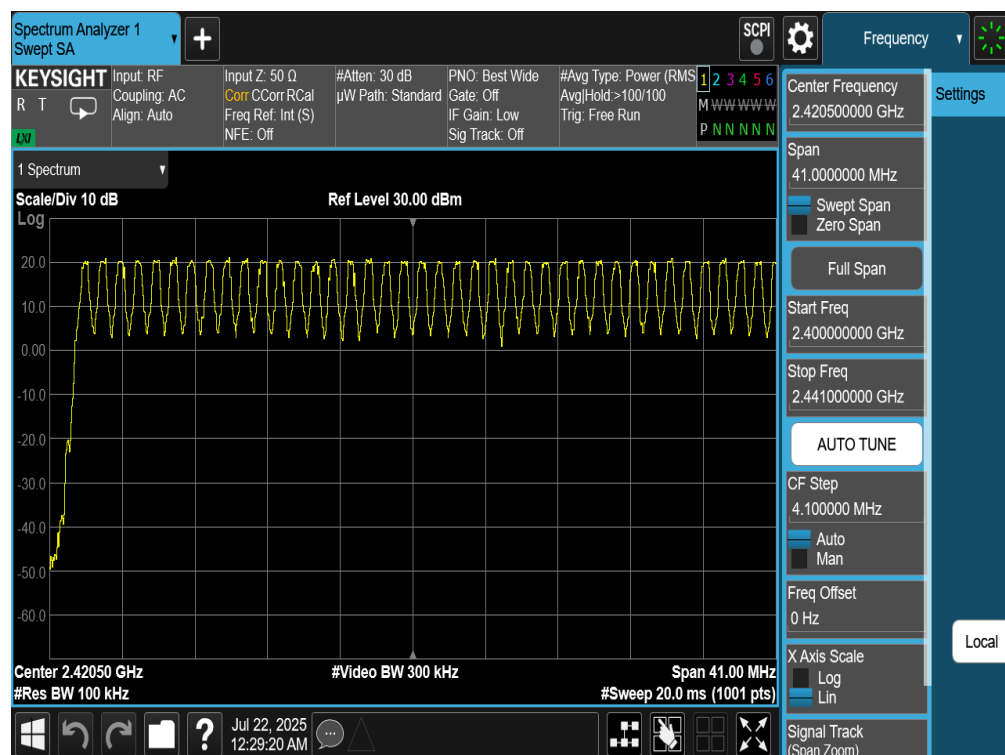
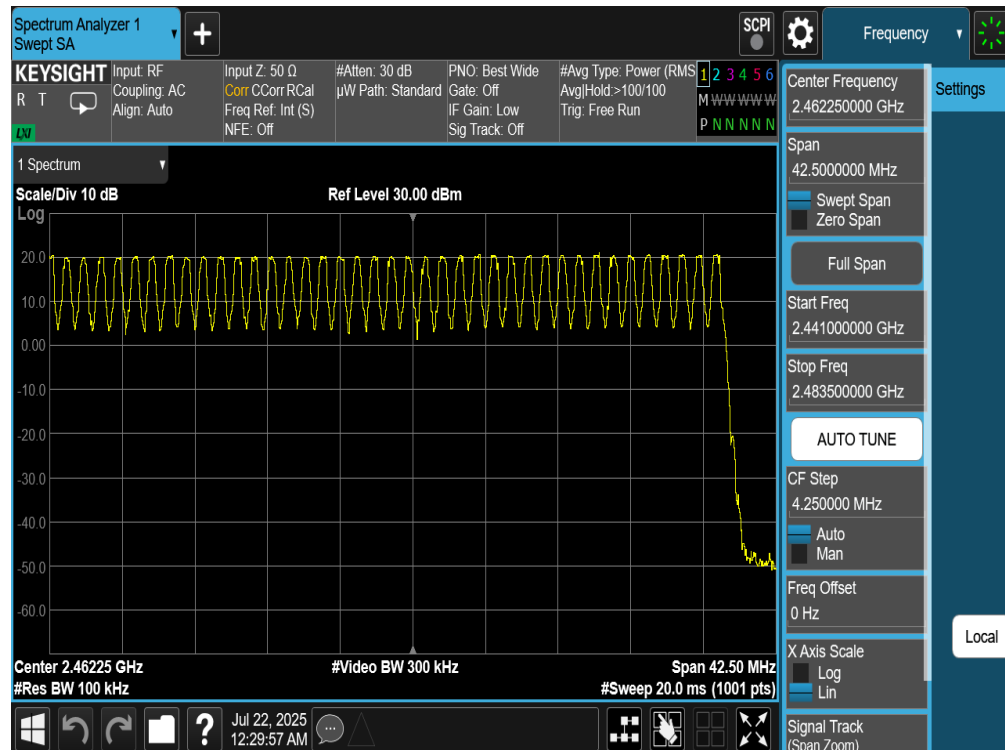


Ant1



Plot 7-55. Low End Spectrum Channel Hopping Plot Ant1 (Bluetooth, GFSK, ePA)

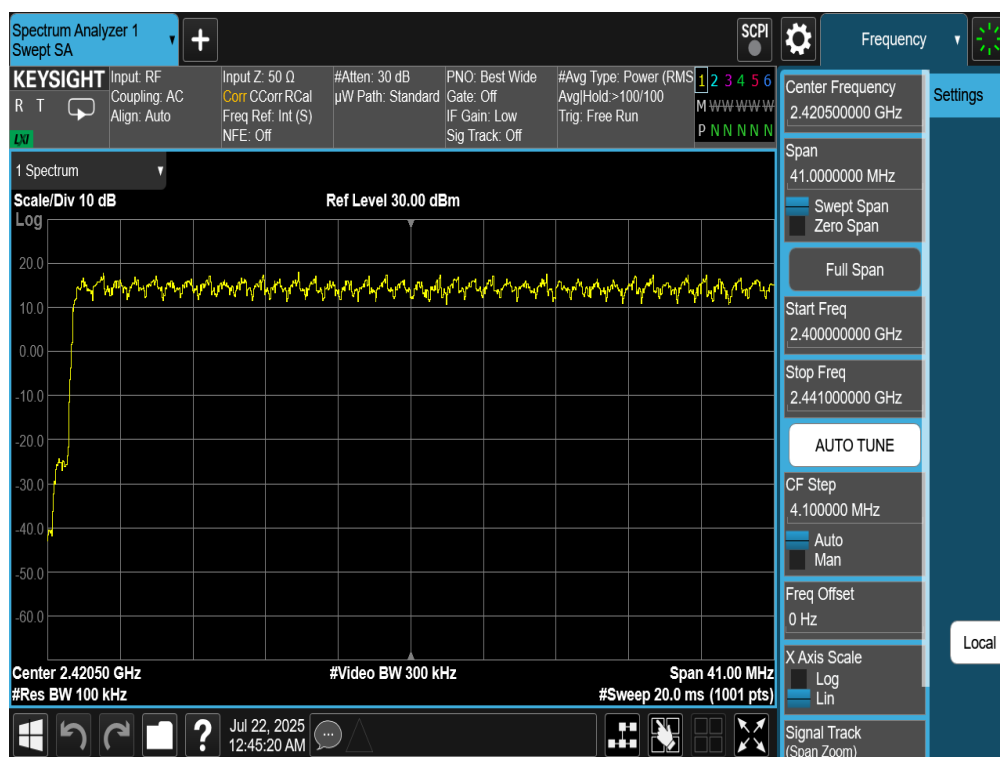


Plot 7-56. High End Spectrum Channel Hopping Plot Ant1 (Bluetooth, GFSK, ePA)

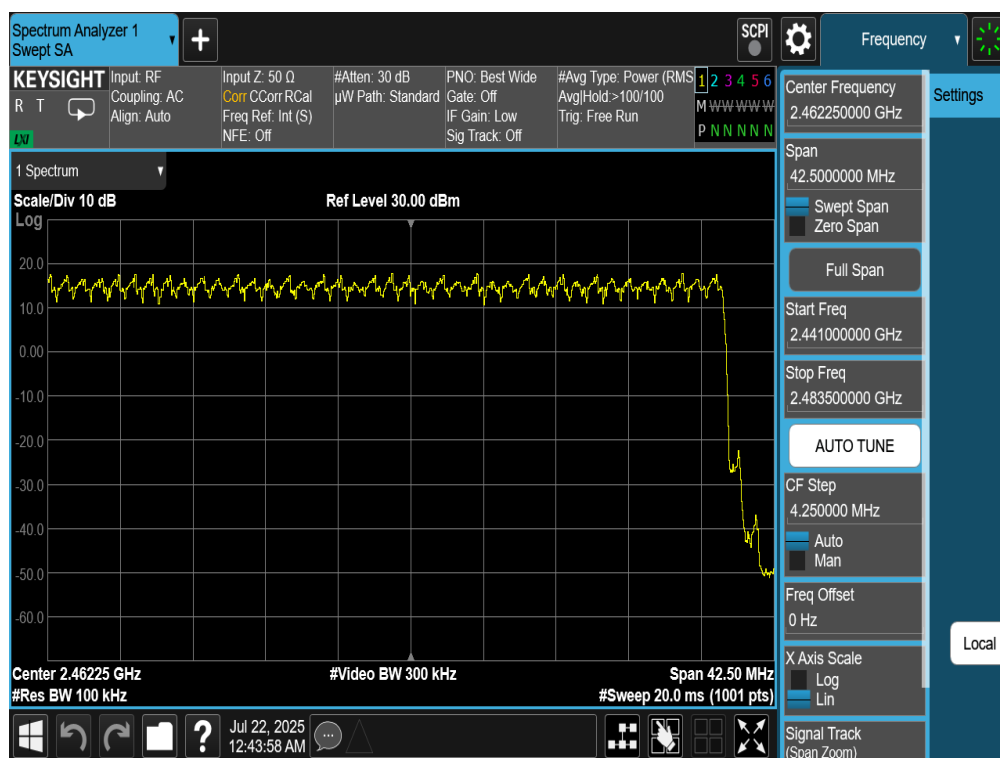
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-57. Low End Spectrum Channel Hopping Plot Ant1 (Bluetooth, 8DPSK, ePA)



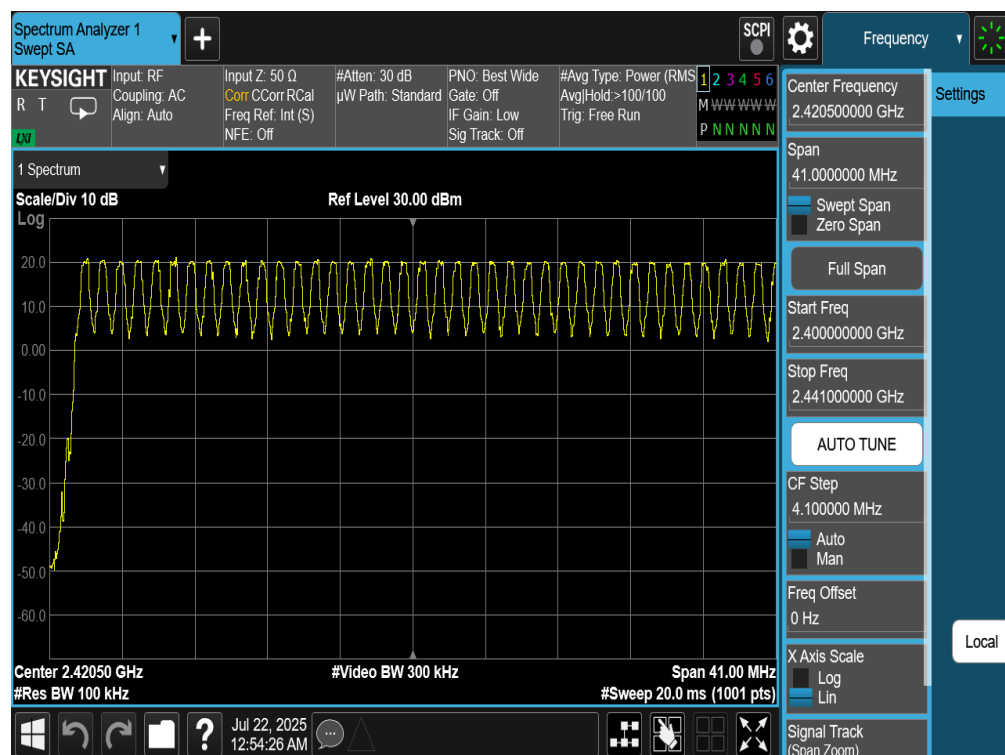
Plot 7-58. High End Spectrum Channel Hopping Plot Ant1 (Bluetooth, 8DPSK, ePA)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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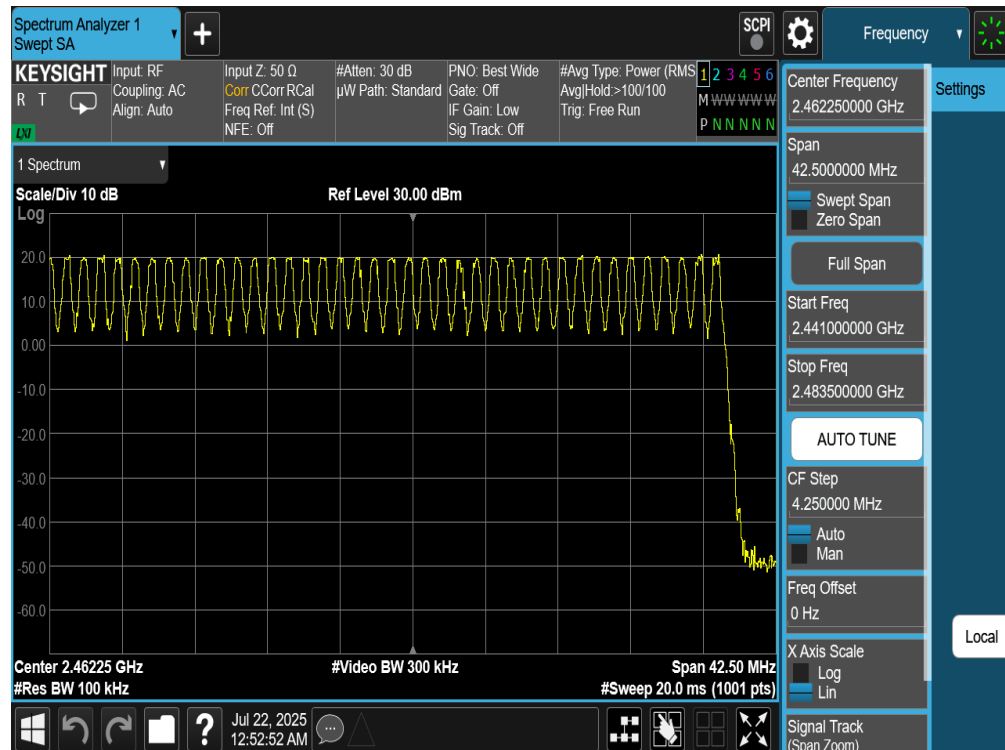
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Ant2



Plot 7-59. Low End Spectrum Channel Hopping Plot Ant2 (Bluetooth, GFSK, ePA)

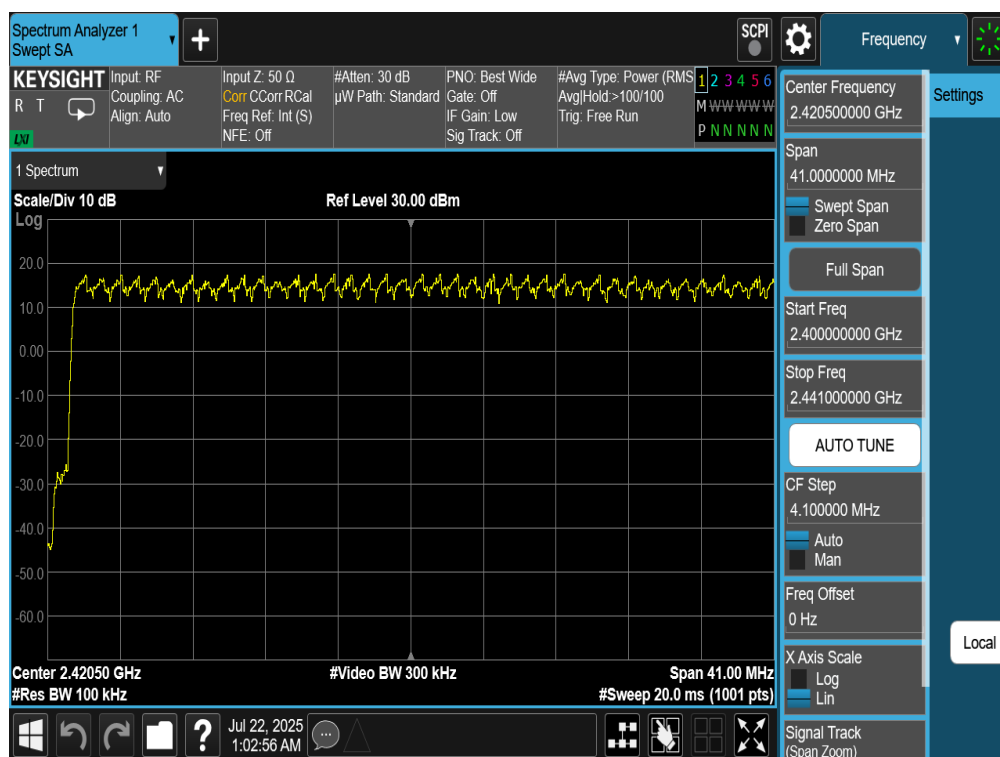


Plot 7-60. High End Spectrum Channel Hopping Plot Ant2 (Bluetooth, GFSK, ePA)

