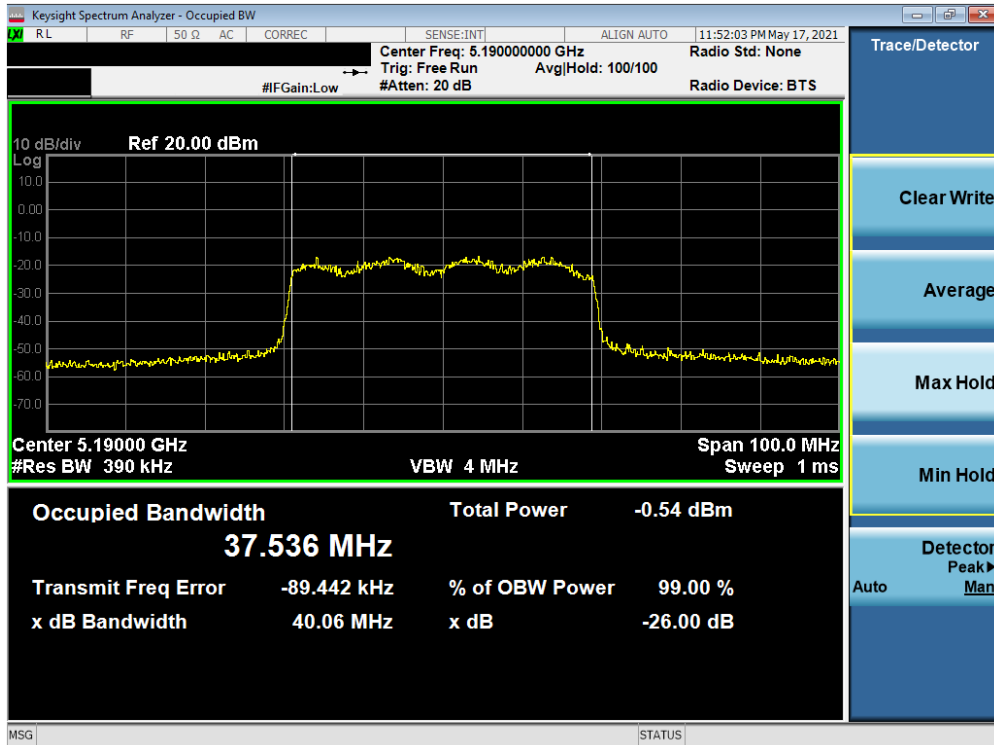
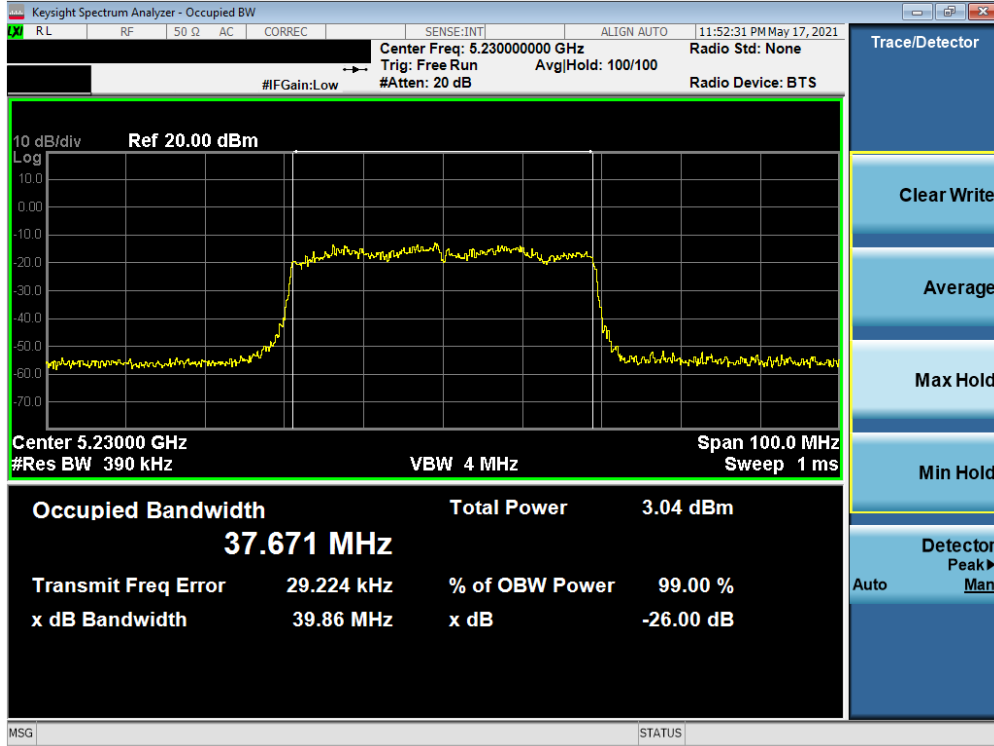


Plot 7-113. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

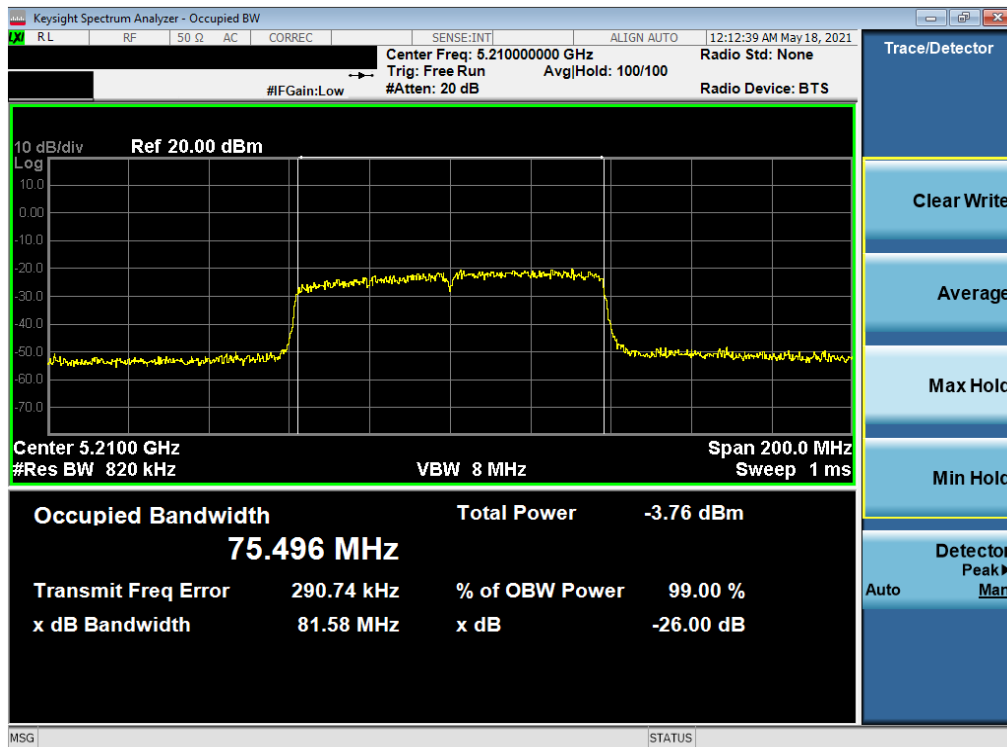


Plot 7-114. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 76 of 508

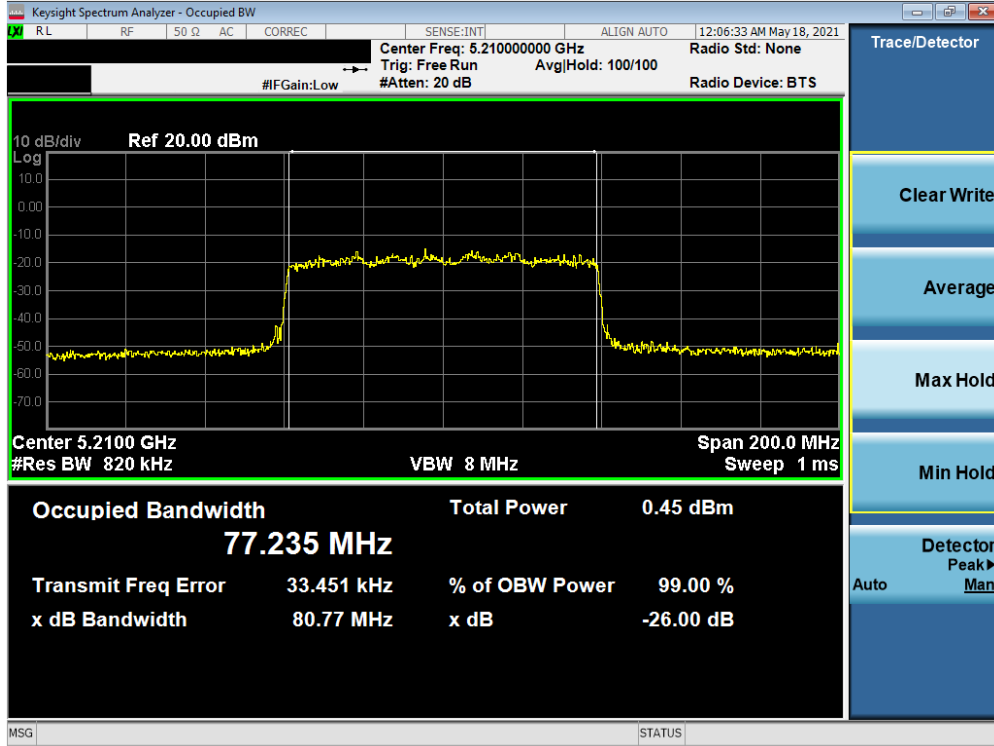


Plot 7-115. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 1) – Ch. 46)

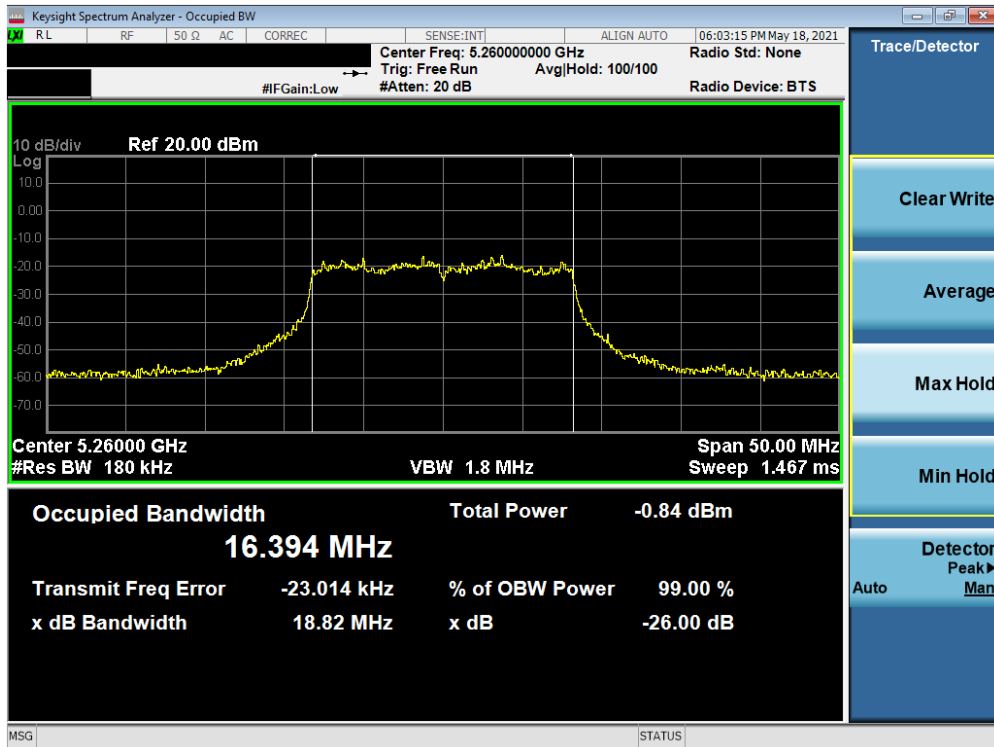


Plot 7-116. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 77 of 508

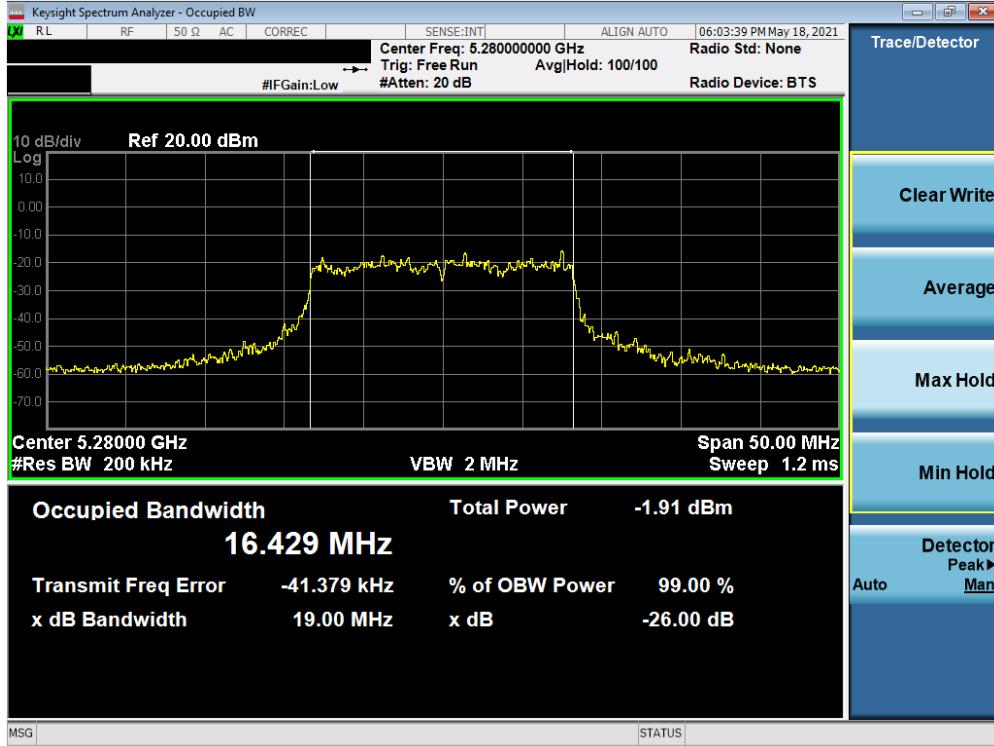


Plot 7-117. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 1) – Ch. 42)

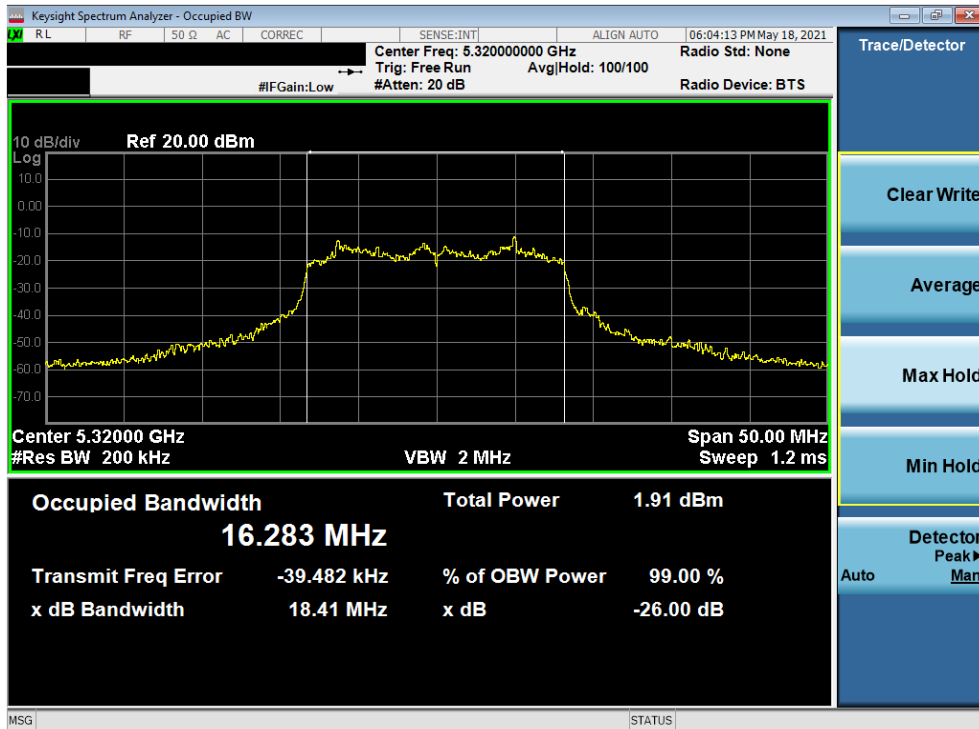


Plot 7-118. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 78 of 508

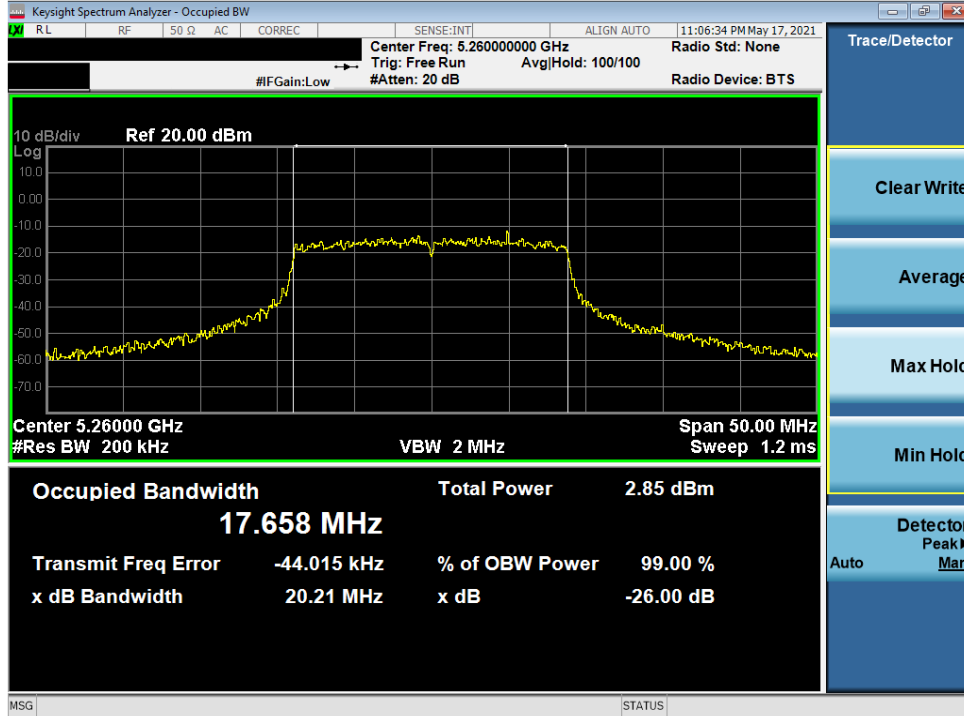


Plot 7-119. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 56)

