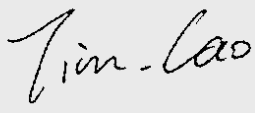


Test report No:
2560724R.701

TEST REPORT

Product Name	Nokia Industrial 5G fieldrouter FRRO505c
Trademark	Nokia
Model and /or type reference	FRRO505c
FCC ID	2AVO2FRRO505C
Applicant's name / address	Nokia of America Corp 3201 Olympus Blvd, Dallas, TX 75019, US
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2020
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao/ Project Manager 
Approved by (name / position & signature)	Frank He/ Technical Manager 
Date of issue	2025-08-21
Report Version	V1.0
Report template No.	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jun. 24, 2025
Date (start test)	Jun. 30, 2025
Date (finish test)	Aug. 14, 2025

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
PK	: Peak
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured
RMS	: Root Mean Squar
NT	: Normal Temperature
HT	: High Extreme Test Temperature
LT	: Low Extreme Test Temperature
NV	: Normal Voltage
HV	: High Extreme Test Voltage
LV	: Low Extreme Test Voltage

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2560724R.701	V1.0	Initial issue of report.	2025-08-12
2560724R.701	V1.1	Page14: Update power setting (The test report No.: 2560724R.701 V1.1 is to replace the test report No.: 2560724R.701 V1.0, and test report 2560724R.701 V1.0 is obsoleted.)	2025-08-21

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 15 (Section 15.247).
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, it is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:

- Chapter 1 General Information;

USED EQUIPMENT

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
Wireless Connectivity Tester	R&S	CMW 270	102593	2025.05.10	2026.05.09	V 4.0.60	N/A
Power Meter	Anritsu	MA2411B	1339267	2025.07.30	2026.07.29	N/A	N/A
Coaxial Cable	N/A	N/A	2477	2025.06.10	2026.06.09	N/A	N/A
Coaxial Cable	N/A	N/A	2478	2025.06.10	2026.06.09	N/A	N/A
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2025.03.15	2026.03.14	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	RF07	2025.06.17	2026.06.16	N/A	N/A
Test system							
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
MAX Signal Analyzer	Keysight	N9010A	MY48030494	2024.10.26	2025.10.25	A.14.03	N/A
RF Control Unit	Tonscend	JS0806-2	22G8060594	2025.01.26	2026.01.25	N/A	N/A
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2025.03.23	2026.03.22	B.01.96	N/A
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2025.03.23	2026.03.22	N/A	N/A
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2025.05.10	2026.05.09	B.01.95	N/A
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A	N/A	V3.0.22

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100726	2025.05.18	2026.05.17	4.42 SP1	N/A
Two-Line V-Network	R&S	ENV 216	101044	2024.10.26	2025.10.25	N/A	N/A
Two-Line V-Network	R&S	ENV 216	101189	2025.05.10	2026.05.09	N/A	N/A
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2025.03.16	2026.03.15	N/A	N/A
Coaxial Cable	Huber+Suhner	RG 223	TR1-C1	2025.03.16	2026.03.15	N/A	N/A
Impedance Stabilization Network	Teseq GmbH	ISN T800	57318	2025.02.25	2026.02.24	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	EMC01	2025.06.17	2026.06.16	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

Radiated Emission(9kHz-40GHz) / AC6

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
Signal analyzer	R&S	FSV30	104212	2025.05.10	2026.05.09	A 08.54	N/A
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2023.04.07	2026.04.06	N/A	N/A
Horn Antenna	RFSPIN	DRH18-E	CE2C07A18EN	2024.12.07	2025.12.06	N/A	N/A
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9168	01231	2025.05.28	2026.05.27	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	750	2024.11.24	2025.11.23	N/A	N/A
Pre-Amplifier	XH	LNA1845	LNA23040284	2025.05.17	2026.05.16	N/A	N/A
Pre-Amplifier	SCHWARZBECK	BBV 9721	00114	2025.05.17	2026.05.16	N/A	N/A
Loop Antenna	R&S	HFH2-Z2E	101149	2025.04.16	2026.04.15	N/A	N/A
Coaxial Cable	N/A	N/A	2225	2025.06.10	2026.06.09	N/A	N/A
Notch Filter	Micro-mve	MFN-2400.2485.S1	AN0003N	2025.06.10	2026.06.09	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	RF04	2025.06.17	2026.06.16	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2025.06.17	2026.06.16	N/A	N/A
Test Software	Tonscend	N/A	N/A	N/A	N/A	N/A	N/A

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95% .

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.8 dB 150kHz~30MHz: 2.4 dB
Peak Power Output	± 1.3 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.5 dB 300MHz~1GHz: 3.6 dB Vertical: 30MHz~200MHz: 3.6 dB 300MHz~1GHz: 3.5 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.0 dB Vertical: 1GHz~18GHz: 4.8 dB Horizontal: 18GHz~26.5GHz: 5.3 dB Vertical: 18GHz~26.5GHz: 4.9 dB
RF antenna conducted test	± 1.3 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 1.0 kHz
Occupied Bandwidth	± 1.0 kHz
Power Density	± 1.3 dB

1 GENERAL INFORMATION

Product Name..... :	Nokia Industrial 5G fieldrouter FRRO505c				
Model No. :	FRRO505c				
Trademark. :	Nokia				
FCC ID :	2AVO2FRRO505C				
Manufacturer..... :	Shanghai Smawave Technology Co., Ltd				
Manufacturer Address..... :	2/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China				
Power supply :	9~36Vdc				
Wireless specification..... :	Bluetooth (LE)				
Operating frequency range(s)	2402~2480MHz				
Type of Modulation..... :	GFSK				
PHYs :	☒	LE 1M	☒	LE 2M	☒ LE Coded S=2/8
Data Rate :	☒	1Mbit/s	☒	2Mbit/s	☒ 500/125 Kbit/s
Channel Spacing..... :	2MHz				
Antenna type..... :	Dipole				
Antenna Gain..... :	5.02 dBi				

Remark:

As above information is provided and confirmed by the applicant. DEKRA is not liable to the accuracy, suitability, reliability or/and integrity of the information.

2 DESCRIPTION OF TEST SETUP

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) Ethernet cable	N/A	N/A	N/A
(3) Ethernet cable	N/A	N/A	N/A
Software	Type / Version	Manufacturer	Supplied by
QRCT	4.0.156.1	Qualcomm	Qualcomm

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2) Ethernet cable	1	☒	☒
(3) Ethernet cable	8	☒	☒

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
CFR 47, FCC Part 15 C	2024	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test Item of FCC	Standard(s)	Verdict	Remark
DTS Bandwidth	FCC 15.247(a)(2)	PASS	Test data please refer to Appendix A
Maximum conducted output power	15.247 (b)(3)	PASS	Test data please refer to Appendix C
Maximum power spectral density	FCC 15.247(e)	PASS	Test data please refer to Appendix D
Band edge measurements	FCC 15.247(d) FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix E
Conducted Spurious Emission	FCC 15.247(d), FCC 15.209	PASS	Test data please refer to Appendix F
Duty cycle	ANSI C63.10:2013	PASS	Test data please refer to Appendix G
Emissions in Restricted Bands	FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix H
AC Power Line Conducted Emission	FCC 15.207	PASS	Test data please refer to Appendix I
Antenna Requirement	FCC 15.203	PASS	---

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
BLE_1Mbps	00	2402	8
	19	2440	8
	39	2480	8
BLE_2Mbps	00	2402	8
	19	2440	8
	39	2480	4
BLE_125kbps	00	2402	8
	19	2440	8
	39	2480	8
BLE_500kbps	00	2402	8
	19	2440	8
	39	2480	8

3.5 Test Facility

Tset Location A : FCC Designation Number: CN1199

Tset Location B : FCC Designation Number: CN1321

4 TEST ITEMS OF LIMIT/SETUP/PROCEDURE

4.1 DTS Bandwidth

VERDICT: PASS

4.1.1 Limit

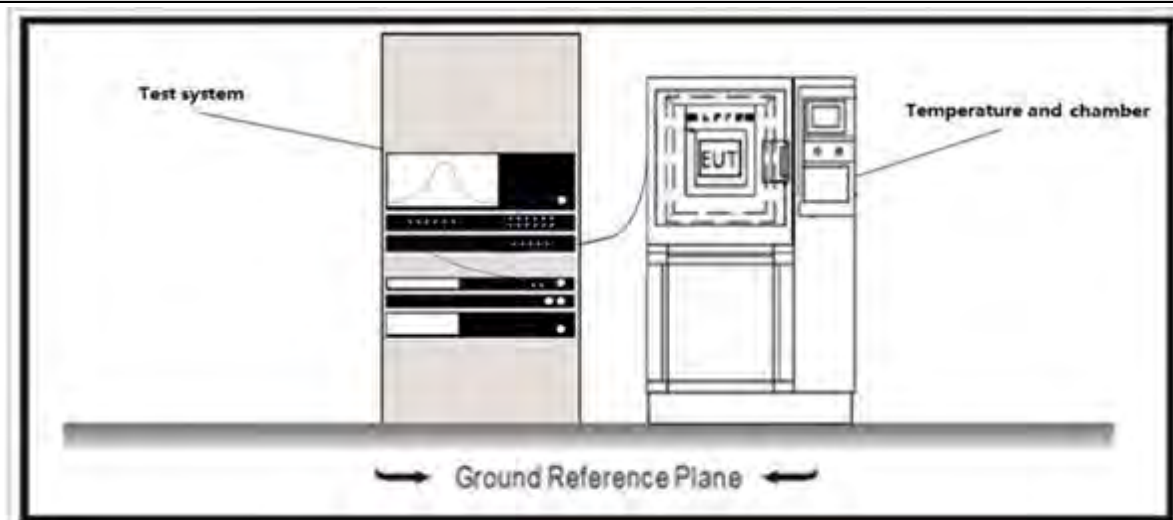
Standard FCC Part 15 Subpart C Paragraph 15.247 (a)(2);

Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

Standard ANSI C63.10 Paragraph 6.7

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs. The occupied bandwidth should be within the required frequency range.

4.1.2 Test Setup



4.1.3 Test Procedure

	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☒	ANSI C63.10	11.8.1	Option 1
	☐	ANSI C63.10	11.8.2	Option 2
	ANSI C63.10		6.9	Occupied bandwidth
☒	☐	ANSI C63.10	6.9.2	relative measurement procedure
	☒	ANSI C63.10	6.9.3	power bandwidth (99%) measurement procedure

4.2 Maximum Conducted Output Power

VERDICT: PASS

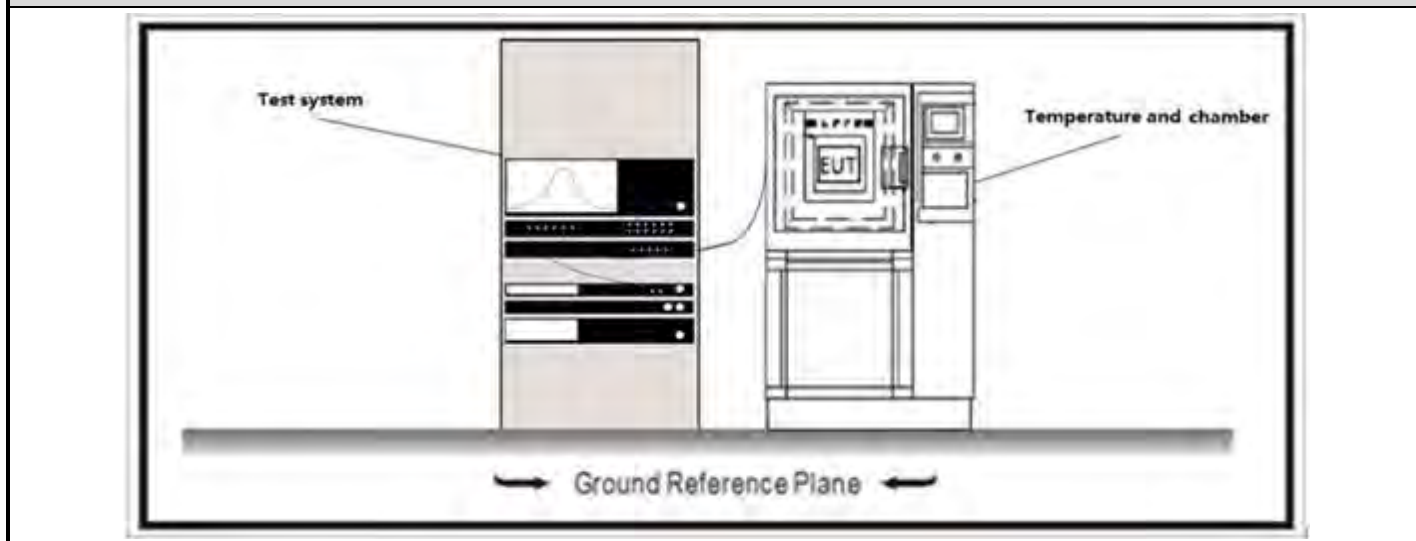
4.3.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3);
☒	GTX < 6dBi	Pout ≤ 30dBm
☐	GTX > 6dBi	
☐	Non-Fix point-point	Pout ≤ 30 - (GTX - 6)
☐	Fix point-point	Pout ≤ 30 - [(GTX - 6)]/3
☐	Point-to-multipoint	Pout ≤ 30 - (GTX - 6)
☐	Overlap Beams	Pout ≤ 30 - [(GTX - 6)]/3
☐	Aggregate power transmitted simultaneously on all beams	Pout ≤ 30 - [(GTX - 6)]/3
☐	single directional beam	Pout ≤ 30 - [(GTX - 6)]/3 + 8dB

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum peak conducted output power .

4.3.2 Test Setup



4.3.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.9	Fundamental emission output power
	☒	ANSI C63.10	11.9.1	Maximum peak conducted output power
	☐	ANSI C63.10	11.9.1.1	RBW $\geq$ DTS bandwidth
	☒	ANSI C63.10	11.9.1.2	PKPM1 Peak power meter method

4.3 Maximum Power Spectral Density

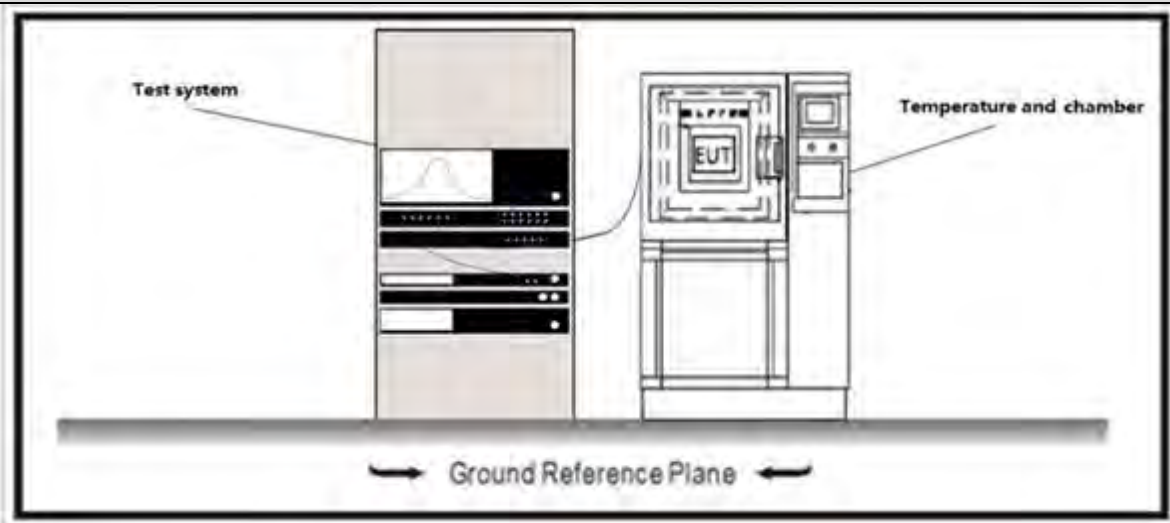
VERDICT: PASS

4.4.1 Limit

Standard FCC Part 15 Subpart C Paragraph 15.247 (b)(3);

 Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

4.4.2 Test Setup



4.4.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	11.10	Maximum power spectral density level in the fundamental emission
☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)

4.4 Band Edge Measurements

VERDICT: PASS

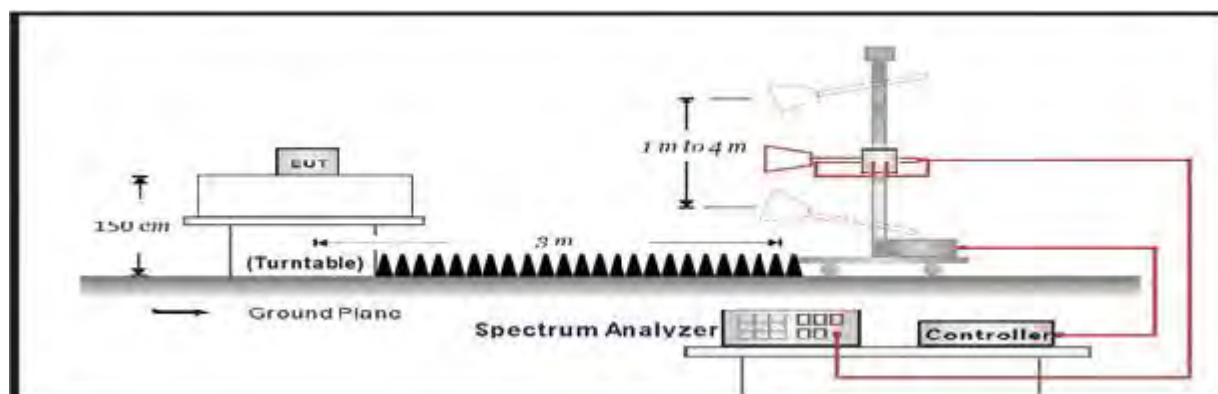
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209;		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

4.5.2 Test Setup

Above 1GHz Test Setup:



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.10	Band-edge testing
☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements
☐	ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
☒	ANSI C63.10	11.12.1	Radiated emission measurements
☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.5 Conducted Spurious Emission

VERDICT: PASS

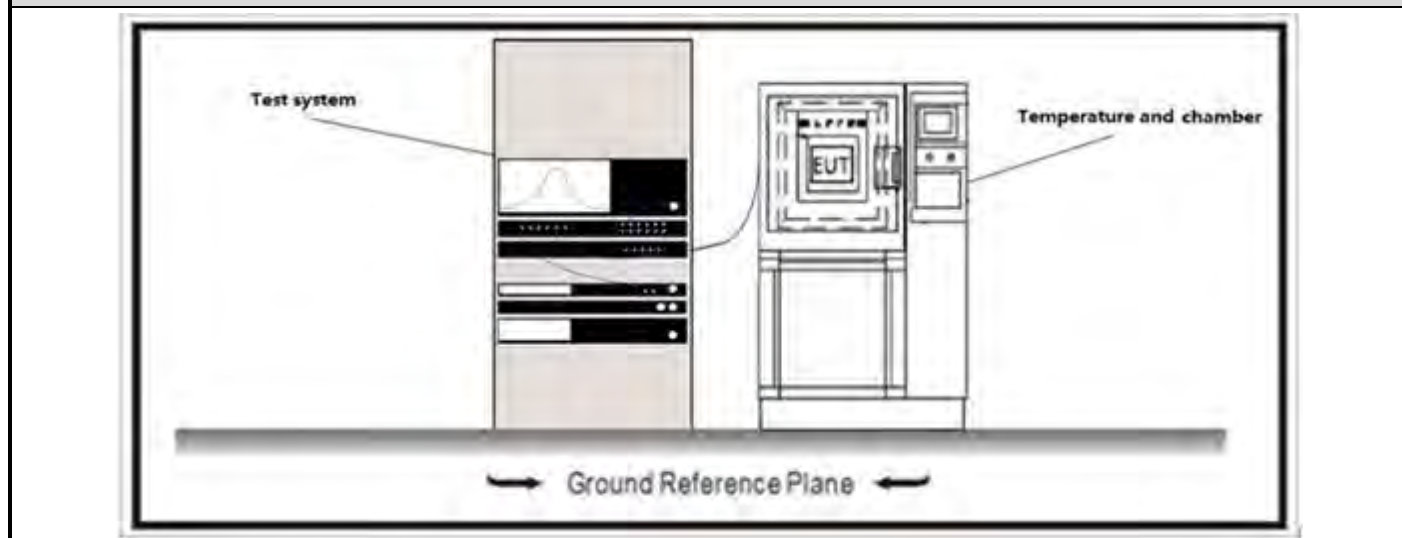
4.6.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d);
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power 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 (i.e., 20 dBc).

4.6.2 Test Setup



4.6.3 Test Procedure

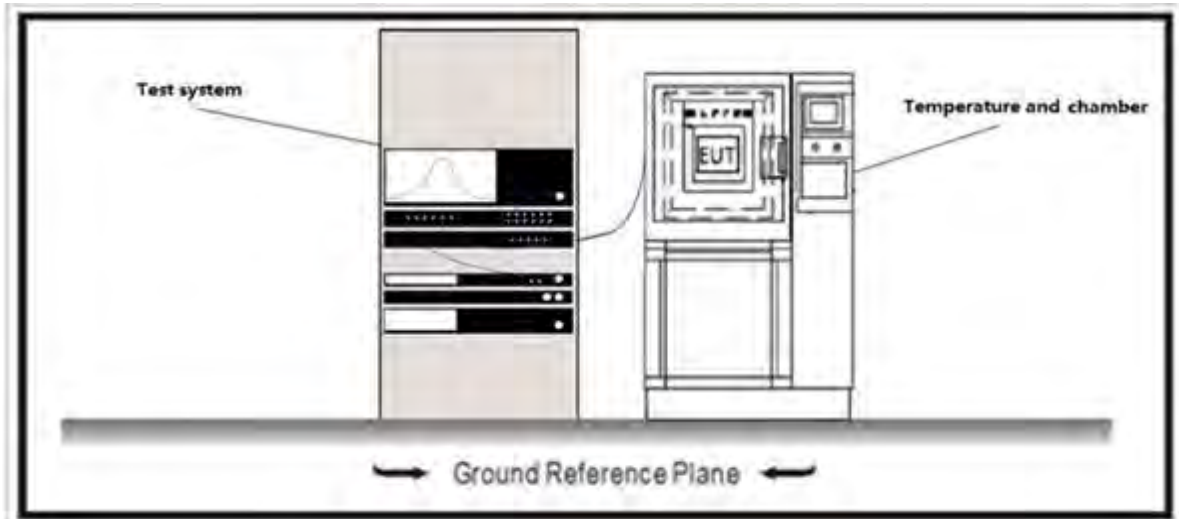
References Rule	Chapter	Description
☒ ANSI C63.10	11.11	Emissions in non-restricted frequency bands
☒ ANSI C63.10	11.11.1	General
☒ ANSI C63.10	11.11.2	Reference level measurement
☒ ANSI C63.10	11.11.3	Emission level measurement

4.6 Duty cycle	VERDICT: PASS
-----------------------	----------------------

4.7.1 Limit

N/A

4.7.2 Test Setup



4.7.3 Test Procedure

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.7 Emissions in Restricted Bands**VERDICT: PASS****4.8.1 Limit****Standard**

FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Band Emissions Limit

FCC Part 15 Subpart C Paragraph 15.209

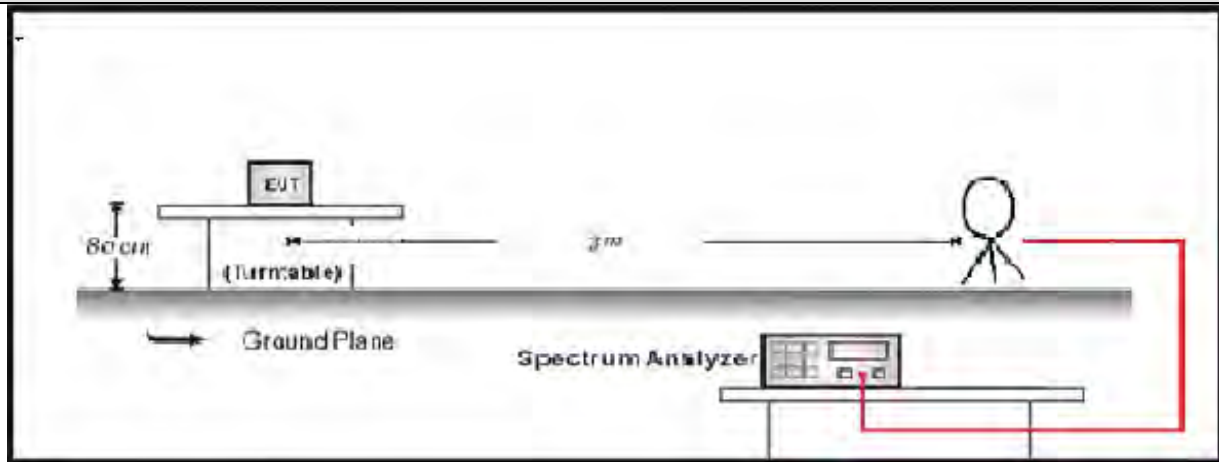
Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

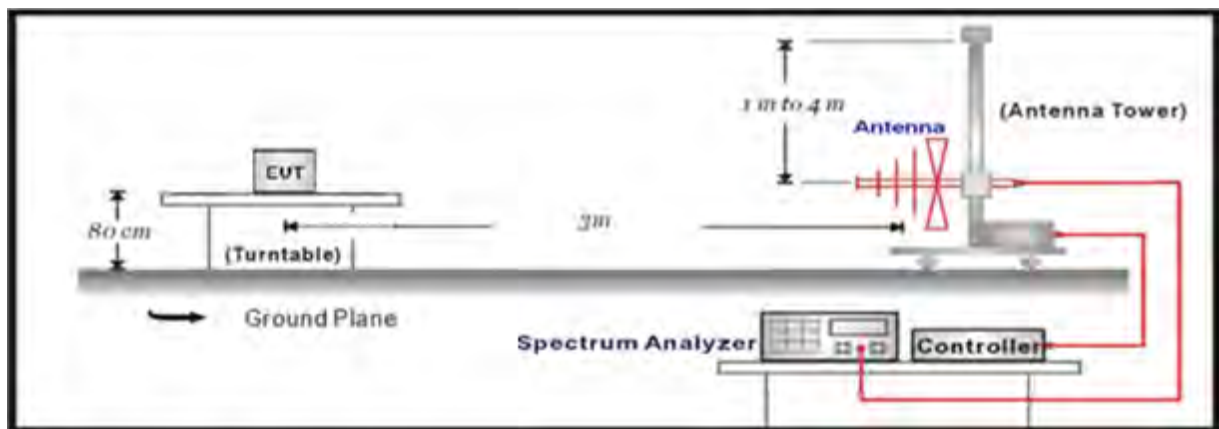
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.8.2 Test Setup

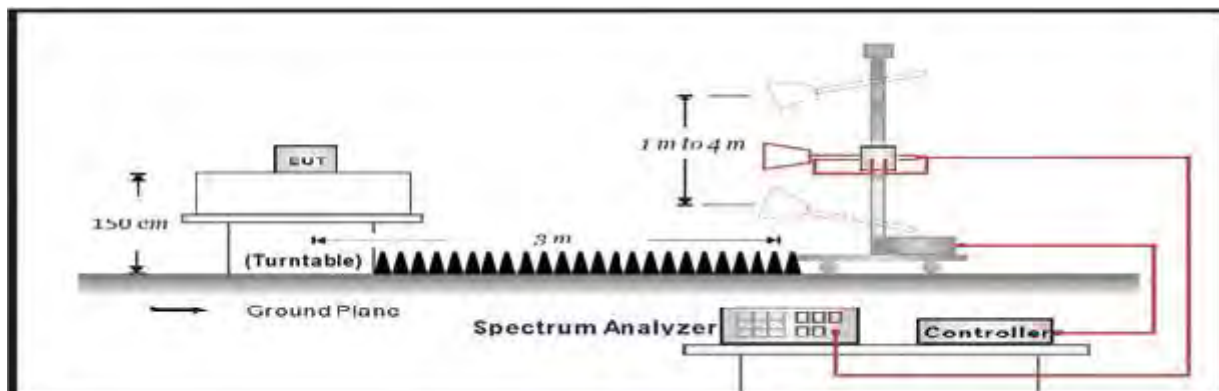
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

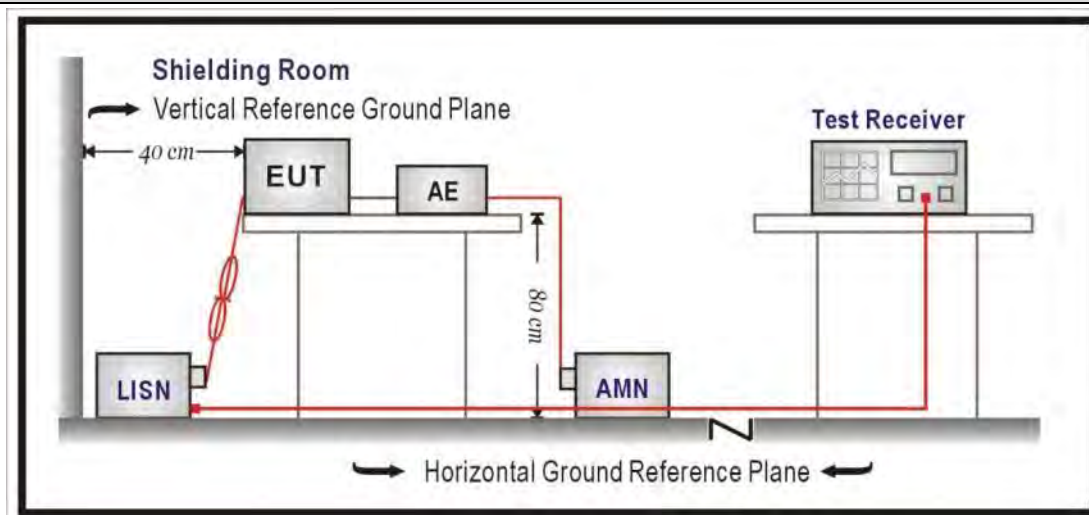


4.8.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.8 AC Power Line Conducted Emission**VERDICT: PASS****4.9.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.207 ;	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

¹⁾ At the transition frequency, the lower limit applies.²⁾ The limit decreases linearly with the logarithm of the frequency.**NOTE 1:** The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.**NOTE 2:** Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.**4.9.2 Test Setup****4.9.3 Test Procedure**

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.9 Antenna Requirement**VERDICT: PASS****4.10.1 Limit:**

Standard	FCC Part 15 Subpart C Paragraph 15.203;
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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, or §15.221. 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.

4.10.2 Antenna Connector Construction:

- | | |
|-------------------------------------|--|
| ☐ | The use of a permanently attached antenna |
| ☐ | The antenna use of a unique coupling to the intentional radiator |
| ☒ | The use of a nonstandard antenna jack or electrical connector |

Please refer to the attached document "Internal Photograph" to show the antenna connector.