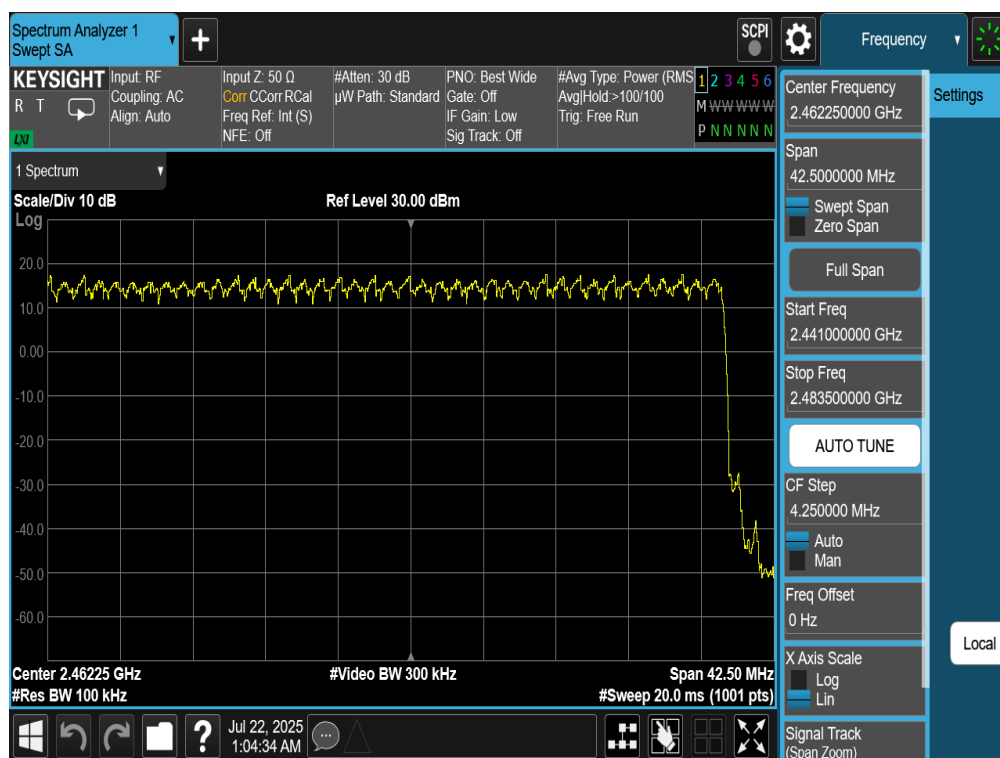
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-61. Low End Spectrum Channel Hopping Plot Ant2 (Bluetooth, 8DPSK, ePA)



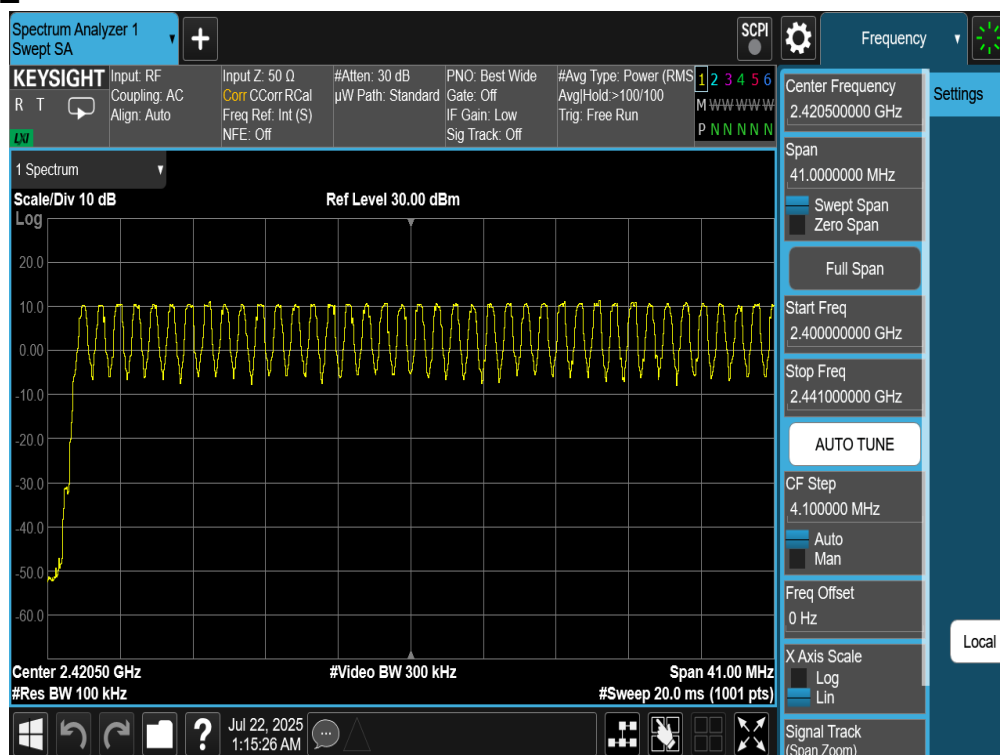
Plot 7-62. High End Spectrum Channel Hopping Plot Ant2 (Bluetooth, 8DPSK, ePA)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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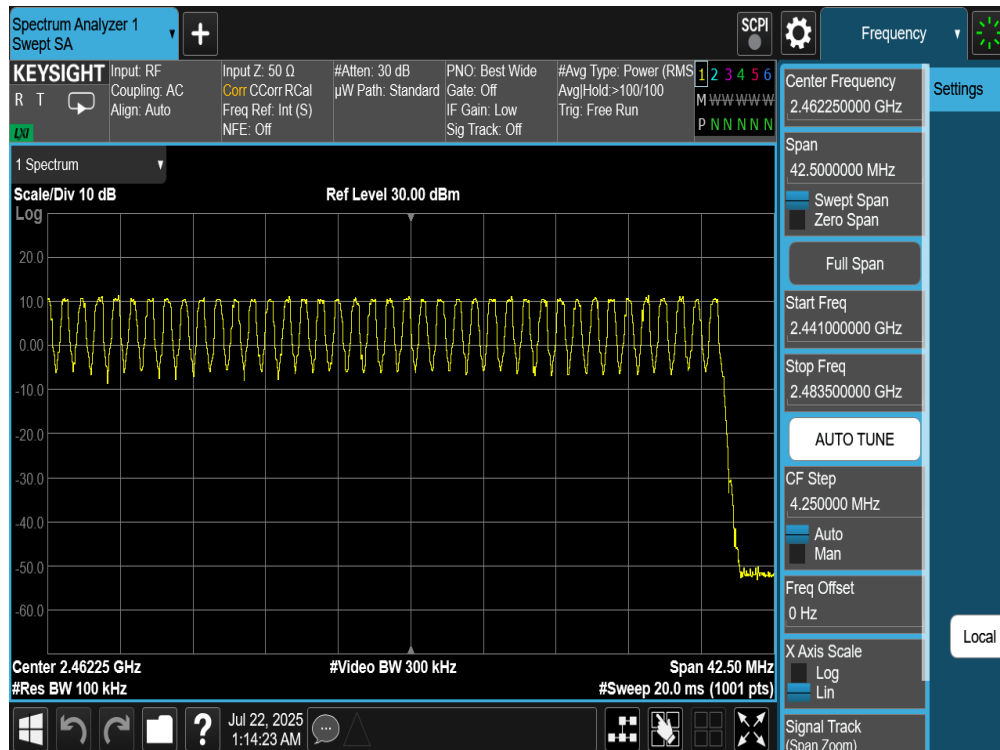
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NB UNII_L



Plot 7-63. Low End Spectrum Channel Hopping Plot NB UNII_L (Bluetooth, GFSK, iPA)

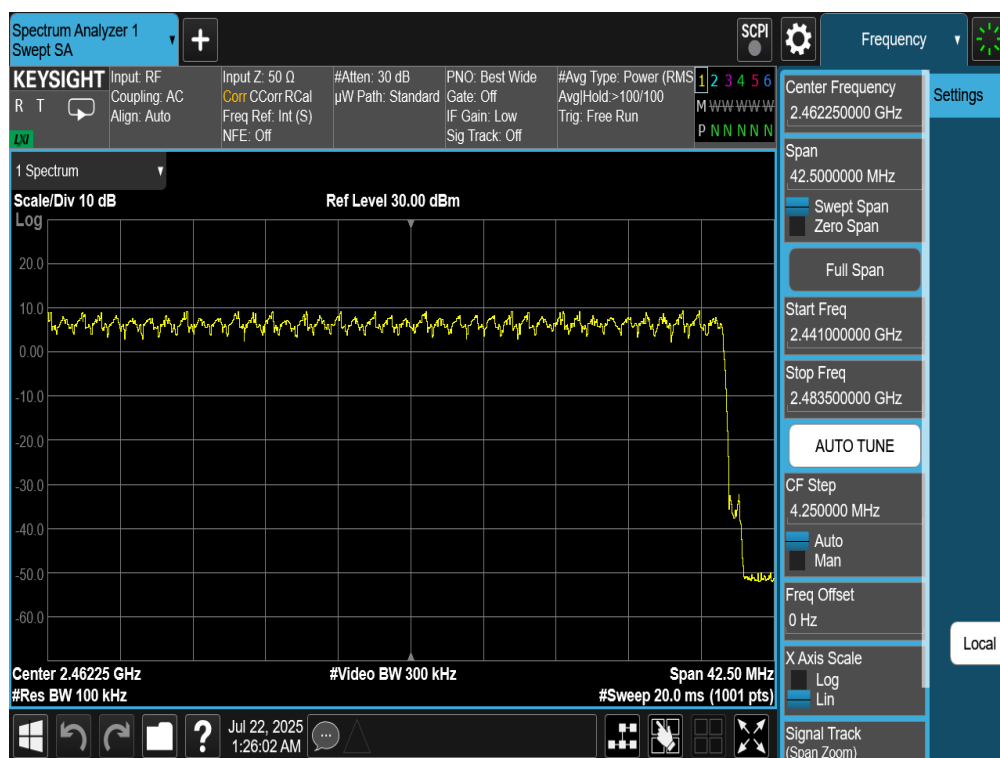
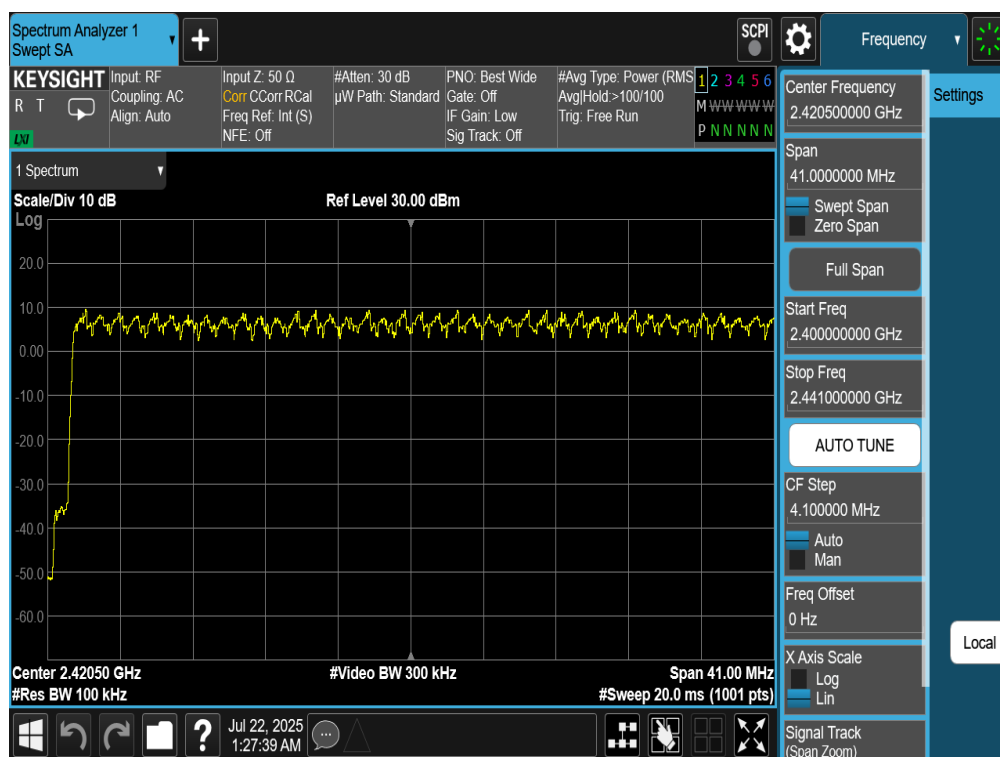


Plot 7-64. High End Spectrum Channel Hopping Plot NB UNII_L (Bluetooth, GFSK, iPA)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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7.8 Conducted Spurious Emissions

§15.247 (d); RSS-247 [5.5]

Test Overview and Limit

Conducted out-of-band spurious emissions were investigated from 30MHz up to 25GHz to include the 10th harmonic of the fundamental transmit frequency. **The maximum permissible out-of-band emission level is 20 dBc.**

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.8

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 25GHz (separated into two plots per channel)
2. RBW = 1MHz* (See note below)
3. VBW = 3MHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



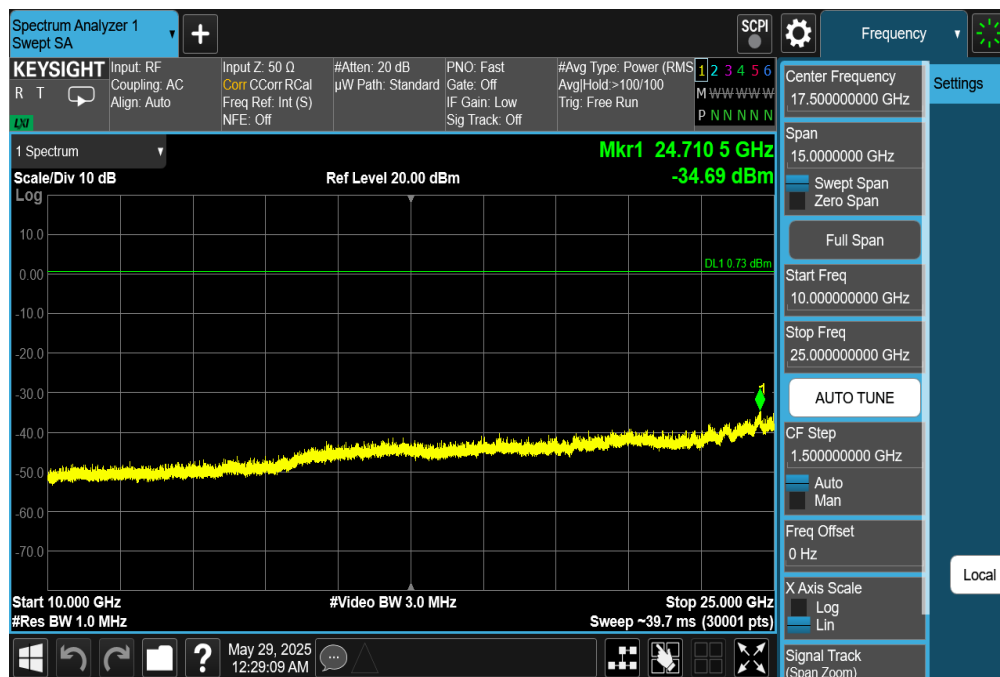
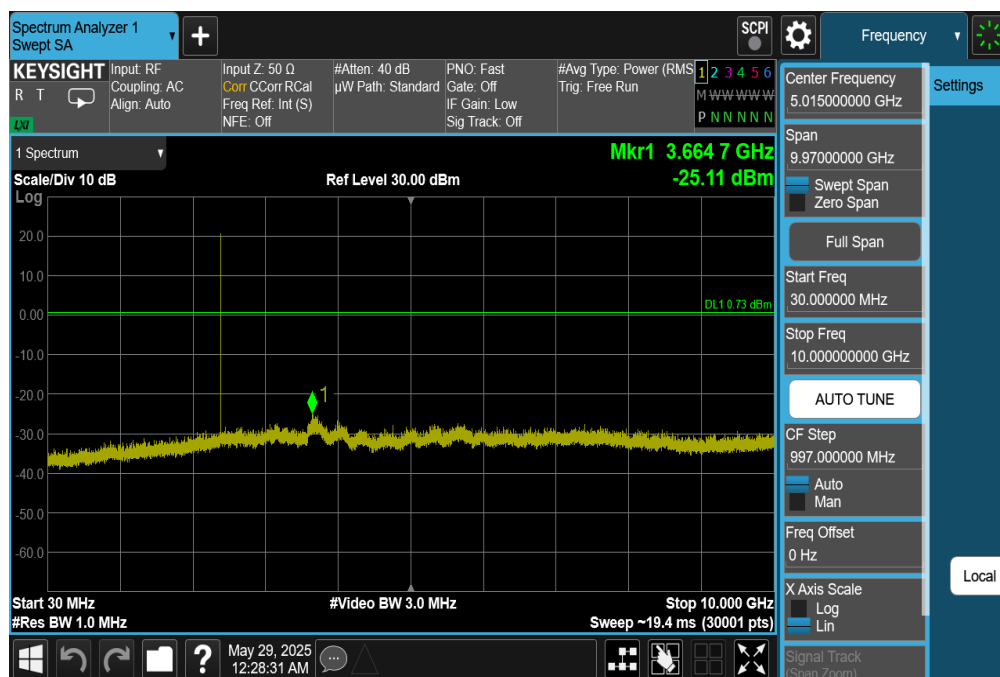
Figure 7-7. Test Instrument & Measurement Setup

Test Notes

1. Out-of-band conducted spurious emissions were investigated for all data rates and the worst case emissions were found with the EUT transmitting at 1Mbps. The display line shown in the following plots is the limit at 20dB below the fundamental emission level measured in a 100kHz bandwidth. However, the traces in the following plots are measured with a 1MHz RBW to reduce test time, so the display line may not necessarily appear to be 20dB below the level of the fundamental in a 1MHz bandwidth.
2. All supported modulations, antenna (including TXBF mode) and power schemes have been tested on the unit and only worst case configuration is reported.