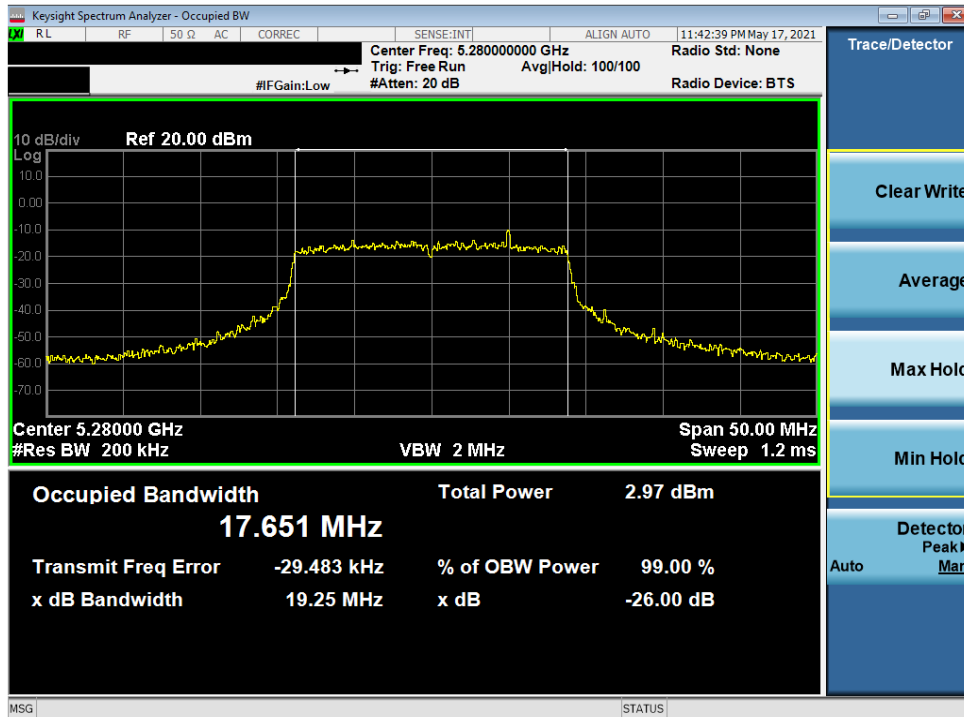


Plot 7-120. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 79 of 508

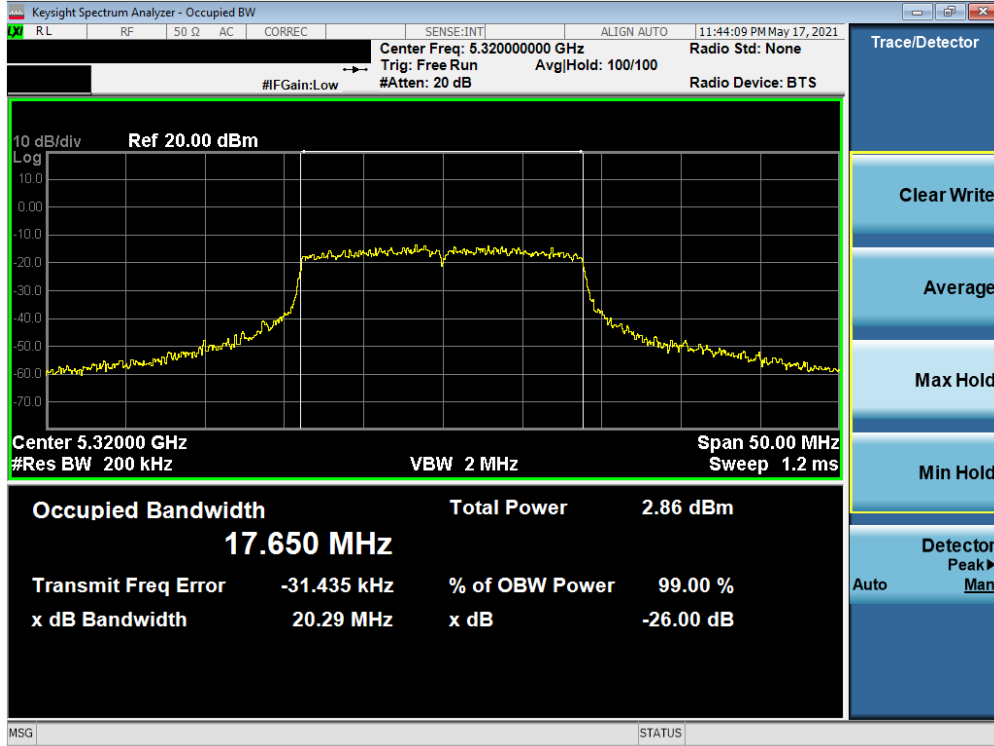


Plot 7-121. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

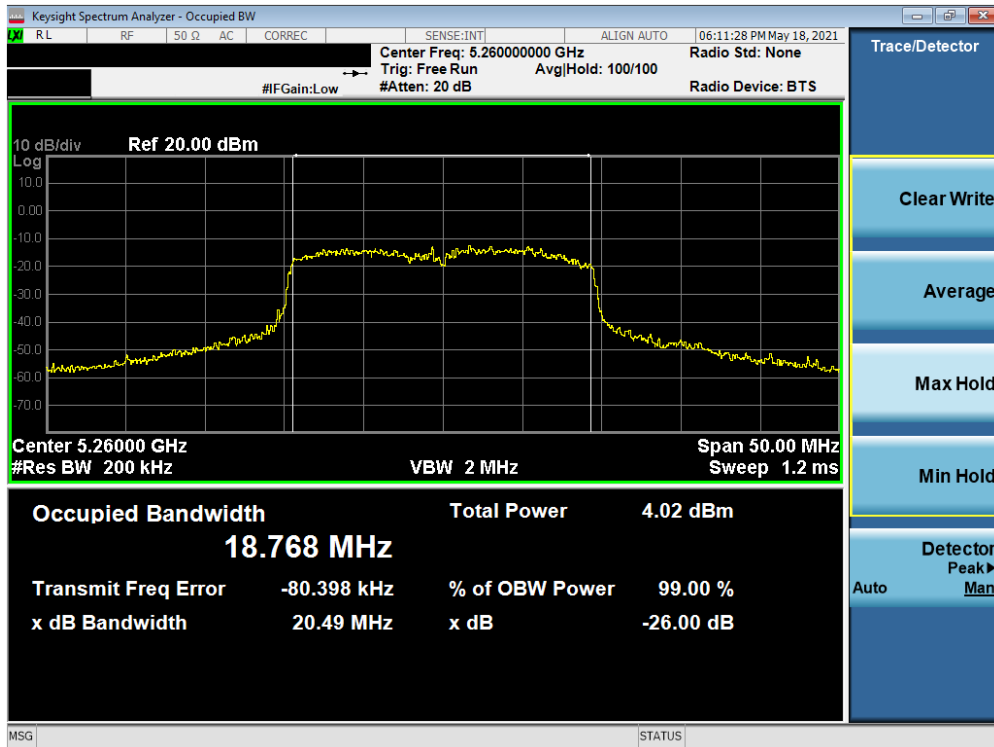


Plot 7-122. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 80 of 508

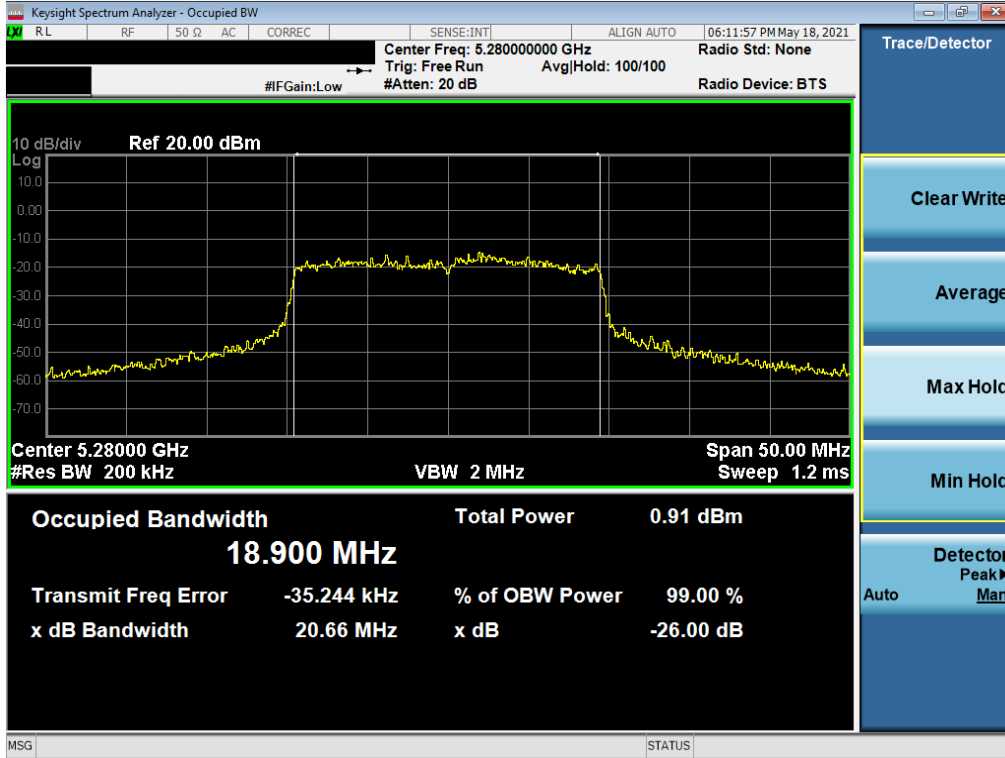


Plot 7-123. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

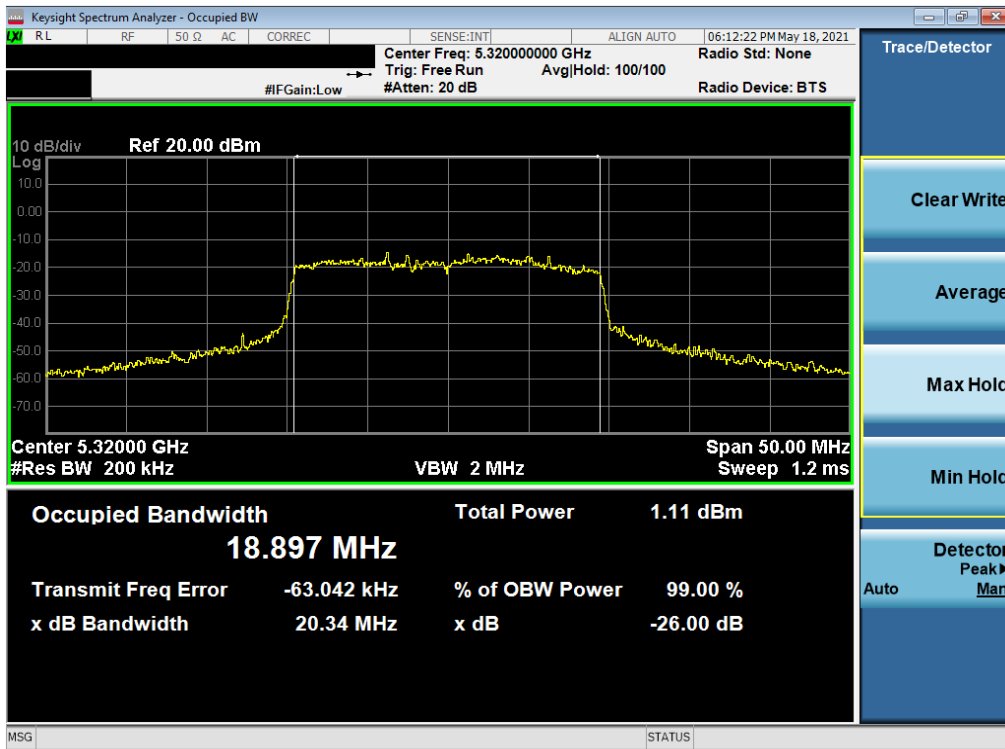


Plot 7-124. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 81 of 508

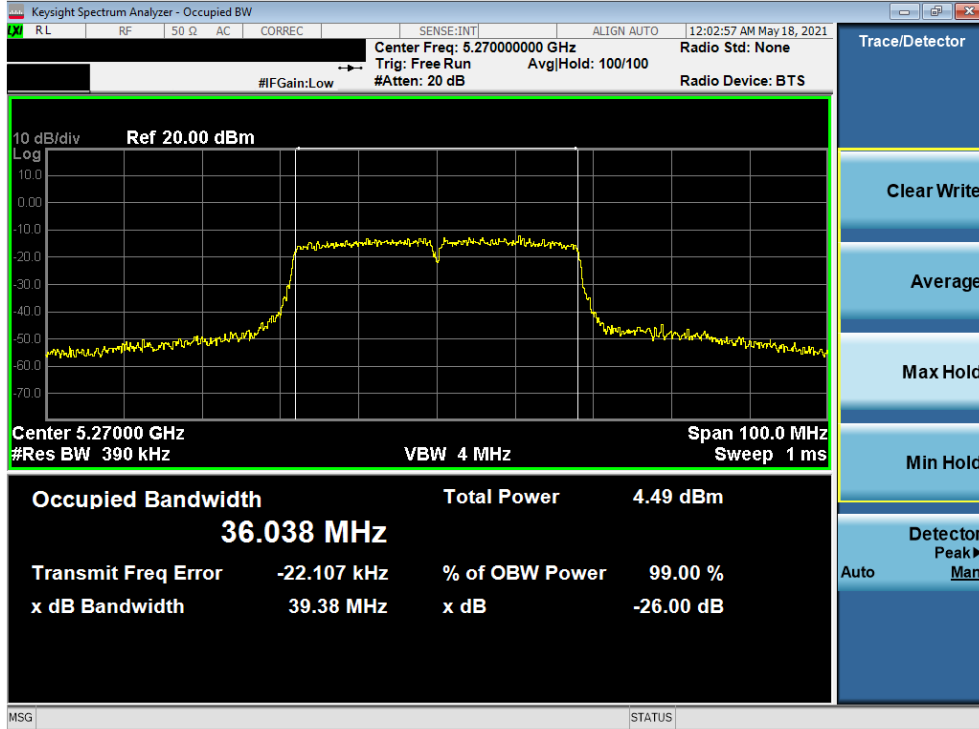


Plot 7-125. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

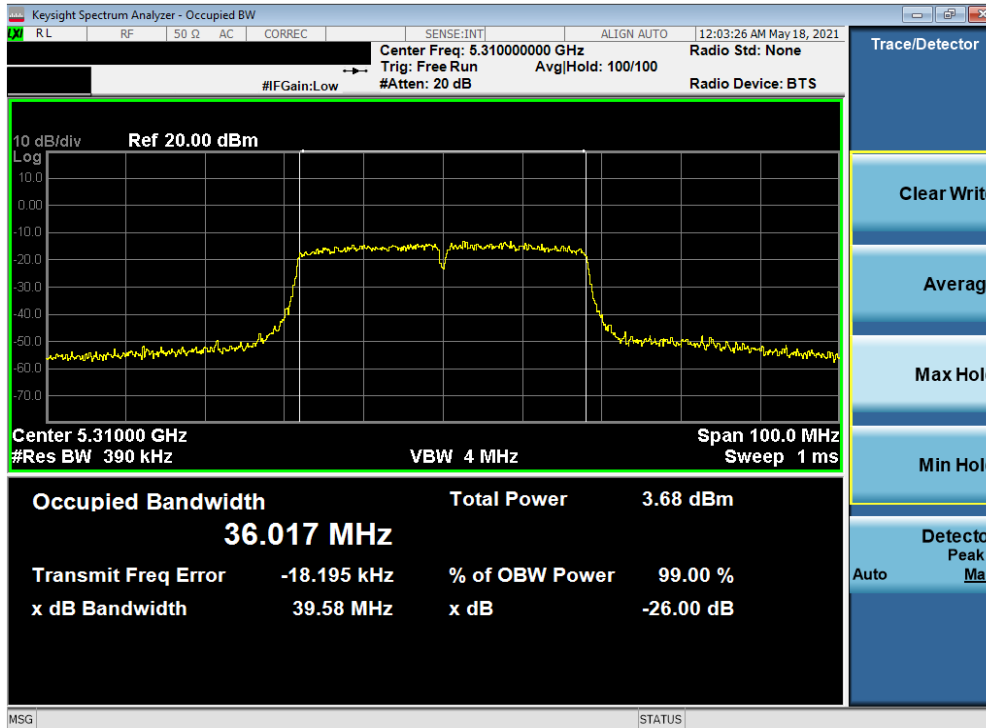


Plot 7-126. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 82 of 508



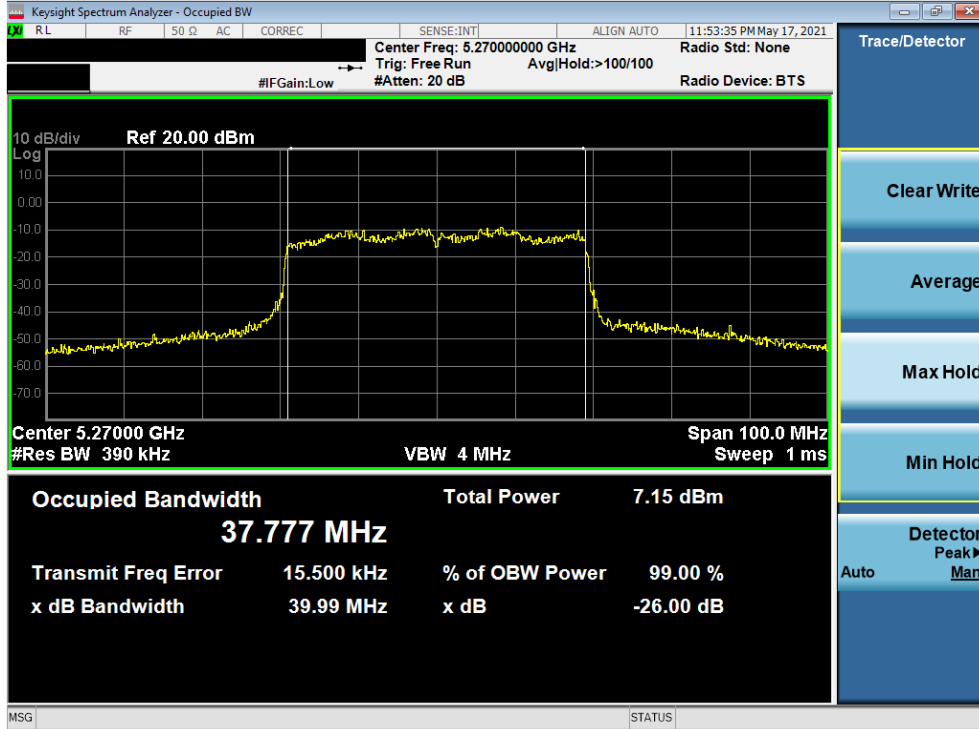
Plot 7-127. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



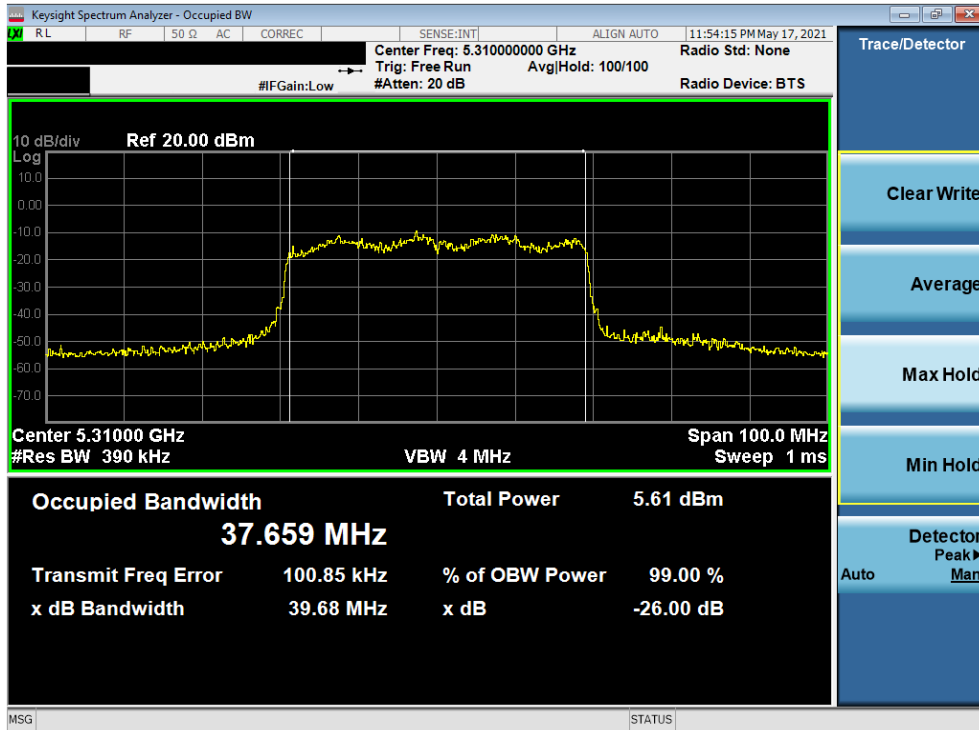
Plot 7-128. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 83 of 508



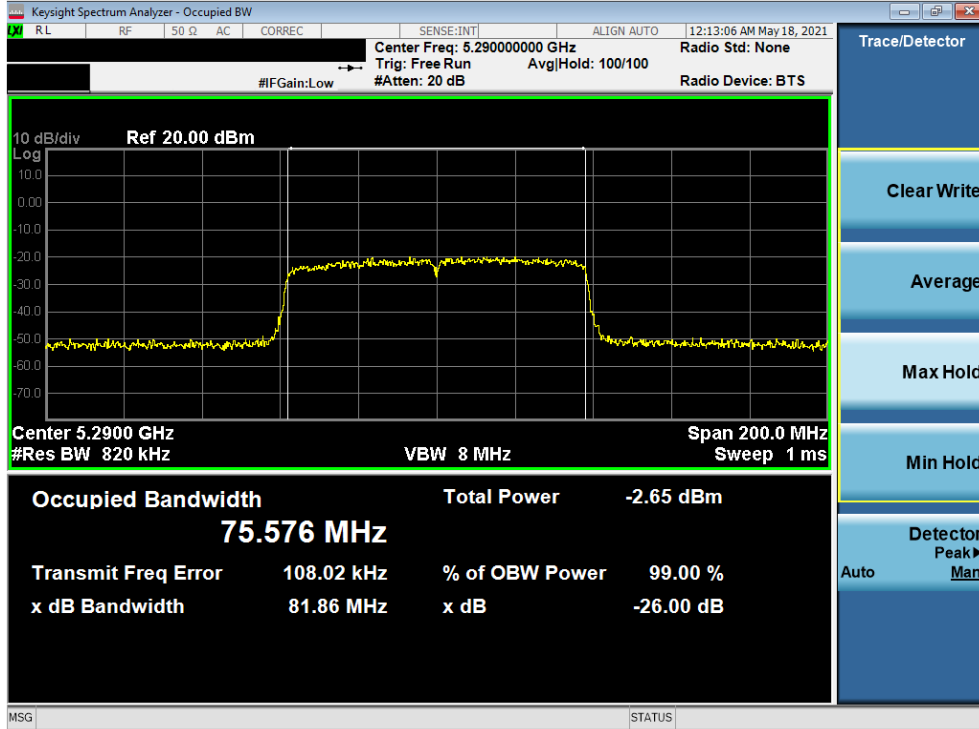


Plot 7-129. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2A) – Ch. 54)

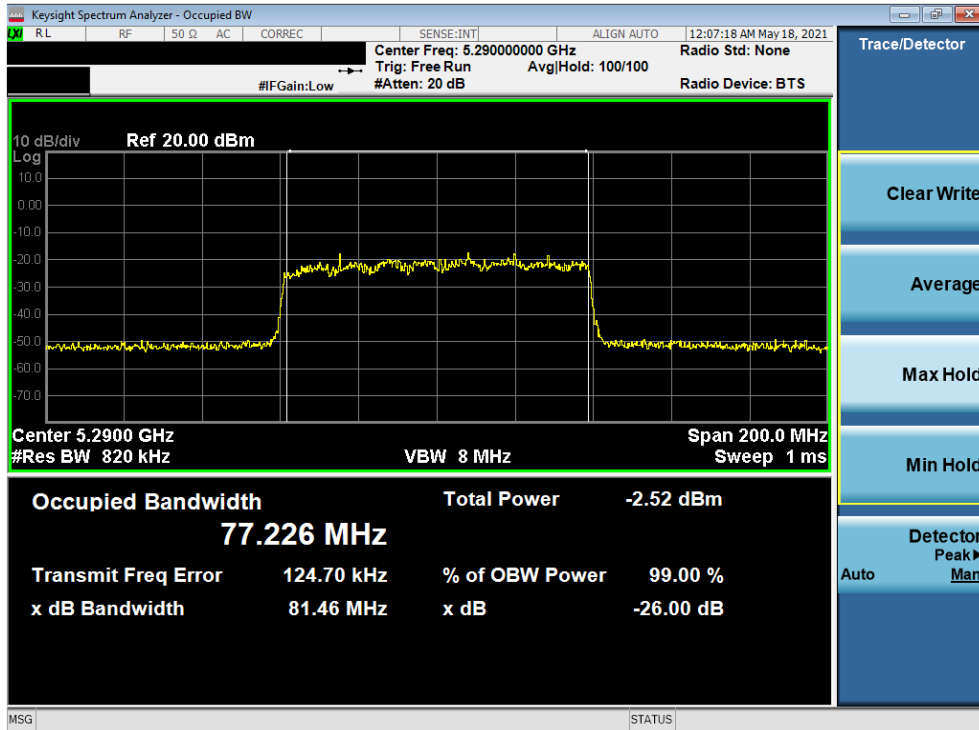


Plot 7-130. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 84 of 508

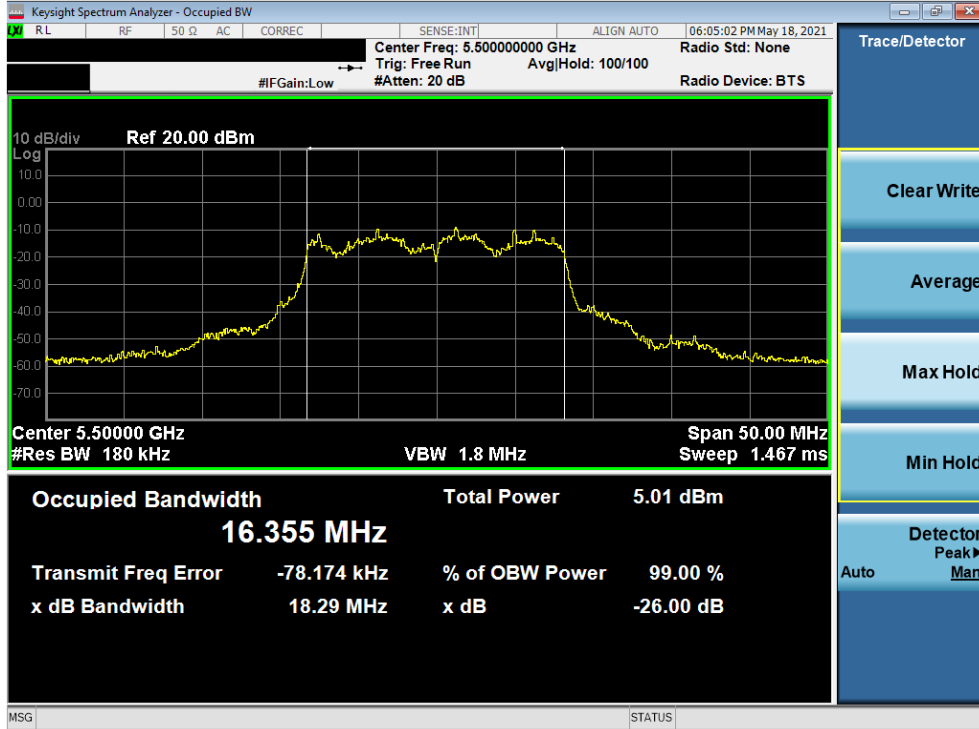


Plot 7-131. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

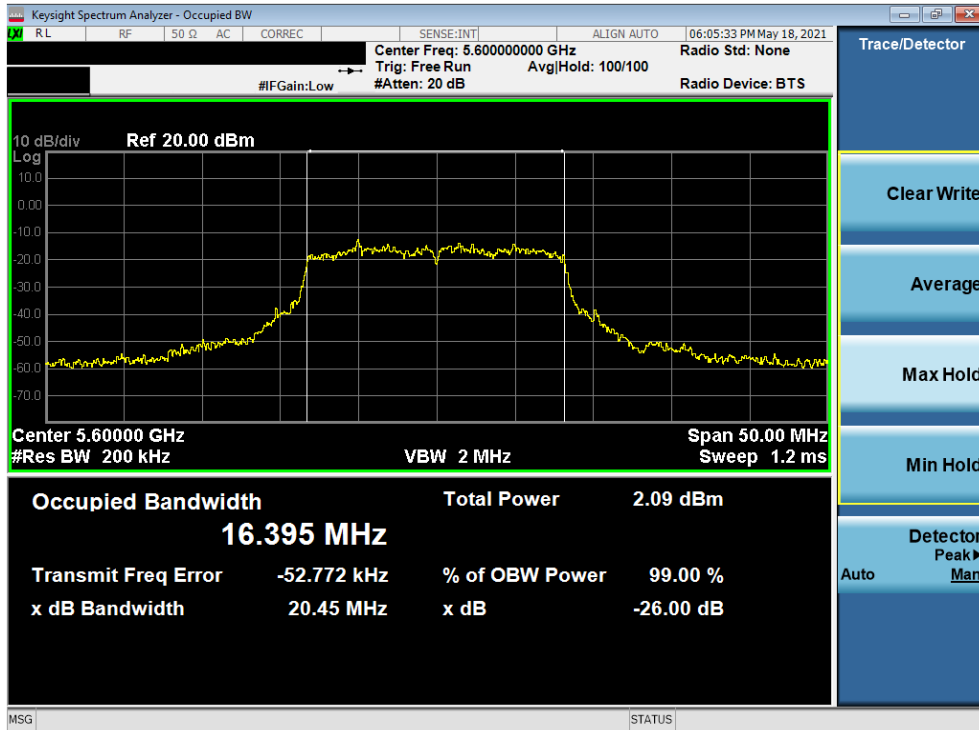


Plot 7-132. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 85 of 508

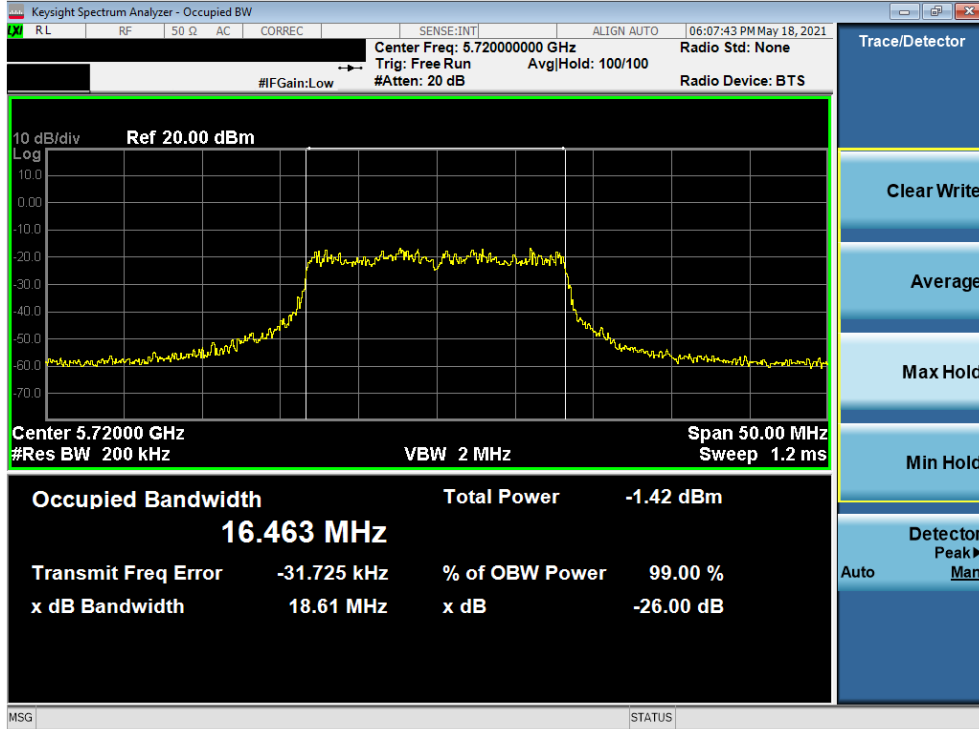


Plot 7-133. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 100)

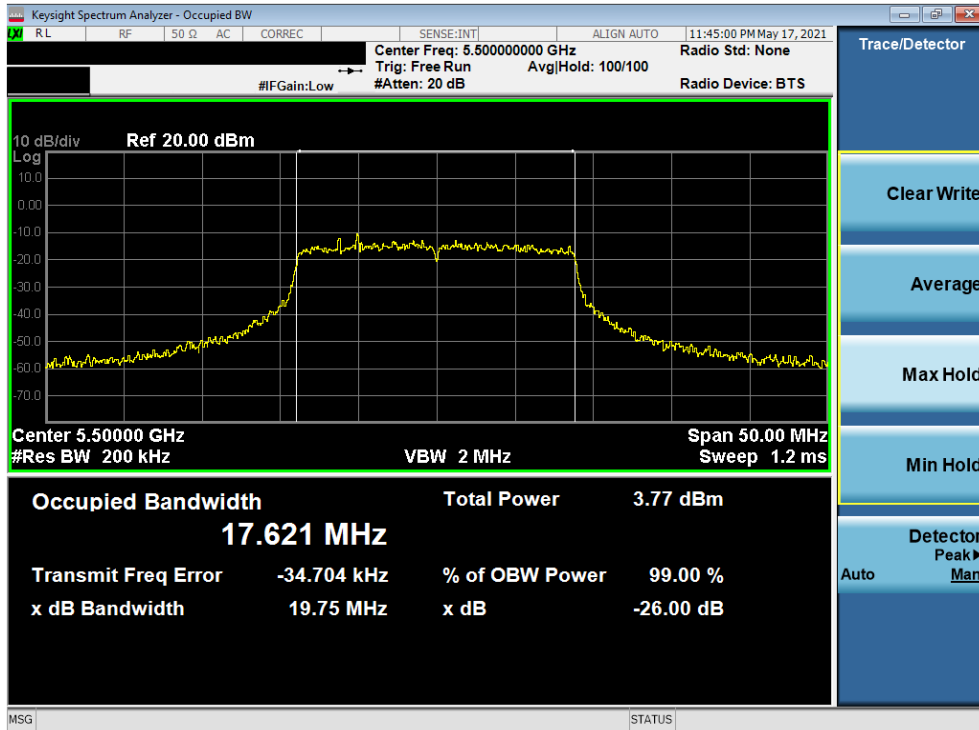


Plot 7-134. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 86 of 508

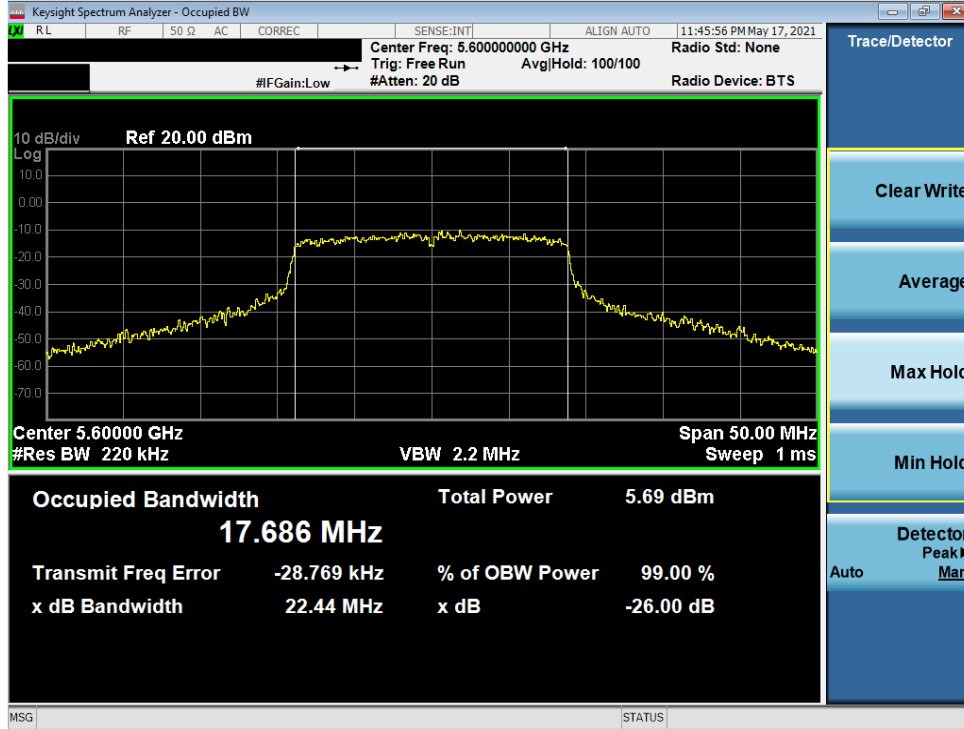


Plot 7-135. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 144)

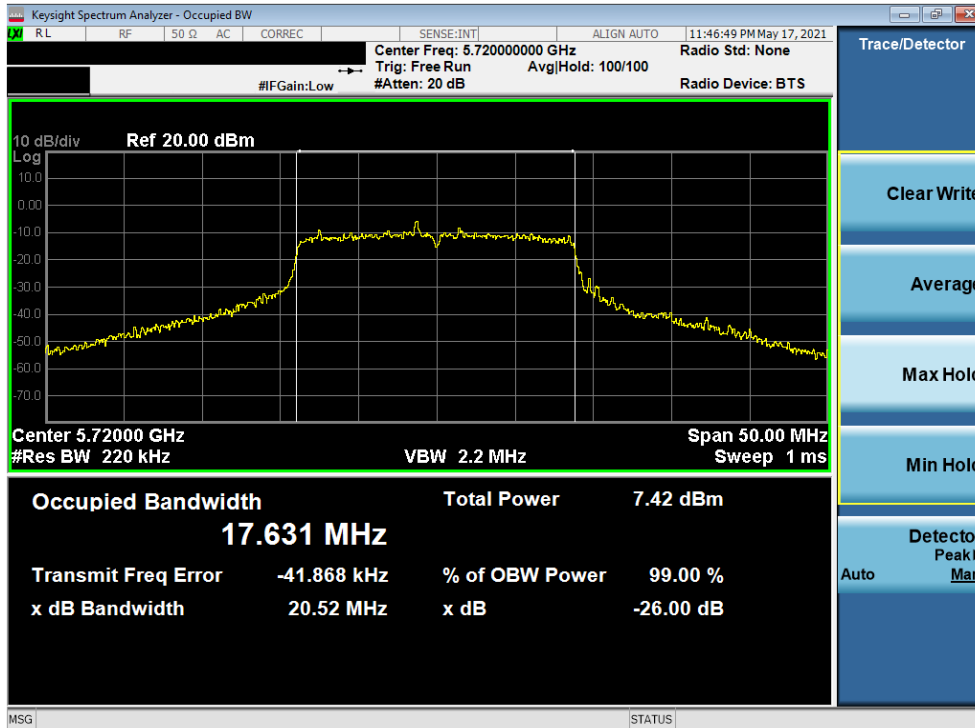


Plot 7-136. 26dB Bandwidth Plot MIMO (20MHz 802.11n BW (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 87 of 508