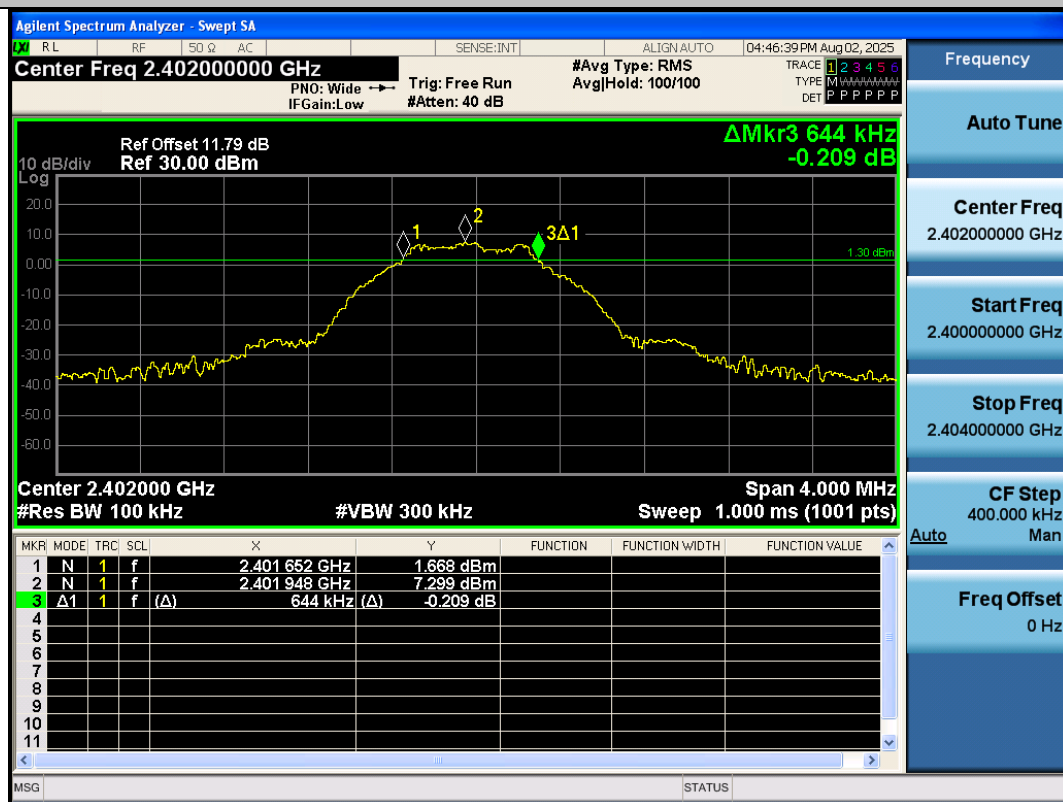
5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

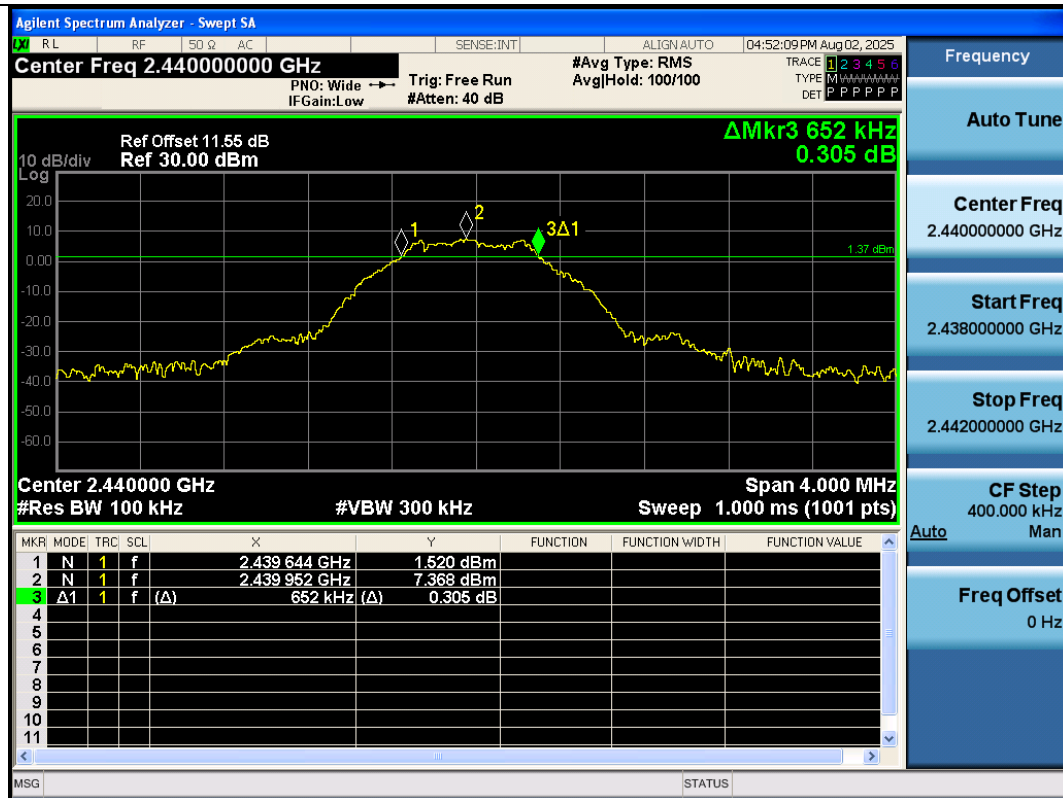
Appendix A: DTS Bandwidth

TestMode	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	2402	0.644	2401.652	2402.296	0.5	PASS
BLE_1M	2440	0.652	2439.644	2440.296	0.5	PASS
BLE_1M	2480	0.640	2479.656	2480.296	0.5	PASS
BLE_2M	2402	1.148	2401.400	2402.548	0.5	PASS
BLE_2M	2440	1.112	2439.420	2440.532	0.5	PASS
BLE_2M	2480	1.148	2479.420	2480.568	0.5	PASS
BLE_125K	2402	0.652	2401.652	2402.304	0.5	PASS
BLE_125K	2440	0.600	2439.680	2440.280	0.5	PASS
BLE_125K	2480	0.628	2479.664	2480.292	0.5	PASS
BLE_500K	2402	0.672	2401.652	2402.324	0.5	PASS
BLE_500K	2440	0.656	2439.656	2440.312	0.5	PASS
BLE_500K	2480	0.664	2479.652	2480.316	0.5	PASS

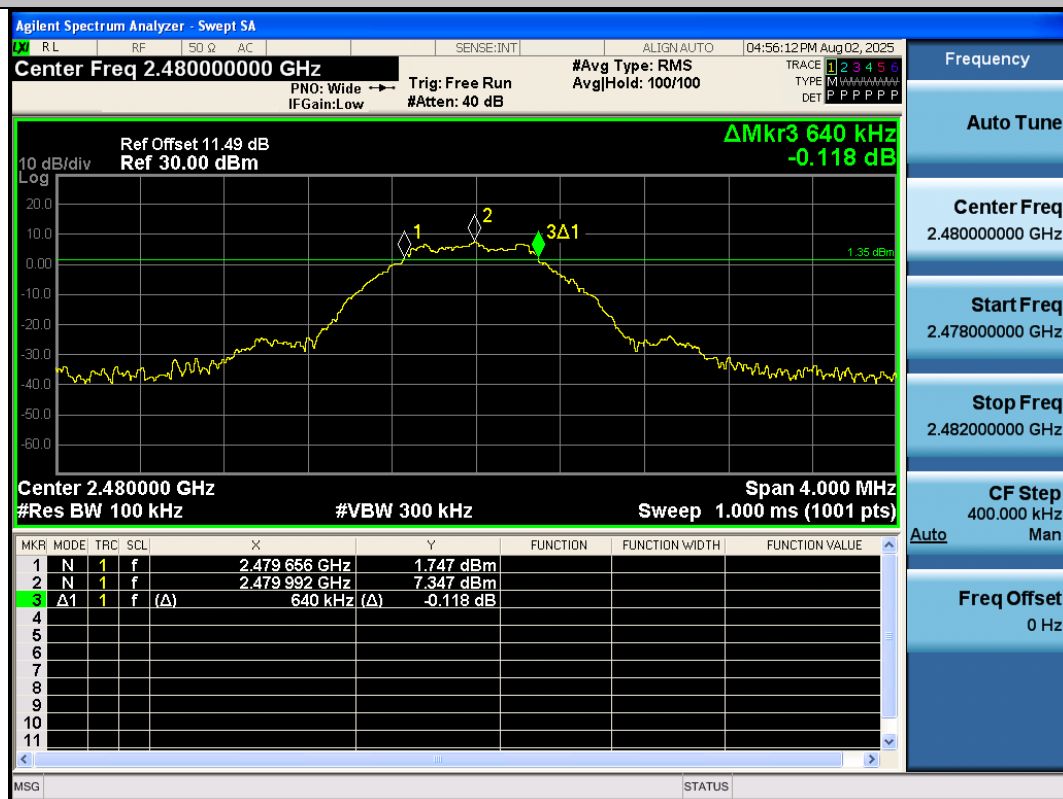
BLE_1M-2402-PASS



BLE_1M-2440-PASS



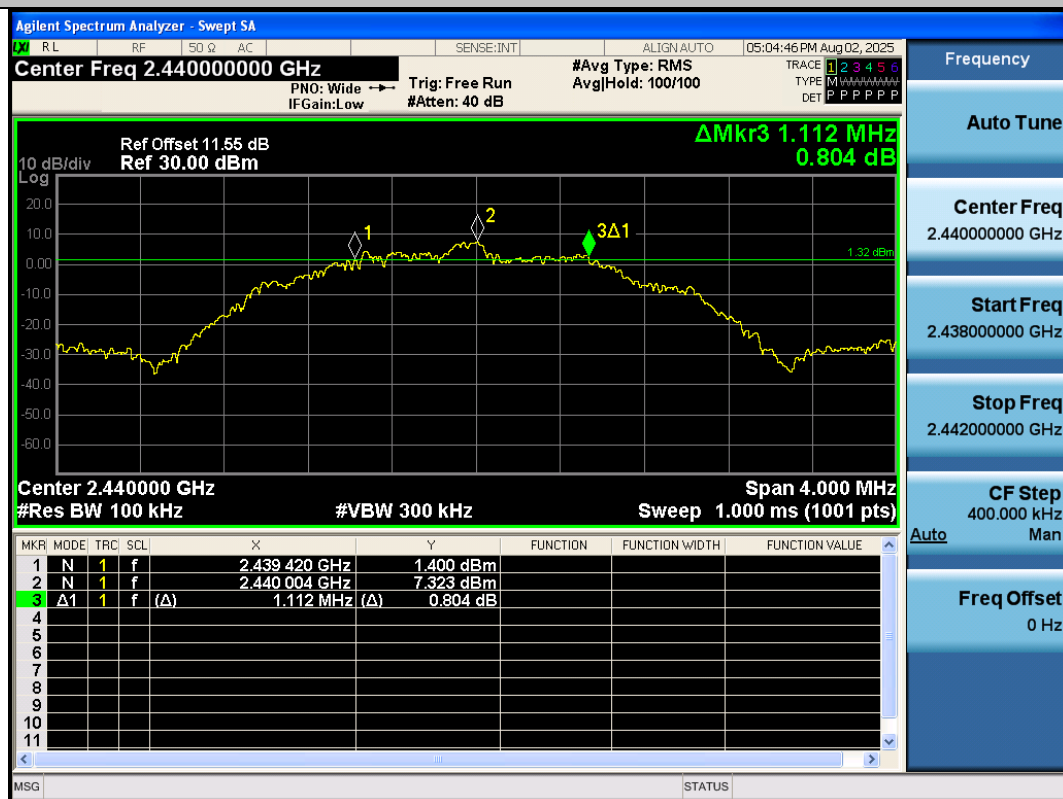
BLE_1M-2480-PASS



BLE_2M-2402-PASS



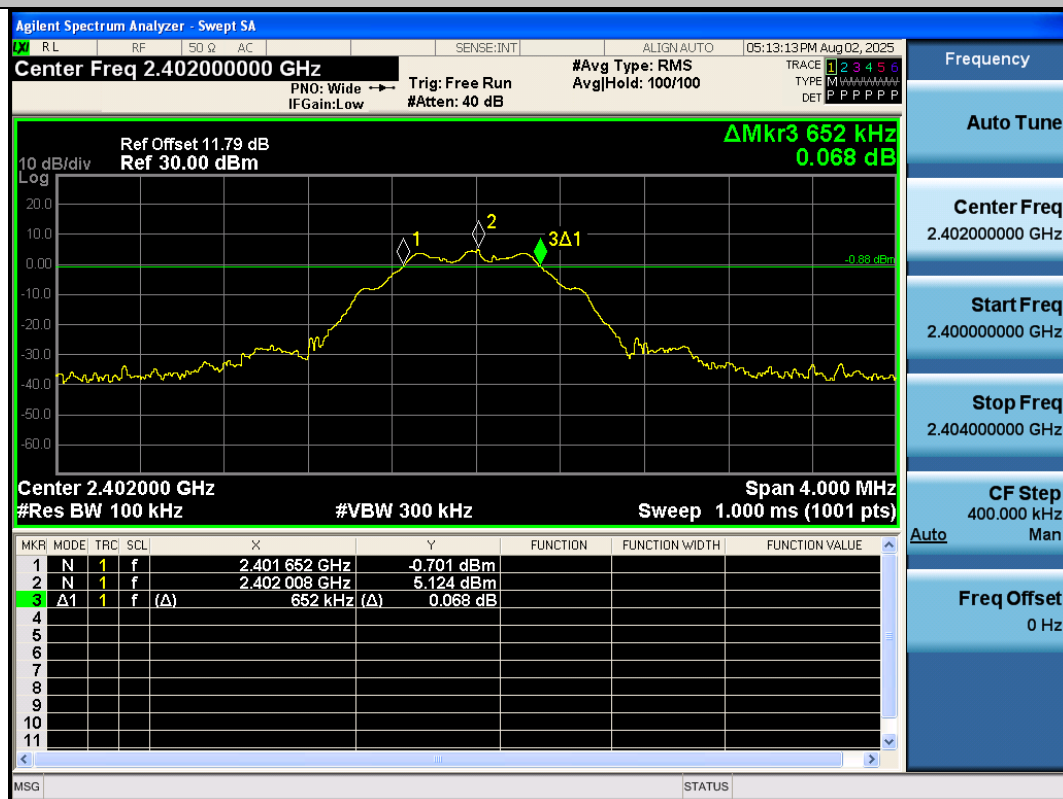
BLE_2M-2440-PASS



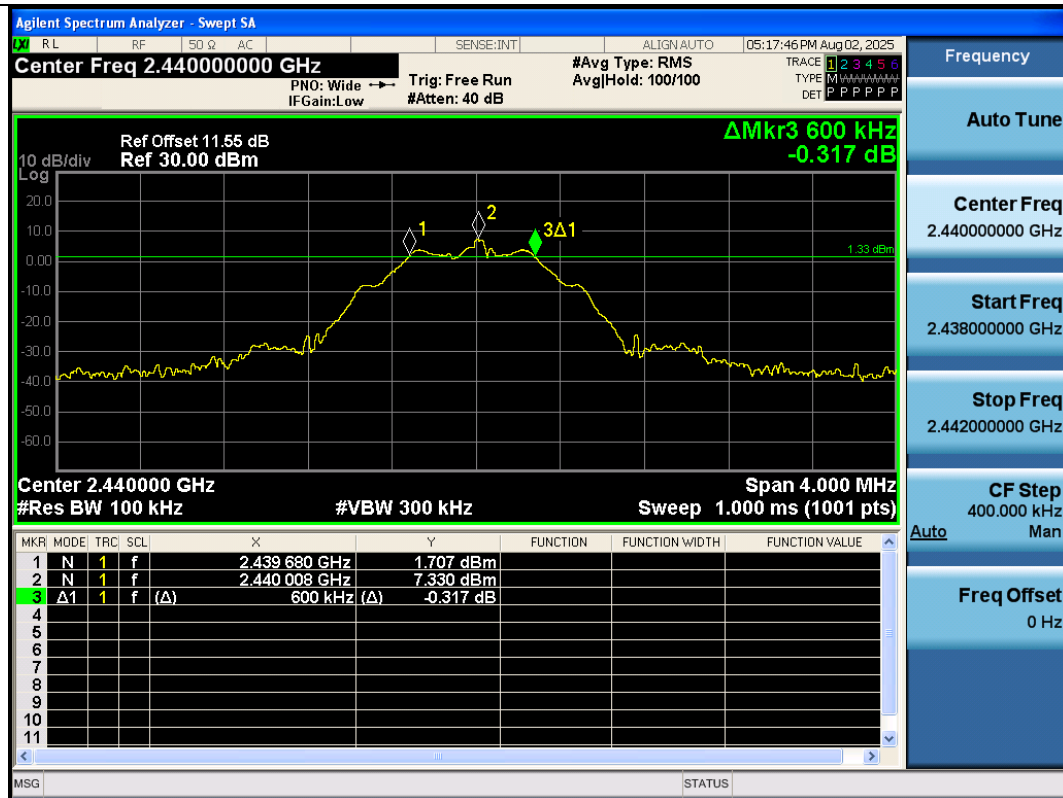
BLE_2M-2480-PASS



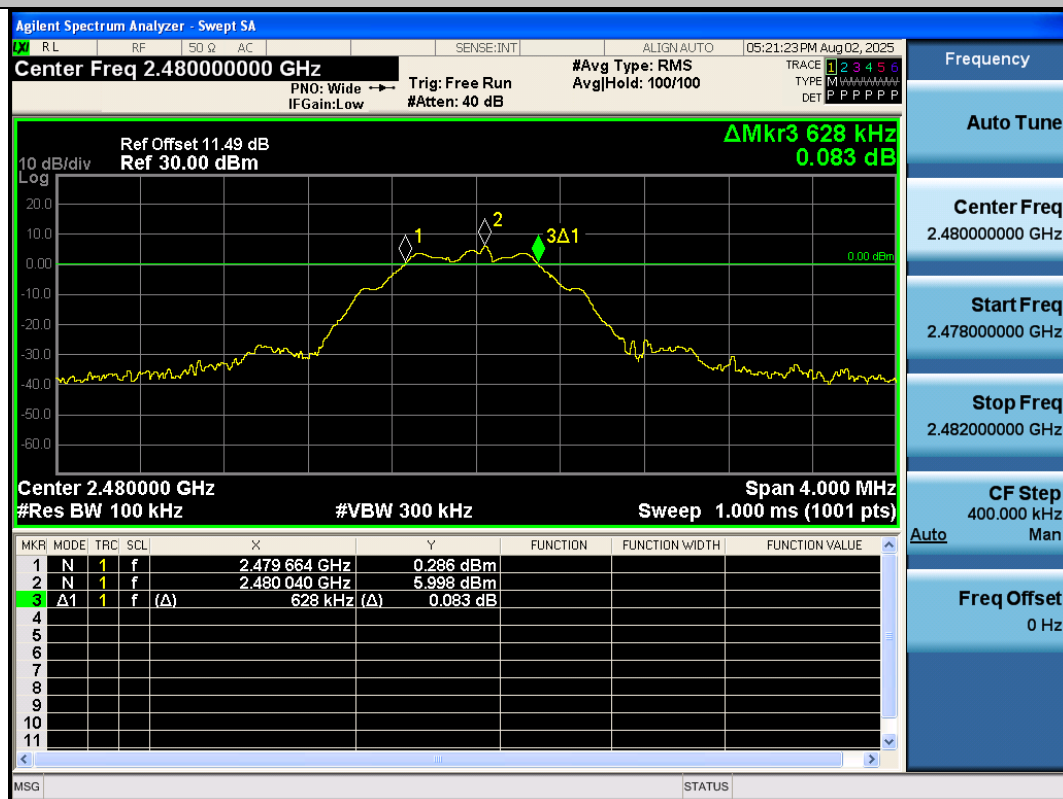
BLE_125K-2402-PASS



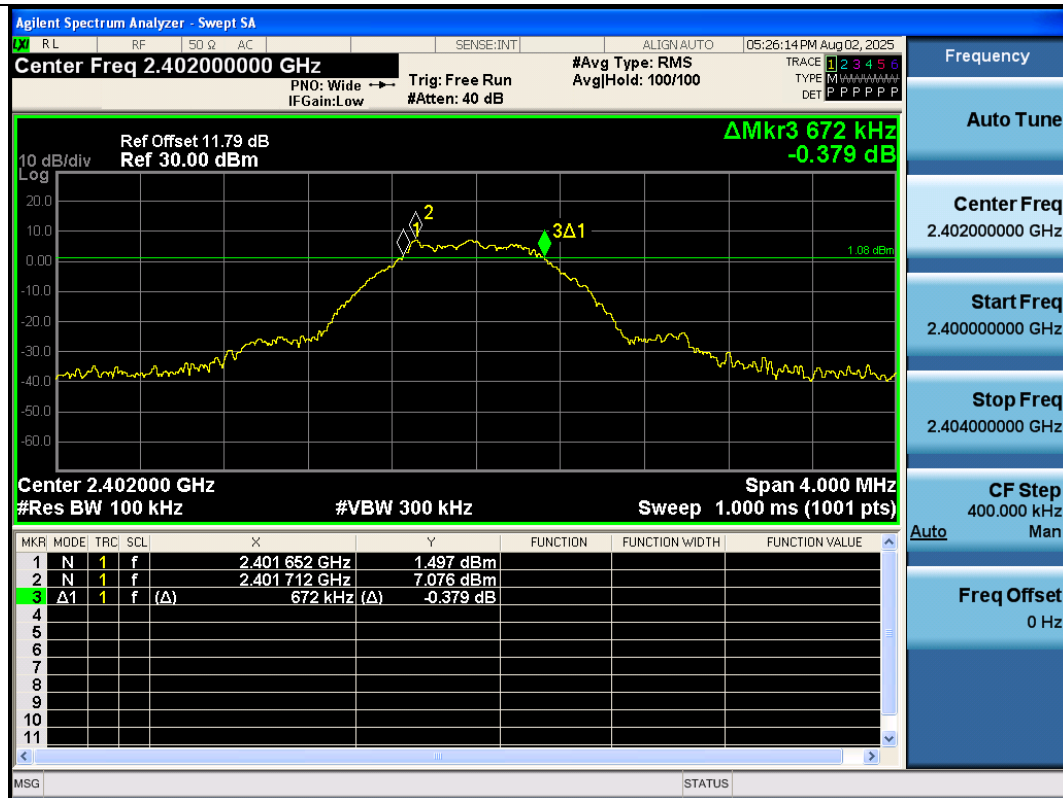
BLE_125K-2440-PASS



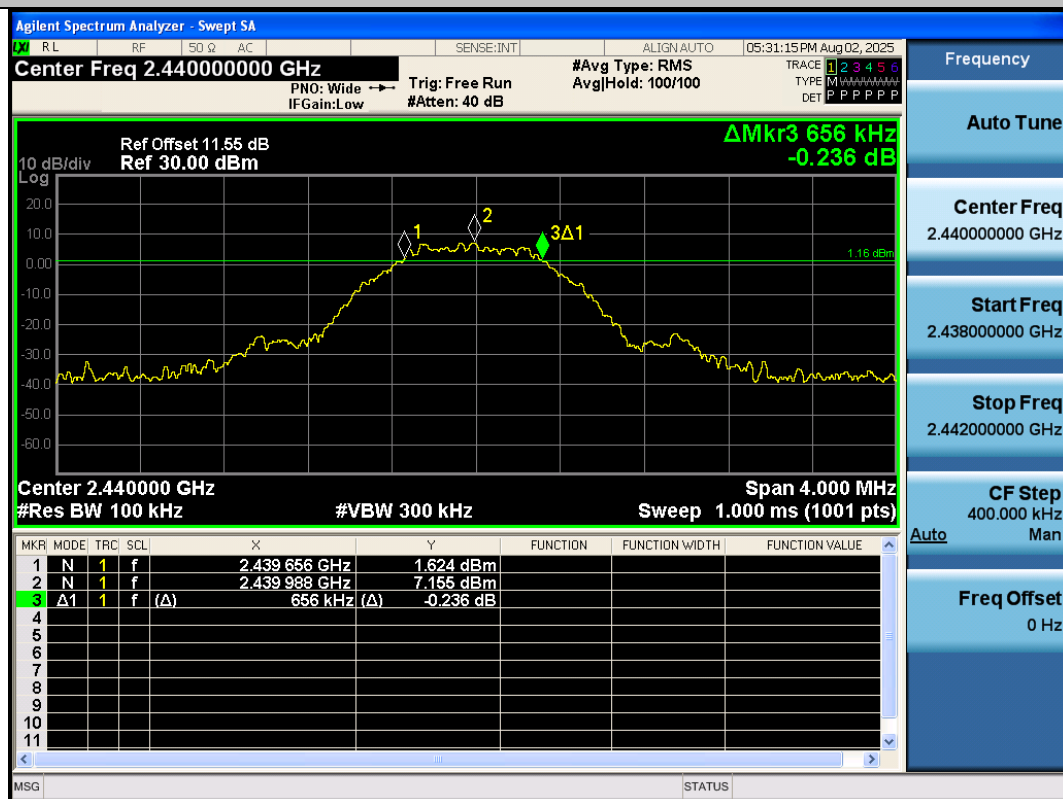
BLE_125K-2480-PASS



BLE_500K-2402-PASS



BLE_500K-2440-PASS



BLE_500K-2480-PASS



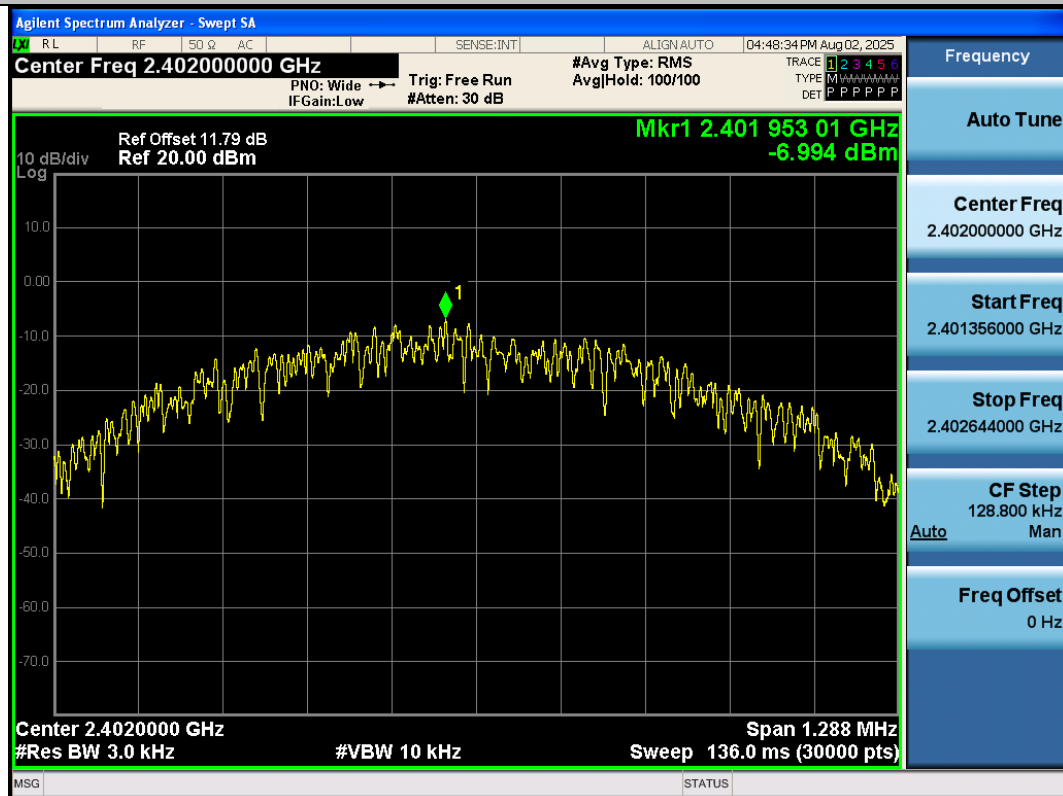
Appendix B: Maximum conducted output power

TestMode	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	2402	7.85	≤30	PASS
BLE_1M	2440	7.97	≤30	PASS
BLE_1M	2480	7.89	≤30	PASS
BLE_2M	2402	7.84	≤30	PASS
BLE_2M	2440	7.95	≤30	PASS
BLE_2M	2480	3.13	≤30	PASS
BLE_125K	2402	7.83	≤30	PASS
BLE_125K	2440	7.96	≤30	PASS
BLE_125K	2480	7.87	≤30	PASS
BLE_500K	2402	7.86	≤30	PASS
BLE_500K	2440	8.04	≤30	PASS
BLE_500K	2480	7.90	≤30	PASS

Appendix C: Maximum power spectral density

TestMode	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	2402	-6.99	≤8.00	PASS
BLE_1M	2440	-6.84	≤8.00	PASS
BLE_1M	2480	-6.91	≤8.00	PASS
BLE_2M	2402	-10.03	≤8.00	PASS
BLE_2M	2440	-9.91	≤8.00	PASS
BLE_2M	2480	-15.95	≤8.00	PASS
BLE_125K	2402	1.31	≤8.00	PASS
BLE_125K	2440	1.44	≤8.00	PASS
BLE_125K	2480	1.36	≤8.00	PASS
BLE_500K	2402	1.29	≤8.00	PASS
BLE_500K	2440	1.37	≤8.00	PASS
BLE_500K	2480	1.29	≤8.00	PASS

