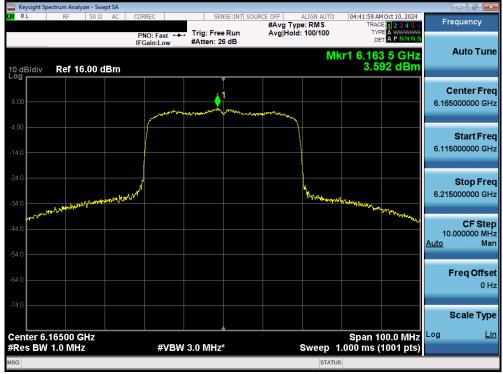


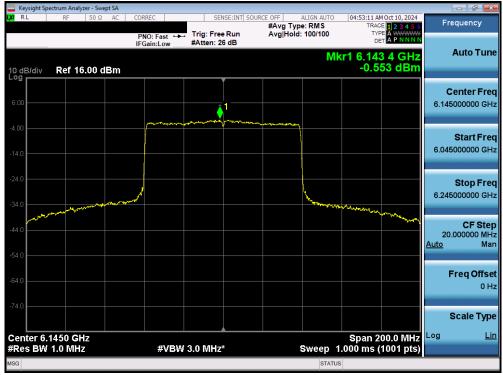
Plot 7-86. Power Spectral Density Plot MIMO ANT1 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - SP



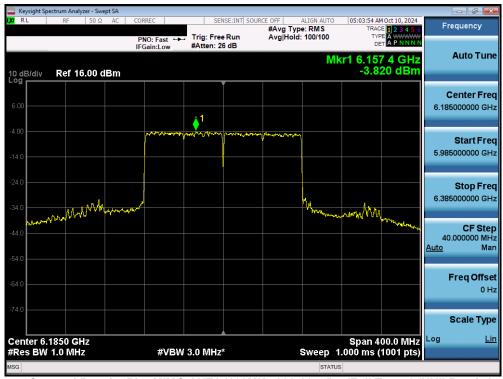
Plot 7-87. Power Spectral Density Plot MIMO ANT1 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 102 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 102 of 202
1W2400200000-20.A3L	09/03/24 - 11/00/2024	Fortable Hariuset	1/00000101





Plot 7-88. Power Spectral Density Plot MIMO ANT1 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - SP



Plot 7-89. Power Spectral Density Plot MIMO ANT1 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 102 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 103 of 202





Plot 7-90. Power Spectral Density Plot MIMO ANT1 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - SP

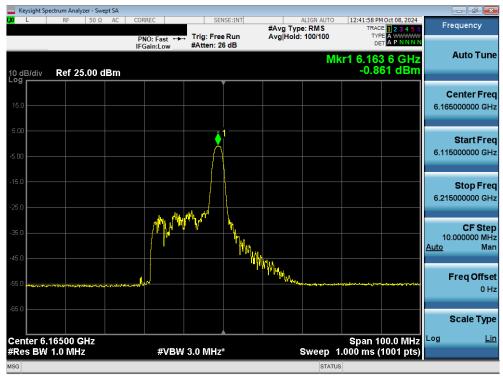
FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 104 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024 Portable Handset		Page 104 of 202
•	Test Dates: 09/03/24 - 11/06/2024		Page



# 7.5.2 MIMO Antenna-2 Power Spectral Density Measurements



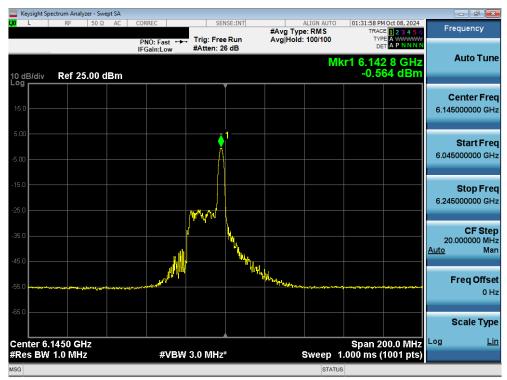
Plot 7-91. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - LPI



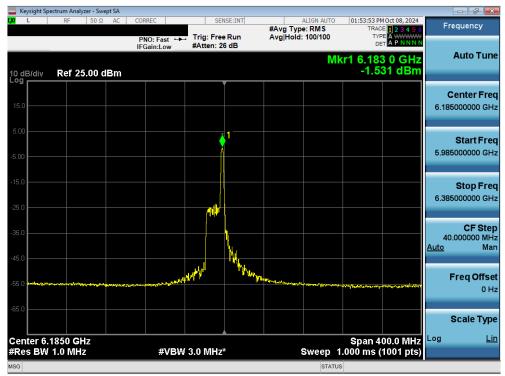
Plot 7-92. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dago 105 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 105 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	1 490 100 01 201	





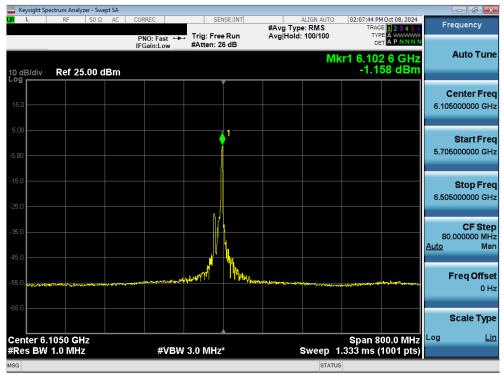
Plot 7-93. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - LPI



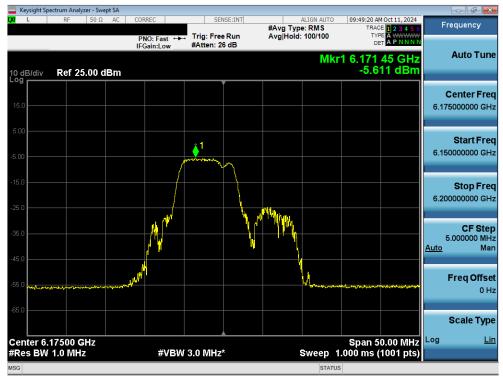
Plot 7-94. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 106 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024		
0.0004 ELEMENT			1100000010110010





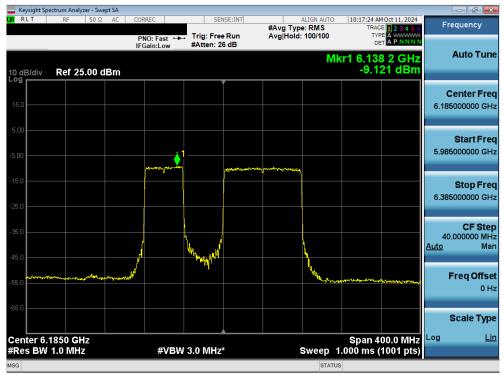
Plot 7-95. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - LPI



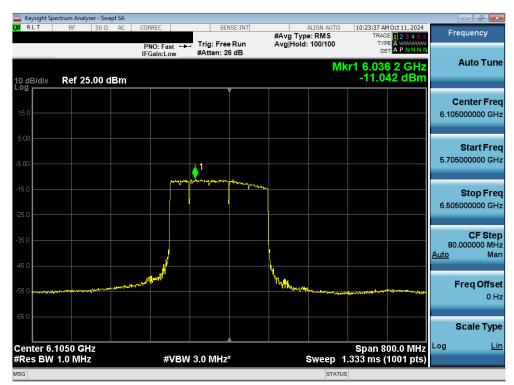
Plot 7-96. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11be (52+26 Tones) (UNII Band 5) - Ch. 45) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 107 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024 Portable Handset		Page 107 of 202
· ·	Test Dates: 09/03/24 - 11/06/2024		Page 107





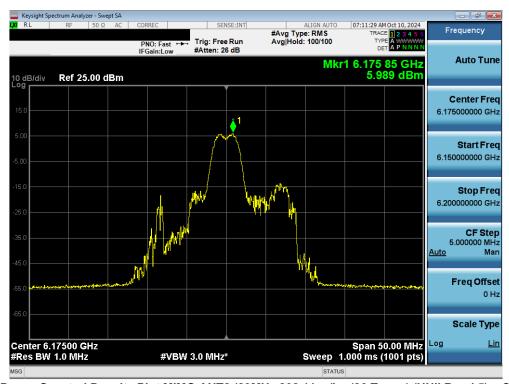
Plot 7-97. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) LPI



Plot 7-98. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11be (UNII Band 5) - Ch. 31) LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 109 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024 Portable Handset		Page 106 01 202
•	Test Dates: 09/03/24 - 11/06/2024	1	Page 108





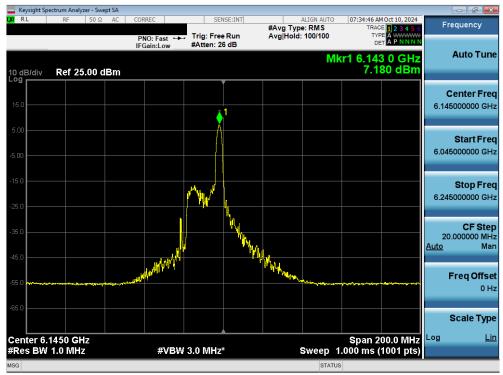
Plot 7-99. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - SP



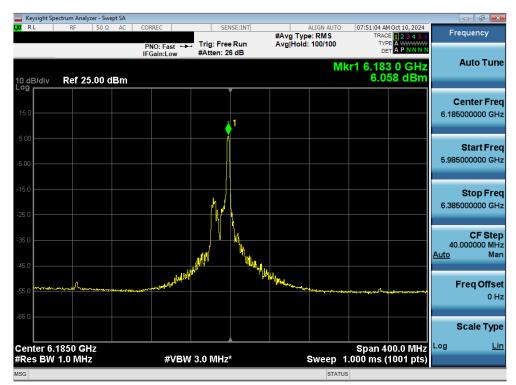
Plot 7-100. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 109 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 109 01 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	)





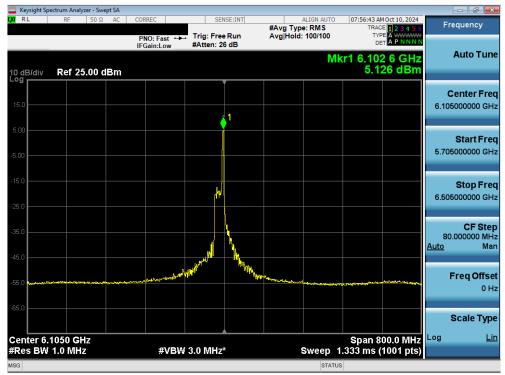
Plot 7-101. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - SP



