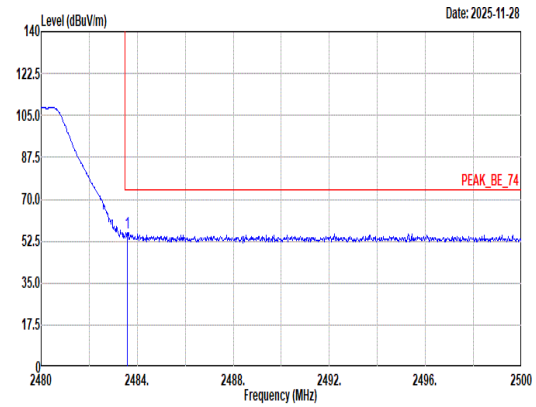
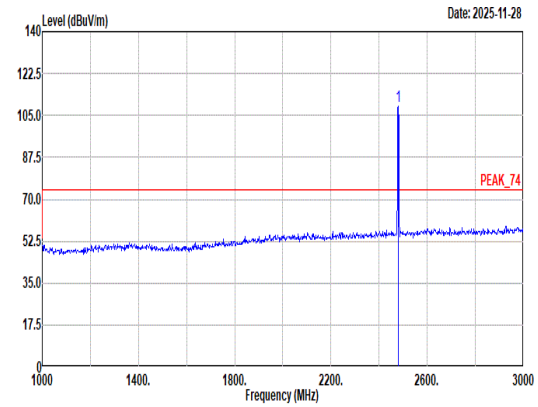
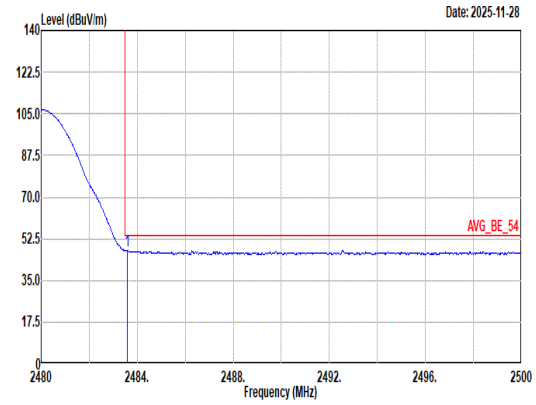
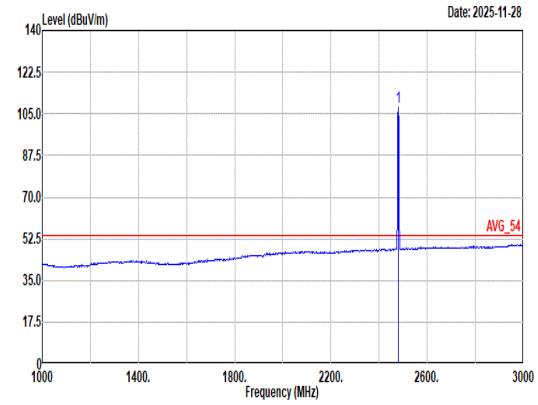
Mode	8	
	Band Edge - R	
	2400-2483.5_Bluetooth-LE GSFK _CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2498.44 55.74 74.00 -18.26 39.56 32.38 8.54 34.68 9.94 106 336 Peak	Blank
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz 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 2486.38 47.21 54.00 -6.79 31.18 32.26 8.52 34.68 9.93 106 336 Average	Blank

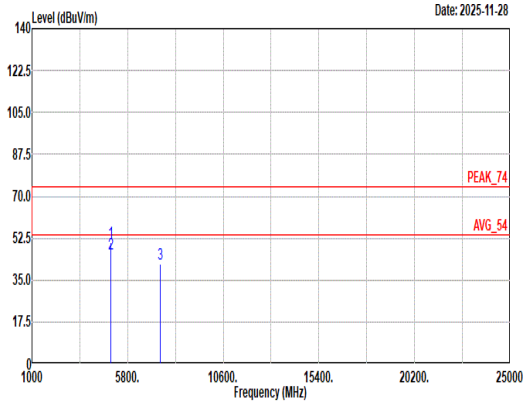
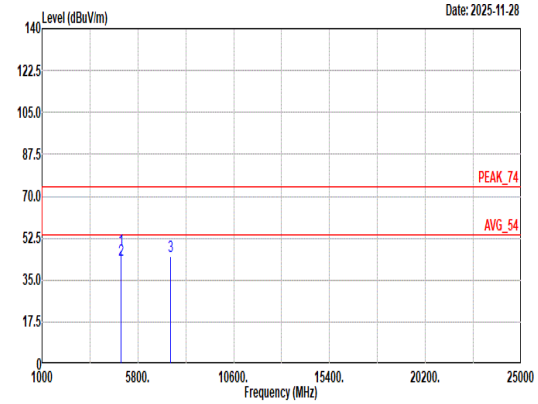
Mode	8	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE GSFK _CH19_2440MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2387.09 54.93 74.00 -19.07 39.24 32.10 8.36 34.67 9.90 388 283 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2440.00 110.64 ------ ------ 94.94 32.00 8.45 34.67 9.92 388 283 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2331.71 46.60 54.00 -7.40 31.01 32.10 8.25 34.66 9.90 388 283 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2440.00 109.48 ------ ------ 93.78 32.00 8.45 34.67 9.92 388 283 Average

Mode	8	
	Band Edge - R	
	2400-2483.5_Bluetooth-LE GSFK _CH19_2440MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 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 2499.52 54.98 74.00 -19.02 38.78 32.40 8.54 34.68 9.94 388 283 Peak	Blank
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2499.16 47.03 54.00 -6.97 30.84 32.39 8.54 34.68 9.94 388 283 Average	Blank