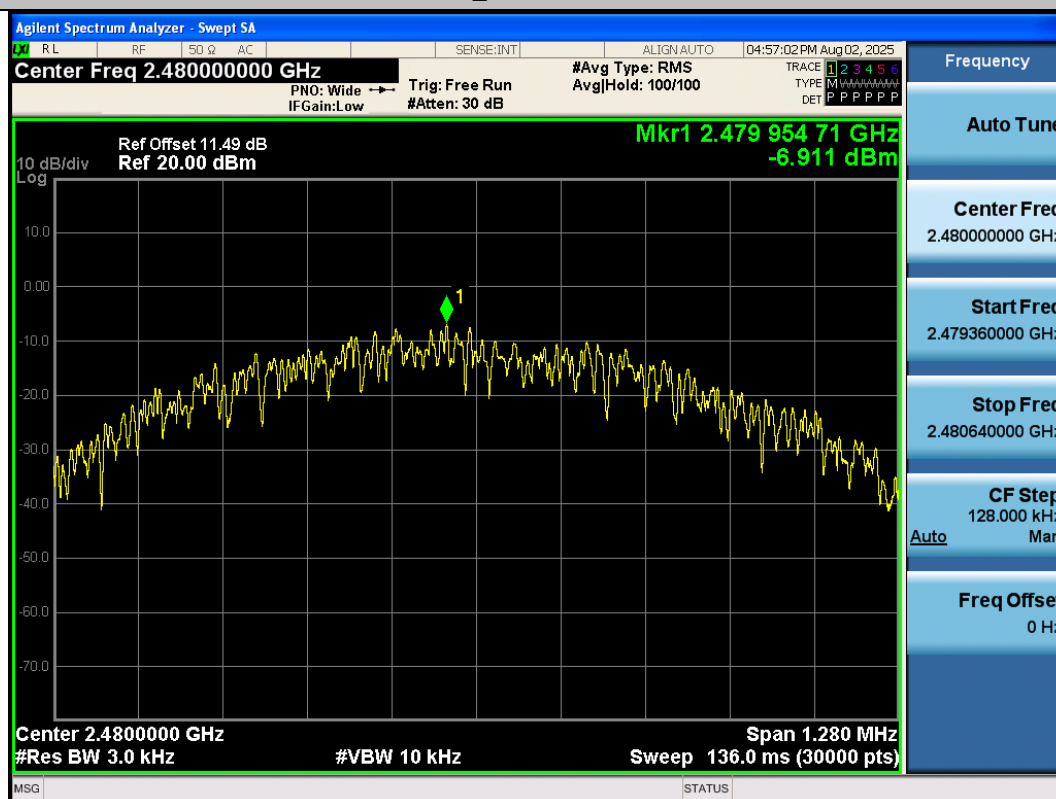
BLE_1M-2402-PASS



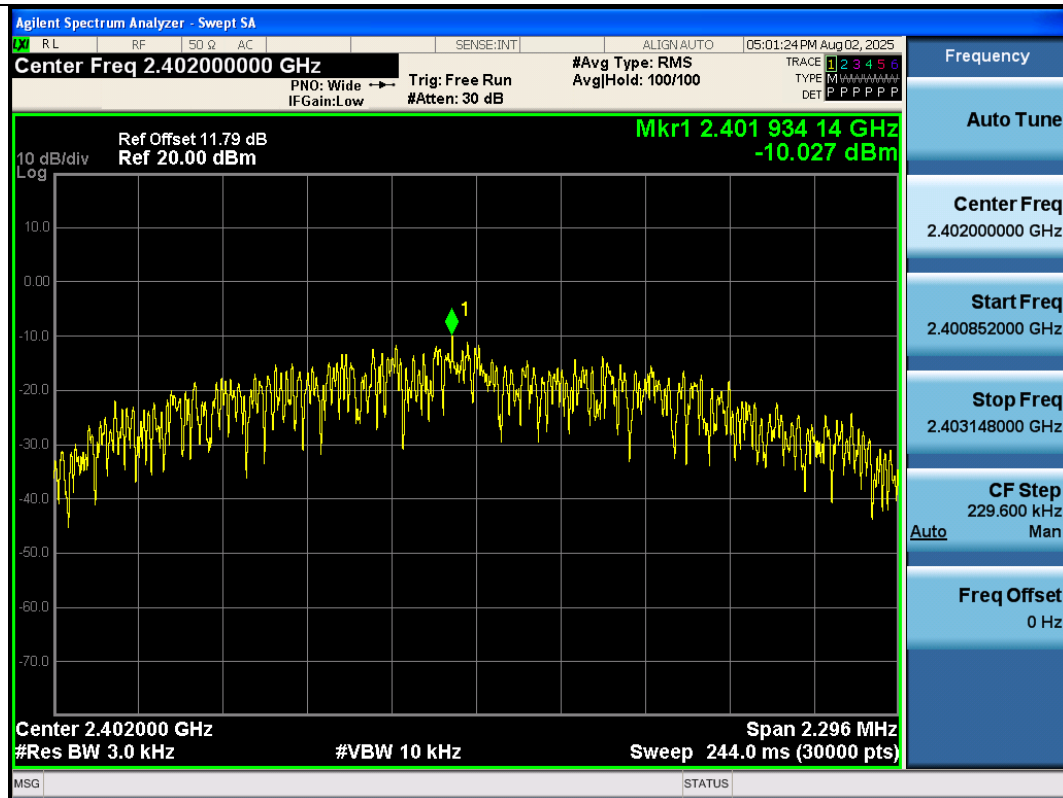
BLE_1M-2440-PASS



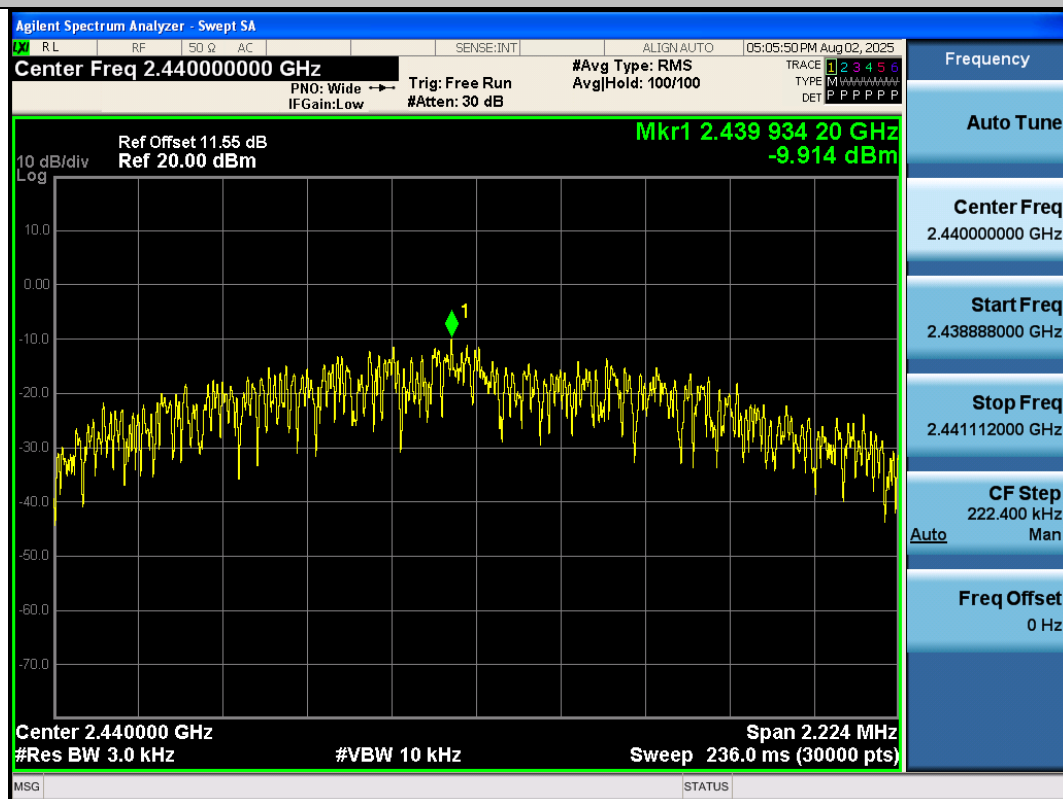
BLE_1M-2480-PASS



BLE_2M-2402-PASS



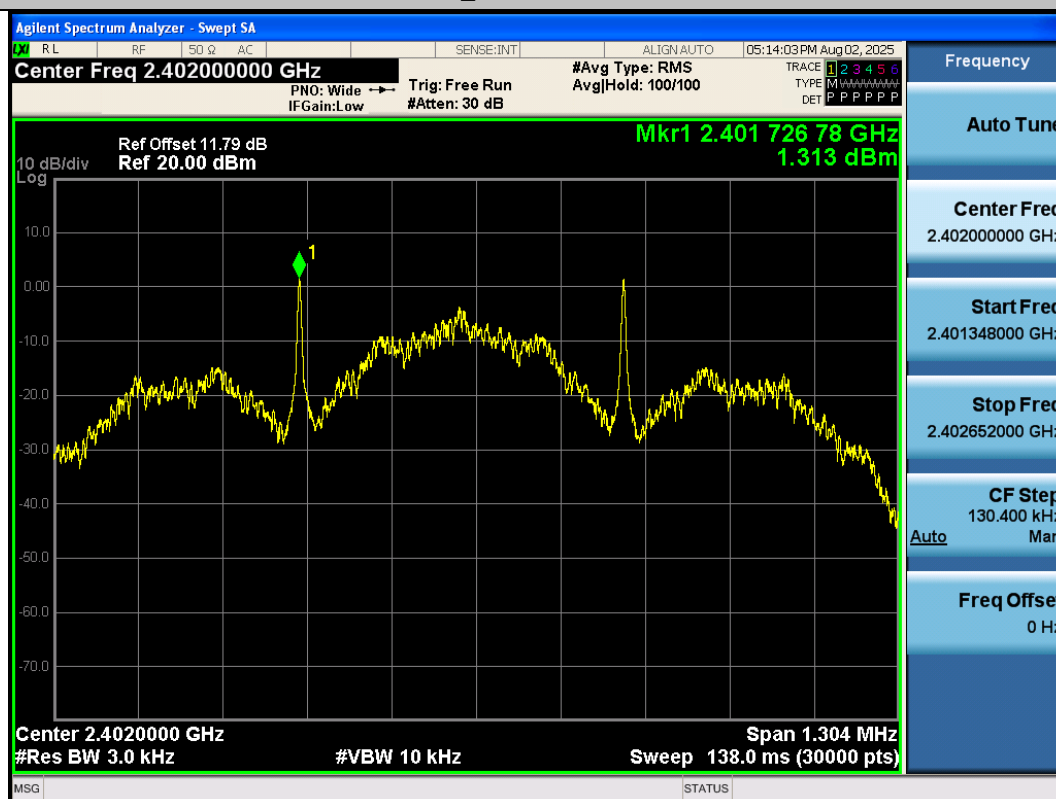
BLE_2M-2440-PASS



BLE_2M-2480-PASS



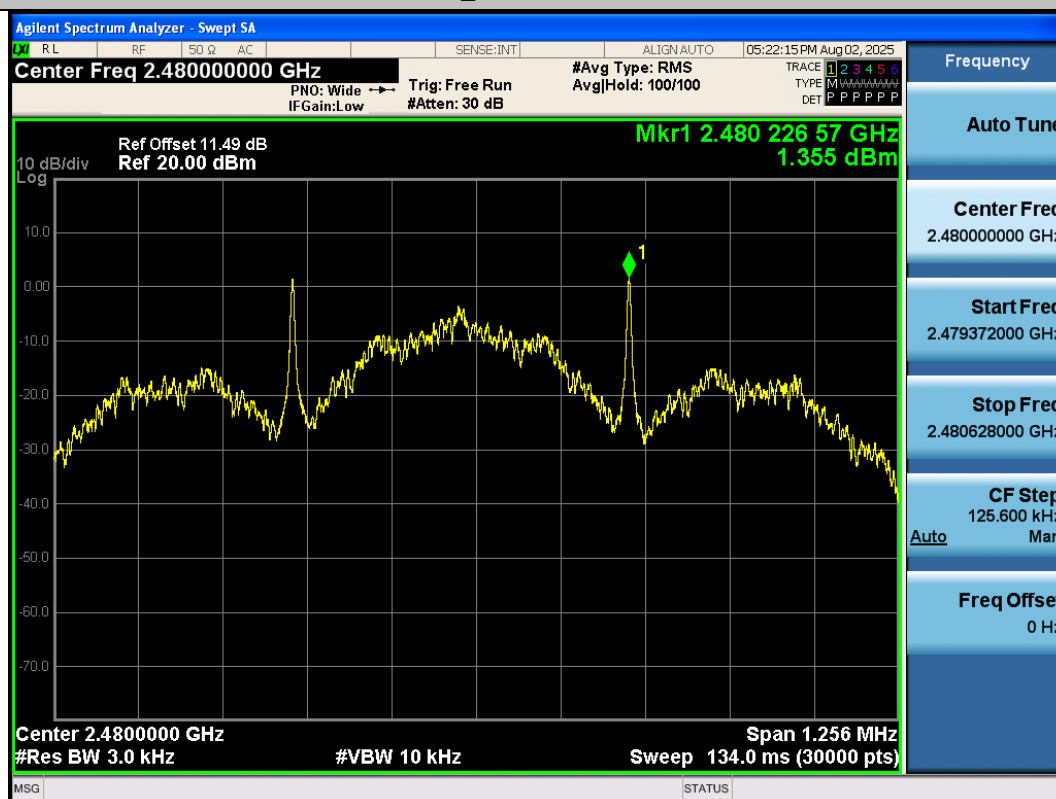
BLE_125K-2402-PASS



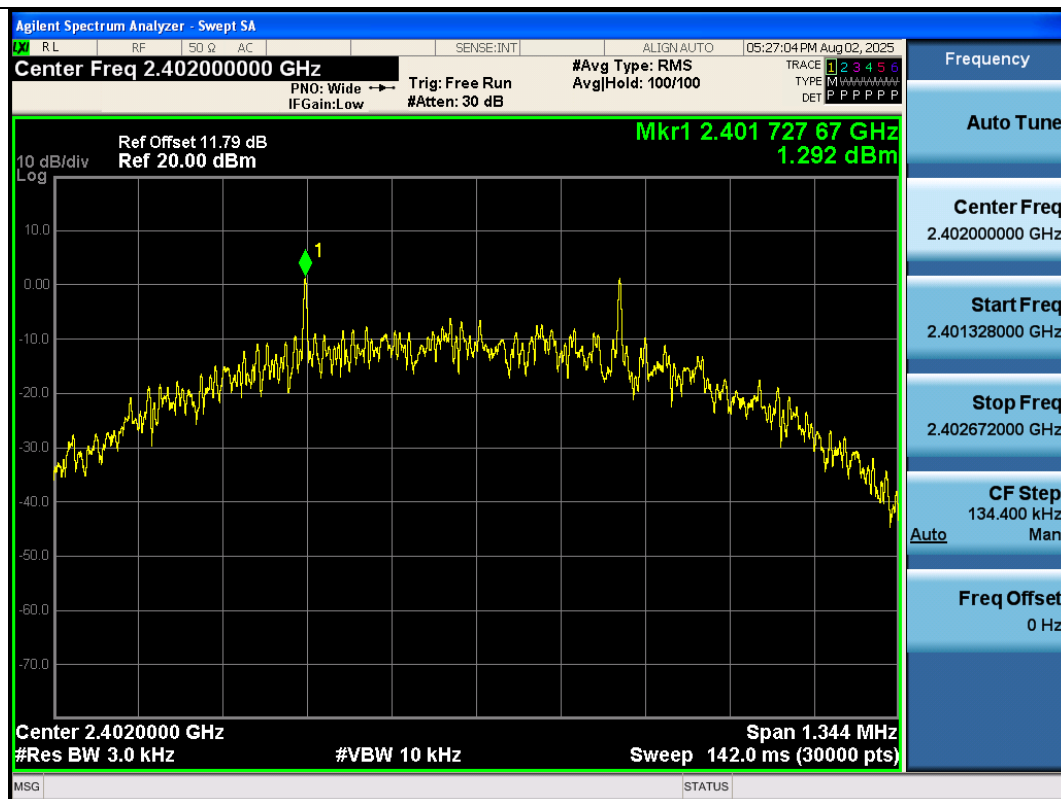
BLE_125K-2440-PASS



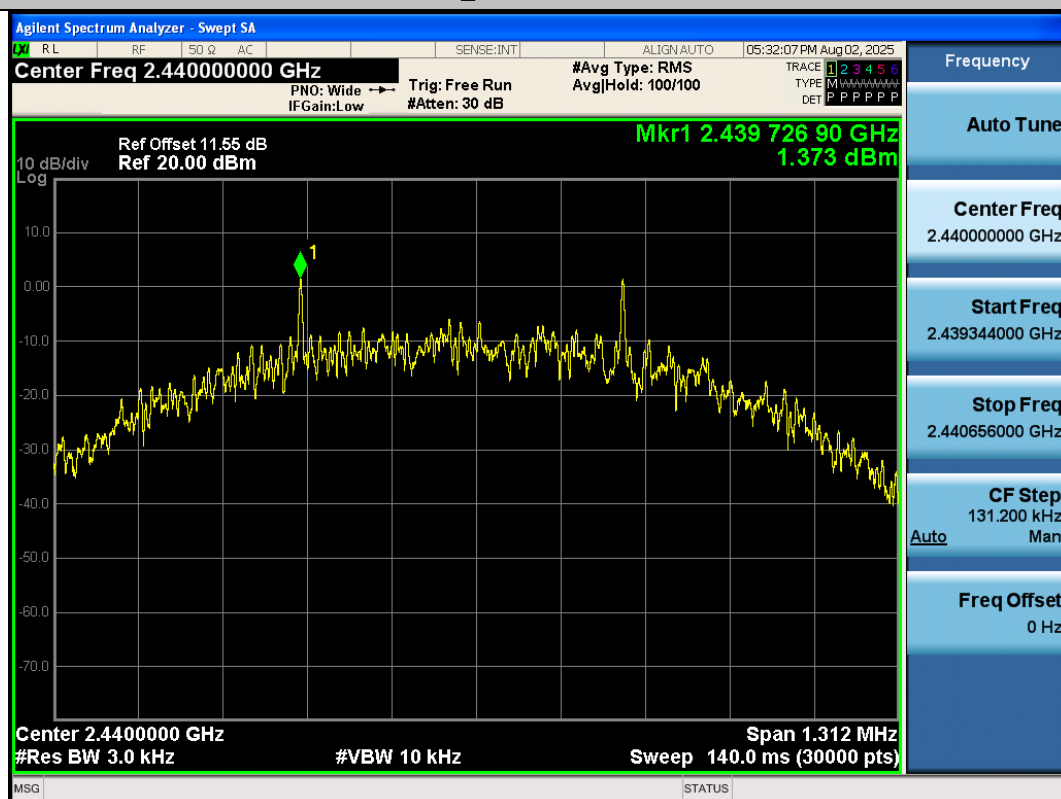
BLE_125K-2480-PASS



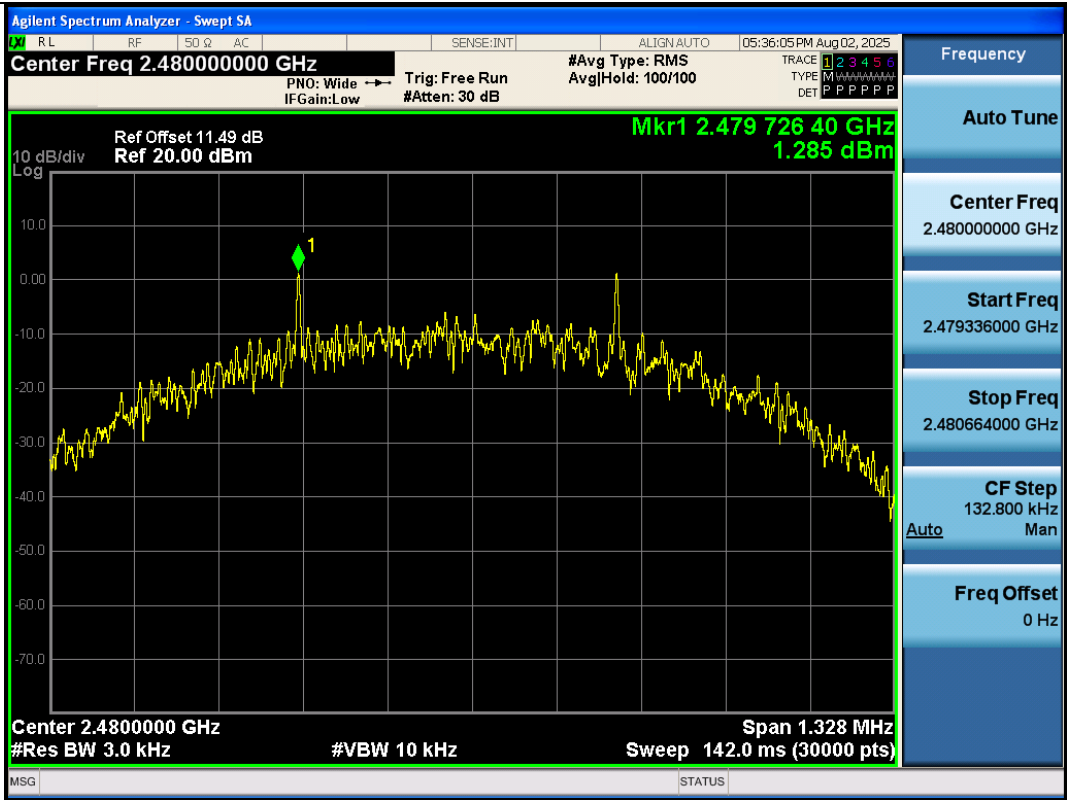
BLE_500K-2402-PASS



BLE_500K-2440-PASS



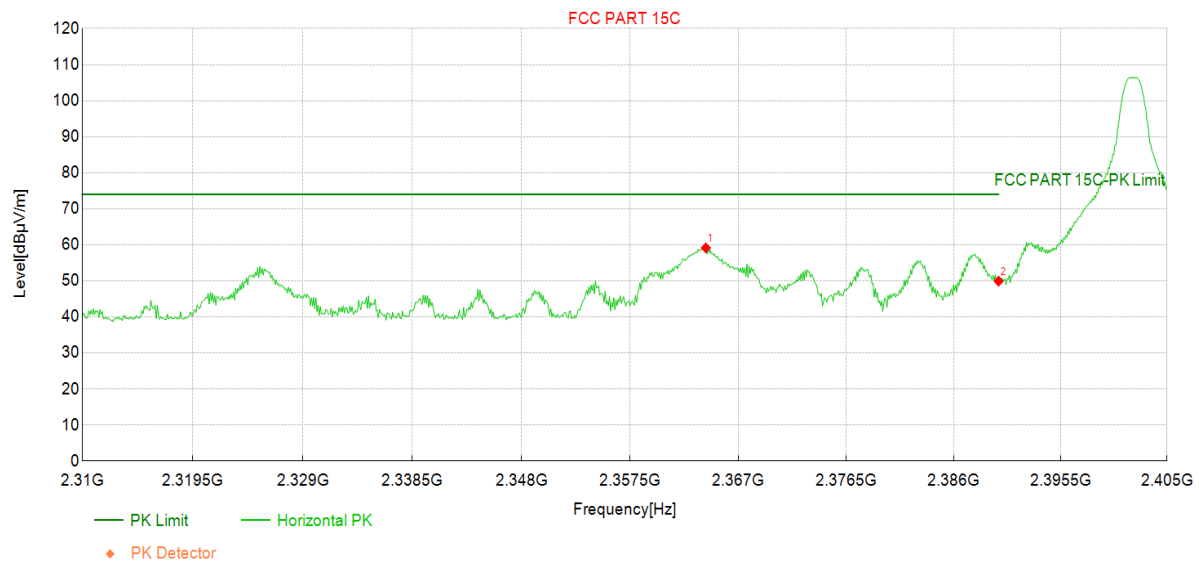
BLE_500K-2480-PASS



Appendix E: Band edge measurements

Transmit at 2402MHz by LE_1Mbps

Test Graph

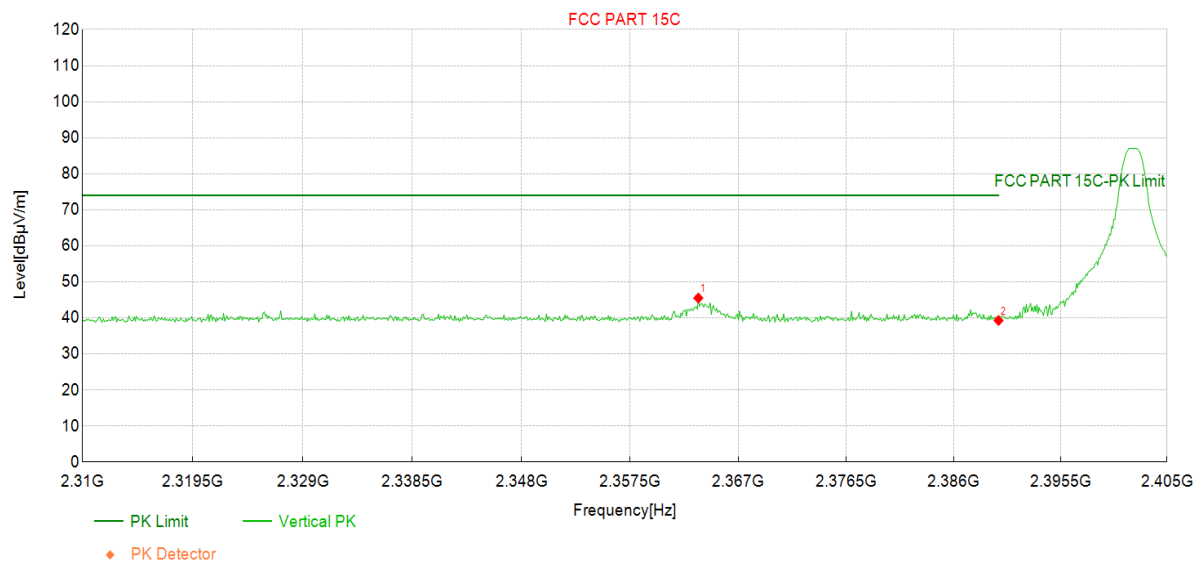


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2364.15	59.3	59.15	-0.110	74.00	14.85	PK	Horizo	PASS
2	2390.00	50.0	49.92	-0.050	74.00	24.08	PK	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph

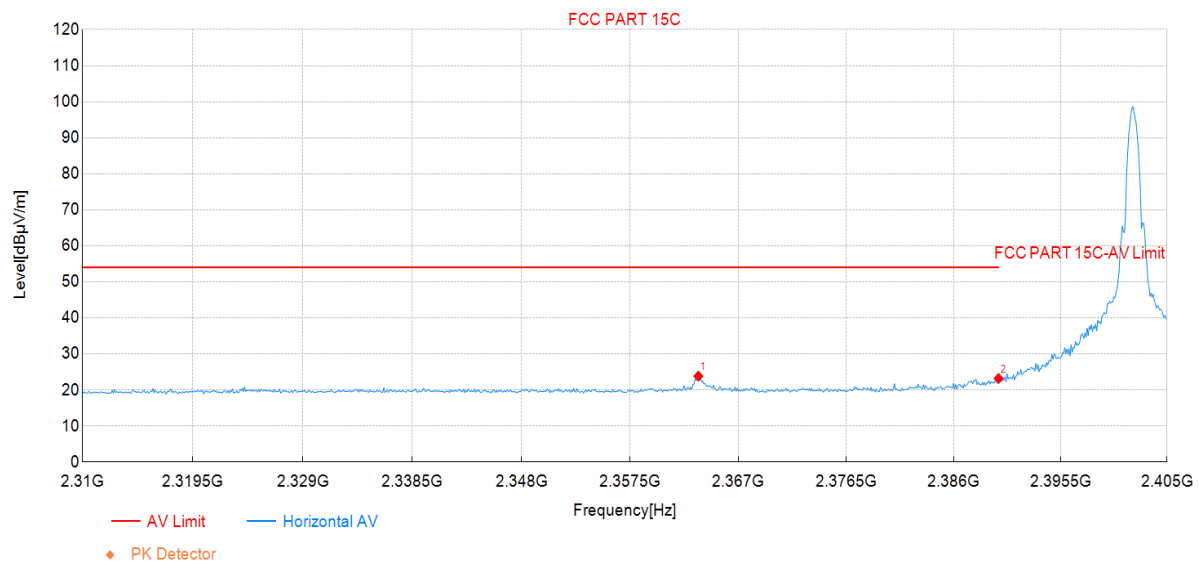


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2363.49	45.6	45.52	-0.110	74.00	28.48	PK	Vertic	PASS
2	2390.00	39.3	39.29	-0.050	74.00	34.71	PK	Vertic	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph

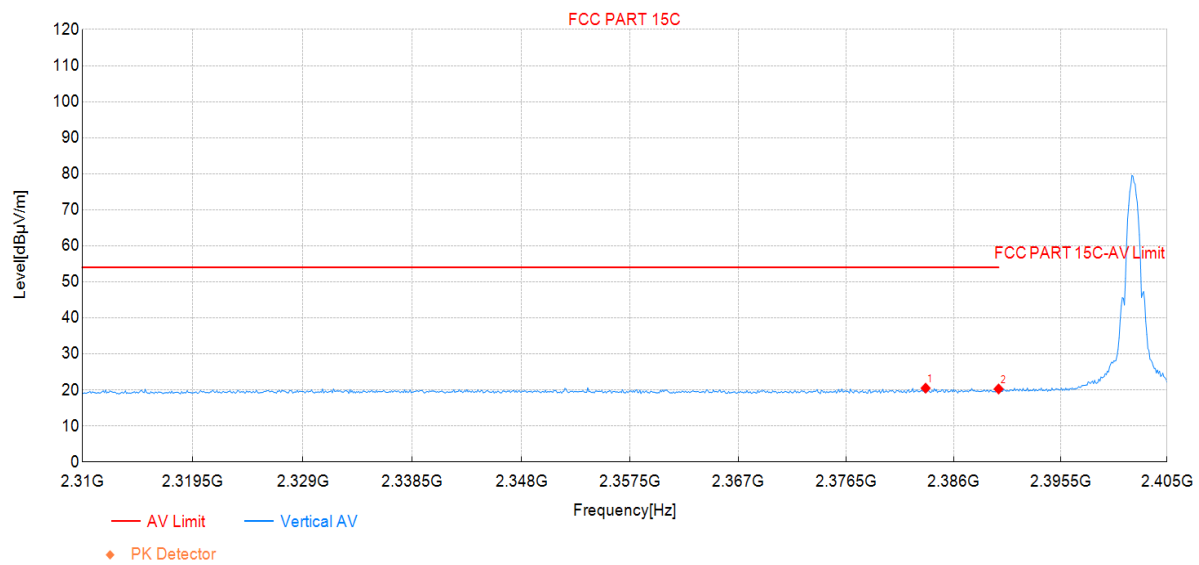


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2363.49	24.0	23.84	-0.110	54.00	30.16	AV	Horizo	PASS
2	2390.00	23.3	23.20	-0.050	54.00	30.80	AV	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph

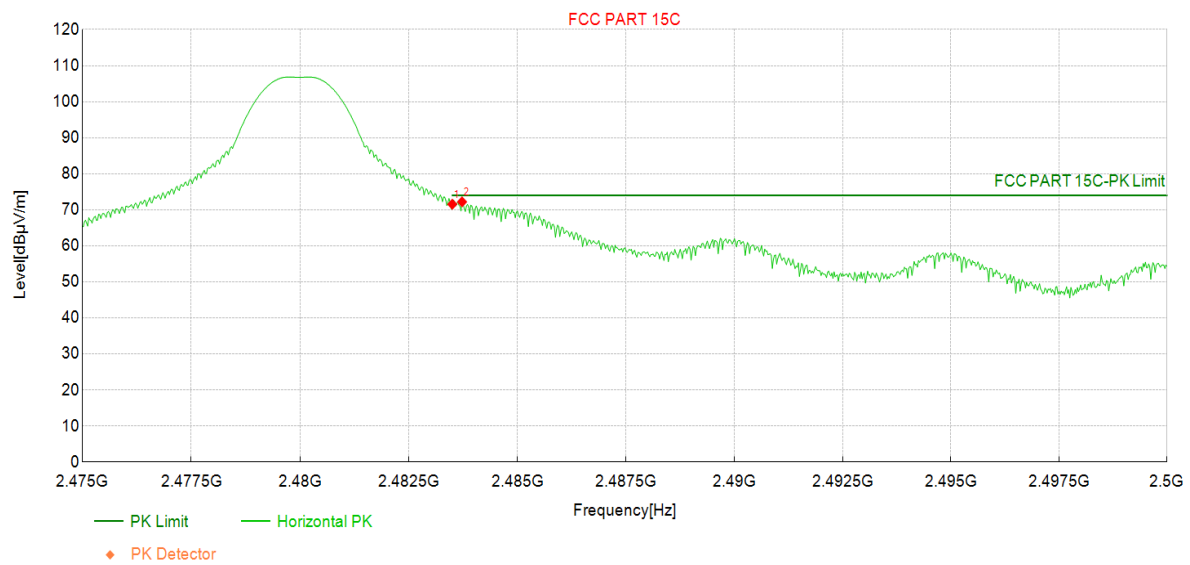


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2383.53	20.6	20.51	-0.070	54.00	33.49	AV	Vertic	PASS
2	2390.00	20.3	20.28	-0.050	54.00	33.72	AV	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

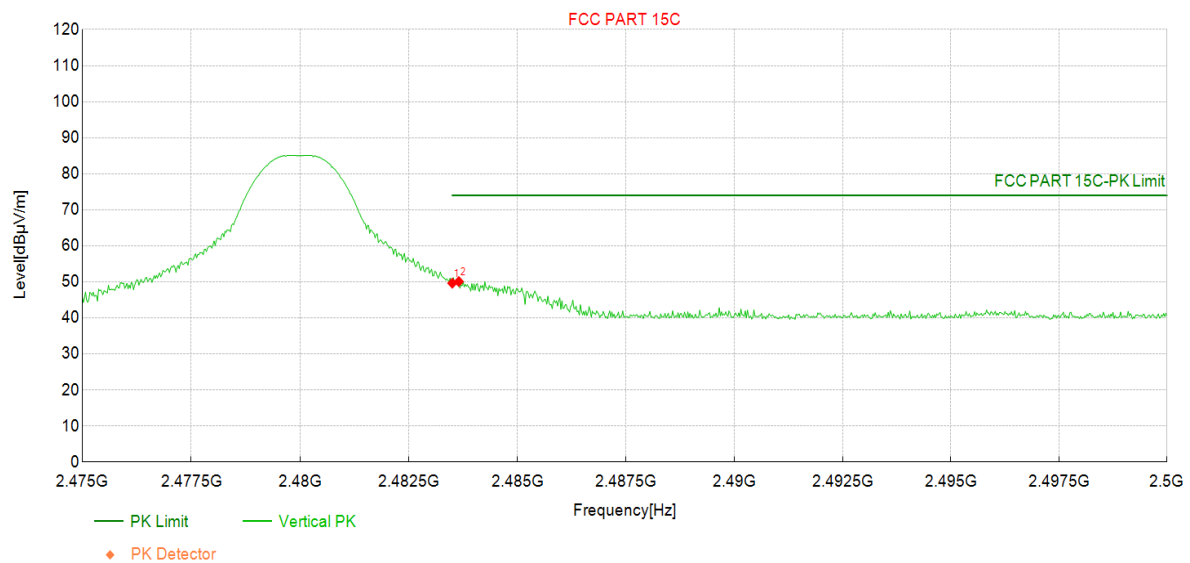


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	71.3	71.54	0.270	74.00	2.46	PK	Horizo	PASS
2	2483.73	71.9	72.20	0.270	74.00	1.80	PK	Horizo	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

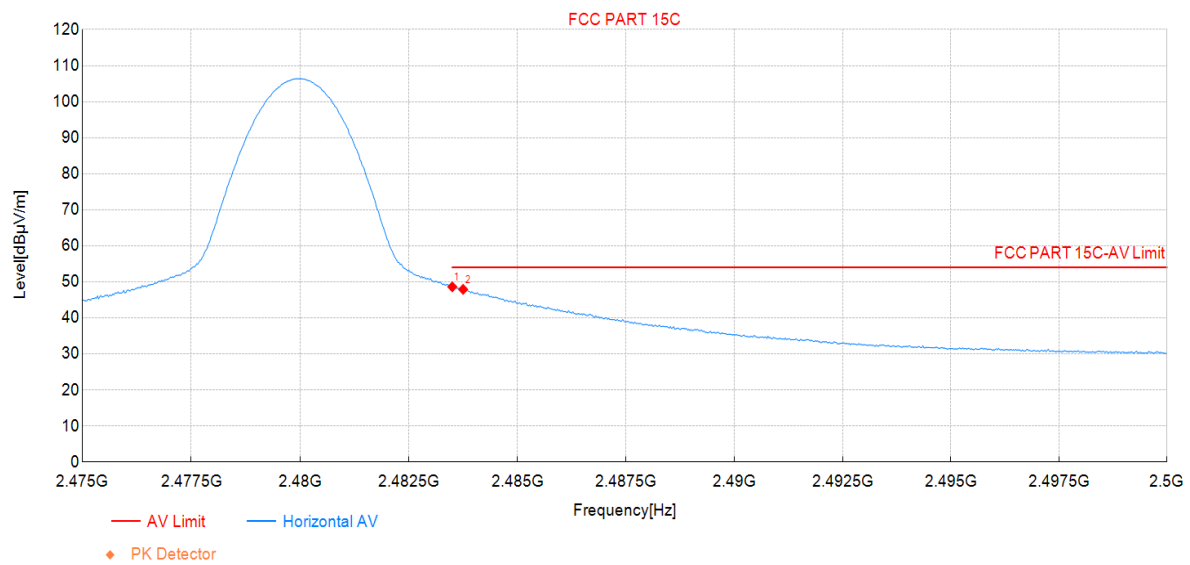


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	49.4	49.62	0.270	74.00	24.38	PK	Vertic	PASS
2	2483.65	49.8	50.08	0.270	74.00	23.92	PK	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

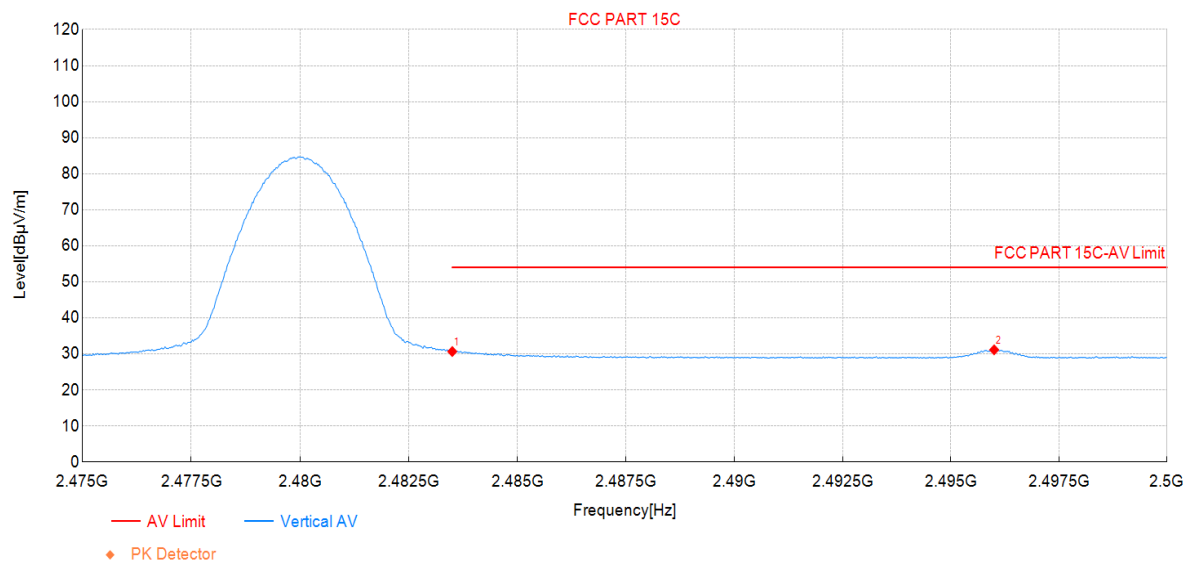


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	48.4	48.62	0.270	54.00	5.38	AV	Horizo	PASS
2	2483.75	47.7	47.92	0.270	54.00	6.08	AV	Horizo	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