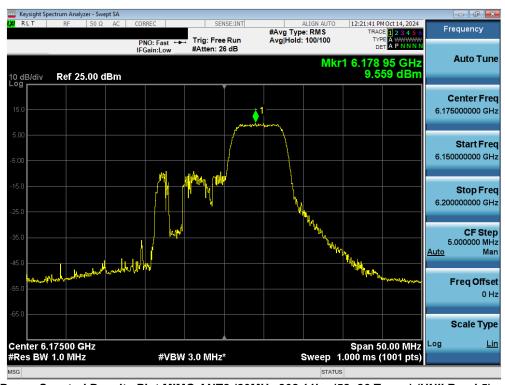
Plot 7-102. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dago 110 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 110 of 202	
1W2400200000-20.A3L	09/03/24 - 11/00/2024	Fullable Halluset	14000001041004	





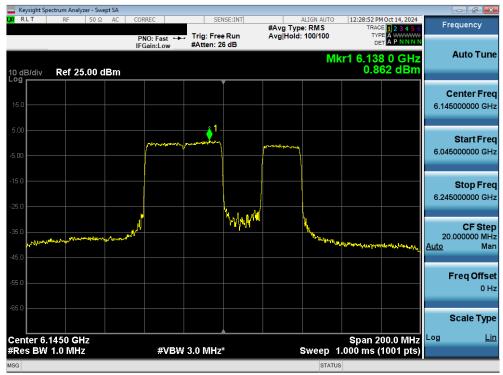
Plot 7-103. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - SP



Plot 7-104. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11be (52+26 Tones) (UNII Band 5) - Ch. 45) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 111 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024 Portable Handset		Page 111 01 202





Plot 7-105. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11be (484+242 Tones) (UNII Band 5) - Ch. 39) SP



Plot 7-106. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dago 112 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 112 of 202	
1W2400200000-20.A3L	00/00/24 - 11/00/2024	1 Ottable Hallaset	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	

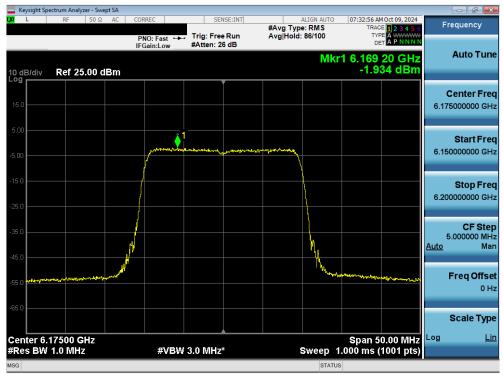




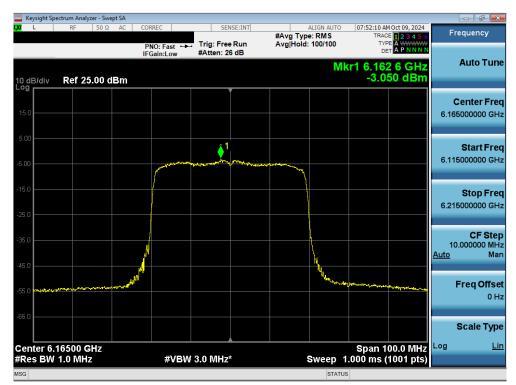
Plot 7-107. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11be (UNII Band 5) - Ch. 31) SP

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dags 412 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 113 of 202
O COOM EL EMENT			V 0 0 00/04/0040





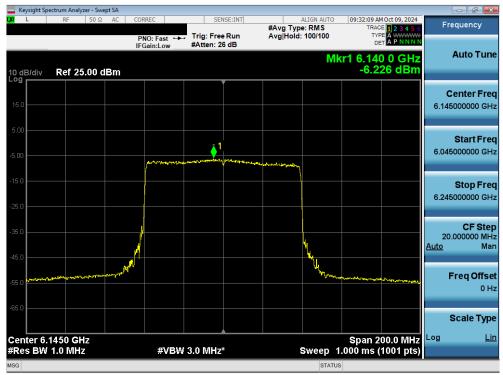
Plot 7-108. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - LPI



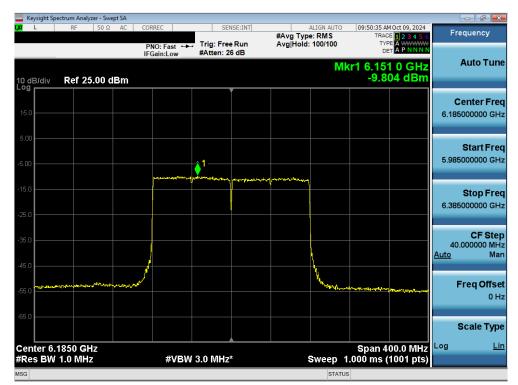
Plot 7-109. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 111 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 114 of 202	





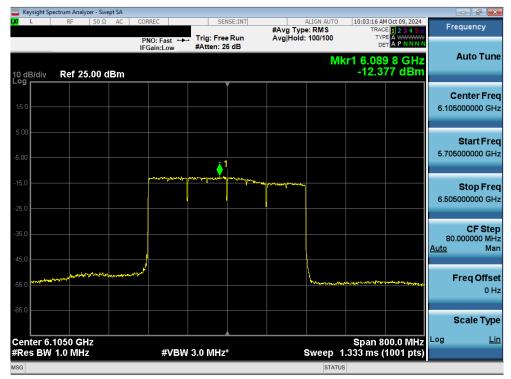
Plot 7-110. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - LPI



Plot 7-111. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 115 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 115 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	1 490 110 01 202	

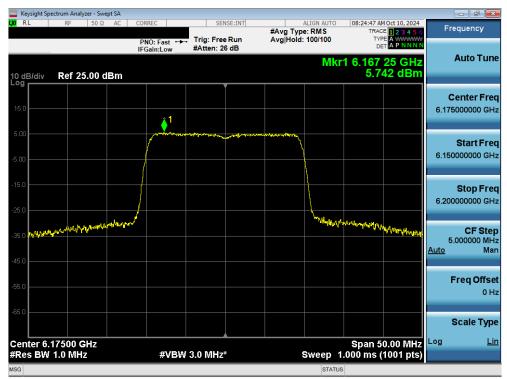




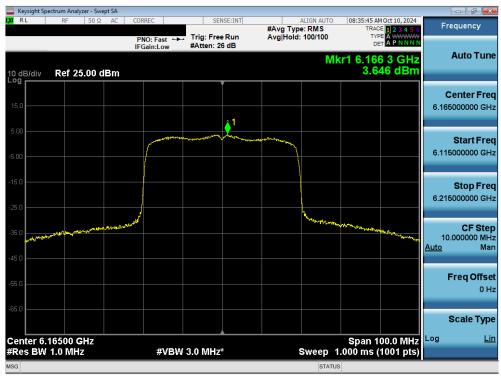
Plot 7-112. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 116 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	rage 110 01 202
		1	Page 116 d





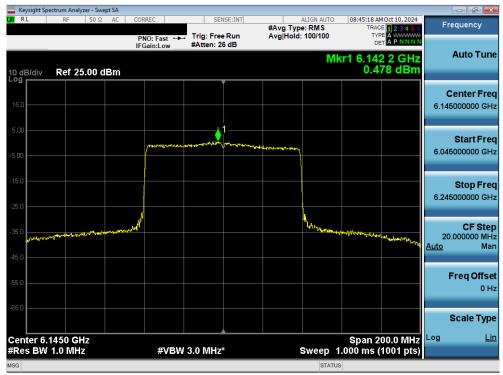
Plot 7-113. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - SP



Plot 7-114. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates: EUT Type:		Page 117 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 117 of 202	
O COOM EL EMENT	***************************************	1	110000010110011	





Plot 7-115. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - SP



Plot 7-116. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - SP

Technical Manager
Page 118 of 202
Page 116 01 202





Plot 7-117. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - SP

MEASUREMENT REPORT		Approved by: Technical Manager	
Test Dates:	EUT Type:	Dago 110 of 202	
09/03/24 - 11/06/2024	Portable Handset	Page 119 of 202	
		Test Dates: EUT Type:	



#### Note

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where GN is the gain of the nth antenna and NANT, the total number of antennas used.

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

#### Sample MIMO Calculation:

At 5935MHz in 802.11be (20MHz BW) mode, the average conducted power spectral density was measured to be -2.28 dBm for Antenna-1 and -0.74 dBm for Antenna-2.

$$(-2.28 \text{ dBm} + -0.74 \text{ dBm}) = (0.591 \text{ mW} + 0.844 \text{ mW}) = 1.435 \text{ mW} = 1.57 \text{ dBm}$$

#### Sample e.i.r.p Power Spectral Density Calculation:

At 5935 MHz in 802.11be (20MHz BW) mode, the average MIMO power density was calculated to be 1.57 dBm with directional gain of -2.79 dBi.

$$1.57 \text{ dBm} + -2.79 \text{ dBi} = -1.22 \text{ dBm}$$

MEASUREMENT REPORT	
	Page 120 of 202
09/03/24 - 11/06/2024 Portable Handset	



### 7.6 In-Band Emissions

#### **Test Overview and Limit**

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies.

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

### **Test Procedure Used**

KDB 987594 D02

#### **Test Settings**

- Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as
  to not damage the instrumentation.
- Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
- Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (This will be used to determine the channel edge.)
- 4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
  - a) Set the span to encompass the entire 26 dB EBW of the signal.
  - b) Set RBW = same RBW used for 26 dB EBW measurement.
  - c) Set VBW ≥ 3 X RBW
  - d) Number of points in sweep ≥ [2 X span / RBW].
  - e) Sweep time = auto.
  - f) Detector = RMS (i.e., power averaging)
  - g) Trace average at least 100 traces in power averaging (rms) mode.
  - n) Use the peak search function on the instrument to find the peak of the spectrum.
- For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
   Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
  - a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
  - b) Suppressed by 28 dB at one channel bandwidth from the channel center.
  - c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
- 7. Adjust the span to encompass the entire mask as necessary.
- Clear trace.
- 9. Trace average at least 100 traces in power averaging (rms) mode.
- 10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 101 of 000	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 121 of 202	



### **Test Setup**

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



Figure 7-4. Test Instrument & Measurement Setup

## **Test Notes**

None.