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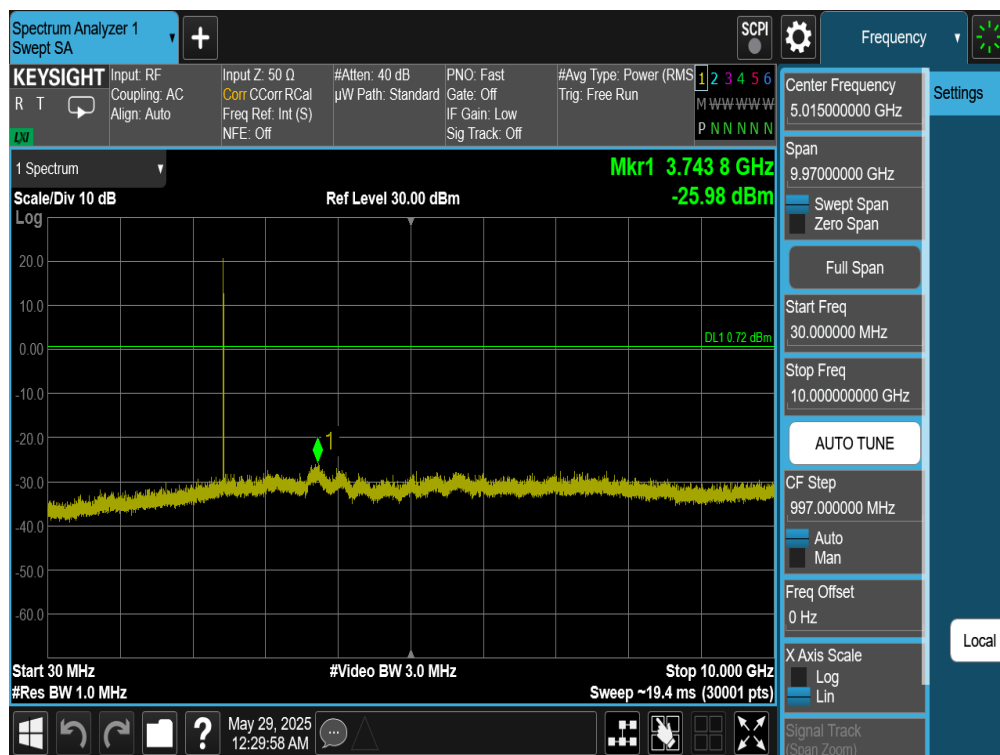
Ant1



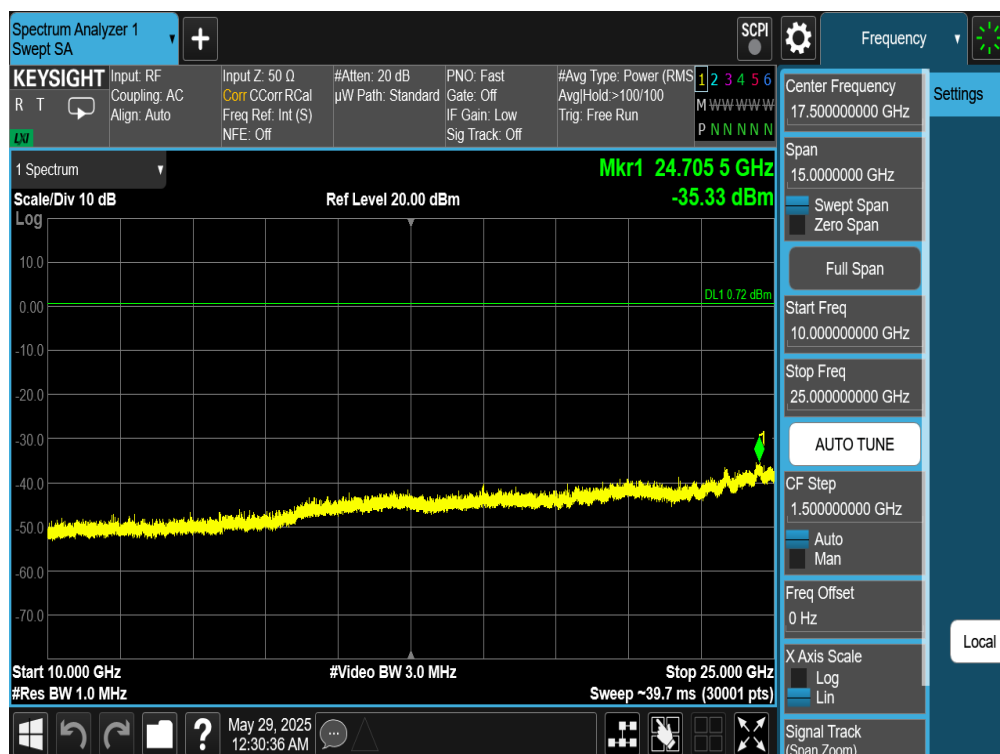
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-69. Conducted Spurious Plot Ant1 (Bluetooth, GFSK, ePA – Ch. 39)

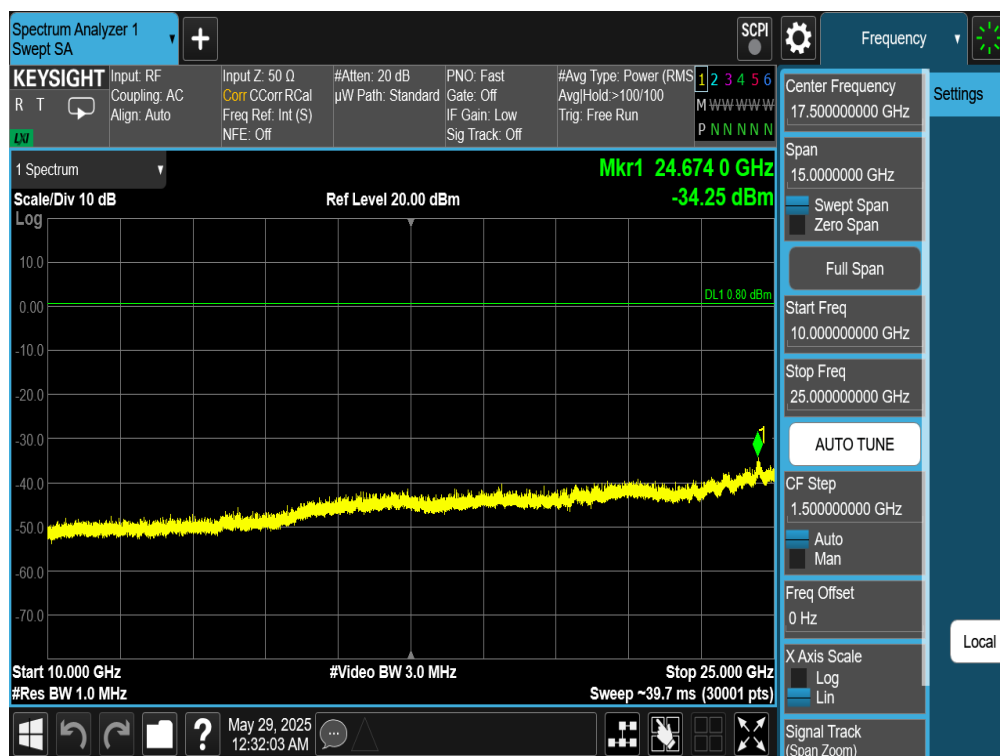
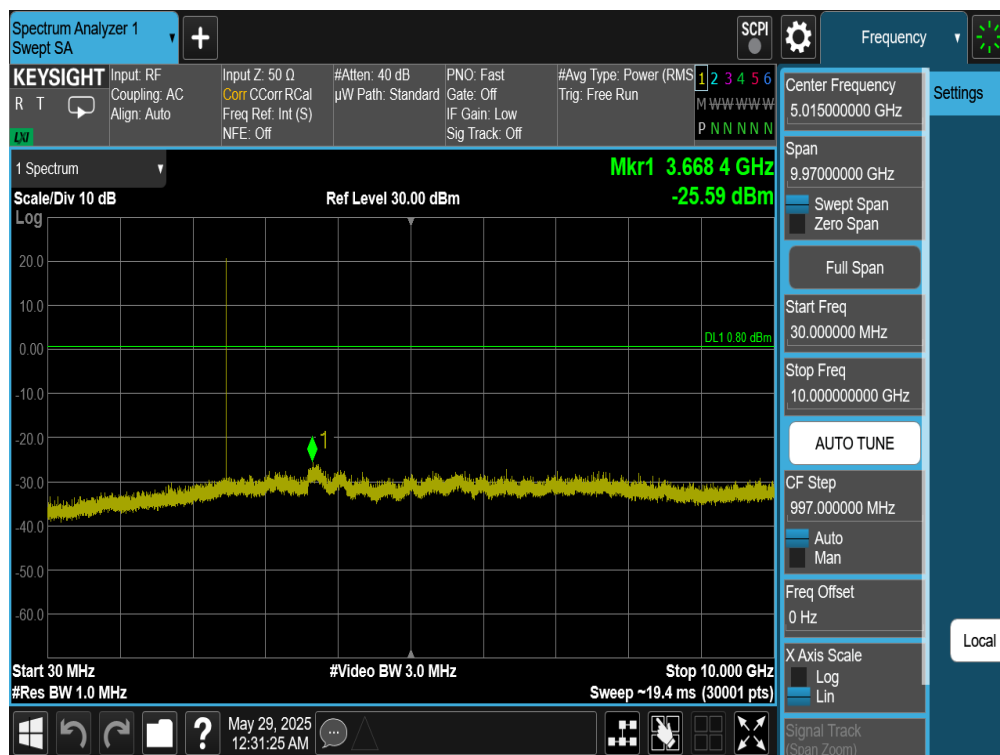


Plot 7-70. Conducted Spurious Plot Ant1 (Bluetooth, GFSK, ePA Ch. 39)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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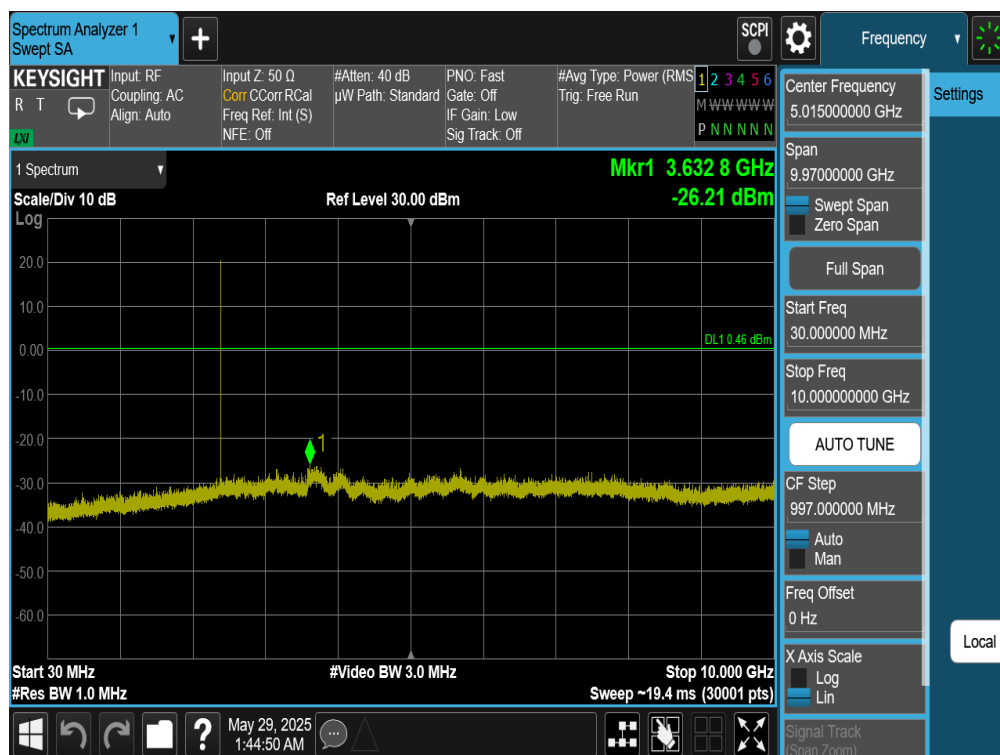


FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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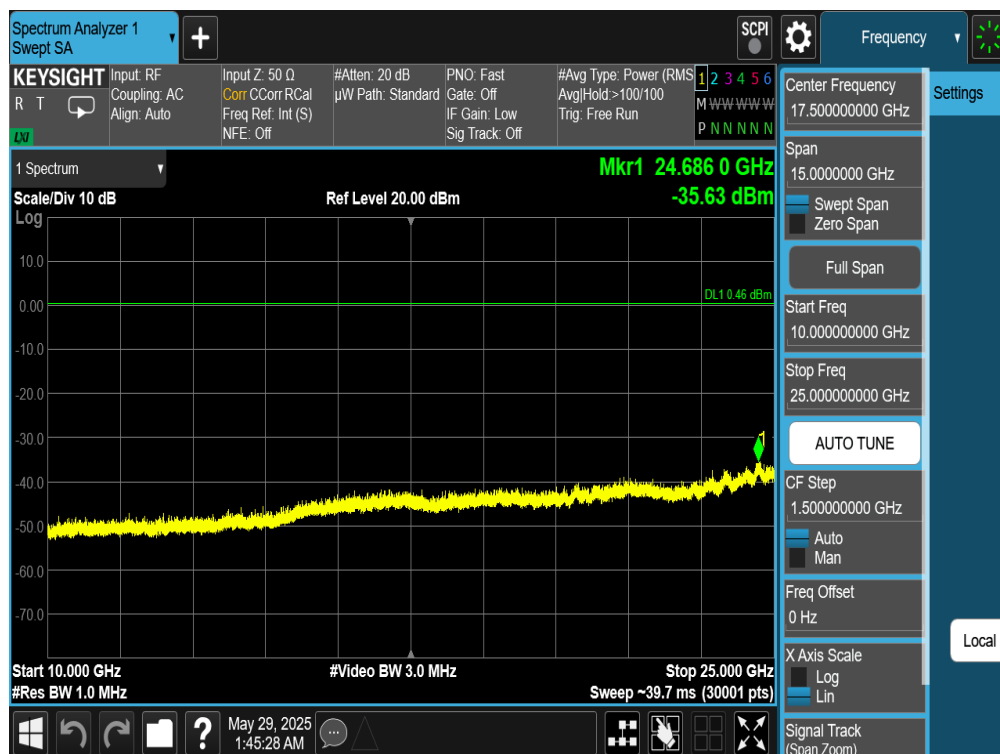
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Ant2