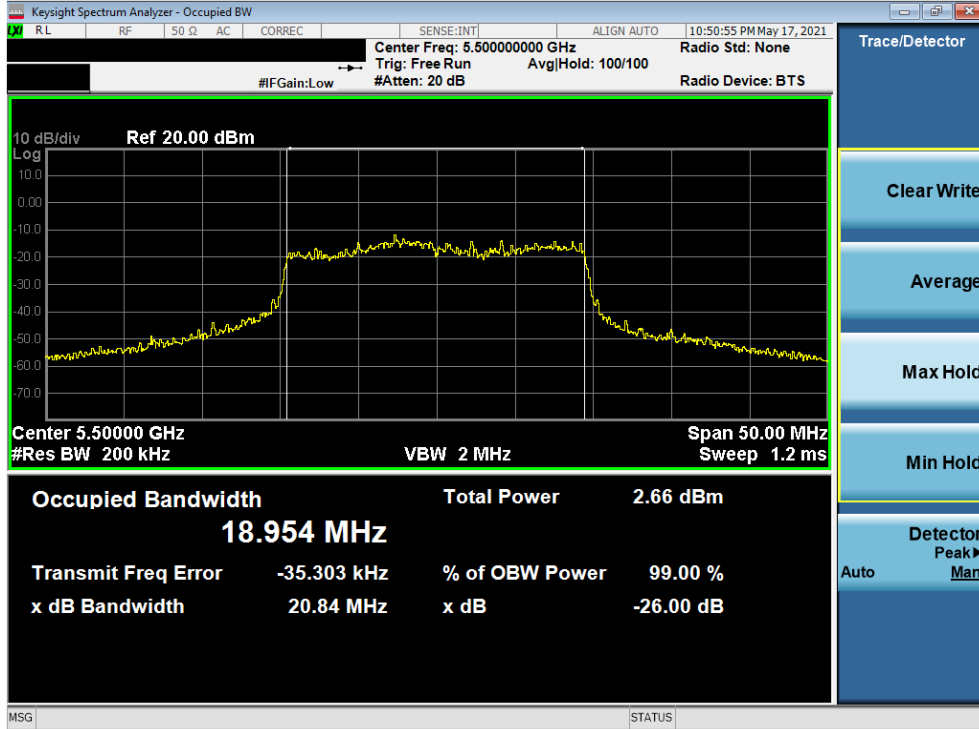


Plot 7-137. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

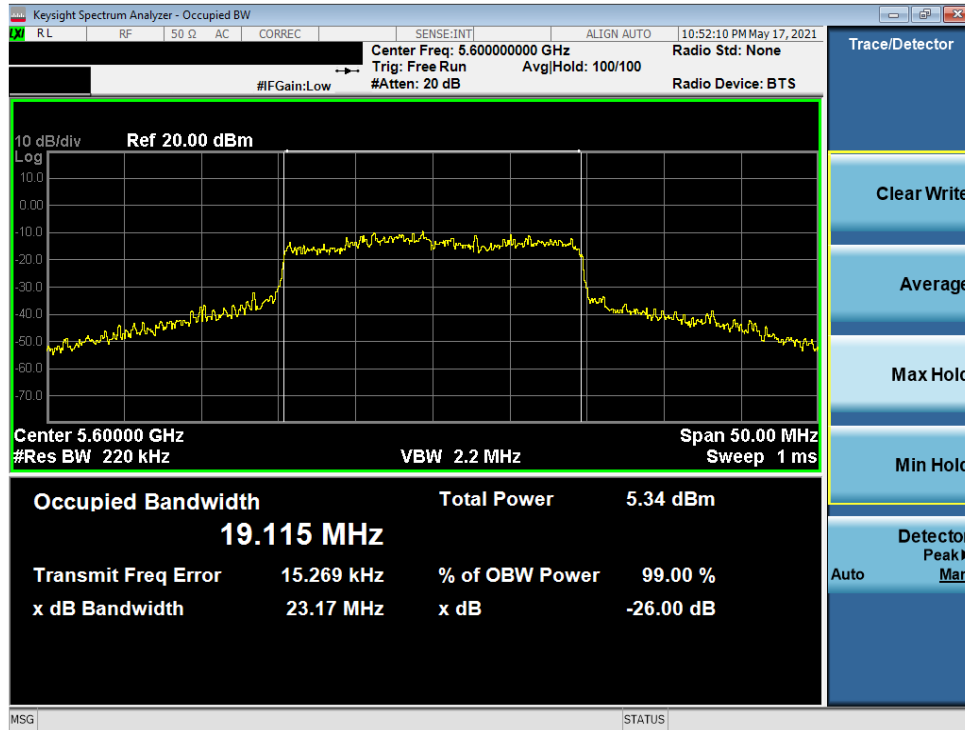


Plot 7-138. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 88 of 508

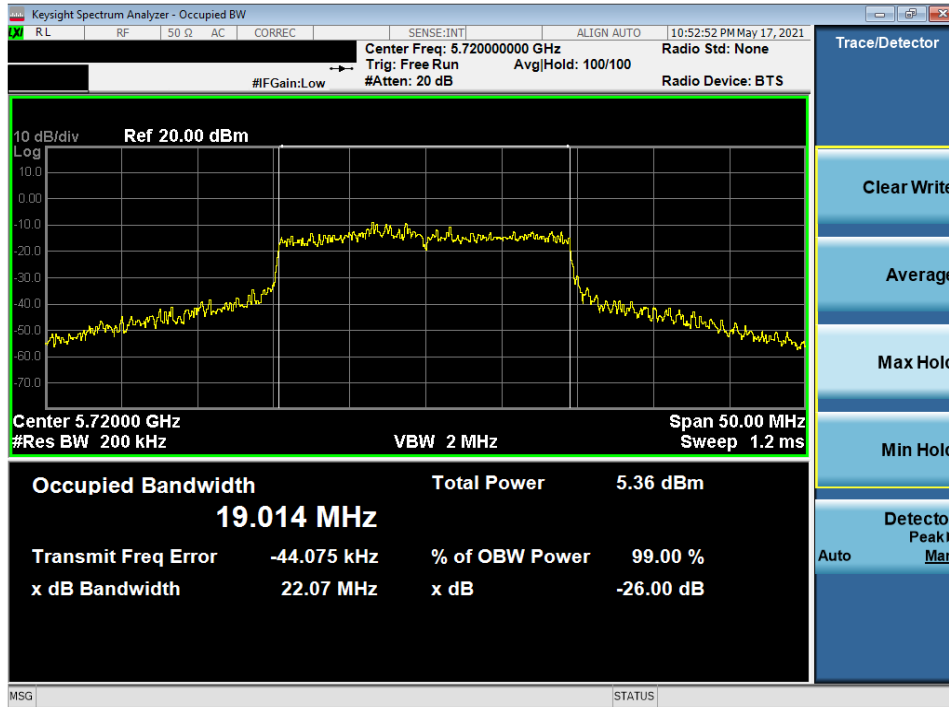


Plot 7-139. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

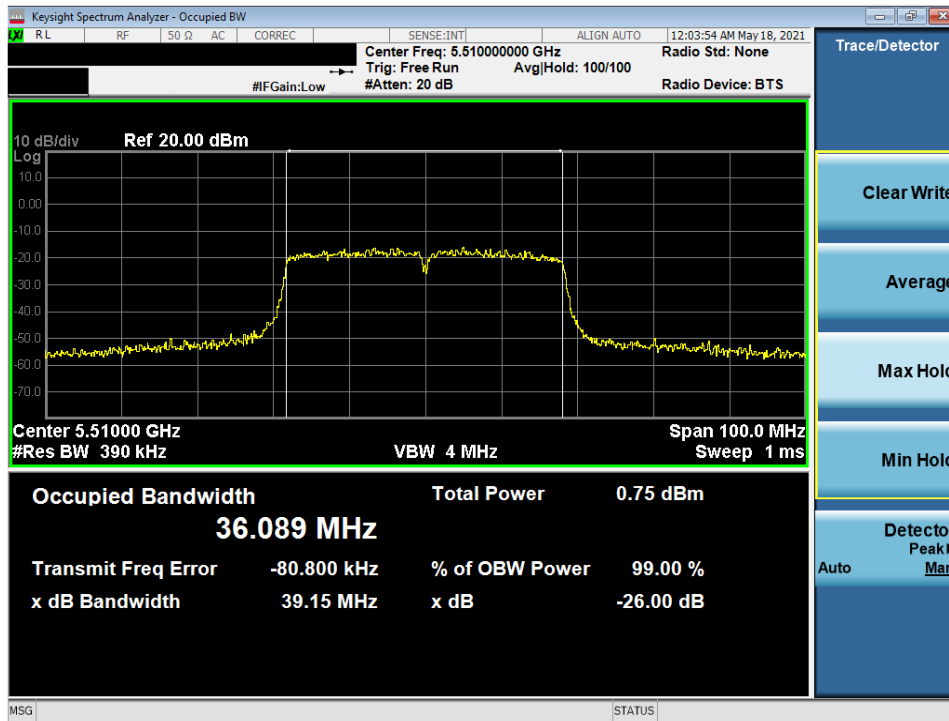


Plot 7-140. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 89 of 508

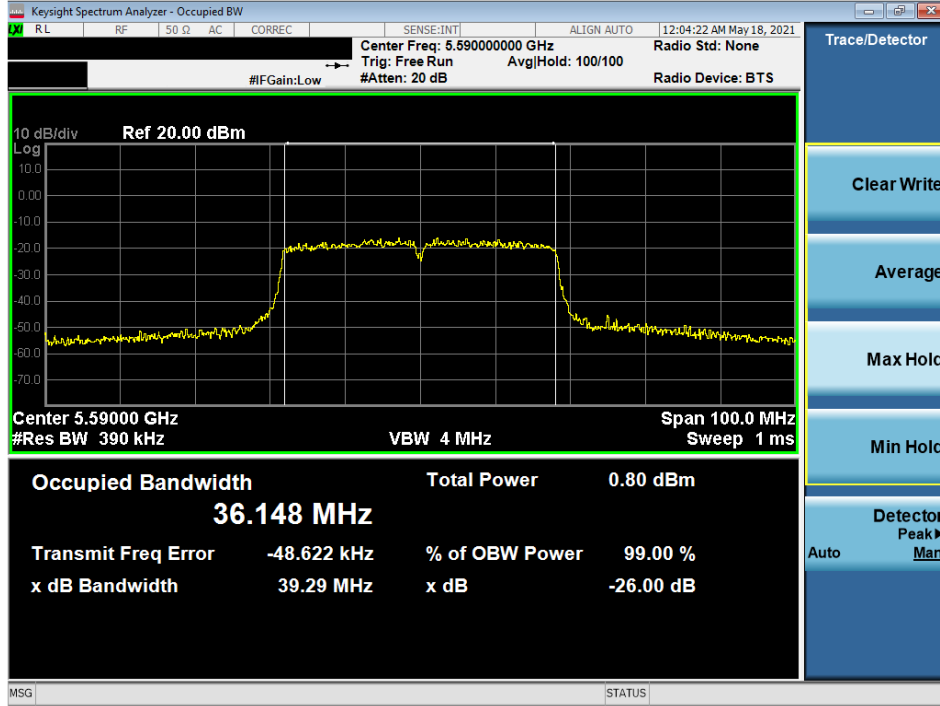


Plot 7-141. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

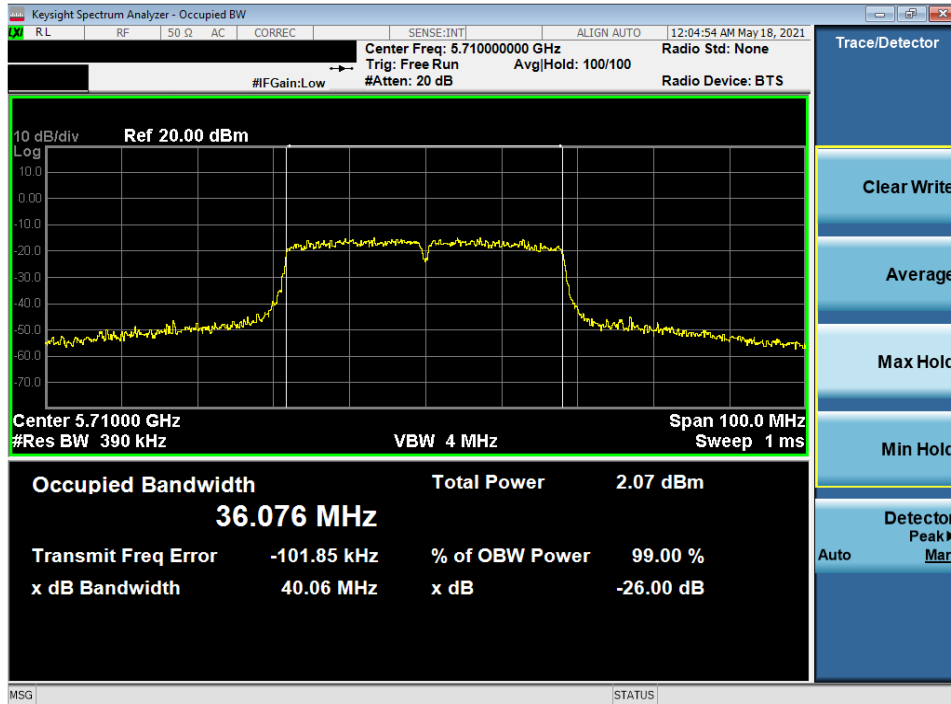


Plot 7-142. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 90 of 508



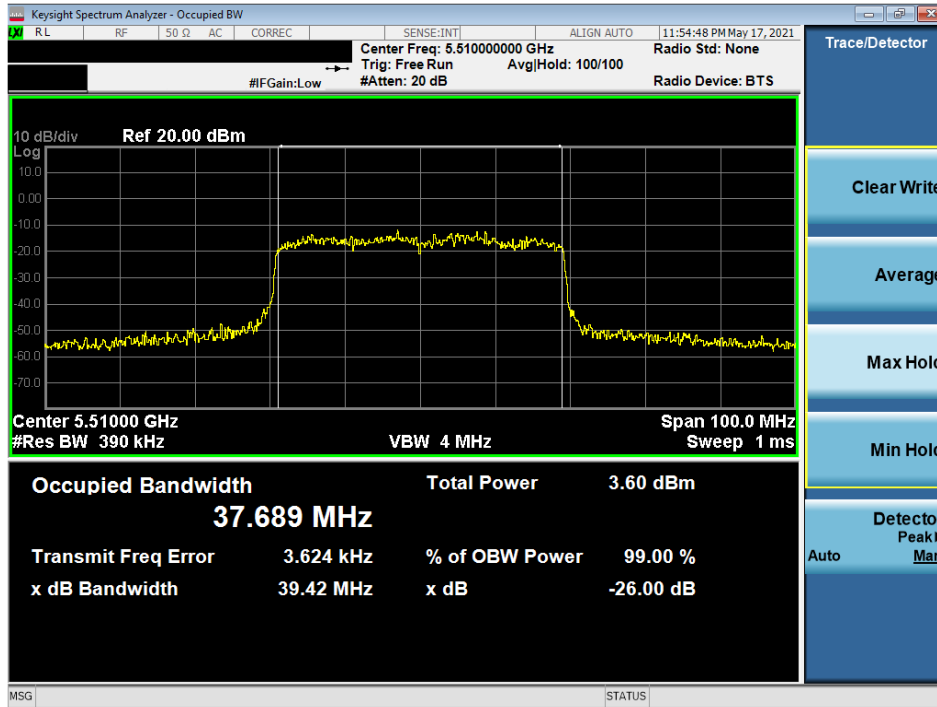
Plot 7-143. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)



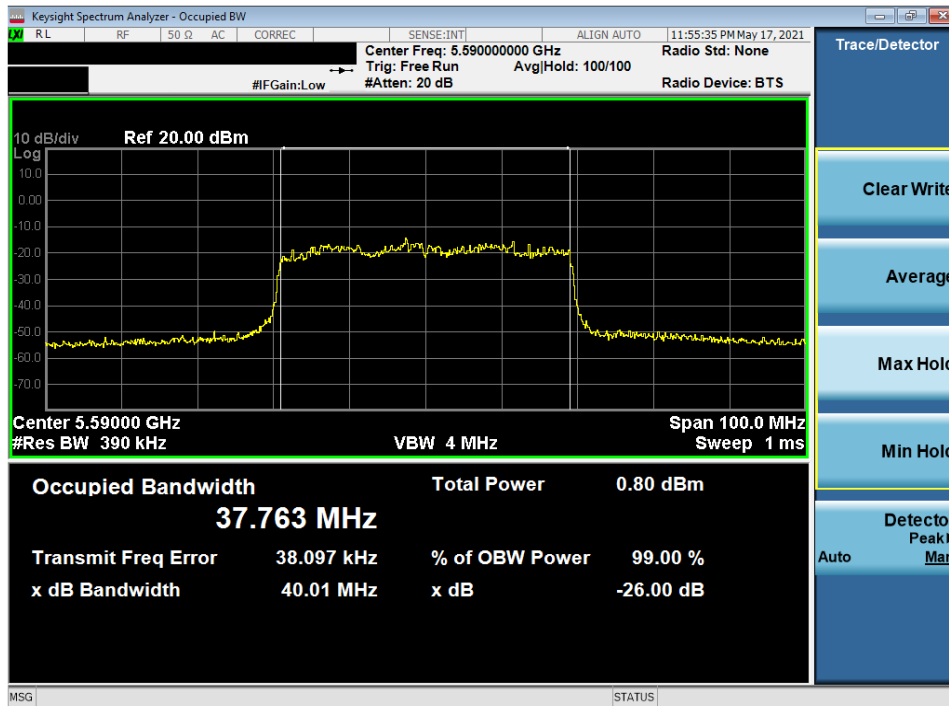
Plot 7-144. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 91 of 508



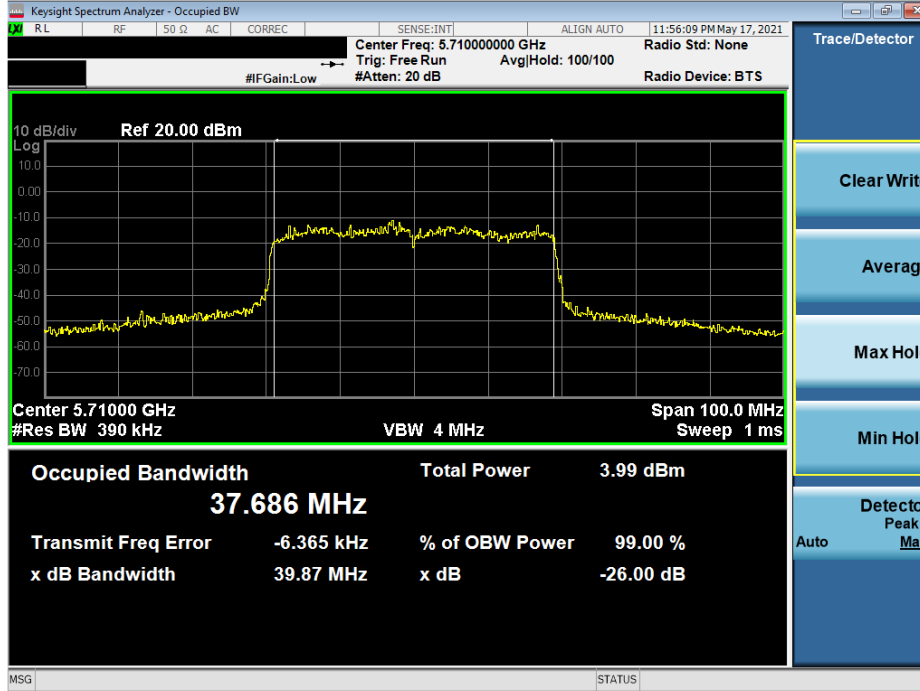


Plot 7-145. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 102)

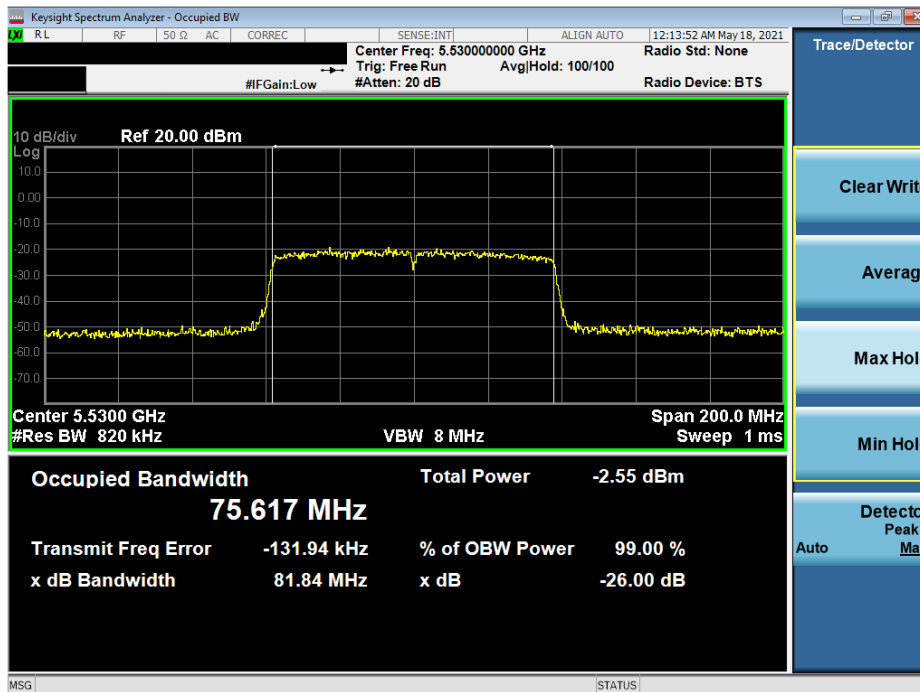


Plot 7-146. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 92 of 508

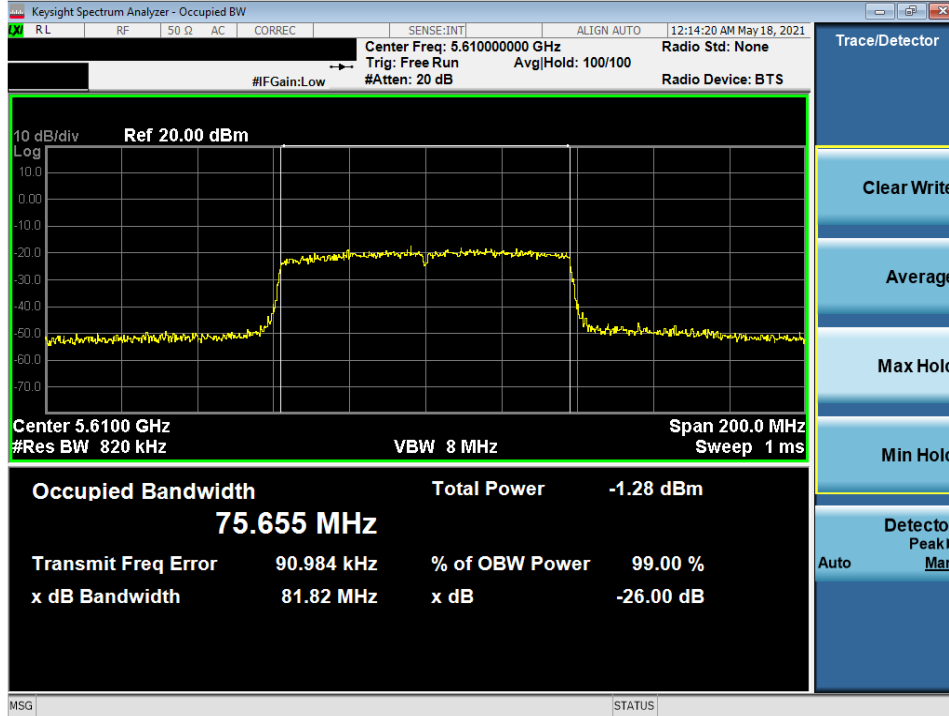


Plot 7-147. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 142)

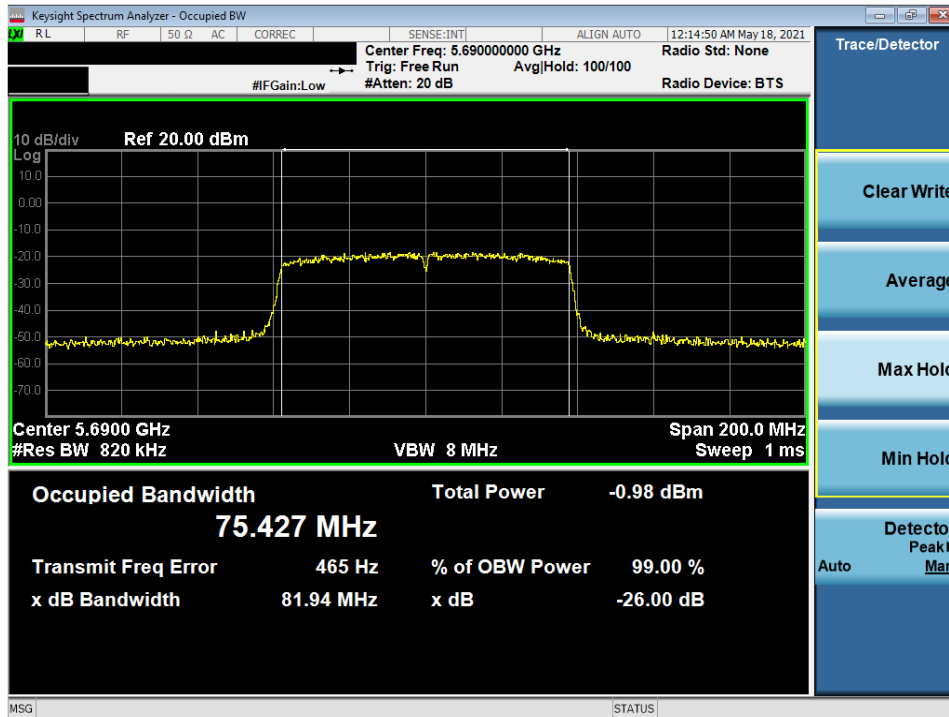


Plot 7-148. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 93 of 508

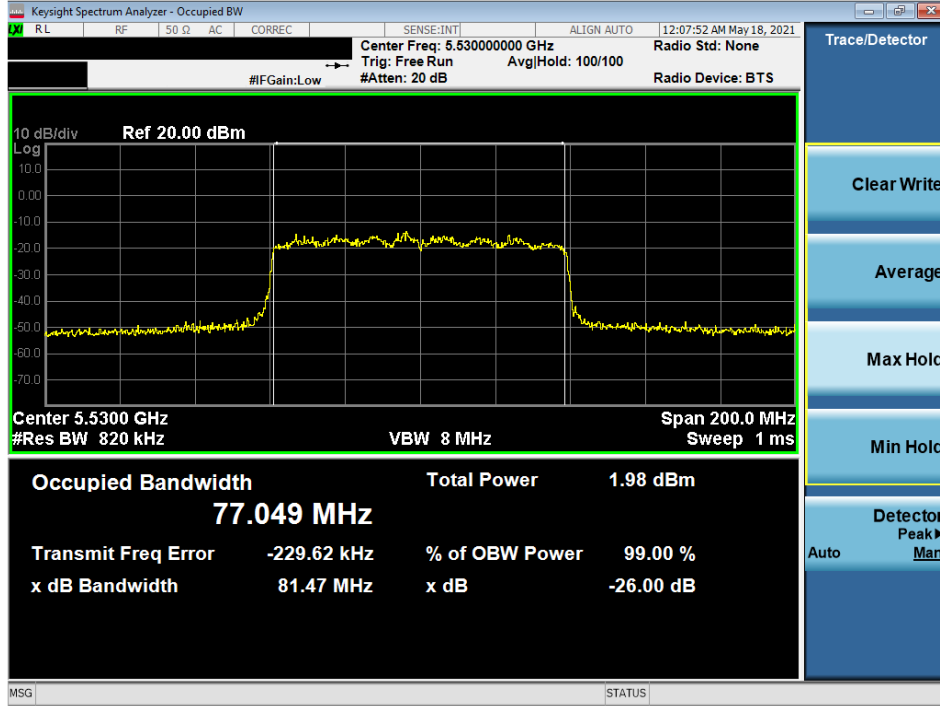


Plot 7-149. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

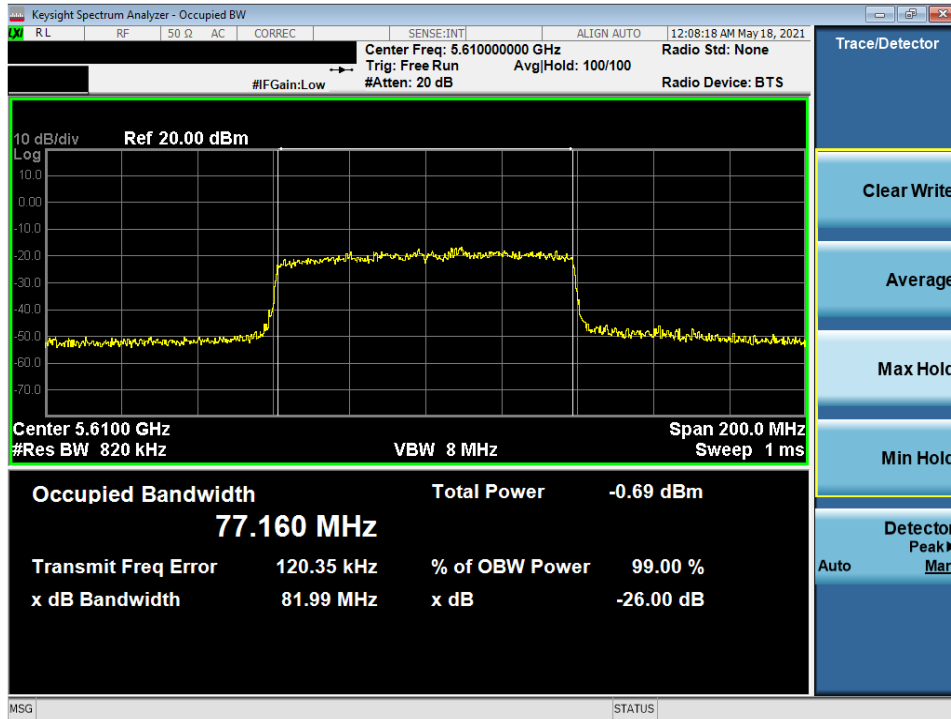


Plot 7-150. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 94 of 508

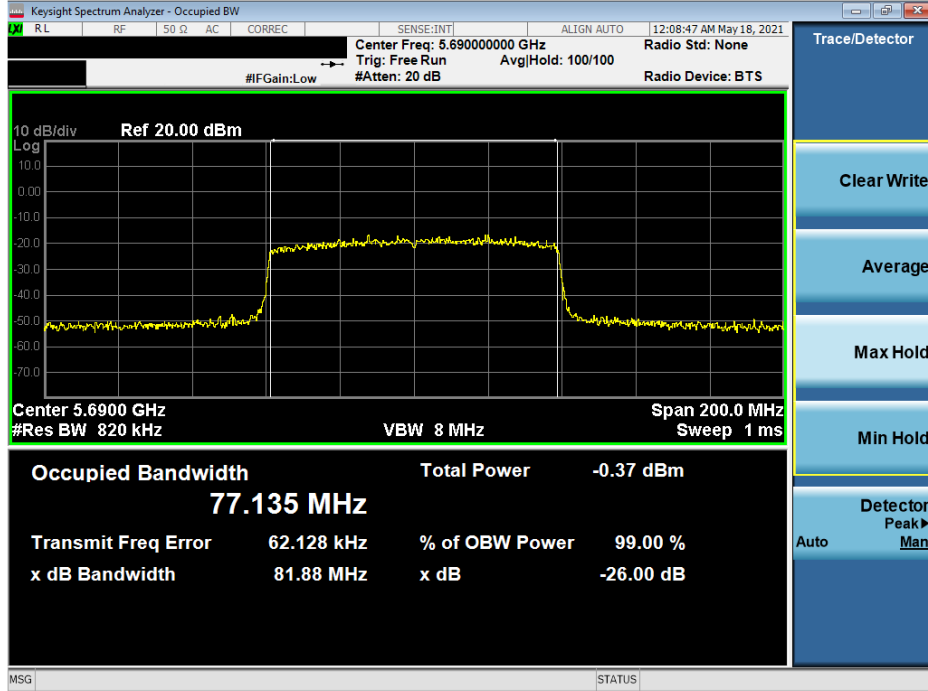


Plot 7-151. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 106)



Plot 7-152. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 95 of 508



Plot 7-153. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 138)

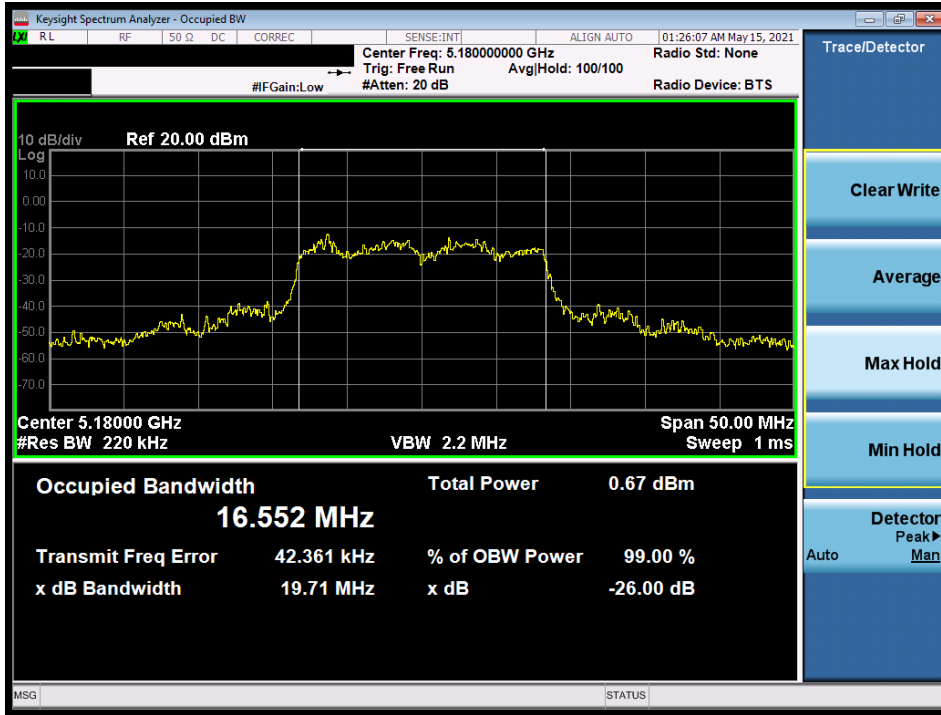
FCC ID: A3LSMF711B	 <b>PCTEST</b> Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 96 of 508