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 122 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 122 01 202
O COOL ELEMENT	1		1/00000101/0010



MODE   Emission   E	PASS PASS PASS PASS PASS PASS PASS PASS
6175 45 be (20MHz) PASS 6415 93 be (20MHz) PASS 5965 3 be (40MHz) PASS 6165 43 be (40MHz) PASS 6405 91 be (40MHz) PASS	PASS PASS PASS PASS PASS PASS PASS PASS
6175 45 be (20MHz) PASS 6415 93 be (20MHz) PASS 5965 3 be (40MHz) PASS 6165 43 be (40MHz) PASS 6405 91 be (40MHz) PASS	PASS PASS PASS PASS PASS PASS PASS PASS
6415 93 be (20MHz) PASS 5965 3 be (40MHz) PASS 6165 43 be (40MHz) PASS 6405 91 be (40MHz) PASS	PASS PASS PASS PASS PASS PASS
5965 3 be (40MHz) PASS 6165 43 be (40MHz) PASS 6405 91 be (40MHz) PASS	PASS PASS PASS PASS PASS
6165 43 be (40MHz) PASS 6405 91 be (40MHz) PASS	PASS PASS PASS PASS
6405 91 be (40MHz) PASS	PASS PASS PASS
	PASS PASS
5985 7 be (80MHz) PASS	PASS
5985 7 be (80MHz) PASS 6145 39 be (80MHz) PASS	
	DALL
6385 87 be (80MHz) PASS 6025 15 be (160MHz) PASS	PASS PASS
	PASS
6345 79 be (160MHz) PASS	PASS
6105 31 be (320MHz) PASS	PASS
6265 63 be (320MHz) PASS	PASS
6435 97 be (20MHz) PASS	PASS
6475 105 be (20MHz) PASS	PASS
6515 113 be (20MHz) PASS	PASS
6445 99 be (40MHz) PASS 6485 107 be (40MHz) PASS	PASS
	PASS
6525 115 be (40MHz) PASS	PASS
6465 103 be (80MHz) PASS	PASS
6505 111 be (160MHz) PASS	PASS
Band 5/6/7 6425 95 be (320MHz) PASS	PASS
6695 117 be (20MHz) PASS	PASS
6695 149 be (20MHz) PASS	PASS
6875 185 be (20MHz) PASS	PASS
6565 123 be (40MHz) PASS	PASS
6725 155 be (40MHz) PASS	PASS
6725 155 be (40MHz) PASS 6845 179 be (40MHz) PASS	PASS
0545 119 DE (80IVIAZ) PASS	PASS
6705 151 be (80MHz) PASS	PASS
6865 183 be (80MHz) PASS	PASS
6665 143 be (160MHz) PASS	PASS
6825 175 be (160MHz) PASS	PASS
Band 6/7         6585         127         be (320MHz)         PASS	PASS
Band 7/8         6745         159         be (320MHz)         PASS	PASS
6895 189 be (20MHz) PASS	PASS
6995 209 be (20MHz) PASS	PASS
7115 233 be (20MHz) PASS	PASS
6885 187 be (40MHz) PASS	PASS
6885 187 be (40MHz) PASS 6965 211 be (40MHz) PASS	PASS
7085 227 be (40IVIHZ) PASS	PASS
6945 199 be (80MHz) PASS	PASS
7025 215 be (80MHz) PASS	PASS
6985 207 be (160MHz) PASS	PASS
Band 7/8 6985 191 be (320MHz) PASS 7-80. In Band Emissions Results Measurements (2	PASS

Table 7-80. In Band Emissions Results Measurements (26 Tones) - LPI

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 123 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 123 01 202
9.2024 ELEMENT			



	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
	5935	2	be (20MHz)	PASS	PASS
	6175	45	be (20MHz)	PASS	PASS
	6415	93	be (20MHz)	PASS	PASS
	5965	3	be (40MHz)	PASS	PASS
	6165	43	be (40MHz)	PASS	PASS
	6405	91	be (40MHz)	PASS	PASS
Band 5	5985	7	be (80MHz)	PASS	PASS
3an	6145	39	be (80MHz)	PASS	PASS
_	6385	87	be (80MHz)	PASS	PASS
	6025	15	be (160MHz)	PASS	PASS
	6185	47	be (160MHz)	PASS	PASS
	6345	79	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
	6265	63	be (320MHz)	PASS	PASS
	6435	97	be (20MHz)	PASS	PASS
	6475	105	be (20MHz)	PASS	PASS
	6515	113	be (20MHz)	PASS	PASS
9 P	6445	99	be (40MHz)	PASS	PASS
Band 6	6485	107	be (40MHz)	PASS	PASS
В	6525	115	be (40MHz)	PASS	PASS
	6465	103	be (80MHz)	PASS	PASS
	6505	111	be (160MHz)	PASS	PASS
Band 5/6/7	6425	95	be (320MHz)	PASS	PASS
	6695	117	be (20MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
	6875	185	be (20MHz)	PASS	PASS
	6565	123	be (40MHz)	PASS	PASS
7	6725	155	be (40MHz)	PASS	PASS
Band 7	6845	179	be (40MHz)	PASS	PASS
Ва	6545	119	be (80MHz)	PASS	PASS
	6705	151	be (80MHz)	PASS	PASS
	6865	183	be (80MHz)	PASS	PASS
	6665	143	be (160MHz)	PASS	PASS
	6825	175	be (160MHz)	PASS	PASS
Band 6/7	6585	127	be (320MHz)	PASS	PASS
Band 7/8	6745	159	be (320MHz)	PASS	PASS
	6895	189	be (20MHz)	PASS	PASS
	6995	209	be (20MHz)	PASS	PASS
	7115	233	be (20MHz)	PASS	PASS
<b>∞</b>	6885	187	be (40MHz)	PASS	PASS
Band 8	6965	211	be (40MHz)	PASS	PASS
Ba	7085	227	be (40MHz)	PASS	PASS
	6945	199	be (80MHz)	PASS	PASS
	7025	215	be (80MHz)	PASS	PASS
	6985	207	be (160MHz)	PASS	PASS
Band 7/8	6985	191	be (320MHz)	PASS	PASS
				suramants	

Table 7-81. In Band Emissions Results Measurements (Full Tones) - LPI

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dags 424 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 124 of 202
© 2024 ELEMENT			\/ 0 0 02/01/2010



	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
	6175	45	be (20MHz)	PASS	PASS
2 թւ	6145	39	be (80MHz)	PASS	PASS
Band	6185	47	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
9	6475	105	be (20MHz)	PASS	PASS
Band	6465	103	be (80MHz)	PASS	PASS
<u> </u>	6505	111	be (160MHz)	PASS	PASS
Band 5/6/7	6425	95	be (320MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
Band 7	6725	155	be (40MHz)	PASS	PASS
Bar	6705	151	be (80MHz)	PASS	PASS
	6825	175	be (160MHz)	PASS	PASS
Band 6/7	6585	127	be (320MHz)	PASS	PASS
Band 7/8	6745	159	be (320MHz)	PASS	PASS
•	6995	209	be (20MHz)	PASS	PASS
8 pt	6965	211	be (40MHz)	PASS	PASS
Band	6945	199	be (80MHz)	PASS	PASS
	6985	207	be (160MHz)	PASS	PASS
Band 7/8	6905	191	be (320MHz)	PASS	PASS

Table 7-82. In Band Emissions Results Measurements (MRU) - LPI

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 125 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 125 01 202
@ 2024 ELEMENT			V 0 0 02/04/2040



	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
	5935	2	be (20MHz)	PASS	PASS
	6175	45	be (20MHz)	PASS	PASS
	6415	93	be (20MHz)	PASS	PASS
	5965	3	be (40MHz)	PASS	PASS
	6165	43	be (40MHz)	PASS	PASS
	6405	91	be (40MHz)	PASS	PASS
Band 5	5985	7	be (80MHz)	PASS	PASS
Bar	6145	39	be (80MHz)	PASS	PASS
	6385	87	be (80MHz)	PASS	PASS
	6025	15	be (160MHz)	PASS	PASS
	6185	47	be (160MHz)	PASS	PASS
	6345	79	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
	6265	63	be (320MHz)	PASS	PASS
	6695	117	be (20MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
	6875	185	be (20MHz)	PASS	PASS
	6565	123	be (40MHz)	PASS	PASS
_	6725	155	be (40MHz)	PASS	PASS
Band 7	6845	179	be (40MHz)	PASS	PASS
œ ·	6545	119	be (80MHz)	PASS	PASS
	6705	151	be (80MHz)	PASS	PASS
	6865	183	be (80MHz)	PASS	PASS
	6665	143	be (160MHz)	PASS	PASS
	6825	175	be (160MHz)	PASS	PASS
<b>Band 7/8</b>	6745	159	be (320MHz)	PASS	PASS

Table 7-83. In Band Emissions Results Measurements (26 Tones) - SP

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 126 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 120 01 202
© 2024 ELEMENT			\/ 0 0 02/01/2010



	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
	5935	2	be (20MHz)	PASS	PASS
	6175	45	be (20MHz)	PASS	PASS
	6415	93	be (20MHz)	PASS	PASS
	5965	3	be (40MHz)	PASS	PASS
	6165	43	be (40MHz)	PASS	PASS
	6405	91	be (40MHz)	PASS	PASS
Band 5	5985	7	be (80MHz)	PASS	PASS
Bar	6145	39	be (80MHz)	PASS	PASS
	6385	87	be (80MHz)	PASS	PASS
	6025	15	be (160MHz)	PASS	PASS
	6185	47	be (160MHz)	PASS	PASS
	6345	79	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
	6265	63	be (320MHz)	PASS	PASS
	6695	117	be (20MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
	6875	185	be (20MHz)	PASS	PASS
	6565	123	be (40MHz)	PASS	PASS
_	6725	155	be (40MHz)	PASS	PASS
Band 7	6845	179	be (40MHz)	PASS	PASS
œ ·	6545	119	be (80MHz)	PASS	PASS
	6705	151	be (80MHz)	PASS	PASS
	6865	183	be (80MHz)	PASS	PASS
	6665	143	be (160MHz)	PASS	PASS
	6825	175	be (160MHz)	PASS	PASS
<b>Band 7/8</b>	6745	159	be (320MHz)	PASS	PASS

Table 7-84. In Band Emissions Results Measurements (Full Tones) - SP

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 127 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 127 01 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	V 0 0 02/04/20



	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
	6175	45	be (20MHz)	PASS	PASS
Jd 5	6145	39	be (80MHz)	PASS	PASS
Band	6185	47	be (160MHz)	PASS	PASS
	6265	63	be (320MHz)	PASS	PASS
_	6695	149	be (20MHz)	PASS	PASS
Band 7	6705	151	be (80MHz)	PASS	PASS
<u> </u>	6825	175	be (160MHz)	PASS	PASS
Band 7/8	6745	159	be (320MHz)	PASS	PASS

Table 7-85. In Band Emissions Results Measurements (MRU) - SP

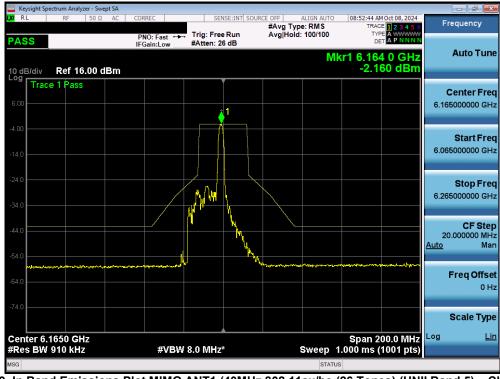
FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dags 120 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 128 of 202
© COOM ELEMENT			1/ 0 0 00/04/0040