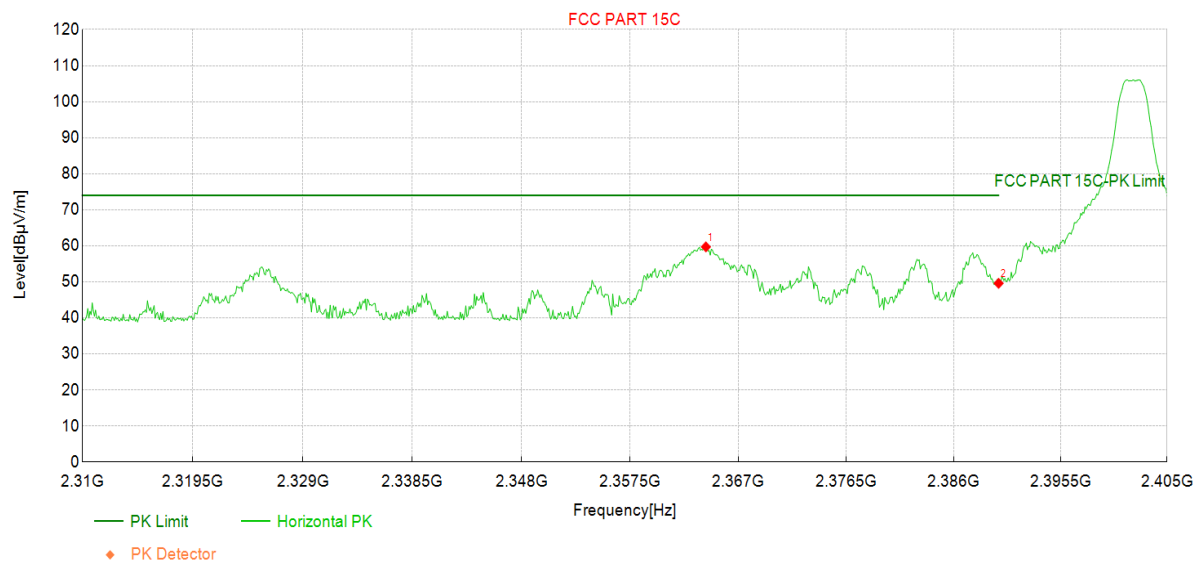


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	30.4	30.67	0.270	54.00	23.33	AV	Vertic	PASS
2	2496.00	30.8	31.14	0.320	54.00	22.86	AV	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

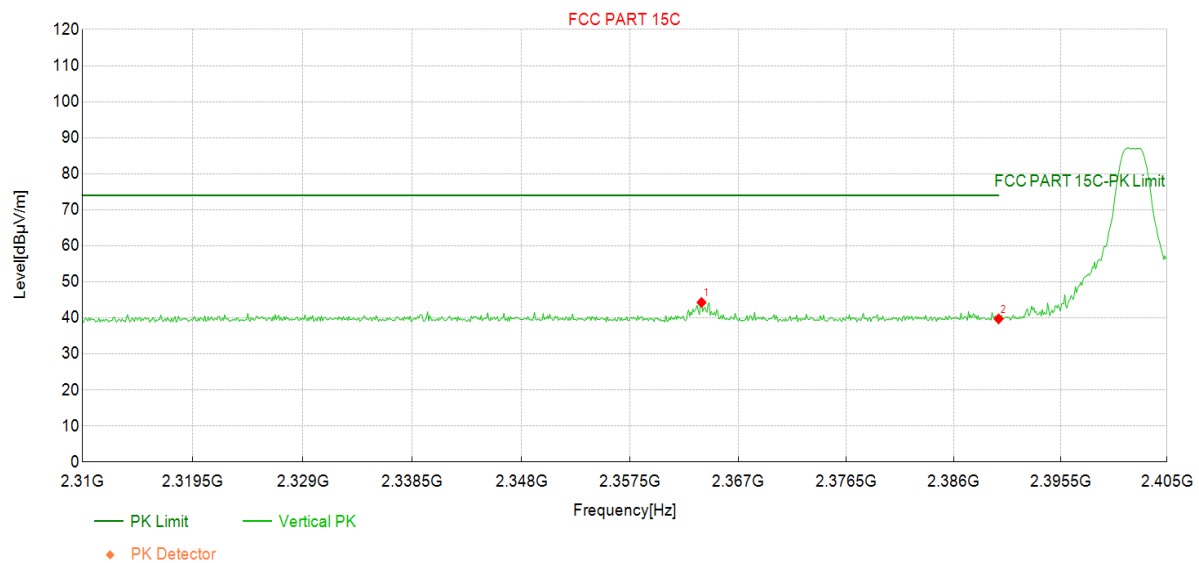


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2364.15	59.8	59.71	-0.110	74.00	14.29	PK	Horizo	PASS
2	2390.00	49.7	49.60	-0.050	74.00	24.40	PK	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

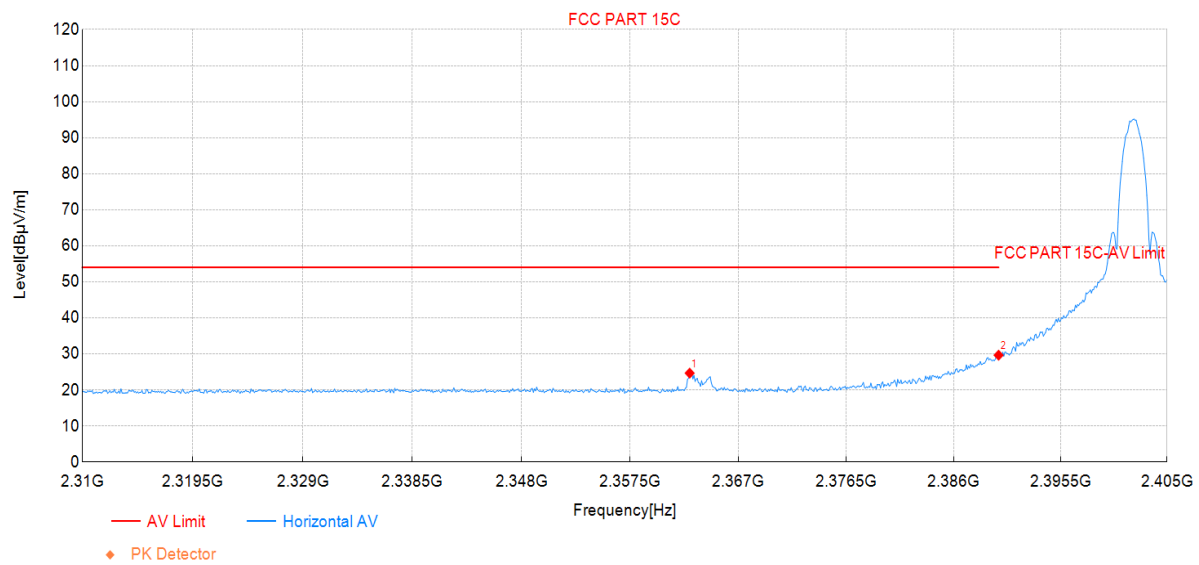


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2363.77	44.4	44.28	-0.110	74.00	29.72	PK	Vertic	PASS
2	2390.00	39.8	39.73	-0.050	74.00	34.27	PK	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

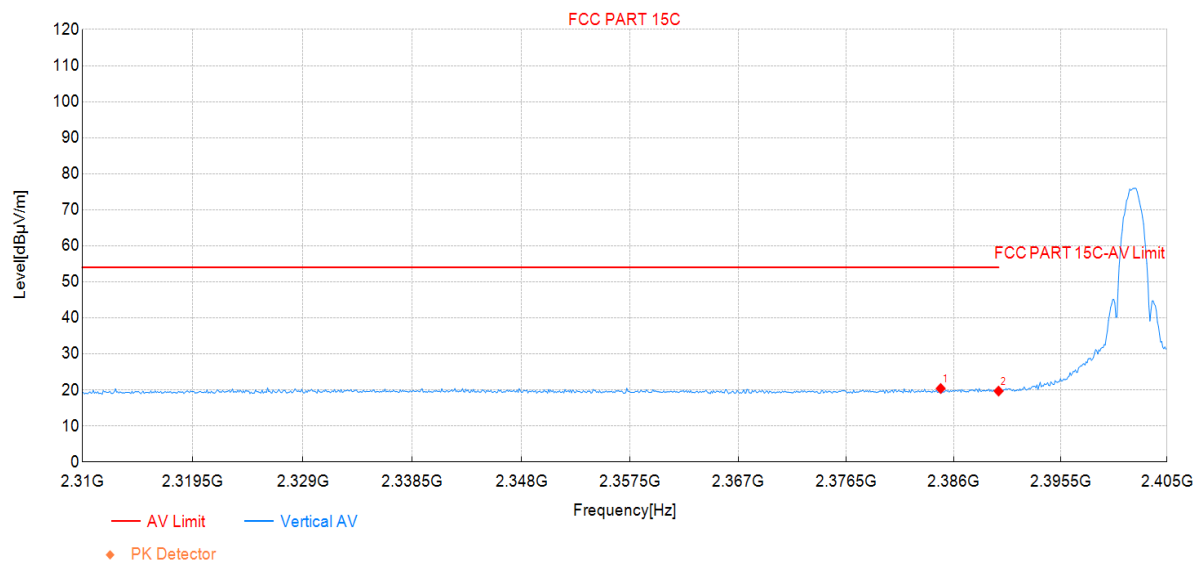


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2362.73	24.8	24.67	-0.120	54.00	29.33	AV	Horizo	PASS
2	2390.00	29.7	29.65	-0.050	54.00	24.35	AV	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

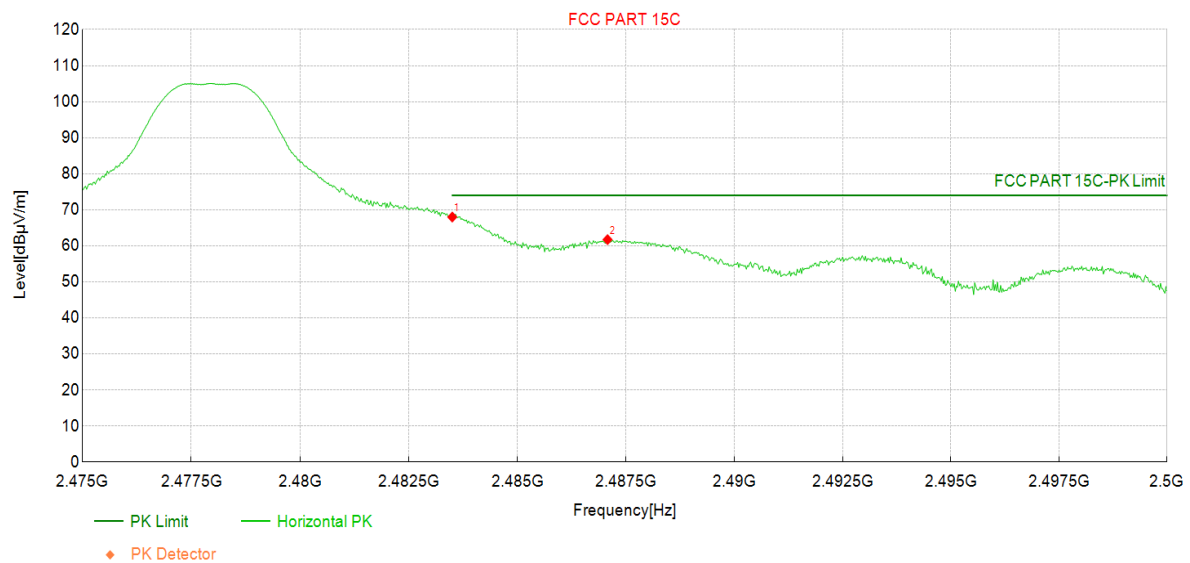


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2384.86	20.5	20.41	-0.060	54.00	33.59	AV	Vertic	PASS
2	2390.00	19.7	19.69	-0.050	54.00	34.31	AV	Vertic	PASS

Transmit at 2478MHz by LE_2Mbps

Test Graph

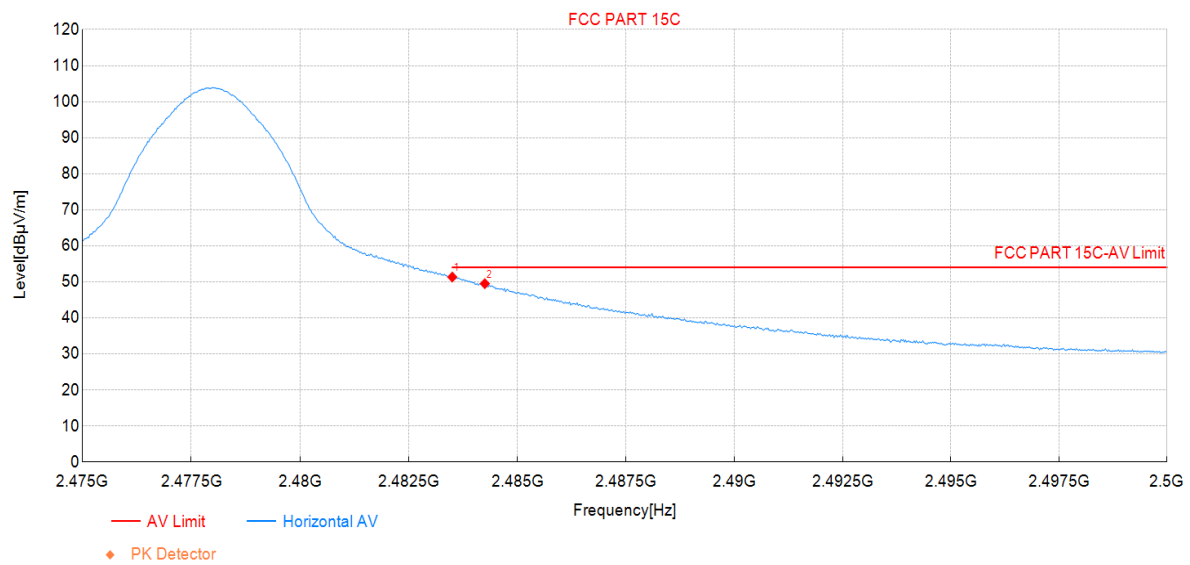


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	67.7	67.99	0.270	74.00	6.01	PK	Horizo	PASS
2	2487.08	61.4	61.72	0.290	74.00	12.28	PK	Horizo	PASS

Transmit at 2478MHz by LE_2Mbps

Test Graph

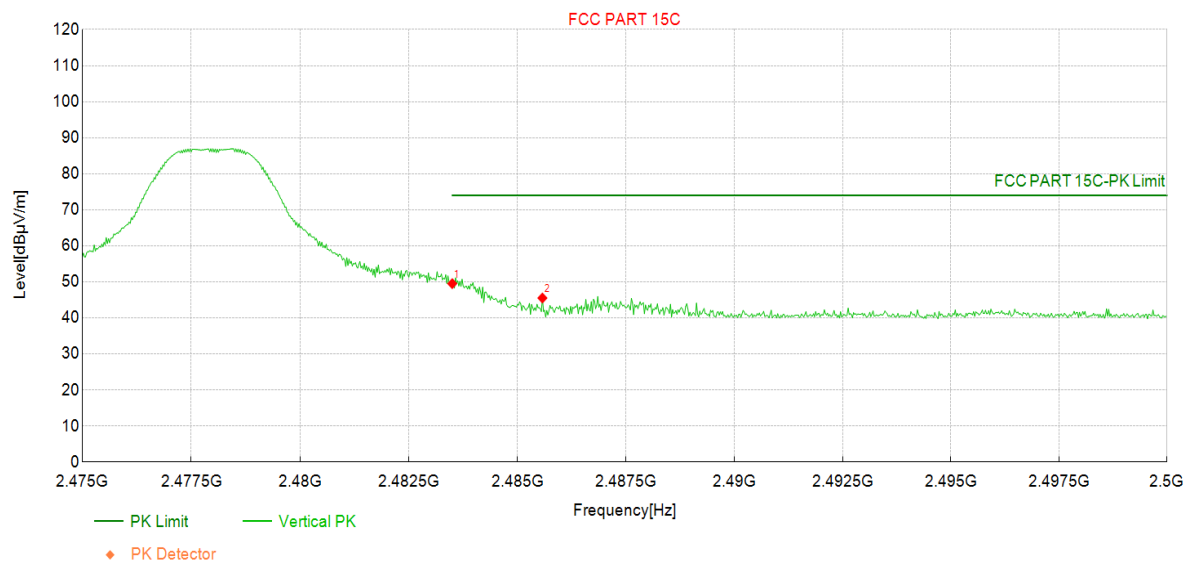


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	51.1	51.34	0.270	54.00	2.66	AV	Horizo	PASS
2	2484.25	49.2	49.50	0.270	54.00	4.50	AV	Horizo	PASS

Transmit at 2478MHz by LE_2Mbps

Test Graph

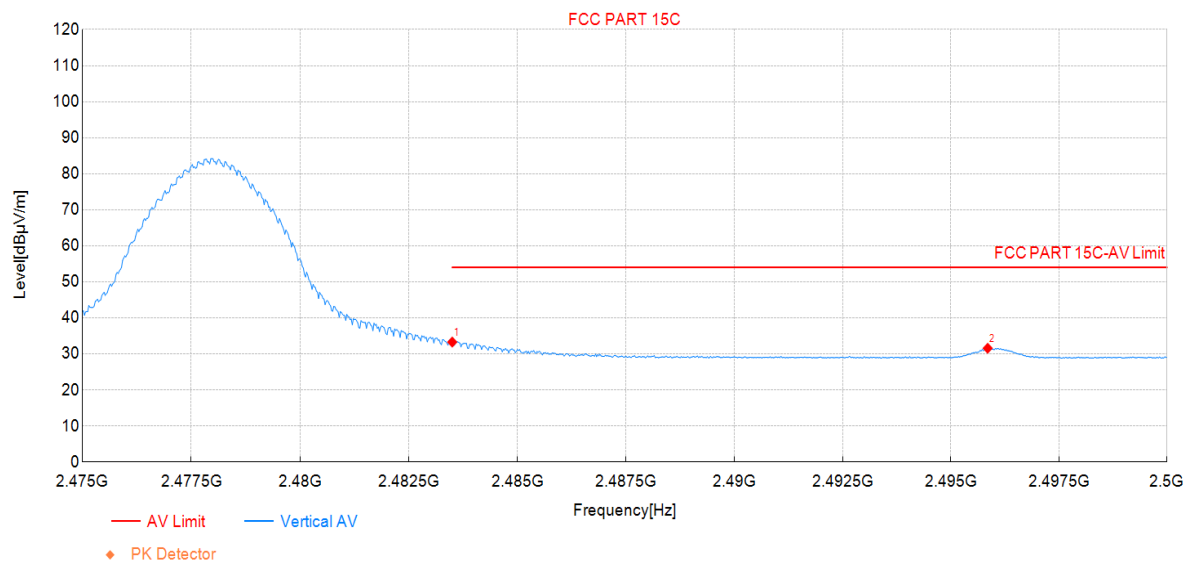


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	49.2	49.51	0.270	74.00	24.49	PK	Vertic	PASS
2	2485.58	45.2	45.52	0.290	74.00	28.48	PK	Vertic	PASS

Transmit at 2478MHz by LE_2Mbps

Test Graph

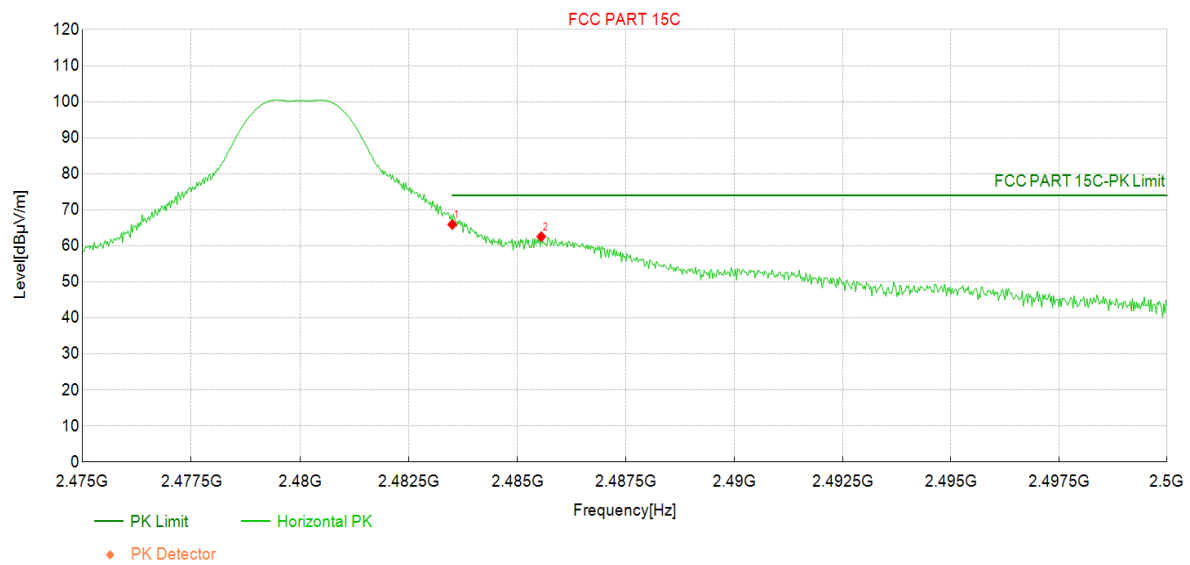


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	33.0	33.29	0.270	54.00	20.71	AV	Vertic	PASS
2	2495.85	31.3	31.58	0.320	54.00	22.42	AV	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph

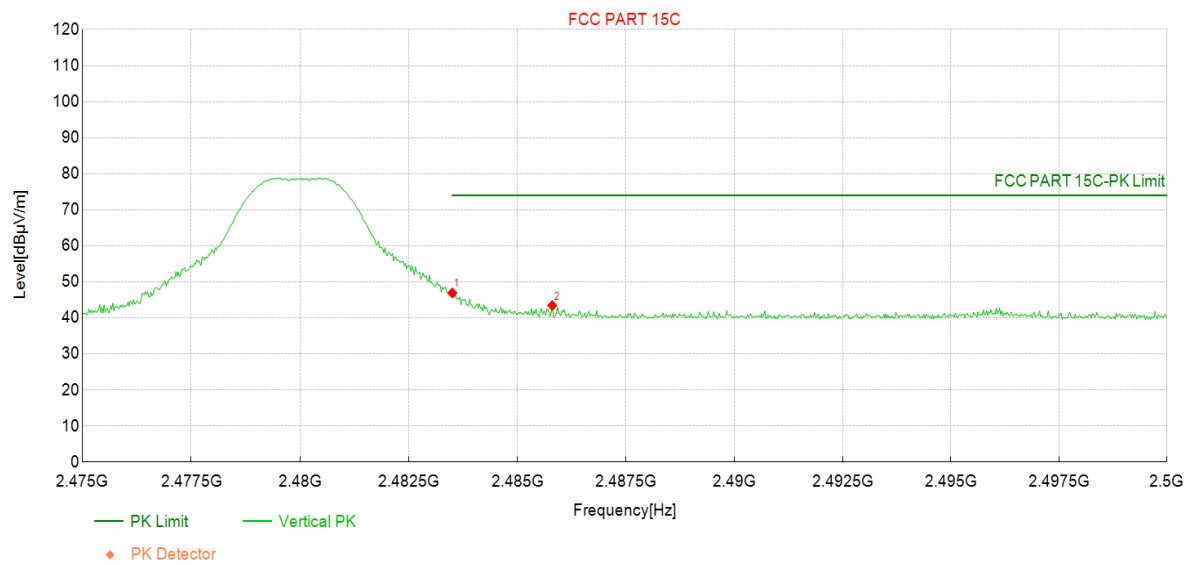


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	65.6	65.91	0.270	74.00	8.09	PK	Horizo	PASS
2	2485.55	62.3	62.54	0.290	74.00	11.46	PK	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph

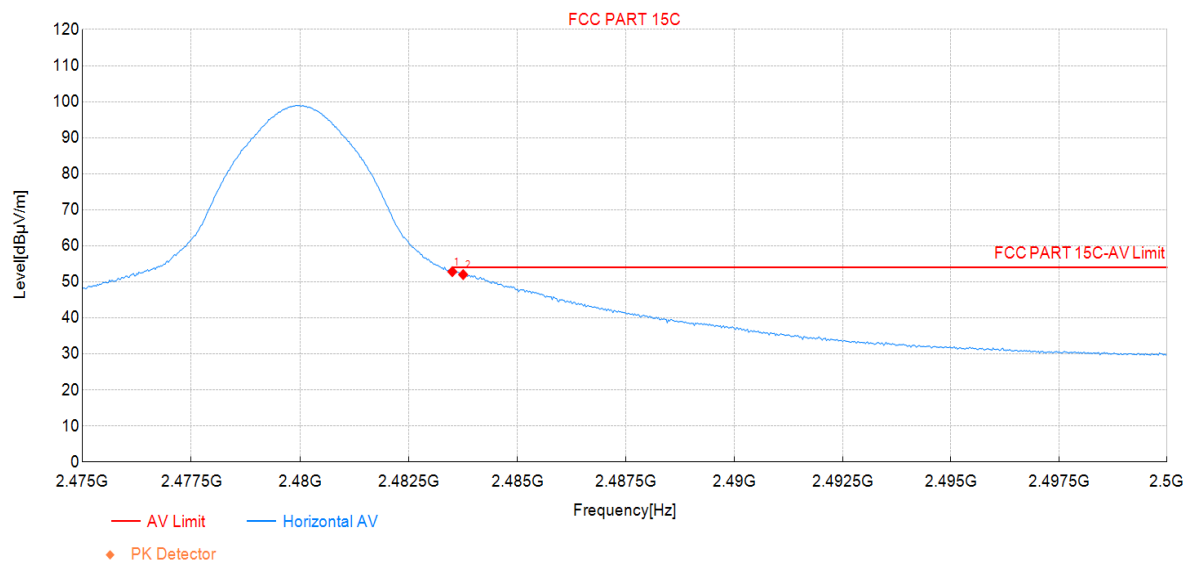


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	46.6	46.91	0.270	74.00	27.09	PK	Vertic	PASS
2	2485.80	43.2	43.44	0.290	74.00	30.56	PK	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph

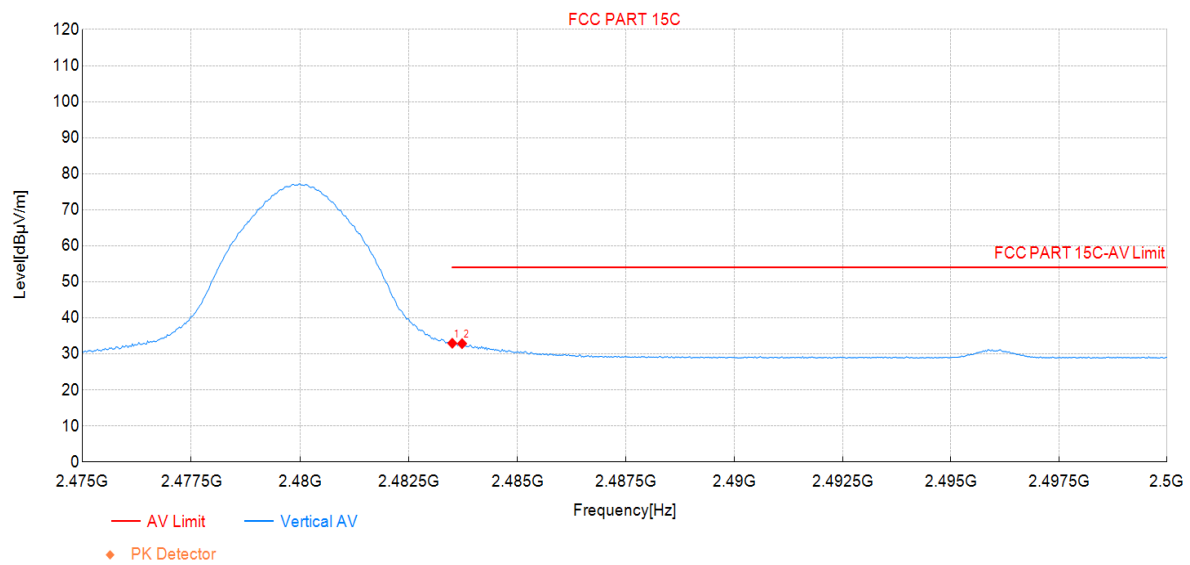


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	52.6	52.82	0.270	54.00	1.18	AV	Horizo	PASS
2	2483.75	51.8	52.02	0.270	54.00	1.98	AV	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph



Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	32.7	32.96	0.270	54.00	21.04	AV	Vertic	PASS
2	2483.73	32.6	32.86	0.270	54.00	21.14	AV	Vertic	PASS

Note:

1. Level = Reading + Factor(Probe+Cable-Amp)

Appendix F: Conducted Spurious Emission

Reference level measurement :