## MIMO 26 dB Bandwidth Measurements-Q

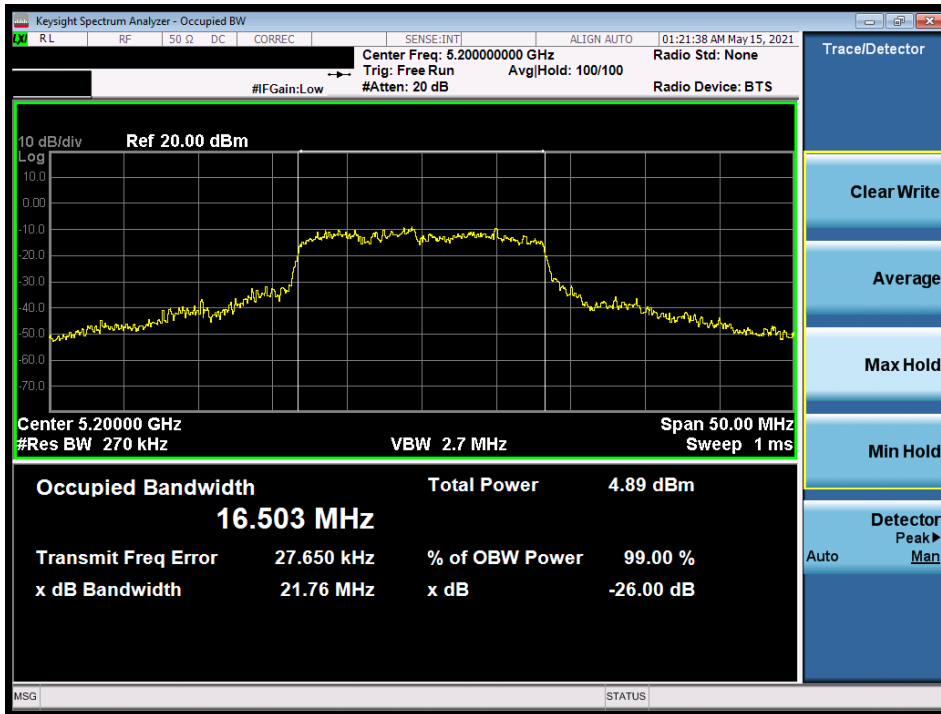
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 26dB Bandwidth - Q [MHz]
Band 1	5180	36	a	6	19.71
	5200	40	a	6	21.76
	5240	48	a	6	26.95
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	20.90
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	20.03
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	19.43
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	23.63
	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	24.22
	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	25.13
	5190	38	n (40MHz)	13.5/15 (MCS0)	38.73
	5230	46	n (40MHz)	13.5/15 (MCS0)	47.04
	5190	38	ax (40MHz)	13.5/15 (MCS0)	40.03
	5230	46	ax (40MHz)	13.5/15 (MCS0)	49.15
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	79.82
5210	42	ax (80MHz)	29.3/32.5 (MCS0)	81.50	
Band 2A	5260	52	a	6	22.62
	5280	56	a	6	22.35
	5320	64	a	6	21.16
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	20.28
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	22.03
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	19.23
	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	24.10
	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	22.38
	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	21.10
	5270	54	n (40MHz)	13.5/15 (MCS0)	38.73
	5310	62	n (40MHz)	13.5/15 (MCS0)	38.84
	5270	54	ax (40MHz)	13.5/15 (MCS0)	40.80
	5310	62	ax (40MHz)	13.5/15 (MCS0)	41.01
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	80.07
5290	58	ax (80MHz)	29.3/32.5 (MCS0)	81.42	
Band 2C	5500	100	a	6	18.54
	5600	120	a	6	20.69
	5720	144	a	6	21.00
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	19.60
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	19.31
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	19.22
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	21.17
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	20.47
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	20.76
	5510	102	n (40MHz)	13.5/15 (MCS0)	38.59
	5590	118	n (40MHz)	13.5/15 (MCS0)	38.85
	5710	142	n (40MHz)	13.5/15 (MCS0)	39.17
	5510	102	ax (40MHz)	13.5/15 (MCS0)	39.97
	5590	118	ax (40MHz)	13.5/15 (MCS0)	40.20
	5710	142	ax (40MHz)	13.5/15 (MCS0)	39.71
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	80.16
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	80.45
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	80.47
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	82.67
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	82.01
5690	138	ax (80MHz)	29.3/32.5 (MCS0)	81.14	

Table 7-5. Conducted Bandwidth Measurements MIMO

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 97 of 508



Plot 7-154. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 1) – Ch. 36)

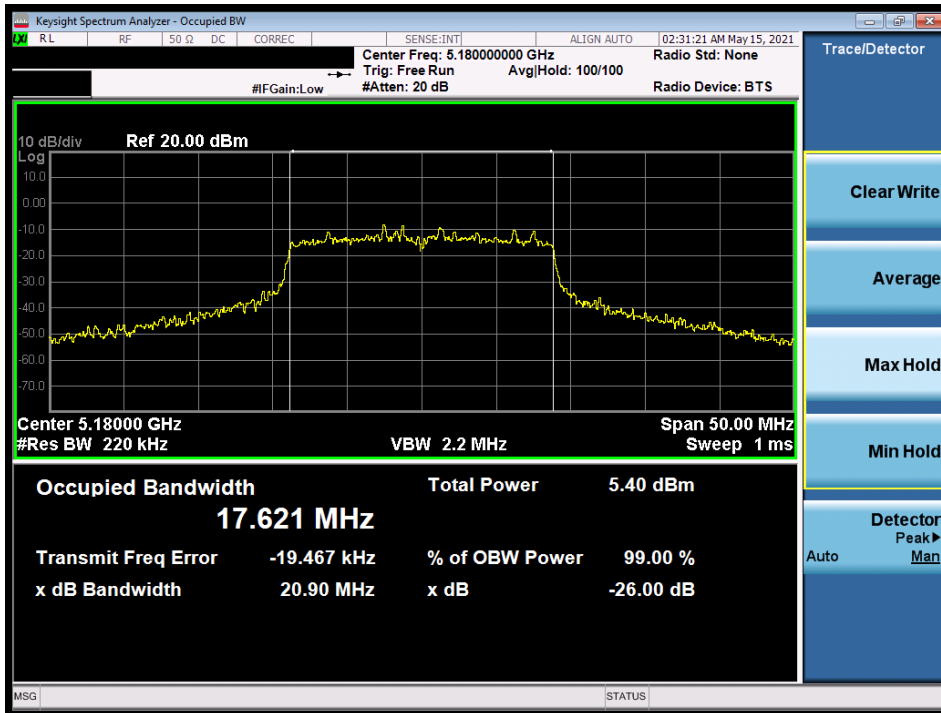


Plot 7-155. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 98 of 508



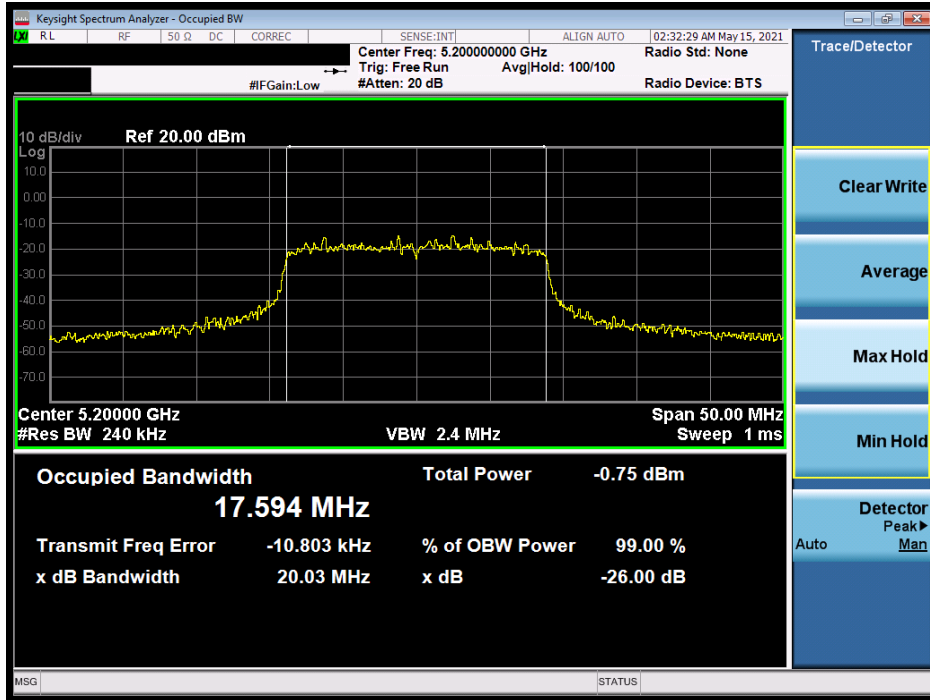
Plot 7-156. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 1) – Ch. 48)



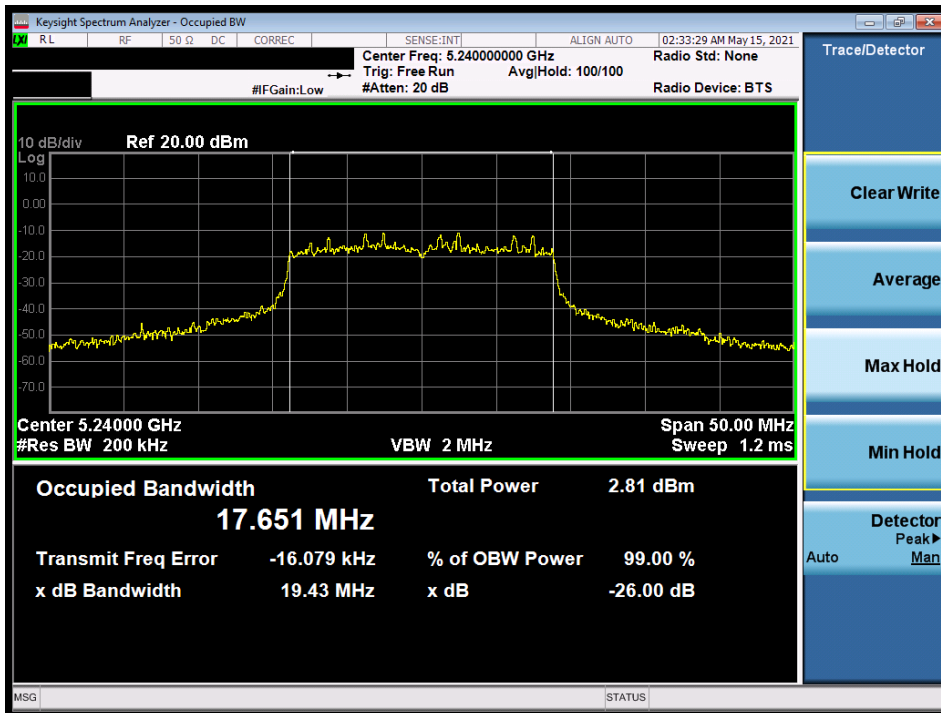
Plot 7-157. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 99 of 508



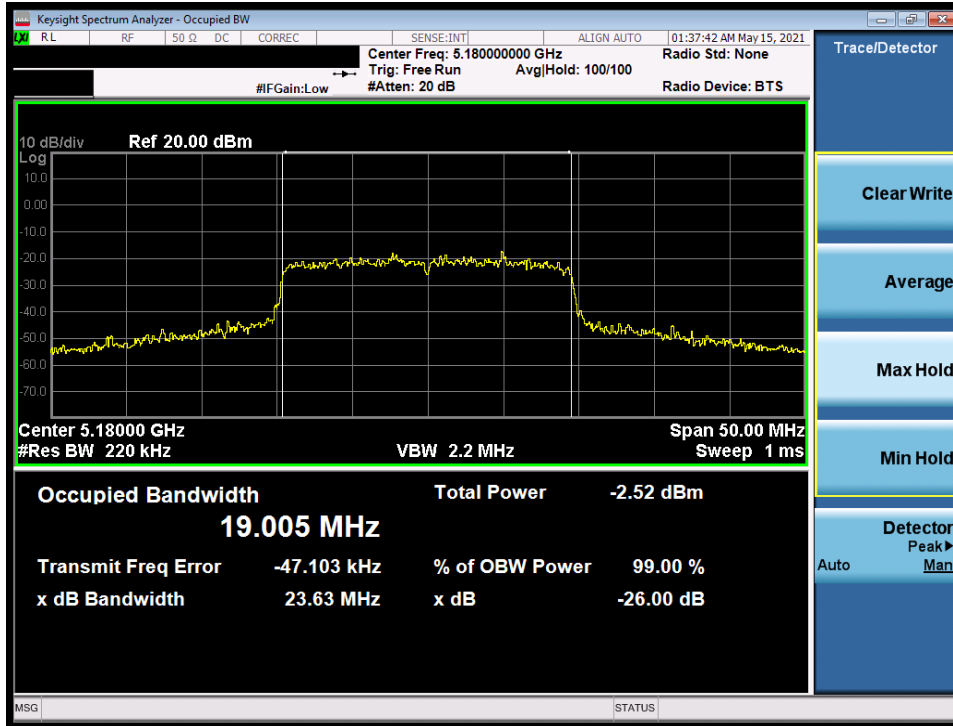


Plot 7-158. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

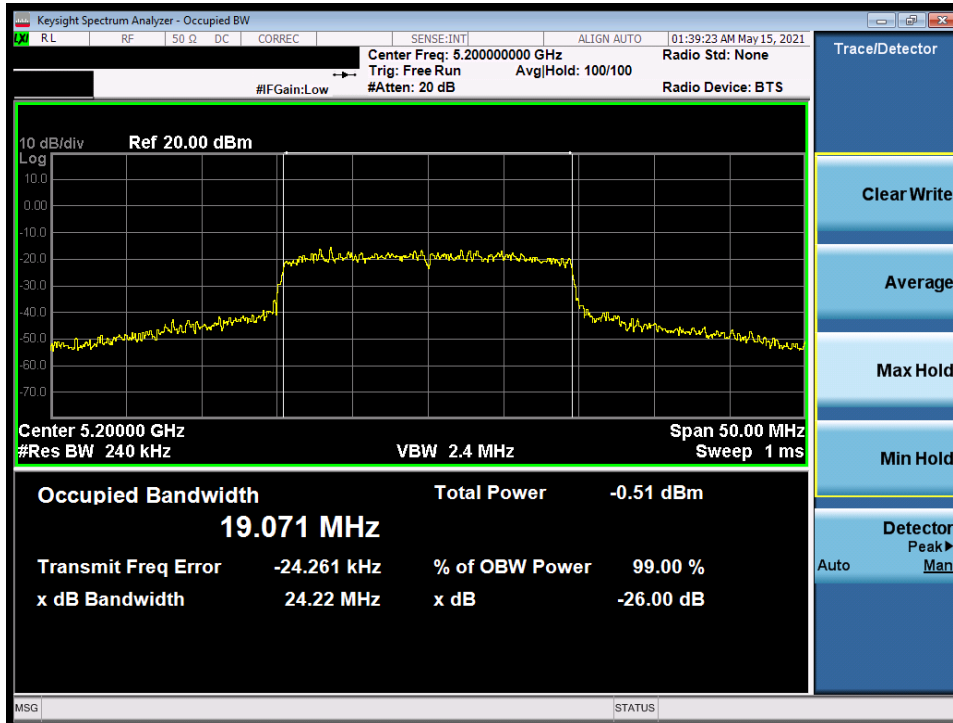


Plot 7-159. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 100 of 508

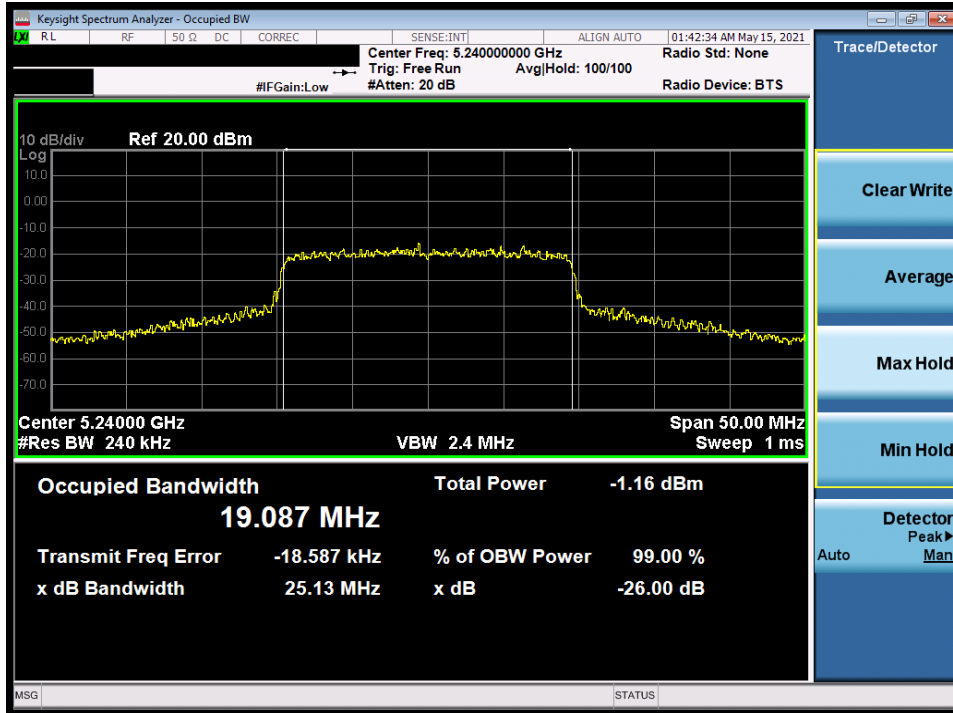


Plot 7-160. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 1) – Ch. 36)

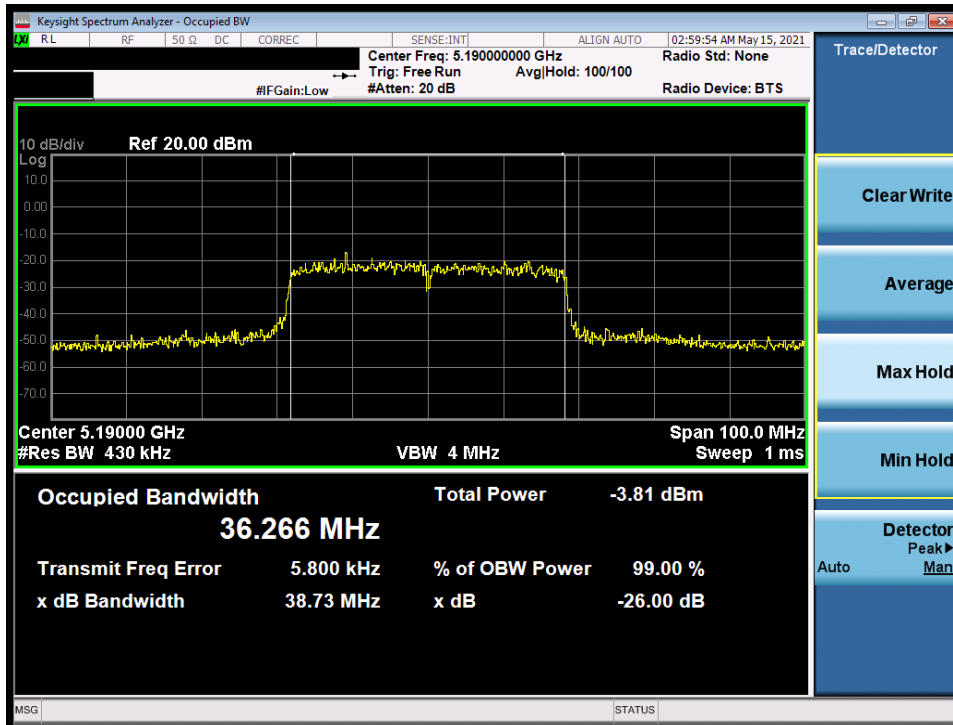


Plot 7-161. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 101 of 508

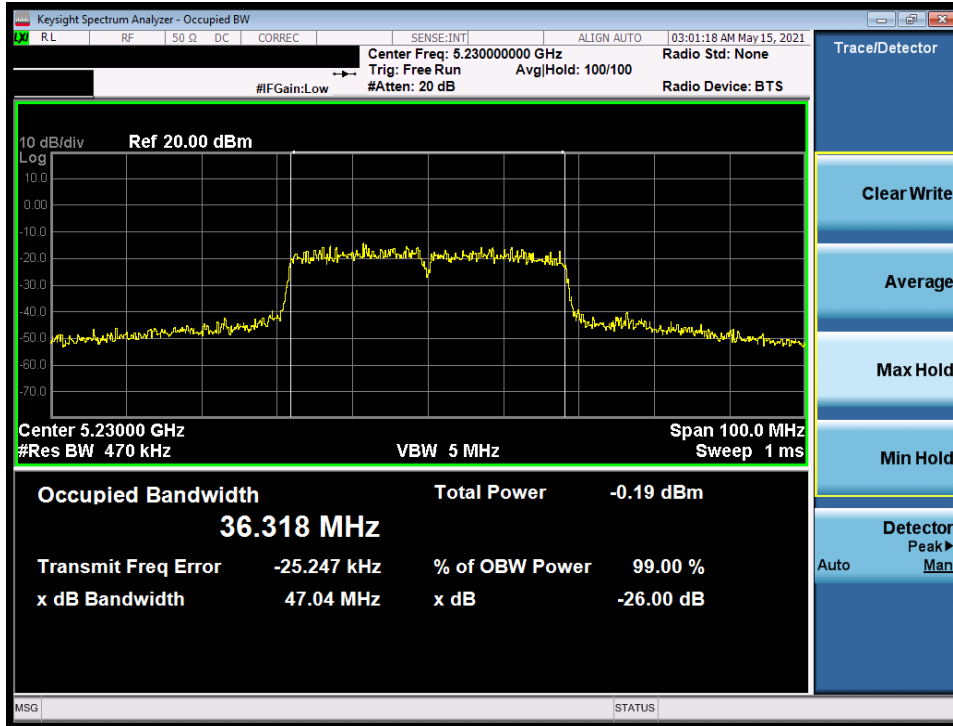


Plot 7-162. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 1) – Ch. 48)

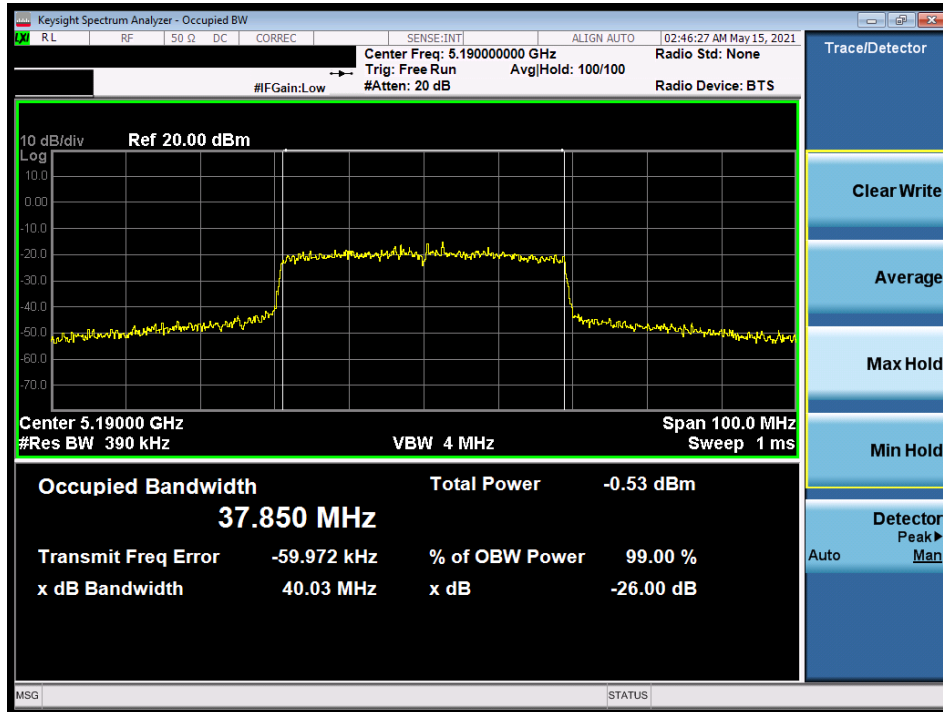


Plot 7-163. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 102 of 508

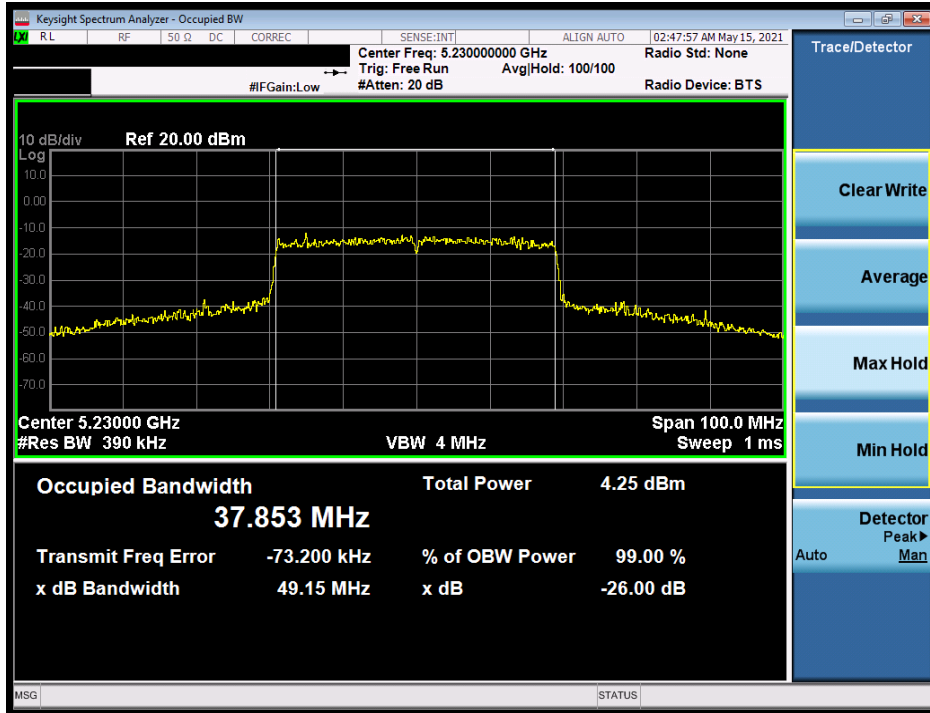


Plot 7-164. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

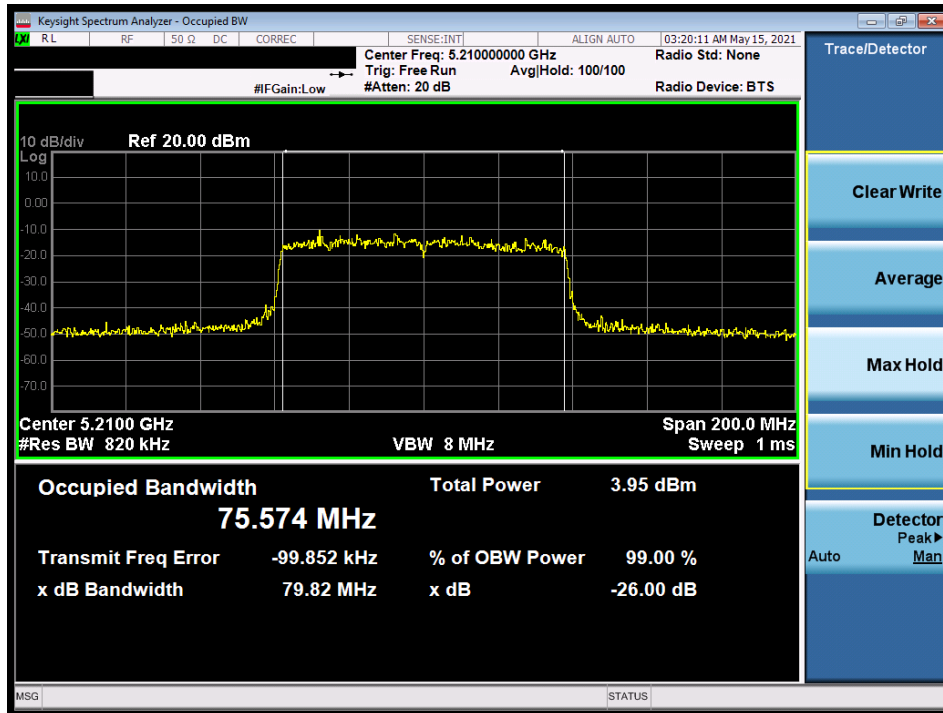


Plot 7-165. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 103 of 508

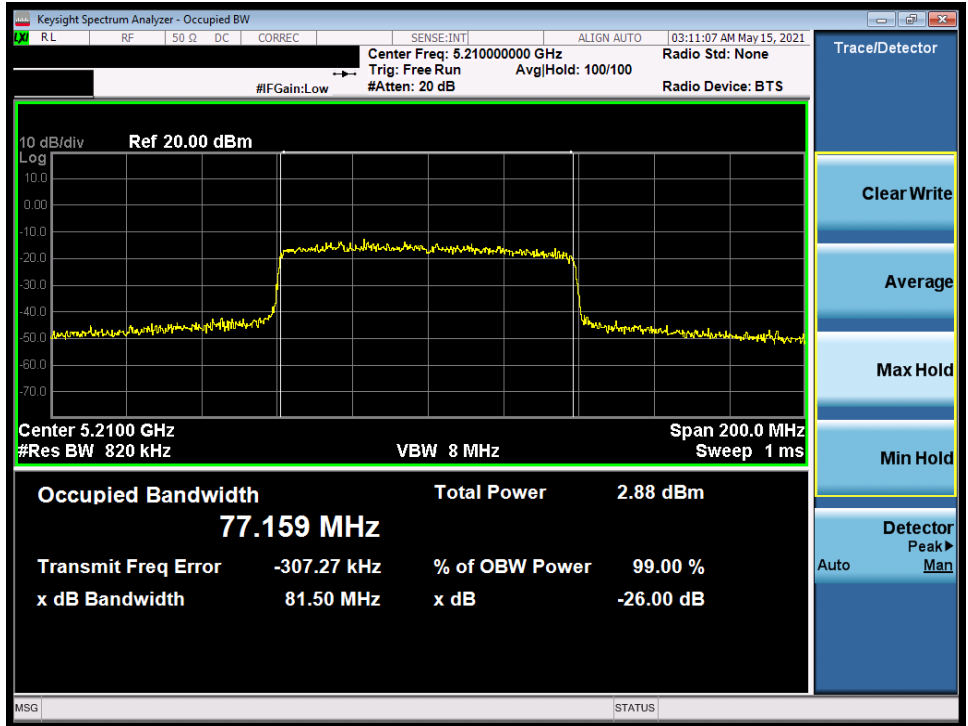


Plot 7-166. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 1) – Ch. 46)

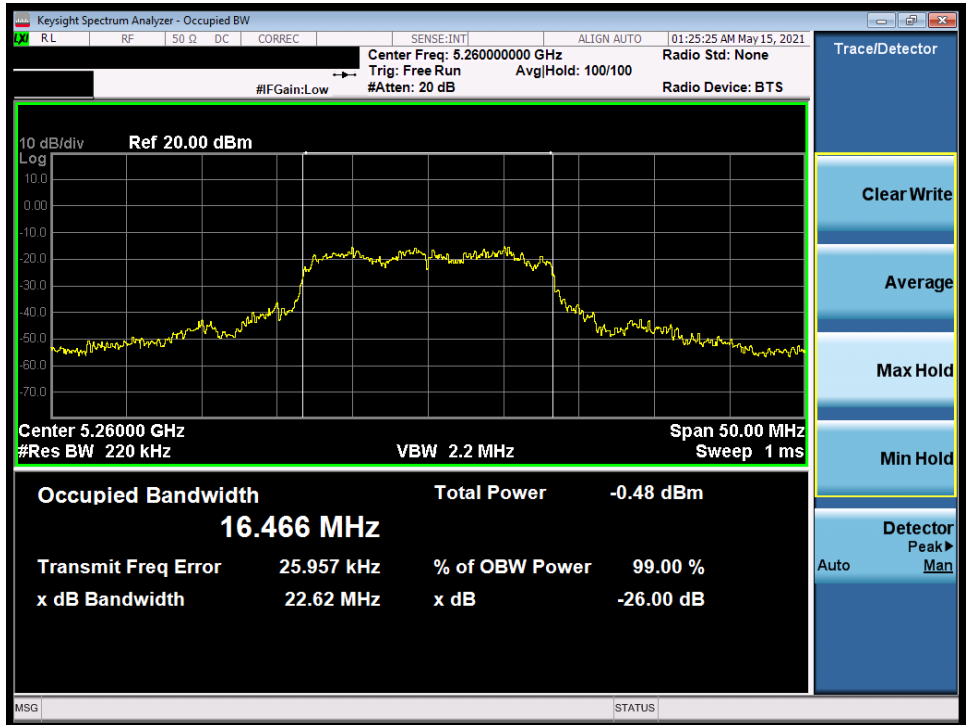


Plot 7-167. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 104 of 508

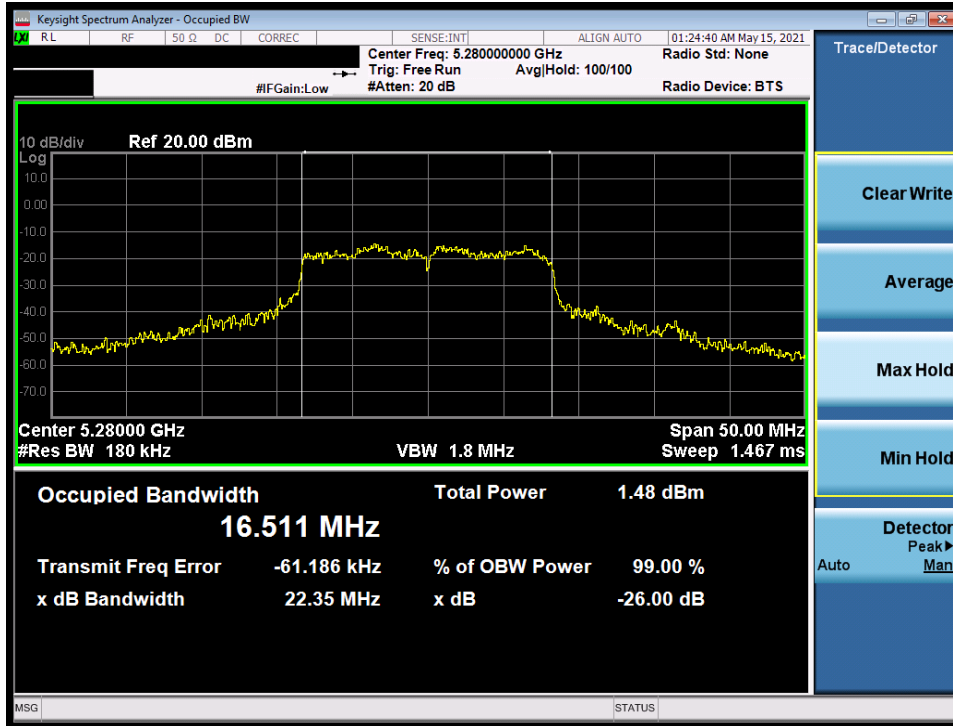


Plot 7-168. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 1) – Ch. 42)