## 7.6.1 MIMO Antenna-1 In-Band Emission Measurements



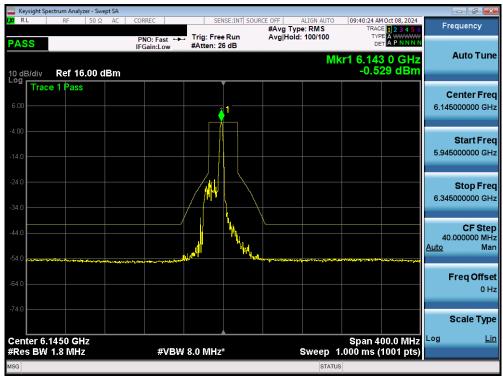
Plot 7-118. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - LPI



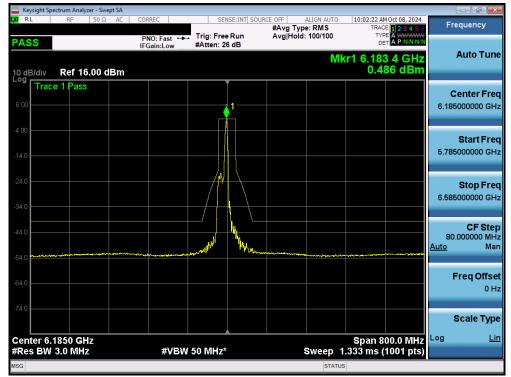
Plot 7-119. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 120 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 129 01 202
· ·			Page 129 of





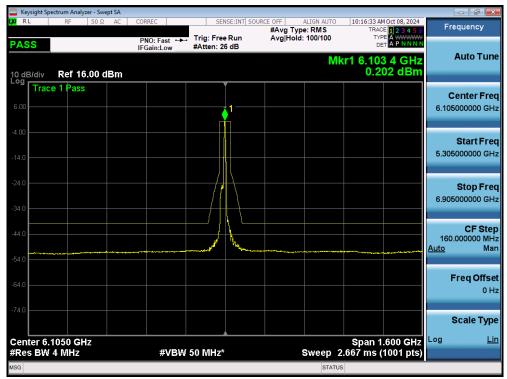
Plot 7-120. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - LPI



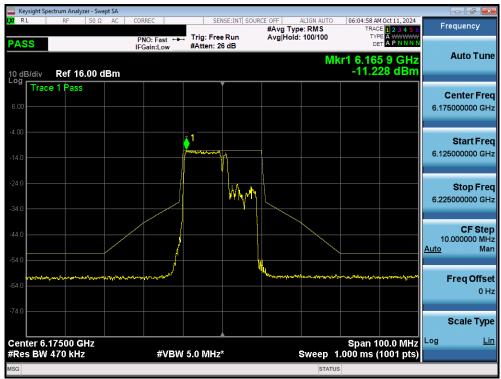
Plot 7-121. In Band Emissions Plot MIMO ANT1 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 120 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 130 01 202
•		1	Page 130





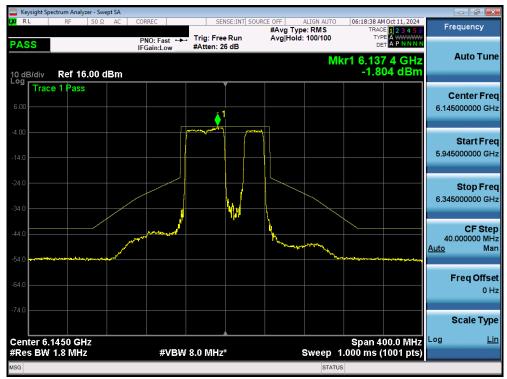
Plot 7-122. In Band Emissions Plot MIMO ANT1 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - LPI



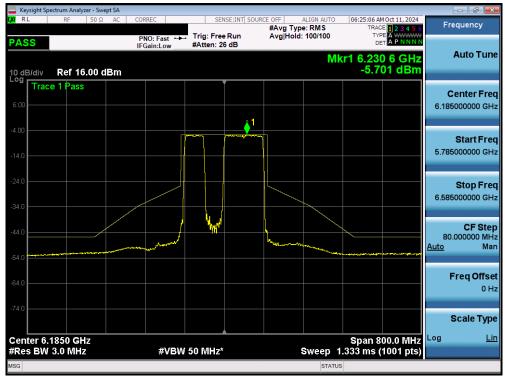
Plot 7-123. In Band Emissions Plot MIMO ANT1 (20MHz 802.11be (106+26 Tones) (UNII Band 5) - Ch. 45) - LPI

Technical Manager
Page 131 of 202
Fage 131 01 202
_





Plot 7-124. In Band Emissions Plot MIMO ANT1 (80MHz 802.11be (484+242 Tones) (UNII Band 5) - Ch. 39) LPI



Plot 7-125. In Band Emissions Plot MIMO ANT1 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 122 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 132 of 202
O OOO A EL EMENT	7	I	110000010110010

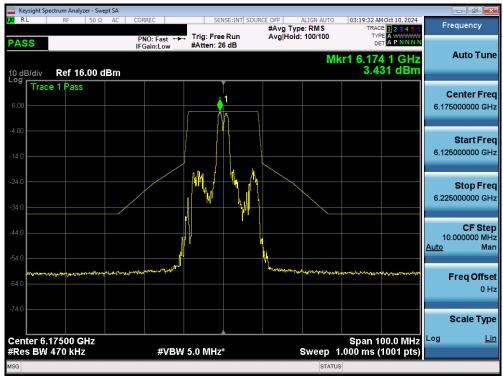




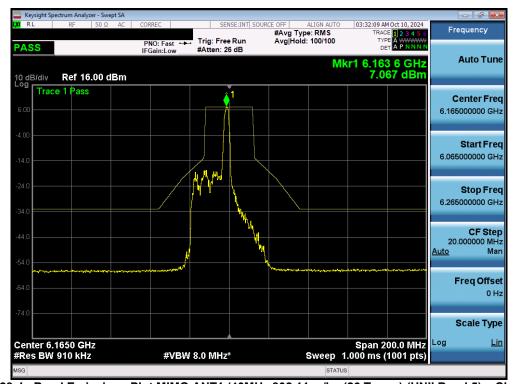
Plot 7-126. In Band Emissions Plot MIMO ANT1 (320MHz 802.11be (3\*996+484 Tones) (UNII Band 5) - Ch. 31) LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 122 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 133 01 202
		2.	Page 133 of





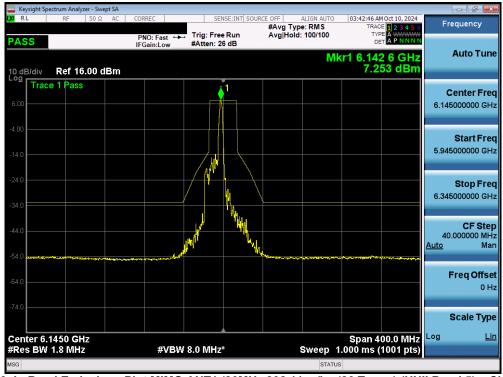
Plot 7-127. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - SP



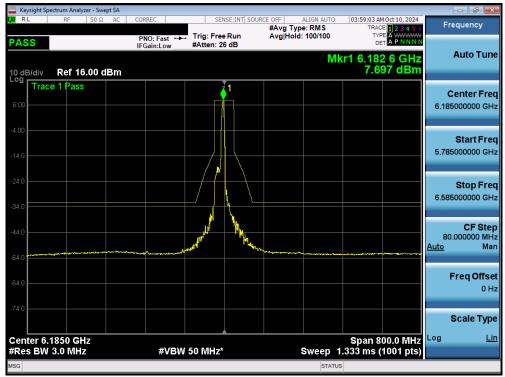
Plot 7-128. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 124 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 134 of 202
0.0004 ELEMENT	03/00/24 - 11/00/2024	1 Ortable FlandSet	1/00000010110011





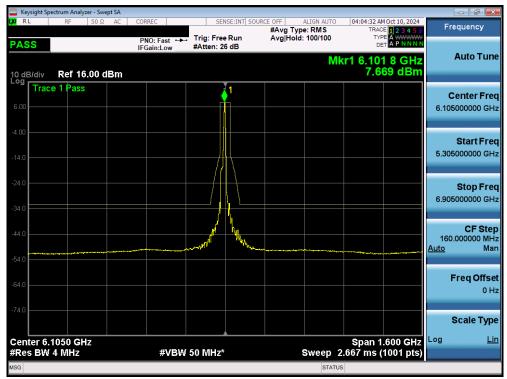
Plot 7-129. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - SP



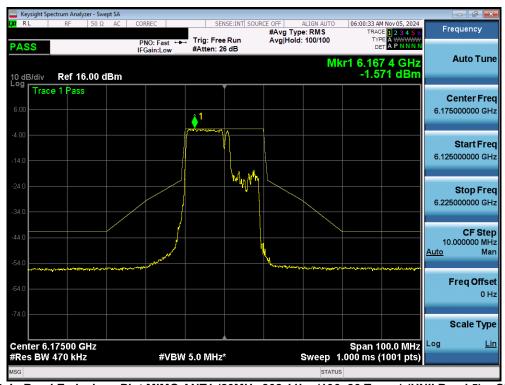
Plot 7-130. In Band Emissions Plot MIMO ANT1 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 125 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 135 01 202
•		1	Page 135





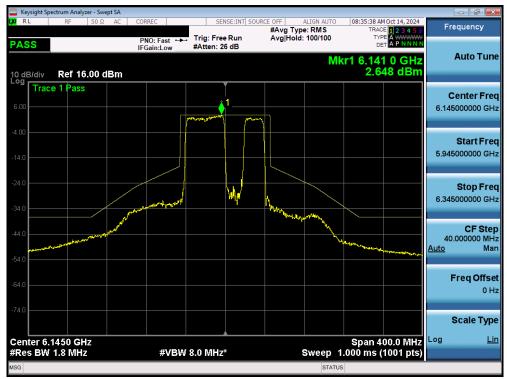
Plot 7-131. In Band Emissions Plot MIMO ANT1 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - SP



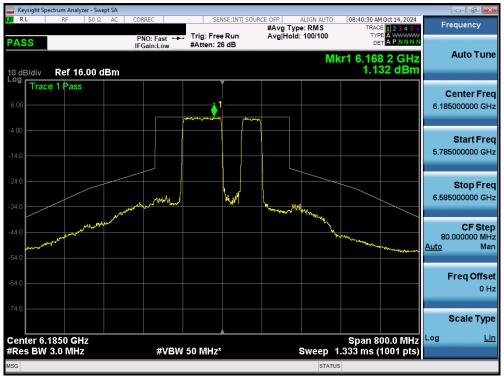
Plot 7-132. In Band Emissions Plot MIMO ANT1 (20MHz 802.11be (106+26 Tones) (UNII Band 5) - Ch. 45) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 126 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 136 of 202
•			Page 13





