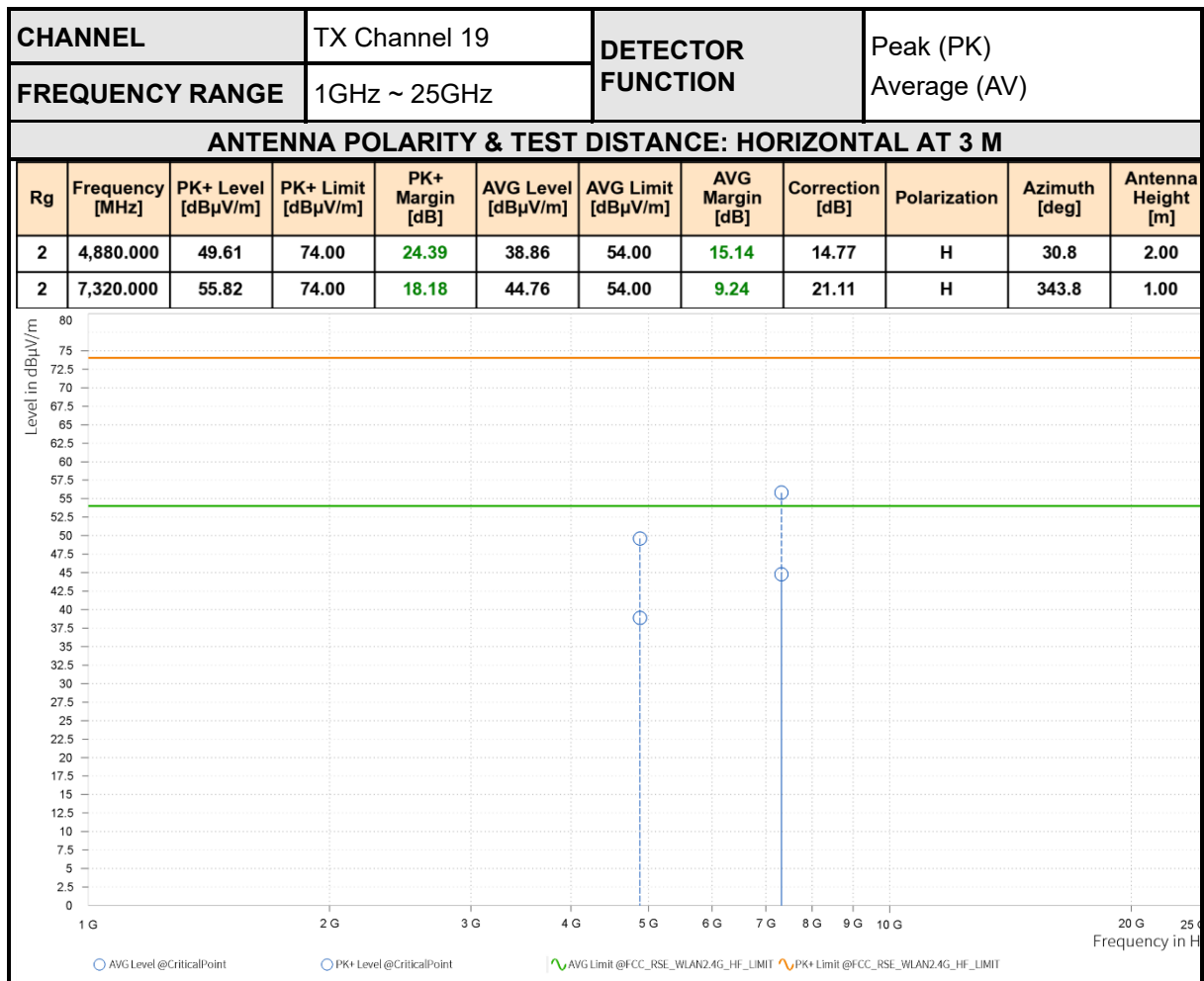
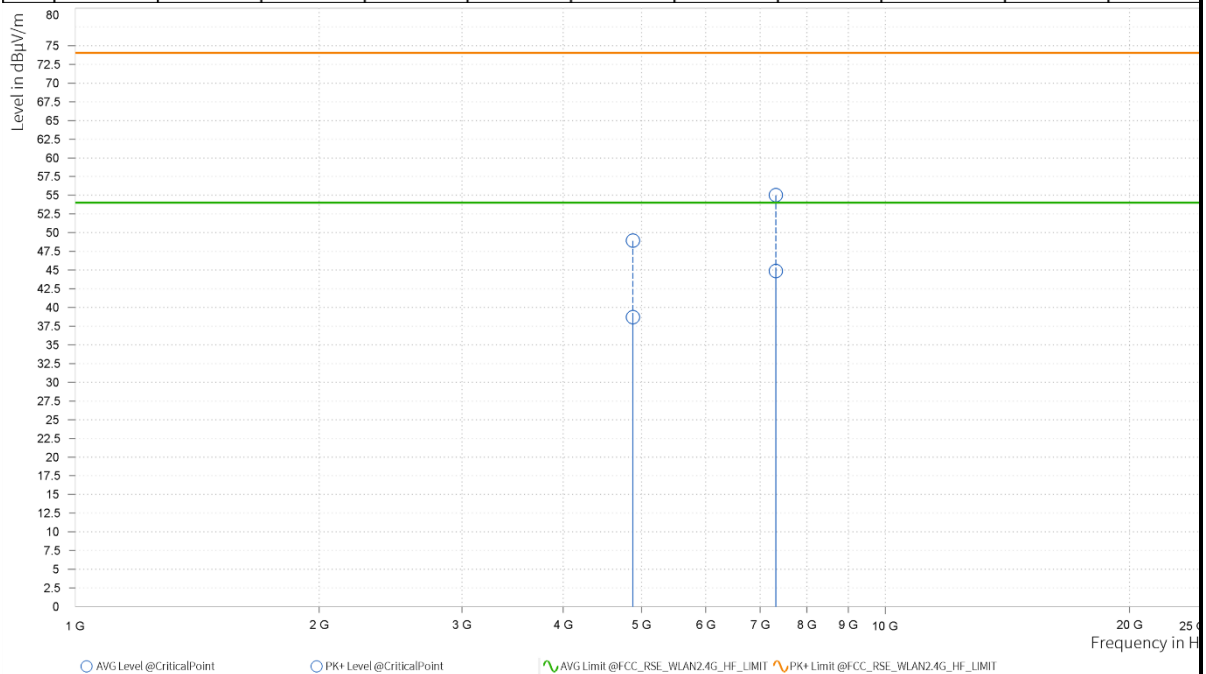






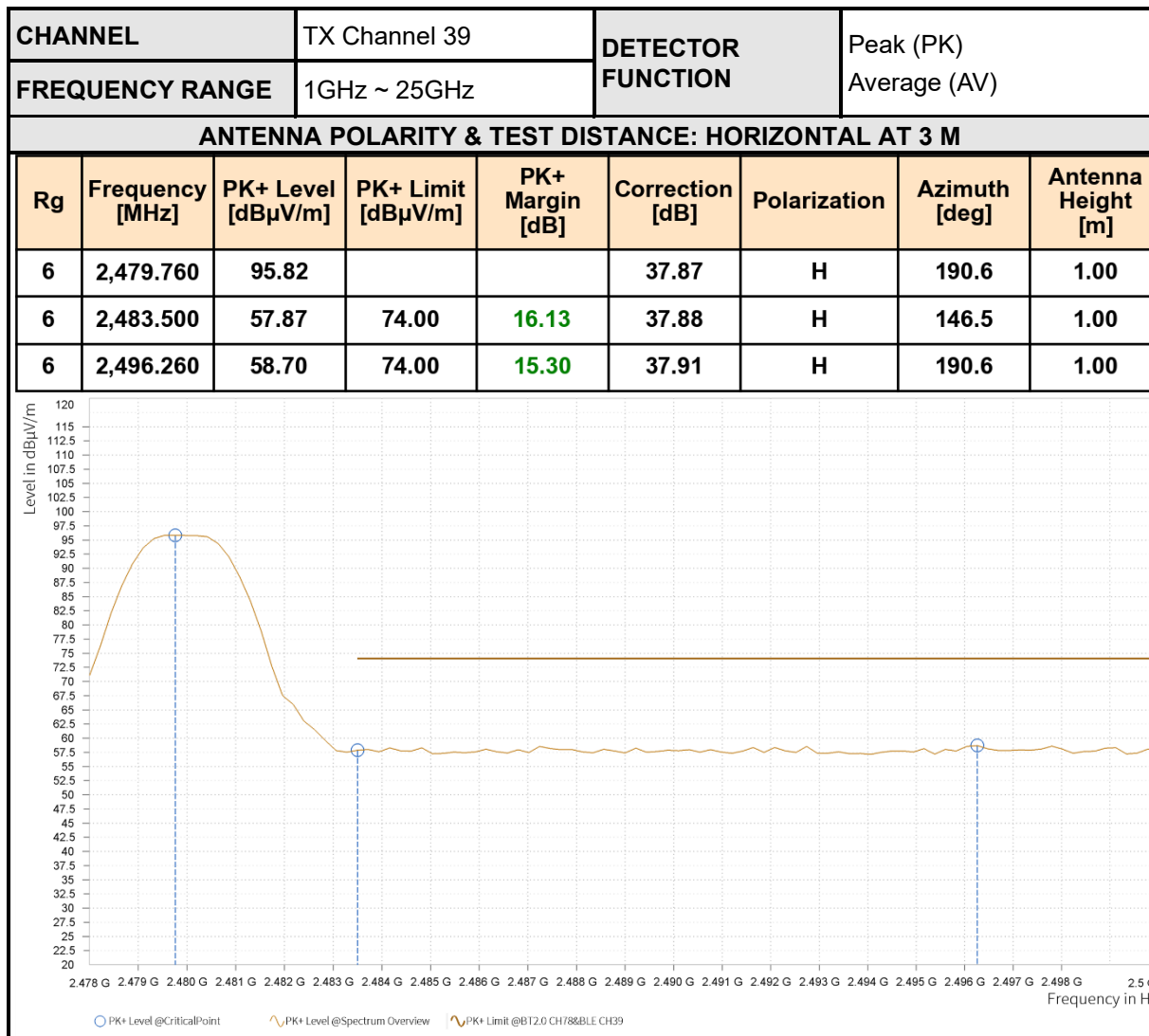
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	4,880.000	48.92	74.00	25.08	38.71	54.00	15.29	14.77	V	30.7	2.00
2	7,320.000	55.01	74.00	18.99	44.86	54.00	9.14	21.11	V	0.9	2.00



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

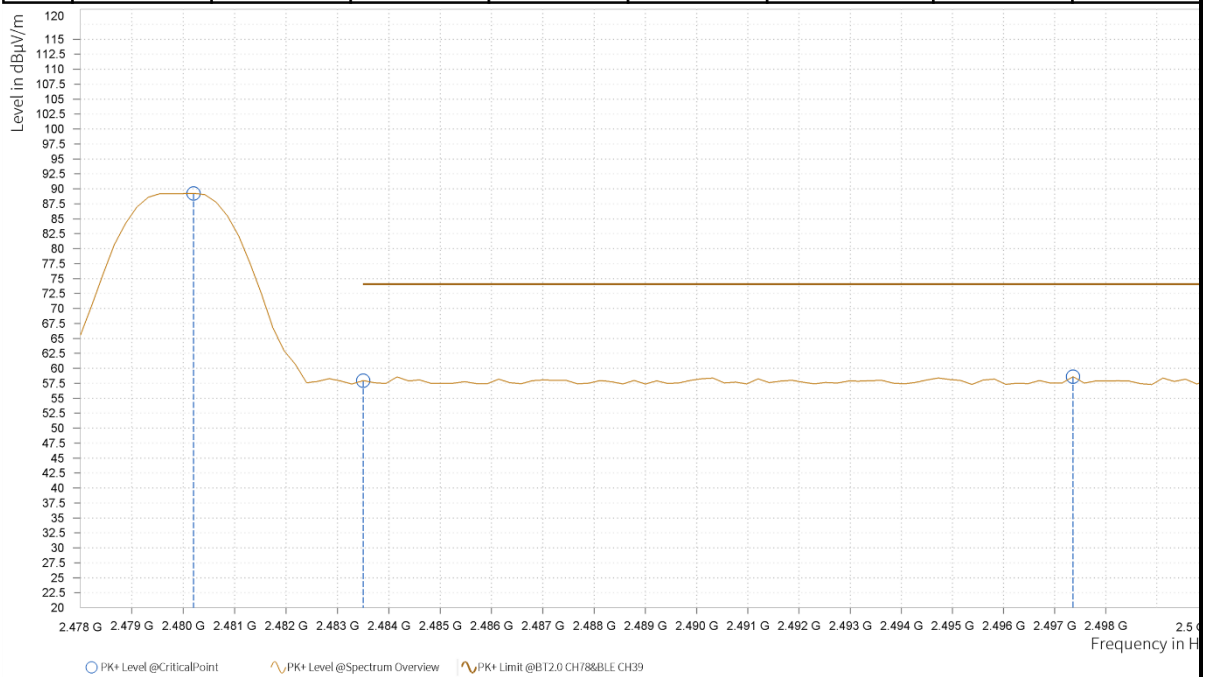
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.980	78.27			37.87	H	231.5	2.00
6	2,483.500	43.38	54.00	10.62	37.88	H	130.9	1.00
6	2,484.160	43.39	54.00	10.61	37.88	H	176.4	1.00