Plot 7-73. Conducted Spurious Plot Ant2 (Bluetooth, GFSK, ePA – Ch. 0)

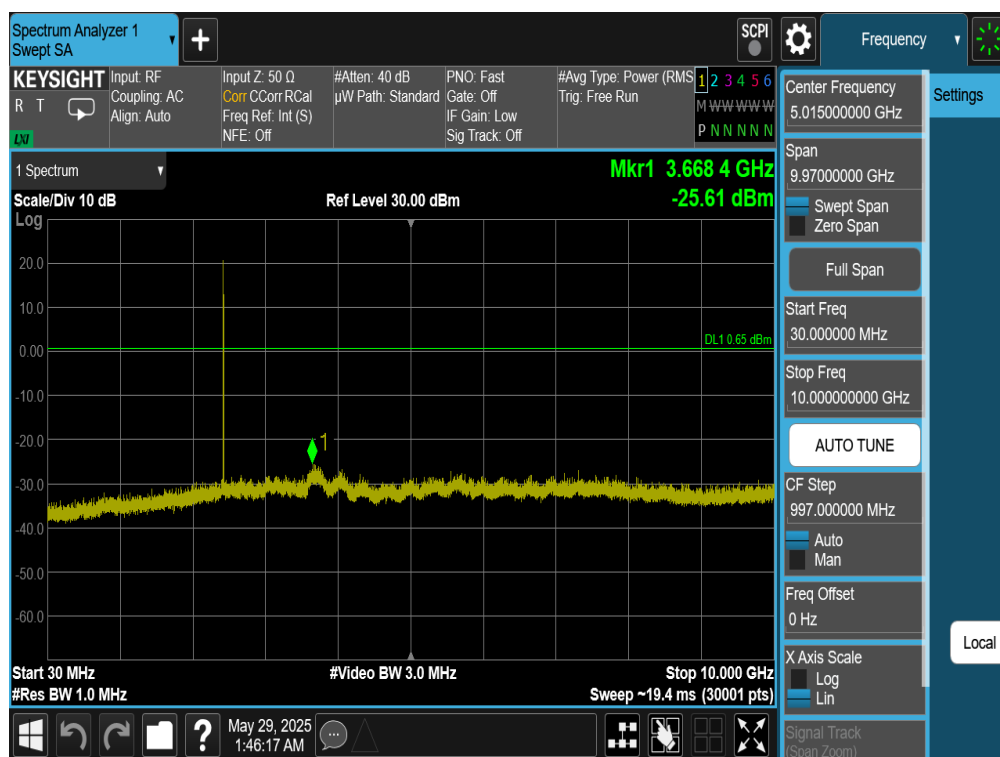


Plot 7-74. Conducted Spurious Plot Ant2 (Bluetooth, GFSK, ePA – Ch. 0)

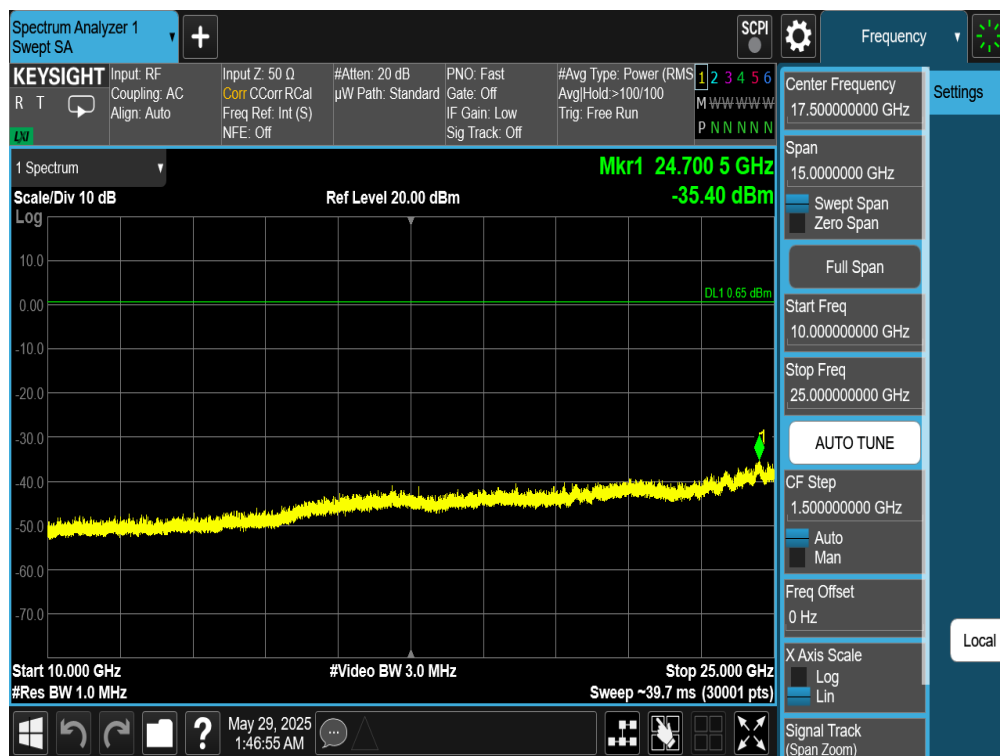
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-75. Conducted Spurious Plot Ant2 (Bluetooth, GFSK, ePA – Ch. 39)

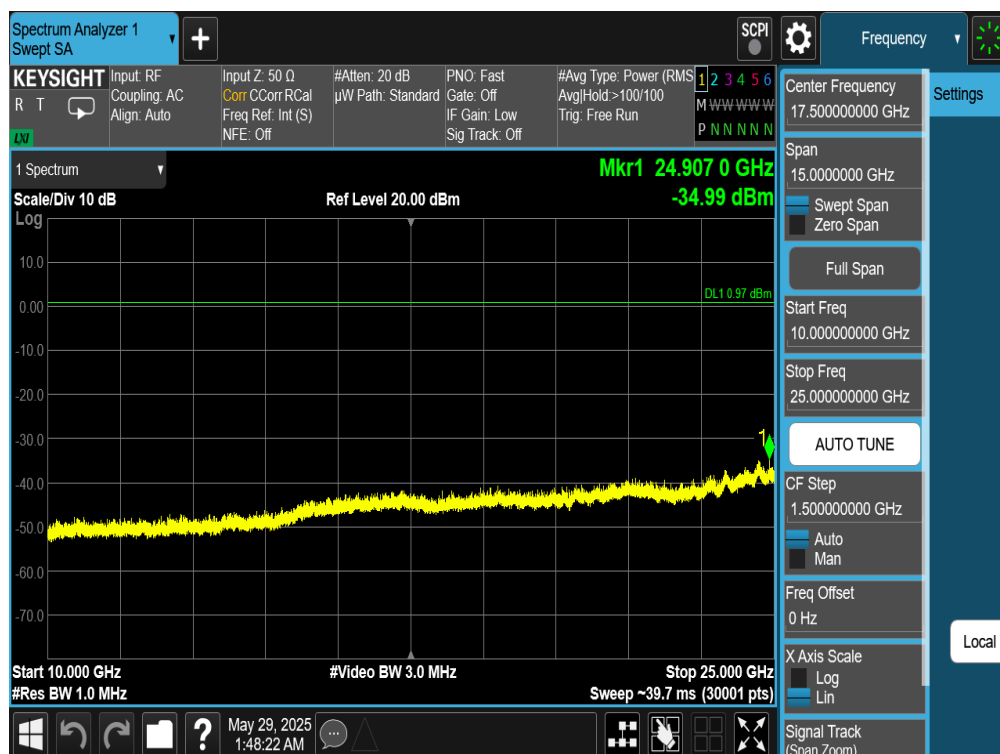
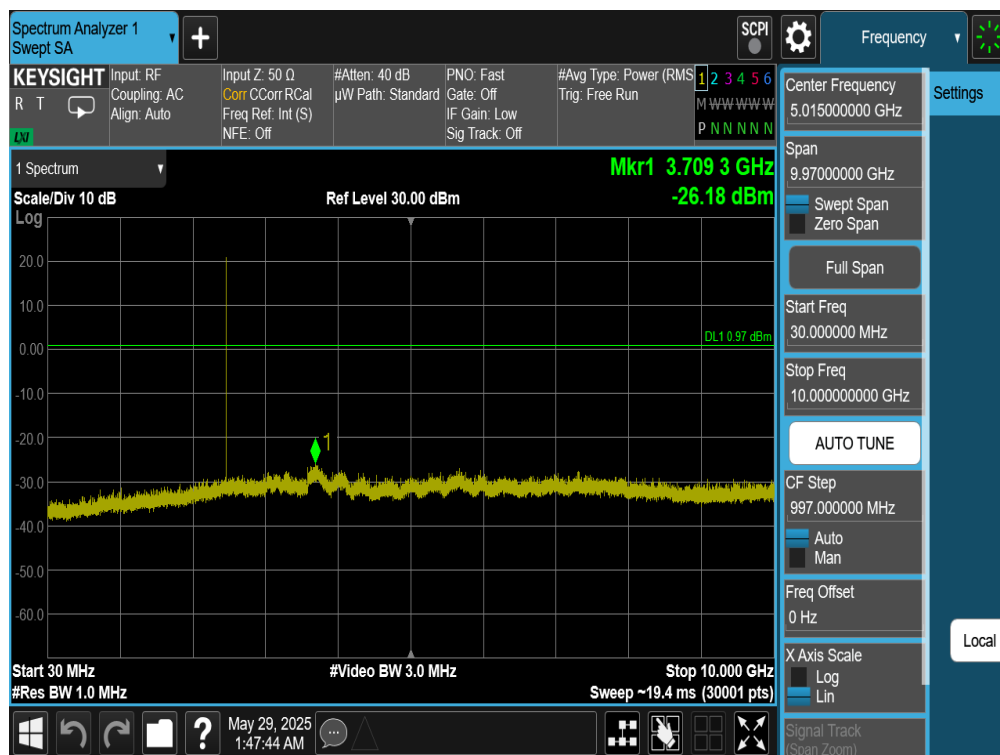


Plot 7-76. Conducted Spurious Plot Ant2 (Bluetooth, GFSK, ePA Ch. 39)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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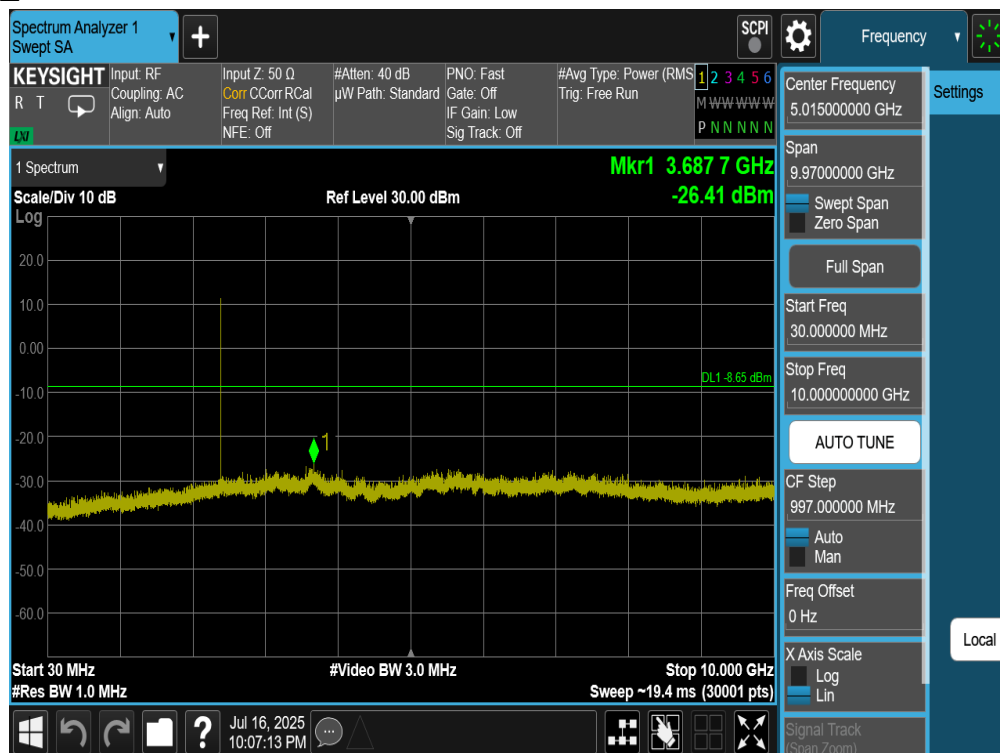


FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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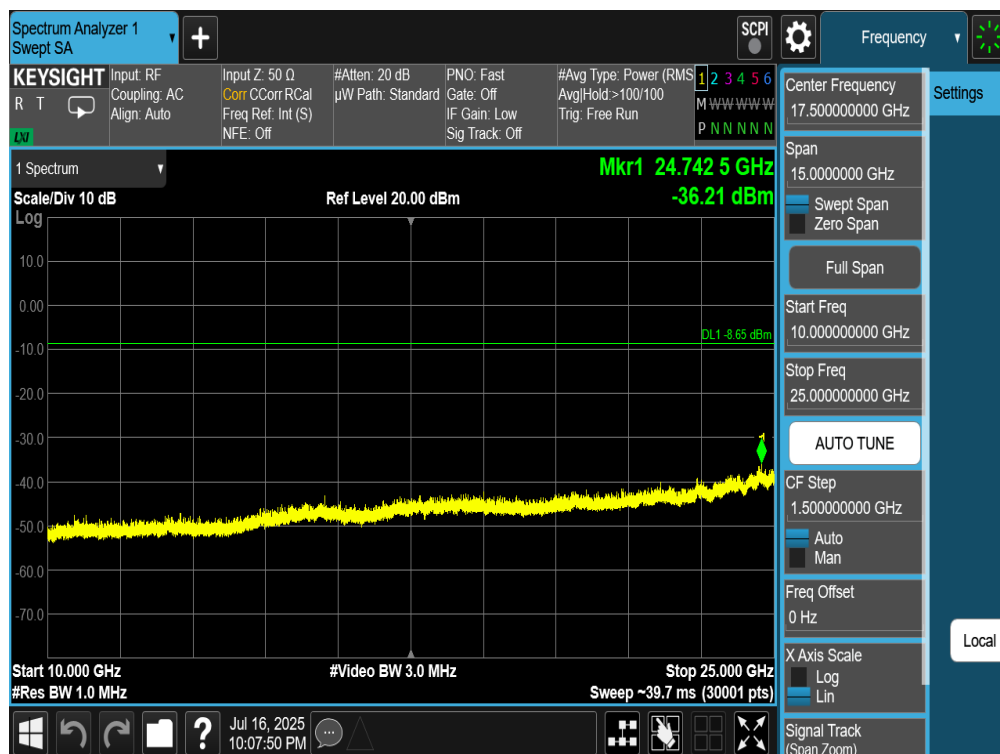
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NB UNII_L



Plot 7-79. Conducted Spurious Plot NB UNII_L (Bluetooth, GFSK, iPA – Ch. 0)