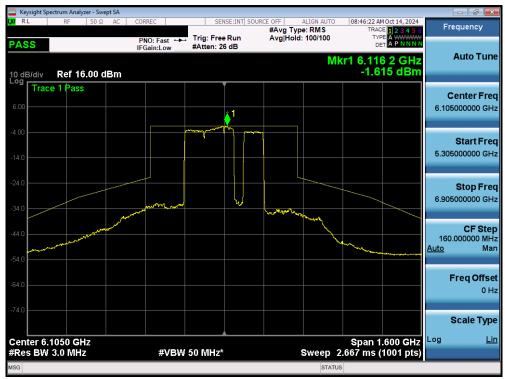
Plot 7-133. In Band Emissions Plot MIMO ANT1 (80MHz 802.11be (484+242 Tones) (UNII Band 5) - Ch. 39) SP



Plot 7-134. In Band Emissions Plot MIMO ANT1 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 127 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 137 of 202
O COOL ELEMENT		•	1/0 0 00/04/00/40

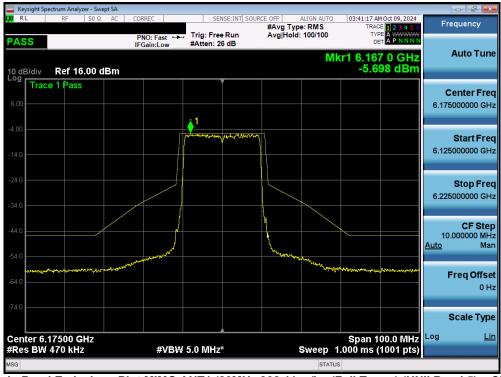




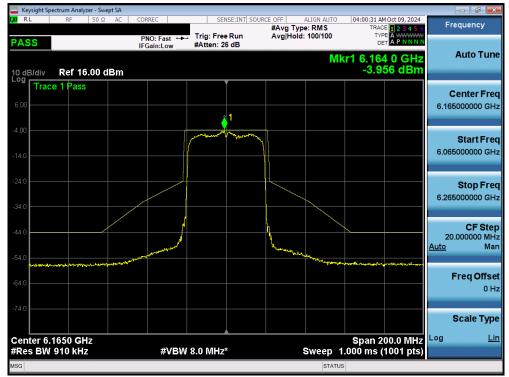
Plot 7-135. In Band Emissions Plot MIMO ANT1 (320MHz 802.11be (3\*996+484 Tones) (UNII Band 5) - Ch. 31) SP

FCC ID: A3LSMS936B		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 138 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 136 01 202
© 2024 ELEMENT			V 0 0 02/04/2040





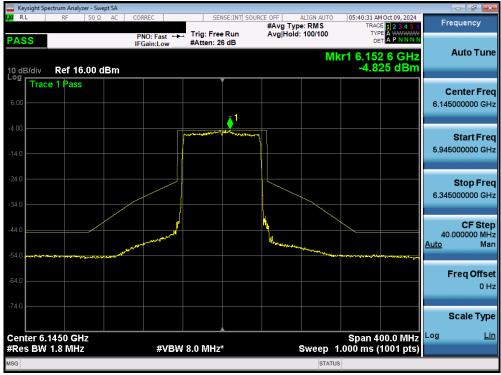
Plot 7-136. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - LPI



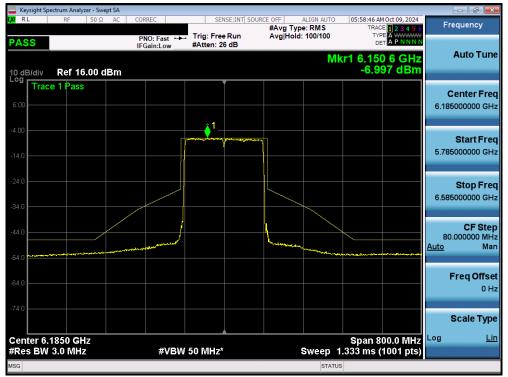
Plot 7-137. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 139 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 139 01 202
•		1	Page





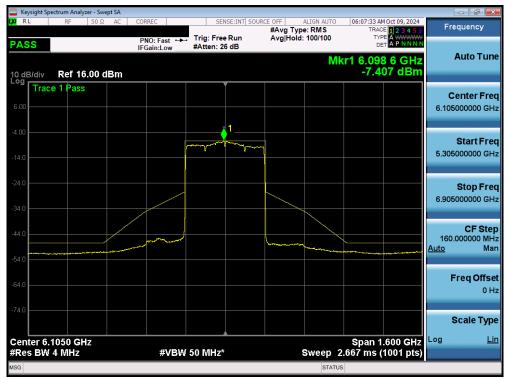
Plot 7-138. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - LPI



Plot 7-139. In Band Emissions Plot MIMO ANT1 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - LPI

Technical Manager
Page 140 of 202
-age 140 01 202
⊃ag

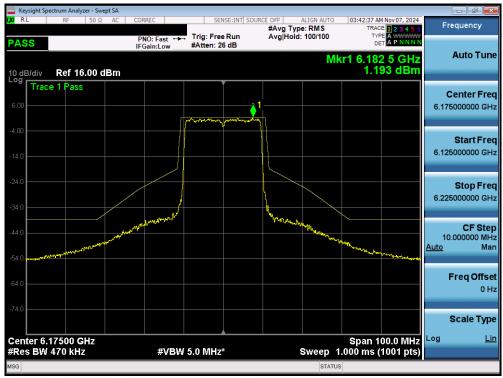




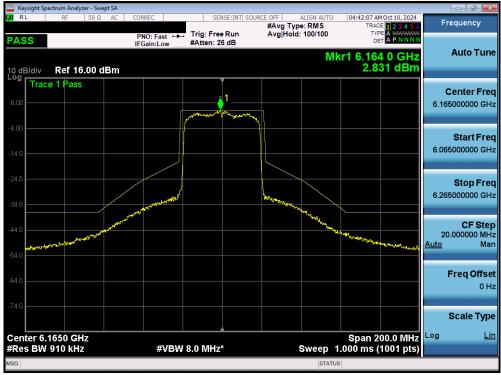
Plot 7-140. In Band Emissions Plot MIMO ANT1 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - LPI

Technical Manager
Page 141 of 202
raye 141 01 202





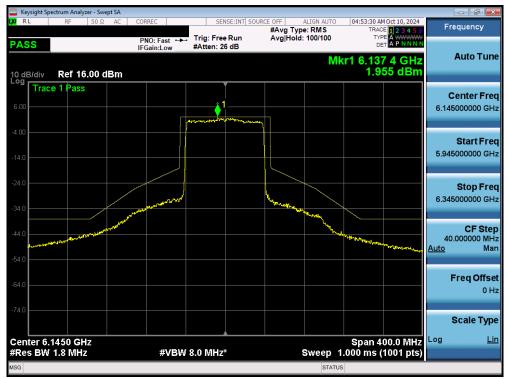
Plot 7-141. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - SP



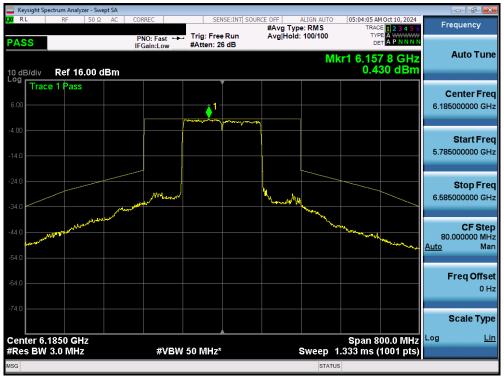
Plot 7-142. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 142 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	raye 142 01 202
C COOL EL EL EL EL EL EL	•	•	1/0 0 00/04/0040





Plot 7-143. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - SP



Plot 7-144. In Band Emissions Plot MIMO ANT1 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - SP

	MEASUREMENT REPORT	
Test Dates:	EUT Type:	Page 143 of 202
09/03/24 - 11/06/2024	Portable Handset	Page 143 01 202





Plot 7-145. In Band Emissions Plot MIMO ANT1 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - SP

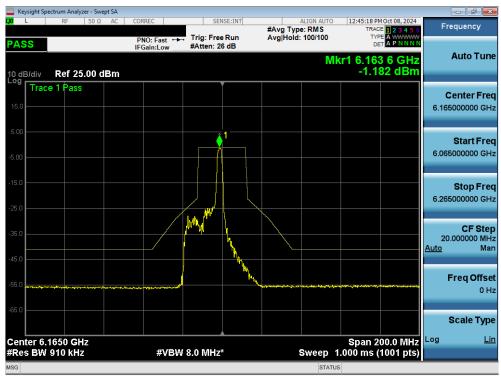
FCC ID: A3LSMS936B		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 144 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 144 01 202
© COOM ELEMENT	•	·	V 0 0 00/04/0040



## 7.6.2 MIMO Antenna-2 In-Band Emission Measurements



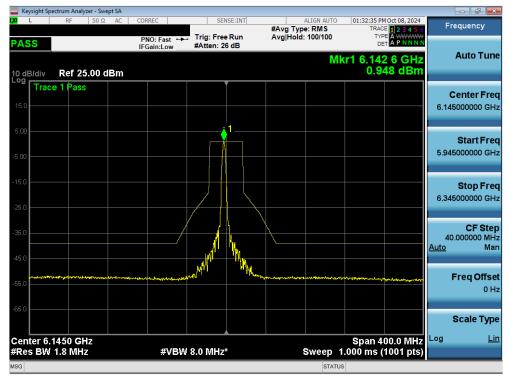
Plot 7-146. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - LPI



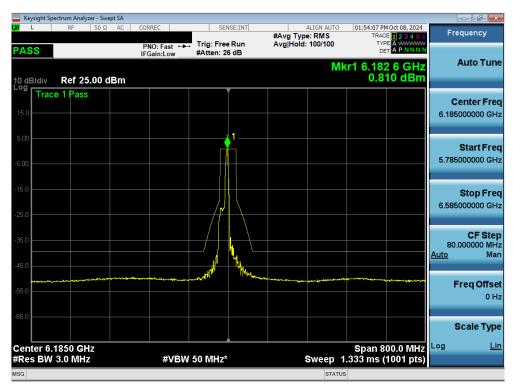
Plot 7-147. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 145 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 145 of 202
© COOM ELEMENT		·	V 0 0 00/04/0040





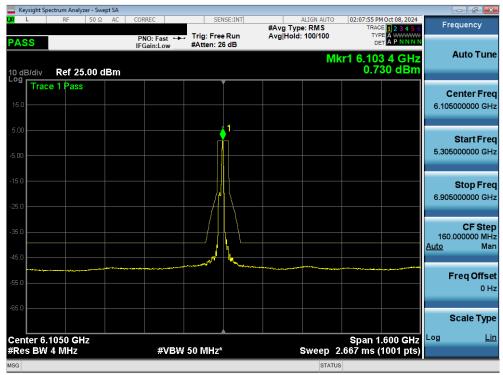
Plot 7-148. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - LPI