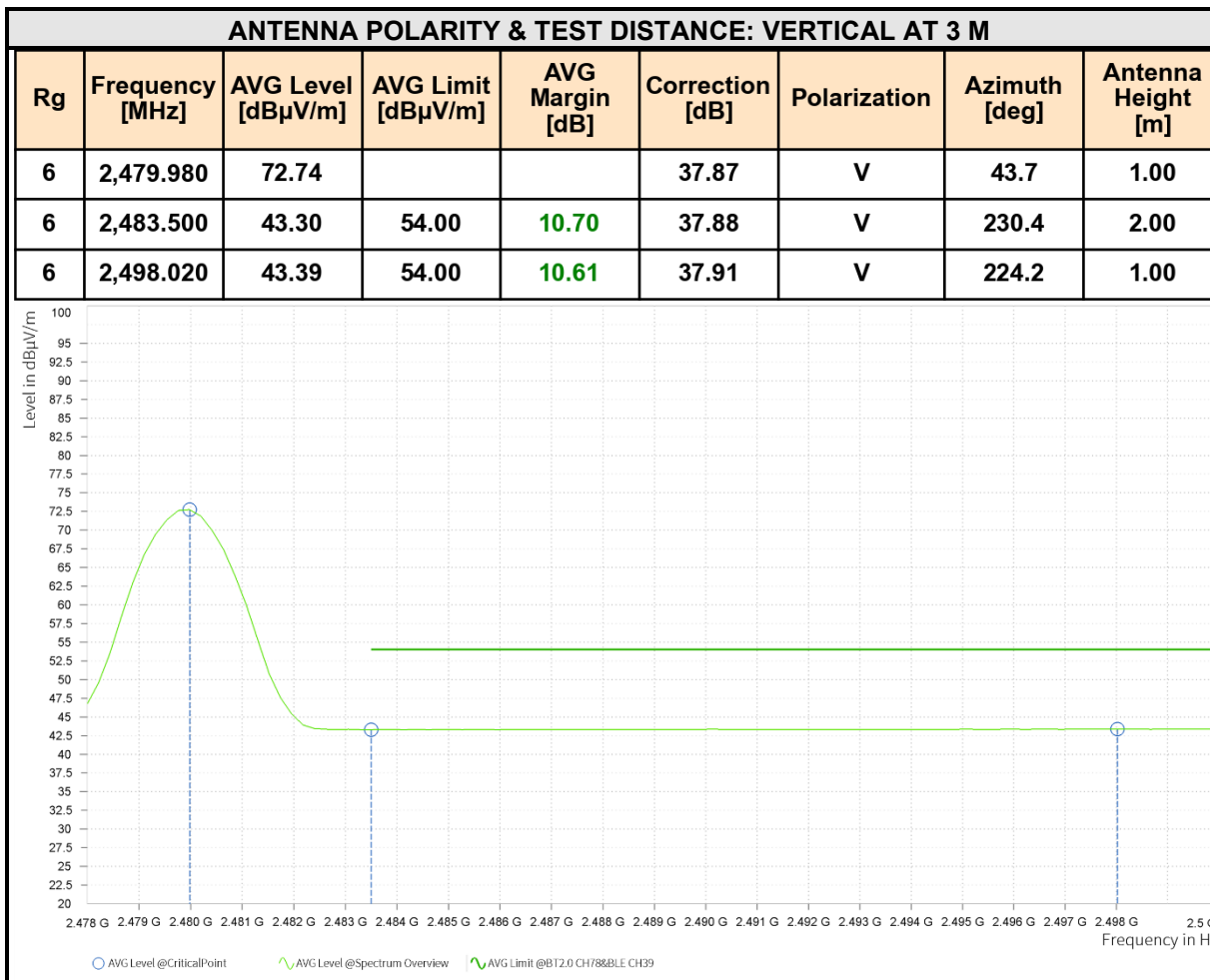




ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

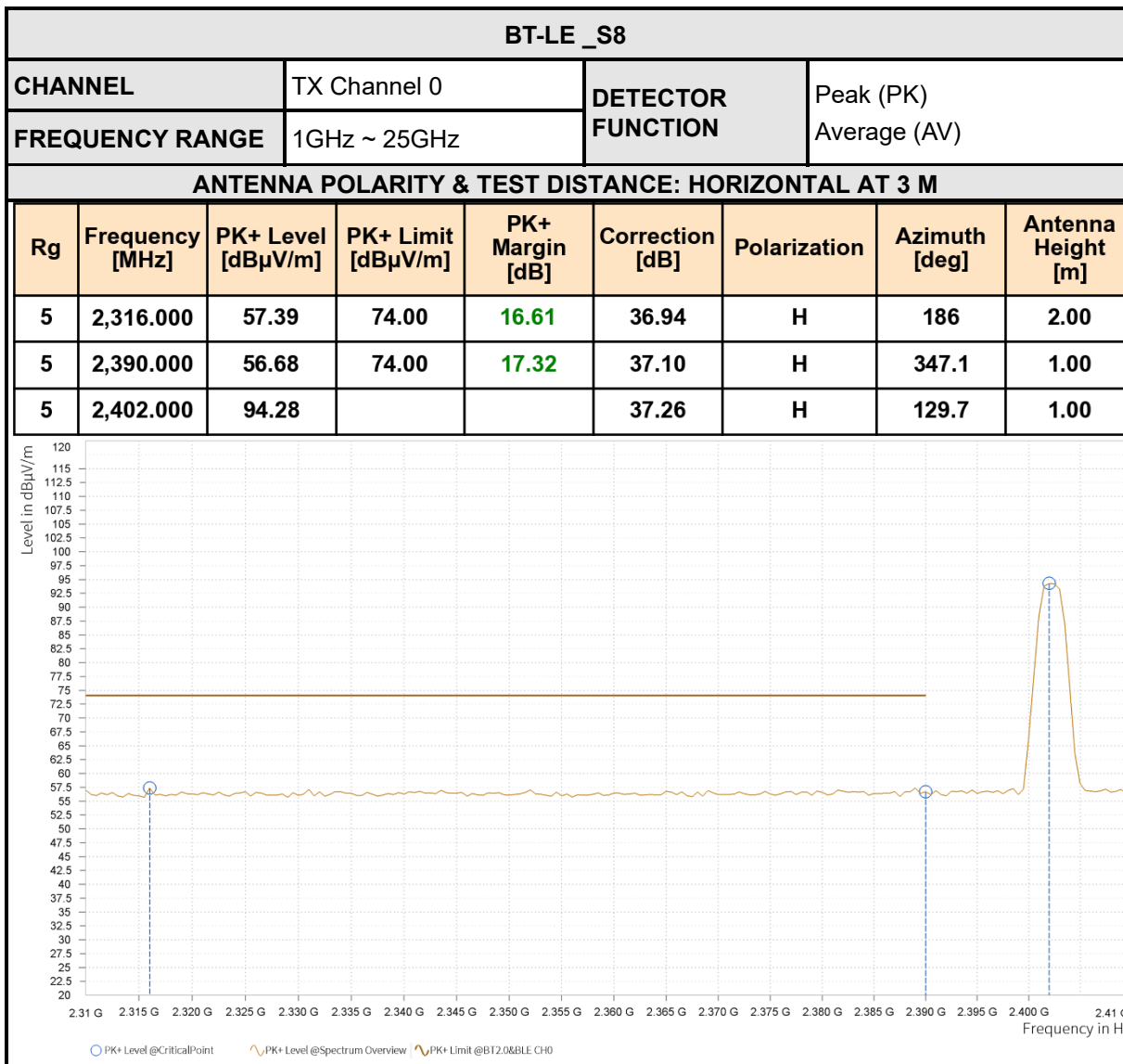
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,480.200	89.24			37.87	V	40.2	1.00
6	2,483.500	57.95	74.00	16.05	37.88	V	275.6	1.00
6	2,497.360	58.60	74.00	15.40	37.91	V	40.2	1.00





REMARKS:

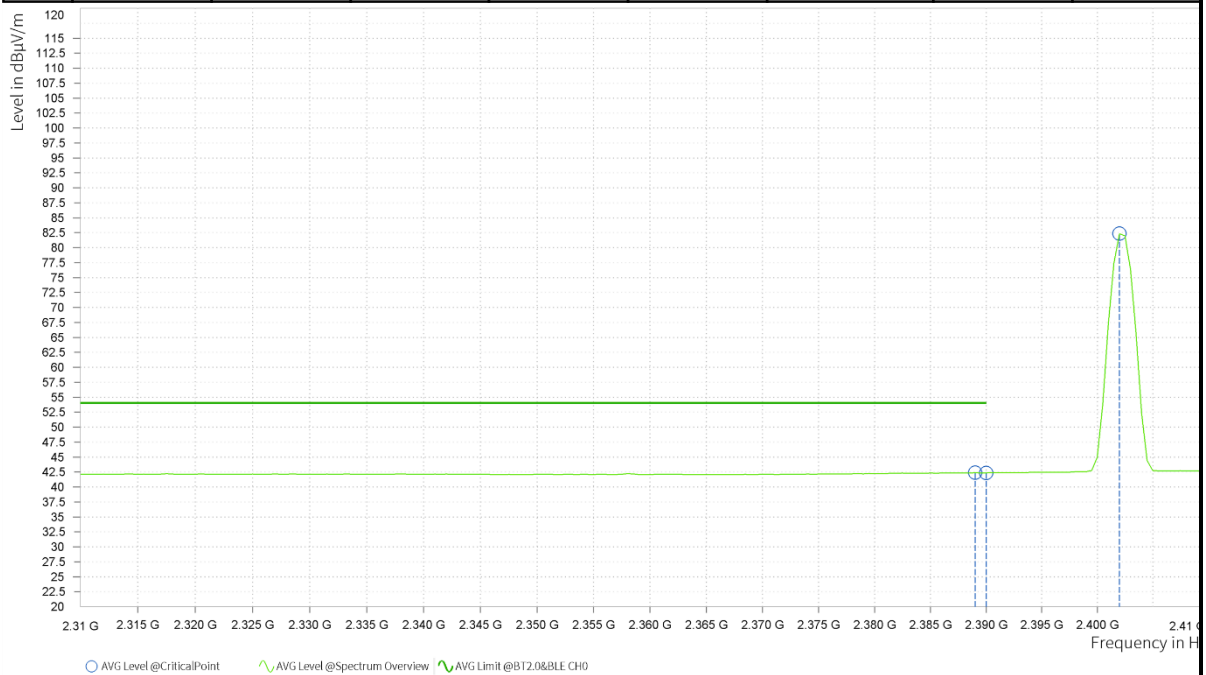
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