BLE_1M-2402-PASS



BLE_1M-2440-PASS



BLE_1M-2480-PASS



BLE_2M-2402-PASS



BLE_2M-2440-PASS



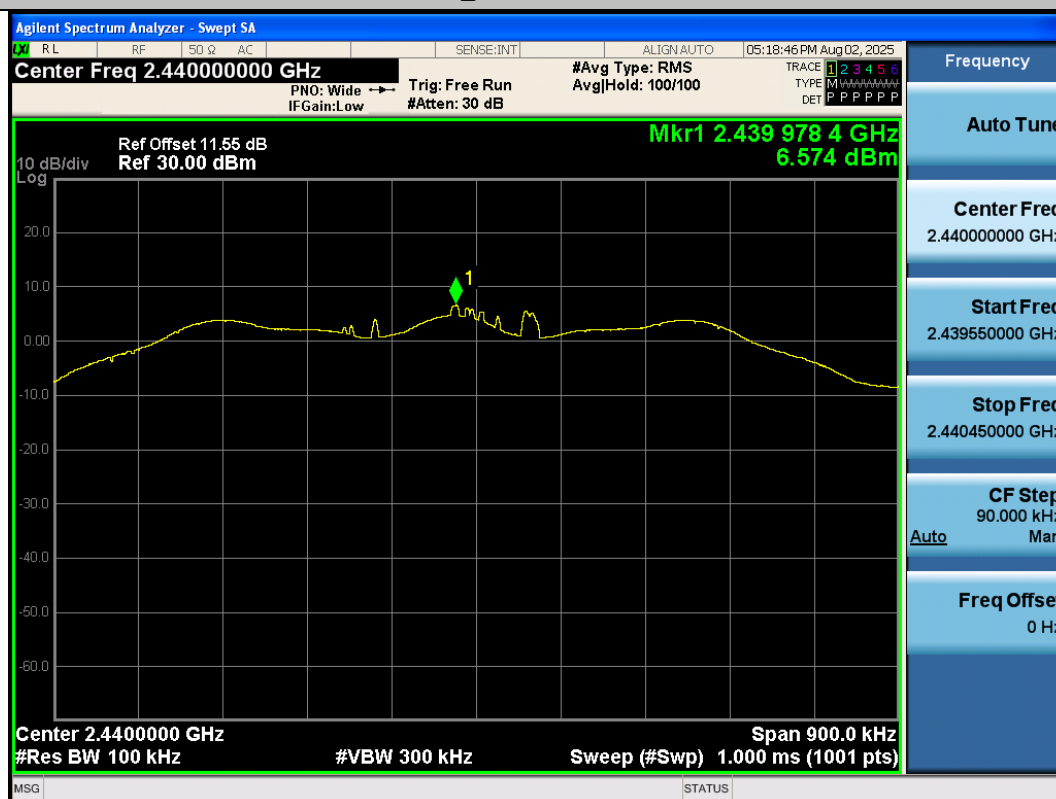
BLE_2M-2480-PASS



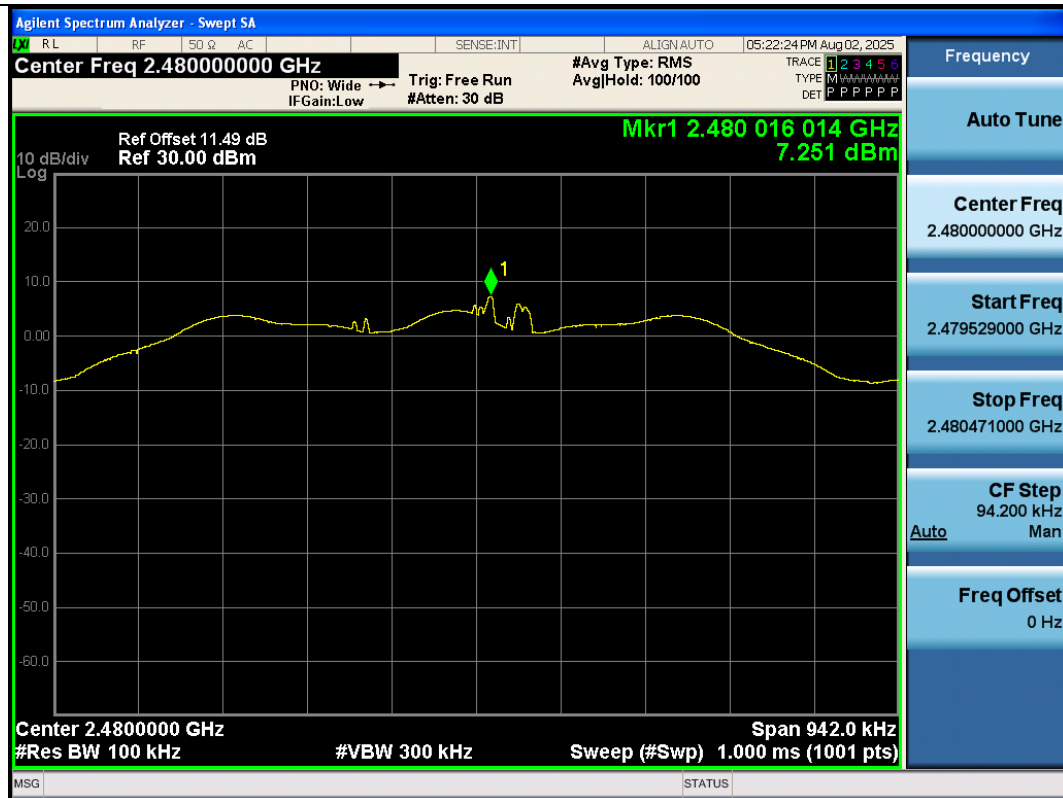
BLE_125K-2402-PASS



BLE_125K-2440-PASS



BLE_125K-2480-PASS



BLE_500K-2402-PASS



BLE_500K-2440-PASS

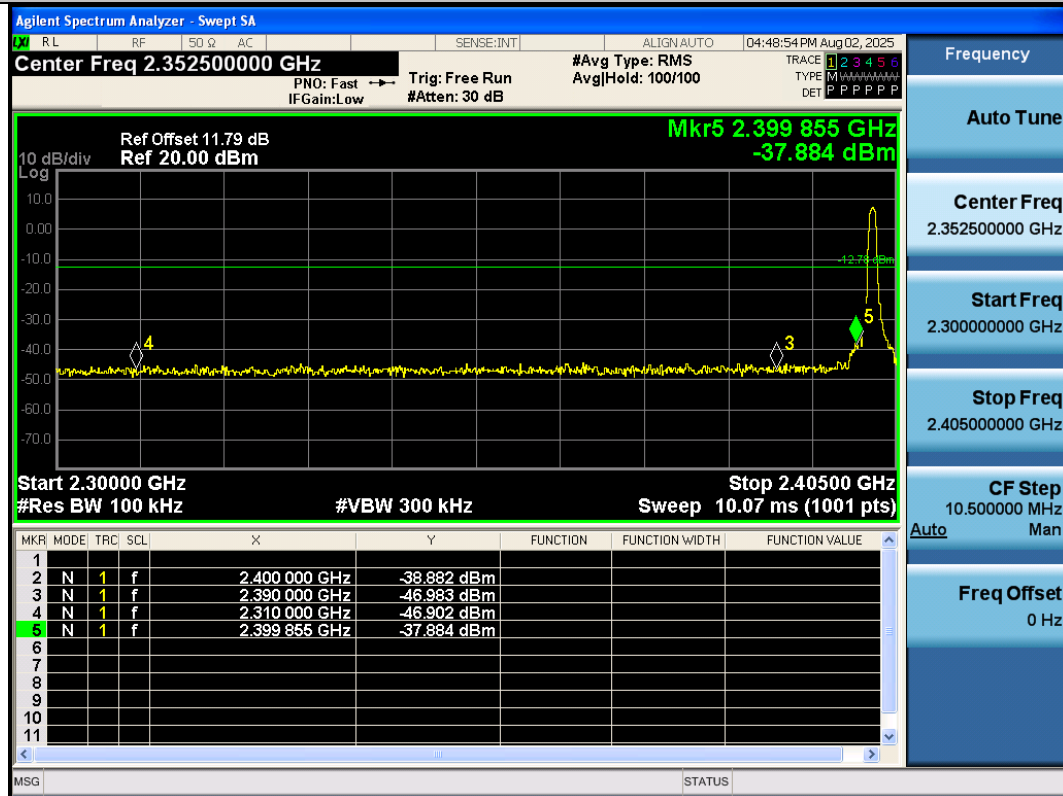


BLE_500K-2480-PASS

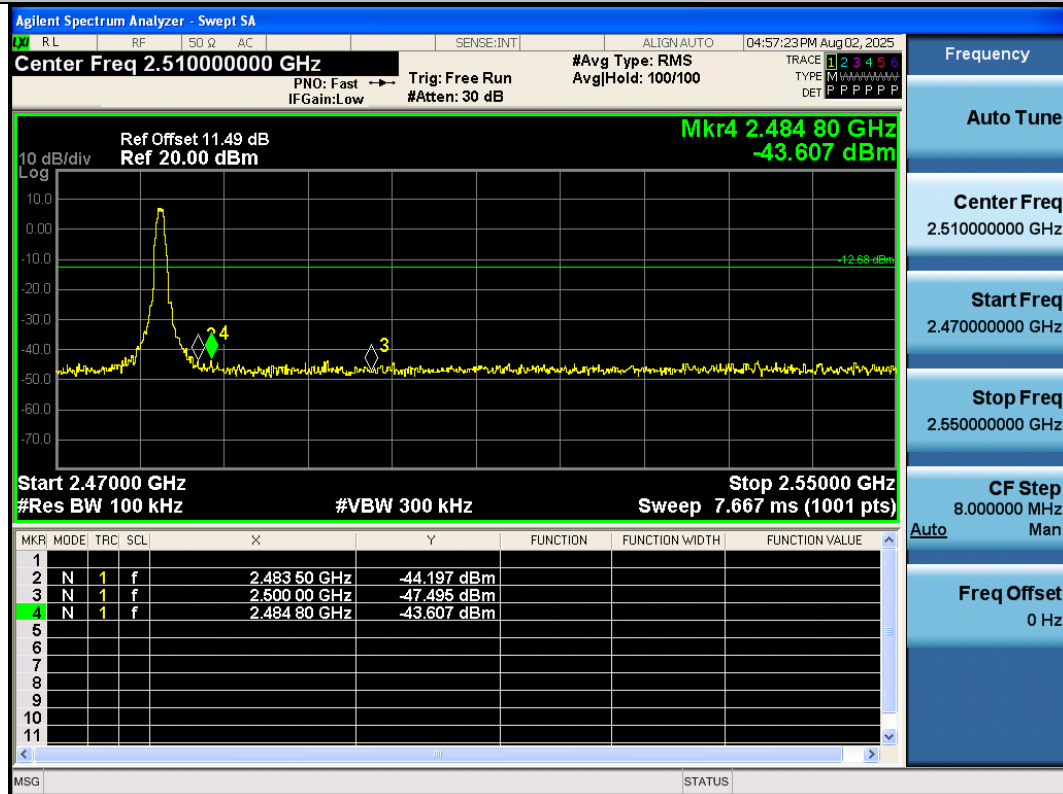


Conducted Band edge measurements

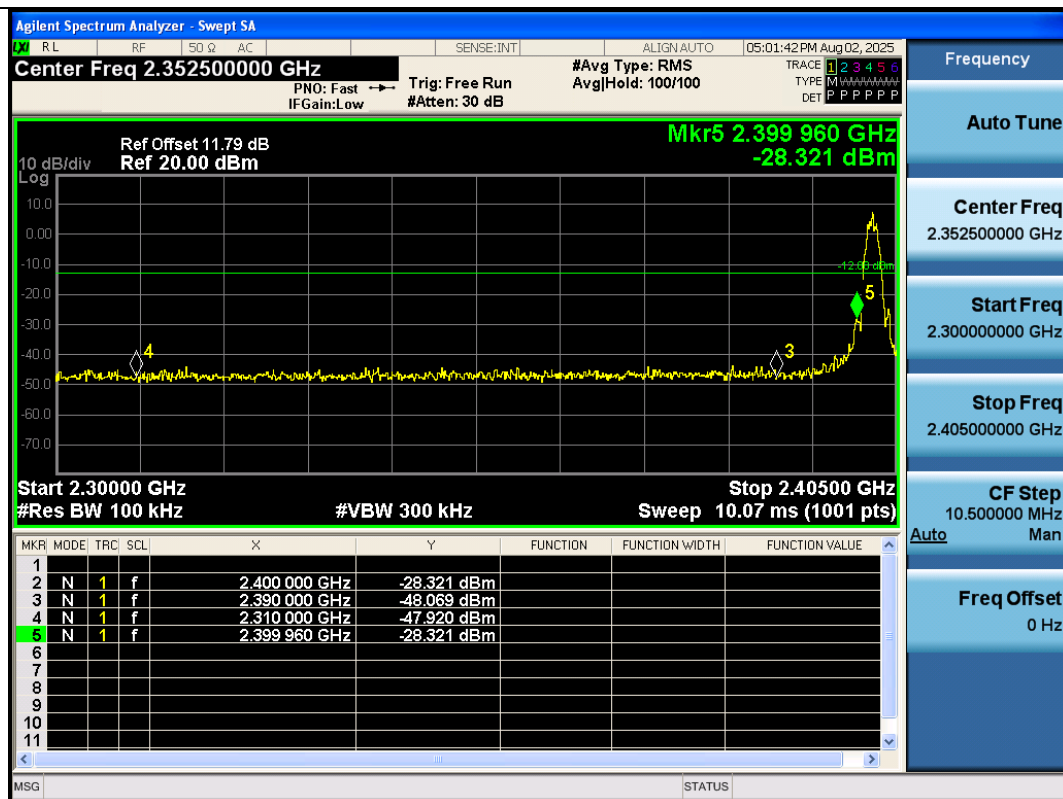
BLE_1M-2402-PASS



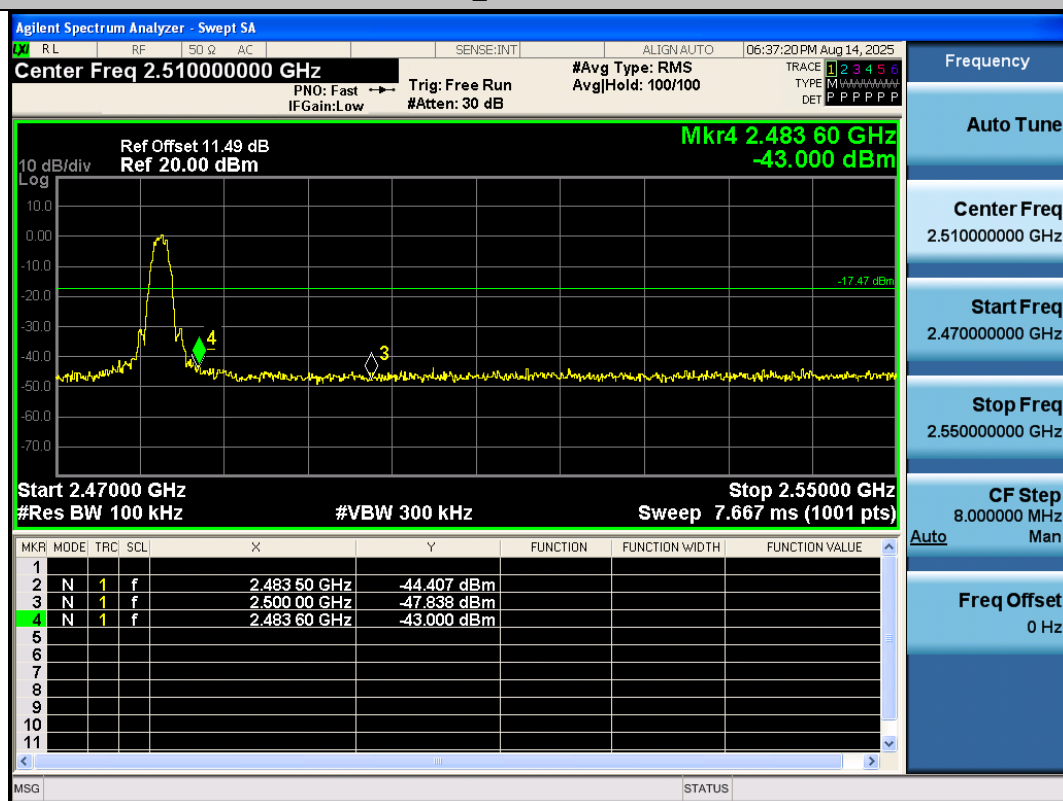
BLE_1M-2480-PASS



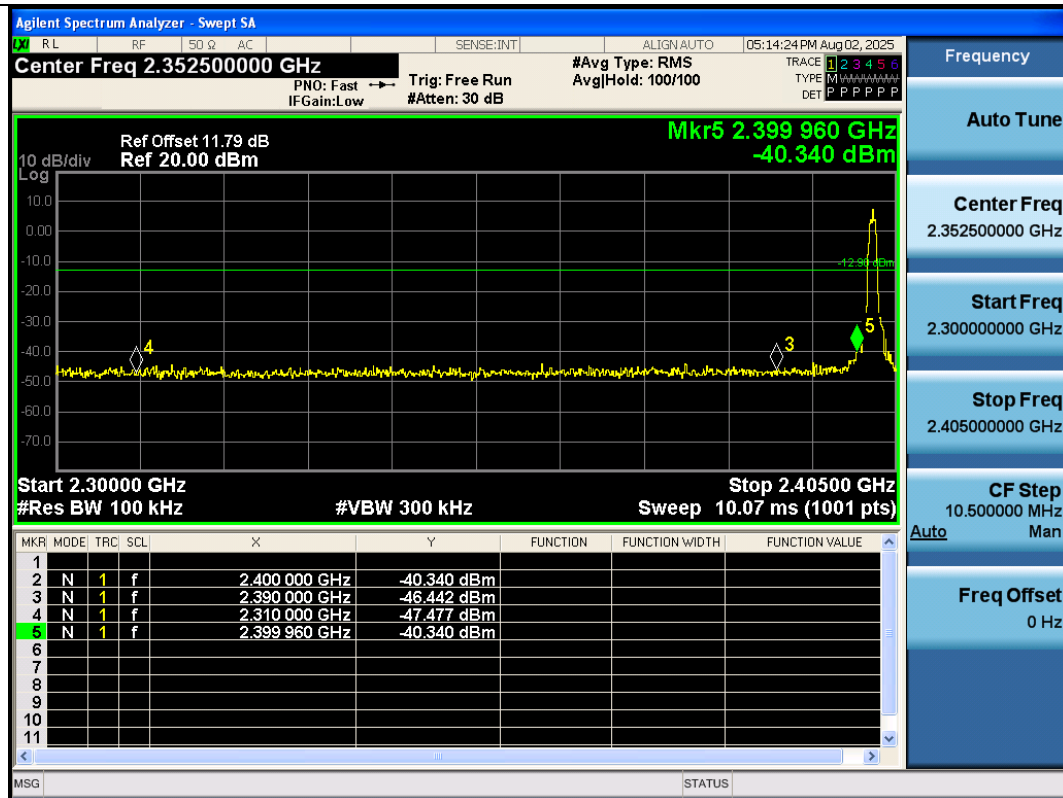
BLE_2M-2402-PASS



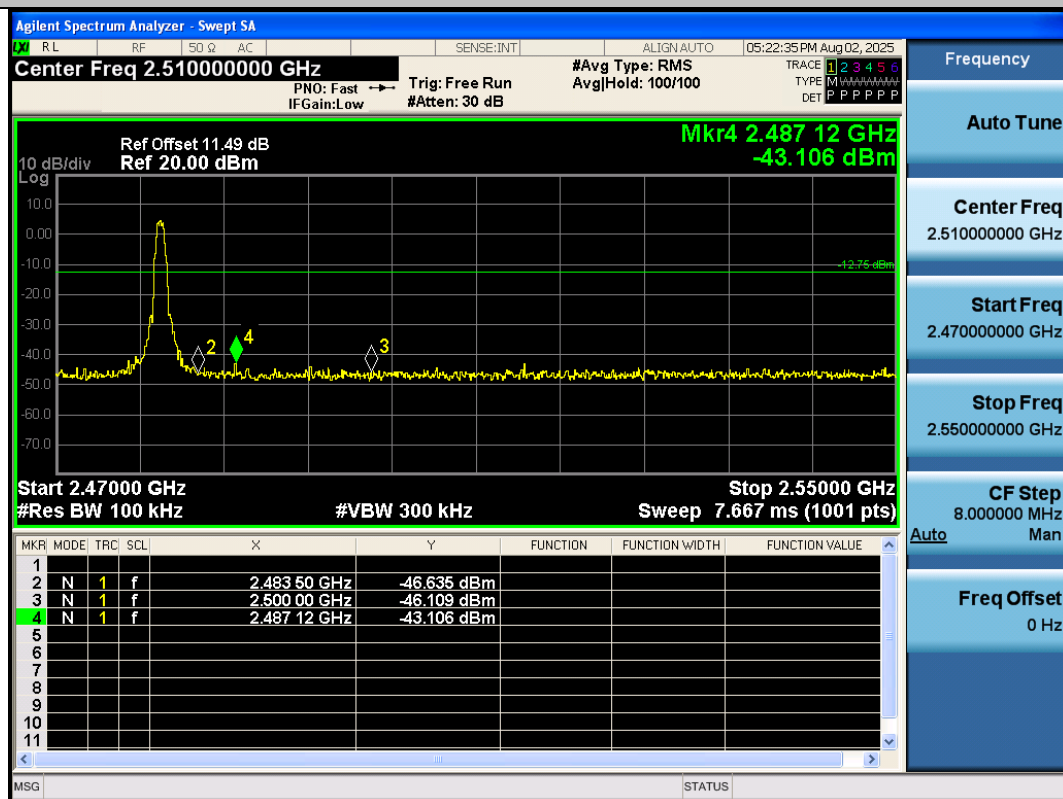
BLE_2M-2480-PASS



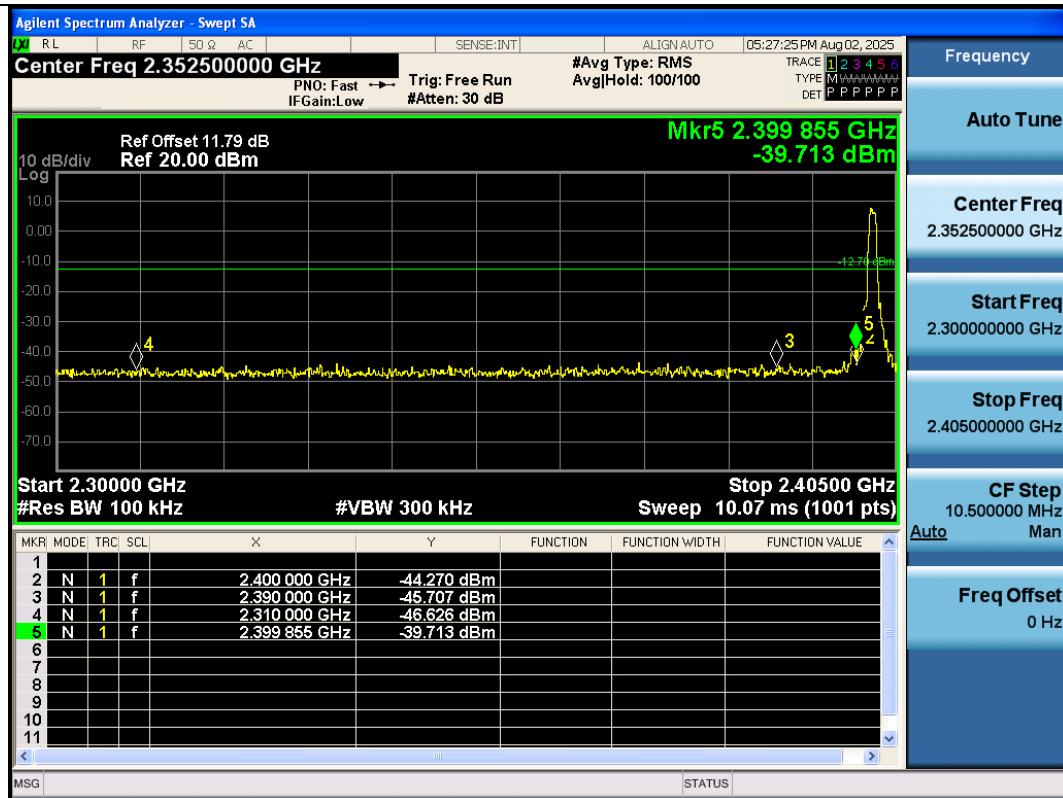
BLE_125K-2402-PASS



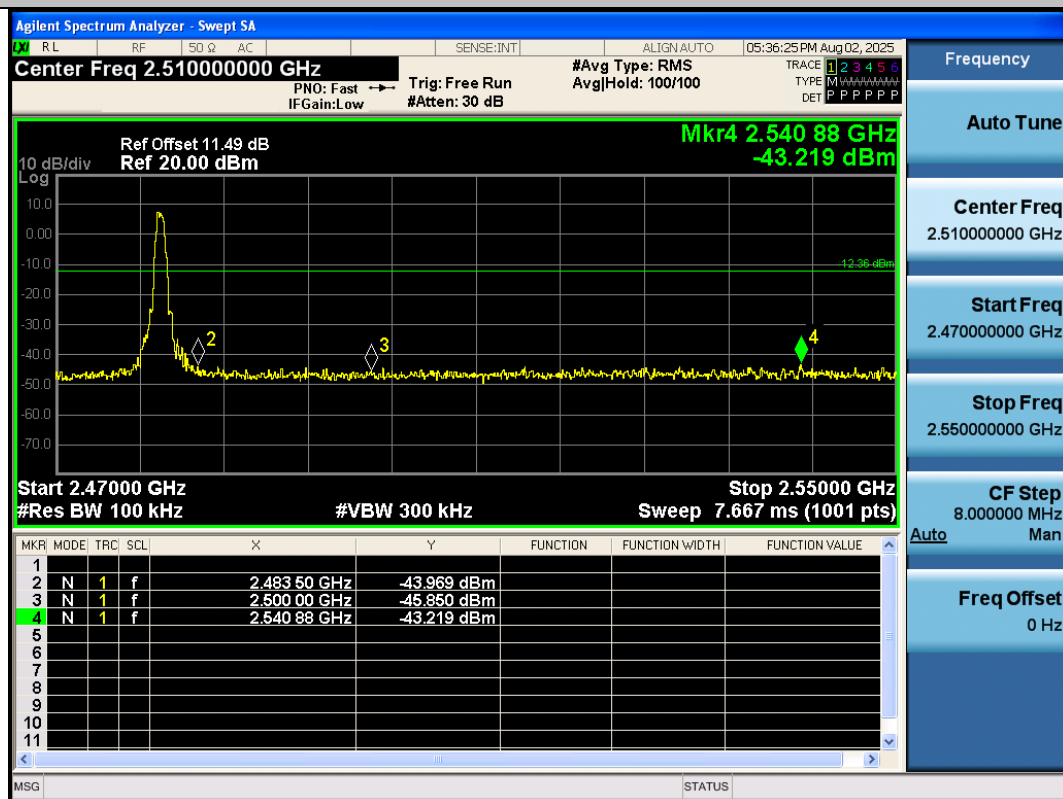
BLE_125K-2480-PASS



BLE_500K-2402-PASS

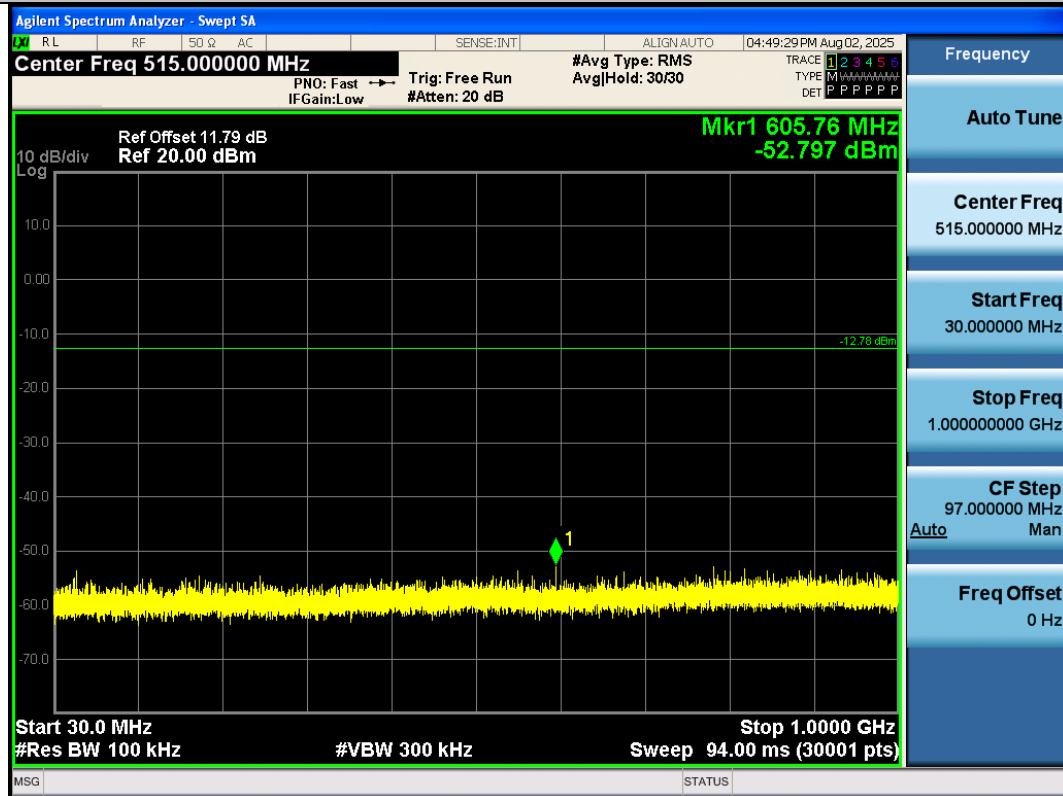


BLE_500K-2480-PASS

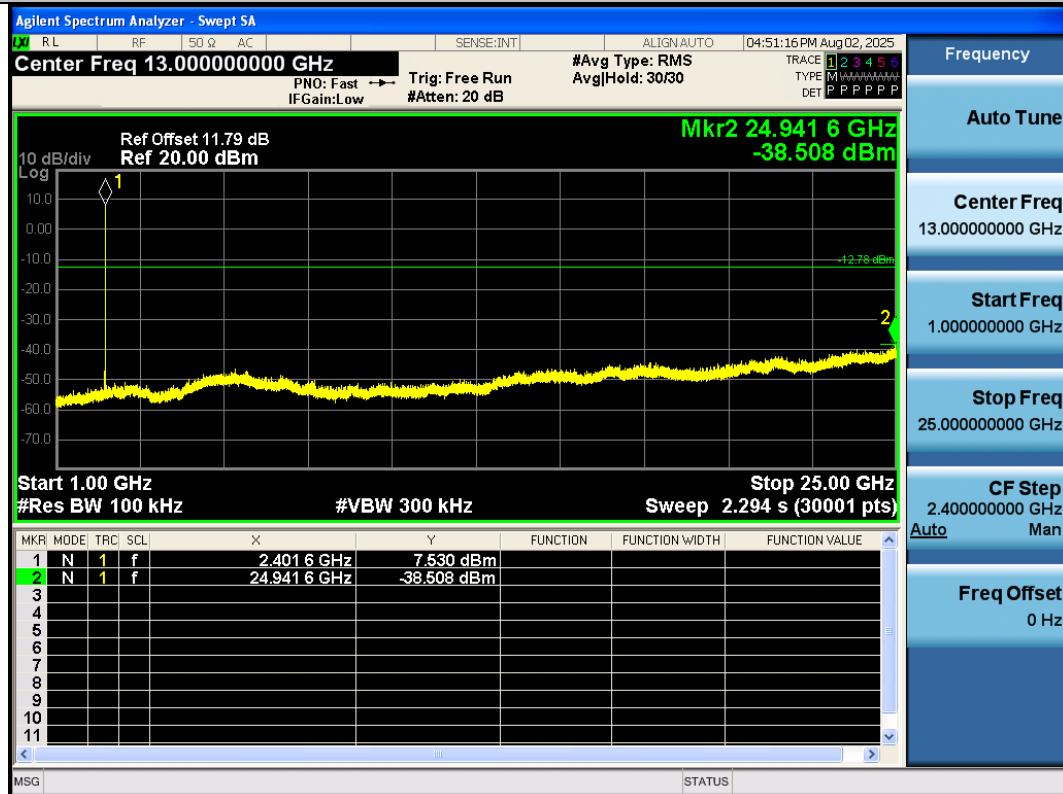


Conducted Spurious Emission

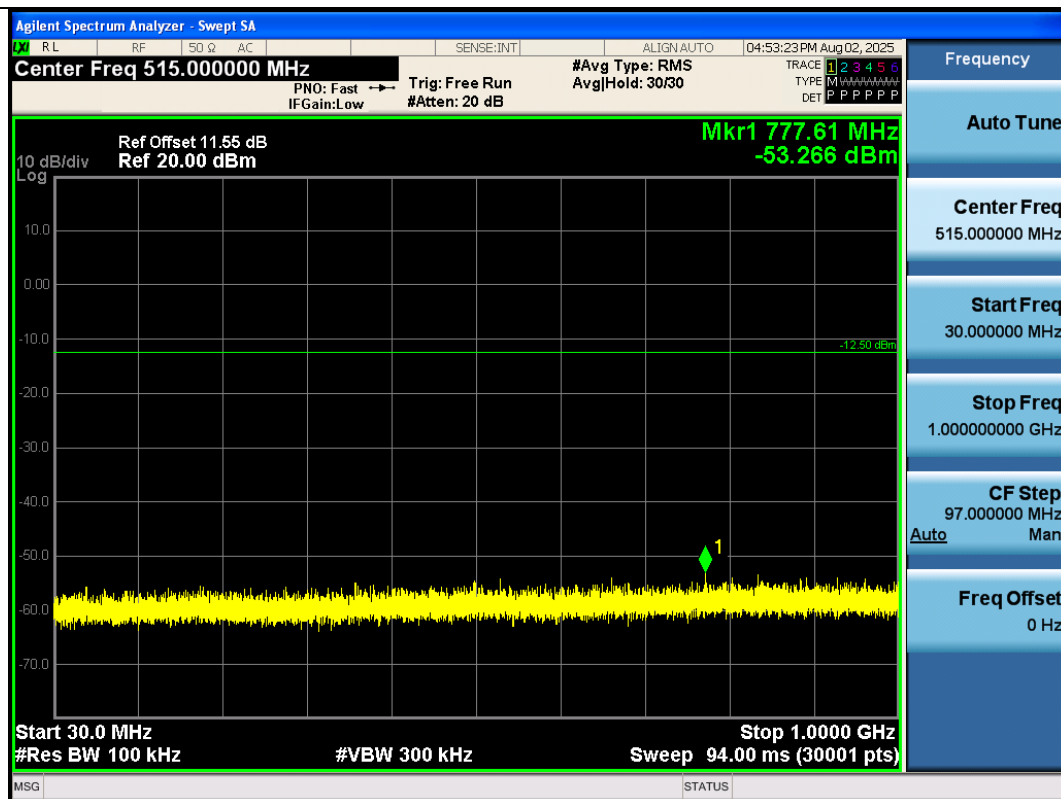
BLE_1M-2402-30~1000-PASS



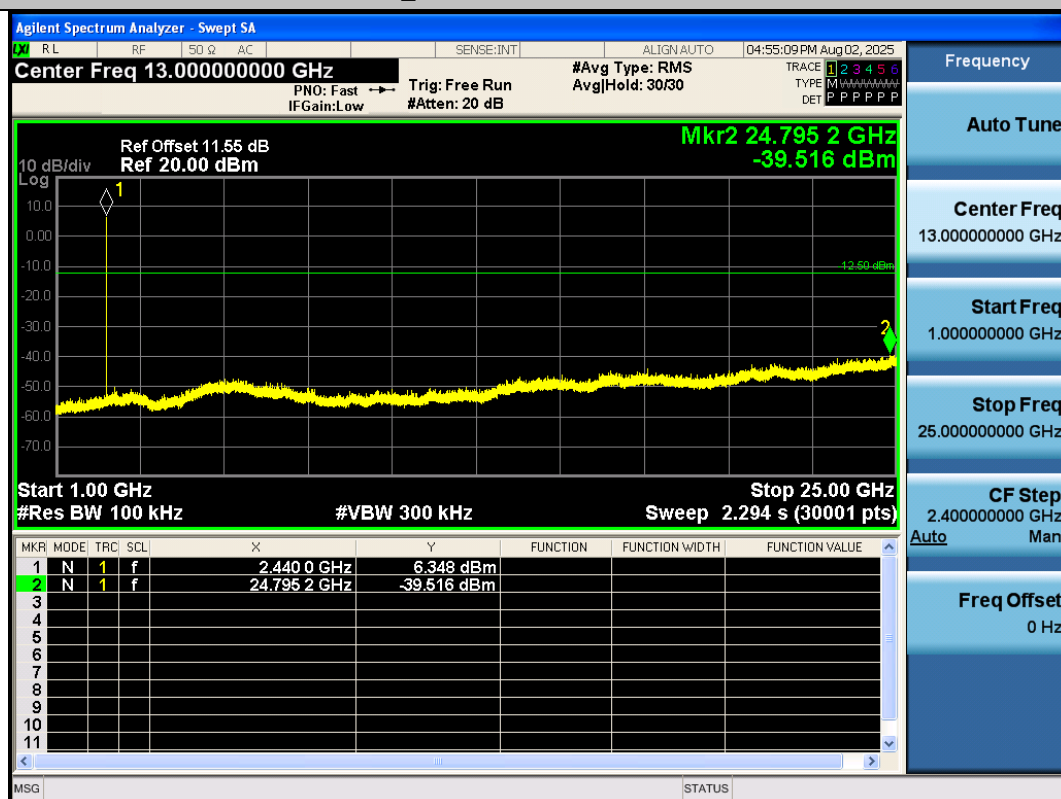