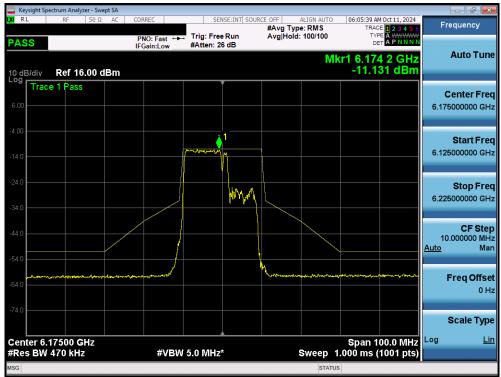
Plot 7-149. In Band Emissions Plot MIMO ANT2 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 146 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	raye 140 01 202
O COOM EL EMENT			110000010110010





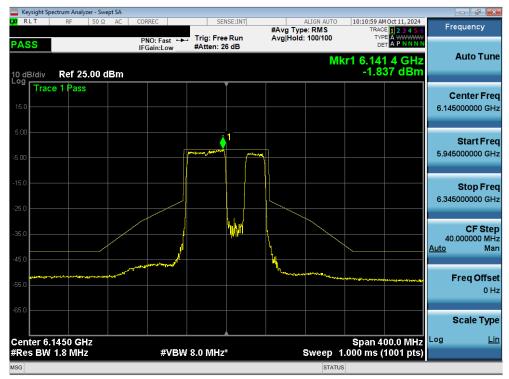
Plot 7-150. In Band Emissions Plot MIMO ANT2 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - LPI



Plot 7-151. In Band Emissions Plot MIMO ANT2 (20MHz 802.11be (106+26 Tones) (UNII Band 5) - Ch. 45) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 147 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	raye 147 01 202
O COOL ELEMENT		•	1/0000010110010





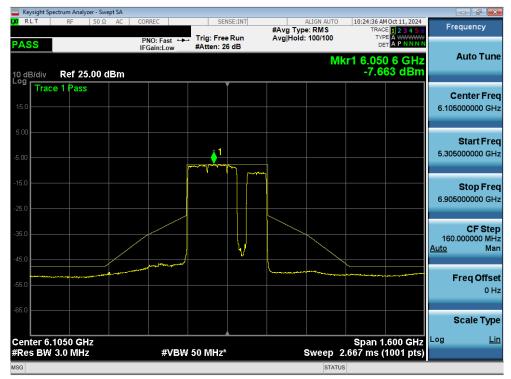
Plot 7-152. In Band Emissions Plot MIMO ANT2 (80MHz 802.11be (484+242 Tones) (UNII Band 5) – Ch. 39) (484+242 Tones) LPI



Plot 7-153. In Band Emissions Plot MIMO ANT2 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) LPI

ASUREMENT REPORT	Technical Manager
:	Page 148 of 202
andset	Fage 140 01 202
	: andset

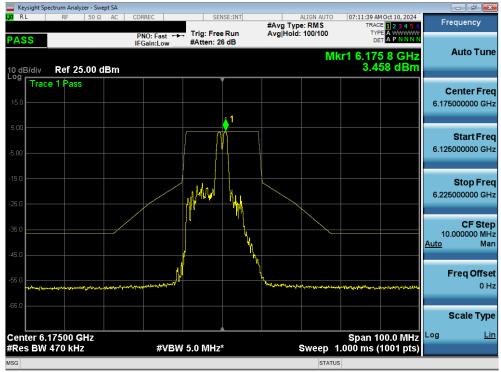




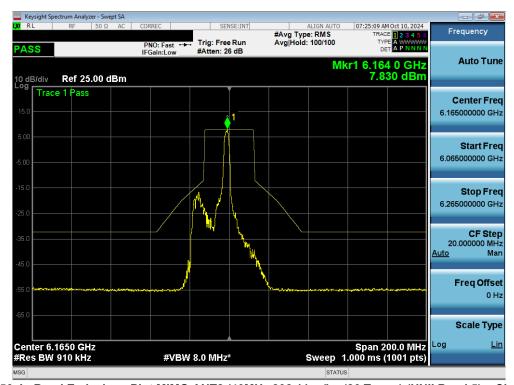
Plot 7-154. In Band Emissions Plot MIMO ANT2 (320MHz 802.11be (3\*996+484 Tones) (UNII Band 5) - Ch. 31) LPI

Technical Manager
Page 149 of 202
Faye 149 01 202





Plot 7-155. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 45) - SP



Plot 7-156. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 43) - SP

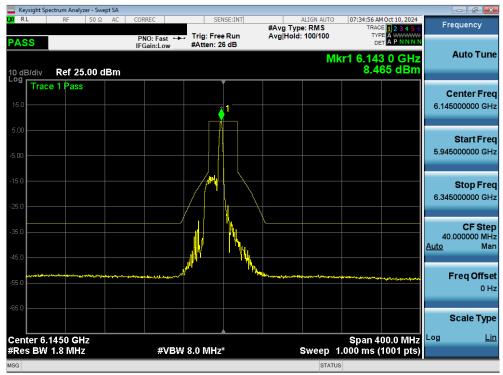
MEASUREMENT REPORT		Approved by: Technical Manager
Test Dates:	EUT Type:	Page 150 of 202
09/03/24 - 11/06/2024	Portable Handset	Fage 150 01 202
		est Dates: EUT Type:

V 9.0 02/01/2019

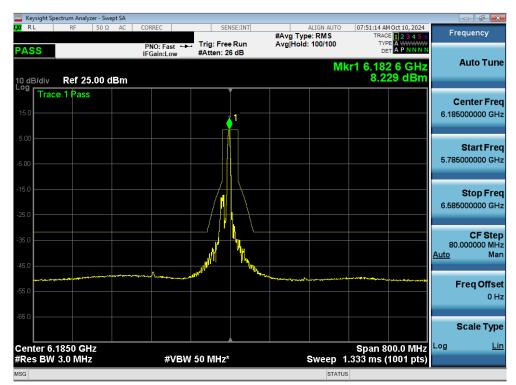
A ELEMENT

A there wise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm without





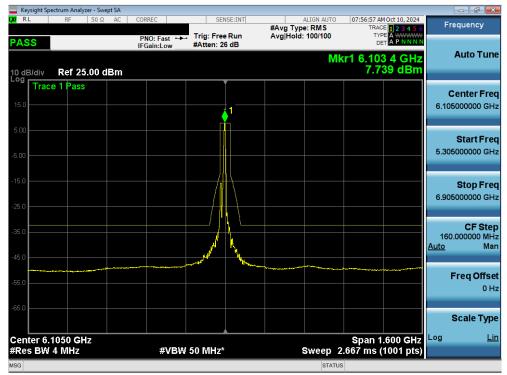
Plot 7-157. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 39) - SP



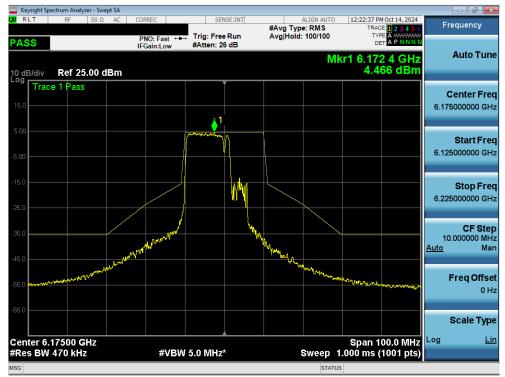
Plot 7-158. In Band Emissions Plot MIMO ANT2 (160MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 47) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Page 151 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 131 01 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	) / O O OO /O / /OO





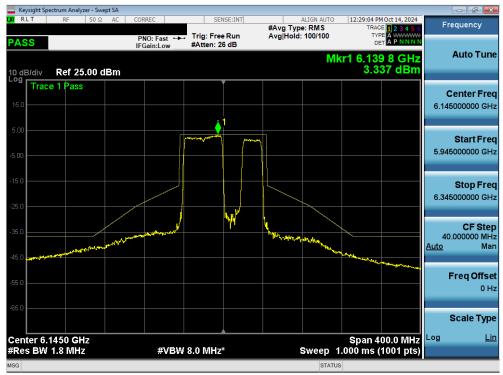
Plot 7-159. In Band Emissions Plot MIMO ANT2 (320MHz 802.11ax/be (26 Tones) (UNII Band 5) - Ch. 31) - SP



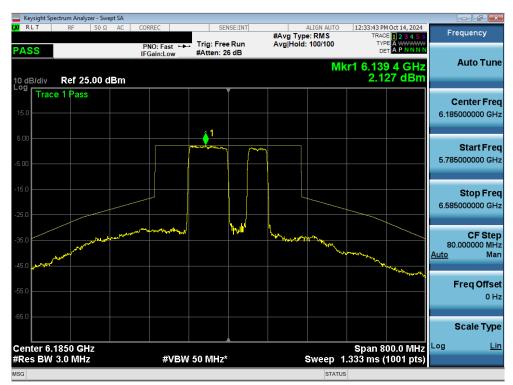
Plot 7-160. In Band Emissions Plot MIMO ANT2 (20MHz 802.11be (106+26 Tones) (UNII Band 5) - Ch. 45) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 152 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 152 01 202
· ·		1	Page 152





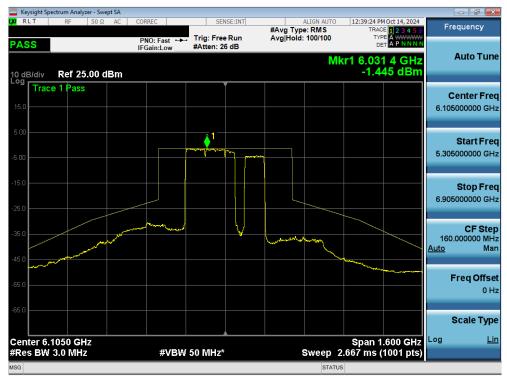
Plot 7-161. In Band Emissions Plot MIMO ANT2 (80MHz 802.11be (484+242 Tones) (UNII Band 5) - Ch. 39) SP



Plot 7-162. In Band Emissions Plot MIMO ANT2 (160MHz 802.11be (996+484 Tones) (UNII Band 5) - Ch. 47) SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Page 153 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	rage 100 01 202
1W2400200000-20.A3L	09/03/24 - 11/00/2024	Fortable Halluset	1/000001011001

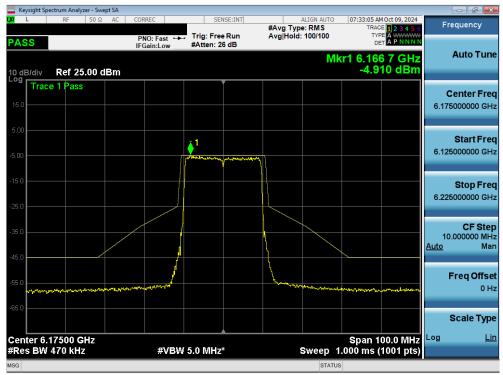




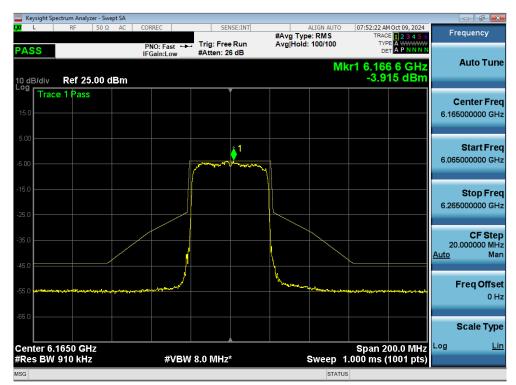
Plot 7-163. In Band Emissions Plot MIMO ANT2 (320MHz 802.11be (3\*996+484 Tones) (UNII Band 5) - Ch. 31) SP