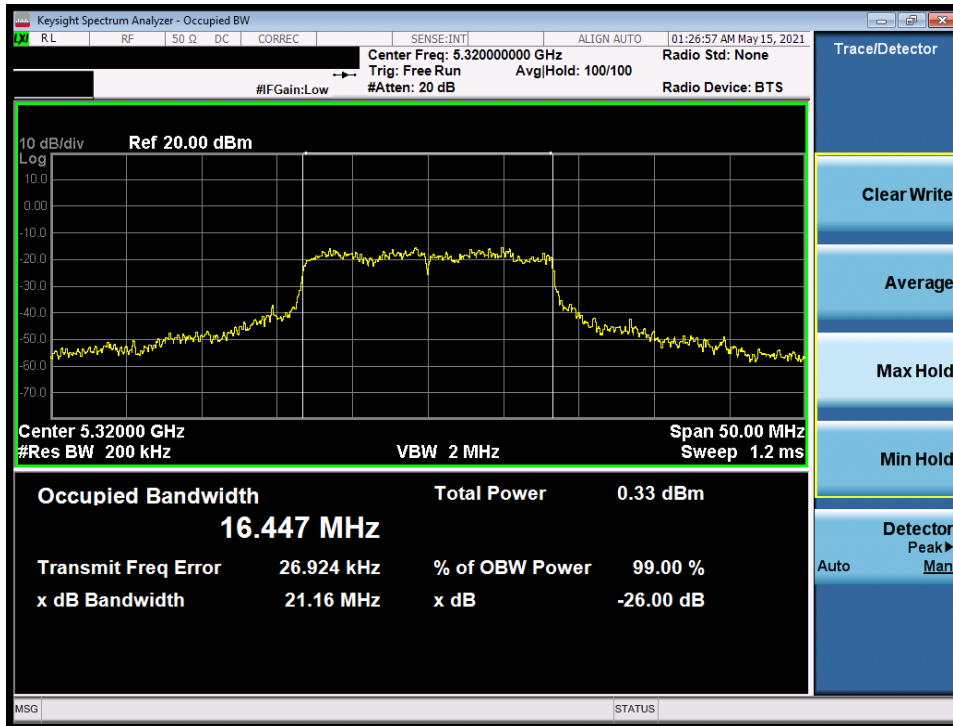


Plot 7-169. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 105 of 508

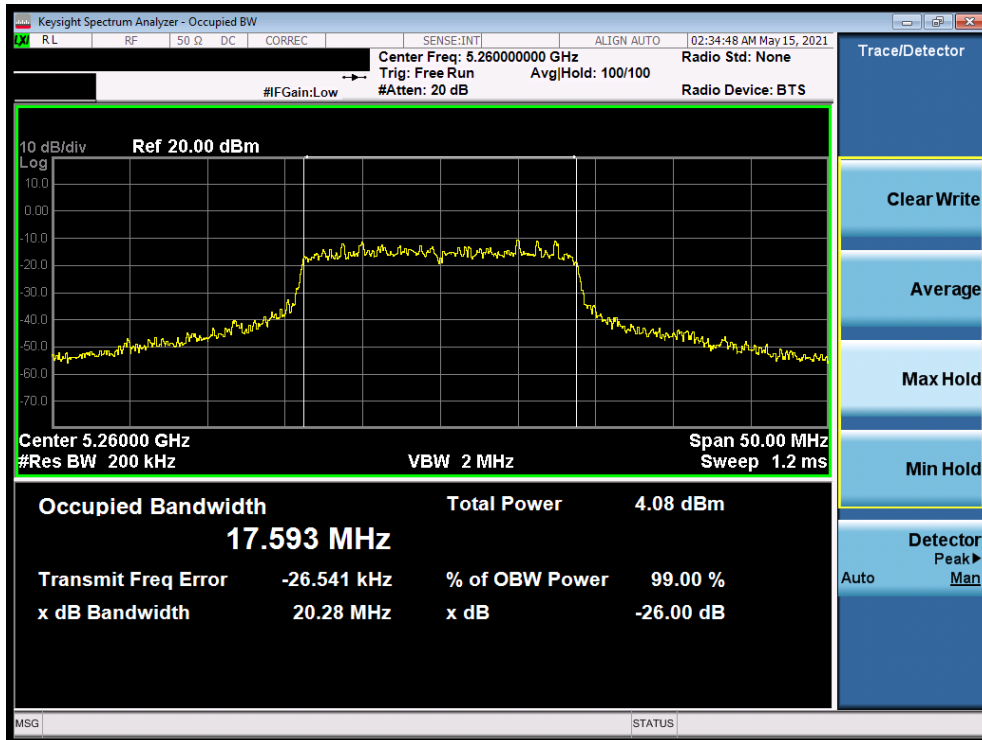


Plot 7-170. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 56)

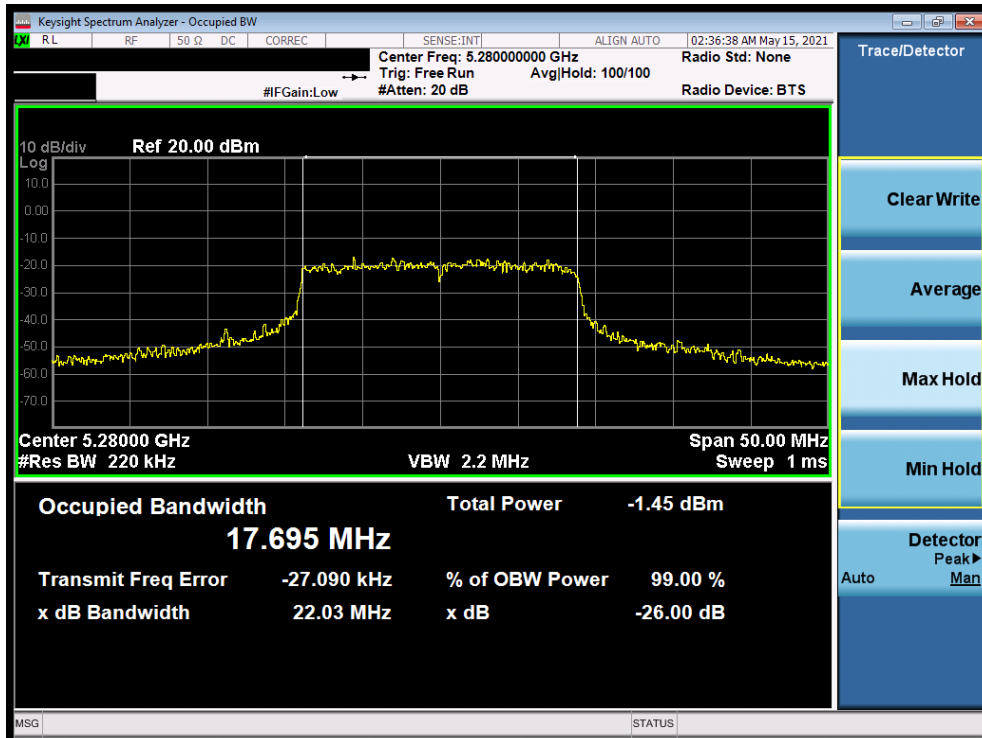


Plot 7-171. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF711B	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 106 of 508



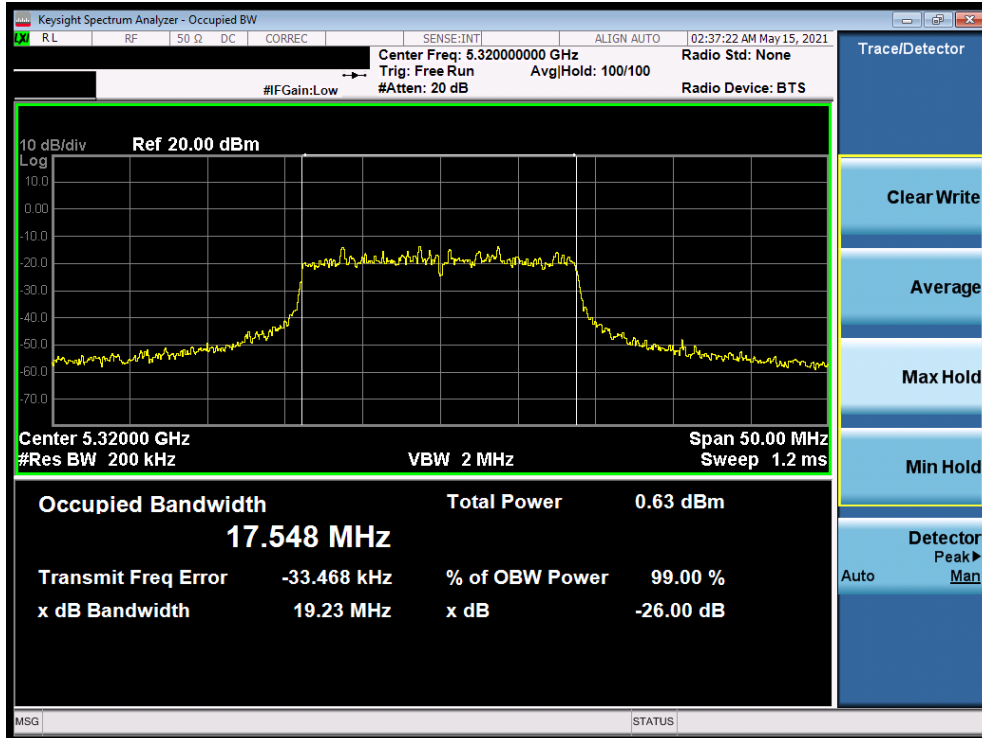
Plot 7-172. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



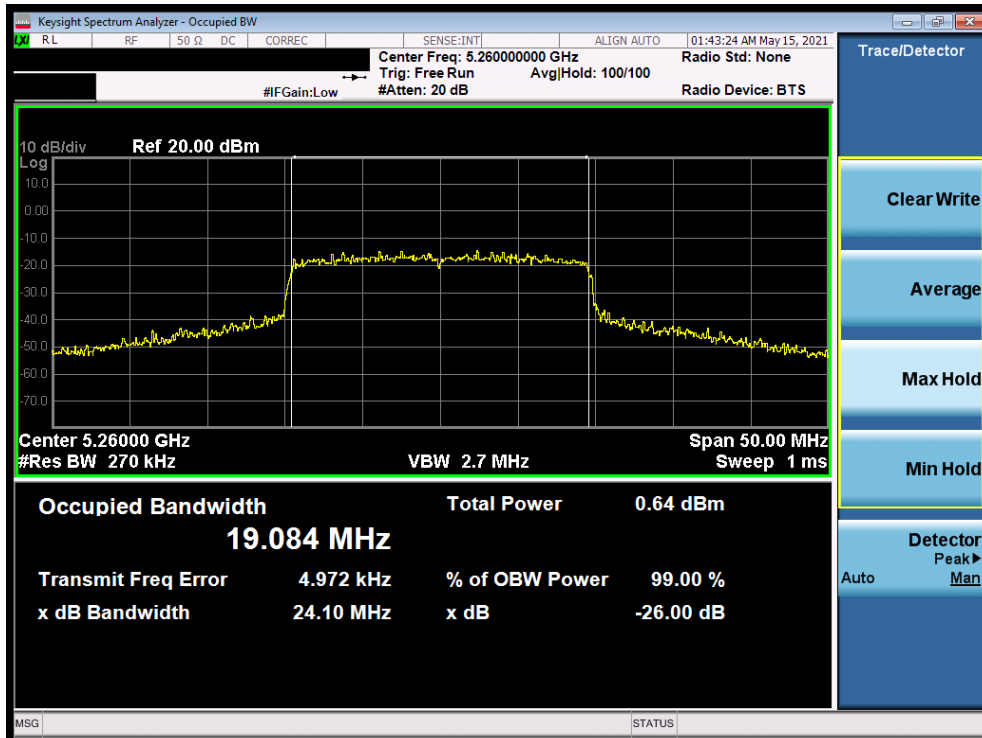
Plot 7-173. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 107 of 508



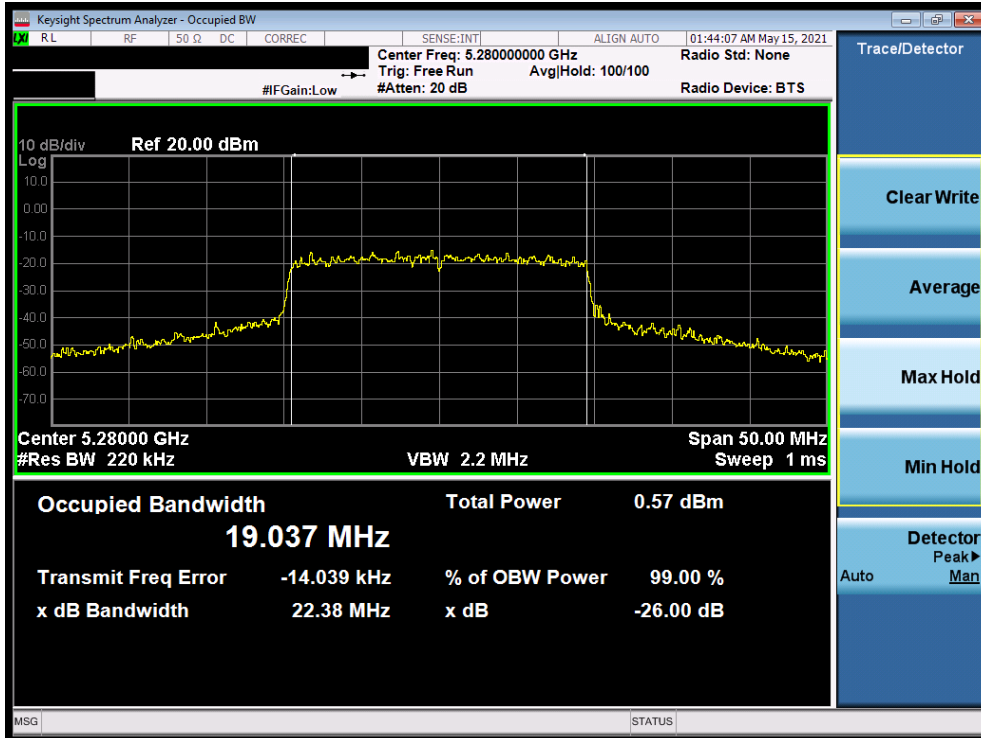


Plot 7-174. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

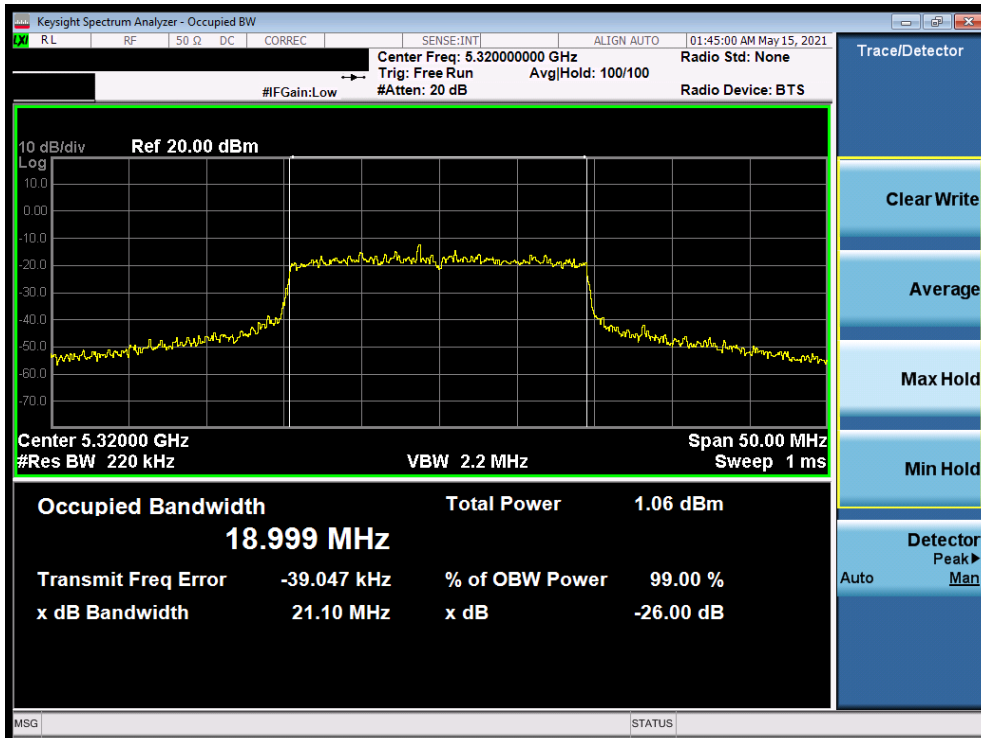


Plot 7-175. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 108 of 508

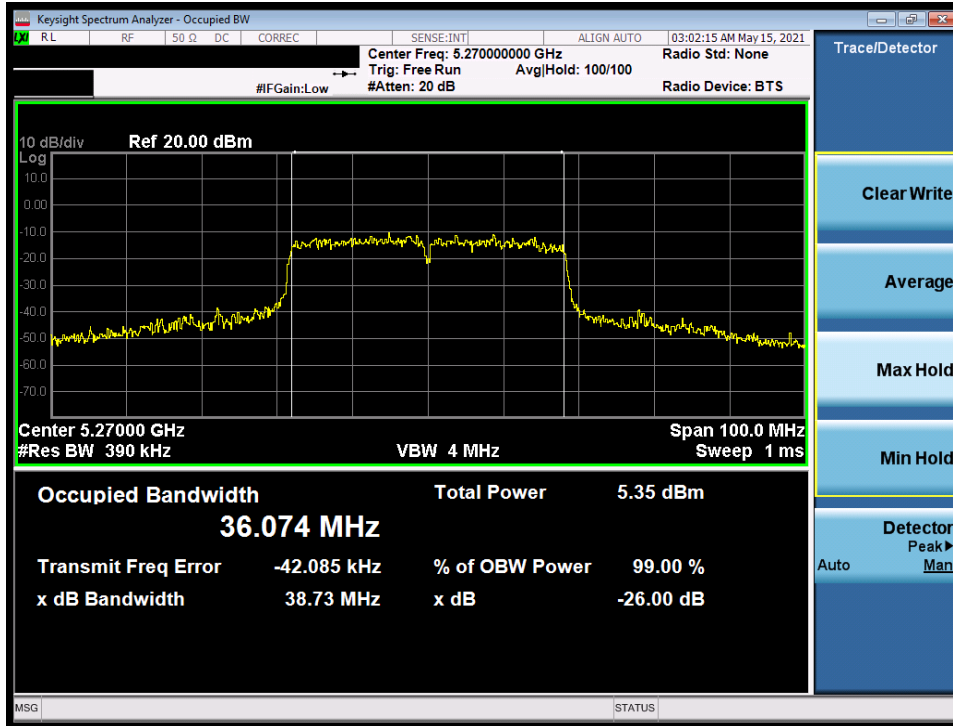


Plot 7-176. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

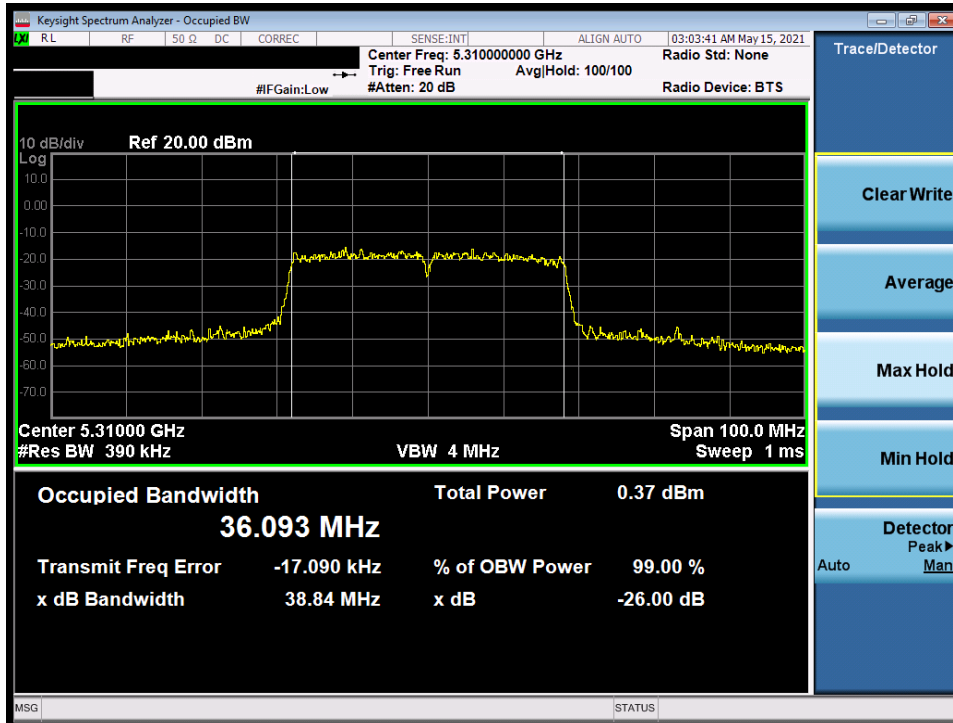


Plot 7-177. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 109 of 508

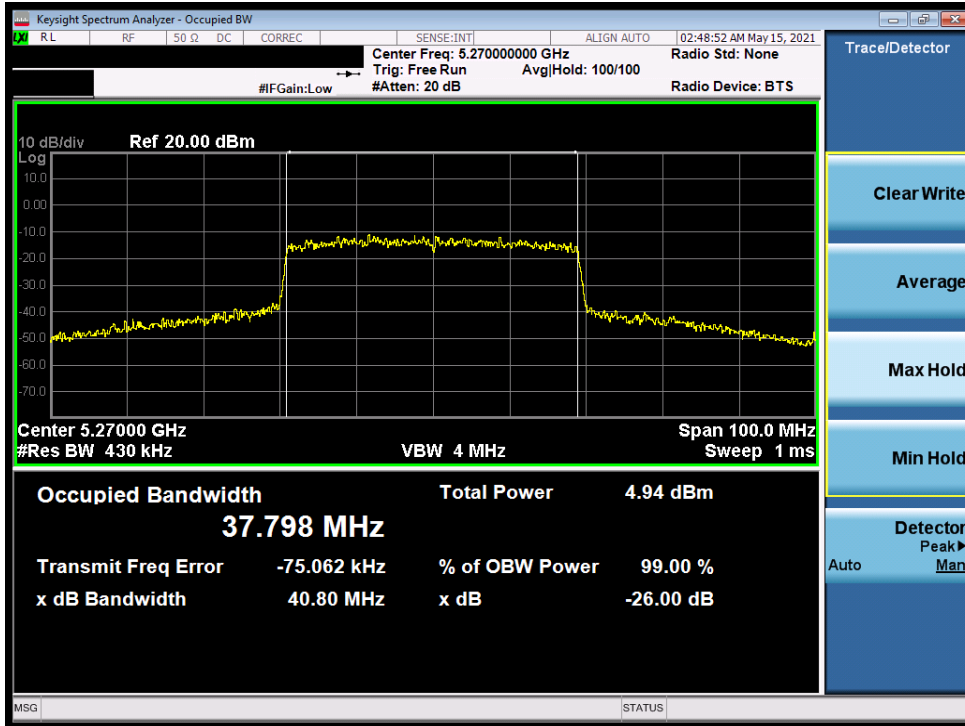


Plot 7-178. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

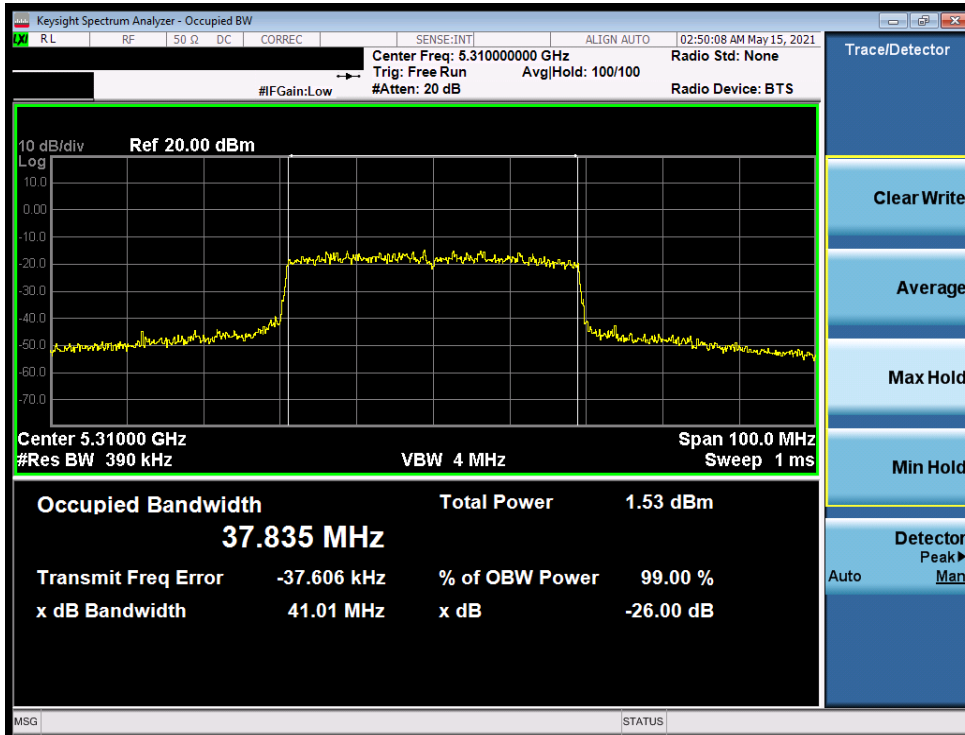


Plot 7-179. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 110 of 508

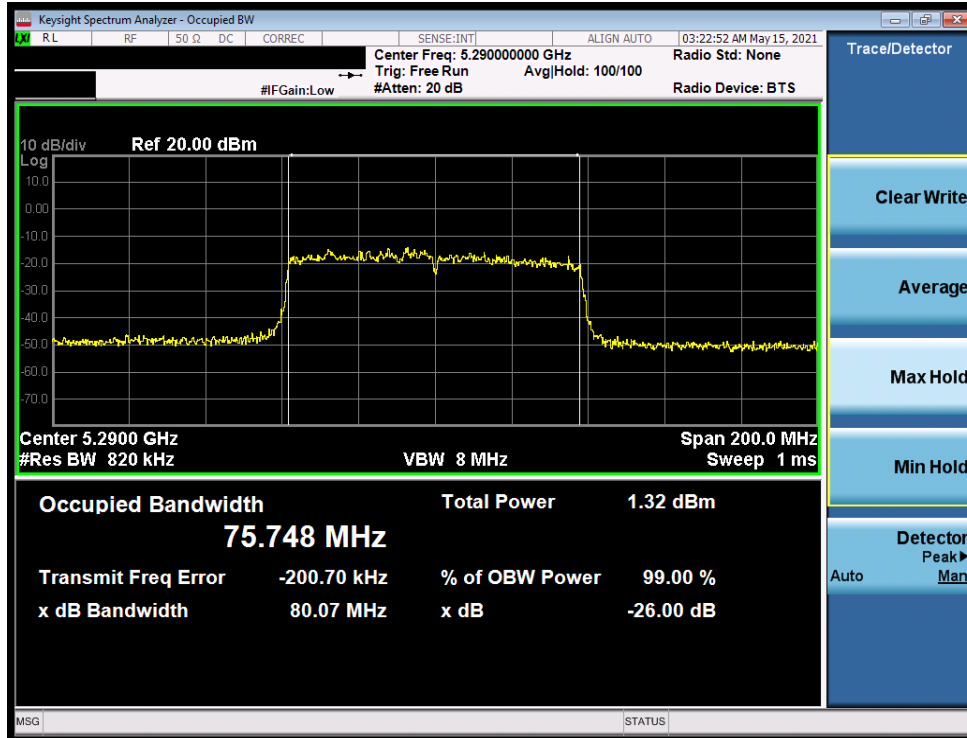


Plot 7-180. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2A) – Ch. 54)