BLE_1M-2402-1000~25000-PASS



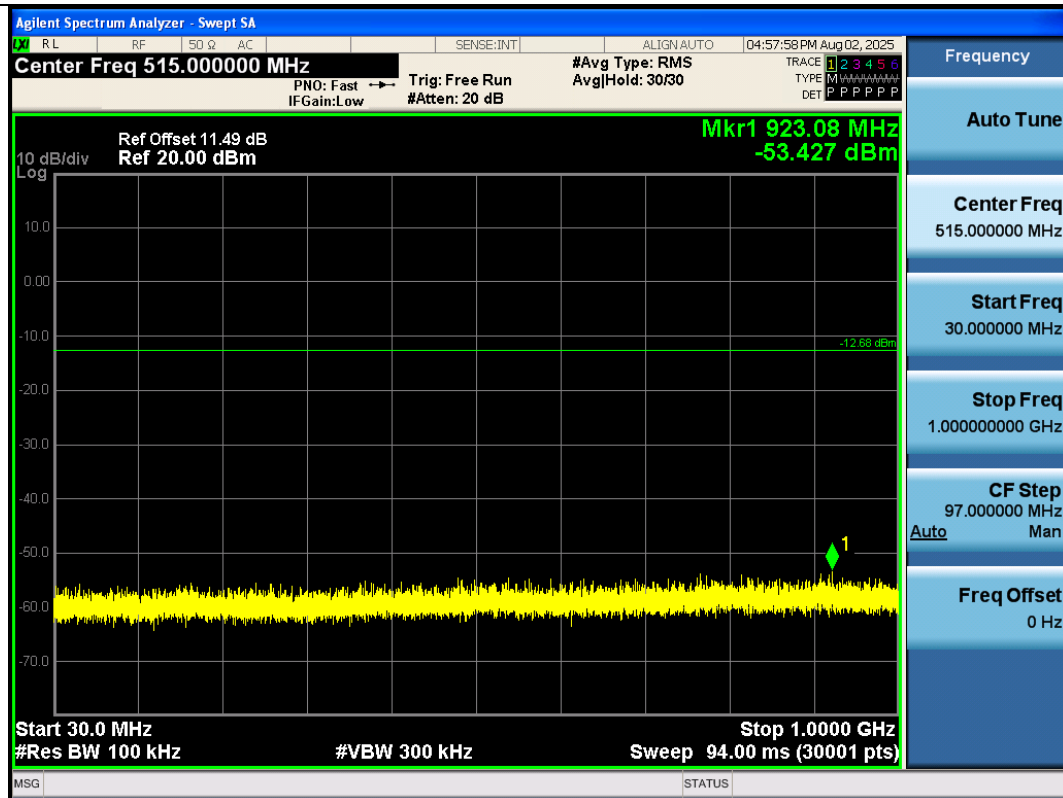
BLE_1M-2440-30~1000-PASS



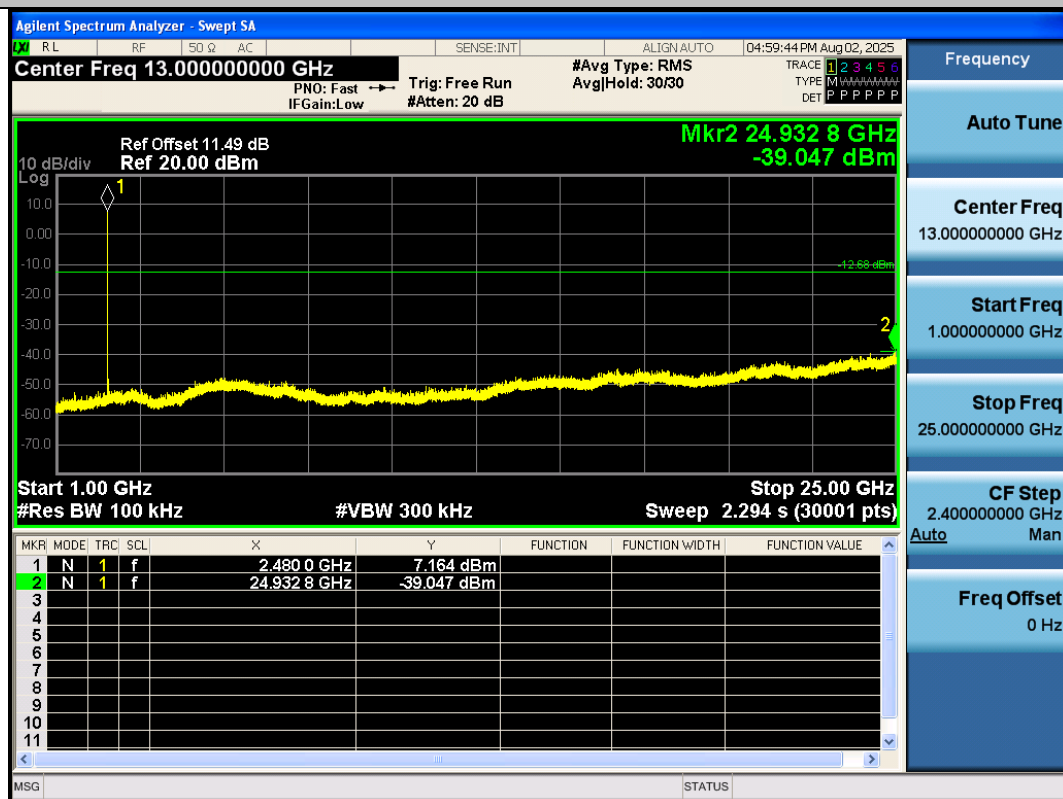
BLE_1M-2440-1000~25000-PASS



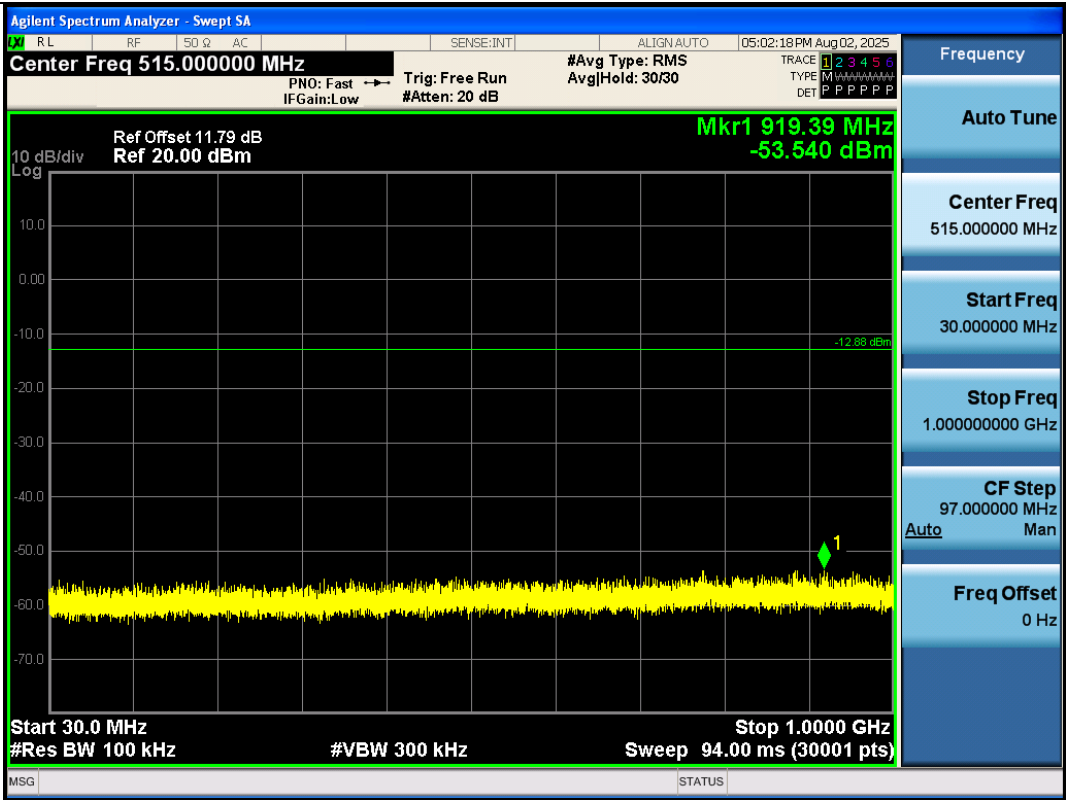
BLE_1M-2480-30~1000-PASS



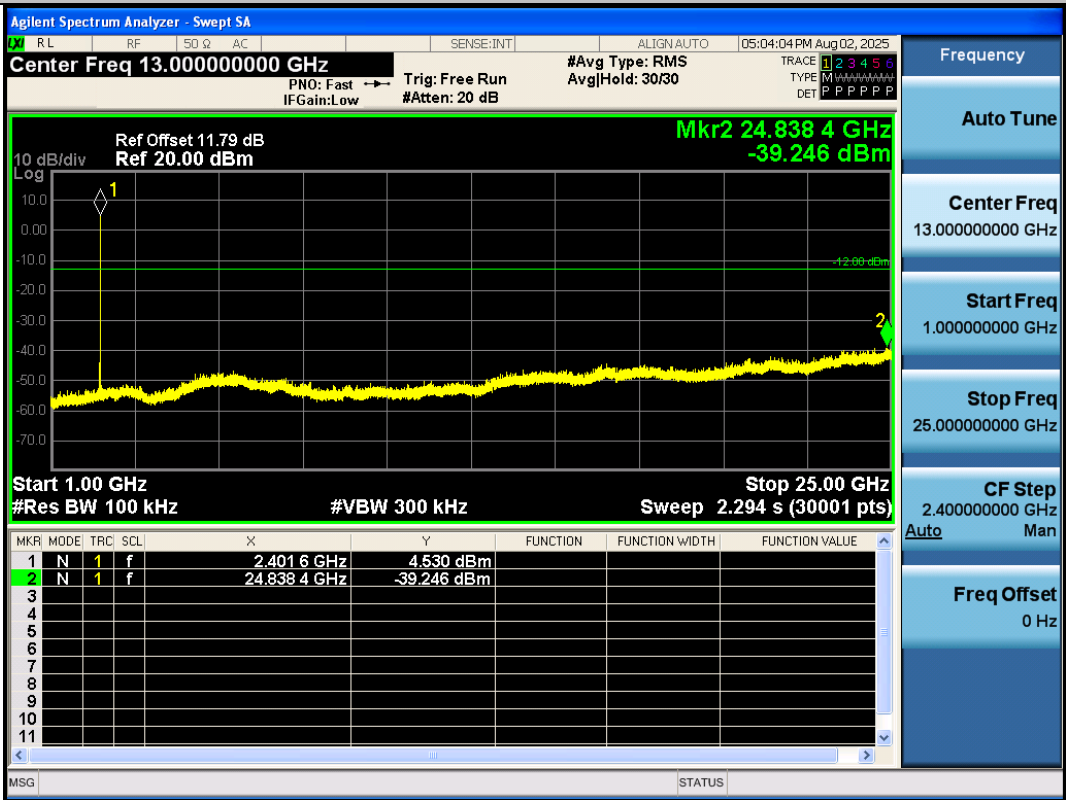
BLE_1M-2480-1000~25000-PASS



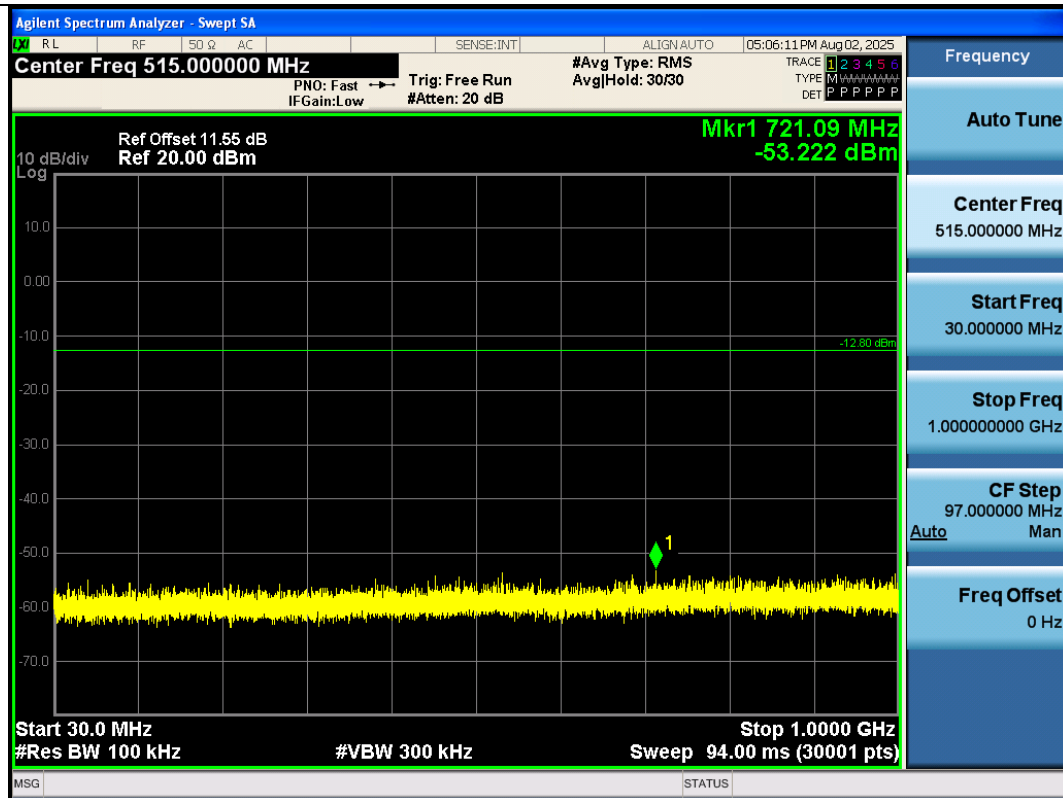
BLE_2M-2402-30~1000-PASS



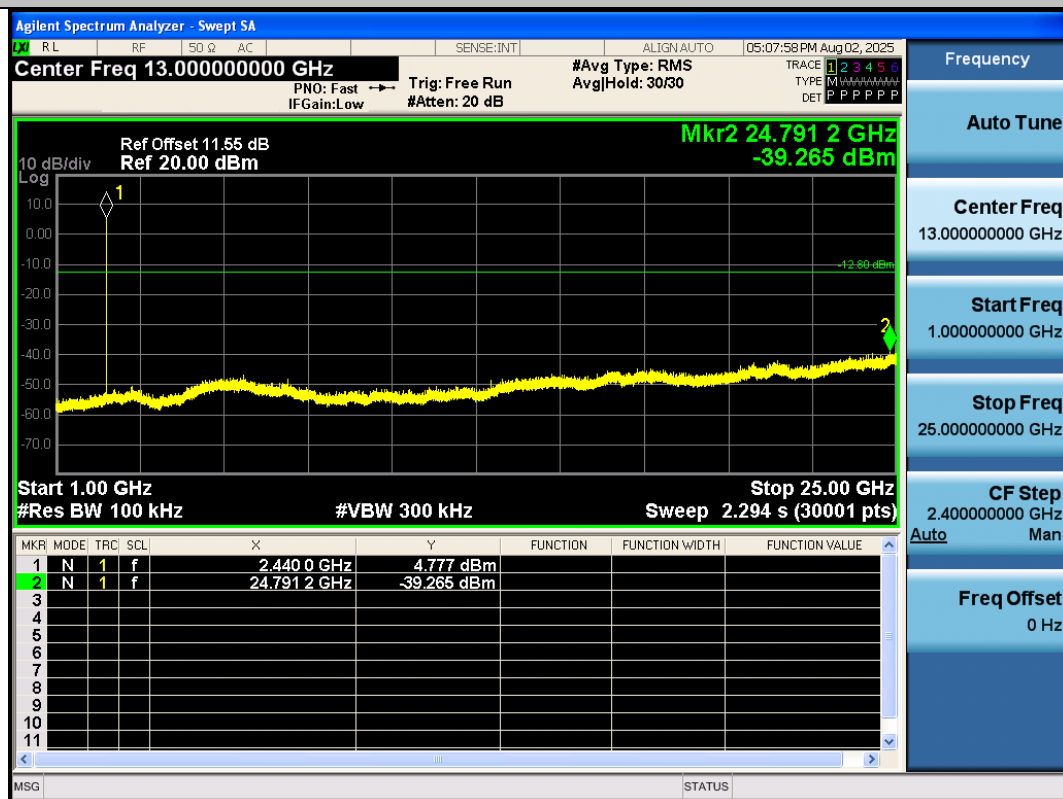
BLE_2M-2402-1000~25000-PASS



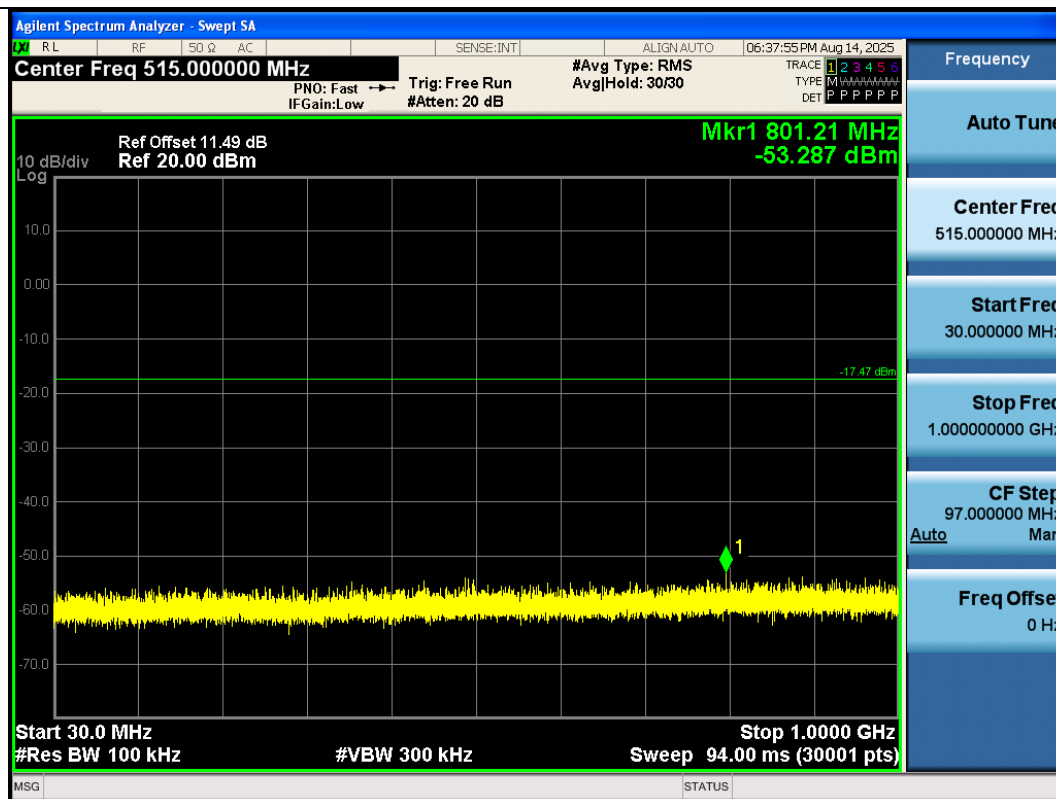
BLE_2M-2440-30~1000-PASS



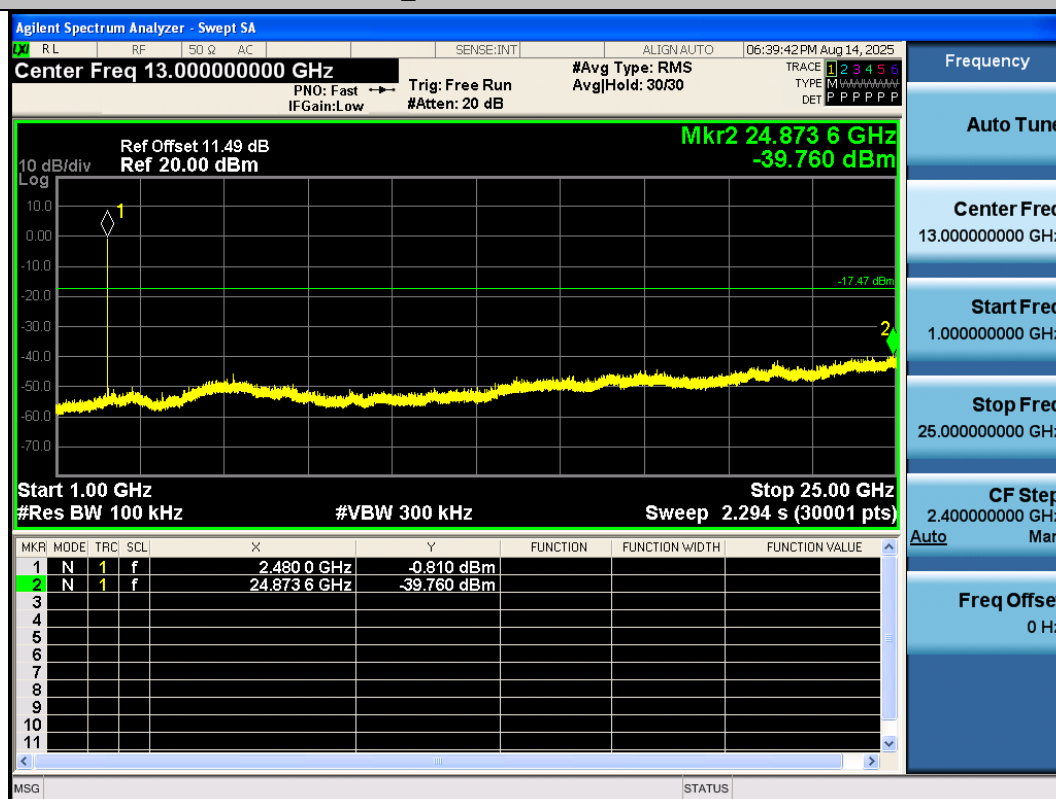
BLE_2M-2440-1000~25000-PASS



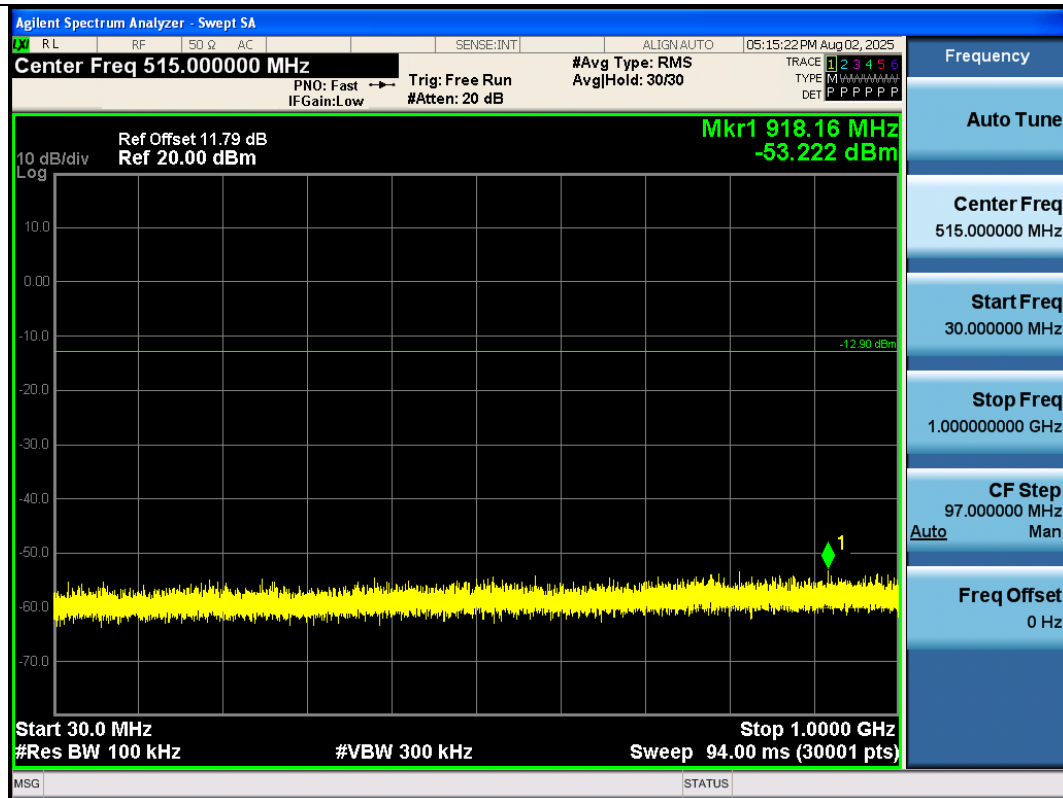
BLE_2M-2480-30~1000-PASS



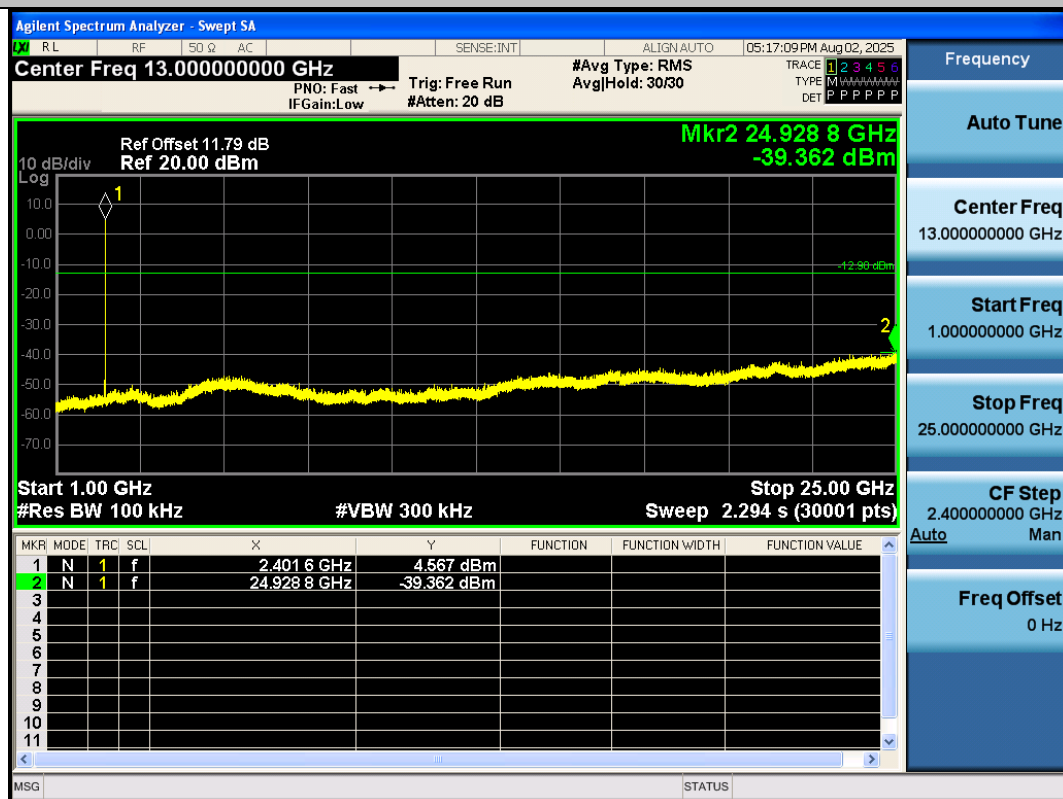
BLE_2M-2480-1000~25000-PASS



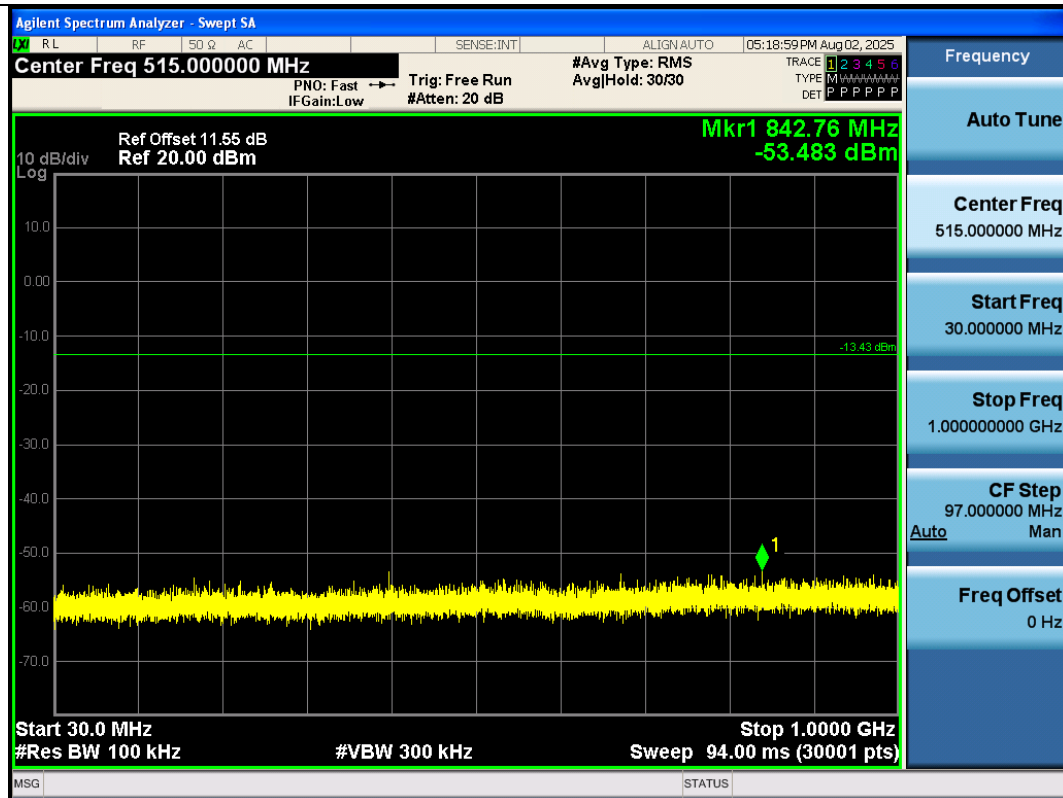
BLE_125K-2402-30~1000-PASS



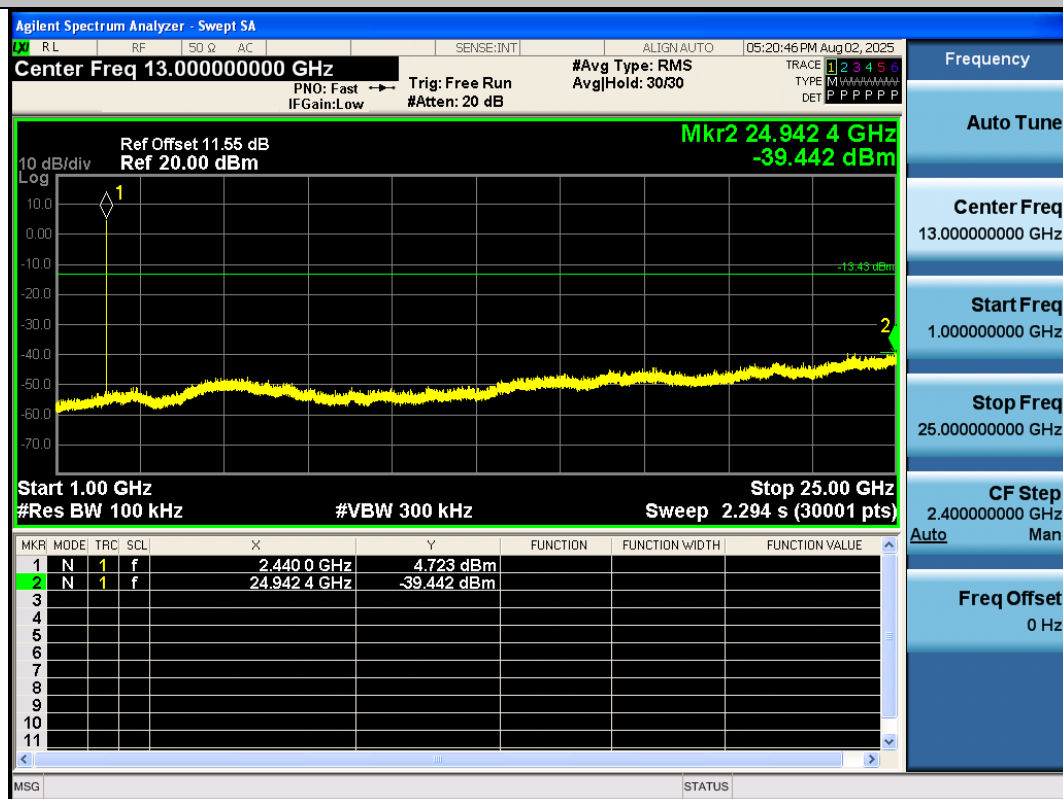
BLE_125K-2402-1000-25000-PASS



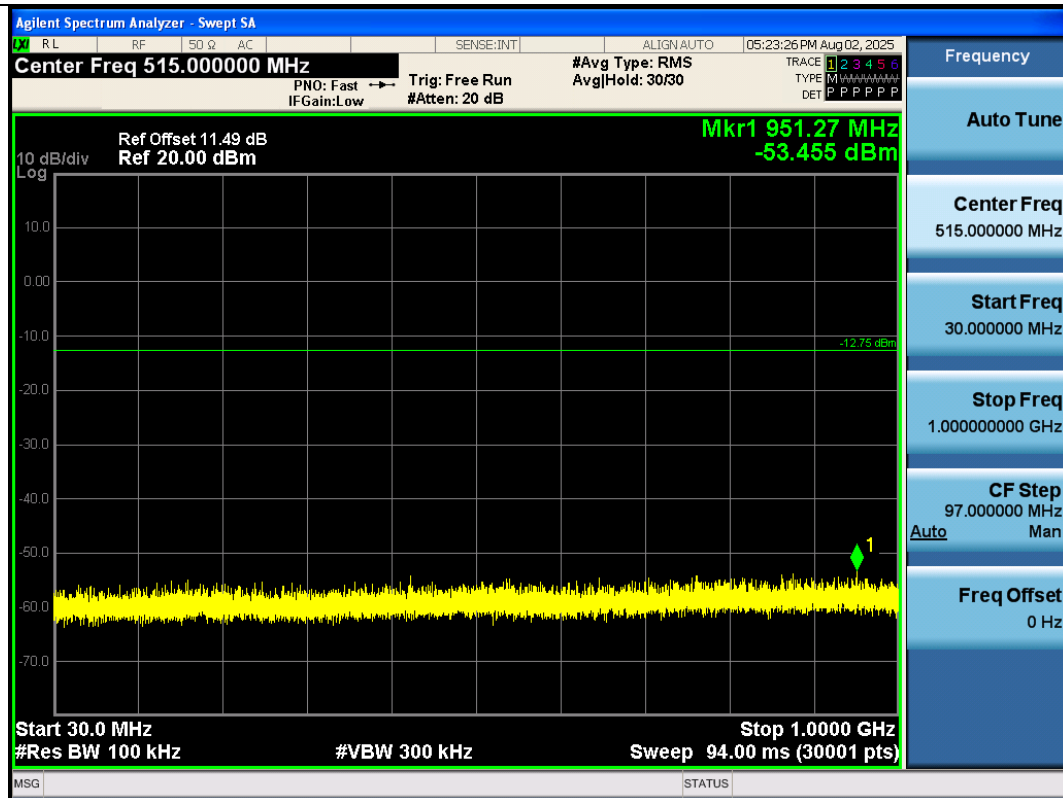
BLE_125K-2440-30-1000-PASS



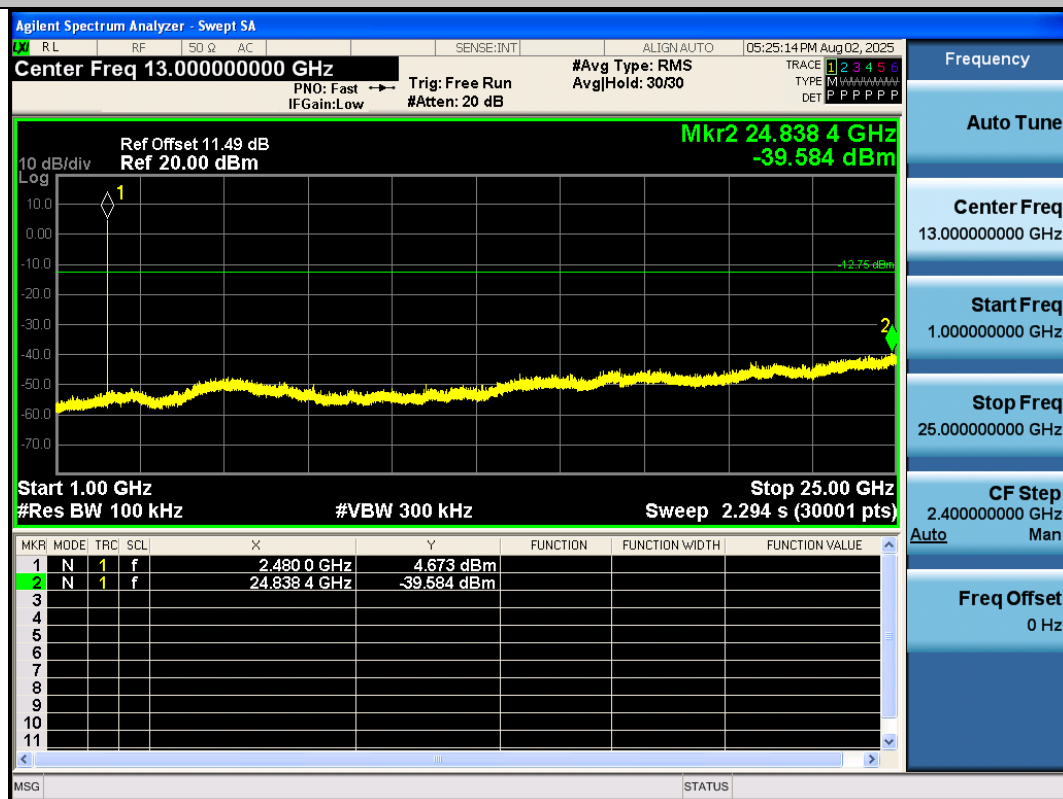
BLE_125K-2440-1000-25000-PASS



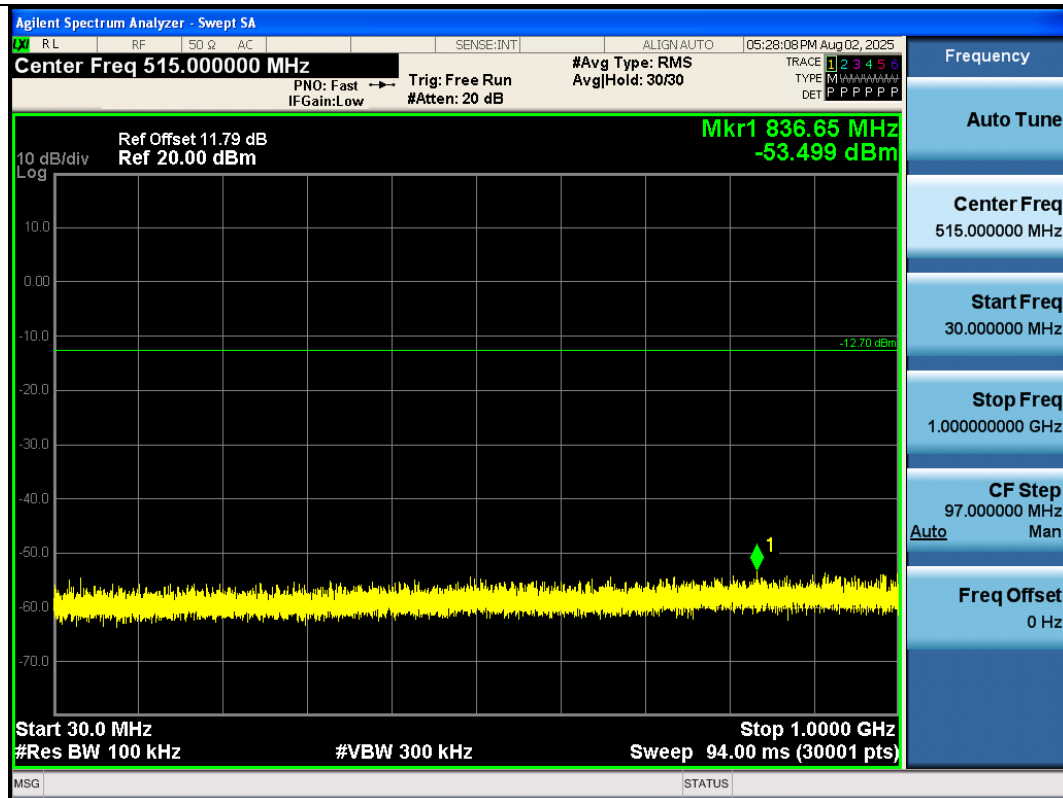