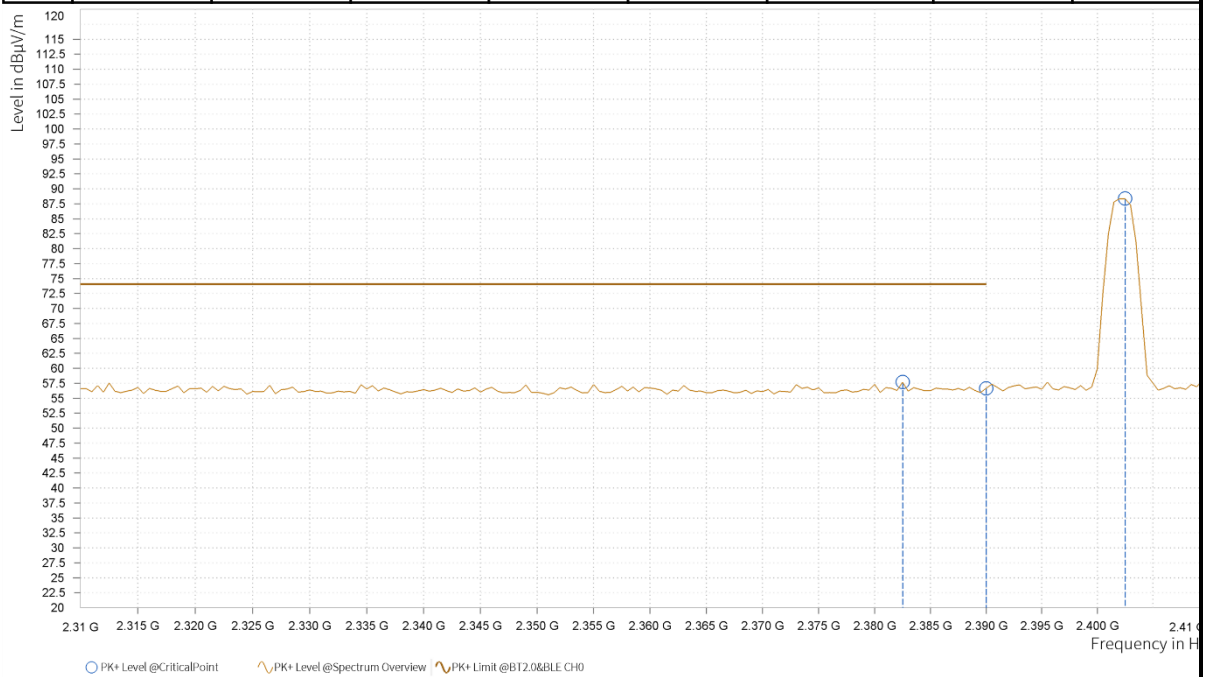
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,389.000	42.39	54.00	11.61	37.08	H	273.3	2.00
5	2,390.000	42.37	54.00	11.63	37.10	H	273.2	1.00
5	2,402.000	82.32			37.26	H	229.1	2.00

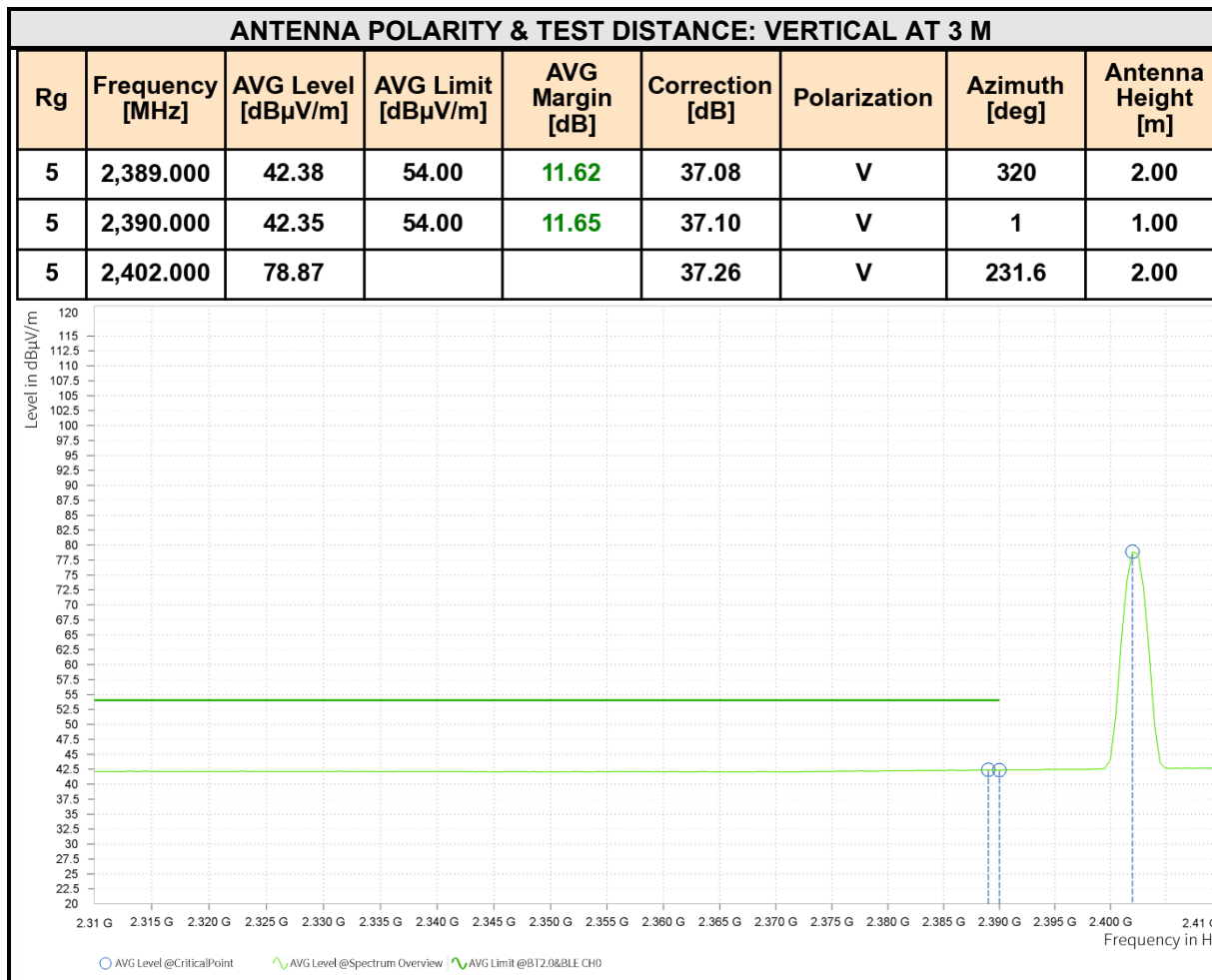




ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

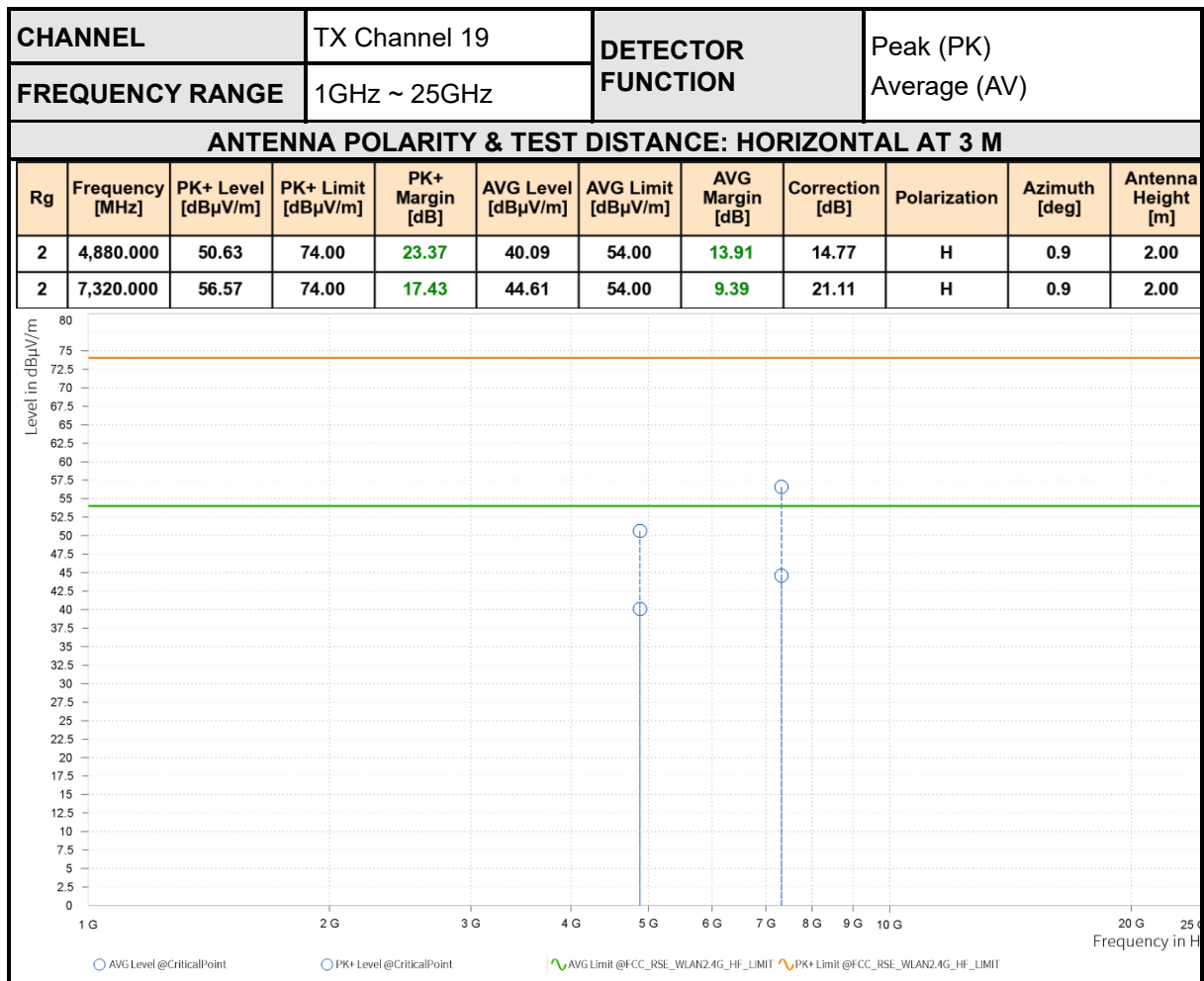
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,382.500	57.68	74.00	16.32	37.00	V	84.4	1.00
5	2,390.000	56.65	74.00	17.35	37.10	V	129.8	1.00
5	2,402.500	88.35			37.27	V	231.6	2.00





REMARKS:

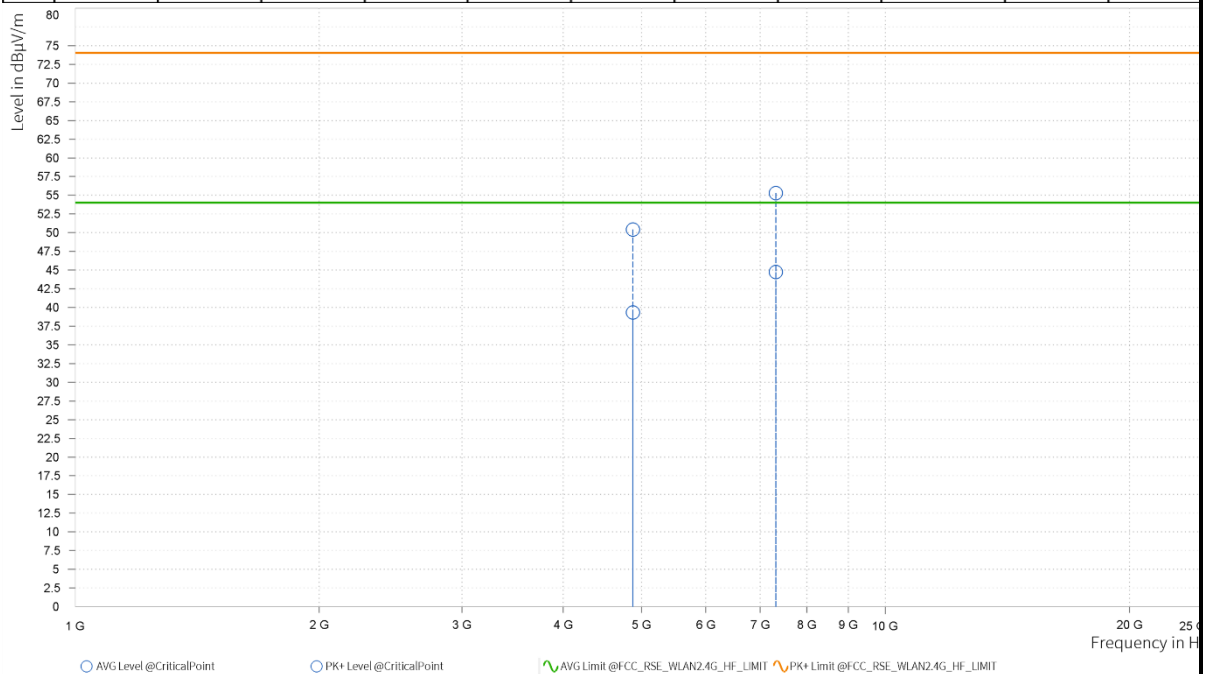
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor.
2. Margin value = Limit value–Emission level.
3. 2402MHz: Fundamental frequency.