Mode	8	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK _CH19_2440MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4880.00 48.67 74.00 -25.33 59.60 34.30 12.03 58.25 0.99 400 50 Peak 2 4880.00 42.37 54.00 -11.63 53.30 34.30 12.03 58.25 0.99 400 50 Average 3 7320.00 46.22 74.00 -27.78 52.40 35.66 14.70 57.70 1.16 100 149 Peak 4 7320.00 40.42 54.00 -13.58 46.60 35.66 14.70 57.70 1.16 100 149 Average	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4880.00 48.99 74.00 -25.01 59.92 34.30 12.03 58.25 0.99 125 212 Peak 2 4880.00 44.18 54.00 -9.82 55.11 34.30 12.03 58.25 0.99 125 212 Average 3 7320.00 47.26 74.00 -26.74 53.44 35.66 14.70 57.70 1.16 100 64 Peak 4 7320.00 43.27 54.00 -10.73 49.45 35.66 14.70 57.70 1.16 100 64 Average

Mode	9	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2483.56 57.21 74.00 -16.79 41.20 32.24 8.52 34.68 9.93 119 300 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2480.00 109.83 ------ ------ 93.87 32.20 8.51 34.68 9.93 119 300 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz SWT:Auto 1 2483.52 48.35 54.00 -5.65 32.34 32.24 8.52 34.68 9.93 119 300 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 HORIZONTAL : RBW:1000.000kHz VBW:5.600kHz SWT:Auto 1 2480.00 108.56 ------ ------ 92.60 32.20 8.51 34.68 9.93 119 300 Average

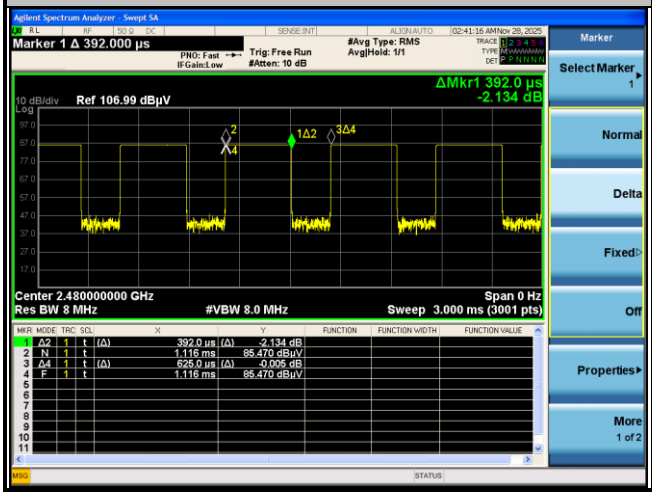
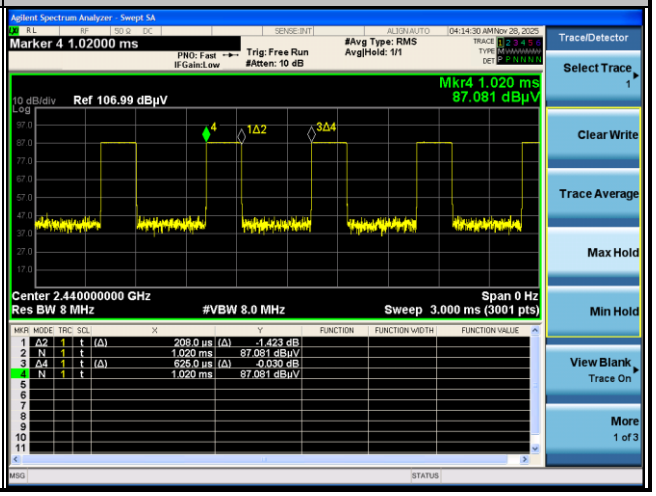
Mode	9	
	Band Edge	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition: PEAK_BE_74 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.58 56.16 74.00 -17.84 40.15 32.24 8.52 34.68 9.93 332 284 Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 2480.00 108.83 ------ ------ 92.87 32.20 8.51 34.68 9.93 332 284 Peak
Avg	 Site : 03CH07-HY Condition: AVG_BE_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2483.58 47.58 54.00 -6.42 31.57 32.24 8.52 34.68 9.93 332 284 Average	 Site : 03CH07-HY Condition: AVG_54 3m HF_ANT_00066584 VERTICAL : RBW:1000.000kHz VBW:5.600kHz 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 2480.00 107.68 ------ ------ 91.72 32.20 8.51 34.68 9.93 332 284 Average

Mode	9	
	Harmonic	
	2400-2483.5_Bluetooth-LE GSFK_CH39_2480MHz	
ANT	7+6	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4960.00 50.83 74.00 -23.17 61.53 34.32 12.14 58.08 0.92 100 190 Peak 2 4960.00 45.90 54.00 -8.10 56.60 34.32 12.14 58.08 0.92 100 190 Average 3 7440.00 41.80 74.00 -32.20 48.03 35.70 14.87 57.91 1.11 -- -- Peak	 Site : 03CH07-HY Condition: PEAK_74 3m HF_ANT_00066584 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 4960.00 47.38 74.00 -26.62 58.08 34.32 12.14 58.08 0.92 100 325 Peak 2 4960.00 43.26 54.00 -10.74 53.96 34.32 12.14 58.08 0.92 100 325 Average 3 7440.00 45.03 74.00 -28.97 51.26 35.70 14.87 57.91 1.11 -- -- Peak

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting
7+6	Bluetooth - LE for 1Mbps	62.72	392	2.55	3kHz
7+6	Bluetooth - LE for 2Mbps	33.28	208	4.81	5.6kHz

Bluetooth - LE for 1Mbps



Bluetooth - LE for 2Mbps