BLE_125K-2480-30-1000-PASS



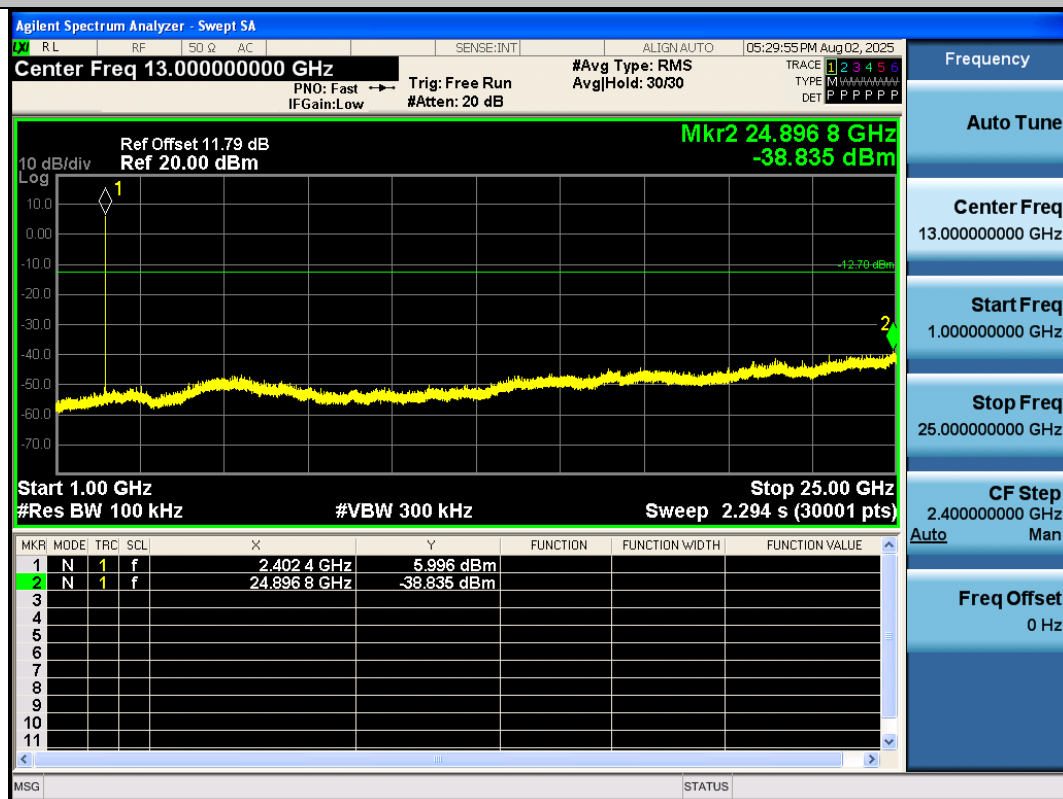
BLE_125K-2480-1000-25000-PASS



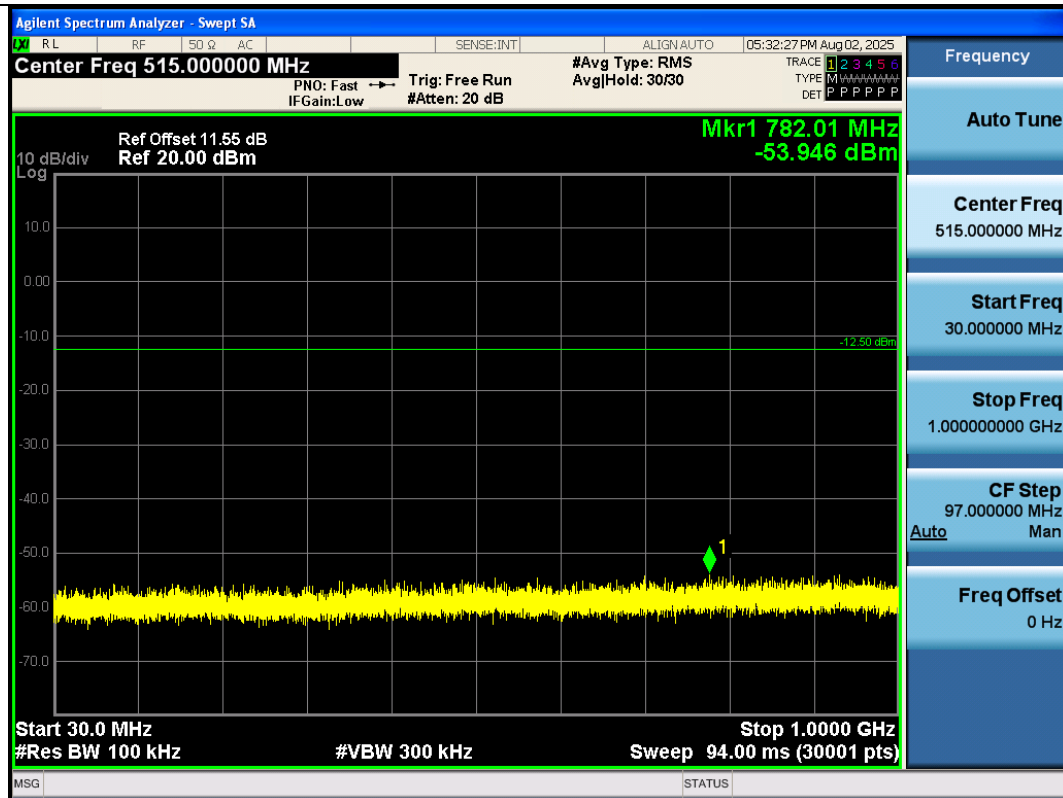
BLE_500K-2402-30-1000-PASS



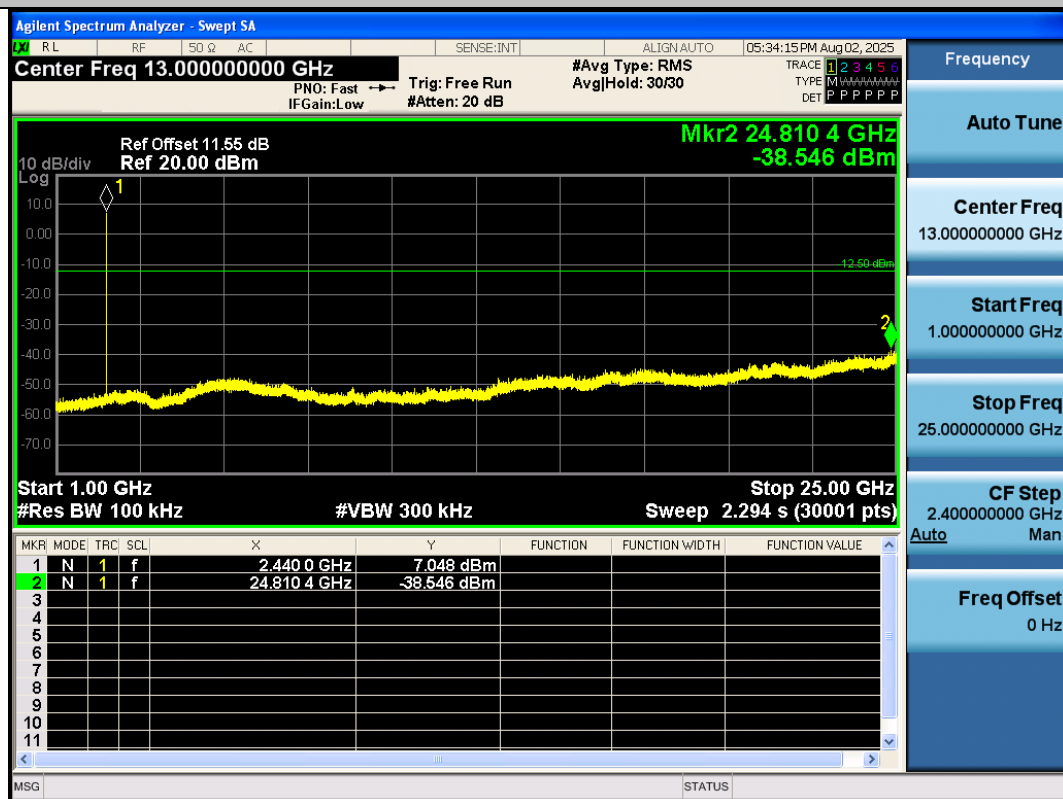
BLE_500K-2402-1000-25000-PASS



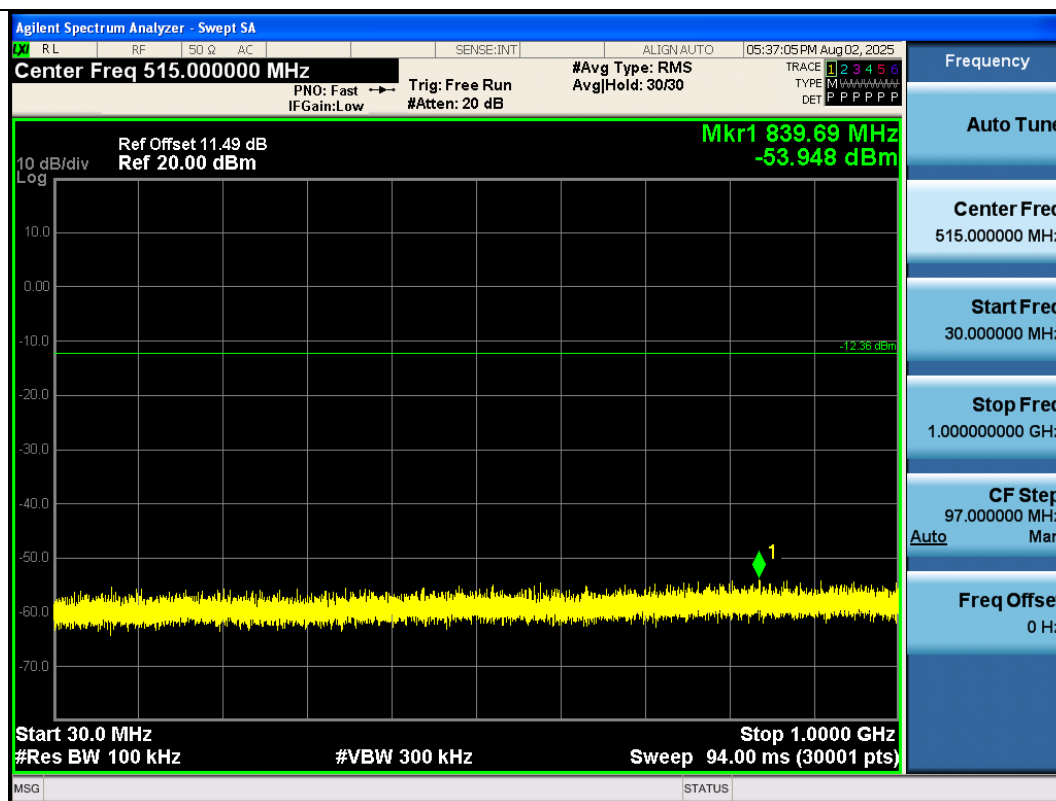
BLE_500K-2440-30-1000-PASS



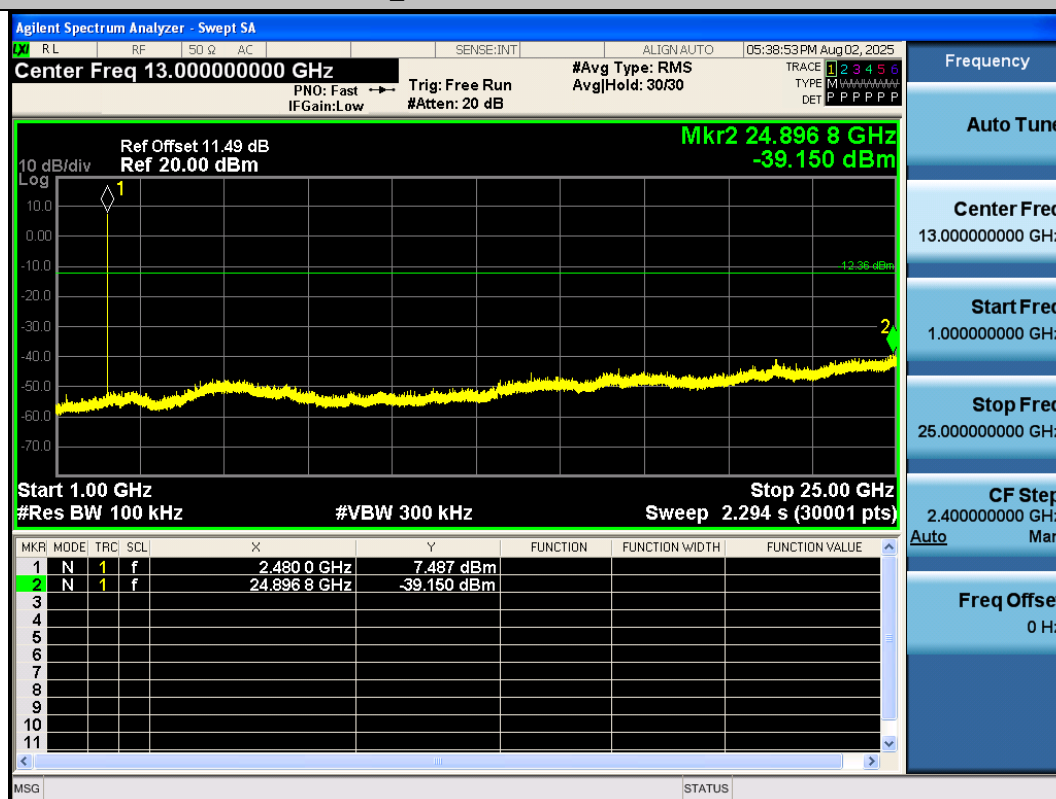
BLE_500K-2440-1000-25000-PASS



BLE_500K-2480-30-1000-PASS

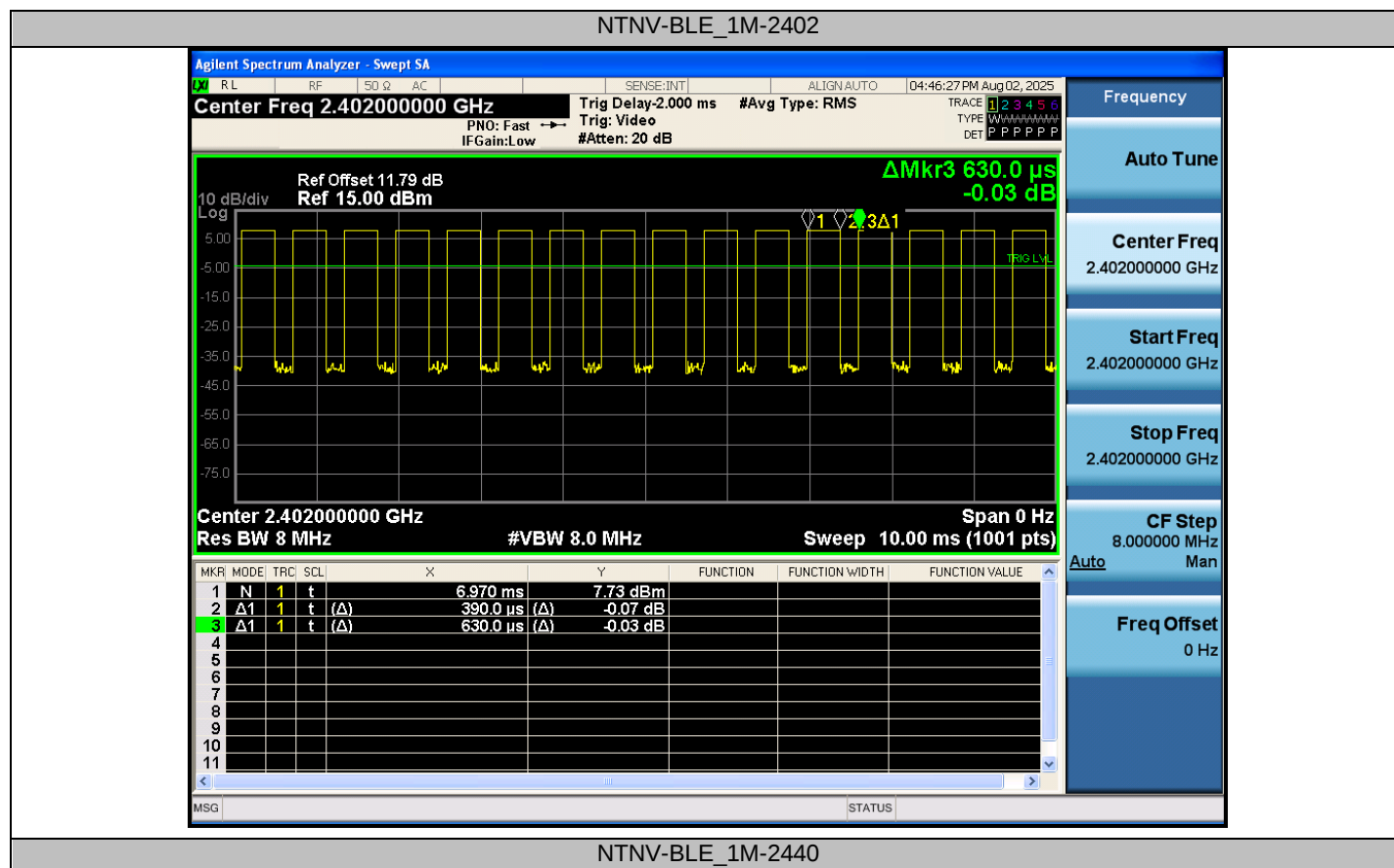


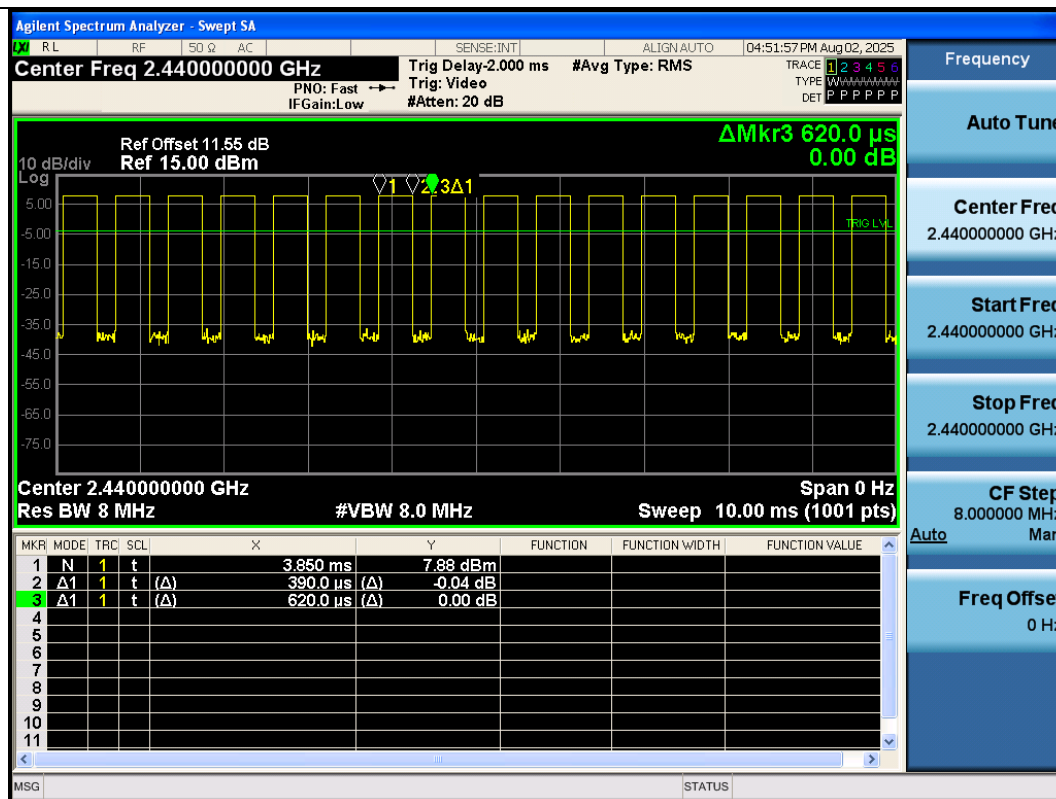
BLE_500K-2480-1000-25000-PASS



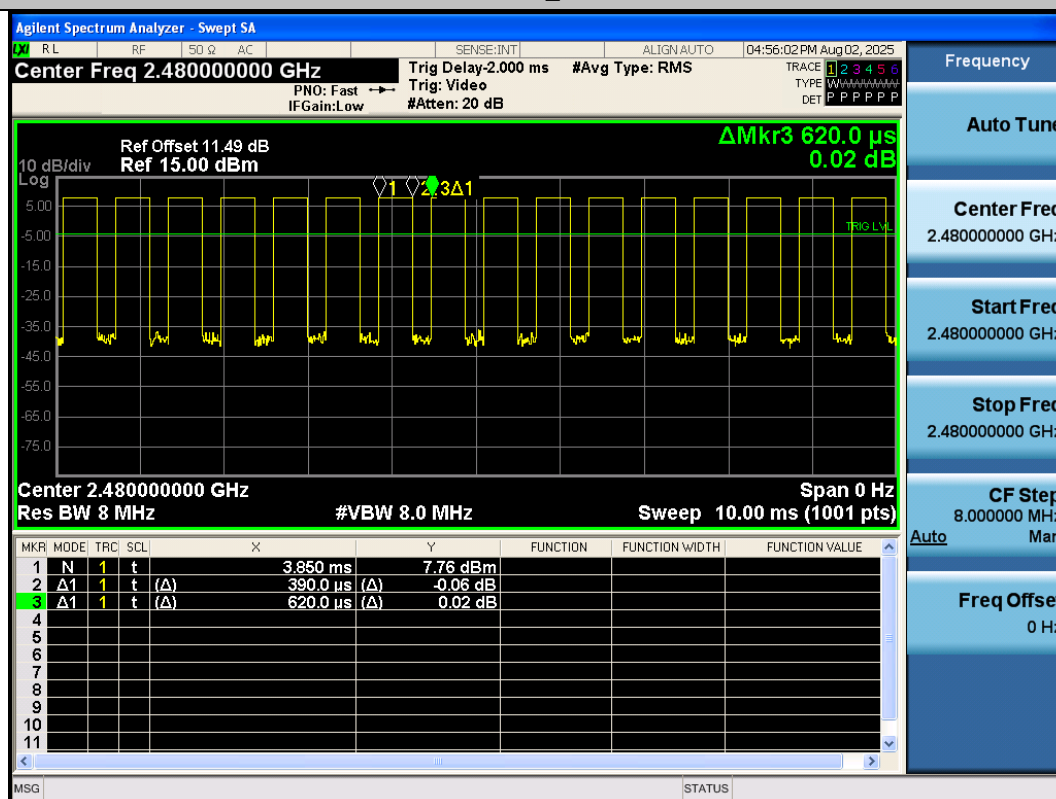
Appendix G: Duty Cycle

TestMode	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	2402	0.39	0.63	61.90	2.08
BLE_1M	2440	0.39	0.62	62.90	2.01
BLE_1M	2480	0.39	0.62	62.90	2.01
BLE_2M	2402	0.21	0.63	33.33	4.77
BLE_2M	2440	0.21	0.63	33.33	4.77
BLE_2M	2480	0.21	0.63	33.33	4.77
BLE_125K	2402	3.10	3.75	82.67	0.83
BLE_125K	2440	3.11	3.75	82.93	0.81
BLE_125K	2480	3.11	3.75	82.93	0.81
BLE_500K	2402	1.07	1.88	56.91	2.45
BLE_500K	2440	1.07	1.87	57.22	2.42
BLE_500K	2480	1.07	1.88	56.91	2.45

