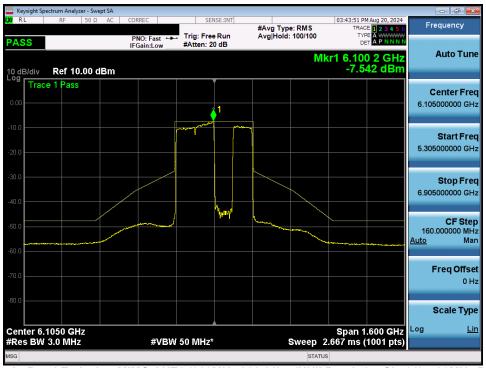


Plot 7-174. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 5) - Ch. 47) - 20MHz Punctured

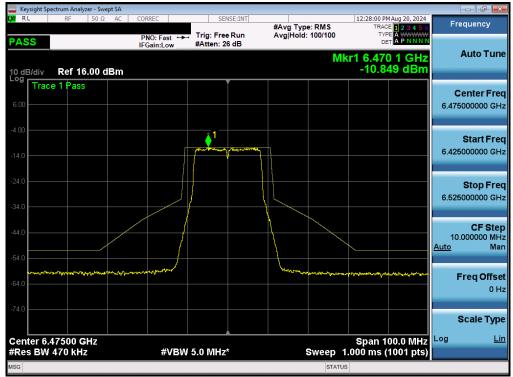


Plot 7-175. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 5) - Ch. 31) - 80MHz Punctured

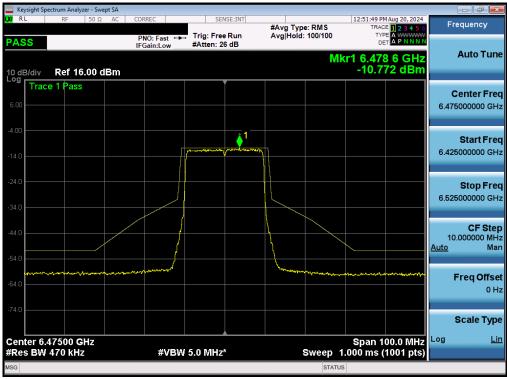
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	D 400 -f 004
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 126 of 201
© 2024 ELEMENT	•		V 9.0 02/01/2019



MIMO Antenna-1 In-Band Emission Measurements - (UNII Band 6)



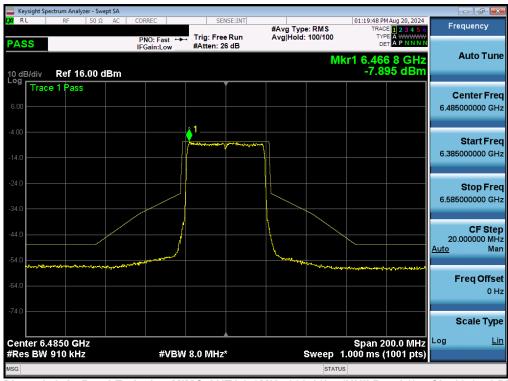
Plot 7-176. In-Band Emission MIMO ANT1 (20MHz 802.11a (UNII Band 6) - Ch. 105) - LPI



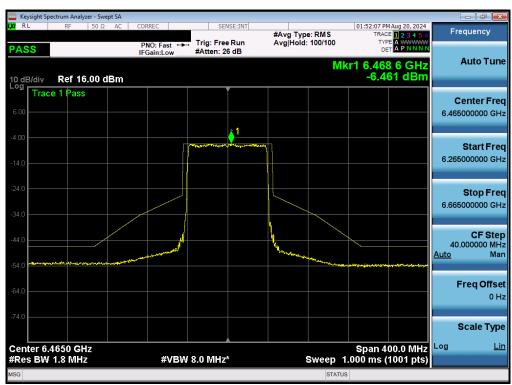
Plot 7-177. In-Band Emission MIMO ANT1 (20MHz 802.11be (UNII Band 6) - Ch. 105) - LPI

FCC ID: A3LNP750XQA		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	D 407 - £004
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 127 of 201
© 2024 ELEMENT			V 9.0 02/01/2019





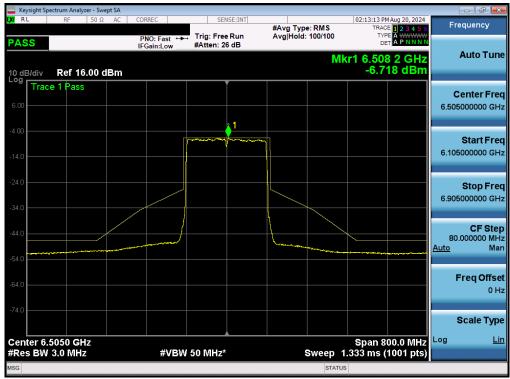
Plot 7-178. In-Band Emission MIMO ANT1 (40MHz 802.11be (UNII Band 6) - Ch. 107) - LPI



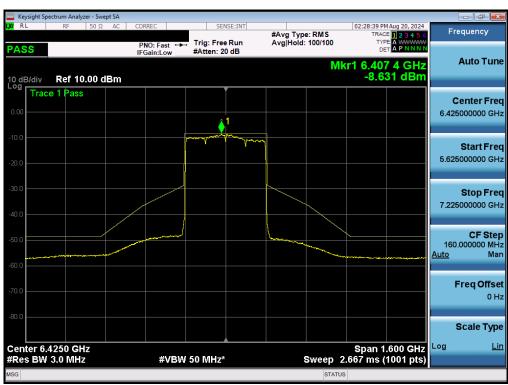
Plot 7-179. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 6) - Ch. 103) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 129 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 128 of 201





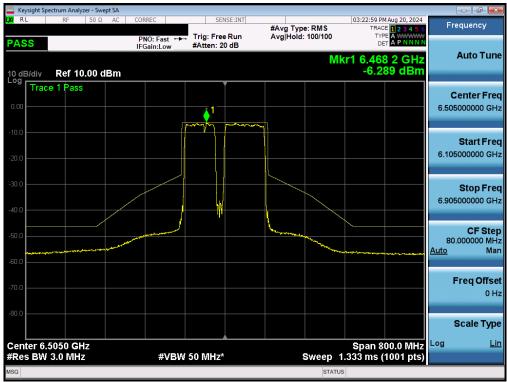
Plot 7-180. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 6) - Ch. 111) - LPI



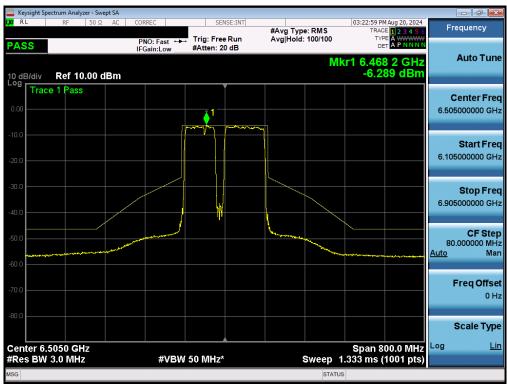
Plot 7-181. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 5/6/7) - Ch. 95) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 129 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 129 01 201





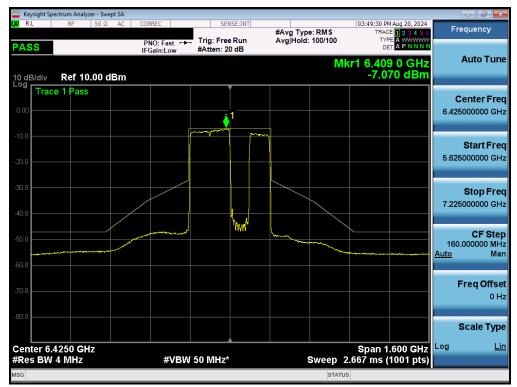
Plot 7-182. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 6) - Ch. 103) - 20MHz Punctured



Plot 7-183. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 6) - Ch. 111) - 20MHz Punctured

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 130 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 130 01 201



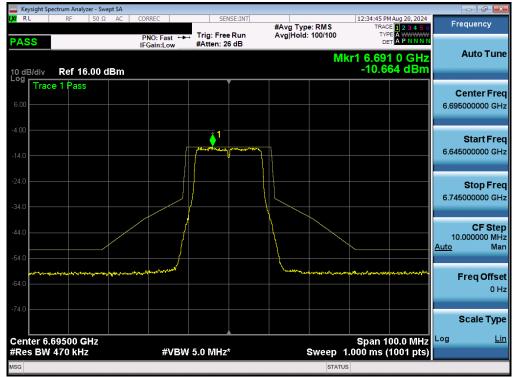


Plot 7-184. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 6) - Ch. 95) - 80MHz Punctured