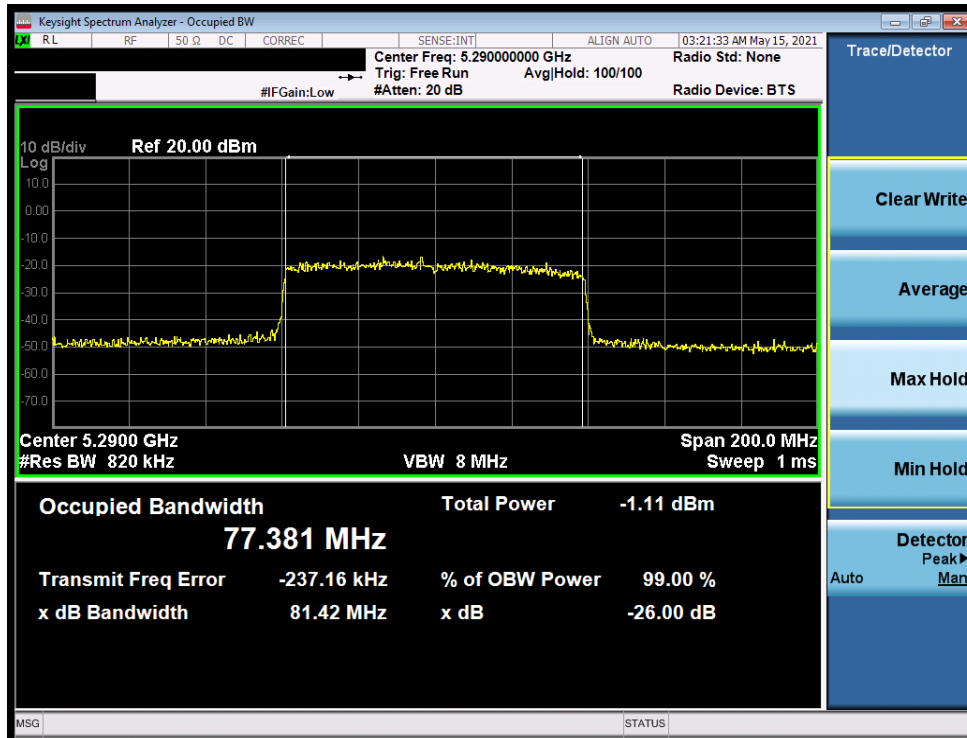


Plot 7-181. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 111 of 508

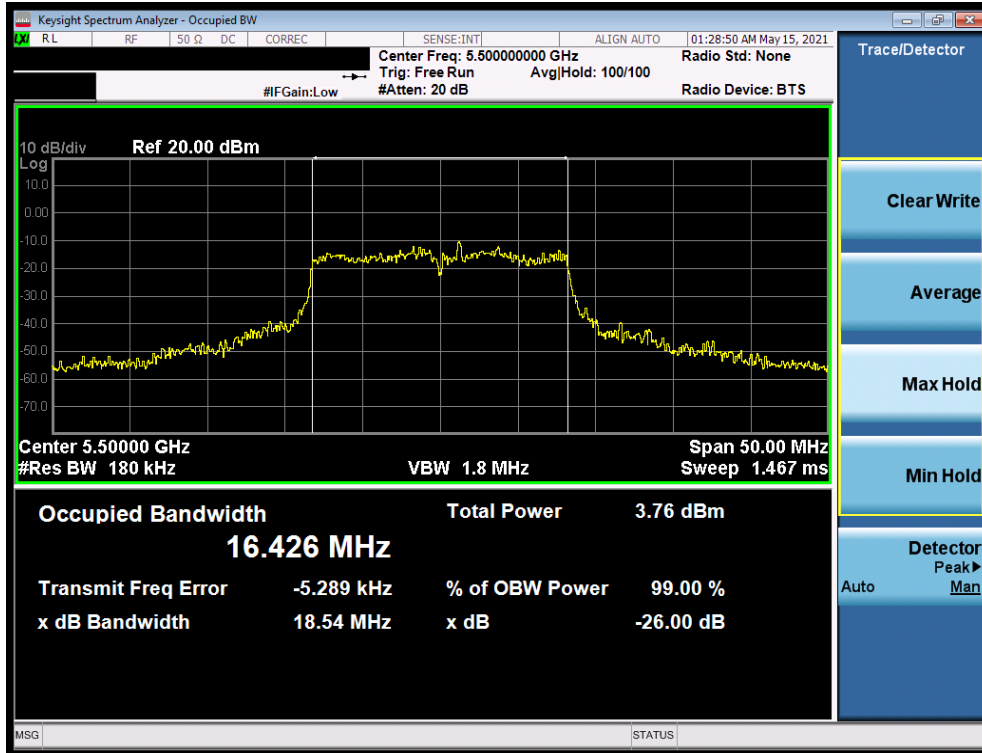


Plot 7-182. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

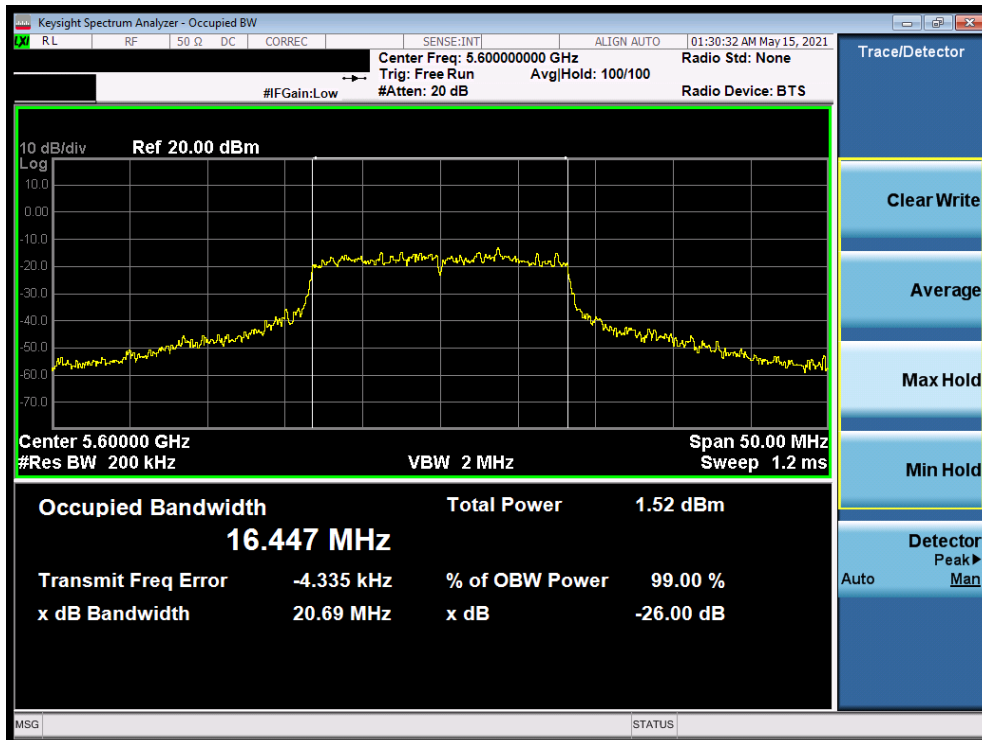


Plot 7-183. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 112 of 508

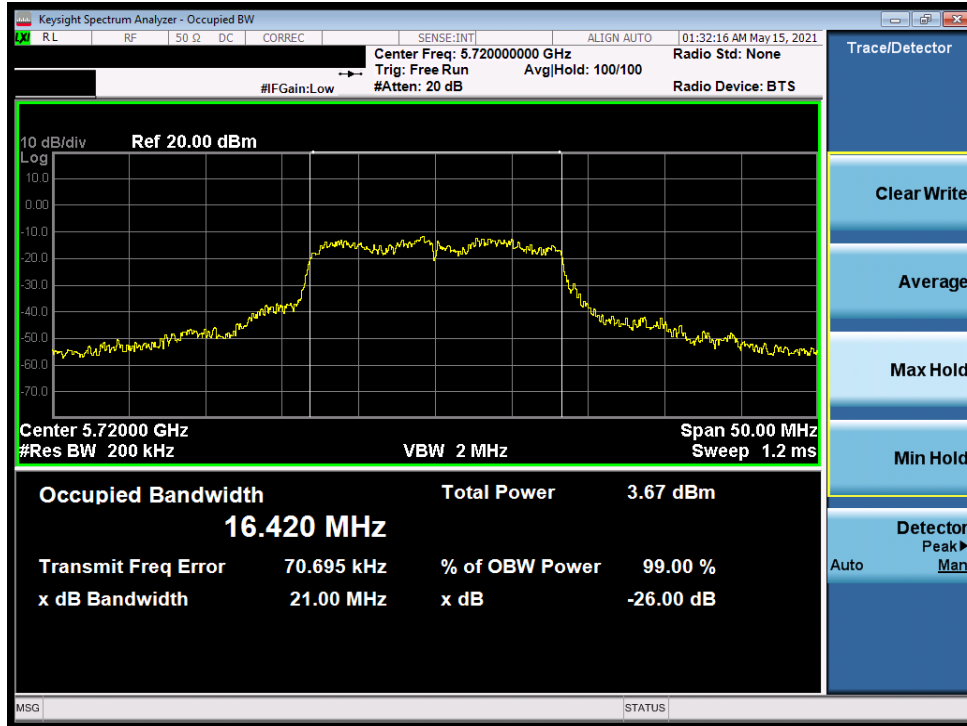


Plot 7-184. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 100)

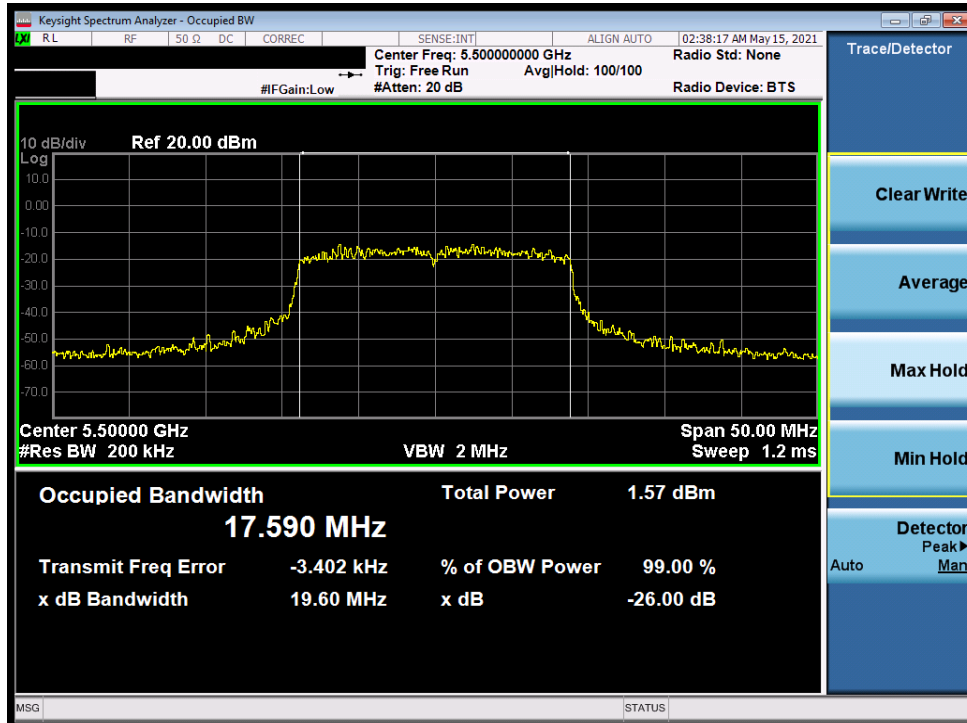


Plot 7-185. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 113 of 508

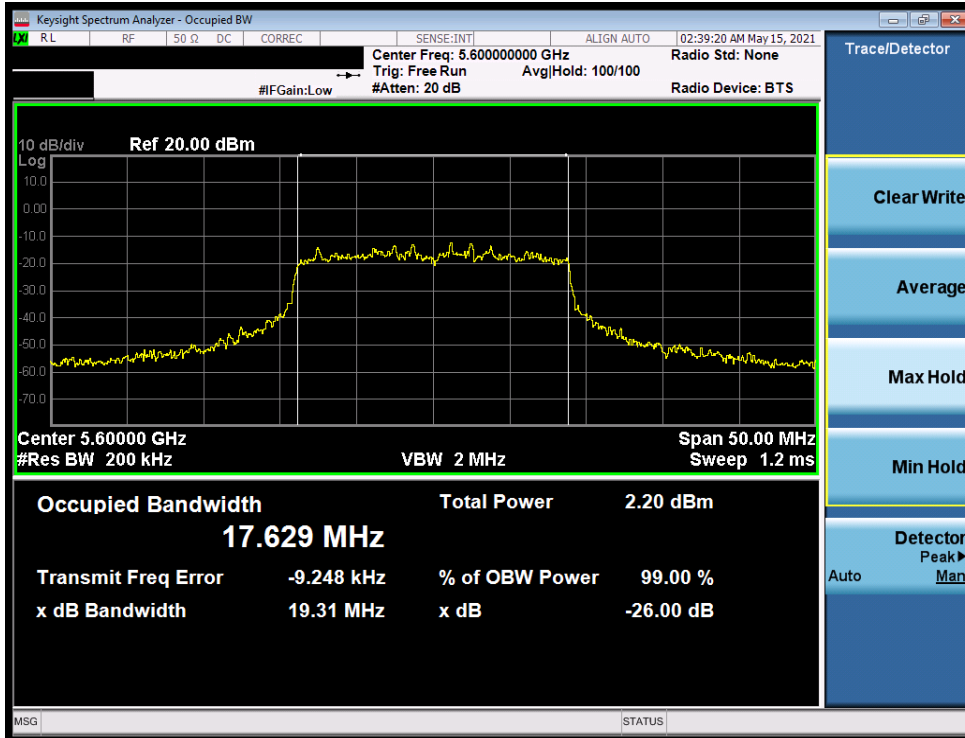


Plot 7-186. 26dB Bandwidth Plot MIMO (20MHz BW 802.11a (UNII Band 2C) – Ch. 144)

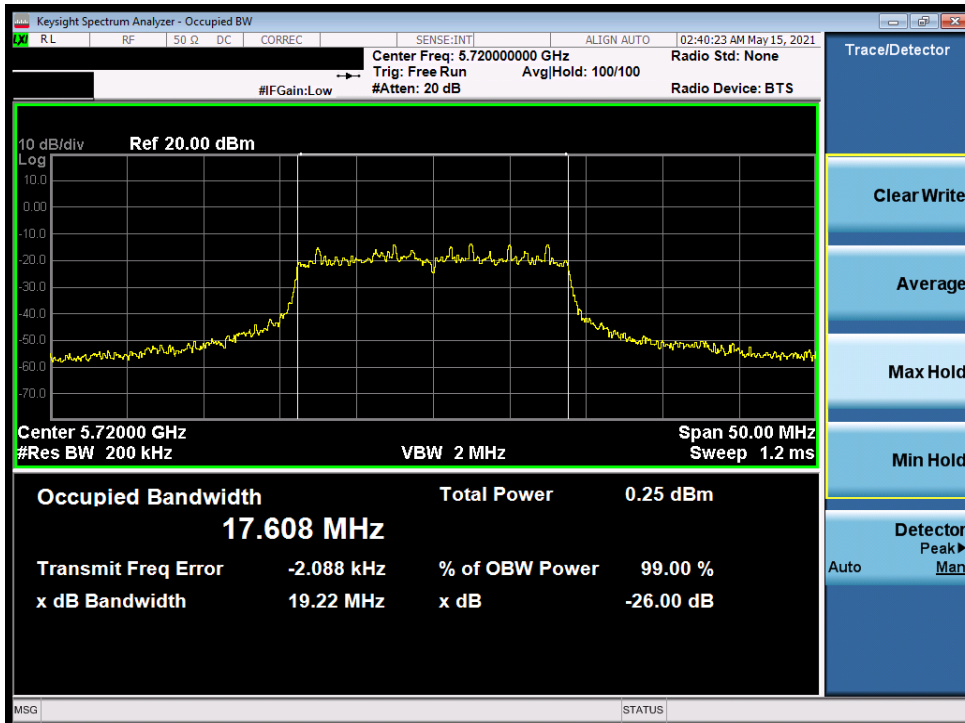


Plot 7-187. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 114 of 508



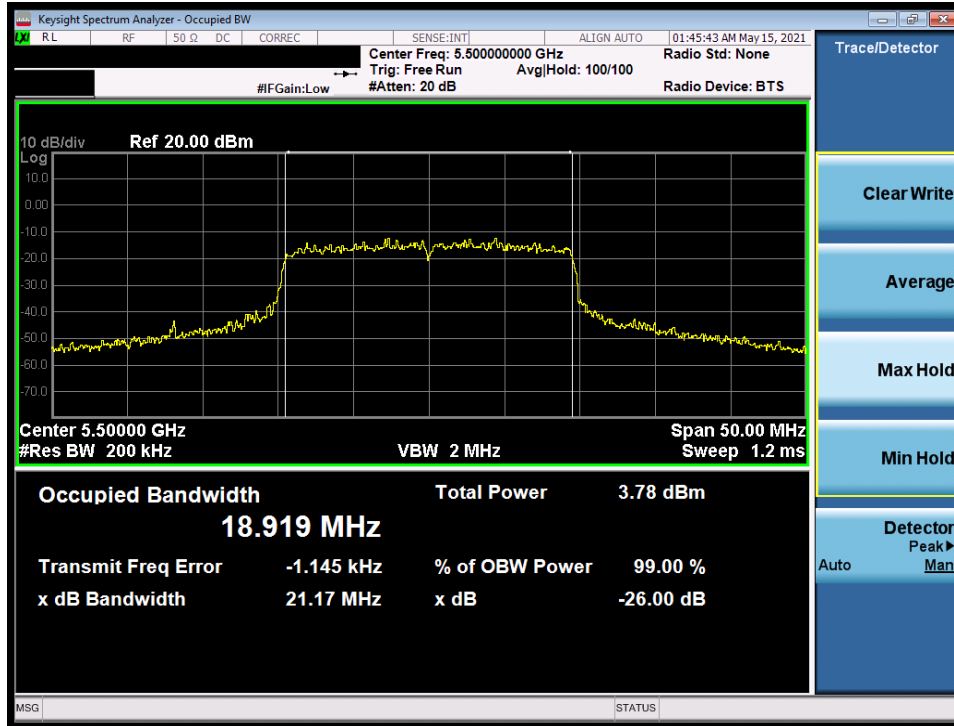
Plot 7-188. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)



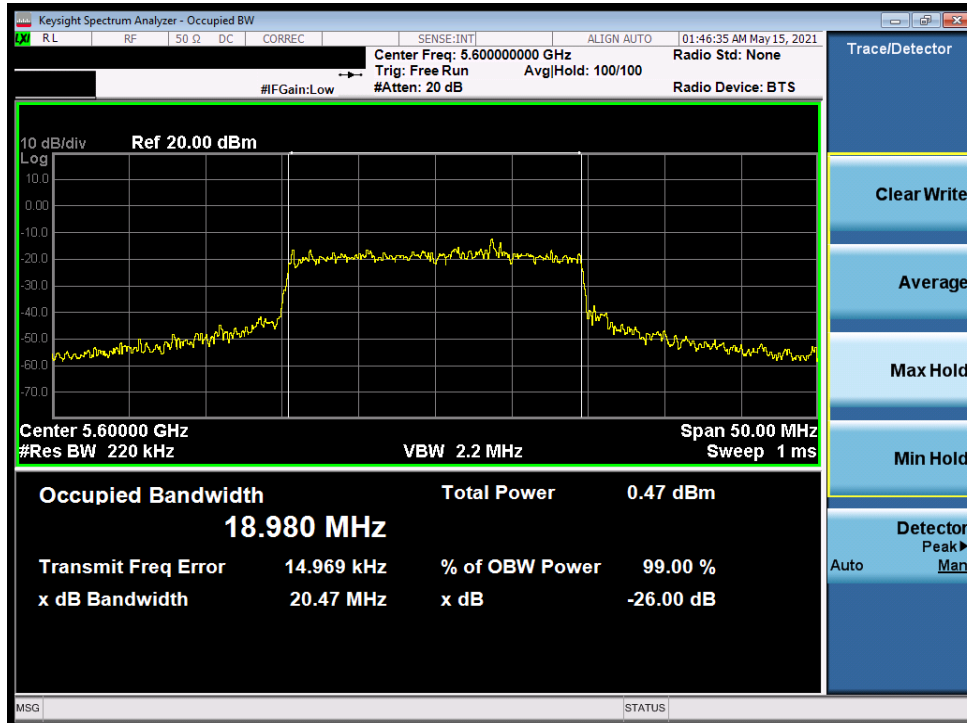
Plot 7-189. 26dB Bandwidth Plot MIMO (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 115 of 508



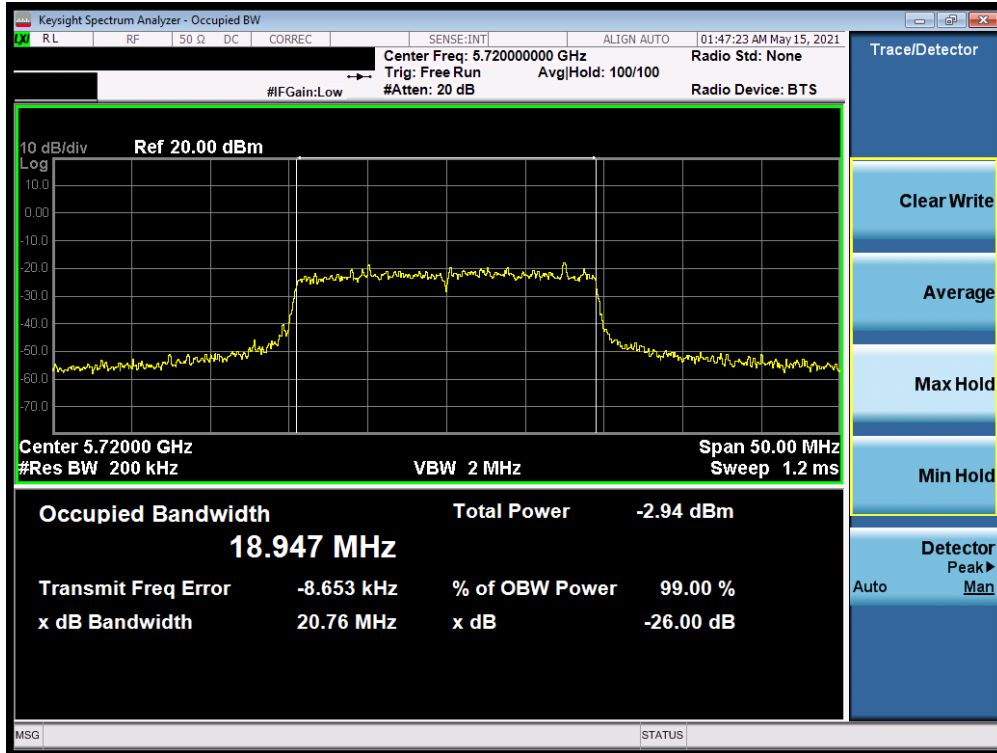


Plot 7-190. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

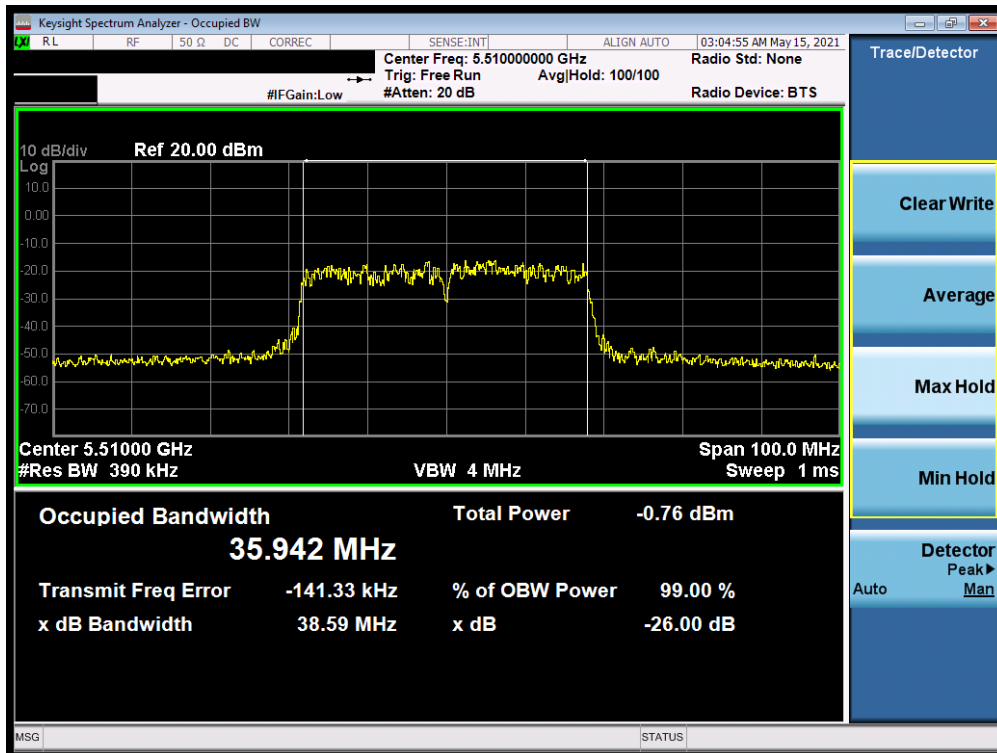


Plot 7-191. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 116 of 508

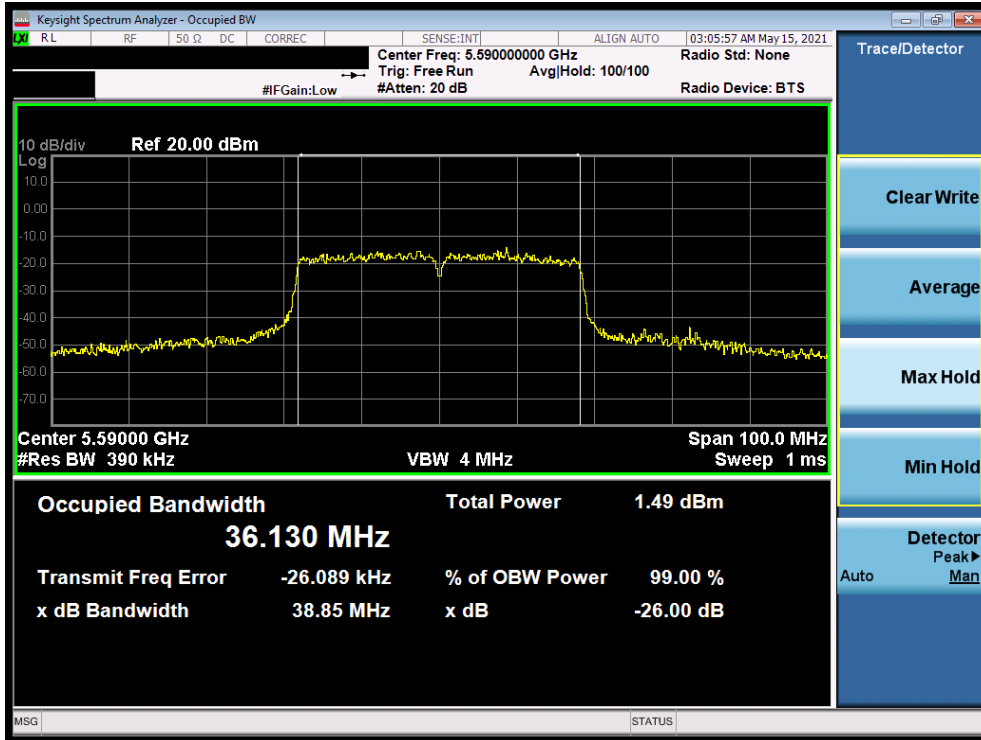


Plot 7-192. 26dB Bandwidth Plot MIMO (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

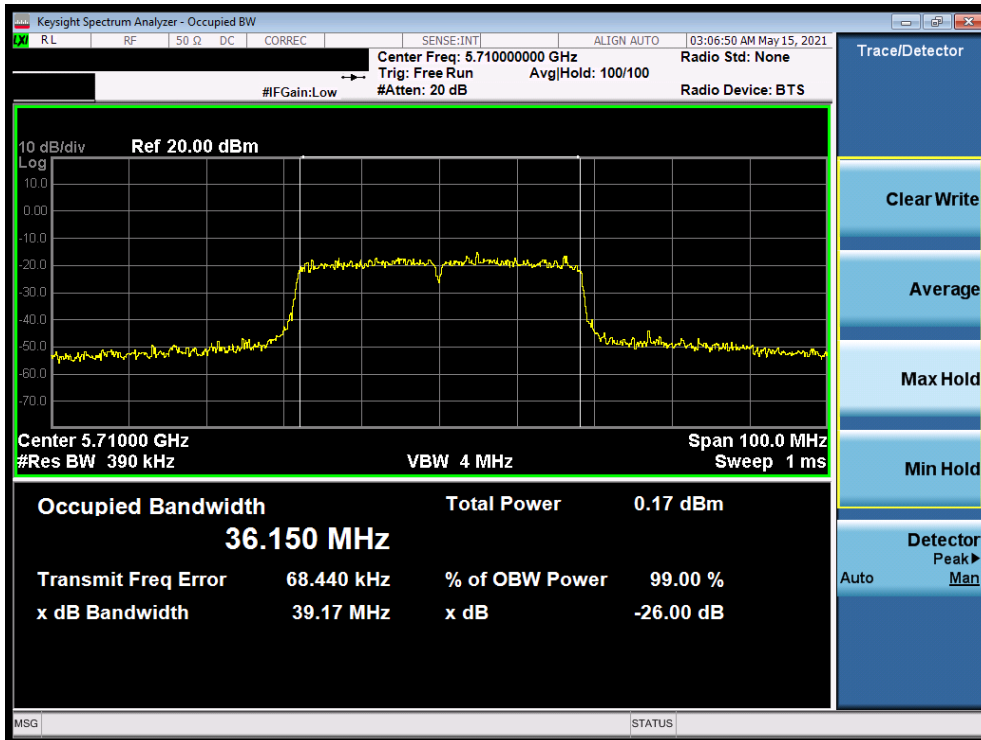


Plot 7-193. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF711B	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 117 of 508

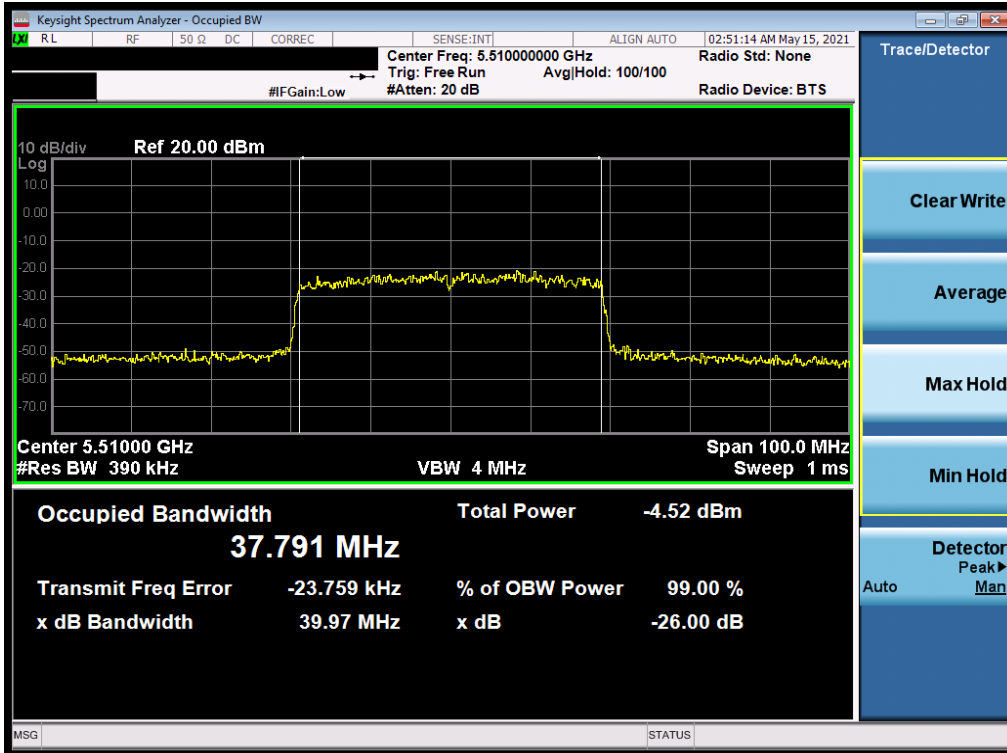


Plot 7-194. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

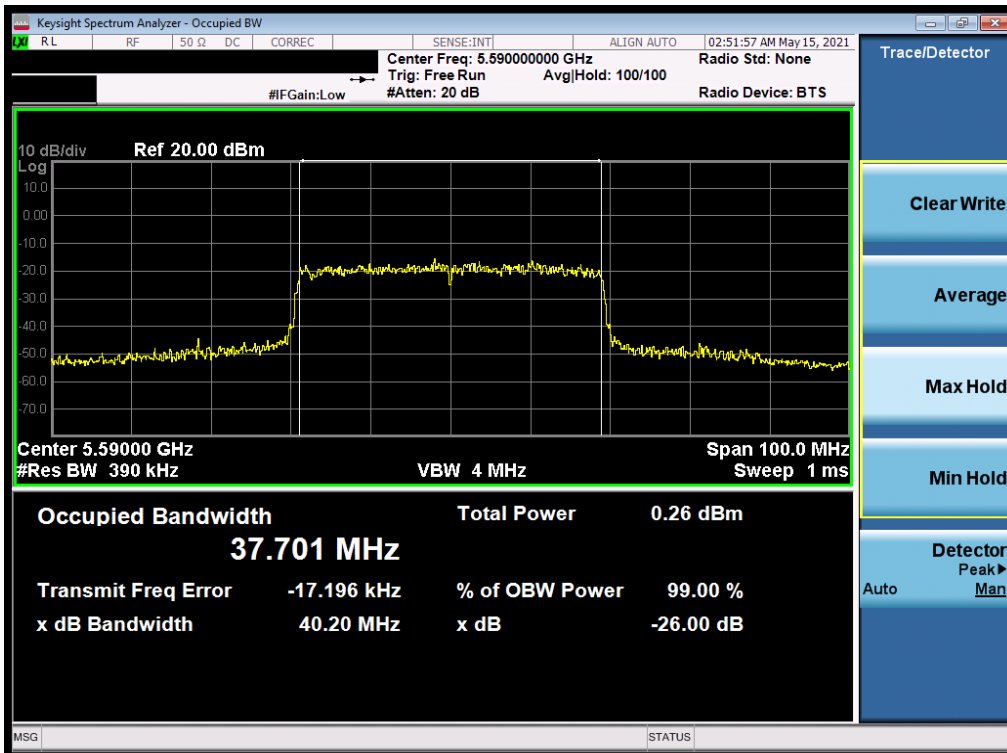


Plot 7-195. 26dB Bandwidth Plot MIMO (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 118 of 508