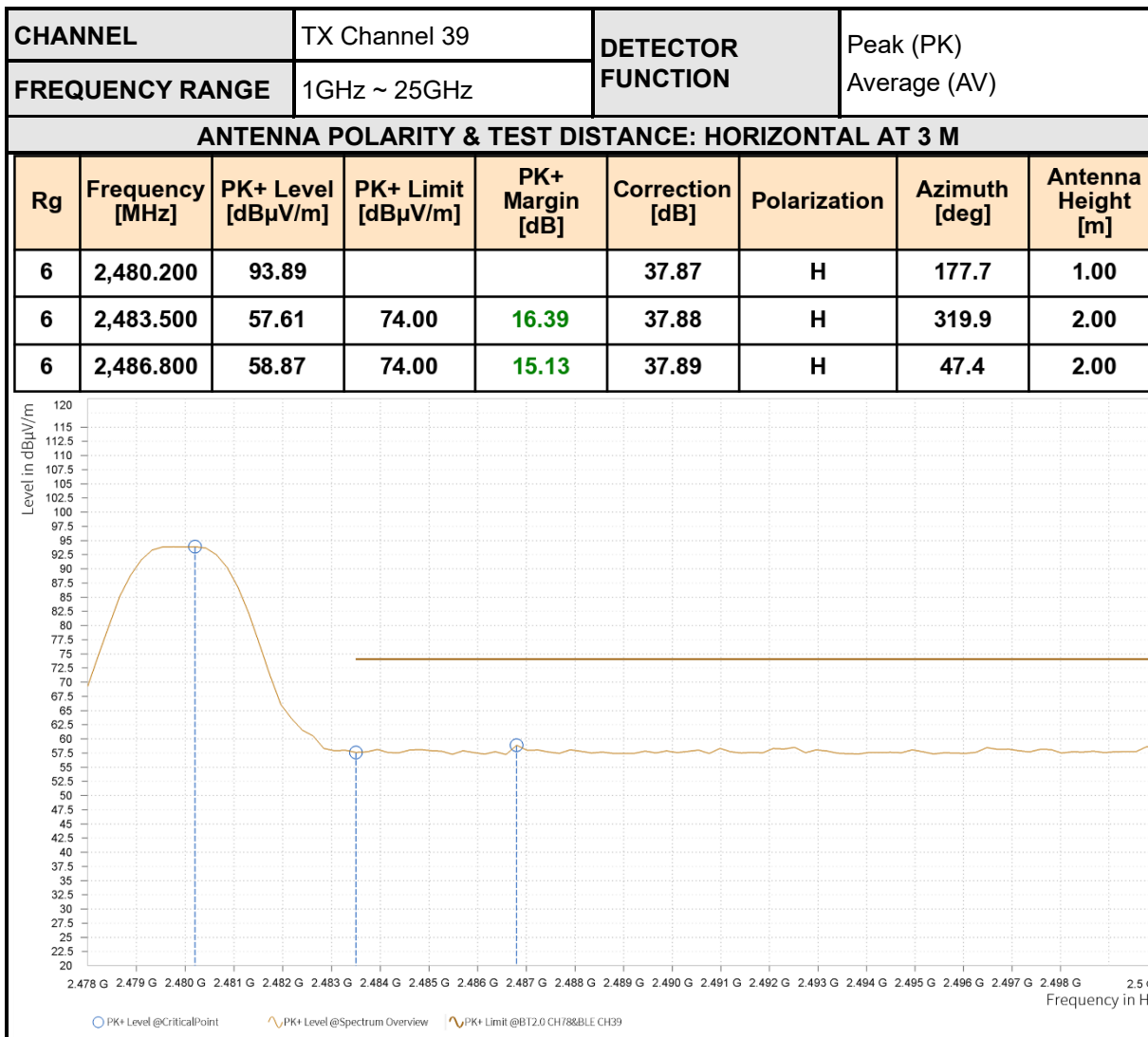
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	4,880.000	50.42	74.00	23.58	39.32	54.00	14.68	14.77	V	359	2.00
2	7,320.000	55.29	74.00	18.71	44.73	54.00	9.27	21.11	V	1	2.00



REMARKS:

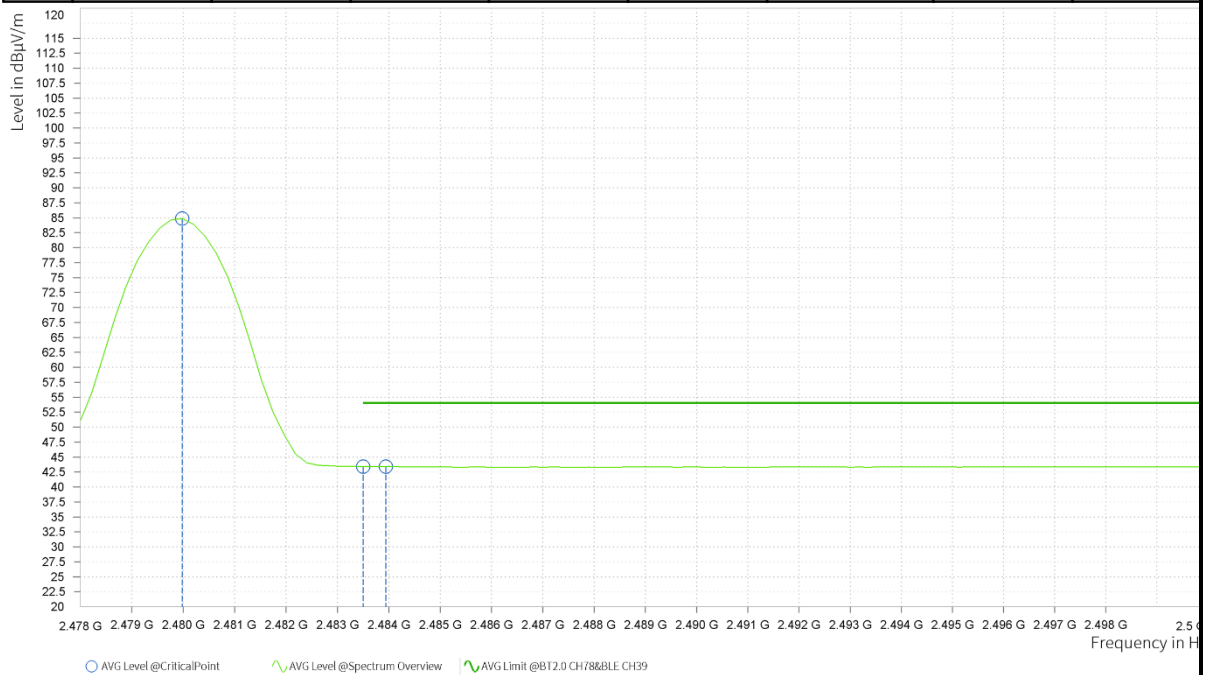
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

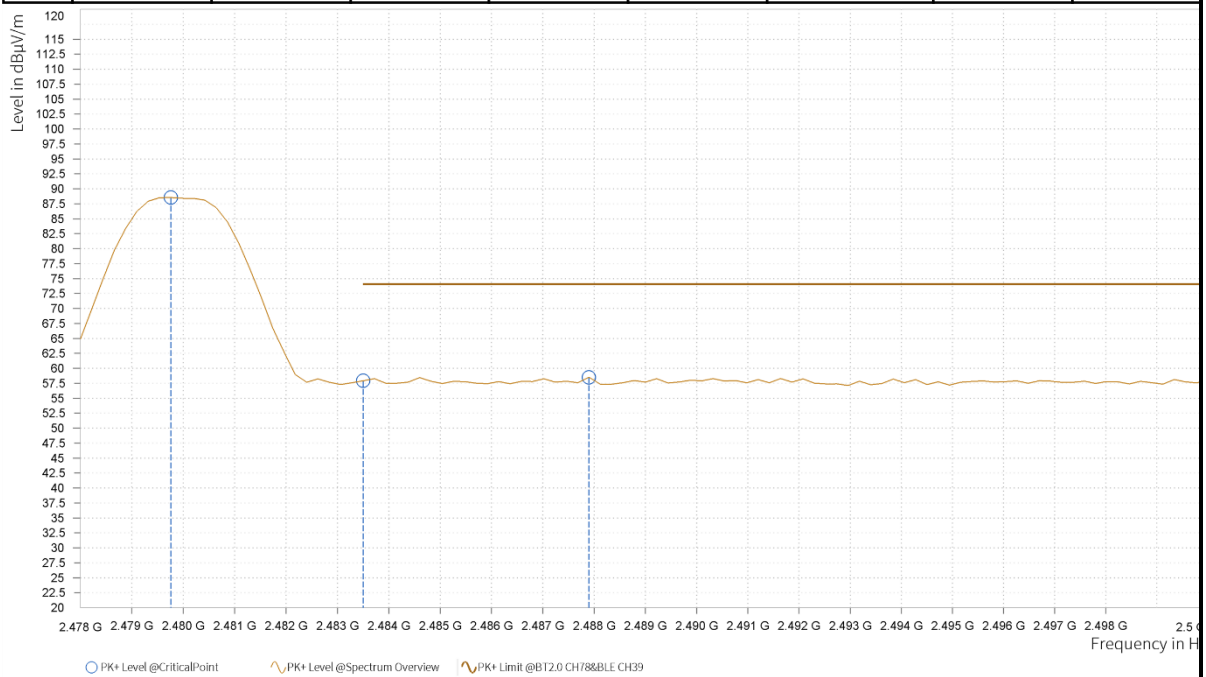
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.980	84.86			37.87	H	178.8	1.00
6	2,483.500	43.40	54.00	10.60	37.88	H	226.8	2.00
6	2,483.940	43.42	54.00	10.58	37.88	H	226.8	2.00

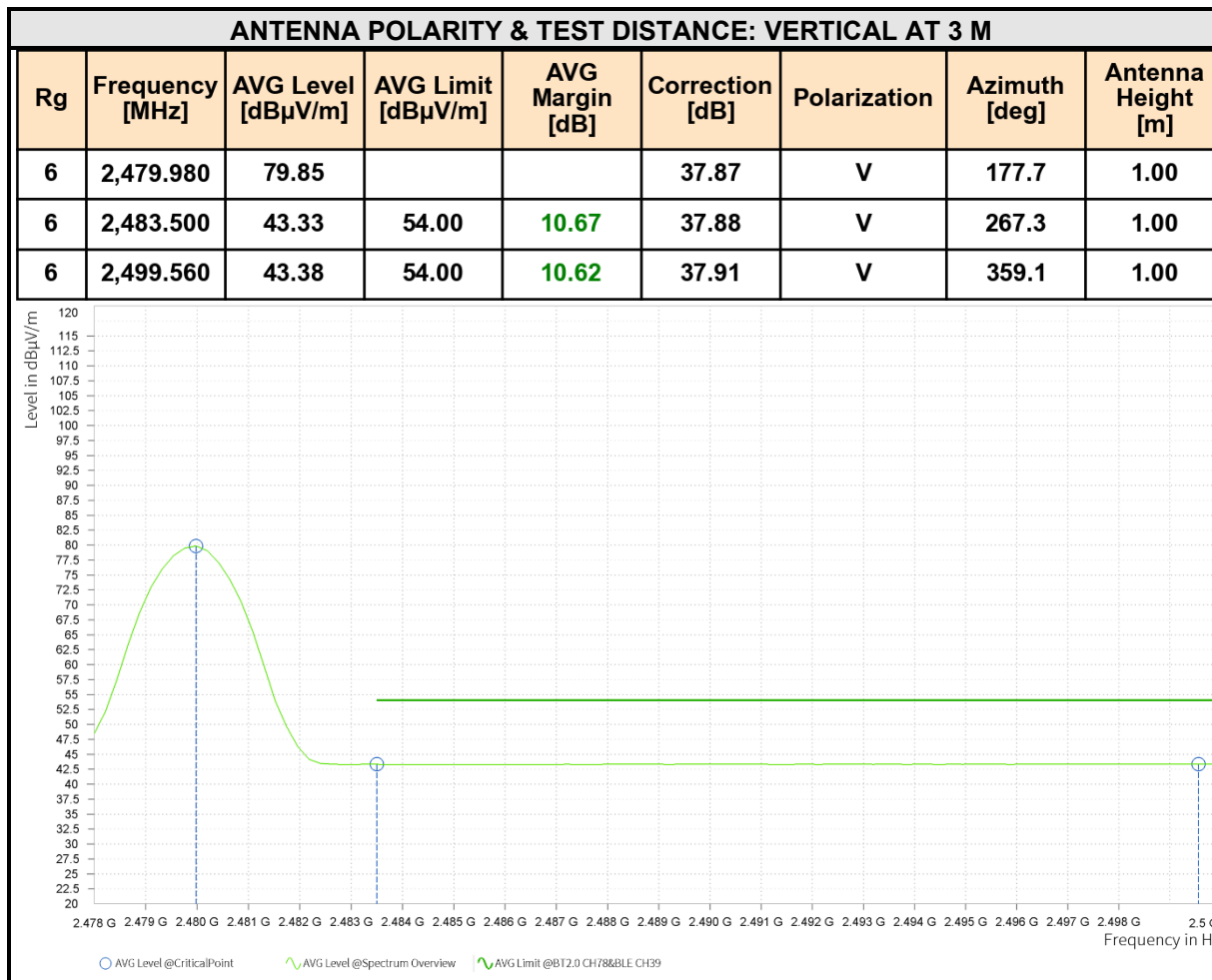




ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.760	88.54			37.87	V	180	1.00
6	2,483.500	57.91	74.00	16.09	37.88	V	5.1	1.00
6	2,487.900	58.50	74.00	15.50	37.89	V	180	1.00





REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.