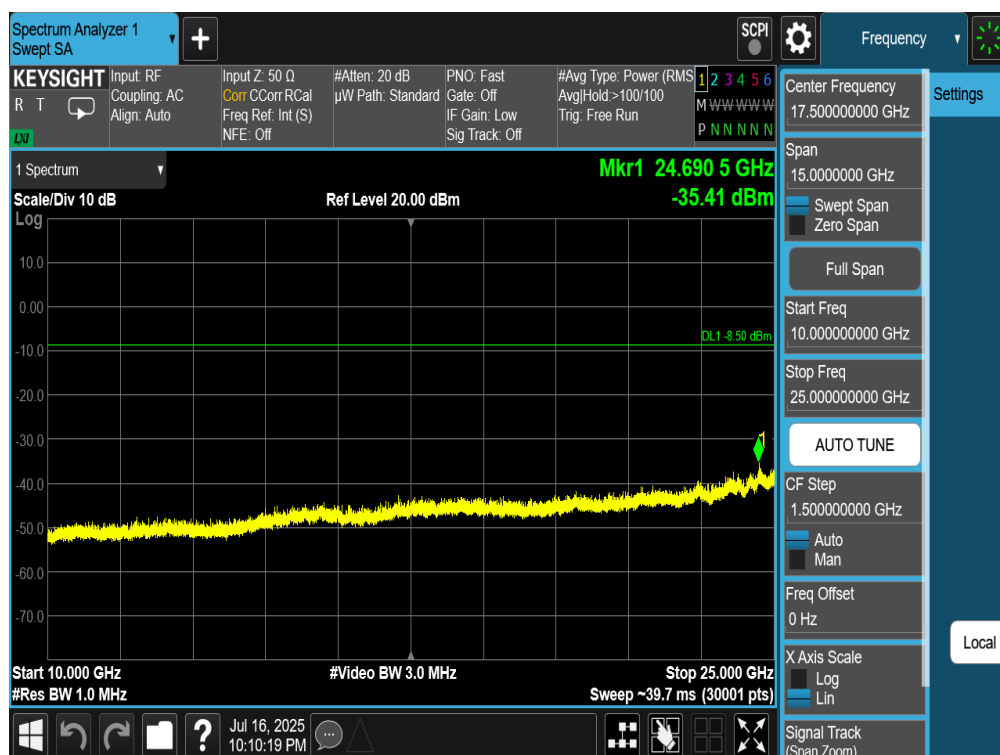
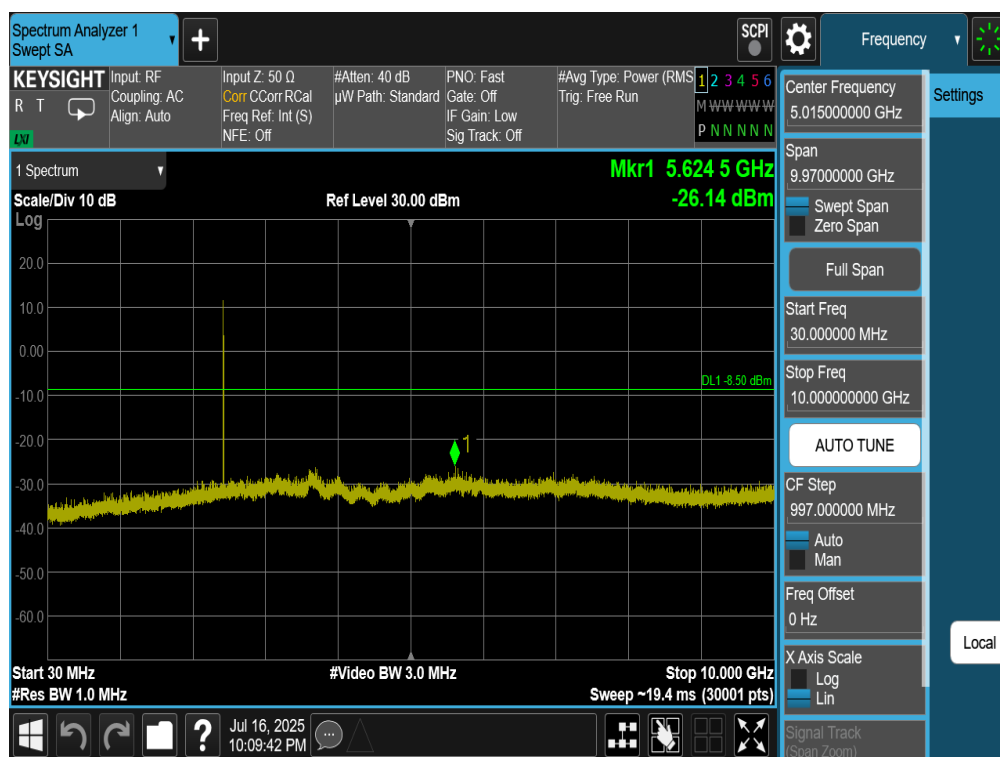


Plot 7-80. Conducted Spurious Plot NB UNII_L (Bluetooth, GFSK, iPA – Ch. 0)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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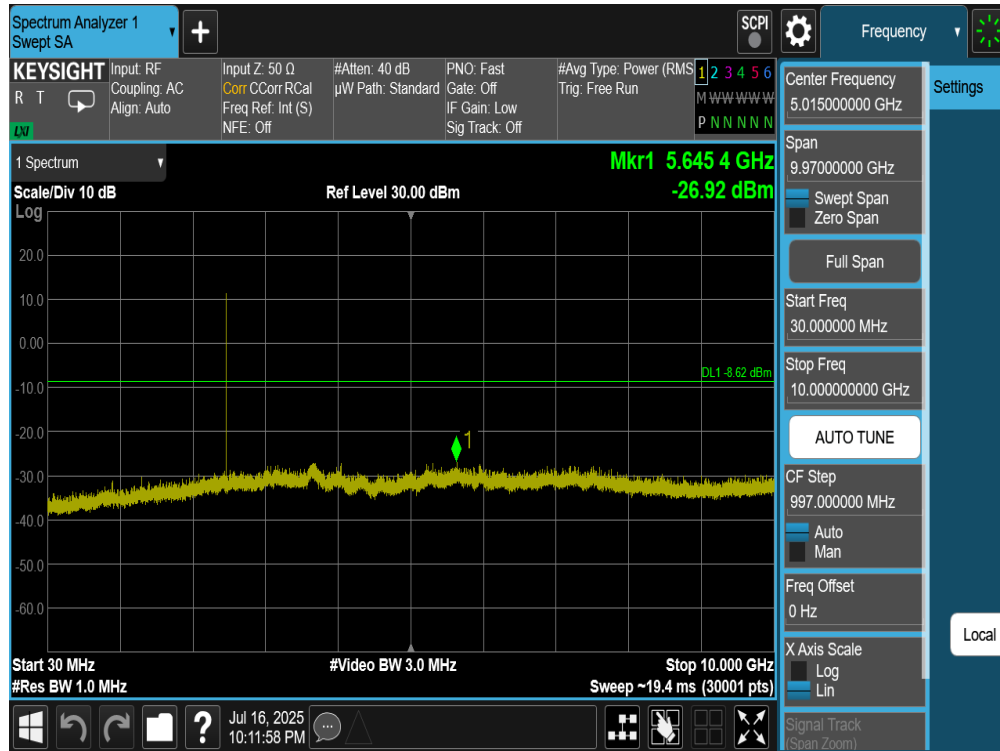
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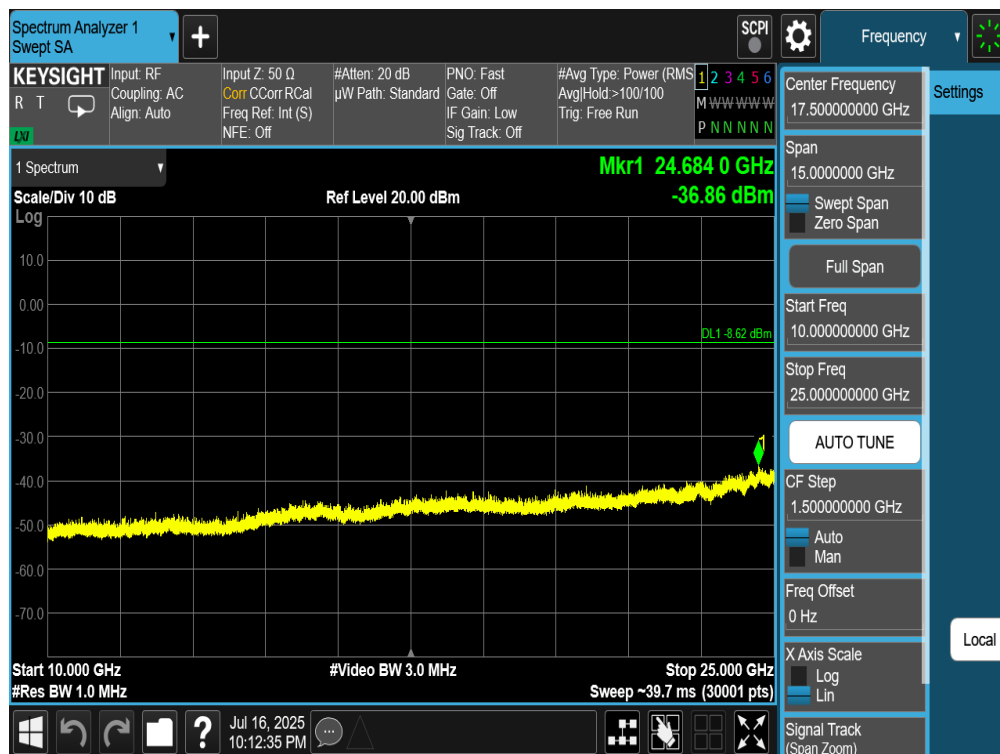
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-83. Conducted Spurious Plot NB UNII_L (Bluetooth, GFSK, iPA – Ch. 78)



Plot 7-84. Conducted Spurious Plot NB UNII_L (Bluetooth, GFSK, iPA – Ch. 78)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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7.9 Radiated Spurious Emissions – Above 1GHz

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-16 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-16. Radiated Limits

Test Procedure Used

ANSI C63.10-2020 – Section 6.6.4.3

Test Settings

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

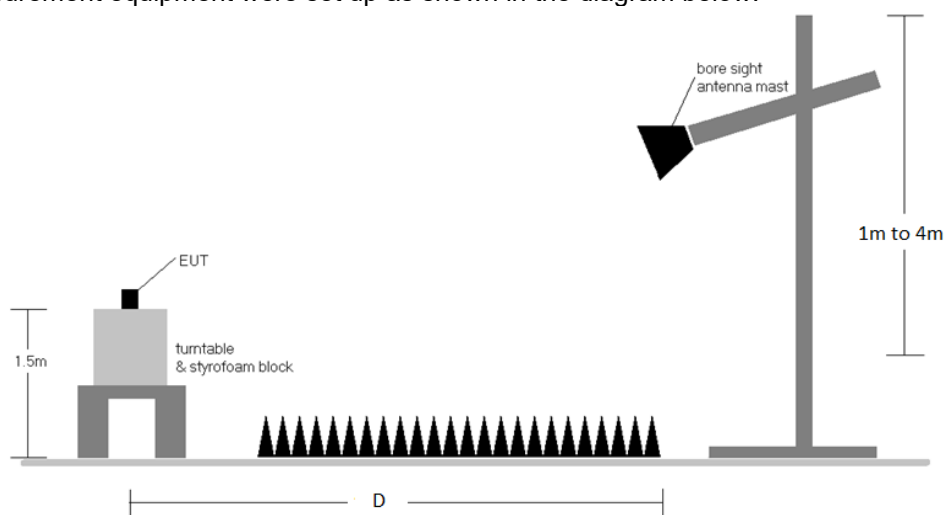


Figure 7-8. Radiated Test Setup >1GHz

Test Notes

1. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-16.
2. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through two orthogonal planes.
3. The unit was tested with its standed battery.
4. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
5. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
8. All supported modulation, antenna (including TxBF mode) and power schemes have been tested on the unit and only worst case configuration is reported.
9. Average emissions were not reported since the duty cycle correction factor was greater than 20dB.

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Sample Calculation

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]} - \text{Preamplifier Gain }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit }_{[dB\mu V/m]}$

Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.9.2 was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

Duty Cycle Correction Factor Calculation

- Channel hop rate = 800 hops/second (AFH Mode)
- Adjusted channel hop rate for DH5 mode = 133.33 hops/second
- Time per channel hop = $1 / 133.33 \text{ hops/second} = 7.50 \text{ ms}$
- Time to cycle through all channels = $7.50 \times 20 \text{ channels} = 150 \text{ ms}$
- Number of times transmitter hits on one channel = $100 \text{ ms} / 150 \text{ ms} = 1 \text{ time(s)}$
- Worst case dwell time = 7.5 ms

Duty cycle correction factor = $20\log_{10}(7.5\text{ms}/100\text{ms}) = -22.5 \text{ dB}$

Average Emission Calculation

- Average Emission = Measured Peak Emissions $_{[dB\mu V/m]} - \text{Duty Cycle Correction Factor }_{[dB]}$

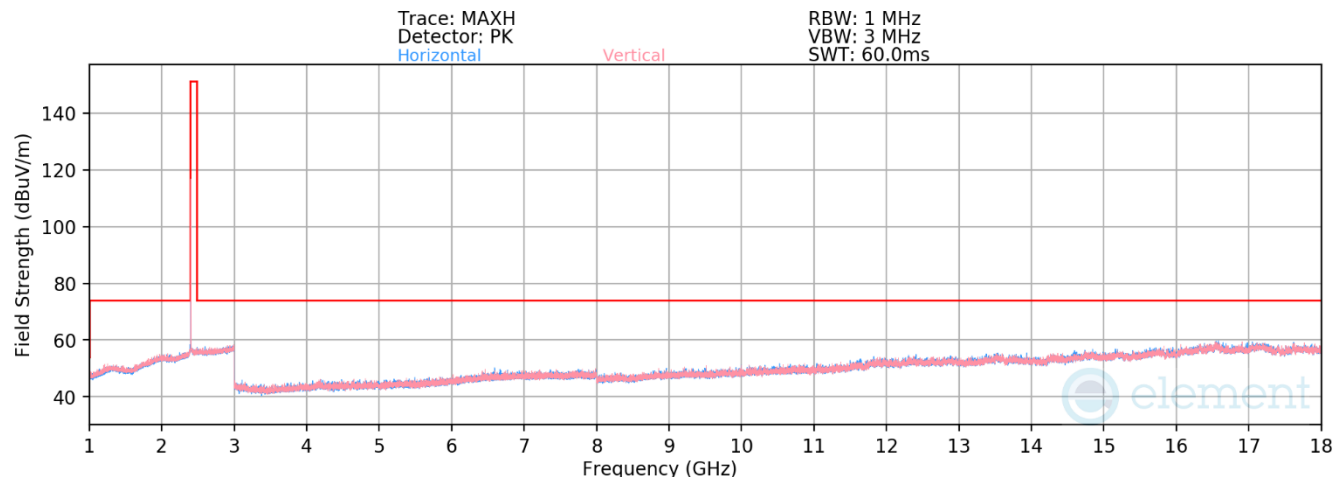
FCC ID: BCGA3416 IC: 579C-A3416	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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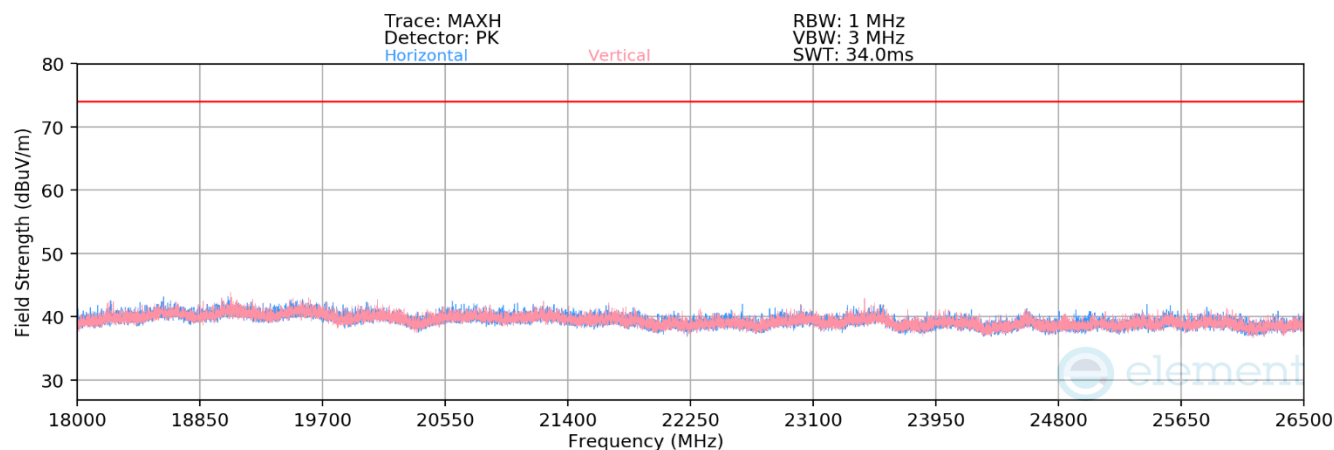
7.9.1 Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

TxBF



Plot 7-85. Radiated Spurious Emissions above 1GHz Tx BF (BT GFSK ePA – Ch. 0)



Plot 7-86. Radiated Spurious Emissions above 18GHz Tx BF (BT GFSK ePA – Ch. 0)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 76 of 96