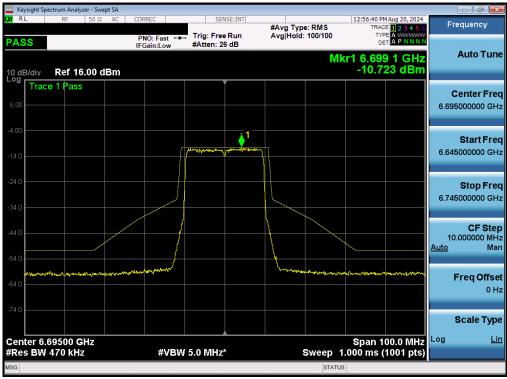
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 131 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	rage 131 01 201



MIMO Antenna-1 In-Band Emission Measurements - (UNII Band 7)



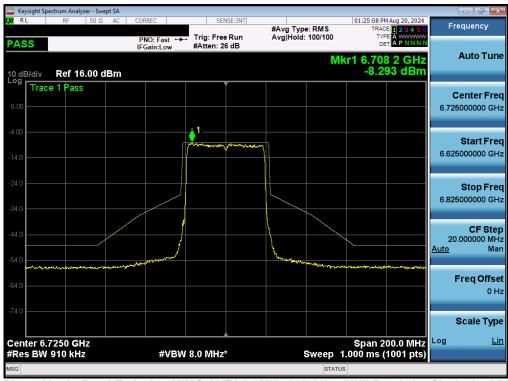
Plot 7-185. In-Band Emission MIMO ANT1 (20MHz 802.11a (UNII Band 7) - Ch. 149) - LPI



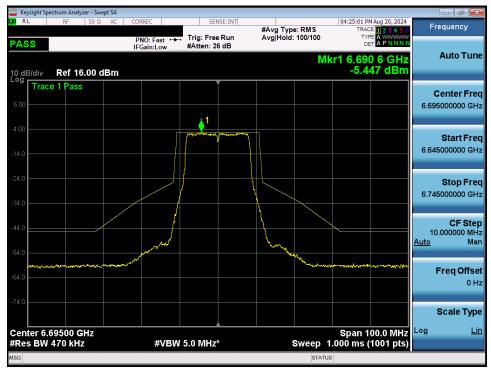
Plot 7-186. In-Band Emission MIMO ANT1 (20MHz 802.11be (UNII Band 7) - Ch. 149) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 132 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 132 01 201





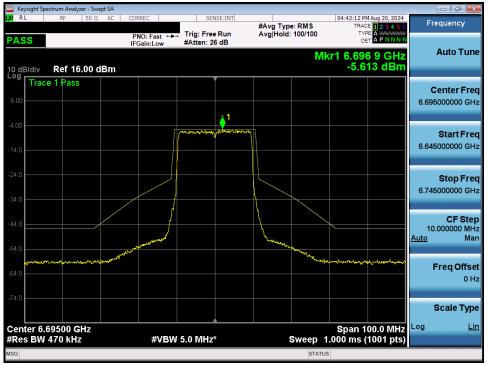
Plot 7-187. In-Band Emission MIMO ANT1 (40MHz 802.11be (UNII Band 7) - Ch. 155) - LPI



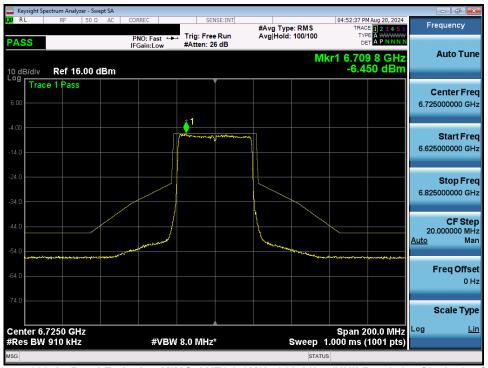
Plot 7-188. In-Band Emission MIMO ANT1 (20MHz 802.11a (UNII Band 7) - Ch. 149) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 122 of 201
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 133 of 201
© 2024 FLEMENT			V 9 0 02/01/2019





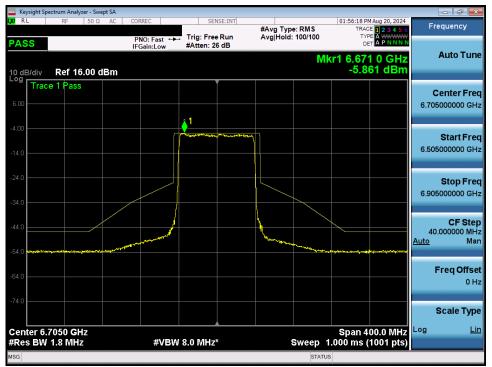
Plot 7-189. In-Band Emission MIMO ANT1 (20MHz 802.11be (UNII Band 7) - Ch. 149) - SP



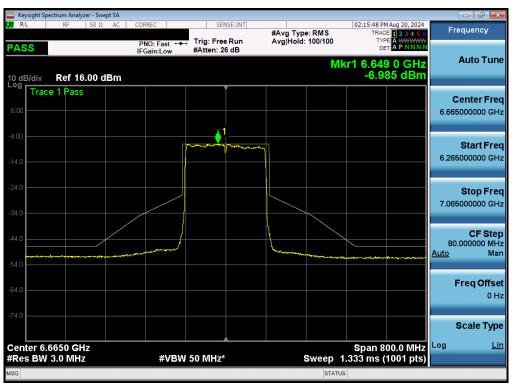
Plot 7-190. In-Band Emission MIMO ANT1 (40MHz 802.11be (UNII Band 7) - Ch. 155) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 124 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 134 of 201





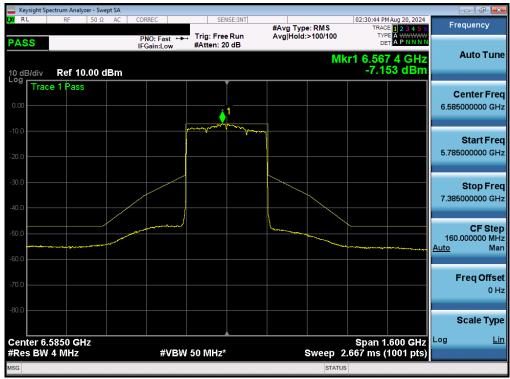
Plot 7-191. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 7) - Ch. 151) - LPI/SP



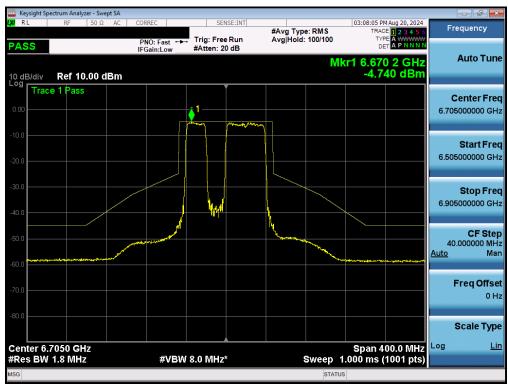
Plot 7-192. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 7) - Ch. 143) - LPI/SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 125 of 201
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 135 of 201
© 2024 ELEMENT			V 9 0 02/01/2019





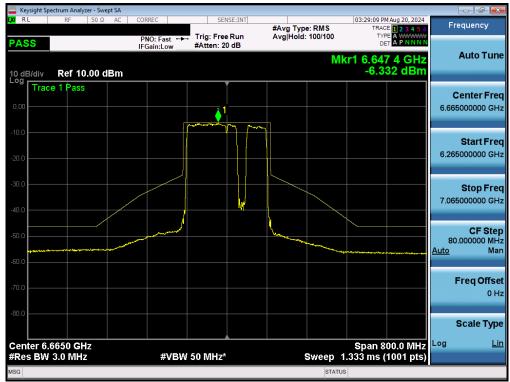
Plot 7-193. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 7) - Ch. 127) - LPI/SP



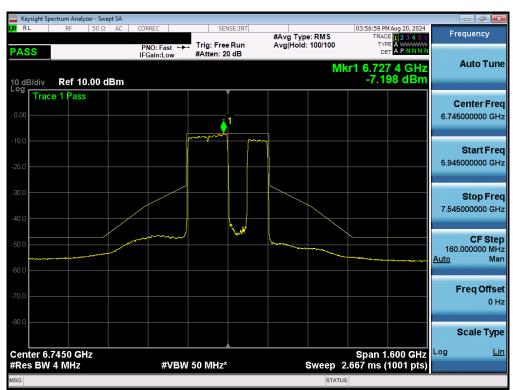
Plot 7-194. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 7) - Ch. 151) - 20MHz Punctured