MEASUREMENT REPORT	
Test Dates: EUT Type:	
Portable Handset	Page 154 of 202
	1





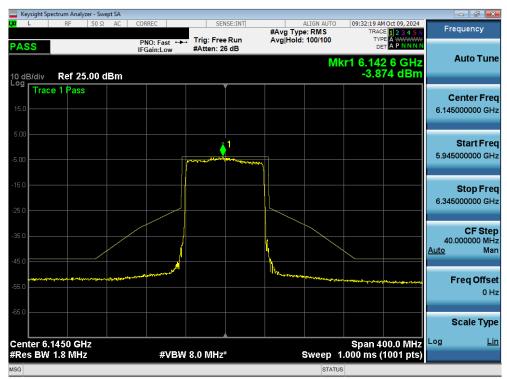
Plot 7-164. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - LPI



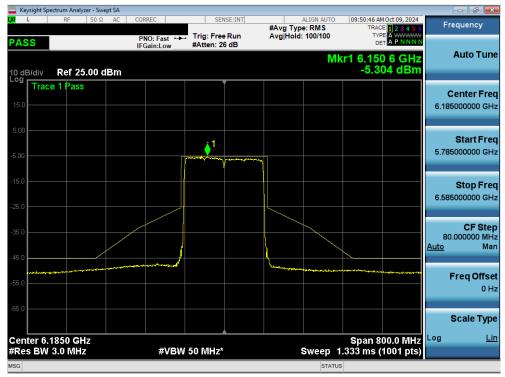
Plot 7-165. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 155 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 155 01 202
© 0004 ELEMENT			V 0 0 00/04/0040





Plot 7-166. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - LPI



Plot 7-167. In Band Emissions Plot MIMO ANT2 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Page 156 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	rage 150 01 202
0.0004 EL EMENT	00/00/21 11/00/2021	T Chaple Flandoot	1/000001001

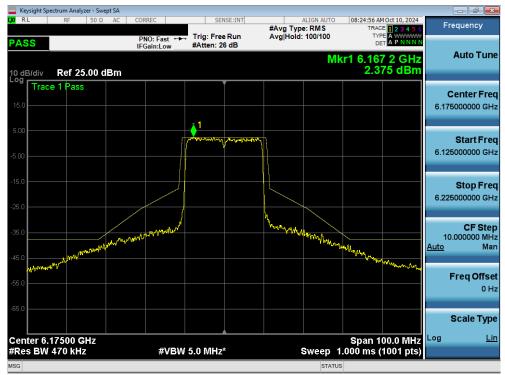




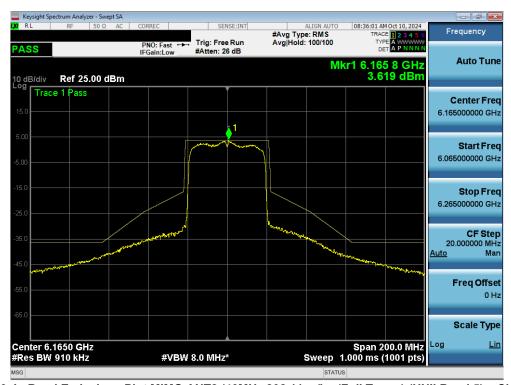
Plot 7-168. In Band Emissions Plot MIMO ANT2 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - LPI

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	<b>Test Dates: EUT Type:</b> 99/03/24 - 11/06/2024 Portable Handset	
1M2408260066-20.A3L	09/03/24 - 11/06/2024		
© COOM ELEMENT			V 0 0 00/04/0040





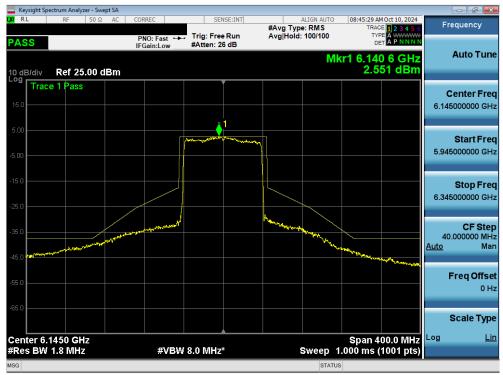
Plot 7-169. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 45) - SP



Plot 7-170. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 158 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 130 01 202
11/12400200000-20.AJL	09/03/24 - 11/00/2024	1 Ortable Handset	) / 0 0 00 /0 / /0 0 /





Plot 7-171. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 39) - SP



Plot 7-172. In Band Emissions Plot MIMO ANT2 (160MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 47) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 150 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 159 of 202





Plot 7-173. In Band Emissions Plot MIMO ANT2 (320MHz 802.11ax/be (Full Tones) (UNII Band 5) - Ch. 31) - SP

FCC ID: A3LSMS936B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	Test Dates: EUT Type:	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 160 of 202
O OOO / EL EMENT		l	1/00000104/0040



#### 7.7 Contention Based Protocol

#### **Test Overview and Limit**

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed indoor low-power devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel if detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel.

### **Test Procedure Used**

KDB 987594 D02

#### **Test Settings**

- 1. Configure the EUT to transmit with a constant duty cycle.
- 2. Set the operating parameters of the EUT including power level, operating frequency, modulation, and bandwidth.
- 3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT. Connect the output port of the EUT to the signal analyzer 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
- 4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
- 5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
- Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold).
   Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
- 7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
- 8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
- 9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
- 10. Refer to Table 1 of KDB 987594 D02 v01r01 to determine the number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal, and repeat the process.

C ID: A3LSMS936B	Approved by: Technical Manager
st Report S/N:	Page 161 of 202
2408260066-20.A3L	rage 101 01 202



#### **Test Setup**

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

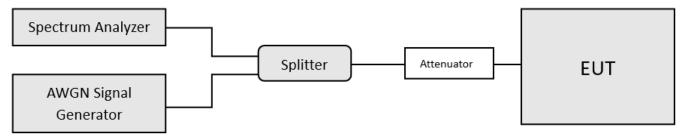


Figure 7-5. Contention-based protocol test setup, conducted method

#### **Test Notes**

- Per guidance from KDB 987594 D02 v01r01, contention-based protocol was tested using an AWGN signal with a bandwidth of 10MHz (see Plot 7-167). The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission (see Plot 7-168), M1 indicates the point at which the AWGN signal is introduced. D1 indicates where the AWGN signal is terminated, at least 10 seconds following M1.
- 2. 15 trials were run to assure that at least 90% of certainty was met.
- 3. Per Guidance from KDB 987594 D04 v01, contention-based protocol was tested with receiver with the lowest antenna gain.
- 4. All CBP Timing Plots shown are for the ceased condition. Some spikes that may be shown are from adjacent portions of the spectrum that are still transmitting.
- 5. In the presence of an AWGN signal, the EUT was shown to either completely move out of the channel or to reduce its bandwidth for the purpose of incumbent avoidance. Representative channel move plots are included for one sub-band to show how the channel reduces when the AWGN is injected at the lower edge, the center, and the upper edge of a channel.
- 6. This device only punctures to optimize network performance and never to avoid licensed incumbents.
- 7. For the channel move demonstration in Section 7.6.3, only plots from UNII-5 band are included. Additionally, the AWGN signal is not visible because the AWGN level is well below the noise floor.

Detection Level = Injected AWGN Power (dBm) - Antenna Gain (dBi) + Path Loss (dB)

**Equation 7-1. Detection Level Calculation** 

FCC ID: A3LSMS936B		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 162 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Page 162 of 202	
C COCA EL EMENT	00/00/21 11/00/2021	Portable Handset	1/00000104/004



Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Injected (AWGN) [dBm]	Antenna Gain [dBi]	Path Loss (dB)	Adjusted Power Level [dBm]	Detection Limit [dBm]	Margin [dB]
	53	6215	20	6215	-73.20	-7.48	0.85	-64.87	-62.0	-2.87
UNII				6110	-76.99	-6.57	0.85	-69.57	-62.0	-7.57
Band 5	31	6265	320	6265	-73.11	-7.48	0.85	-64.78	-62.0	-2.78
				6420	-74.30	-6.13	0.85	-67.32	-62.0	-5.32
	101	6455	20	6455	-74.14	-6.13	0.85	-67.16	-62.0	-5.16
UNII				6270	-75.19	-7.48	0.85	-66.86	-62.0	-4.86
Band 6	95	6425	320	6425	-74.09	-6.13	0.85	-67.11	-62.0	-5.11
				6580	-74.60	-8.47	0.85	-65.28	-62.0	-3.28
	149	6695	20	6695	-74.09	-8.93	0.85	-64.31	-62.0	-2.31
UNII				6590	-73.70	-8.47	0.85	-64.38	-62.0	-2.38
Band 7	159	6745	320	6745	-74.07	-8.93	0.85	-64.29	-62.0	-2.29
				6900	-73.52	-7.49	0.85	-65.18	-62.0	-3.18
	197	6935	20	6935	-75.60	-7.49	0.85	-67.26	-62.0	-5.26
UNII				6750	-74.50	-8.93	0.85	-64.72	-62.0	-2.72
Band 8	191	6905	320	6905	-75.49	-7.49	0.85	-67.15	-62.0	-5.15
				7060	-72.48	-6.78	0.85	-64.85	-62.0	-2.85

Table 7-86. Contention Based Protocol – Incumbent Detection Results

		Channel			Antenna		ransmission S			
Band	Channel	Freq [MHz]	· I IMHzi	Incumbent Freq [MHz]	Gain [dBi]	Normal	Minimal	Ceased	Detection Limit [dBm]	Margin [dB]
	53	6215	20	6215	-0.82	-66.32	-65.60	-64.87	-62.0	-2.87
UNII				6110	-0.82	-70.54	-70.30	-69.57	-62.0	-7.57
Band 5	31	6265	320	6265	-0.82	-66.23	-65.51	-64.78	-62.0	-2.78
				6420	-0.82	-67.93	-67.56	-67.32	-62.0	-5.32
	101	6455	20	6455	-0.86	-68.49	-67.89	-67.16	-62.0	-5.16
UNII				6270	-0.86	-67.83	-67.47	-66.86	-62.0	-4.86
Band 6	95	6425	320	6425	-0.86	-68.44	-67.84	-67.11	-62.0	-5.11
				6580	-0.86	-66.01	-65.64	-65.28	-62.0	-3.28
	149	6695	20	6695	-0.87	-65.76	-65.04	-64.31	-62.0	-2.31
UNII				6590	-0.87	-65.35	-64.74	-64.38	-62.0	-2.38
Band 7	159	6745	320	6745	-0.87	-65.02	-64.77	-64.29	-62.0	-2.29
				6900	-0.87	-65.91	-65.66	-65.18	-62.0	-3.18
	197	6935	20	6935	-1.29	-68.35	-67.62	-67.26	-62.0	-5.26
UNII				6750	-1.29	-65.81	-65.33	-64.72	-62.0	-2.72
Band 8	191	6905	320	6905	-1.29	-68.12	-67.63	-67.15	-62.0	-5.15
		<u> </u>		7060	-1.29	-66.06	-65.33	-64.85	-62.0	-2.85