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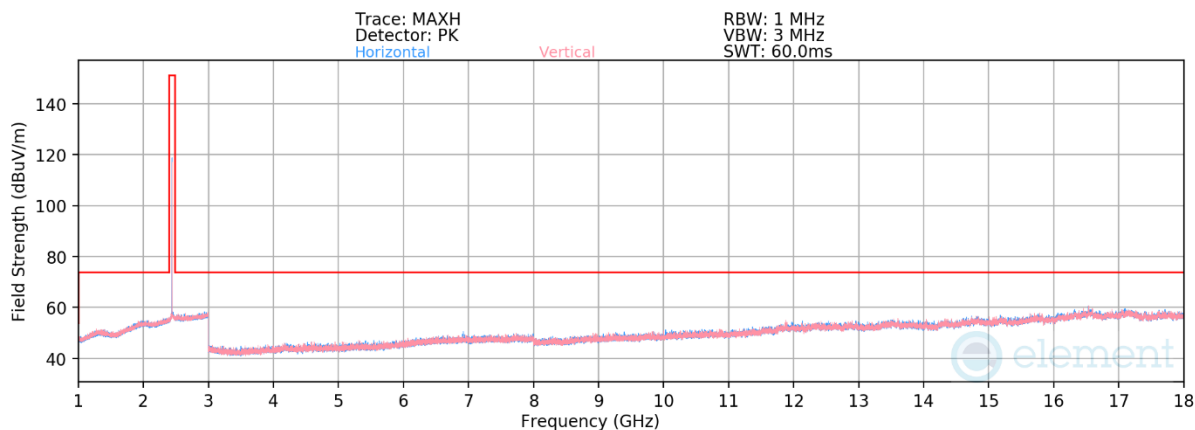
Bluetooth Mode: GFSK
 Data Rate: 1Mbps
 Power Scheme ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Dist. Corr. Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4804.00	Peak	V	264	345	-67.29	7.32	0.00	47.03	73.98	-26.95
12010.00	Peak	-	-	-	-71.67	18.08	0.00	53.41	73.98	-20.57
19216.00	Peak	-	-	-	-48.13	-5.88	-9.54	43.44	73.98	-30.54

Table 7-17. Radiated Measurements TxBF

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 77 of 96

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Plot 7-87. Radiated Spurious Emissions above 1GHz TxBF (BT GFSK ePA – Ch. 39)

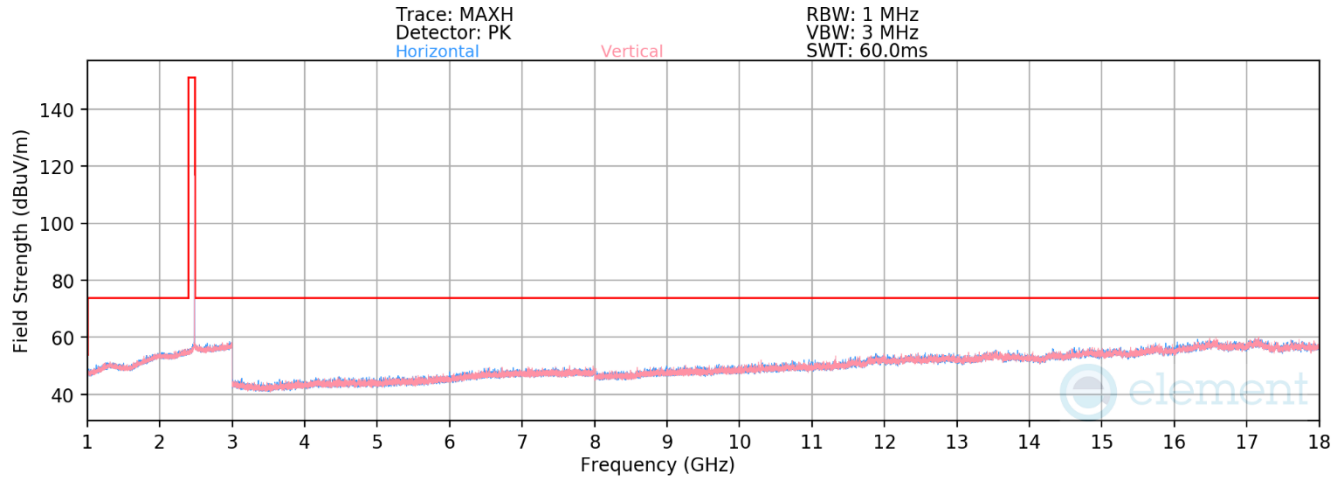
Bluetooth Mode: GFSK
Data Rate: 1Mbps
Power Scheme ePA
Distance of Measurements: 3 Meters
Operating Frequency: 2441MHz
Channel: 39

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4882.00	Peak	V	273	345	-67.83	7.81	46.98	73.98	-27.00
7323.00	Peak	-	-	-	-68.66	10.81	49.15	73.98	-24.83
12205.00	Peak	-	-	-	-72.05	18.32	53.27	73.98	-20.71

Table 7-18. Radiated Measurements TxBF

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 78 of 96

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Plot 7-88. Radiated Spurious Emissions above 1GHz TxBF (BT GFSK ePA – Ch. 78)

Bluetooth Mode: GFSK
Data Rate: 1Mbps
Power Scheme ePA
Distance of Measurements: 3 Meters
Operating Frequency: 2480MHz
Channel: 78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
4960.00	Peak	V	226	339	-68.13	7.50	46.37	73.98	-27.61
7440.00	Peak	-	-	-	-67.93	10.78	49.85	73.98	-24.13
12400.00	Peak	-	-	-	-71.73	18.55	53.82	73.98	-20.16

Table 7-19. Radiated Measurements TxBF

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 79 of 96

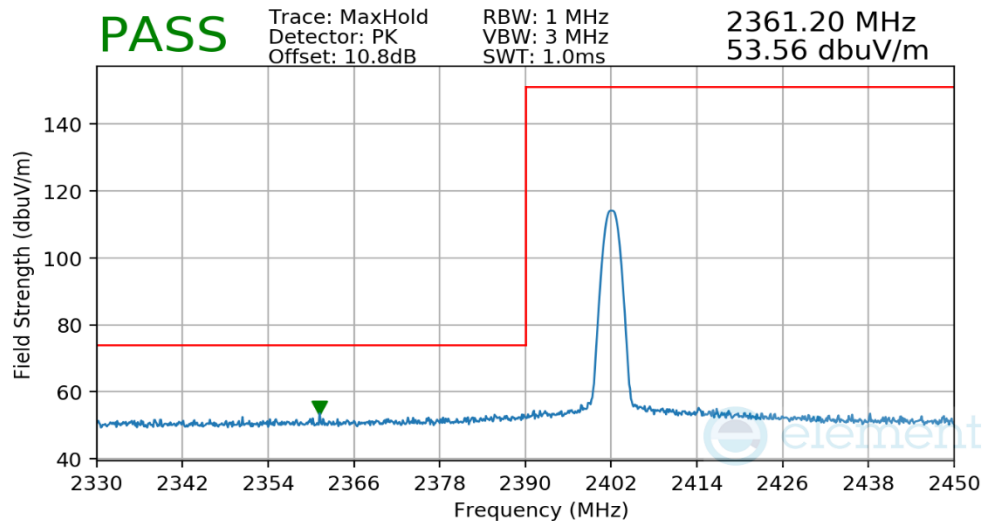
V 10.6 09/13/2023

7.9.2 Radiated Restricted Band Edge Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

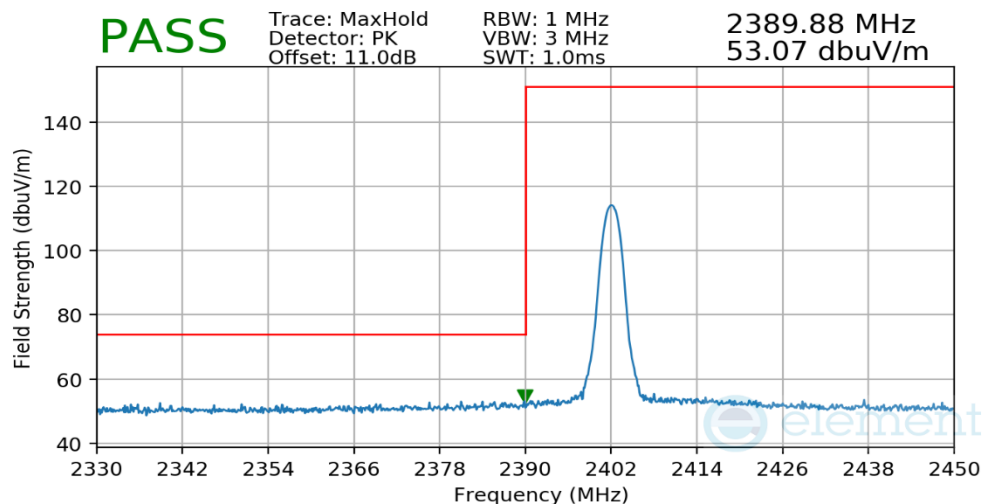
Ant1

Bluetooth Mode:	GFSK
Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0



Plot 7-89. Radiated Restricted Lower Band Edge Measurement Ant1

Bluetooth Mode:	8DPSK
Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0

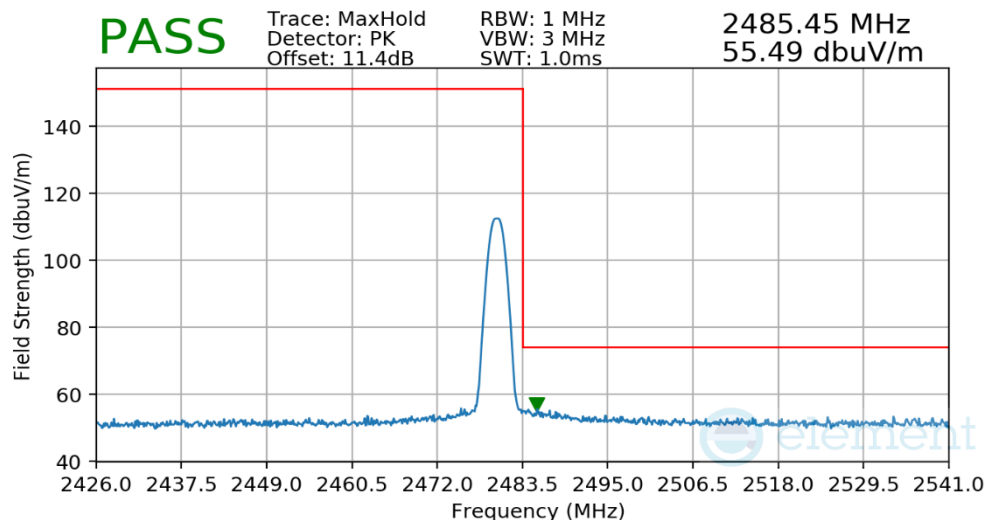


Plot 7-90. Radiated Restricted Lower Band Edge Measurement Ant1

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 80 of 96

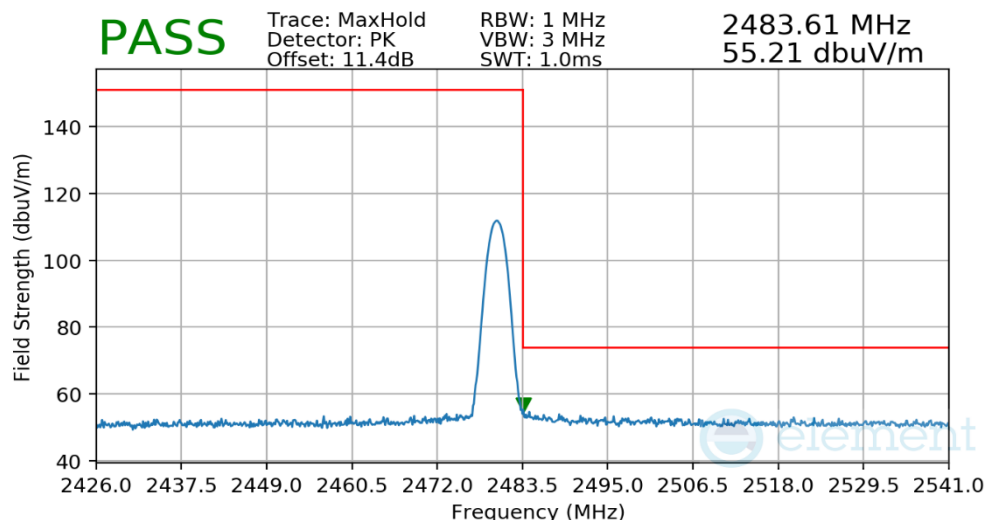
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Bluetooth Mode: GFSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



Plot 7-91. Radiated Restricted Upper Band Edge Measurement Ant1

Bluetooth Mode: 8DPSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



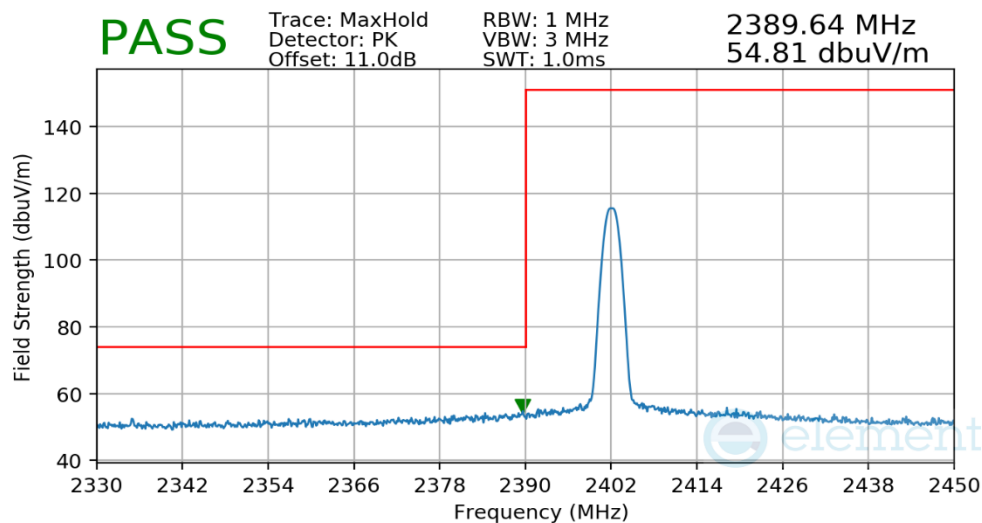
Plot 7-92. Radiated Restricted Upper Band Edge Measurement Ant1

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 81 of 96

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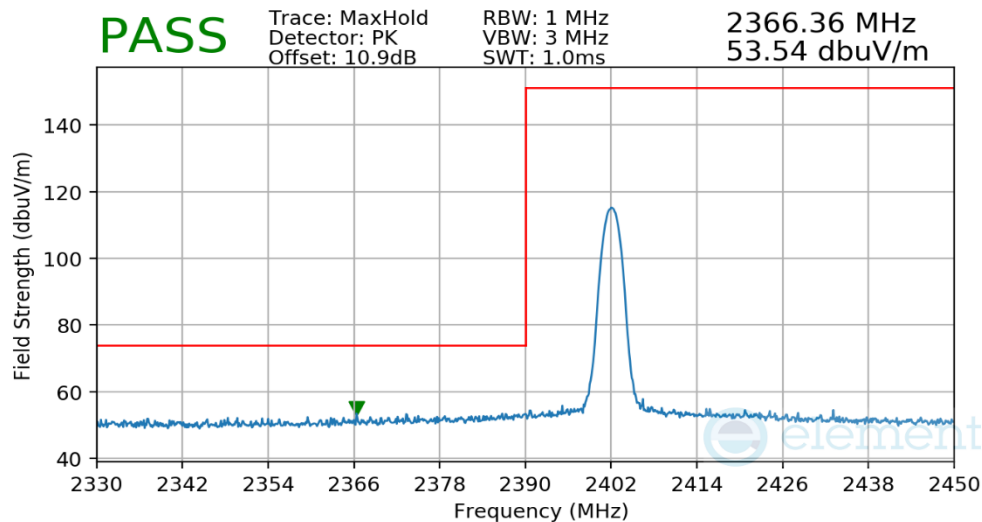
Ant2