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 136 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 130 01 201





Plot 7-195. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 7) - Ch. 143) - 20MHz Punctured

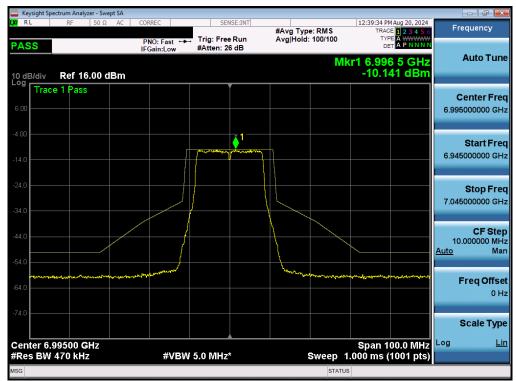


Plot 7-196. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 7) - Ch. 159) - 80MHz Punctured

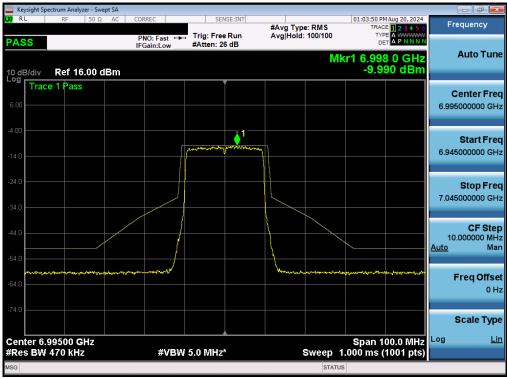
FCC ID: A3LNP750XQA		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	D 407 -f 004
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 137 of 201
© 2024 ELEMENT			V 9.0 02/01/2019



MIMO Antenna-1 In-Band Emission Measurements - (UNII Band 8)



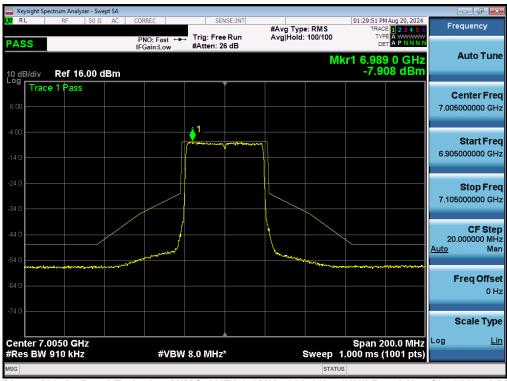
Plot 7-197. In-Band Emission MIMO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 209) - LPI



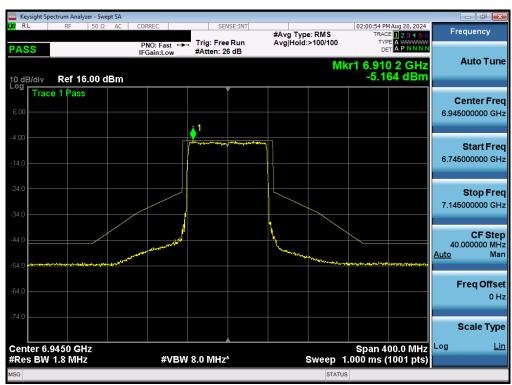
Plot 7-198. In-Band Emission MIMO ANT1 (20MHz 802.11be (UNII Band 8) - Ch. 209) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 138 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 136 01 201





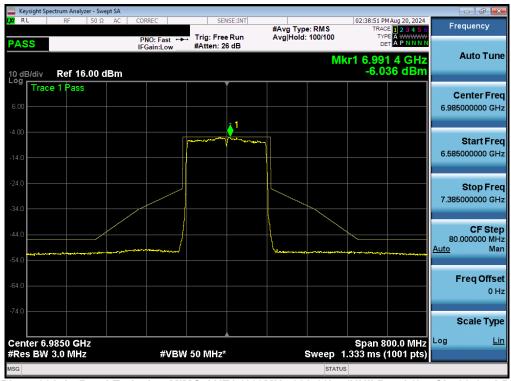
Plot 7-199. In-Band Emission MIMO ANT1 (40MHz 802.11be (UNII Band 8) - Ch. 211) - LPI



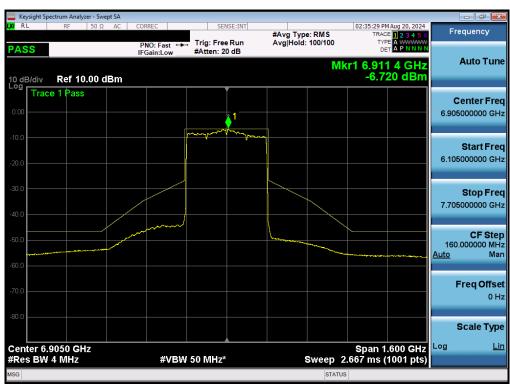
Plot 7-200. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 8) - Ch. 199) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 120 of 201	
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 139 of 201	
© 2024 ELEMENT			V 9 0 02/01/2019	





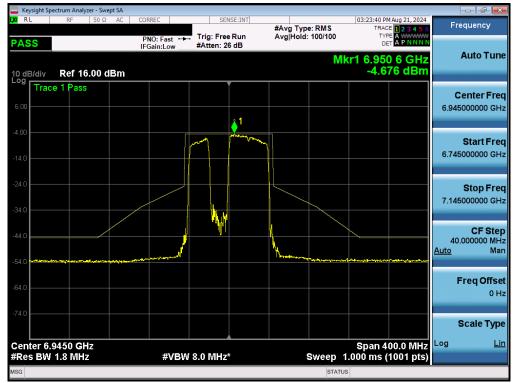
Plot 7-201. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 8) - Ch. 207) - LPI



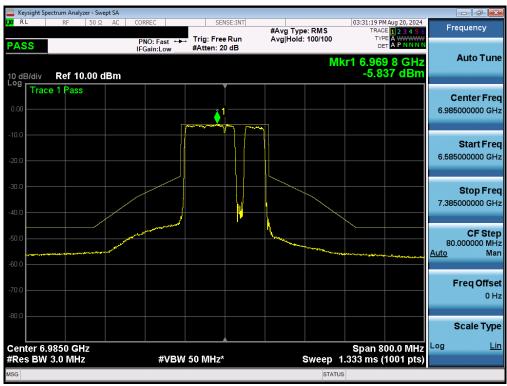
Plot 7-202. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 7/8) - Ch. 191) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 140 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 140 of 201





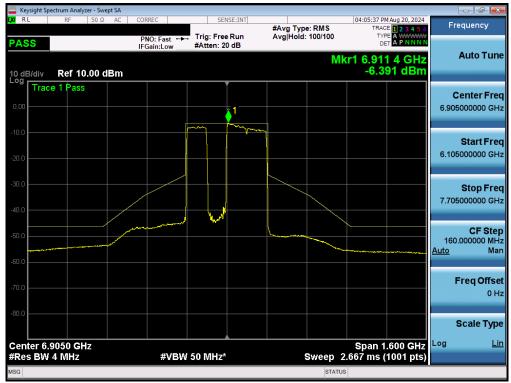
Plot 7-203. In-Band Emission MIMO ANT1 (80MHz 802.11be (UNII Band 8) - Ch. 199) - 20MHz Punctured - LPI



Plot 7-204. In-Band Emission MIMO ANT1 (160MHz 802.11be (UNII Band 8) - Ch. 207) - 20MHz Punctured - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 144 of 204	
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 141 of 201	
© 2024 ELEMENT			V 9 0 02/01/2019	



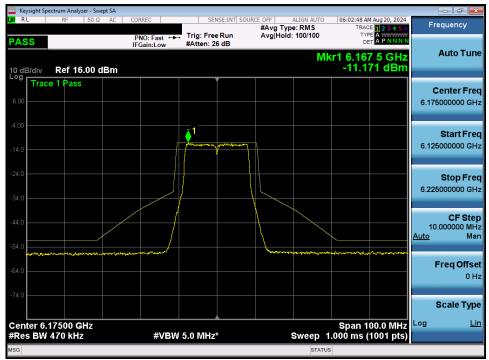


Plot 7-205. In-Band Emission MIMO ANT1 (320MHz 802.11be (UNII Band 8) - Ch. 191) - 80MHz Punctured - LPI