**3.3 6 dB BANDWIDTH MEASUREMENT****3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT**

The minimum 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	R&S	ESW 44	101973	Feb.24,24	Feb.23,26
Open Switch and Control Unit	R&S	OSP-B157W8	100836	N/A	N/A
Vector Signal Generator	R&S	SMBV100B	102176	Feb.15,24	Feb.14,26
Signal Generator	R&S	SMB100A03	182185	Feb.15,24	Feb.14,26
Wideband Radio Communication	R&S	CMW500	169399	Jun.26,22	Jun.25,24
Hygrothermograph	DELI	20210528	SZ015	Sep.05,24	Sep.04,26
PC	LENOVO	E14	HRSW0024	N/A	N/A
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.28,23	Apr.27,24
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,24	Apr.26,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.28,23	Apr.27,24
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,24	Apr.26,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
Temperature Chamber	Votsch	VT4002	58566078100050	May.31,22	May.30,24
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26
Power Meter	R&S	NRX	102380	Feb.15,24	Feb.14,26
Power Meter probe	R&S	NRP6A	102942	Feb.15,24	Feb.14,26

NOTE:

1. The calibration interval of the above test instruments is 12/ 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.



3.3.3 TEST PROCEDURE

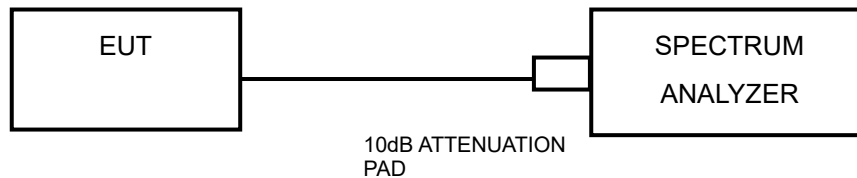
1. Set RBW = shall be in the range of 1% to 5% of the 0BW but not less than 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.3.7 TEST RESULTS

Please Refer to Appendix A Of this test report..

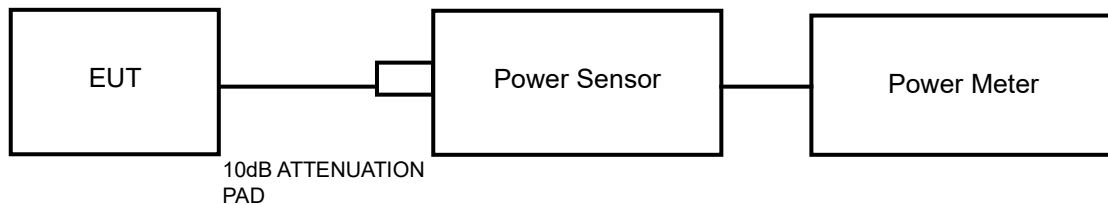


3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix A Of this test report..



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3.4.7.2 AVERAGE OUTPUT POWER (FOR REFERENCE)

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

Please Refer to Appendix A Of this test report..

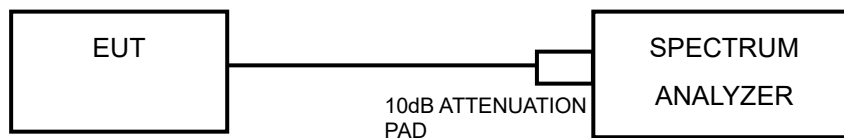


3.5 POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.5.4 TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 3 kHz, VBW $\geq 3 \times$ RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



Please Refer to Appendix A Of this test report..

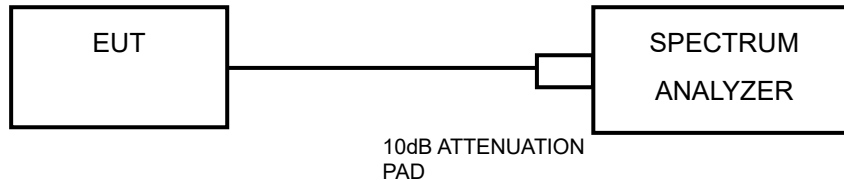


3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

3.6.2 TEST SETUP



3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.



MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

3.6.5 DEVIATION FROM TEST STANDARD

No deviation.

3.6.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.6.7 TEST RESULTS

The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

Please Refer to Appendix A Of this test report..



3.7 ANTENNA REQUIREMENTS

3.7.1 STANDARD APPLICABLE

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 ANTENNA CONNECTED CONSTRUCTION

An embedded-in antenna design is used.

3.7.3 ANTENNA GAIN

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit and PSD limit.



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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



6 APPENDIX A:BLE

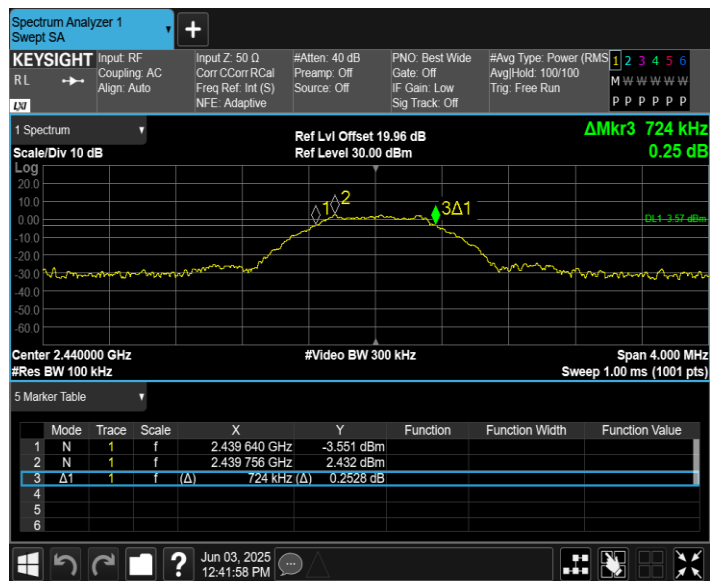
DTS BANDWIDTH

TEST RESULT

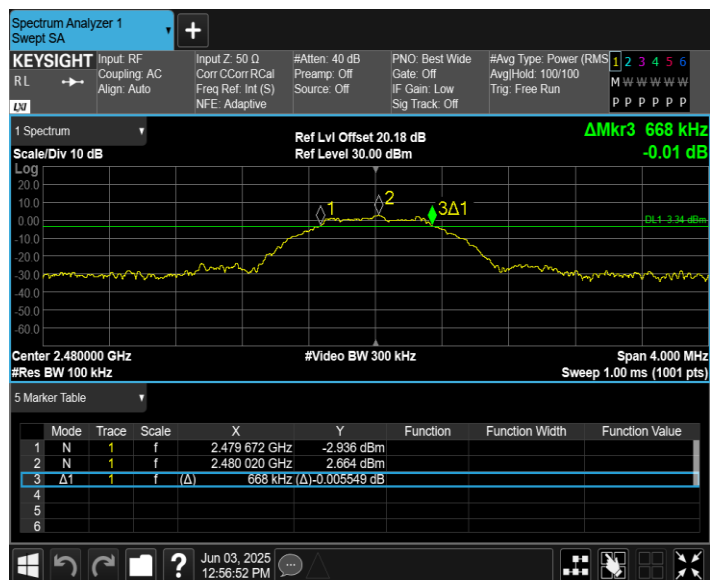
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.744	2401.628	2402.372	0.5	PASS
		2440	0.724	2439.640	2440.364	0.5	PASS
		2480	0.668	2479.672	2480.340	0.5	PASS
BLE_2M	Ant1	2404	1.068	2403.488	2404.556	0.5	PASS
		2440	1.120	2439.444	2440.564	0.5	PASS
		2478	1.088	2477.448	2478.536	0.5	PASS
BLE_125K	Ant1	2402	0.664	2401.672	2402.336	0.5	PASS
		2440	0.704	2439.652	2440.356	0.5	PASS
		2480	0.720	2479.644	2480.364	0.5	PASS
BLE_500K	Ant1	2402	0.676	2401.668	2402.344	0.5	PASS
		2440	0.688	2439.668	2440.356	0.5	PASS
		2480	0.672	2479.668	2480.340	0.5	PASS