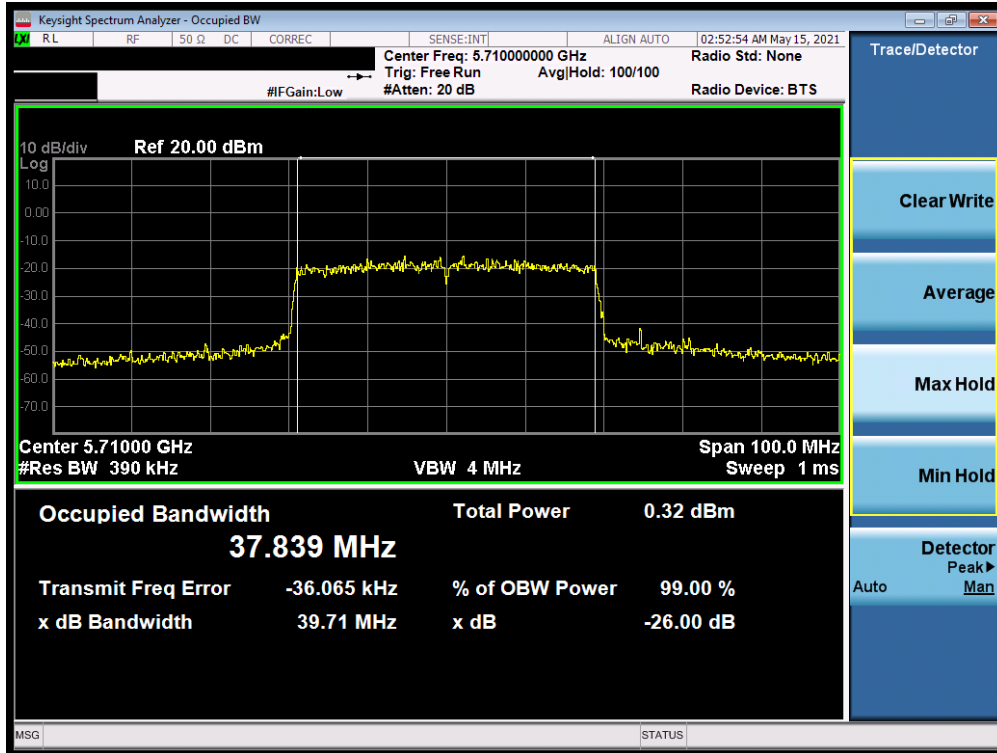


Plot 7-196. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 102)

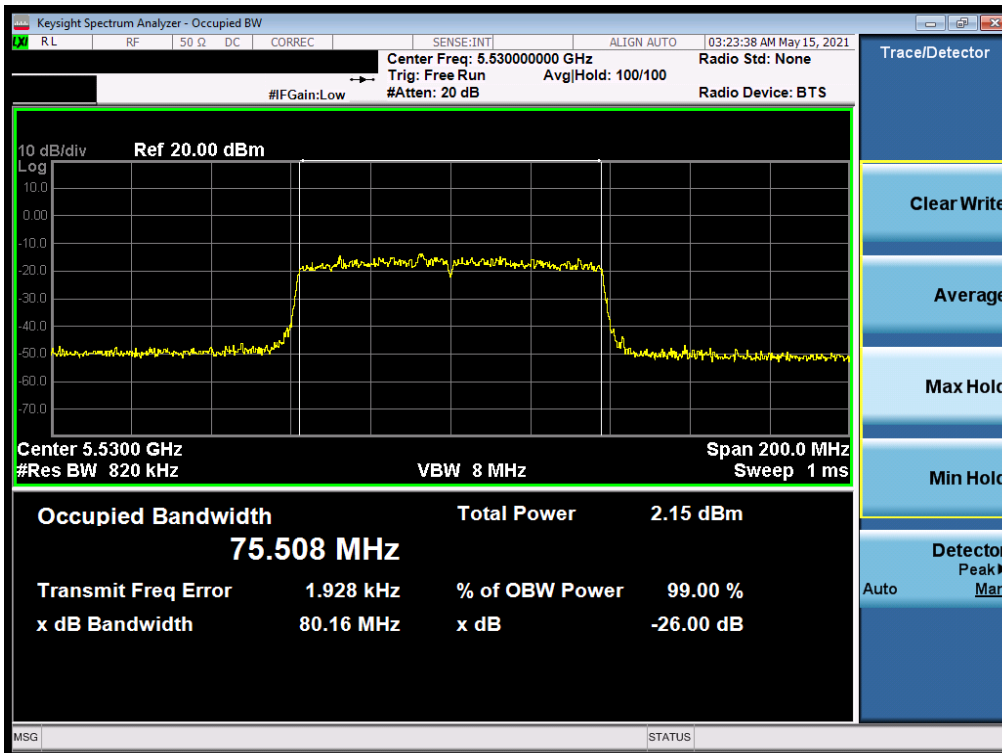


Plot 7-197. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 119 of 508

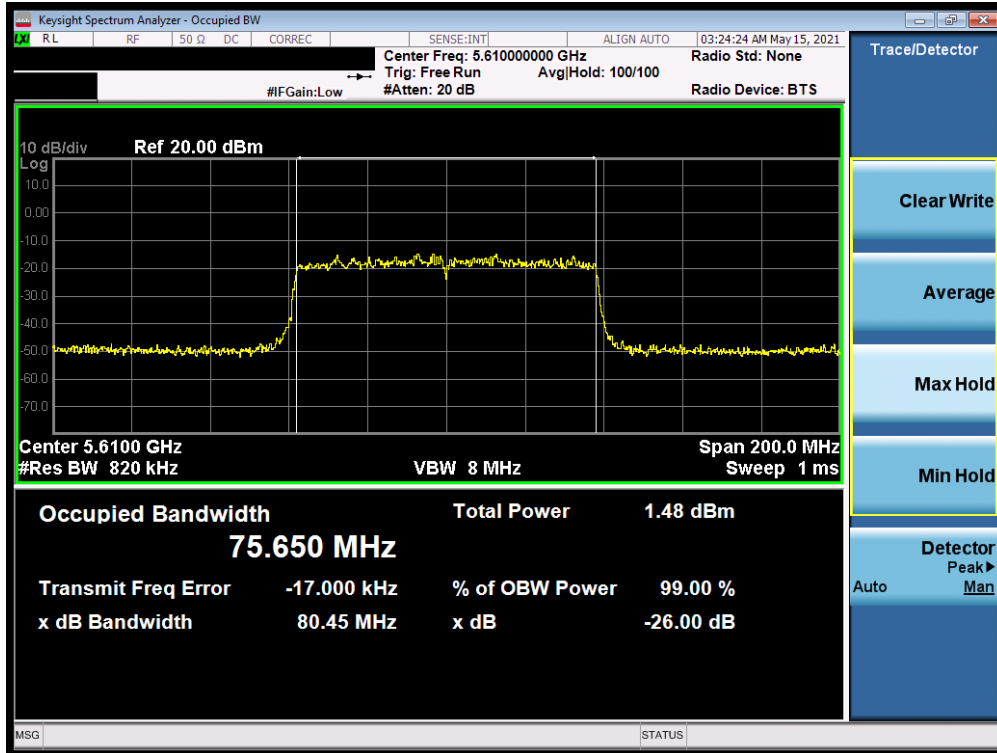


Plot 7-198. 26dB Bandwidth Plot MIMO (40MHz BW 802.11ax (UNII Band 2C) – Ch. 142)

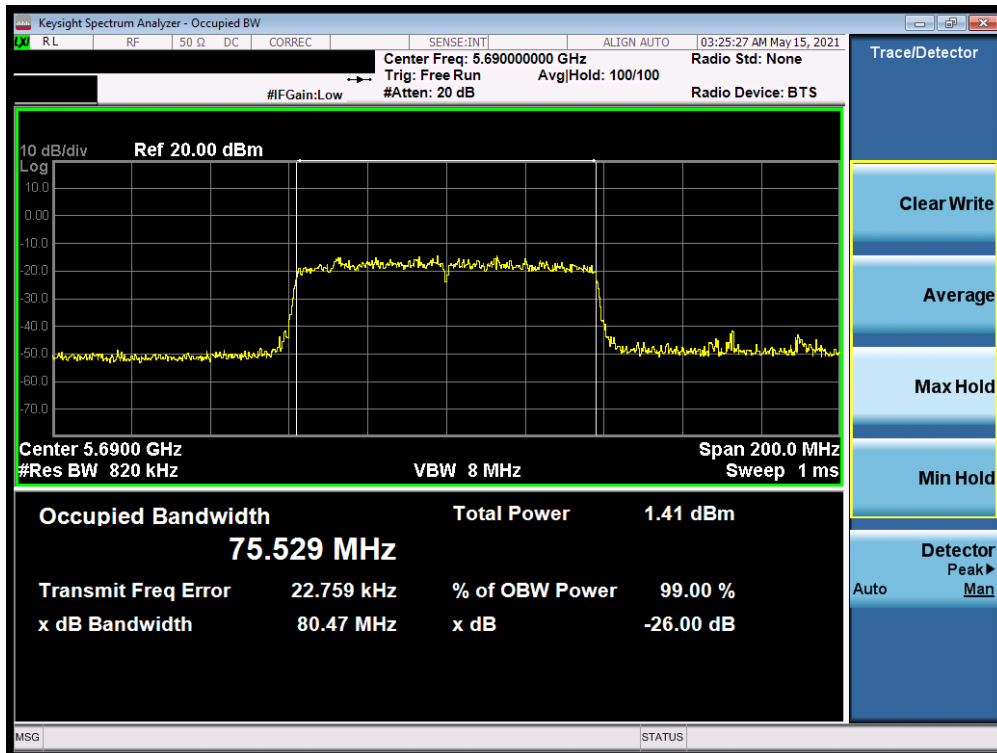


Plot 7-199. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 120 of 508

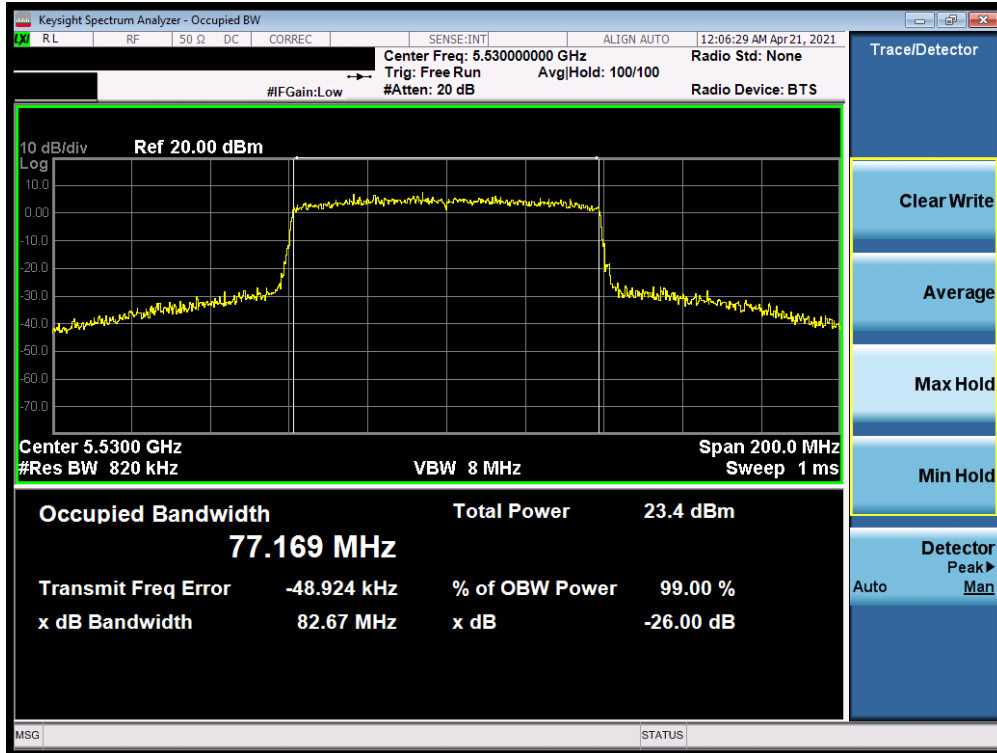


Plot 7-200. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

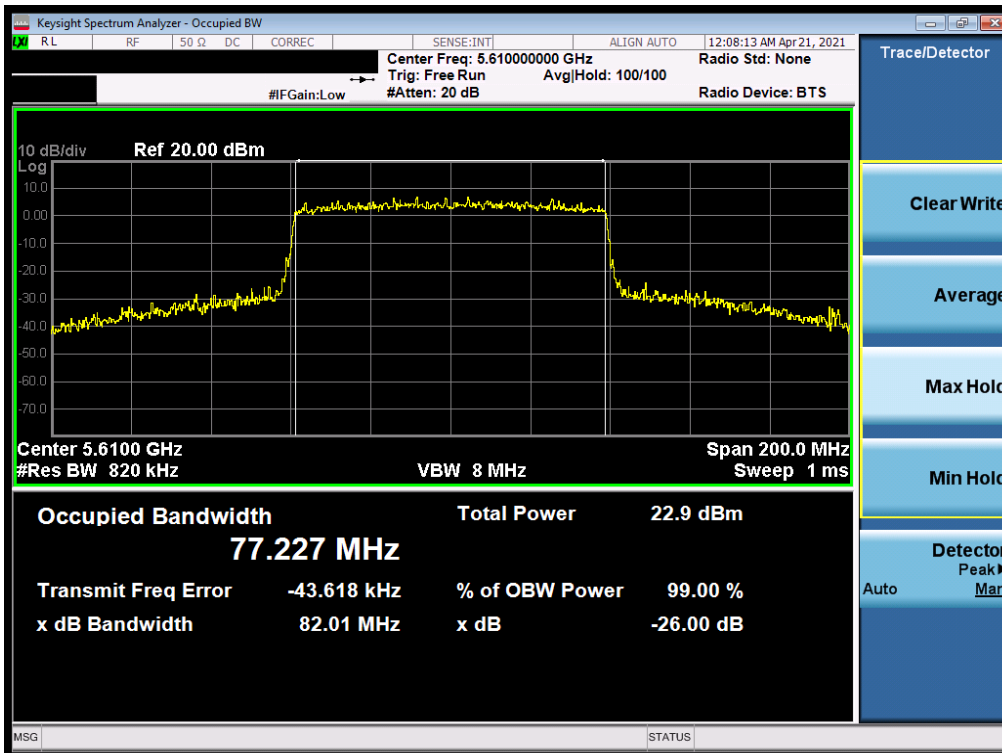


Plot 7-201. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 121 of 508

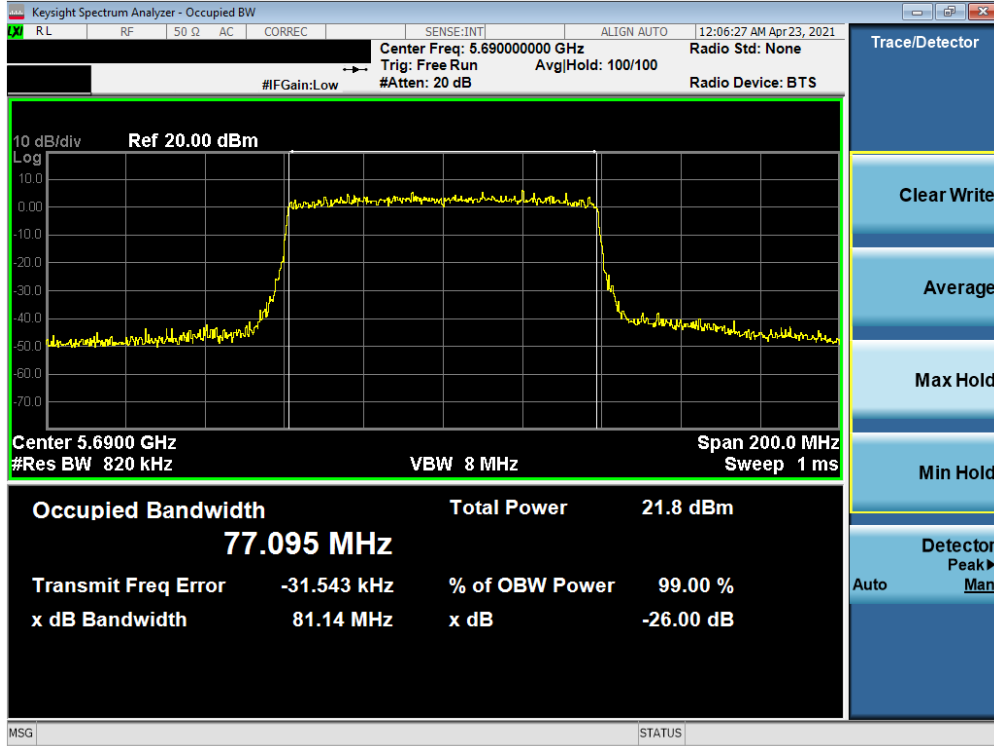


Plot 7-202. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 106)



Plot 7-203. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 122 of 508



Plot 7-204. 26dB Bandwidth Plot MIMO (80MHz BW 802.11ax (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 123 of 508



### 7.3 6dB Bandwidth Measurement – 802.11a/n/ac/ax §15.407 (e); RSS-Gen [6.2]

#### Test Overview and Limit

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

***In the 5.725 – 5.850GHz band, the 6dB bandwidth must be ≥ 500 kHz.***

#### Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2  
KDB 789033 D02 v02r01 – Section C

#### Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 100 kHz
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple

#### Test Setup

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



**Figure 7-2. Test Instrument & Measurement Setup**

#### Test Notes

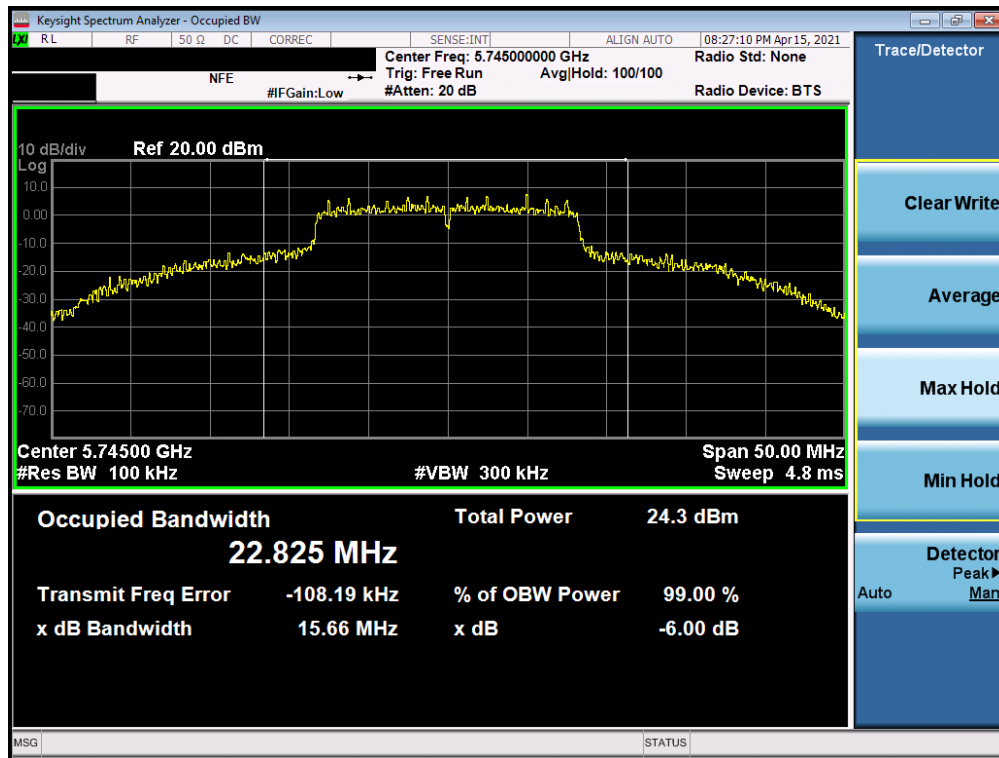
None.

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 124 of 508

### Antenna-1 6 dB Bandwidth Measurements-N

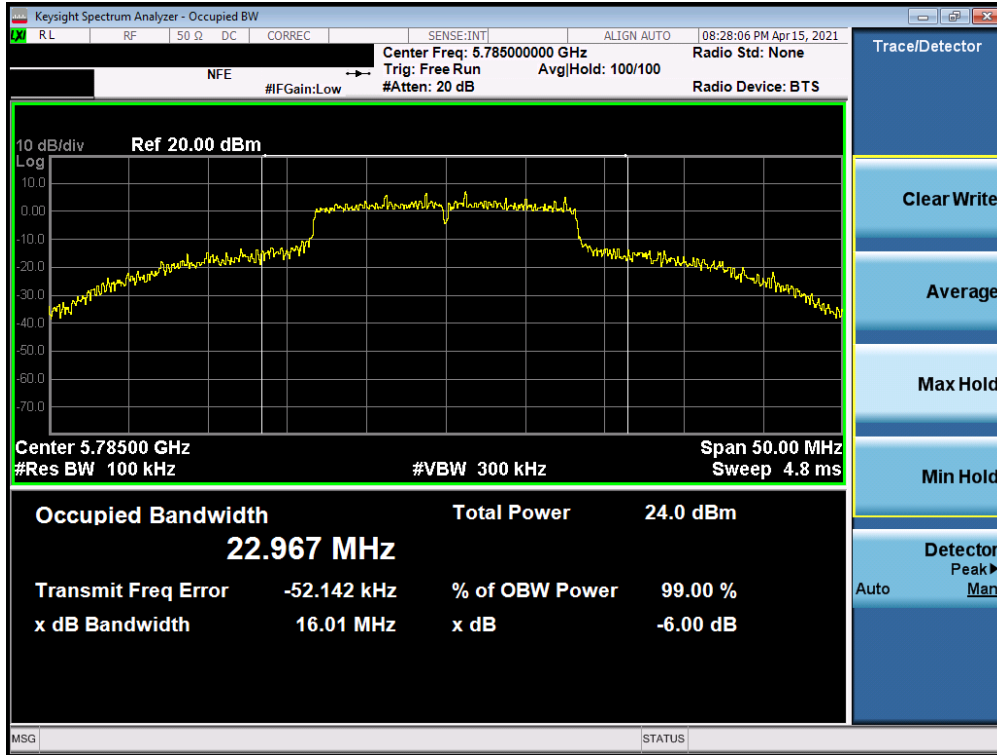
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth - N [MHz]
<b>Band 3</b>	5745	149	a	6	15.66
	5785	157	a	6	16.01
	5825	165	a	6	15.09
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	17.32
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	17.61
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	17.55
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	17.91
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	19.01
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	18.93
	5755	151	n (40MHz)	13.5/15 (MCS0)	35.43
	5795	159	n (40MHz)	13.5/15 (MCS0)	35.05
	5755	151	ax (40MHz)	13.5/15 (MCS0)	37.46
	5795	159	ax (40MHz)	13.5/15 (MCS0)	37.89
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	73.97
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	76.74

Table 7-6. Conducted Bandwidth Measurements ANT1

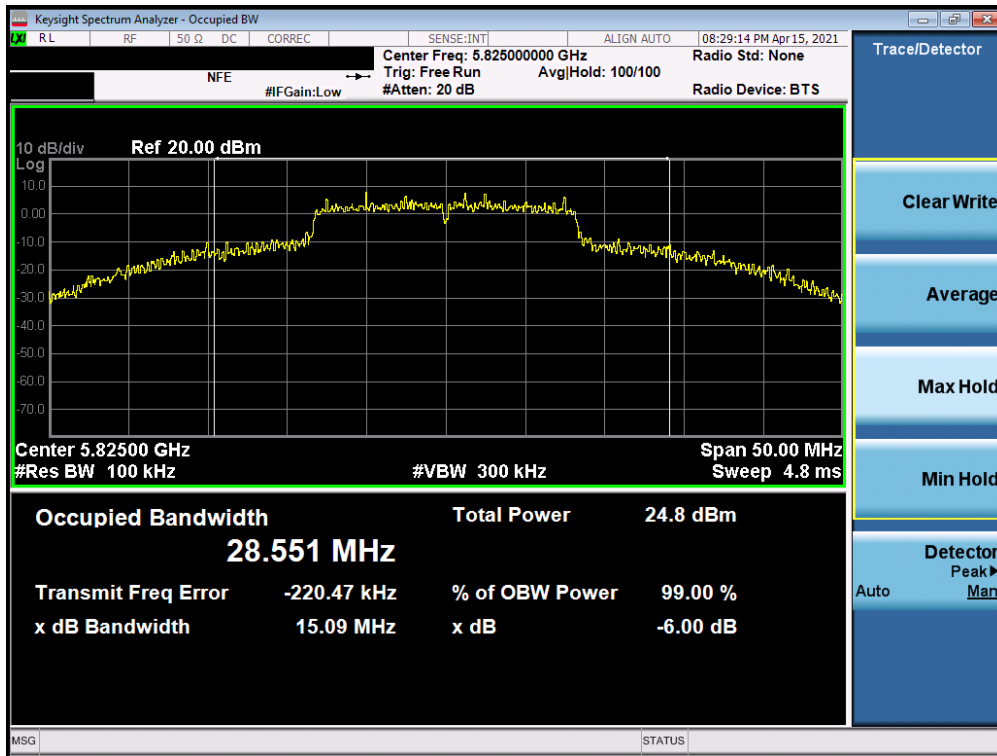


Plot 7-205. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 125 of 508

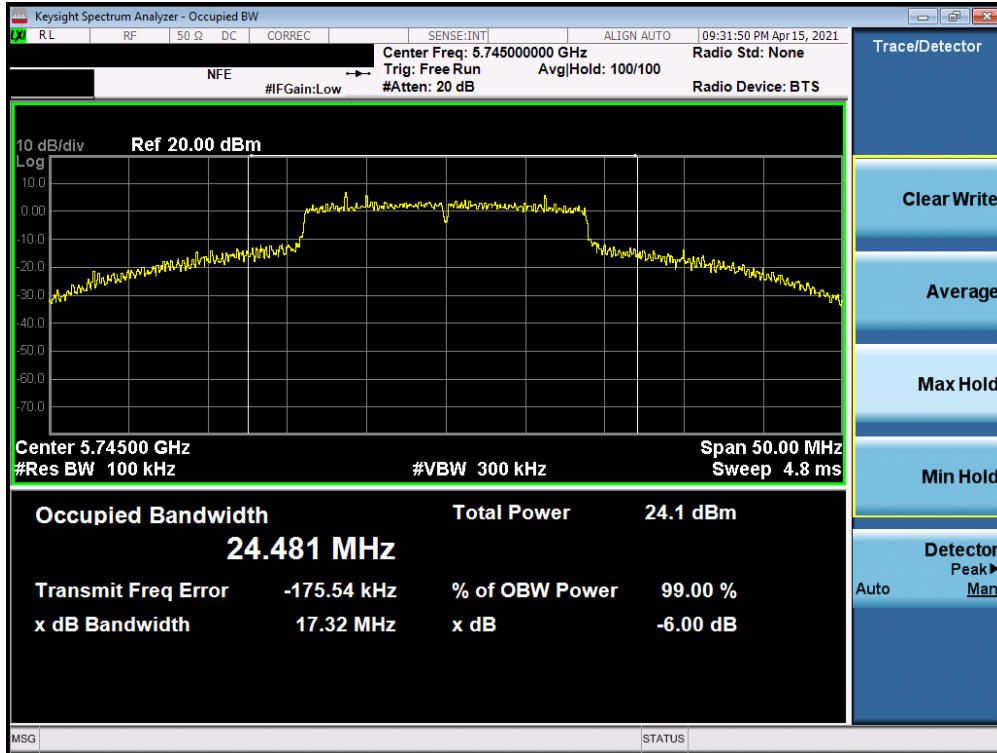


Plot 7-206. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 157)