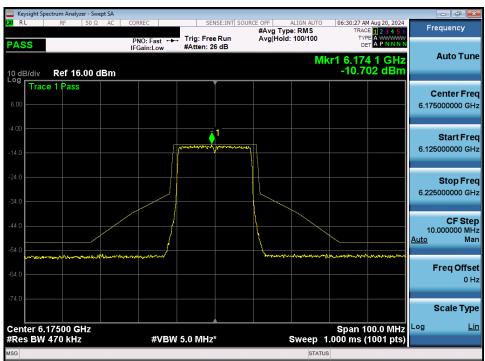
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 142 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 142 of 201



MIMO Antenna-2 In-Band Emission Measurements - (UNII Band 5)



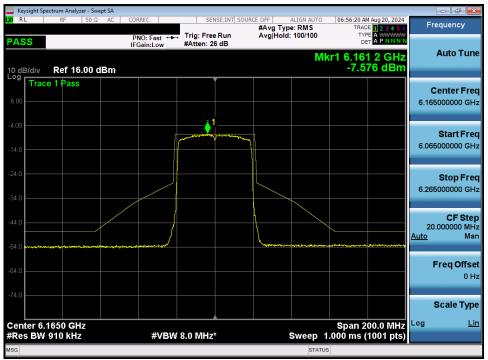
Plot 7-206. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 5) - Ch. 45) - LPI



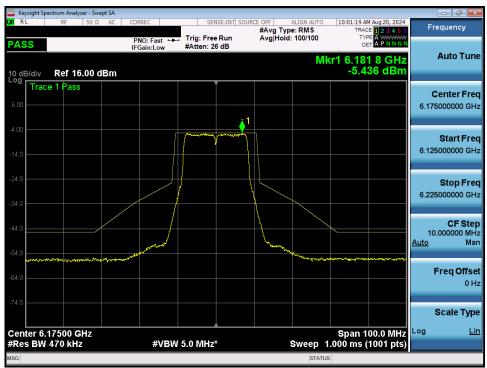
Plot 7-207. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 5) - Ch. 45) - LPI

FCC ID: A3LNP750XQA		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	D 442 -f 004
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 143 of 201
© 2024 ELEMENT			V 9.0 02/01/2019





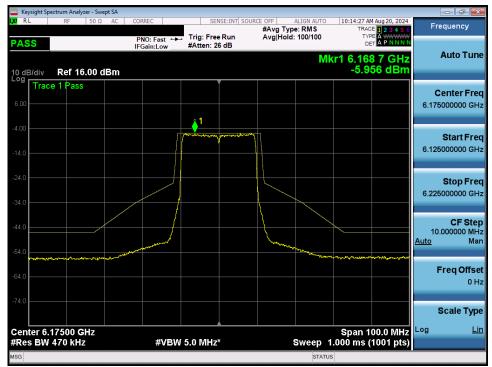
Plot 7-208. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 5) - Ch. 43) - LPI



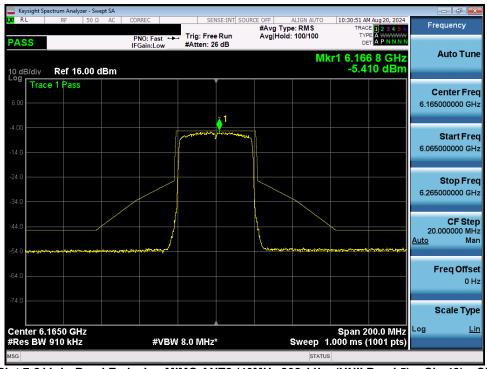
Plot 7-209. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 5) - Ch. 45) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 144 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 144 of 201





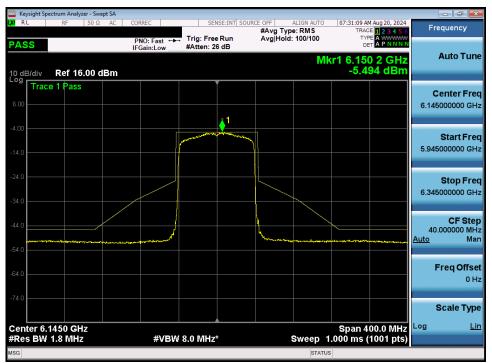
Plot 7-210. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 5) - Ch. 45) - SP



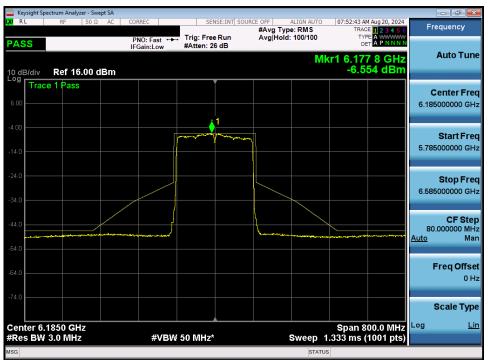
Plot 7-211. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 5) - Ch. 43) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 145 of 201	
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 145 of 201	
© 2024 ELEMENT			V 9.0 02/01/2019	





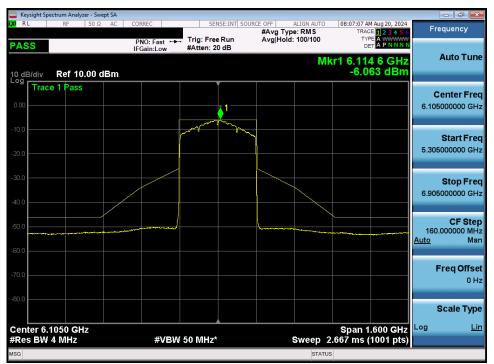
Plot 7-212. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 5) - Ch. 39) - LPI/SP



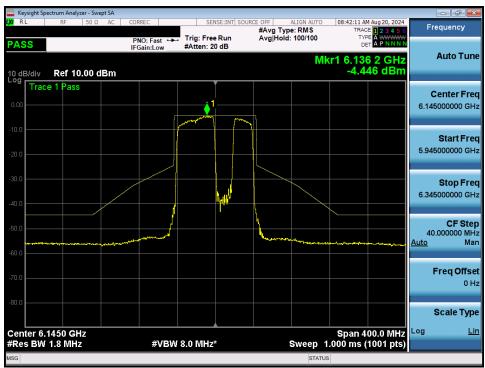
Plot 7-213. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 5) - Ch. 47) - LPI/SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 146 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 146 of 201





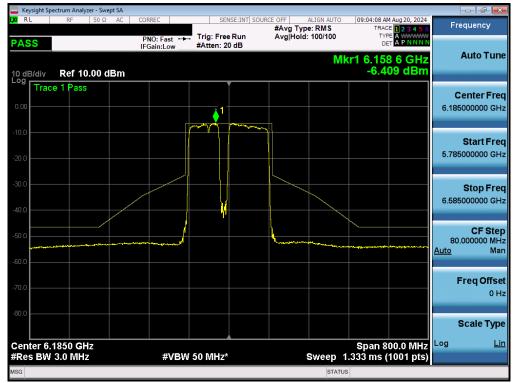
Plot 7-214. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 5) - Ch. 31) - LPI/SP



Plot 7-215. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 5) - Ch. 39) - 20MHz Punctured

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 147 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 147 of 201





Plot 7-216. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 5) - Ch. 47) - 20MHz Punctured

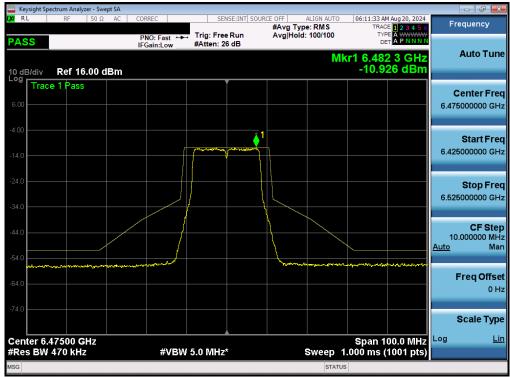


Plot 7-217. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 5) - Ch. 31) - 80MHz Punctured

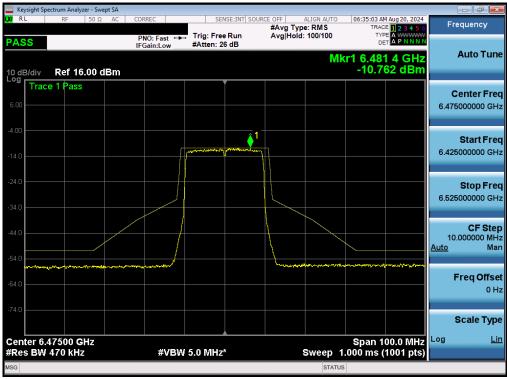
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 148 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Fage 146 01 201