Table 7-87. Contention Based Protocol – Detection Results – All Tx Cases

FCC ID: A3LSMS936B		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Page 163 of 202		
1M2408260066-20.A3L	09/03/24 - 11/06/2024	09/03/24 - 11/06/2024 Portable Handset			
© 0004 ELEMENT			V 0 0 00/04/0040		



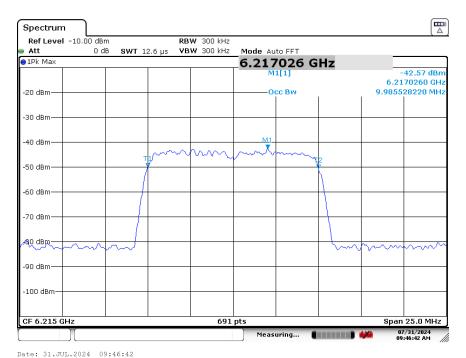
Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Detection Rate (%)
	53	6215	20	6215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII				6110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Band 5	31	6265	320	6265	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6420	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	101	6455	20	6455	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII				6270	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Band 6	95	6425	320	6425	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6580	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	149	6695	20	6695	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII				6590	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Band 7	159	6745	320	6745	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	197	6935	20	6935	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII				6750	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Band 8	191	6905	320	6905	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				7060	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100

Table 7-88. Contention Based Protocol – Incumbent Detection Trial Results

FCC ID: A3LSMS936B		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 464 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 164 of 202
© 2024 ELEMENT			\/ 0 0 02/01/2010



## 7.7.1 AWGN Plots

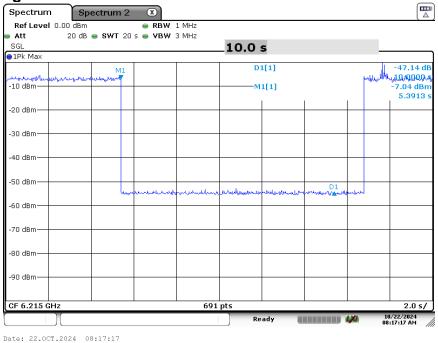


Plot 7-174. AWGN Signal (Demonstration)

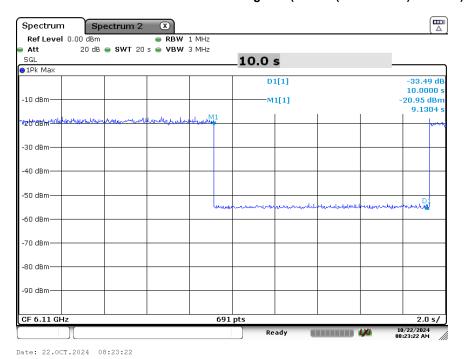
FCC ID: A3LSMS936B		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Dags 165 of 202			
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 165 of 202			
⊕ 2024 ELEMENT		V 9.0.02/01/2010				



# 7.7.2 CBP Timing Plots



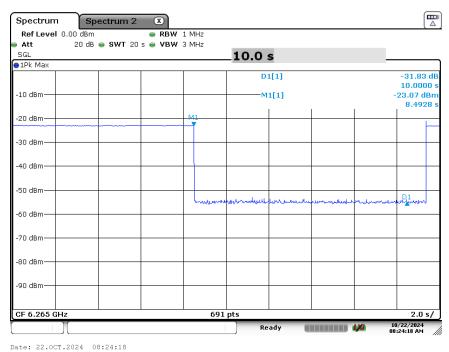
Plot 7-175. Contention Based Protocol Timing Plot (20MHz (UNII Band 5) - Ch. 53)



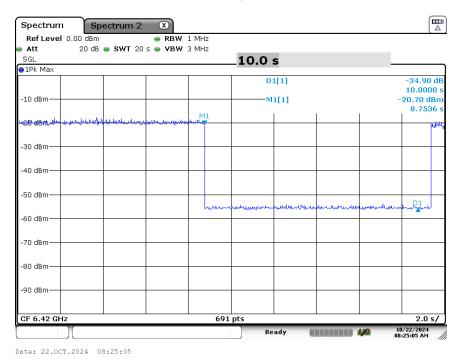
Plot 7-176. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 Low)

FCC ID: A3LSMS936B		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dama 166 of 202		
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 166 of 202		
0.2024 ELEMENT V. 0.0.02/01/201					





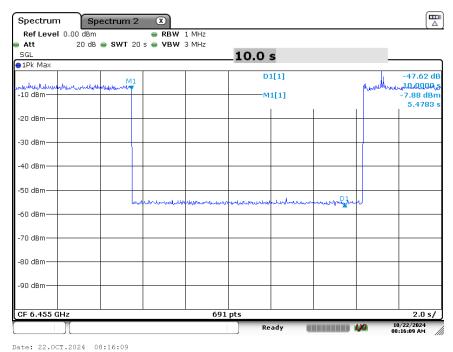
Plot 7-177. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 Mid)



Plot 7-178. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 High)

FCC ID: A3LSMS936B		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 167 of 202
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 167 of 202
© 2024 ELEMENT	•	•	\/ \0 \0 \02/\01/2\010





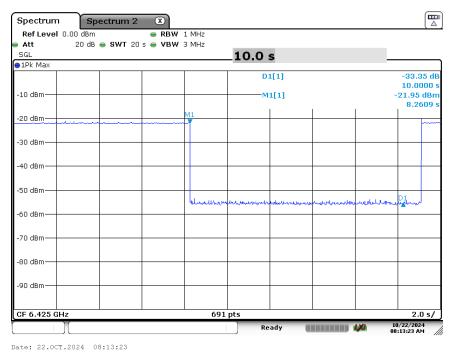
Plot 7-179. Contention Based Protocol Timing Plot (20MHz (UNII Band 6) - Ch. 101)



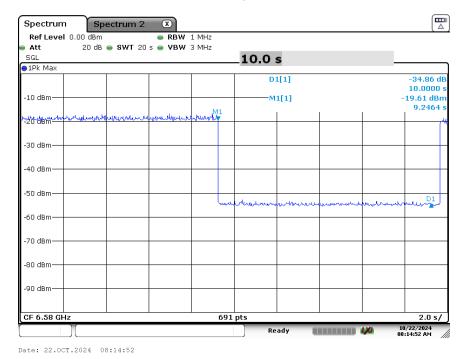
Plot 7-180. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 Low)

FCC ID: A3LSMS936B		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Page 168 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 100 01 202	
© 2024 ELEMENT			V 0 0 02/04/2040	





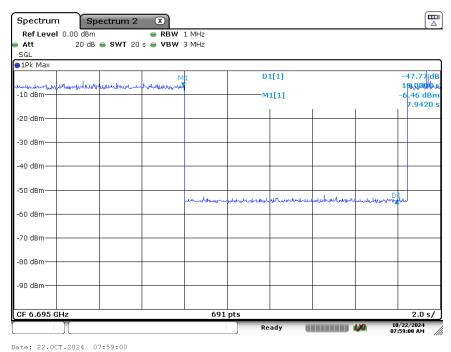
Plot 7-181. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 Mid)



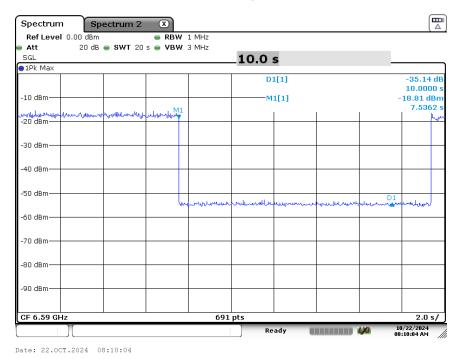
Plot 7-182. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 High)

FCC ID: A3LSMS936B		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Dama 160 of 202			
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 169 of 202			
© 2024 ELEMENT		V 9.0.02/01/2010				





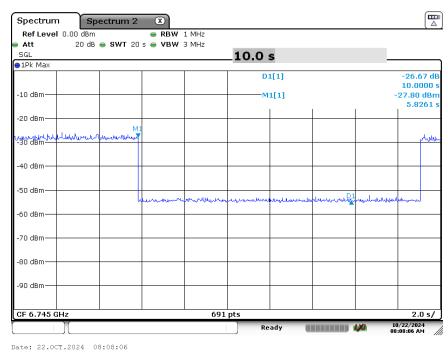
Plot 7-183. Contention Based Protocol Timing Plot (20MHz (UNII Band 7) - Ch. 149)



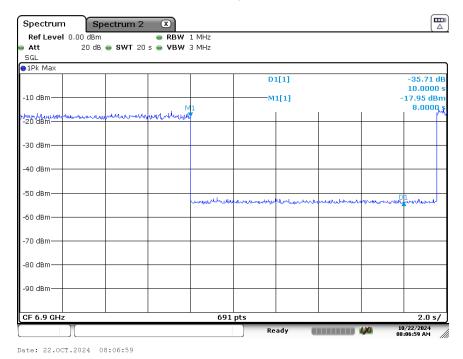
Plot 7-184. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 Low)

FCC ID: A3LSMS936B		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Dama 170 of 202			
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 170 of 202			
© 2024 ELEMENT		V 0.0 02/01/2010				





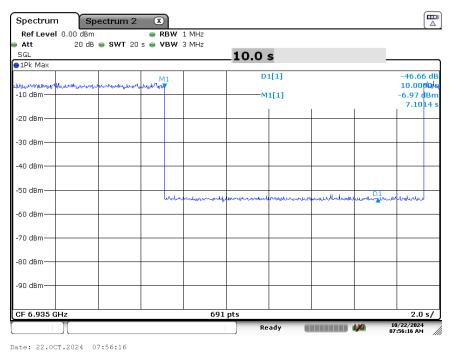
Plot 7-185. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 Mid)



Plot 7-186. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 High)

FCC ID: A3LSMS936B		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dags 171 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Page 171 of 202	
© 2024 ELEMENT				





Plot 7-187. Contention Based Protocol Timing Plot (20MHz (UNII Band 8) - Ch. 197)



Plot 7-188. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) - Ch. 191 Low)

FCC ID: A3LSMS936B		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Page 172 of 202	
1M2408260066-20.A3L	09/03/24 - 11/06/2024	Portable Handset	Fage 172 01 202	
0.2024 ELEMENT V.0.0.2/04/20				