TEST GRAPHS

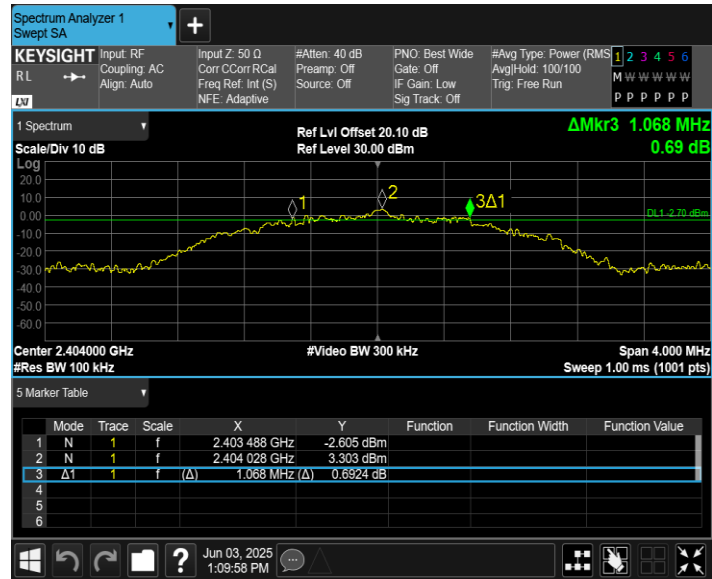




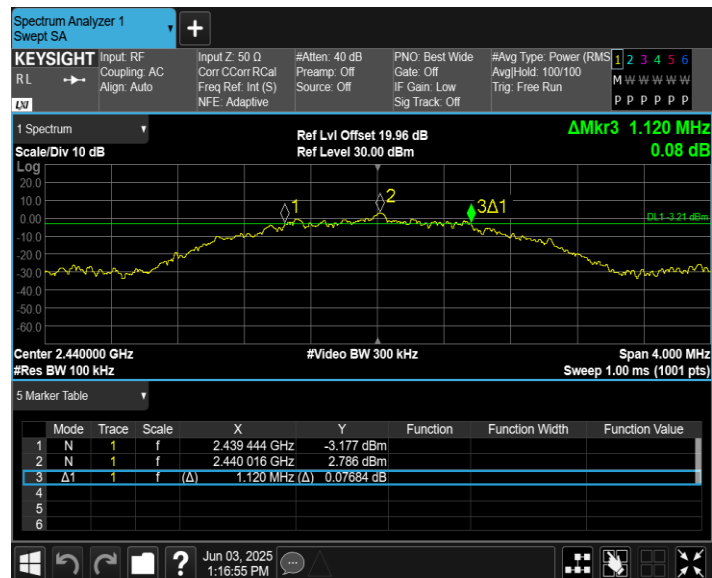
BLE_1M_Ant1_2480



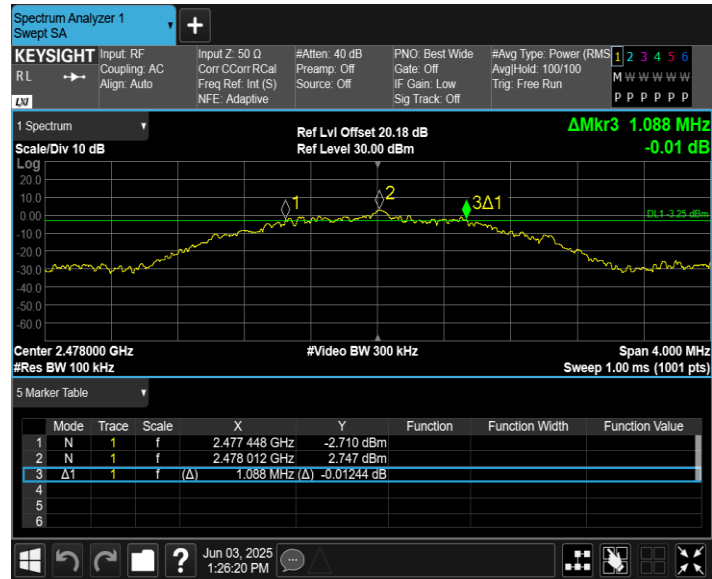
BLE_2M_Ant1_2404



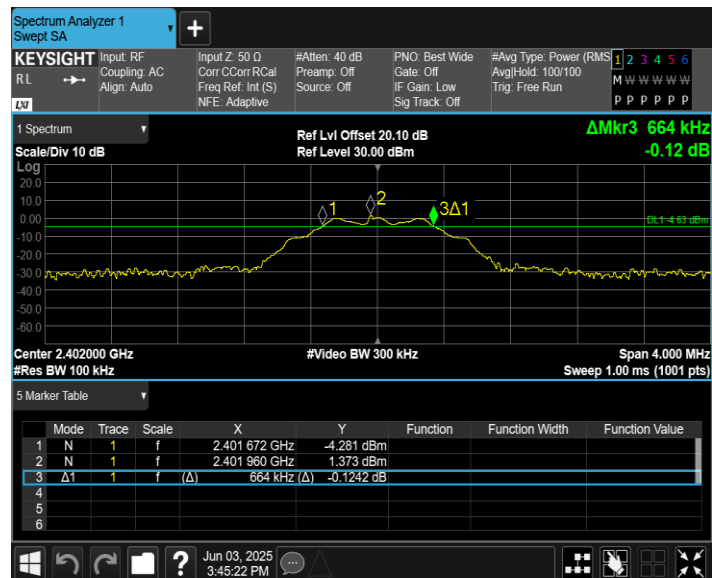
BLE_2M_Ant1_2440



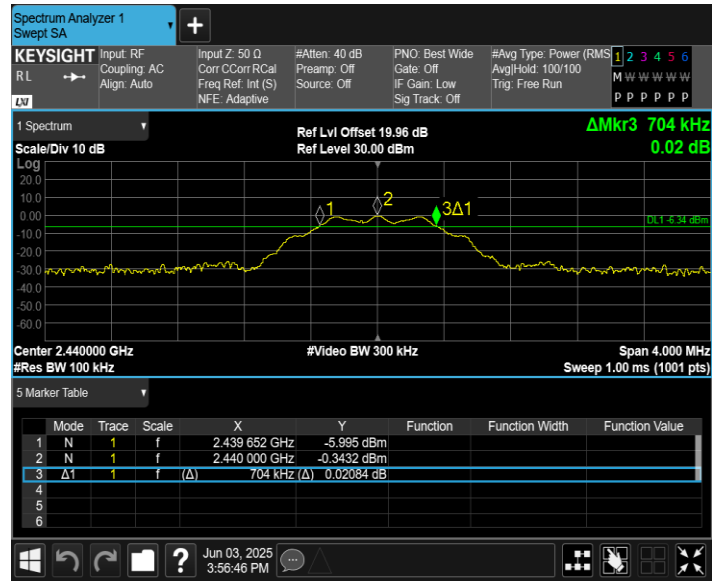
BLE_2M_Ant1_2478



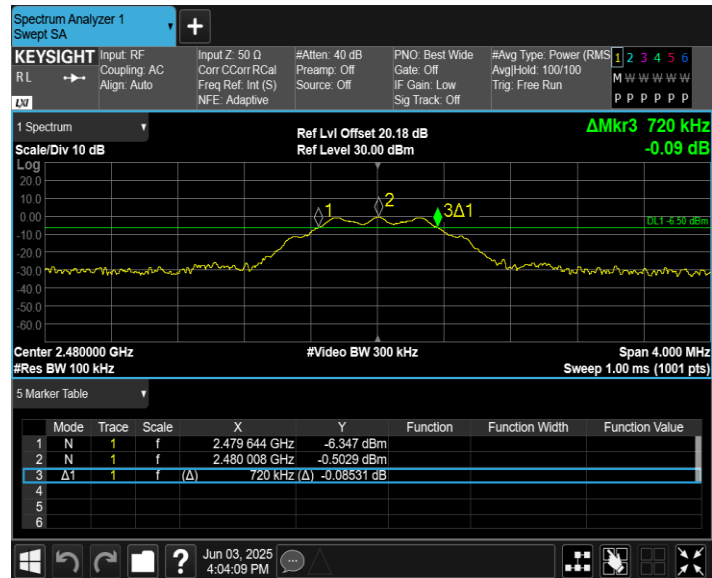
BLE_125K_Ant1_2402



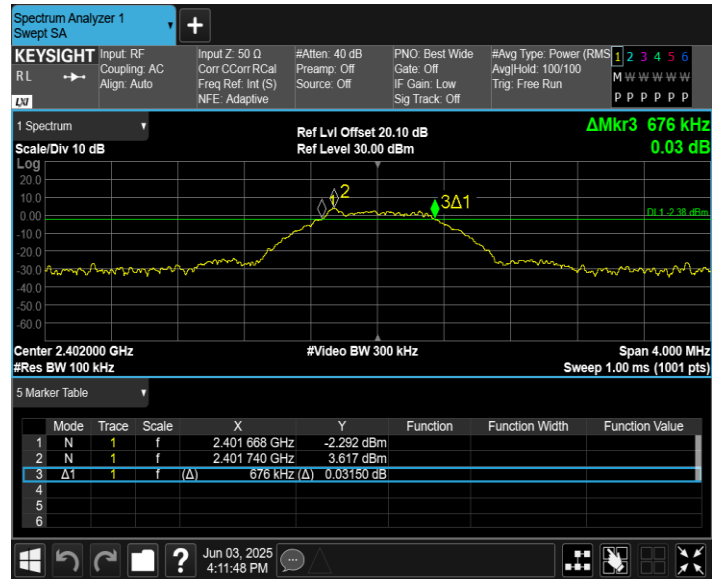
BLE_125K_Ant1_2440



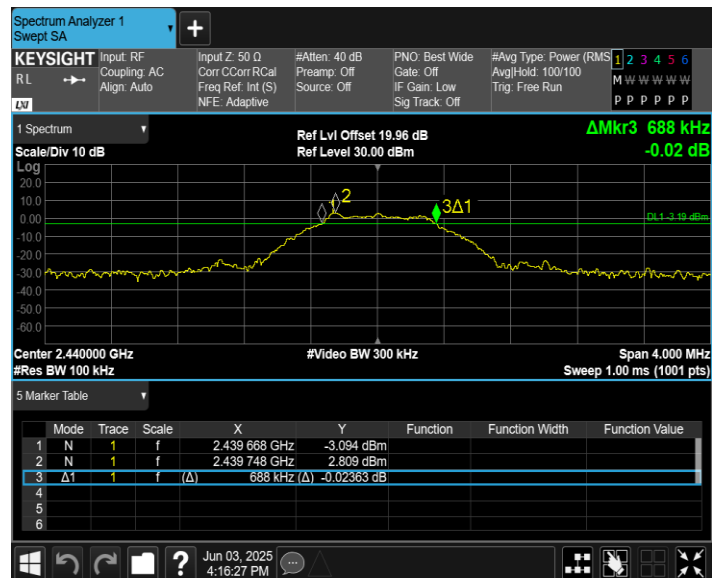
BLE_125K_Ant1_2480



BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



BLE_500K_Ant1_2480



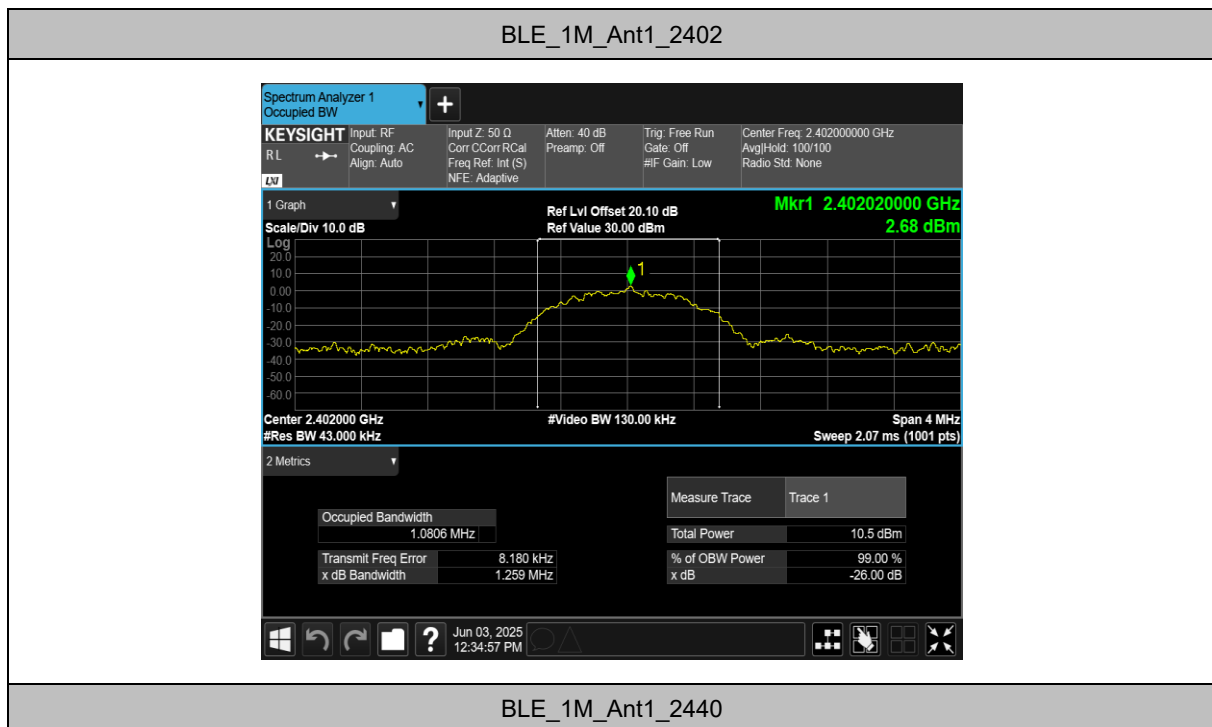


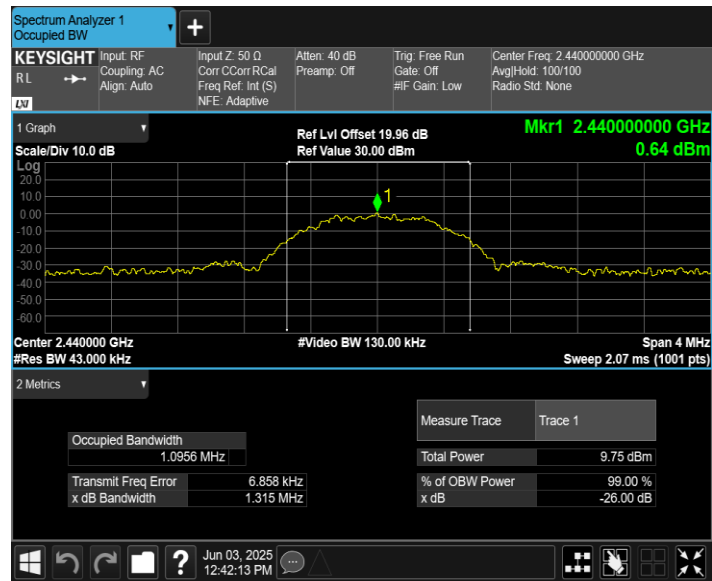
OCCUPIED CHANNEL BANDWIDTH

TEST RESULT

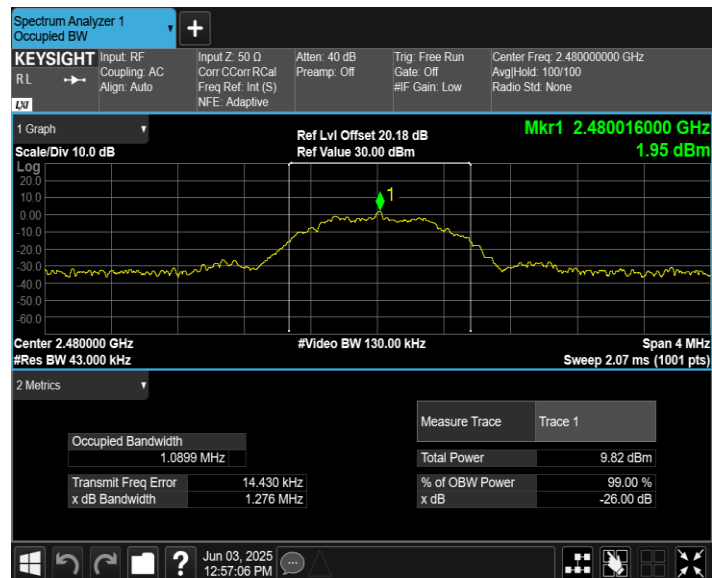
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0806	2401.4679	2402.5485	---	---
		2440	1.0956	2439.4591	2440.5547	---	---
		2480	1.0899	2479.4695	2480.5594	---	---
BLE_2M	Ant1	2404	2.0870	2402.9770	2405.0640	---	---
		2440	2.1137	2438.9562	2441.0699	---	---
		2478	2.0947	2476.9704	2479.0651	---	---
BLE_125K	Ant1	2402	1.1275	2401.4416	2402.5691	---	---
		2440	1.1443	2439.4268	2440.5711	---	---
		2480	1.1681	2479.4175	2480.5856	---	---
BLE_500K	Ant1	2402	1.0657	2401.4648	2402.5305	---	---
		2440	1.0691	2439.4679	2440.5370	---	---
		2480	1.0824	2479.4632	2480.5456	---	---