Bluetooth Mode: GFSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0



Plot 7-93. Radiated Restricted Lower Band Edge Measurement Ant2

Bluetooth Mode: 8DPSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

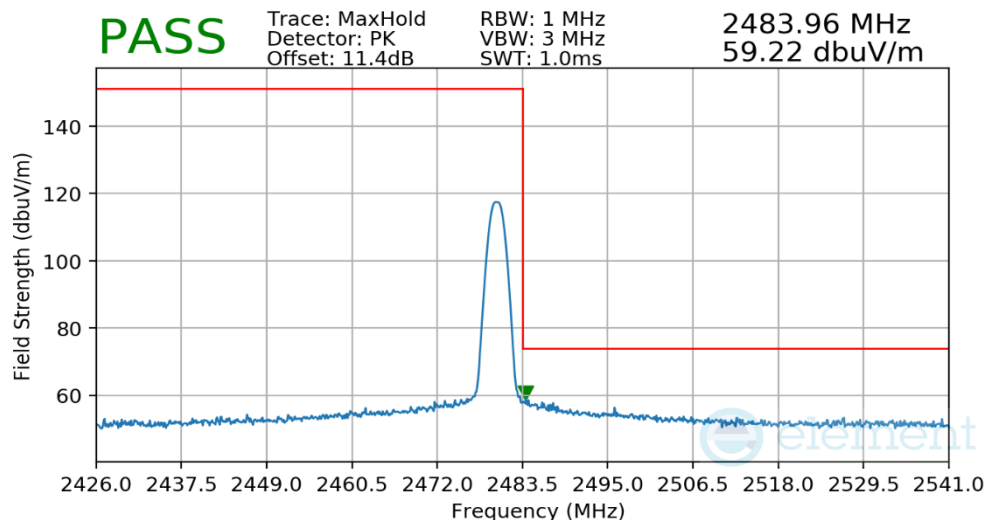


Plot 7-94. Radiated Restricted Lower Band Edge Measurement Ant2

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 82 of 96

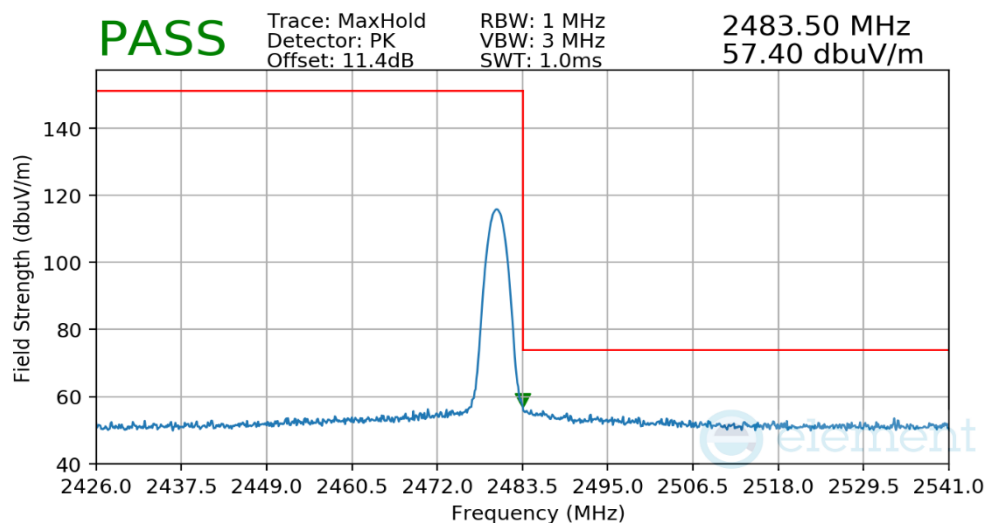
V 10.6 09/13/2023

Bluetooth Mode:	GFSK
Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78



Plot 7-95. Radiated Restricted Upper Band Edge Measurement Ant2

Bluetooth Mode:	8DPSK
Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78



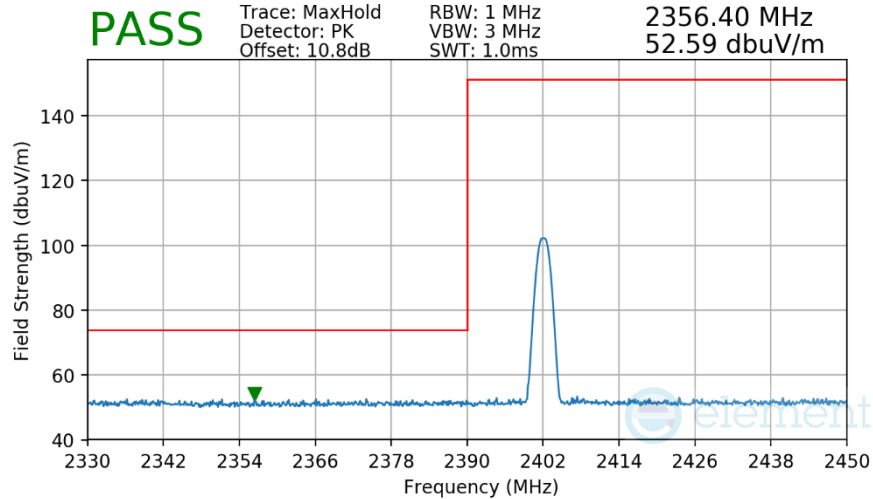
Plot 7-96. Radiated Restricted Upper Band Edge Measurement Ant2

FCC ID: BCGA3416 IC: 579C-A3416	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 83 of 96

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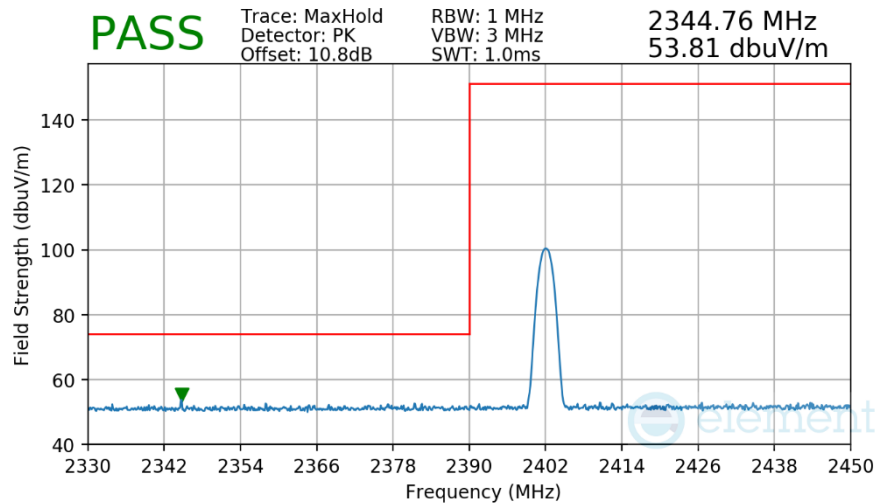
NB UNII_L

Bluetooth Mode: GFSK
 Power Scheme: iPA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0



Plot 7-97. Radiated Restricted Lower Band Edge Measurement NB UNII_L

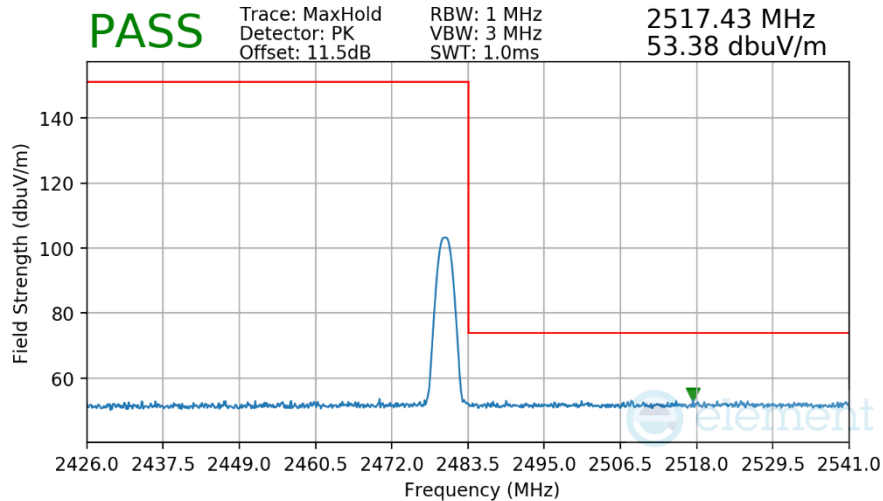
Bluetooth Mode: 8DPSK
 Power Scheme: iPA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0



Plot 7-98. Radiated Restricted Lower Band Edge Measurement NB UNII_L

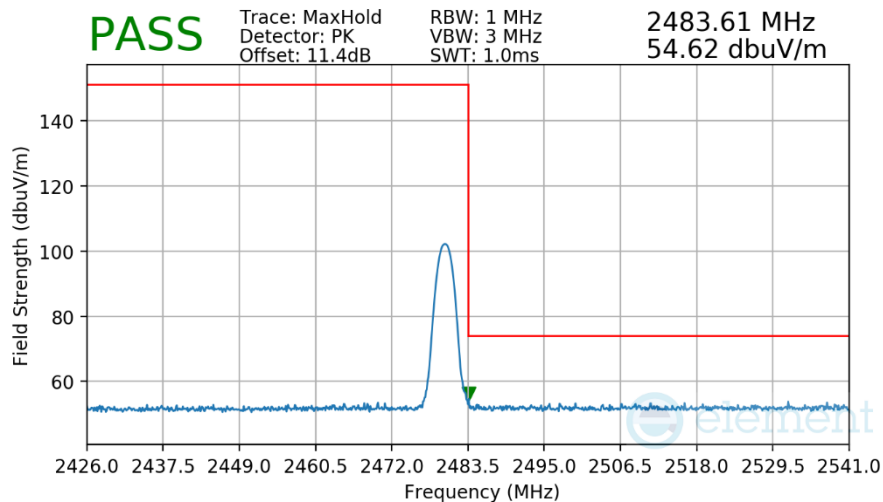
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 84 of 96

Bluetooth Mode: GFSK
 Power Scheme: iPA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



Plot 7-99. Radiated Restricted Upper Band Edge Measurement NB UNII_L

Bluetooth Mode: 8DPSK
 Power Scheme: iPA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



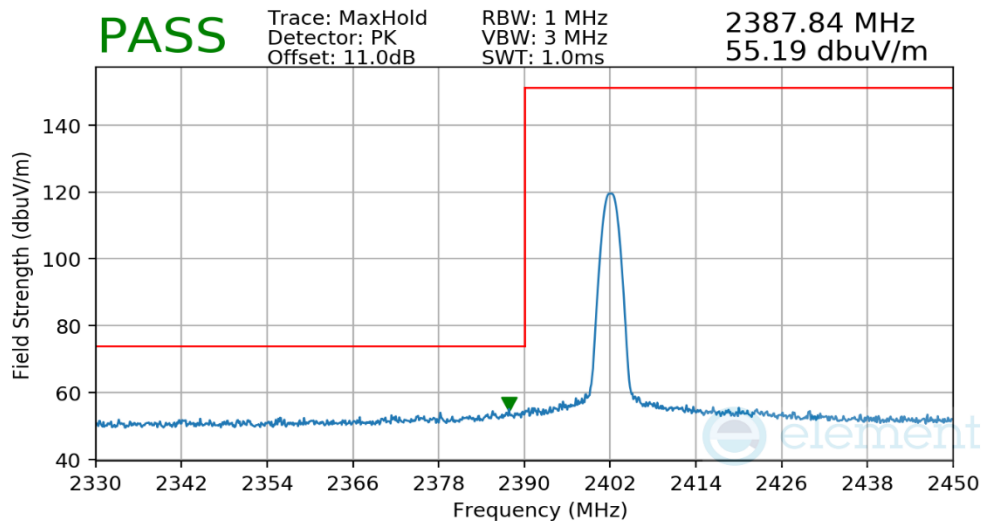
Plot 7-100. Radiated Restricted Upper Band Edge Measurement NB UNII_L

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 85 of 96

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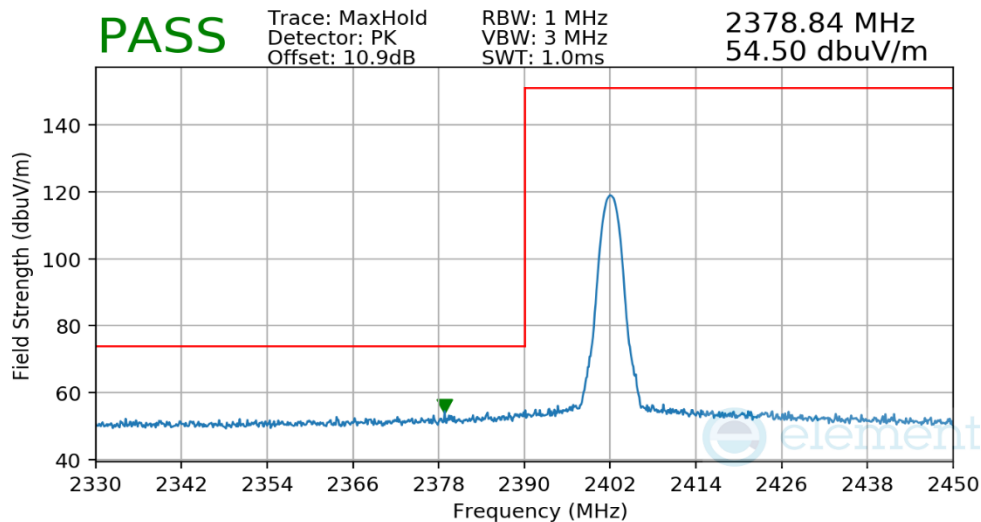
TxBF

Bluetooth Mode: GFSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0



Plot 7-101. Radiated Restricted Lower Band Edge Measurement TxBF

Bluetooth Mode: 8DPSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

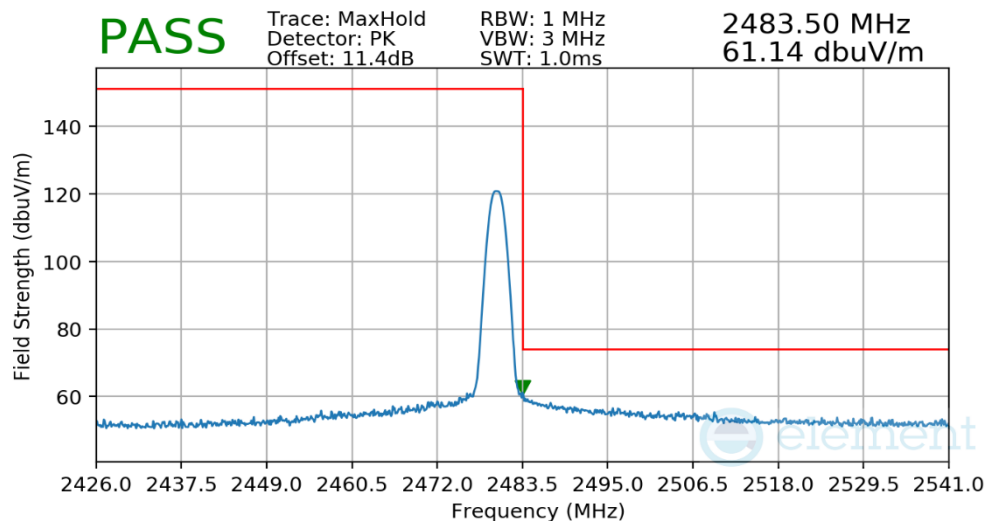


Plot 7-102. Radiated Restricted Lower Band Edge Measurement TxBF

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 86 of 96

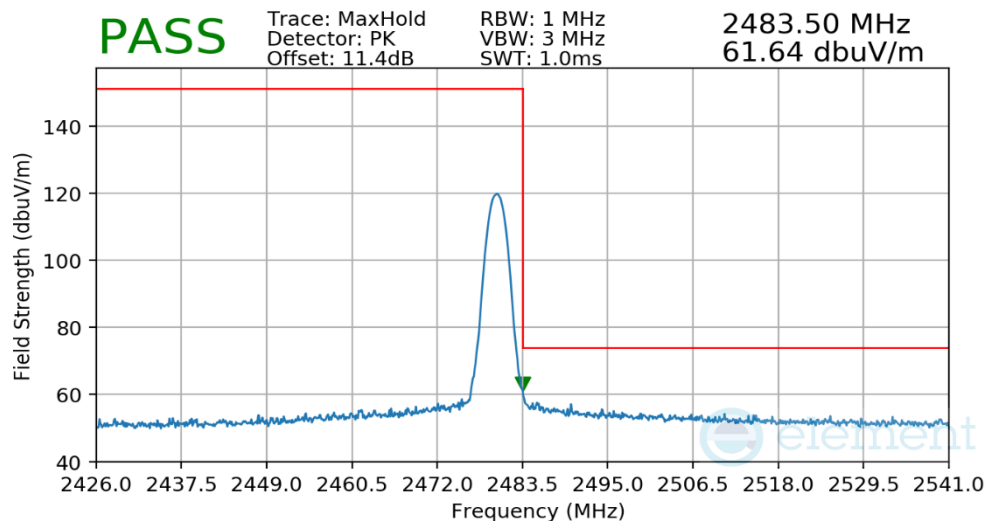
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Bluetooth Mode: GFSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



Plot 7-103. Radiated Restricted Upper Band Edge Measurement TxBF

Bluetooth Mode: 8DPSK
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78



Plot 7-104. Radiated Restricted Upper Band Edge Measurement TxBF

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 87 of 96

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7.10 Radiated Spurious Emissions – Below 1GHz

§15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-20 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μ V/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-20. Radiated Limits

Test Procedures Used

ANSI C63.10-2020

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. VBW = 300kHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