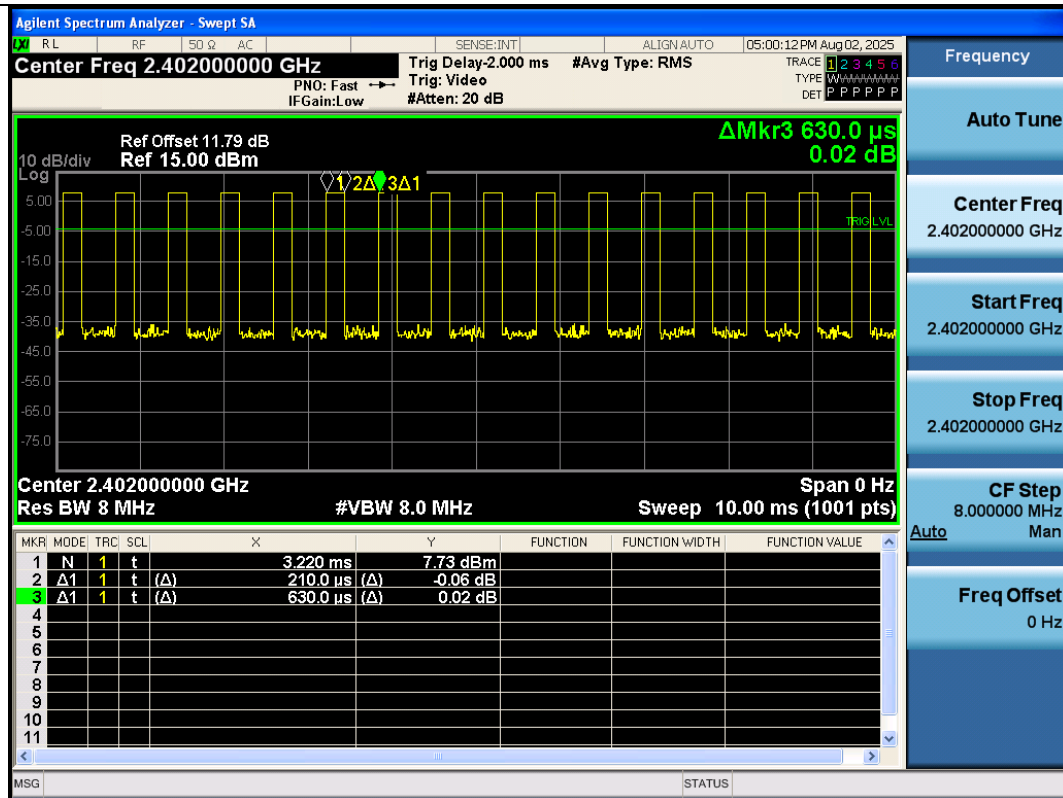




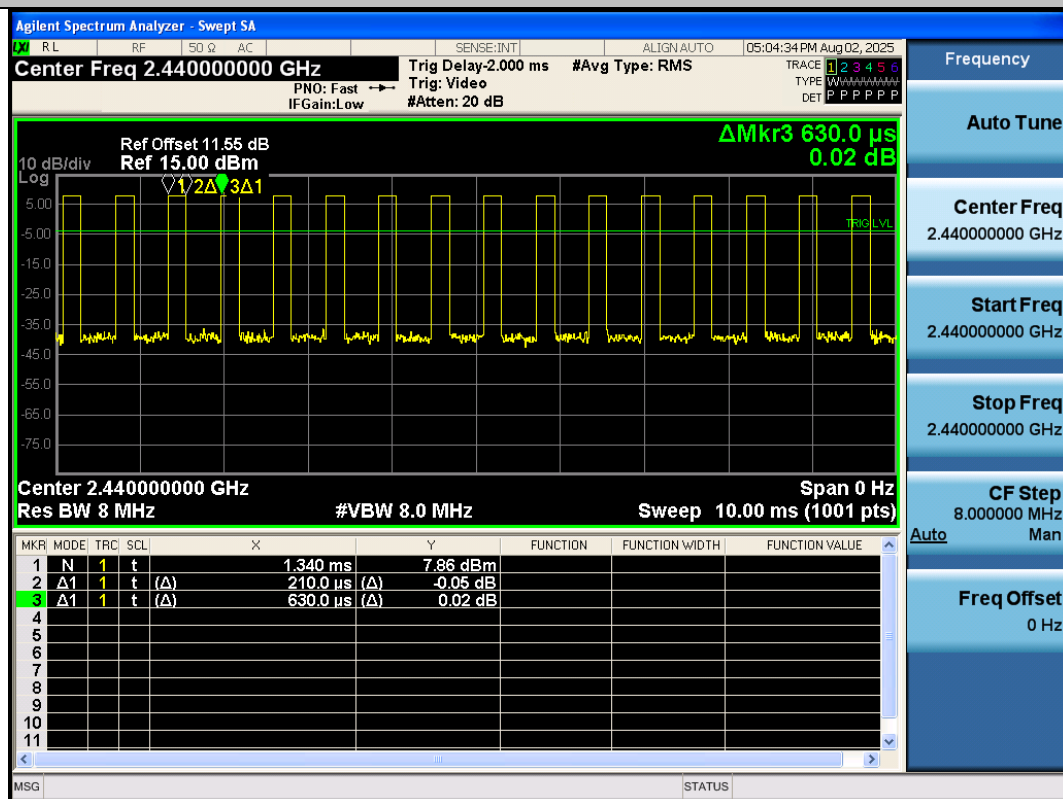
NTNV-BLE_1M-2480



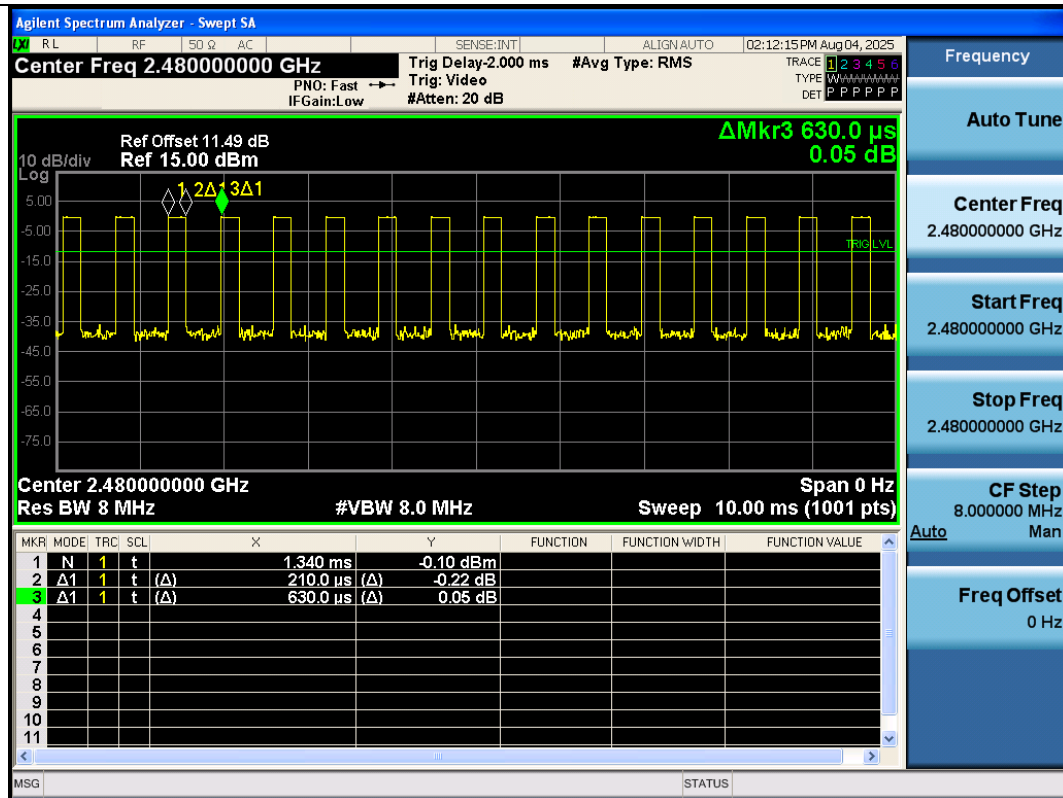
NTNV-BLE_2M-2402



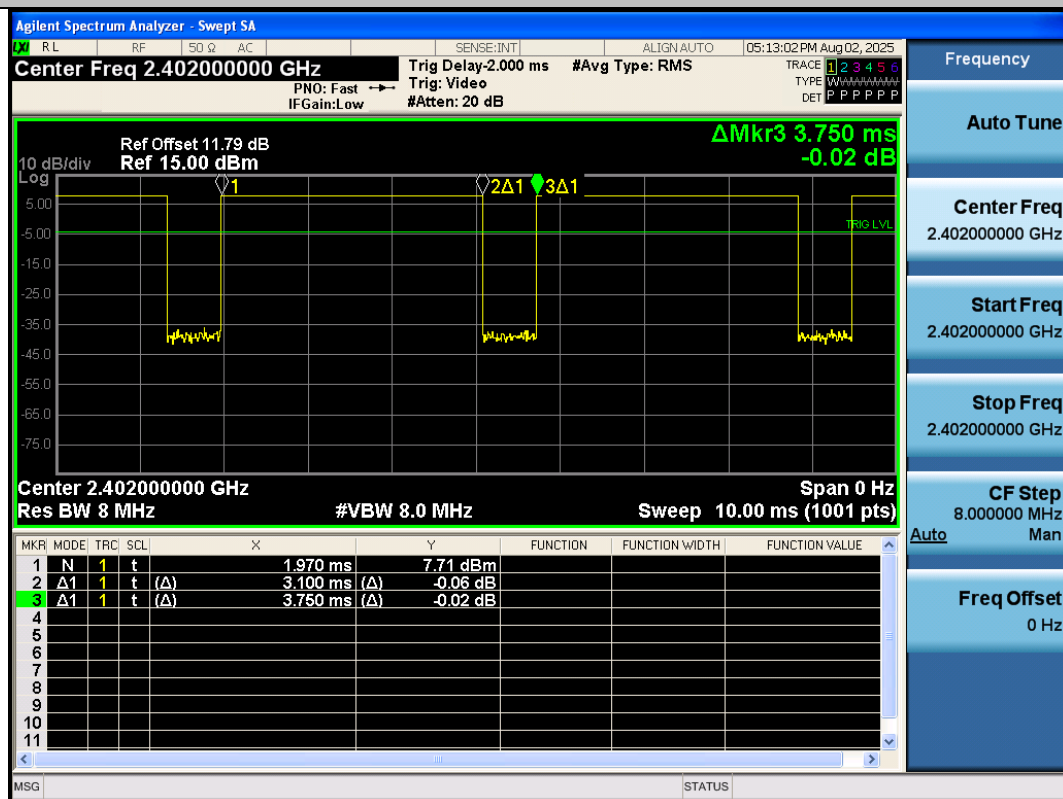
NTNV-BLE_2M-2440



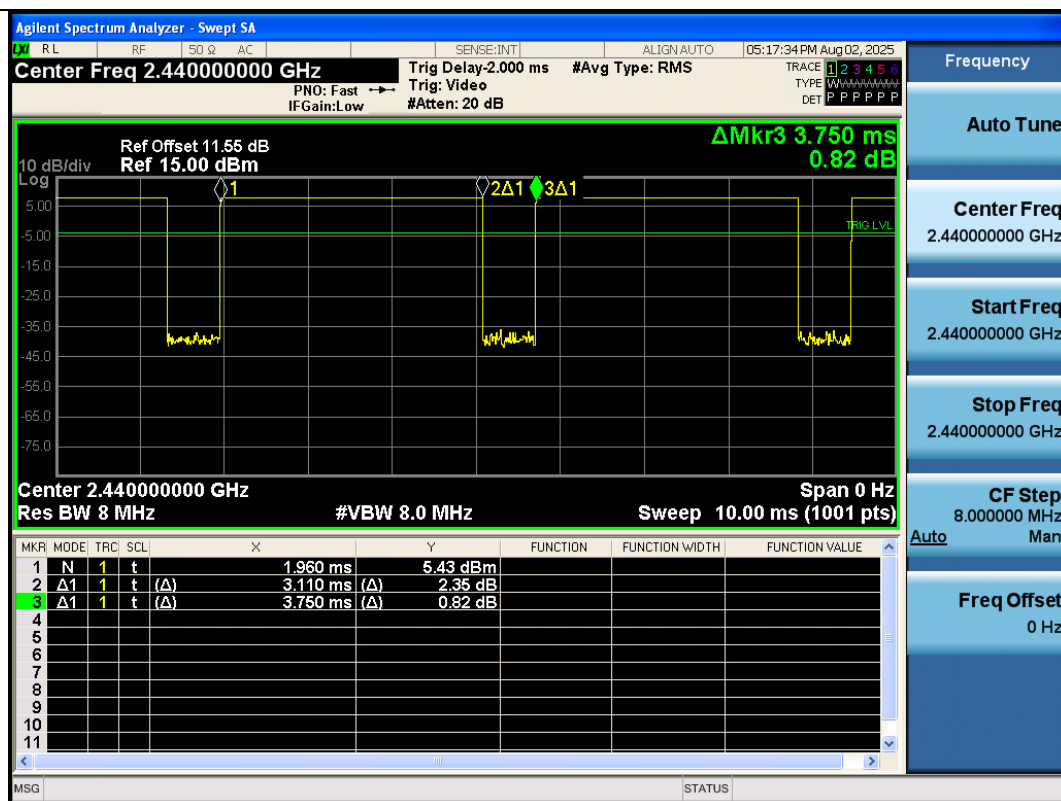
NTNV-BLE_2M-2480



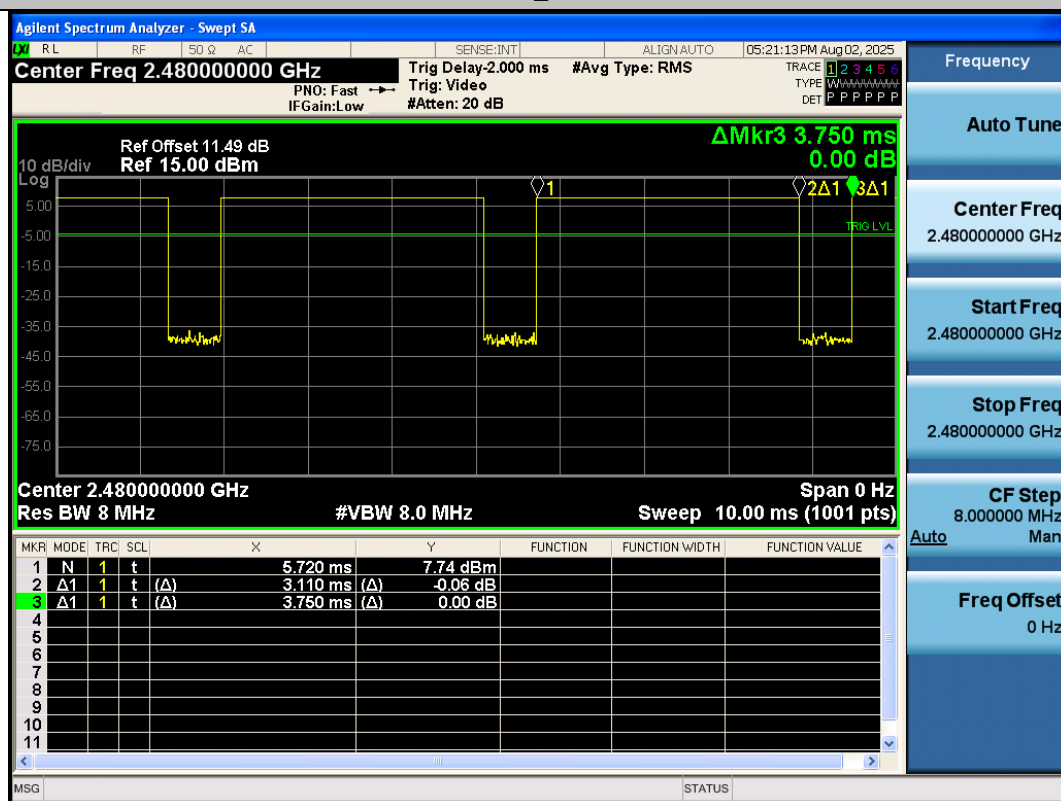
NTNV-BLE_125K-2402



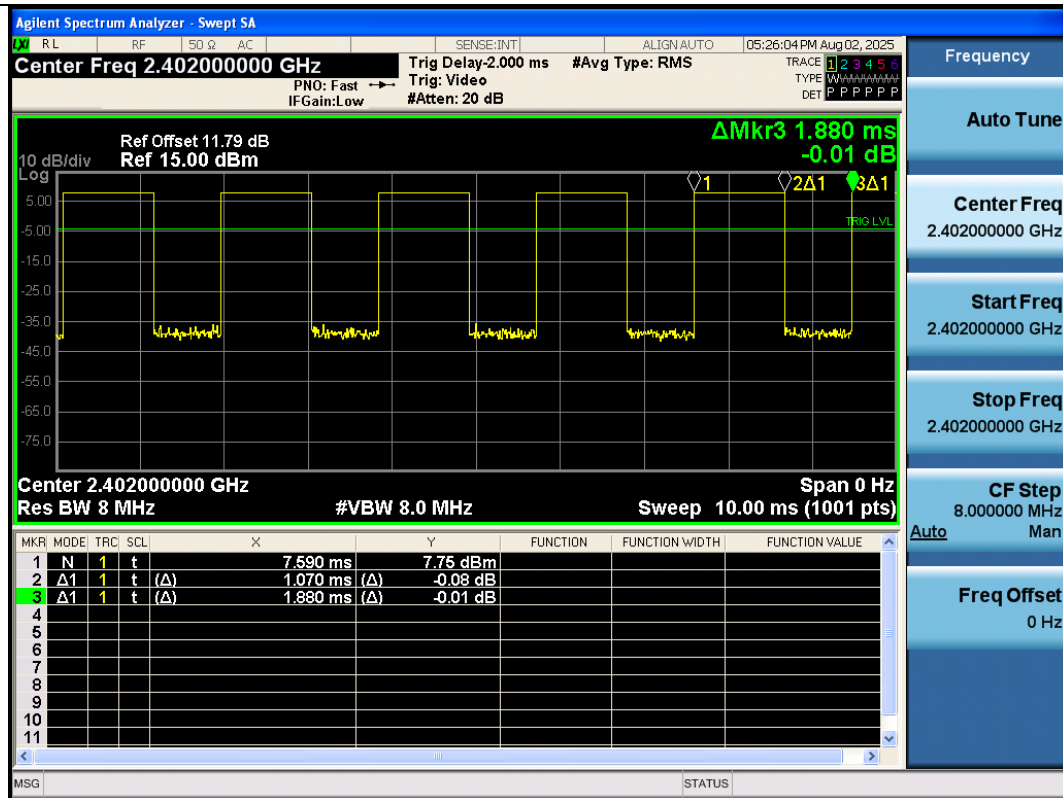
NTNV-BLE_125K-2440



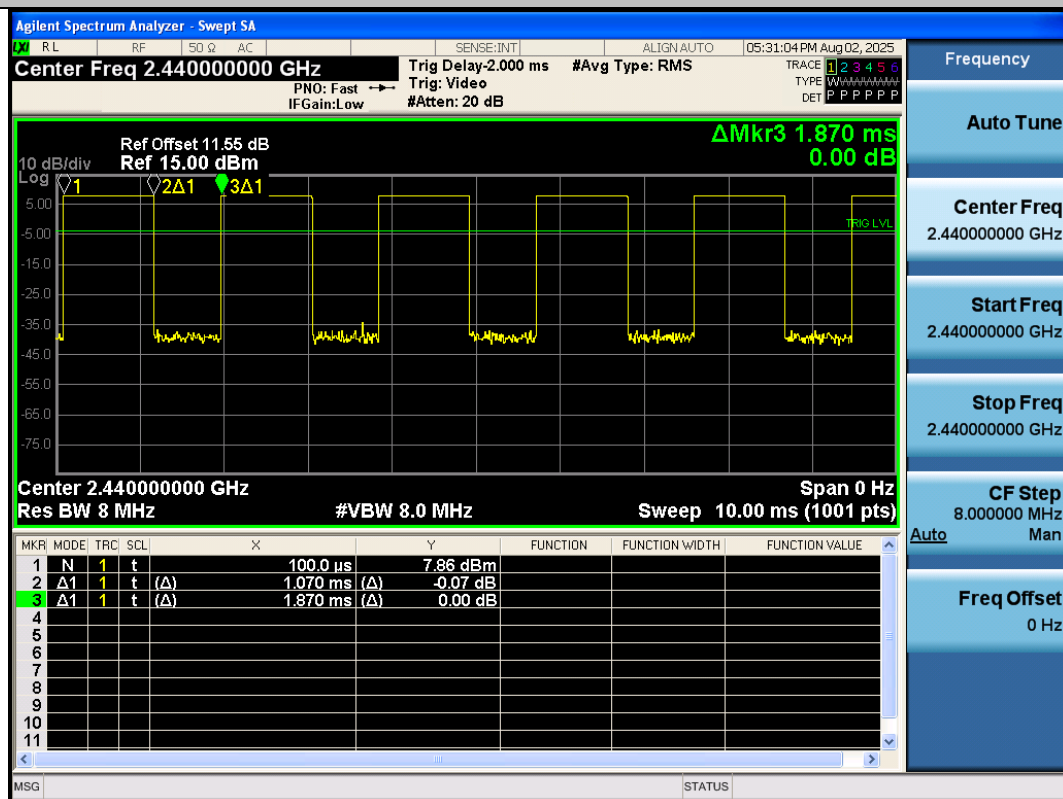
NTNV-BLE_125K-2480



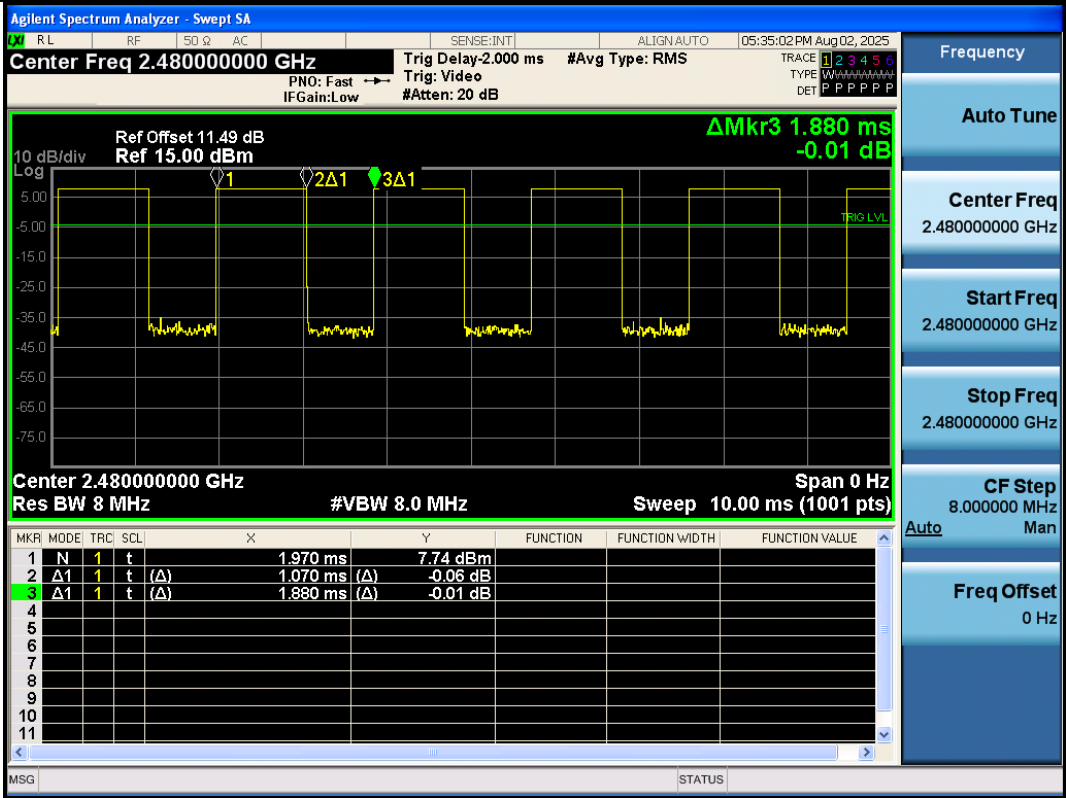
NTNV-BLE_500K-2402



NTNV-BLE_500K-2440



NTNV-BLE_500K-2480



Appendix H: Emissions in Restricted Bands**Transmit at 2402MHz by LE_1Mbps**

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4803.50	52.5	44.06	-8.480	74.00	29.94	PK	Horizo	PASS
2	4804.50	49.0	40.51	-8.480	54.00	13.49	AV	Horizo	PASS
3	12011.00	43.5	50.23	6.770	74.00	23.77	PK	Horizo	PASS
4	12011.00	36.4	43.13	6.770	54.00	10.87	AV	Horizo	PASS
5	16812.00	41.0	51.92	10.960	74.00	22.08	PK	Horizo	PASS
6	16813.00	35.1	46.06	10.960	54.00	7.94	AV	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	7206.00	46.4	44.82	-1.620	74.00	29.18	PK	Vertic	PASS
2	7206.00	41.1	39.52	-1.620	54.00	14.48	AV	Vertic	PASS
3	12008.50	47.1	53.89	6.780	74.00	20.11	PK	Vertic	PASS
4	12009.00	41.3	48.10	6.780	54.00	5.90	AV	Vertic	PASS
5	16812.50	41.4	52.39	10.960	74.00	21.61	PK	Vertic	PASS
6	16813.00	35.1	46.02	10.960	54.00	7.98	AV	Vertic	PASS

Transmit at 2440MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.50	55.7	47.51	-8.150	74.00	26.49	PK	Horizo	PASS
2	4880.50	51.9	43.73	-8.150	54.00	10.27	AV	Horizo	PASS
3	12198.50	44.0	50.86	6.910	74.00	23.14	PK	Horizo	PASS
4	12201.50	34.6	41.49	6.920	54.00	12.51	AV	Horizo	PASS
5	16192.50	39.1	50.93	11.850	74.00	23.07	PK	Horizo	PASS
6	16196.50	29.9	41.76	11.900	54.00	12.24	AV	Horizo	PASS

Transmit at 2440MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	7319.00	48.3	46.80	-1.450	74.00	27.20	PK	Vertic	PASS
2	7320.50	41.1	39.63	-1.440	54.00	14.37	AV	Vertic	PASS
3	12199.00	46.2	53.12	6.910	74.00	20.88	PK	Vertic	PASS
4	12199.50	39.8	46.69	6.920	54.00	7.31	AV	Vertic	PASS
5	17078.00	40.7	52.09	11.350	74.00	21.91	PK	Vertic	PASS
6	17082.00	34.1	45.50	11.360	54.00	8.50	AV	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4959.50	59.2	51.32	-7.830	74.00	22.68	PK	Horizo	PASS
2	4960.50	56.2	48.34	-7.830	54.00	5.66	AV	Horizo	PASS
3	7439.50	48.5	47.23	-1.300	74.00	26.77	PK	Horizo	PASS
4	7440.00	42.3	40.96	-1.300	54.00	13.04	AV	Horizo	PASS
5	17358.00	47.0	59.06	12.070	74.00	14.94	PK	Horizo	PASS
6	17361.50	40.1	52.17	12.100	54.00	1.83	AV	Horizo	PASS

Transmit at 2480MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	7440.50	49.0	47.65	-1.320	74.00	26.35	PK	Vertic	PASS
2	7440.50	43.2	41.91	-1.320	54.00	12.09	AV	Vertic	PASS
3	12399.00	43.3	50.76	7.510	74.00	23.24	PK	Vertic	PASS
4	12399.50	37.4	44.88	7.510	54.00	9.12	AV	Vertic	PASS
5	17358.00	46.0	58.02	12.070	74.00	15.98	PK	Vertic	PASS
6	17362.00	39.6	51.69	12.100	54.00	2.31	AV	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4803.00	52.7	44.22	-8.490	74.00	29.78	PK	Horizo	PASS
2	4805.00	45.5	36.98	-8.480	54.00	17.02	AV	Horizo	PASS
3	12008.00	35.3	42.09	6.790	54.00	11.91	AV	Horizo	PASS
4	12012.50	44.0	50.71	6.760	74.00	23.29	PK	Horizo	PASS
5	16810.00	41.0	51.98	10.940	74.00	22.02	PK	Horizo	PASS
6	16811.00	33.0	43.99	10.950	54.00	10.01	AV	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	7206.00	43.9	42.29	-1.620	74.00	31.71	PK	Vertic	PASS
2	7206.00	36.0	34.42	-1.620	54.00	19.58	AV	Vertic	PASS
3	12008.50	39.1	45.85	6.780	54.00	8.15	AV	Vertic	PASS
4	12012.50	46.4	53.11	6.760	74.00	20.89	PK	Vertic	PASS
5	16810.50	41.1	52.03	10.950	74.00	21.97	PK	Vertic	PASS
6	16817.50	33.6	44.59	10.990	54.00	9.41	AV	Vertic	PASS

Transmit at 2440MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4879.00	56.1	47.98	-8.160	74.00	26.02	PK	Horizo	PASS
2	4879.50	51.1	42.92	-8.160	54.00	11.08	AV	Horizo	PASS
3	7320.00	36.3	34.85	-1.450	54.00	19.15	AV	Horizo	PASS
4	7320.00	44.6	43.18	-1.450	74.00	30.82	PK	Horizo	PASS
5	9760.00	42.5	43.96	1.450	74.00	30.04	PK	Horizo	PASS
6	9760.00	33.9	35.36	1.450	54.00	18.64	AV	Horizo	PASS

Transmit at 2440MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.00	39.3	31.17	-8.160	54.00	22.83	AV	Vertic	PASS
2	4880.00	48.2	40.01	-8.160	74.00	33.99	PK	Vertic	PASS
3	7320.50	41.2	39.76	-1.440	54.00	14.24	AV	Vertic	PASS
4	7342.50	48.0	46.69	-1.290	74.00	27.31	PK	Vertic	PASS
5	12197.50	46.9	53.83	6.900	74.00	20.17	PK	Vertic	PASS
6	12203.00	40.1	46.97	6.920	54.00	7.03	AV	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4959.00	58.7	50.90	-7.830	74.00	23.10	PK	Horizo	PASS
2	4959.50	54.6	46.77	-7.830	54.00	7.23	AV	Horizo	PASS
3	12397.50	42.0	49.45	7.500	74.00	24.55	PK	Horizo	PASS
4	12398.00	33.8	41.31	7.500	54.00	12.69	AV	Horizo	PASS
5	17356.50	46.3	58.39	12.060	74.00	15.61	PK	Horizo	PASS
6	17356.50	40.0	52.08	12.060	54.00	1.92	AV	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	7441.50	50.0	48.69	-1.320	74.00	25.31	PK	Vertic	PASS
2	7442.00	41.9	40.55	-1.330	54.00	13.45	AV	Vertic	PASS
3	12397.50	43.8	51.28	7.500	74.00	22.72	PK	Vertic	PASS
4	12398.00	36.7	44.19	7.500	54.00	9.81	AV	Vertic	PASS
5	17357.00	40.3	52.33	12.070	54.00	1.67	AV	Vertic	PASS
6	17363.50	46.7	58.79	12.100	74.00	15.21	PK	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	46.49	5.5	20.10	14.610	40.00	19.90	AV	Horizo	PASS
2	69.77	13.9	24.16	10.300	40.00	15.84	AV	Horizo	PASS
3	102.75	11.0	23.53	12.530	43.50	19.97	AV	Horizo	PASS
4	132.34	14.8	24.46	9.620	43.50	19.04	AV	Horizo	PASS
5	251.65	13.5	26.88	13.390	46.00	19.12	AV	Horizo	PASS
6	333.13	9.7	24.69	15.010	46.00	21.31	AV	Horizo	PASS

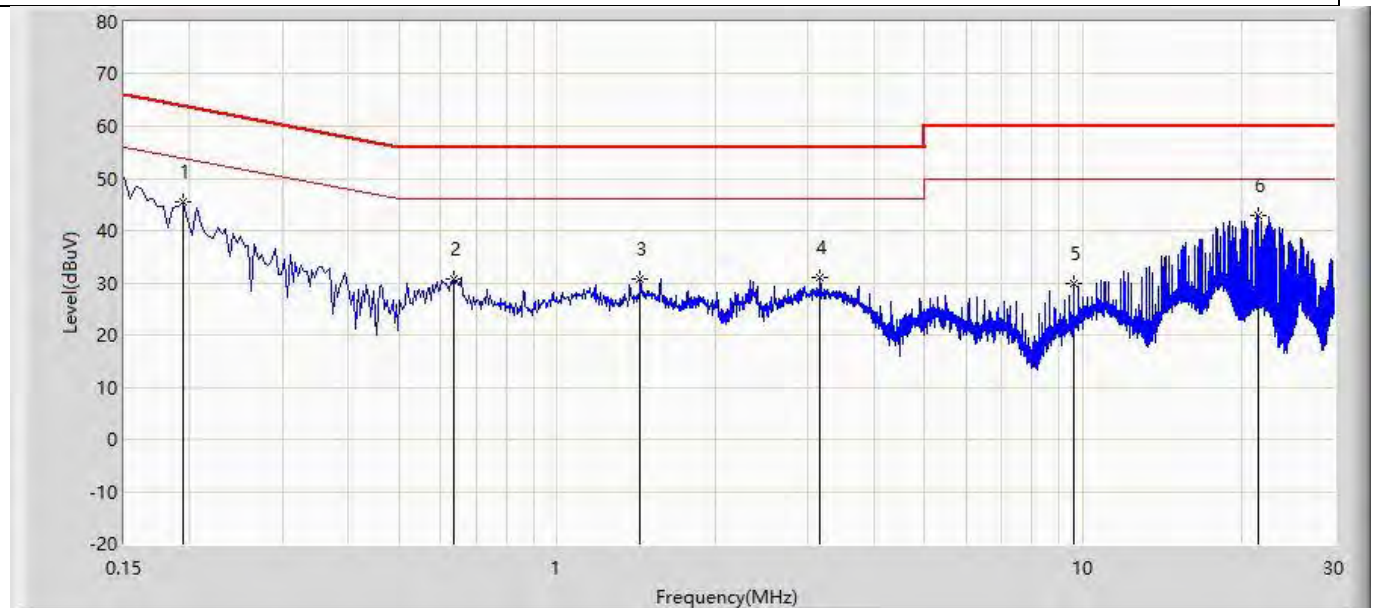
Transmit at 2480MHz by LE_1Mbps

Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	44.79	6.5	20.97	14.500	40.00	19.03	AV	Vertic	PASS
2	70.74	14.3	24.51	10.210	40.00	15.49	AV	Vertic	PASS
3	126.27	7.9	18.09	10.180	43.50	25.41	AV	Vertic	PASS
4	193.45	14.8	26.26	11.470	43.50	17.24	AV	Vertic	PASS
5	333.85	6.1	21.10	15.030	46.00	24.90	AV	Vertic	PASS
6	542.16	5.8	24.10	18.330	46.00	21.90	AV	Vertic	PASS

Note: Level = Reading + Factor(Probe+Cable-Amp)

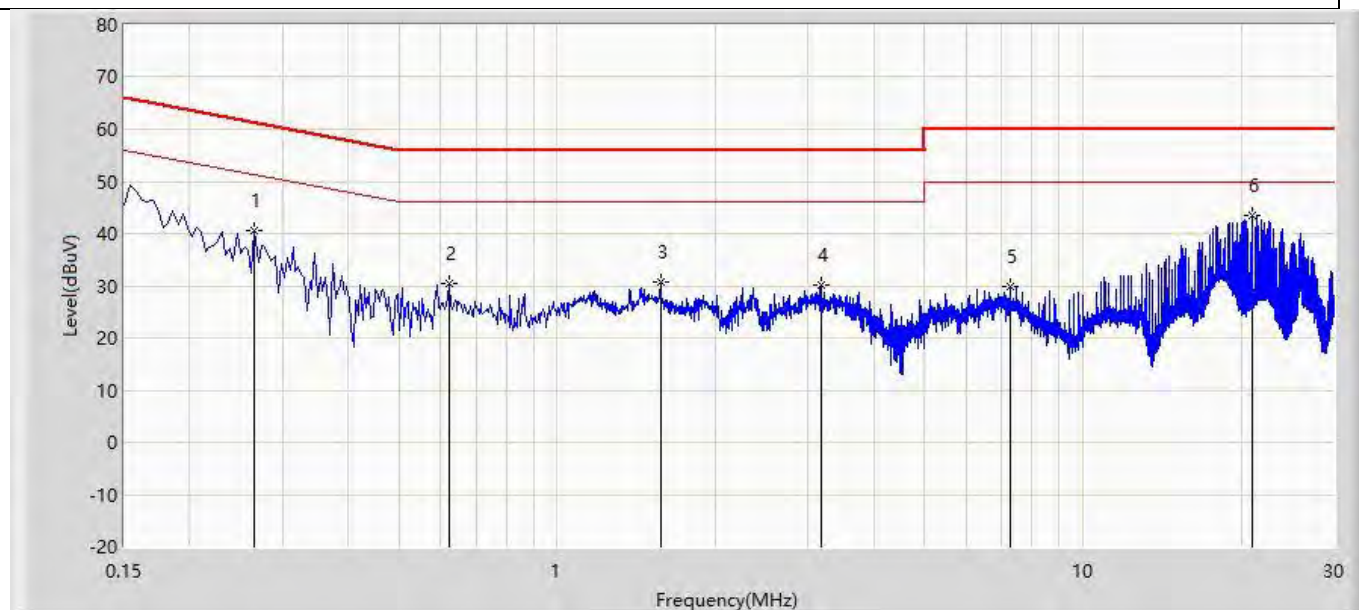
Appendix I: AC-Line Conducted Emission

Profile: 2560724R	Page No.: 1
Engineer: Yu Liu	
Site: TR1	Time: 2025/08/04 - 21:21
Limit: 2560724R_Part 15.207_CE_AC Power	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Line
EUT: FRRO505C	Power: 120Vac
Note: Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.194	45.468	35.811	-18.396	63.864	9.657	QP
2		0.634	30.842	21.168	-25.158	56.000	9.674	QP
3		1.438	30.670	20.941	-25.330	56.000	9.729	QP
4		3.166	30.964	21.166	-25.036	56.000	9.798	QP
5		9.626	29.813	19.839	-30.187	60.000	9.975	QP
6	*	21.606	42.933	32.357	-17.067	60.000	10.576	QP

Profile: 2560724R	Page No.: 4
Engineer: Yu Liu	
Site: TR1	Time: 2025/08/04 - 21:29
Limit: 2560724R_Part 15.207_CE_AC Power	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Neutral
EUT: FRRO505C	Power: 120Vac
Note: Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.266	40.484	30.852	-20.758	61.242	9.633	QP
2		0.622	30.528	20.900	-25.472	56.000	9.628	QP
3		1.574	30.655	20.966	-25.345	56.000	9.689	QP
4		3.170	30.027	20.276	-25.973	56.000	9.751	QP
5		7.266	29.972	20.058	-30.028	60.000	9.914	QP
6	*	21.022	43.392	32.910	-16.608	60.000	10.482	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp)

The End