MIMO Antenna-2 In-Band Emission Measurements - (UNII Band 6)



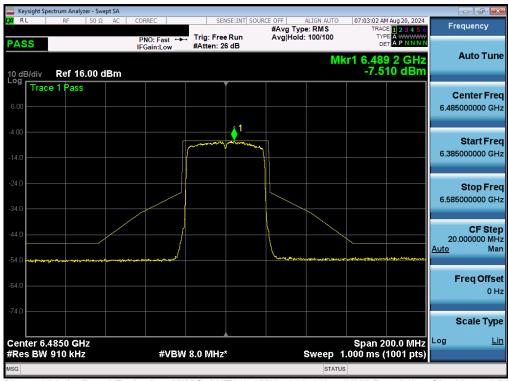
Plot 7-218. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 6) - Ch. 105) - LPI



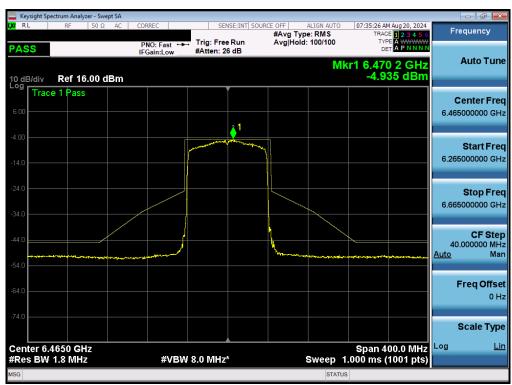
Plot 7-219. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 6) - Ch. 105) - LPI

FCC ID: A3LNP750XQA		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	D 440 -f 004
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 149 of 201
© 2024 ELEMENT		<u>. </u>	V 9.0 02/01/2019





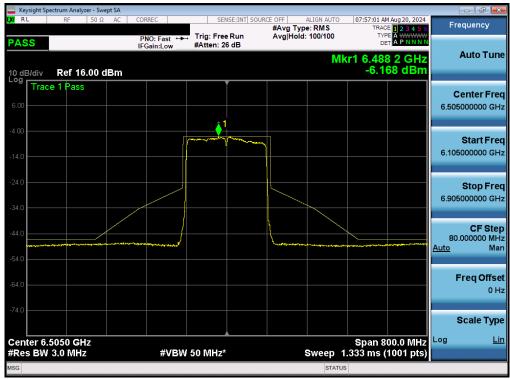
Plot 7-220. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 6) - Ch. 107) - LPI



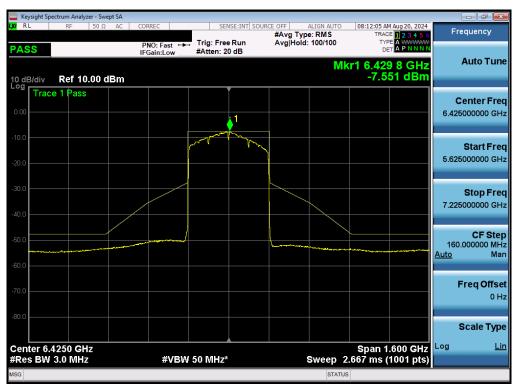
Plot 7-221. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 6) - Ch. 103) - LPI

FCC ID: A3LNP750XQA		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dags 150 of 201	
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 150 of 201	
© 2024 FLEMENT		·	V 9 0 02/01/2019	





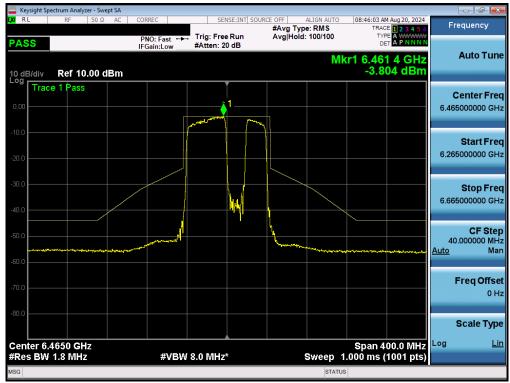
Plot 7-222. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 6) - Ch. 111) - LPI



Plot 7-223. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 5/6/7) - Ch. 95) - LPI

FCC ID: A3LNP750XQA		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dags 151 of 201	
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 151 of 201	
© 2024 FLEMENT			V 9 0 02/01/2019	





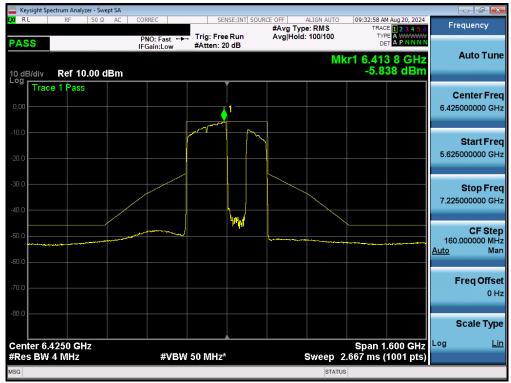
Plot 7-224. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 6) - Ch. 103) - 20MHz Punctured



Plot 7-225. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 6) - Ch. 111) - 20MHz Punctured

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 152 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 152 of 201	



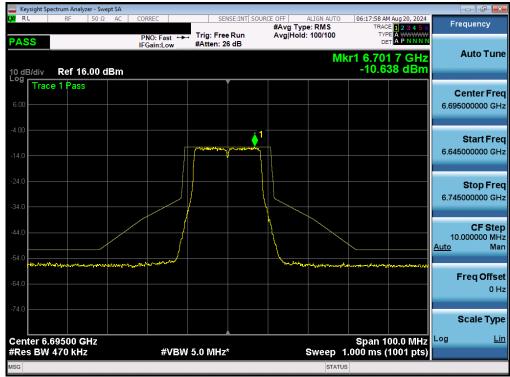


Plot 7-226. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 6) - Ch. 95) - 80MHz Punctured

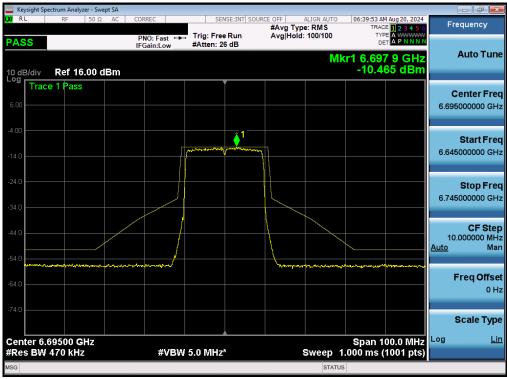
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 152 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 153 of 201	



MIMO Antenna-2 In-Band Emission Measurements - (UNII Band 7)



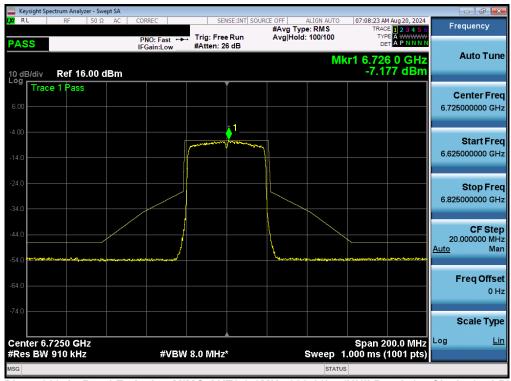
Plot 7-227. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 7) - Ch. 149) - LPI



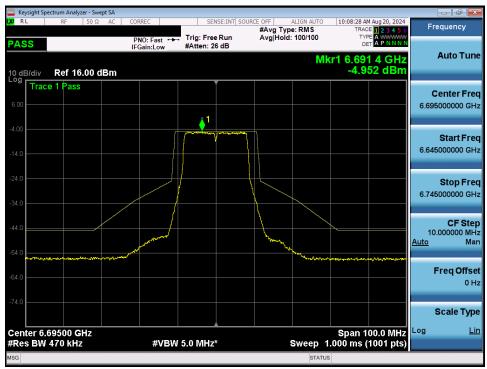
Plot 7-228. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 7) - Ch. 149) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates: EUT Type:		Dogo 154 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 154 of 201	