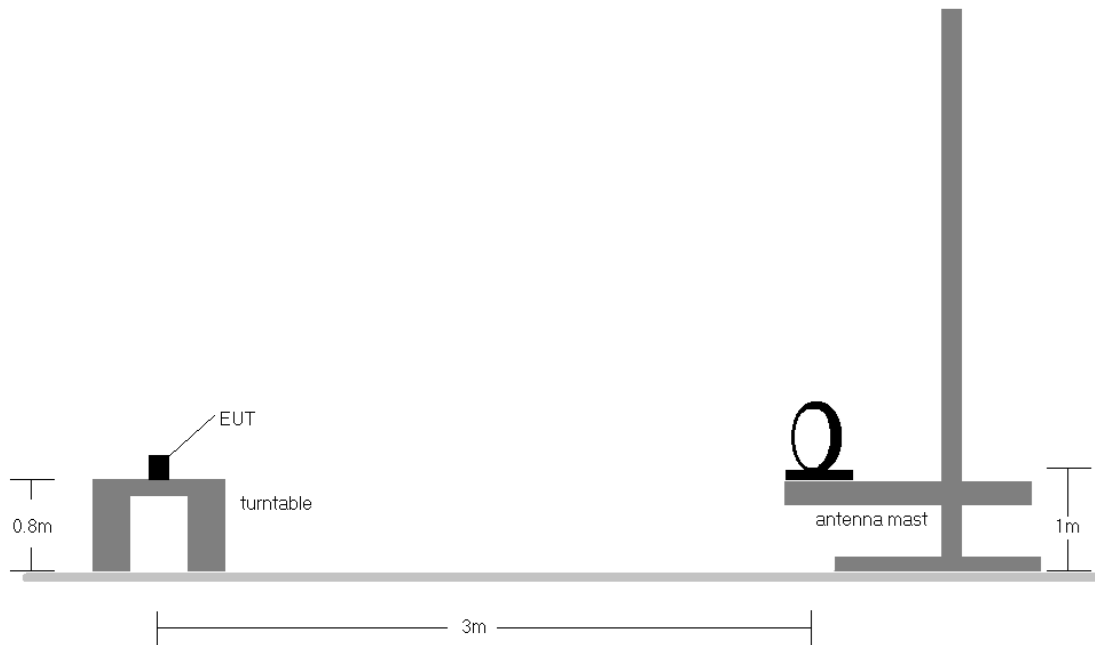


Figure 7-9. Radiated Test Setup < 30MHz

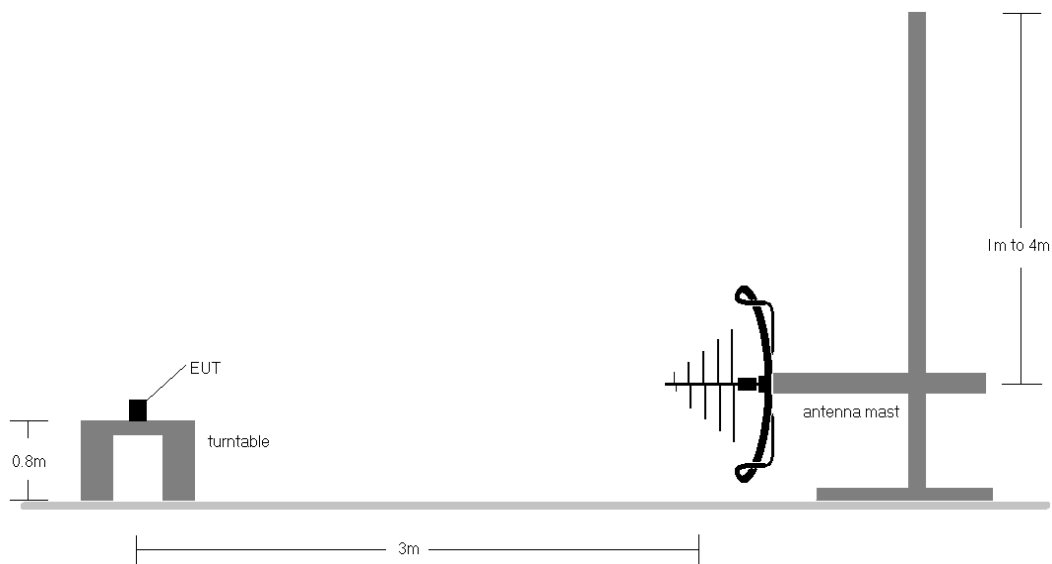


Figure 7-10. Radiated Test Setup < 1GHz

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-20.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes. For below 30MHz the loop antenna was positioned in 3 orthogonal planes (X front, Y side, Z top) to determine the orientation resulting in the worst case emissions.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector on emissions that were within 6dB of the limit.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. All supported modulation, antenna (including TxBF mode) and power schemes have been tested on the unit and only worst case configuration is reported.
10. Both configurations below were investigated, and the worst case has been reported.
 - a. EUT powered by AC/DC adaptor to USB-C Power Pack to Magnetic Charging Cable.
 - b. EUT powered by host PC via USB-C Power Pack to Magnetic Charging Cable.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]} - \text{Preamplifier Gain }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit }_{[dB\mu V/m]}$

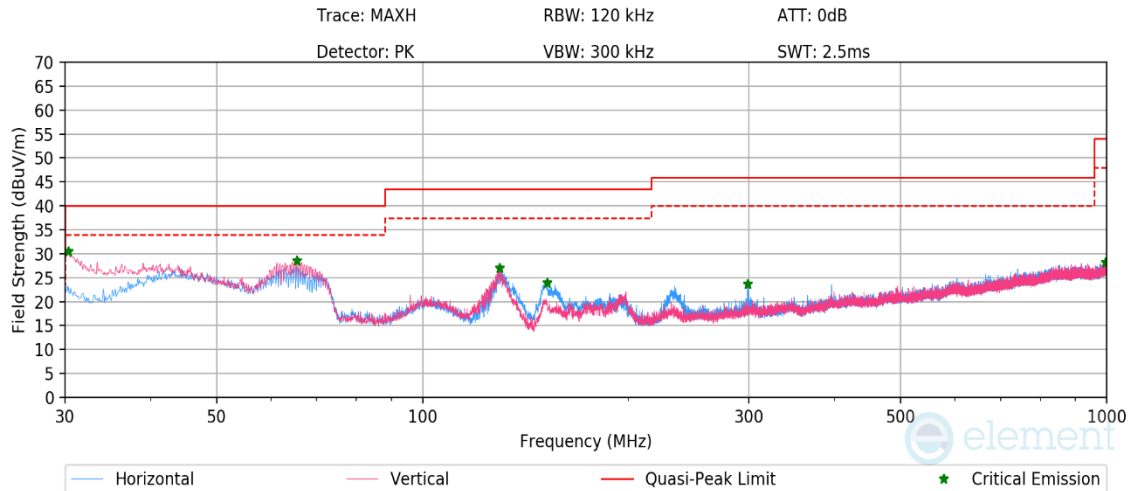
FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 90 of 96

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Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

TxBF



Plot 7-105. Radiated Spurious Emissions Below 1GHz TxBF (GFSK ePA – Ch.0, with AC/DC adaptor to USB-C Power Pack to Magnetic Charging Cable)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
30.36	Max-Peak	V	100	354	-57.27	-19.25	30.48	40.00	-9.52
65.52	Max-Peak	V	200	264	-59.81	-18.58	28.61	40.00	-11.39
129.48	Max-Peak	V	100	10	-59.25	-20.70	27.05	43.50	-16.45
152.11	Max-Peak	H	100	284	-62.00	-21.00	23.99	43.50	-19.51
298.63	Max-Peak	H	100	7	-67.76	-15.52	23.72	46.00	-22.28
996.94	Max-Peak	H	300	301	-75.34	-3.53	28.12	54.00	-25.88

Table 7-21. Radiated Spurious Emissions Below 1GHz TxBF (GFSK ePA – Ch.0, with AC/DC adaptor to USB-C Power Pack to Magnetic Charging Cable)

FCC ID: BCGA3416 IC: 579C-A3416		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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7.11 AC Line-Conducted Emissions Measurement

§15.207; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for AC Line conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

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

Table 7-22. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2020, Section 6.2

Test Settings

Quasi-Peak Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

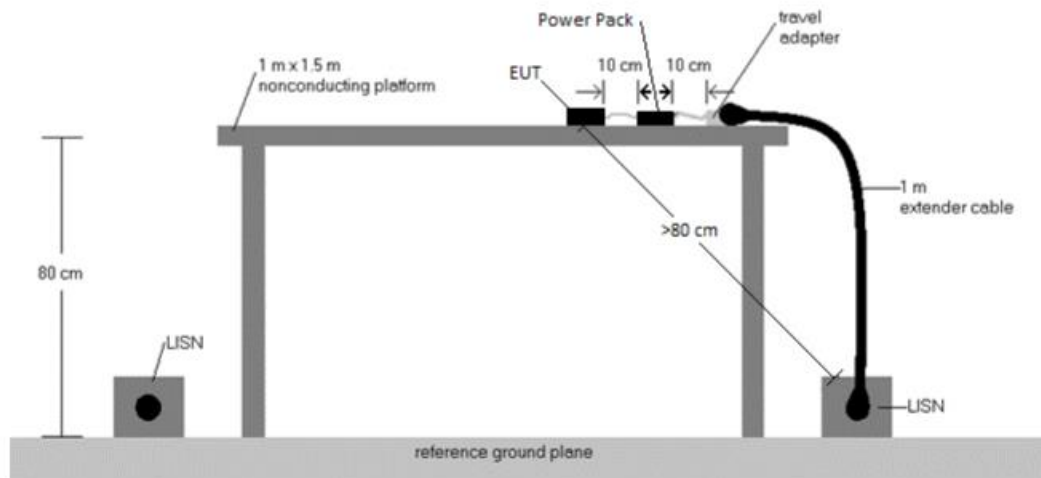


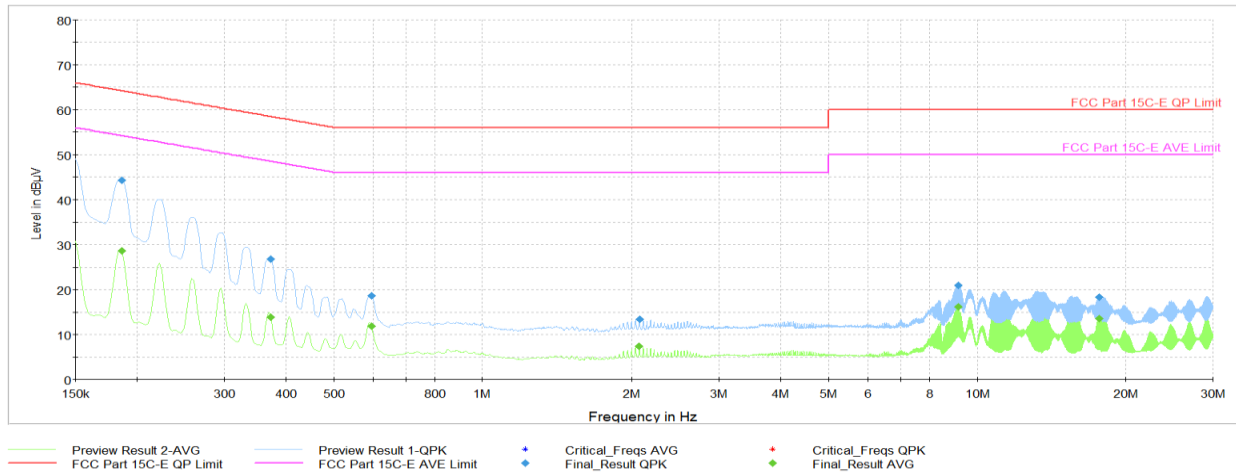
Figure 7-11. Test Instrument & Measurement Setup

Test Notes

- All modes of operation were investigated and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
- Both configurations below were investigated, and the worst case has been reported.
 - EUT powered by AC/DC adaptor to USB-C Power Pack to Magnetic Charging Cable.
 - EUT powered by host PC via USB-C Power Pack to Magnetic Charging Cable.
- The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen (8.8).
- $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
- $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
- $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
- Traces shown in plot are made using a quasi peak and average detectors.
- Deviations to the Specifications: None.

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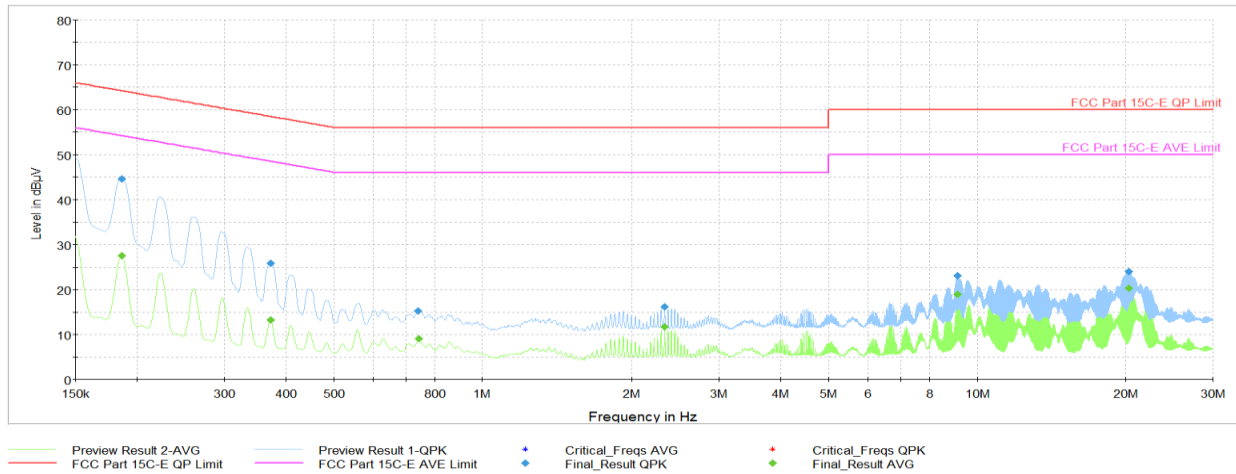


Plot 7-106. AC Line-Conducted Test Plot TxBF (L1, GFSK ePA – Ch.0, with AC/DC adapter to USB-C Power Pack to Magnetic Charging Cable)

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.186	FINAL	—	28.64	54.21	-25.58	L1	GND
0.186	FINAL	44.3	—	64.21	-19.97	L1	GND
0.373	FINAL	—	13.81	48.44	-34.63	L1	GND
0.373	FINAL	26.8	—	58.44	-31.60	L1	GND
0.596	FINAL	—	11.95	46.00	-34.05	L1	GND
0.596	FINAL	18.7	—	56.00	-37.31	L1	GND
2.069	FINAL	—	7.36	46.00	-38.64	L1	GND
2.072	FINAL	13.3	—	56.00	-42.67	L1	GND
9.170	FINAL	21.0	—	60.00	-38.96	L1	GND
9.170	FINAL	—	16.22	50.00	-33.78	L1	GND
17.635	FINAL	—	13.59	50.00	-36.41	L1	GND
17.635	FINAL	18.3	—	60.00	-41.69	L1	GND

Table 7-23. AC Line-Conducted Test Data TxBF (L1, GFSK ePA – Ch.0, with AC/DC adapter to USB-C Power Pack to Magnetic Charging Cable)

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Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 94 of 96



Plot 7-107. AC Line-Conducted Test Plot TxBF (N, GFSK ePA – Ch.0, with AC/DC adapter to USB-C Power Pack to Magnetic Charging Cable)

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.186	FINAL	—	27.58	54.21	-26.64	N	GND
0.186	FINAL	44.5	—	64.21	-19.74	N	GND
0.373	FINAL	—	13.23	48.44	-35.21	N	GND
0.373	FINAL	25.9	—	58.44	-32.56	N	GND
0.740	FINAL	15.3	—	56.00	-40.74	N	GND
0.744	FINAL	—	9.04	46.00	-36.96	N	GND
2.330	FINAL	16.3	—	56.00	-39.75	N	GND
2.330	FINAL	—	11.68	46.00	-34.32	N	GND
9.132	FINAL	23.1	—	60.00	-36.91	N	GND
9.132	FINAL	—	19.00	50.00	-31.00	N	GND
20.261	FINAL	—	20.35	50.00	-29.65	N	GND
20.261	FINAL	24.1	—	60.00	-35.94	N	GND

Table 7-24. AC Line-Conducted Test Data TxBF (N, GFSK ePA – Ch.0, with AC/DC adapter to USB-C Power Pack to Magnetic Charging Cable)

FCC ID: BCGA3416 IC: 579C-A3416			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 95 of 96	

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Apple Head Mounted Device** **FCC ID: BCGA3416 and IC: 579C-A3416** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules and RSS-247 of the Innovation, Science and Economic Development Canada Rules.

FCC ID: BCGA3416 IC: 579C-A3416	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2505120065-01.BCG	Test Dates: 5/12/2025 - 08/29/2025	EUT Type: Head Mounted Device	Page 96 of 96

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