TEST GRAPHS

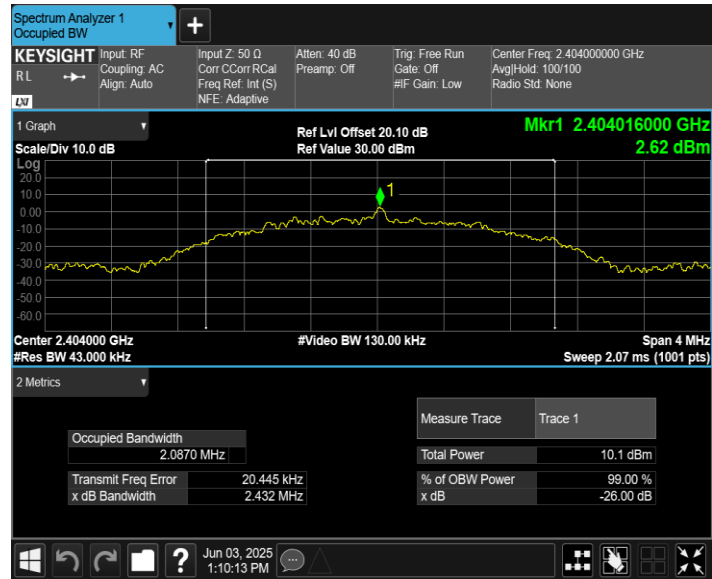




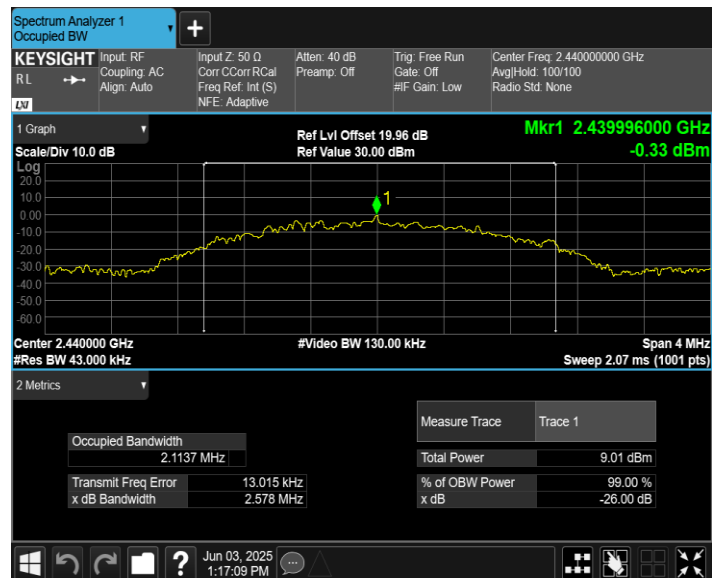
BLE_1M_Ant1_2480



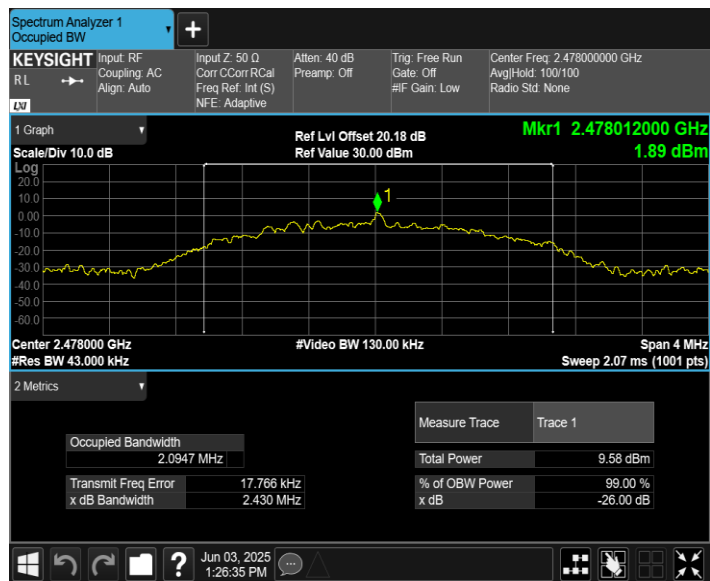
BLE_2M_Ant1_2404



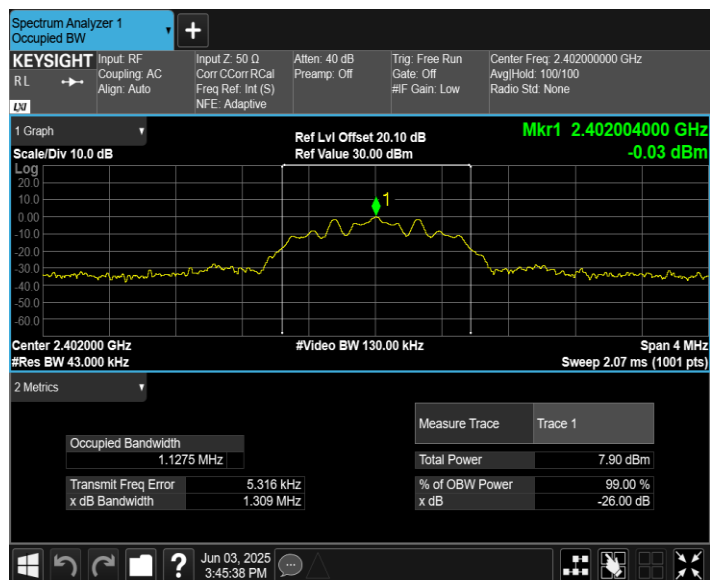
BLE_2M_Ant1_2440



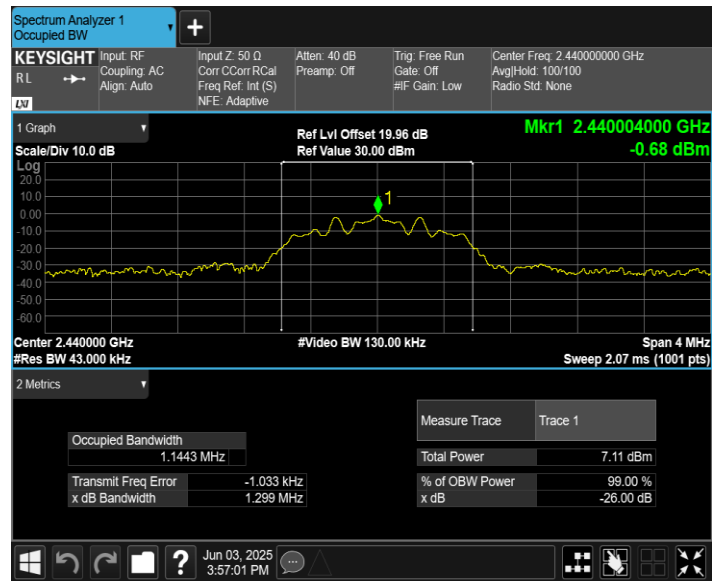
BLE_2M_Ant1_2478



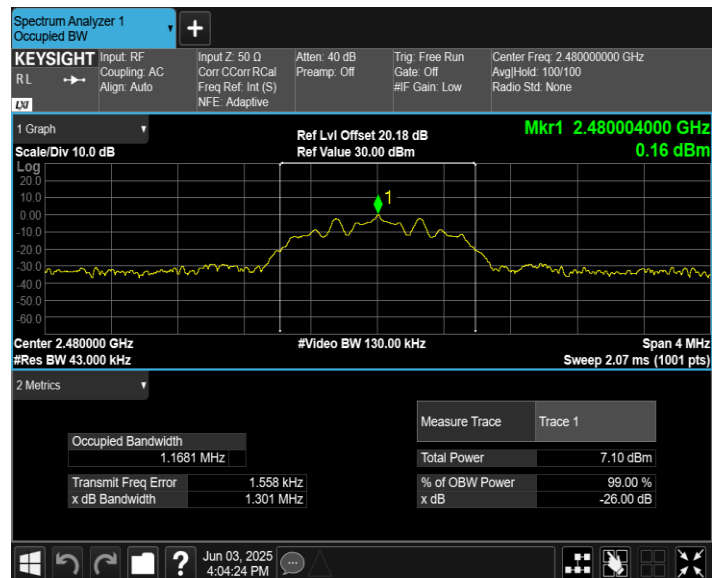
BLE_125K_Ant1_2402



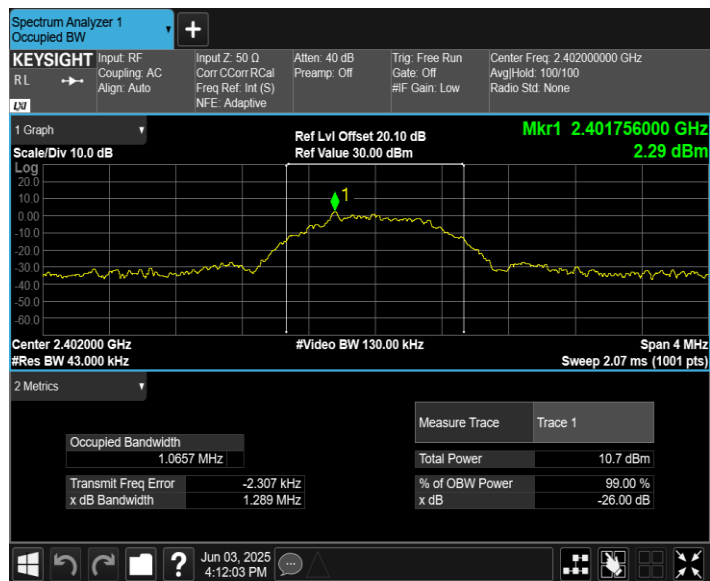
BLE_125K_Ant1_2440



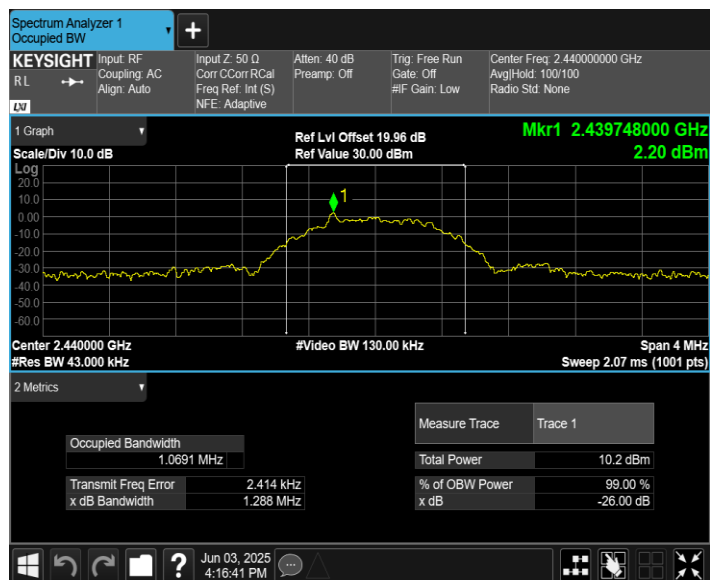
BLE_125K_Ant1_2480



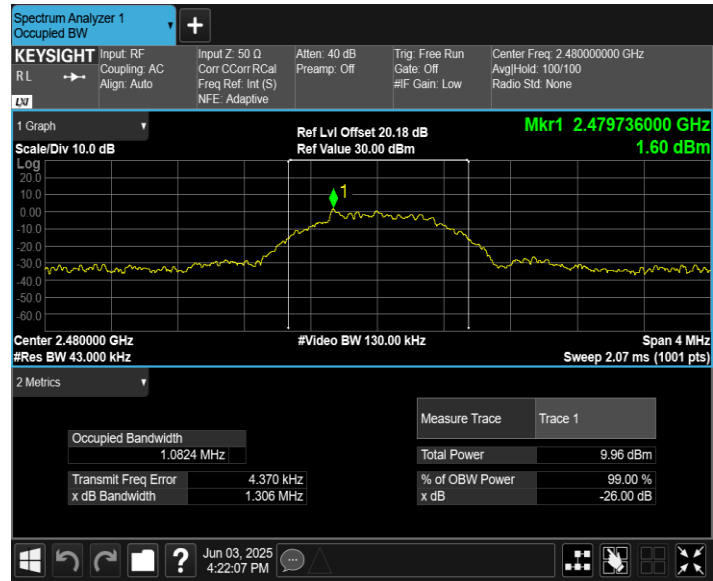
BLE_500K_Ant1_2402



BLE_500K_Ant1_2440



BLE_500K_Ant1_2480





MAXIMUM CONDUCTED OUTPUT POWER

TEST RESULT PEAK

TestMode	Antenna	Channel	Average power [dBm]	Peak power [dBm]	Peak power [mw]	Conducted Limit [dBm]	EIRP [dBm]	EIRP [mw]	EIRP Limit [dBm]	Verdict	Power Setting
BLE_1M	Ant1	2402	-2.59	4.49	2.81	≤30	4.69	2.94	≤36	PASS	6
		2440	-2.96	3.95	2.48	≤30	4.15	2.60	≤36	PASS	6
		2480	-3.48	3.94	2.48	≤30	4.14	2.59	≤36	PASS	6
BLE_2M	Ant1	2404	-1.95	4.61	2.89	≤30	4.81	3.03	≤36	PASS	6
		2440	-2.31	3.88	2.44	≤30	4.08	2.56	≤36	PASS	6
		2478	-2.81	3.90	2.45	≤30	4.10	2.57	≤36	PASS	6