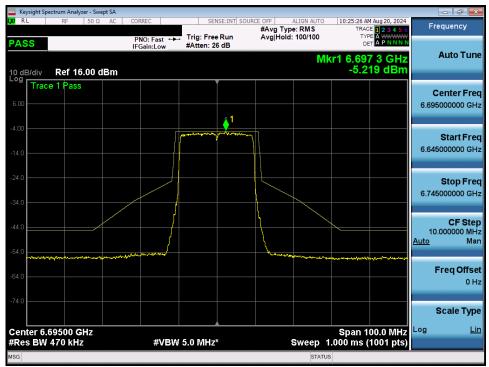
Plot 7-229. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 7) - Ch. 155) - LPI



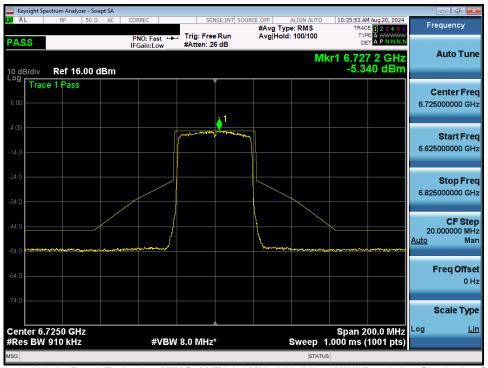
Plot 7-230. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 7) - Ch. 149) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 155 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 155 of 201	





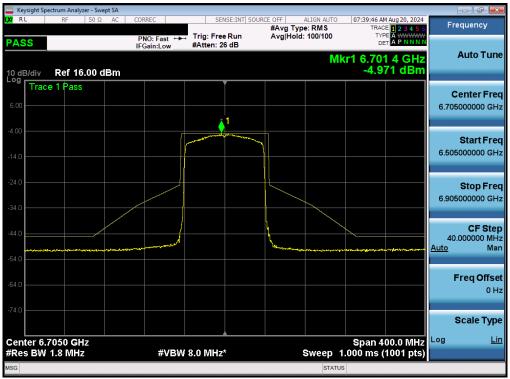
Plot 7-231. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 7) - Ch. 149) - SP



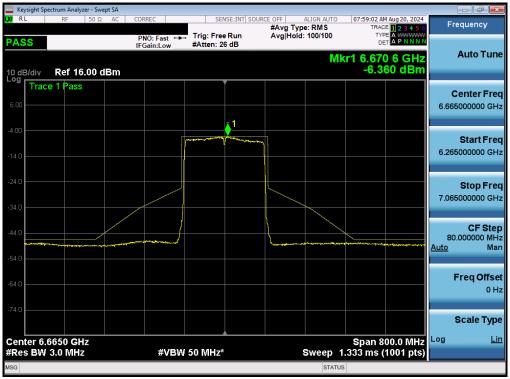
Plot 7-232. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 7) - Ch. 155) - SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 156 of 201
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 150 01 201





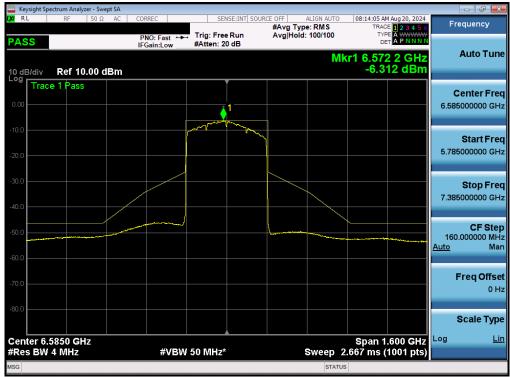
Plot 7-233. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 7) - Ch. 151) - LPI/SP



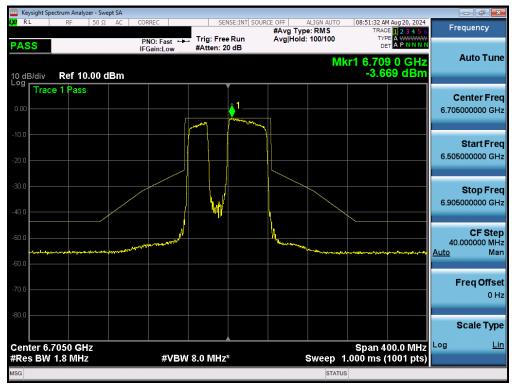
Plot 7-234. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 7) - Ch. 143) - LPI/SP

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 157 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 157 of 201





Plot 7-235. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 7) - Ch. 127) - LPI/SP



Plot 7-236. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 7) - Ch. 151) - 20MHz Punctured

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 150 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 158 of 201	





Plot 7-237. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 7) - Ch. 143) - 20MHz Punctured

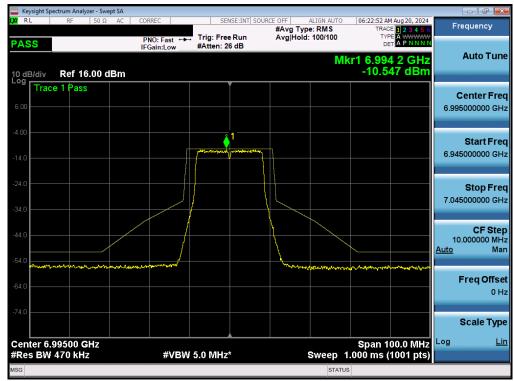


Plot 7-238. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 7) - Ch. 159) - 80MHz Punctured

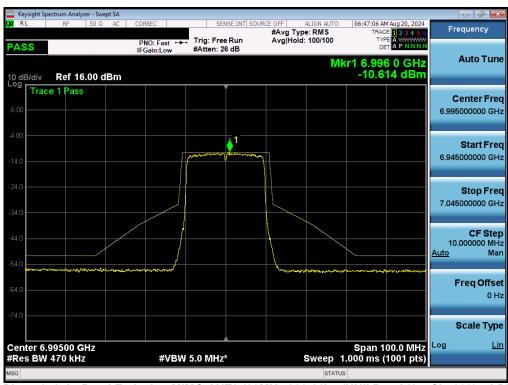
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 150 of 201		
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 159 of 201		
© 2024 ELEMENT			V 9 0 02/01/2019		



MIMO Antenna-2 In-Band Emission Measurements - (UNII Band 8)



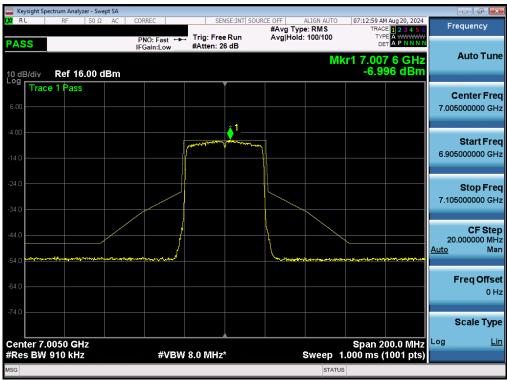
Plot 7-239. In-Band Emission MIMO ANT2 (20MHz 802.11a (UNII Band 8) - Ch. 209) - LPI



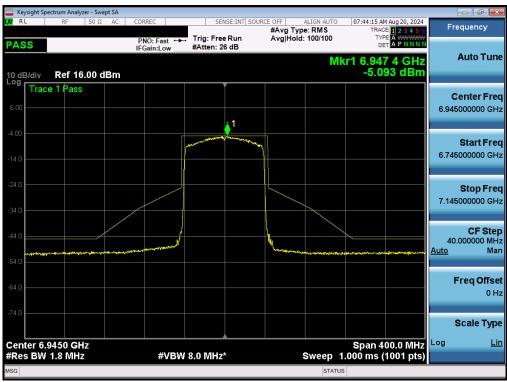
Plot 7-240. In-Band Emission MIMO ANT2 (20MHz 802.11be (UNII Band 8) - Ch. 209) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 160 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 160 of 201	





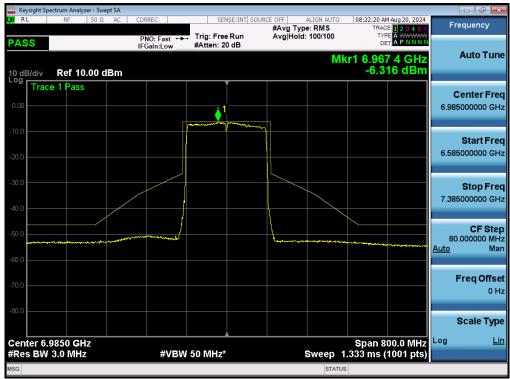
Plot 7-241. In-Band Emission MIMO ANT2 (40MHz 802.11be (UNII Band 8) - Ch. 211) - LPI



Plot 7-242. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 8) - Ch. 199) - LPI

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Dago 161 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 161 of 201





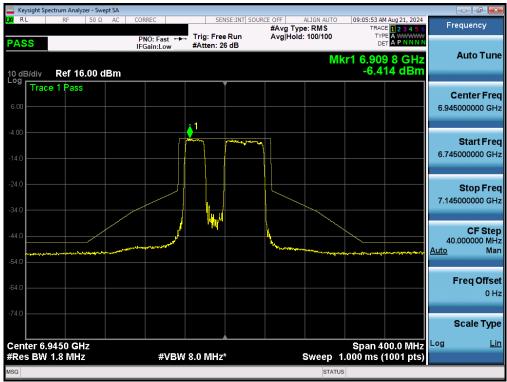
Plot 7-243. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 8) - Ch. 207) - LPI



Plot 7-244. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 7/8) - Ch. 191) - LPI

FCC ID: A3LNP750XQA		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Page 162 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device		





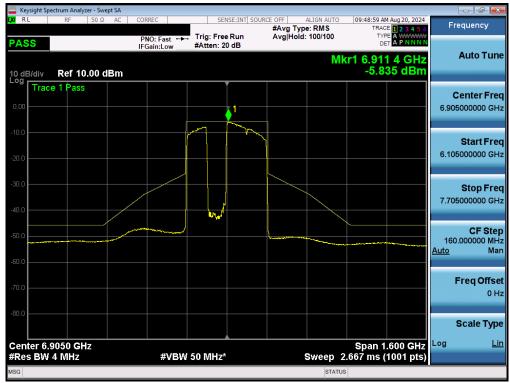
Plot 7-245. In-Band Emission MIMO ANT2 (80MHz 802.11be (UNII Band 8) - Ch. 199) - 20MHz Punctured



Plot 7-246. In-Band Emission MIMO ANT2 (160MHz 802.11be (UNII Band 8) - Ch. 207) - 20MHz Punctured

FCC ID: A3LNP750XQA	NP750XQA MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:			
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 163 of 201		
© 2024 ELEMENT			V 9 0 02/01/2019		





Plot 7-247. In-Band Emission MIMO ANT2 (320MHz 802.11be (UNII Band 8) - Ch. 191) - 80MHz Punctured

FCC ID: A3LNP750XQA		Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Page 164 of 201		
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	20/2024 – 8/23/2024 Portable Computing Device			



7.6 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 v02r01

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 v02r01 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.

FCC ID: A3LNP750XQA		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Page 165 of 201			
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device				



Test Setup

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

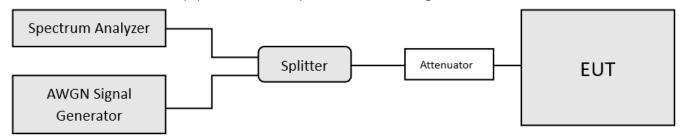


Figure 7-5. Contention-based protocol test setup conducted method.

Test Notes

- Per guidance from KDB 987594 D02 v02r01, contention-based protocol was tested using an AWGN signal with a bandwidth of 10MHz (see Plot 7-215). The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission (see Plot 7-216), 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: A3LNP750XQA		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Page 166 of 201	
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device		



		Channel	cl. Law		Antenna		ransmission S			
Band	Channel	Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Gain [dBi]	Normal	Minimal	Ceased	Detection Limit [dBm]	Margin [dB]
	53	6215	20	6215	-0.82	-76.76	-76.04	-75.31	-62.0	-13.31
UNII				6110	-0.82	-71.02	-70.78	-70.05	-62.0	-8.05
Band 5	31	6265	320	6265	-0.82	-72.46	-71.74	-71.01	-62.0	-9.01
				6420	-0.82	-68.49	-68.12	-67.88	-62.0	-5.88
	101	6455	20	6455	-0.86	-77.27	-76.67	-75.94	-62.0	-13.94
UNII				6270	-0.86	-70.80	-70.44	-69.83	-62.0	-7.83
Band 6	95	6425	320	6425	-0.86	-74.62	-74.02	-73.29	-62.0	-11.29
				6580	-0.86	-72.59	-72.22	-71.86	-62.0	-9.86
	149	6695	20	6695	-0.87	-67.10	-66.38	-65.65	-62.0	-3.65
UNII				6590	-0.87	-70.95	-70.34	-69.98	-62.0	-7.98
Band 7	159	6745	320	6745	-0.87	-74.42	-74.17	-73.69	-62.0	-11.69
				6900	-0.87	-73.04	-72.79	-72.31	-62.0	-10.31
	197	6935	20	6935	-1.29	-78.11	-77.38	-77.02	-62.0	-15.02
UNII				6750	-1.29	-79.10	-78.62	-78.01	-62.0	-16.01
Band 8	191	6905	320	6905	-1.29	-69.53	-69.04	-68.56	-62.0	-6.56
				7060	-1.29	-73.40	-72.67	-72.19	-62.0	-10.19

Table 7-31. Contention Based Protocol – Incumbent Detection Results

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	-77.16	-0.82	1.03	-75.31	-62.0	-13.31		
UNII				6110	-71.90	-0.82	1.03	-70.05	-62.0	-8.05		
Band 5	31	6265	320	6265	-72.86	-0.82	1.03	-71.01	-62.0	-9.01		
				6420	-69.73	-0.82	1.03	-67.88	-62.0	-5.88		
	101	6455	20	6455	-77.83	-0.86	1.03	-75.94	-62.0	-13.94		
UNII				6270	-71.72	-0.86	1.03	-69.83	-62.0	-7.83		
Band 6	95	6425	320	6425	-75.18	-0.86	1.03	-73.29	-62.0	-11.29		
						6580	-73.75	-0.86	1.03	-71.86	-62.0	-9.86
	149	6695	20	6695	-67.55	-0.87	1.03	-65.65	-62.0	-3.65		
UNII				6590	-71.88	-0.87	1.03	-69.98	-62.0	-7.98		
Band 7	159	6745	320	6745	-75.59	-0.87	1.03	-73.69	-62.0	-11.69		
				6900	-74.21	-0.87	1.03	-72.31	-62.0	-10.31		
	197	6935	20	6935	-79.34	-1.29	1.03	-77.02	-62.0	-15.02		
UNII				6750	-80.33	-1.29	1.03	-78.01	-62.0	-16.01		
Band 8	191	6905	320	6905	-70.88	-1.29	1.03	-68.56	-62.0	-6.56		
				7060	-74.51	-1.29	1.03	-72.19	-62.0	-10.19		

Table 7-32. Contention Based Protocol – Detection Results – All Tx Cases

FCC ID: A3LNP750XQA		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Page 167 of 201			
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	4 – 8/23/2024 Portable Computing Device				



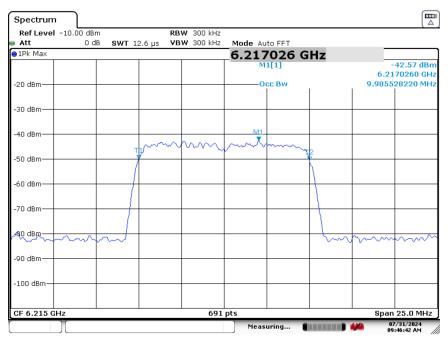
Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Detection Rate (%)
	53	6215	20	6215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII				6110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Band 5	31	6265	320	6265	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6420	1	1	1	1	1	1	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 7-33. Contention Based Protocol – Incumbent Detection Trial Results

FCC ID: A3LNP750XQA		Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Page 168 of 201		
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	2024 Portable Computing Device			



7.6.1 AWGN Plots



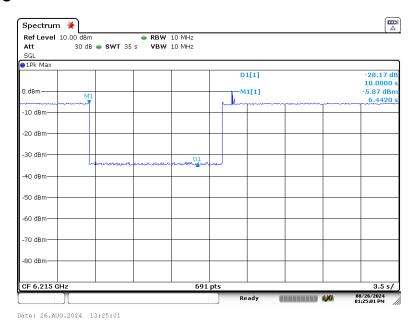
Date: 31.JUL.2024 09:46:42

Plot 7-248. AWGN Signal (Demonstration)