BLE_125k	Ant1	2402	2.04	4.73	2.97	≤30	4.93	3.11	≤36	PASS	6
		2440	1.55	4.01	2.52	≤30	4.21	2.64	≤36	PASS	6
		2480	1.04	4.00	2.51	≤30	4.20	2.63	≤36	PASS	6
BLE_500K	Ant1	2402	0.51	4.72	2.96	≤30	4.92	3.10	≤36	PASS	6
		2440	0.15	3.90	2.45	≤30	4.10	2.57	≤36	PASS	6
		2480	-0.38	3.99	2.51	≤30	4.19	2.62	≤36	PASS	6

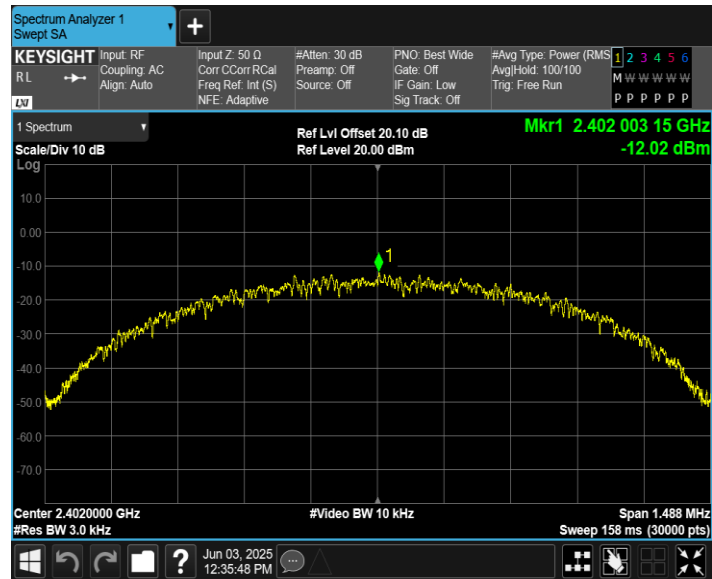
Note: EIRP=Peak Power+Gain

**MAXIMUM POWER SPECTRAL DENSITY****TEST RESULT**

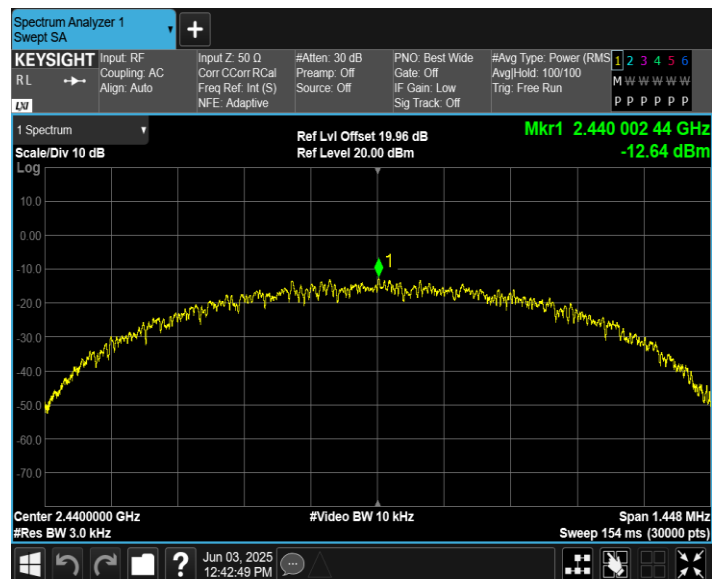
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-12.02	≤8.00	PASS
		2440	-12.64	≤8.00	PASS
		2480	-12.85	≤8.00	PASS
BLE_2M	Ant1	2404	-13.65	≤8.00	PASS
		2440	-14.31	≤8.00	PASS
		2478	-14.47	≤8.00	PASS
BLE_125K	Ant1	2402	-2.44	≤8.00	PASS
		2440	-3.15	≤8.00	PASS
		2480	-3.25	≤8.00	PASS
BLE_500K	Ant1	2402	-2.58	≤8.00	PASS
		2440	-3.29	≤8.00	PASS
		2480	-3.37	≤8.00	PASS



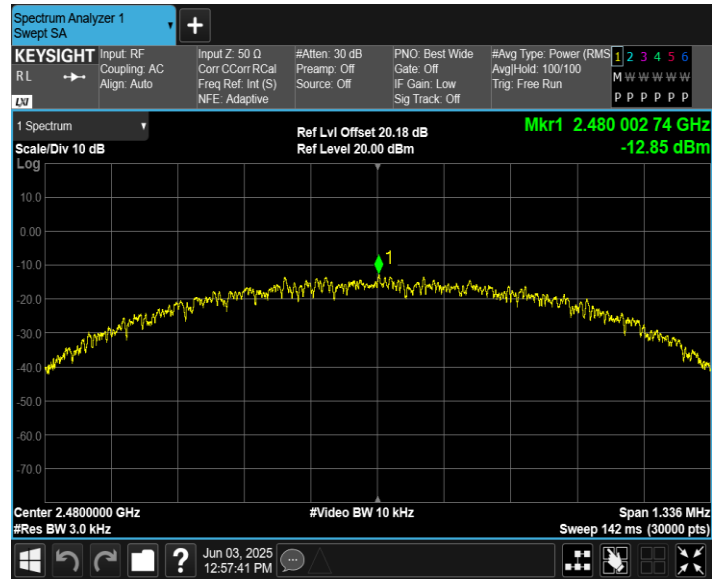
BLE_1M_Ant1_2402



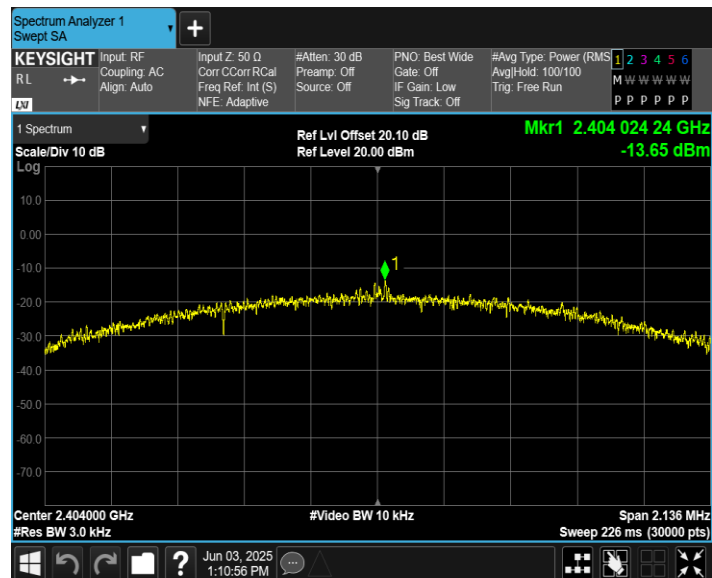
BLE_1M_Ant1_2440



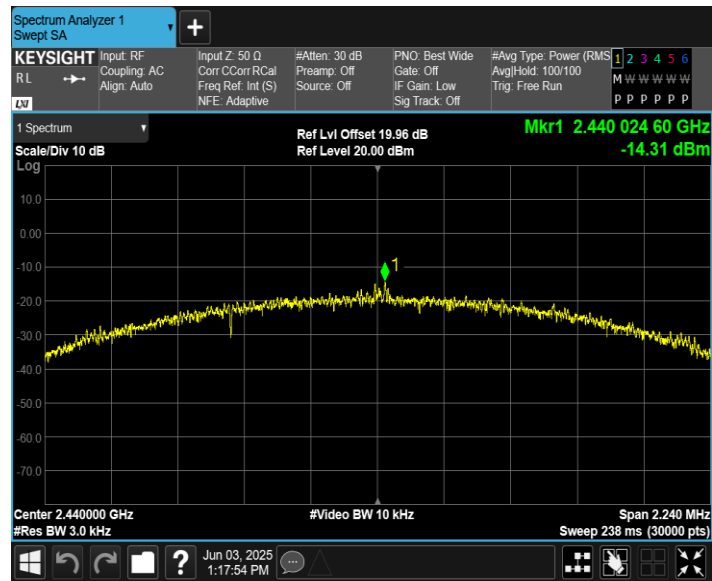
BLE_1M_Ant1_2480



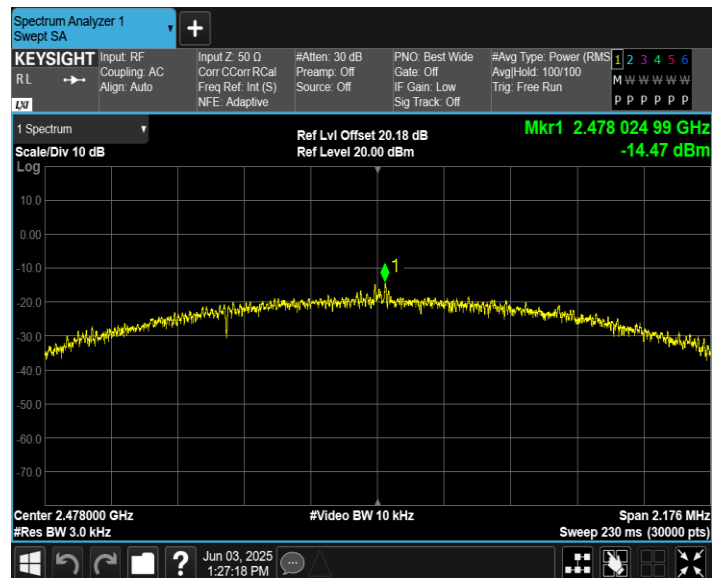
BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



BLE_2M_Ant1_2478



BLE_125K_Ant1_2402