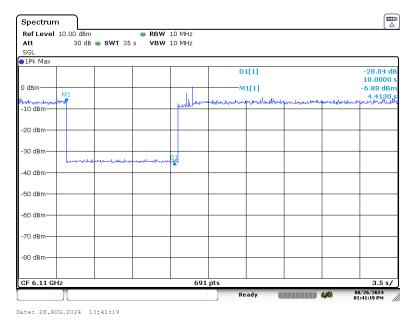
FCC ID: A3LNP750XQA		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Daga 160 of 201			
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 169 of 201			
© 2024 ELEMENT			V 9.0 02/01/2019			



7.6.2 CBP Timing Plots



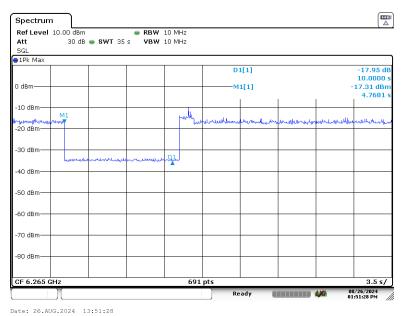
Plot 7-249. Contention Based Protocol Timing Plot (20MHz (UNII Band 5) - Ch. 53)



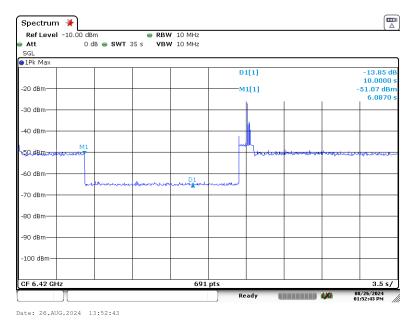
Plot 7-250. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 Low)

FCC ID: A3LNP750XQA		MEASUREMENT REPORT				
Test Report S/N:	Test Dates:	EUT Type:	Page 170 of 201			
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device				





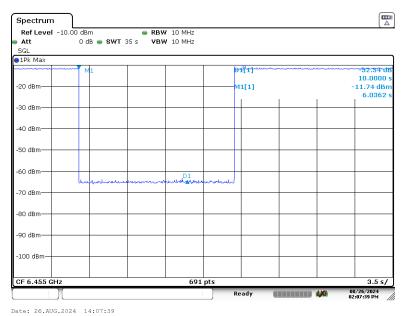
Plot 7-251. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 Mid)



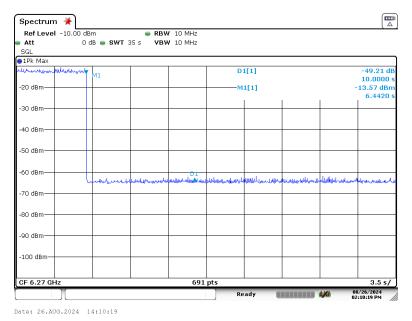
Plot 7-252. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) - Ch. 31 High)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 171 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 171 of 201





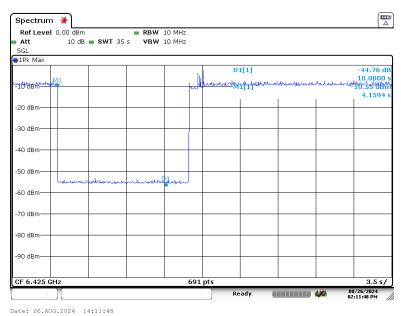
Plot 7-253. Contention Based Protocol Timing Plot (20MHz (UNII Band 6) - Ch. 101)



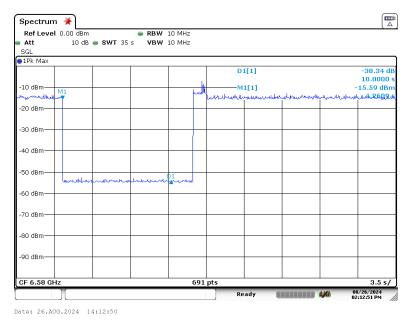
Plot 7-254. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 Low)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 172 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 172 of 201





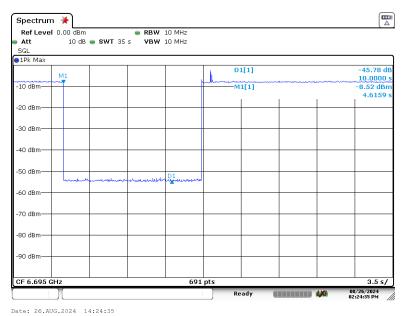
Plot 7-255. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 Mid)



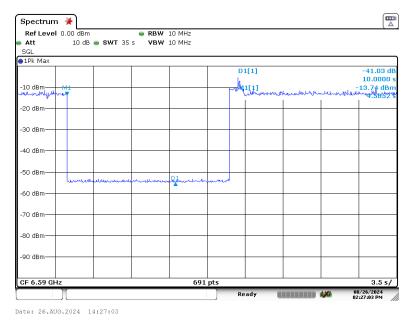
Plot 7-256. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) - Ch. 95 High)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 172 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 173 of 201





Plot 7-257. Contention Based Protocol Timing Plot (20MHz (UNII Band 7) - Ch. 149)

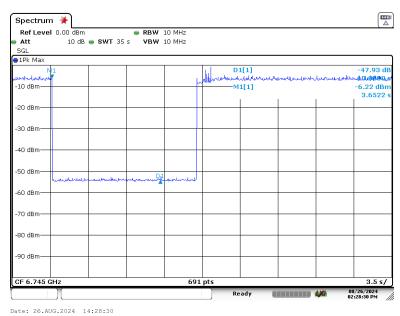


Plot 7-258. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 Low)

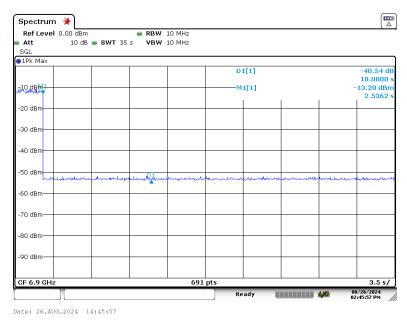
FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 174 of 201
1M2407080057-08.A3L	7/20/2024 - 8/23/2024	Portable Computing Device	Page 174 of 201

V 9.0 02/01/2 Unless otherwise 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 permission in writing from Element. If you have any questions about this or have an inquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.





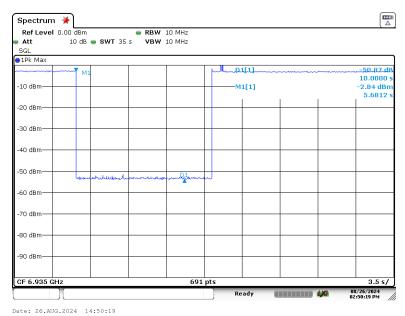
Plot 7-259. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 Mid)



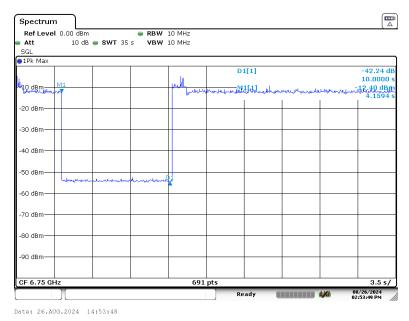
Plot 7-260. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) - Ch. 159 High)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 175 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 175 of 201





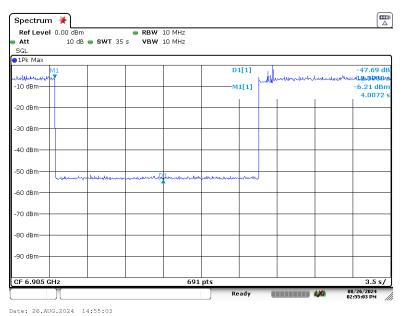
Plot 7-261. Contention Based Protocol Timing Plot (20MHz (UNII Band 8) - Ch. 197)



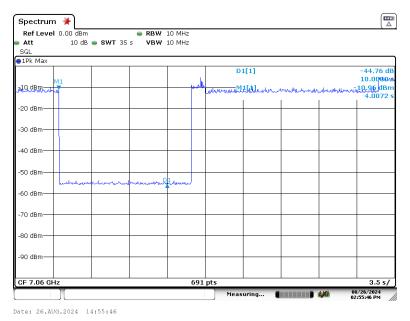
Plot 7-262. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) - Ch. 191 Low)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 176 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 176 of 201





Plot 7-263. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) - Ch. 191 Mid)



Plot 7-264. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) - Ch. 191 High)

FCC ID: A3LNP750XQA	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 177 of 201
1M2407080057-08.A3L	7/20/2024 — 8/23/2024	Portable Computing Device	Page 177 of 201