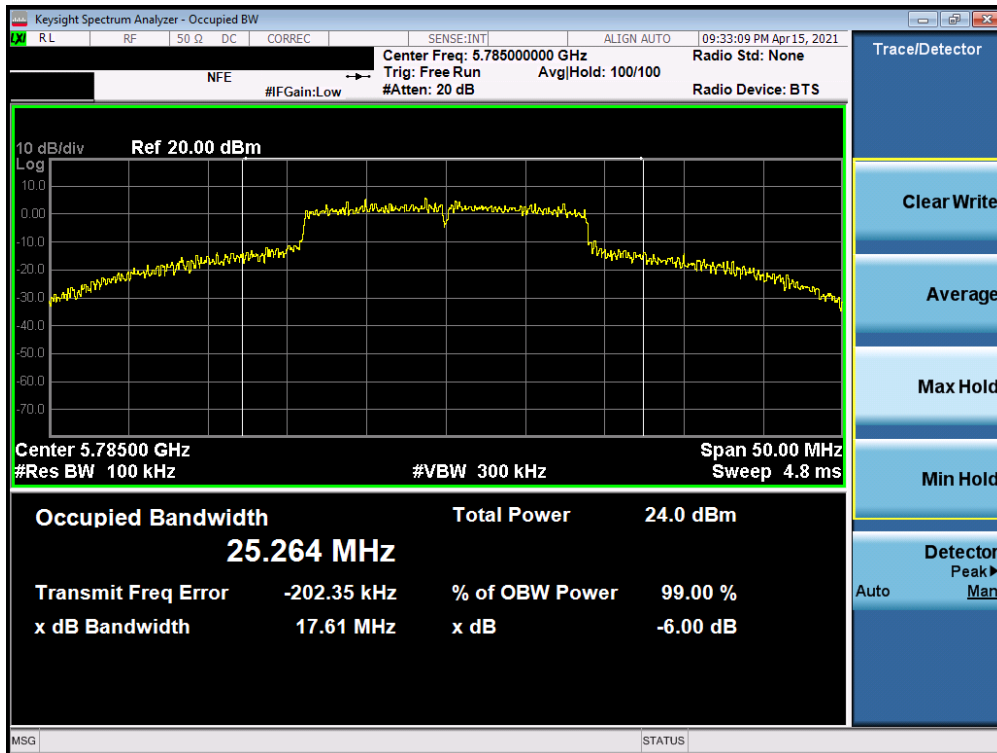


Plot 7-207. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 126 of 508

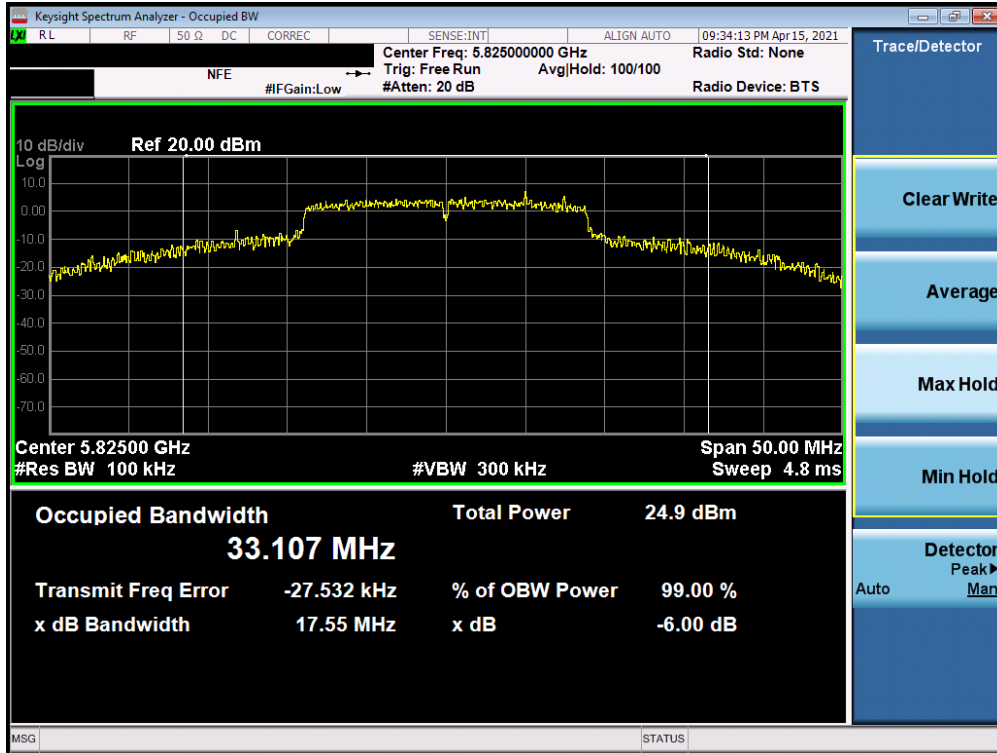


Plot 7-208. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

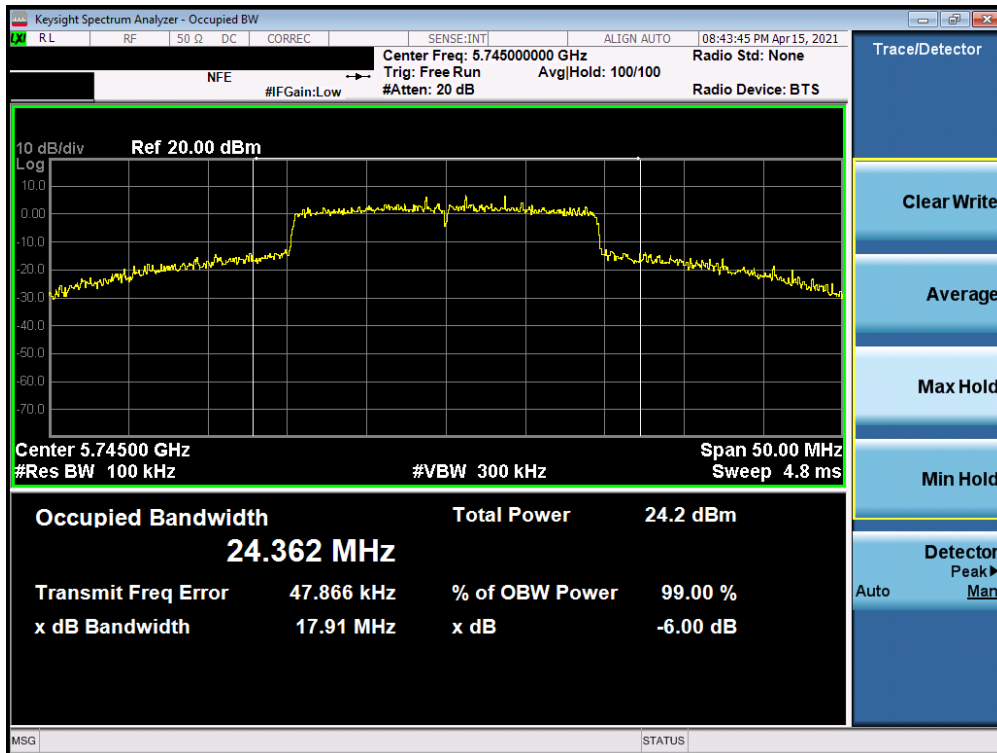


Plot 7-209. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 127 of 508

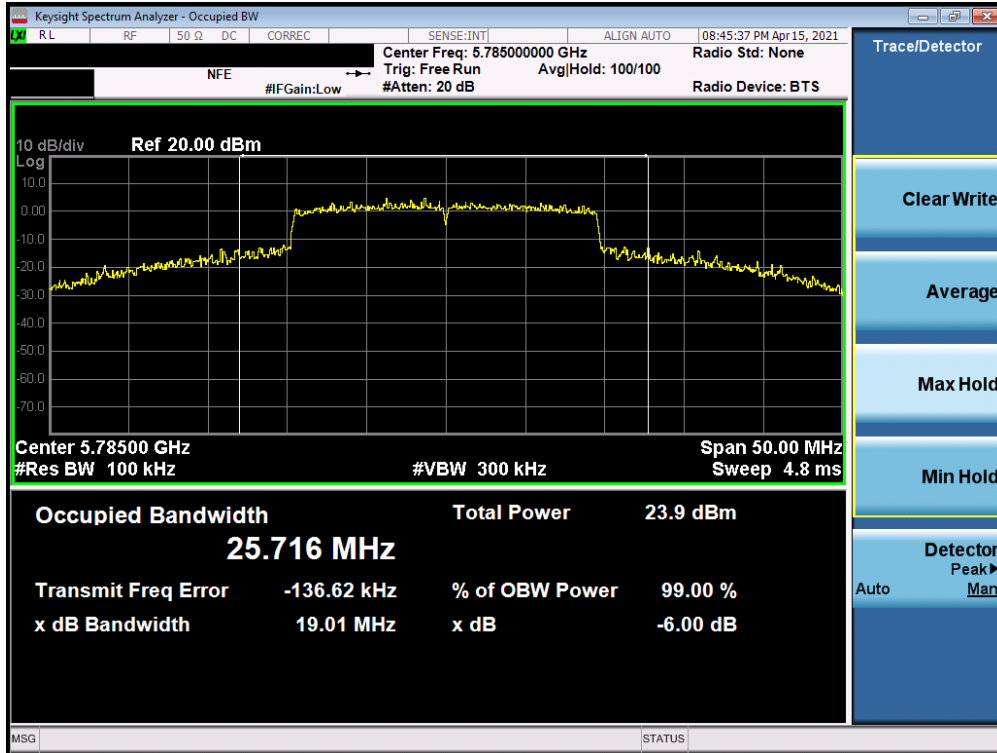


Plot 7-210. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

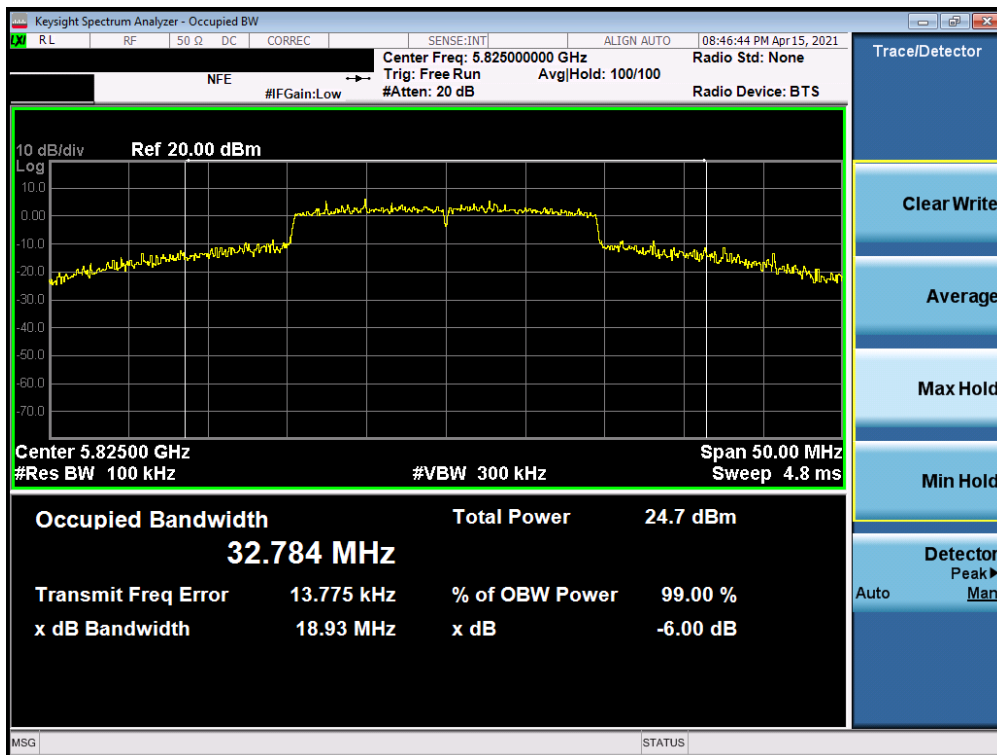


Plot 7-211. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 128 of 508

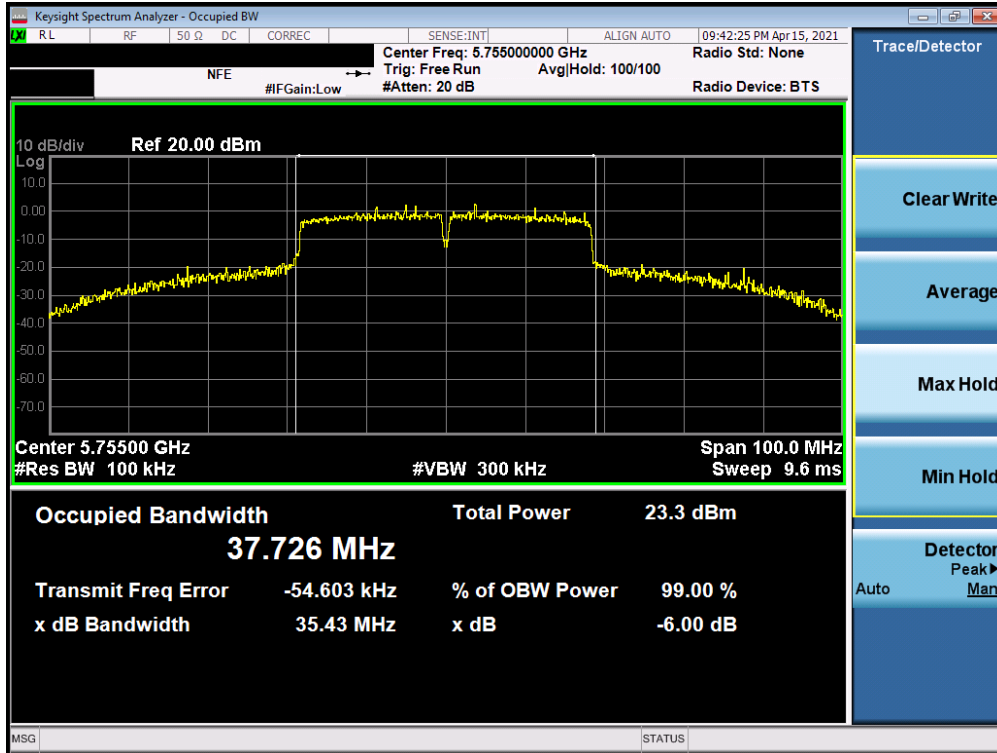


Plot 7-212. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 157)



Plot 7-213. 6dB Bandwidth Plot ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 129 of 508

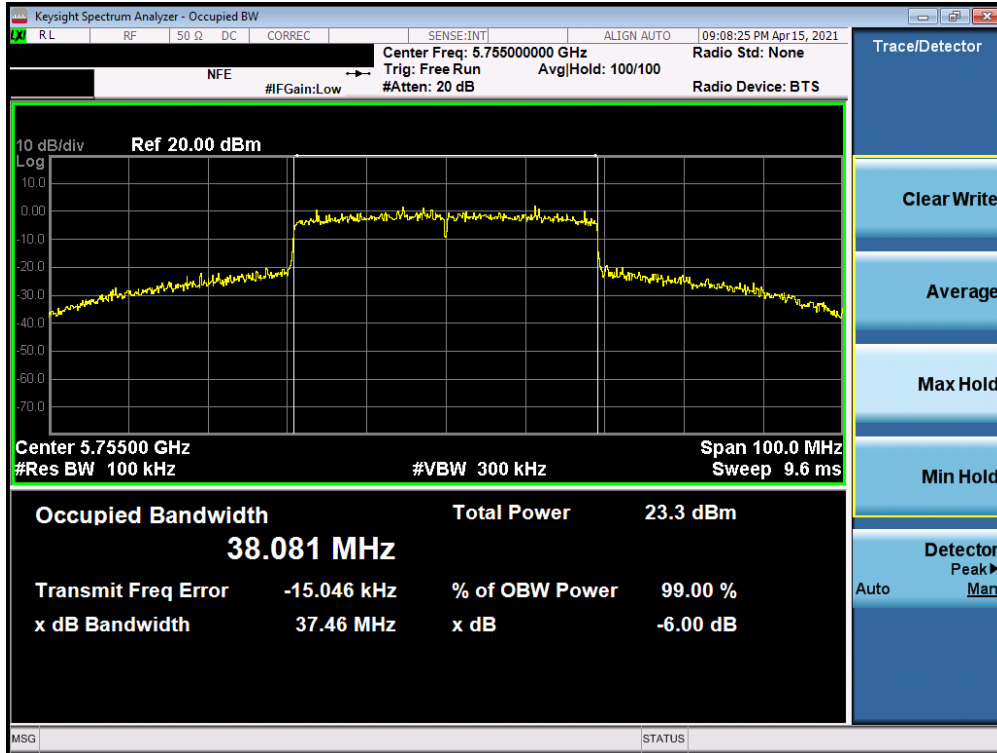


Plot 7-214. 6dB Bandwidth Plot ANT1 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

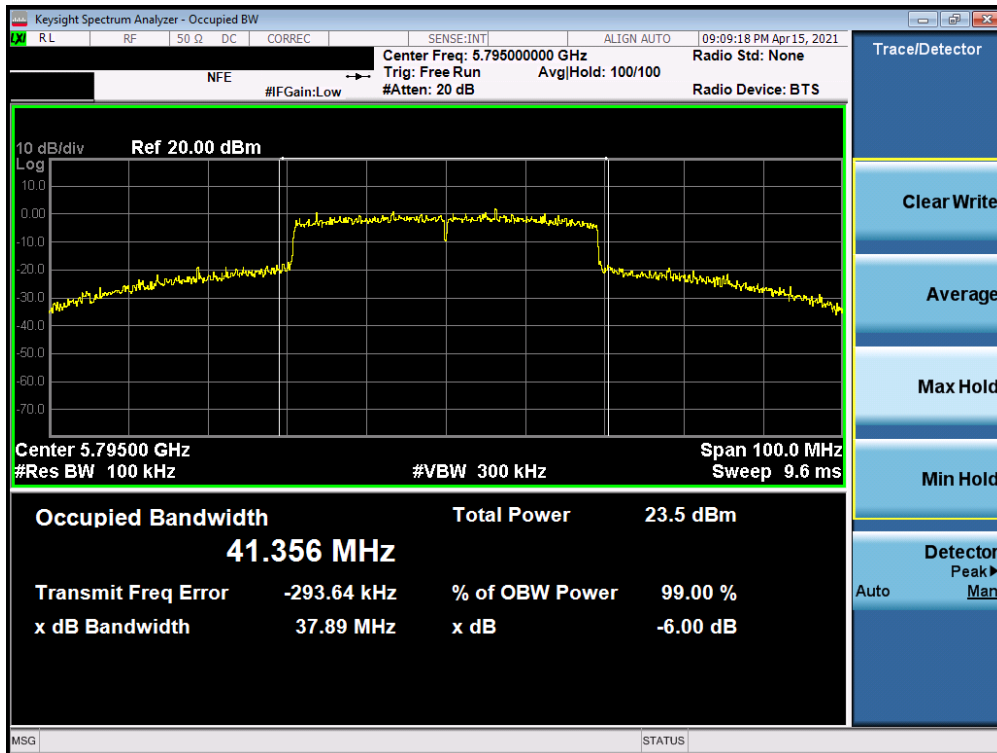


Plot 7-215. 6dB Bandwidth Plot ANT1 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF711B	<b>PCTEST</b> Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 130 of 508



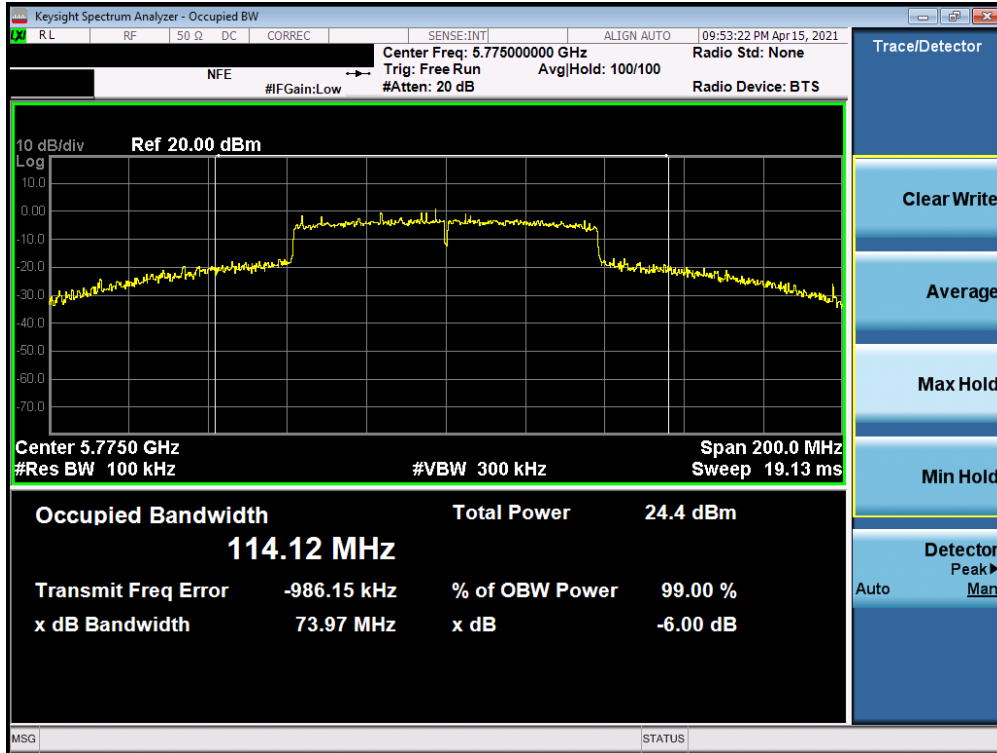
Plot 7-216. 6dB Bandwidth Plot ANT1 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)



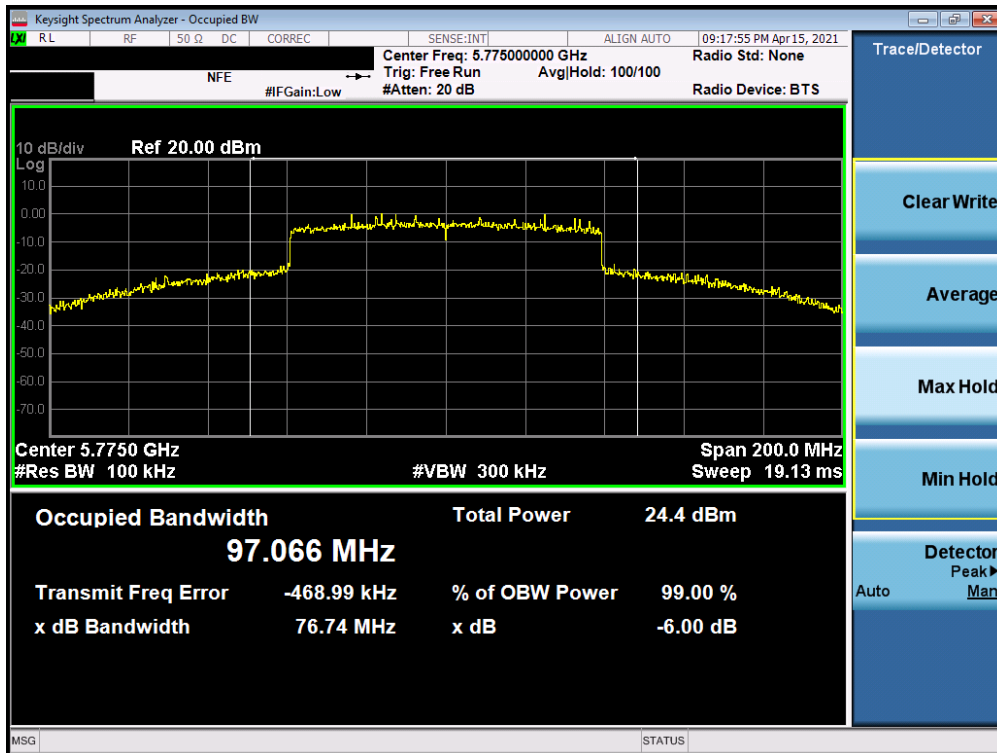
Plot 7-217. 6dB Bandwidth Plot ANT1 (40MHz BW 802.11ax (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 131 of 508





Plot 7-218. 6dB Bandwidth Plot ANT1 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)



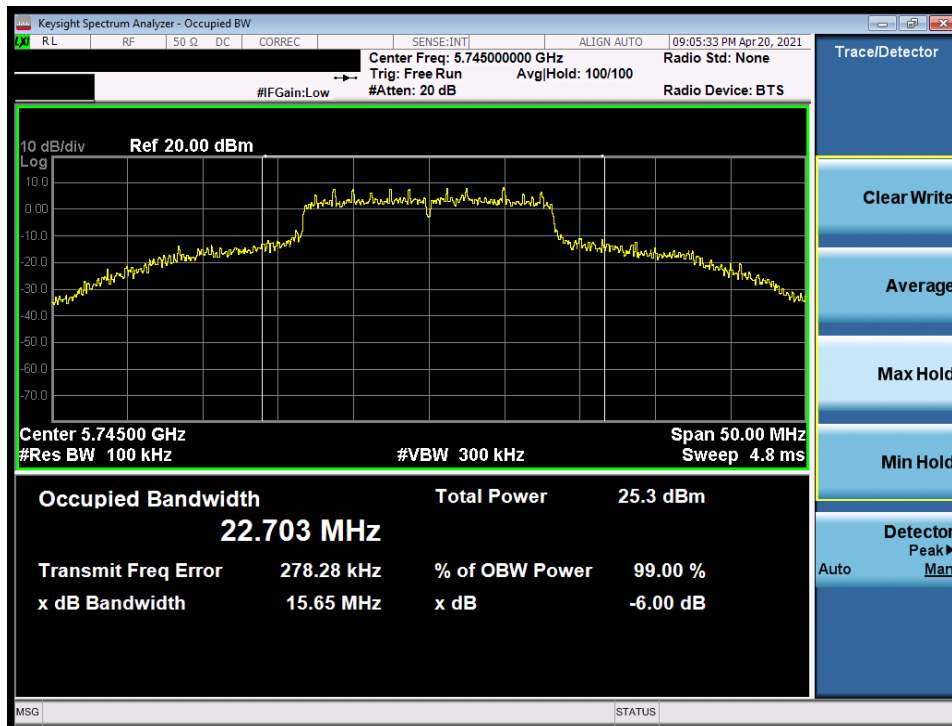
Plot 7-219. 6dB Bandwidth Plot ANT1 (80MHz BW 802.11ax (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 132 of 508

### SISO Antenna-1 6 dB Bandwidth Measurements-Q

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth - Q [MHz]
<b>Band 3</b>	5745	149	a	6	15.65
	5785	157	a	6	15.75
	5825	165	a	6	15.36
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	17.57
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	17.57
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	17.21
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	17.56
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	18.94
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	18.34
	5755	151	n (40MHz)	13.5/15 (MCS0)	35.36
	5795	159	n (40MHz)	13.5/15 (MCS0)	35.97
	5755	151	ax (40MHz)	13.5/15 (MCS0)	36.55
	5795	159	ax (40MHz)	13.5/15 (MCS0)	38.01
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	72.97
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	77.01

Table 7-7. Conducted Bandwidth Measurements SISO ANT1

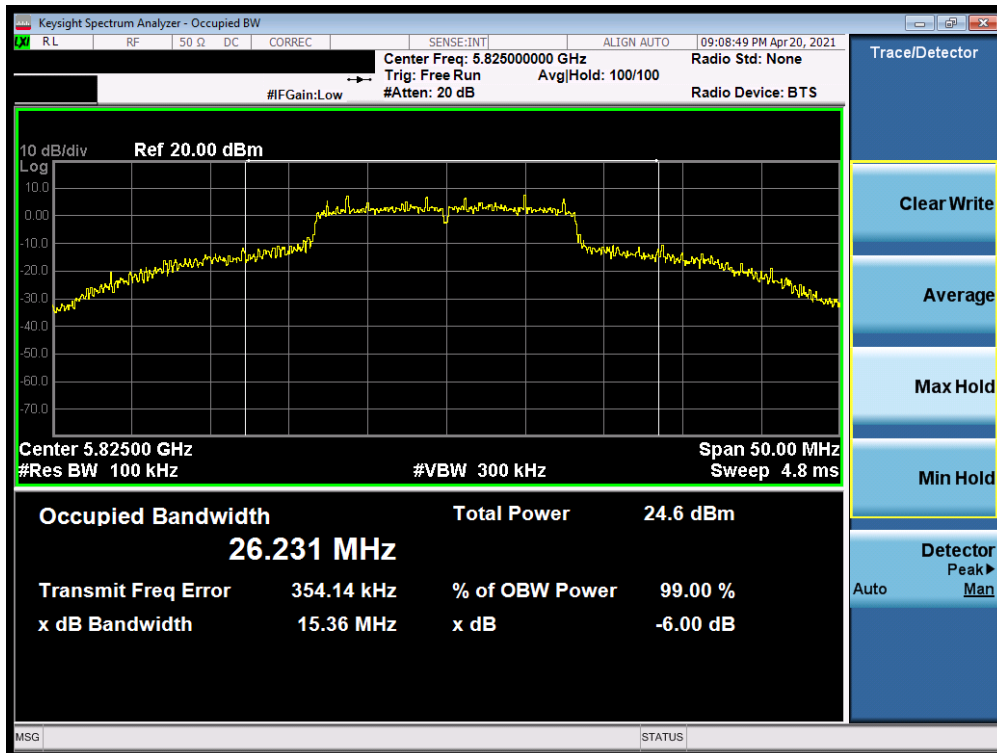


Plot 7-220. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 133 of 508

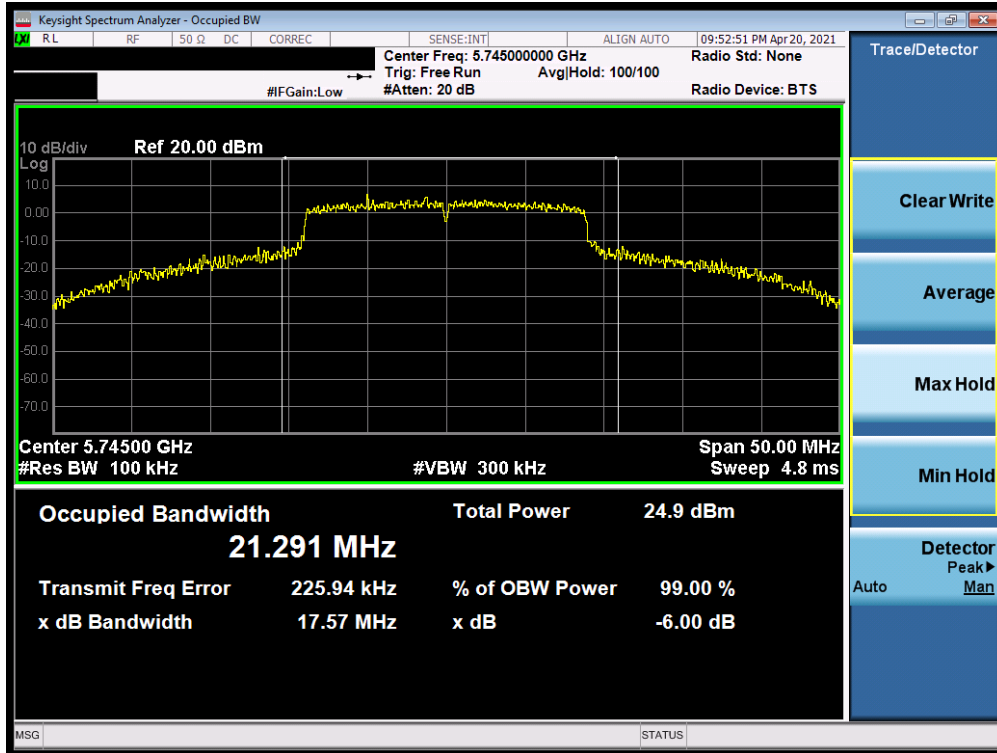


Plot 7-221. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 157)

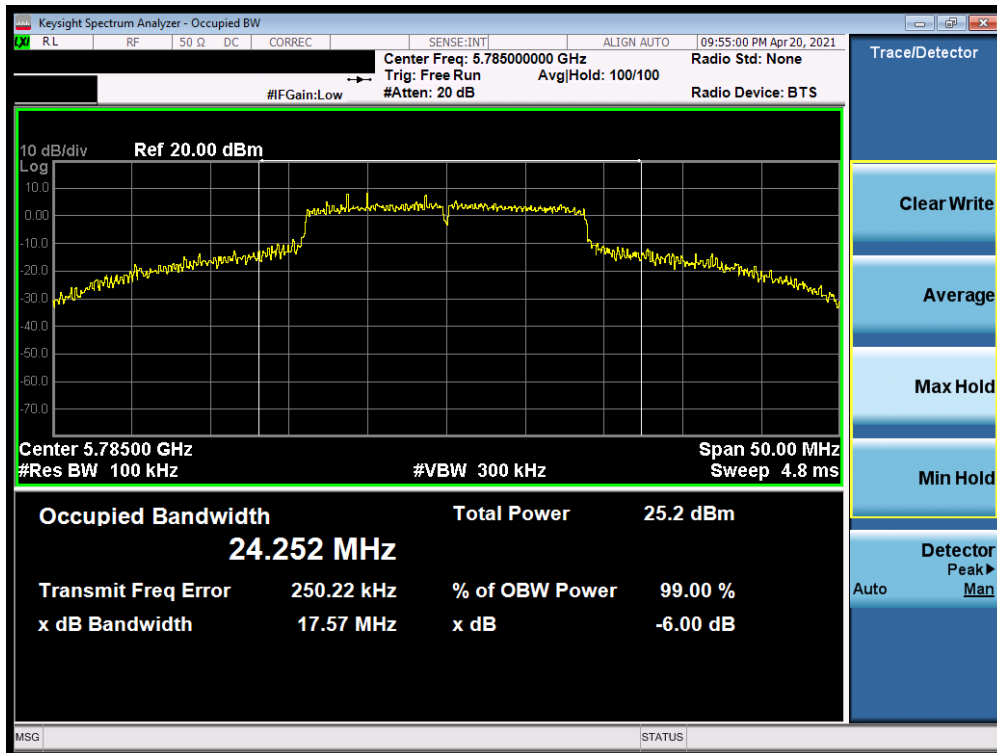


Plot 7-222. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 134 of 508

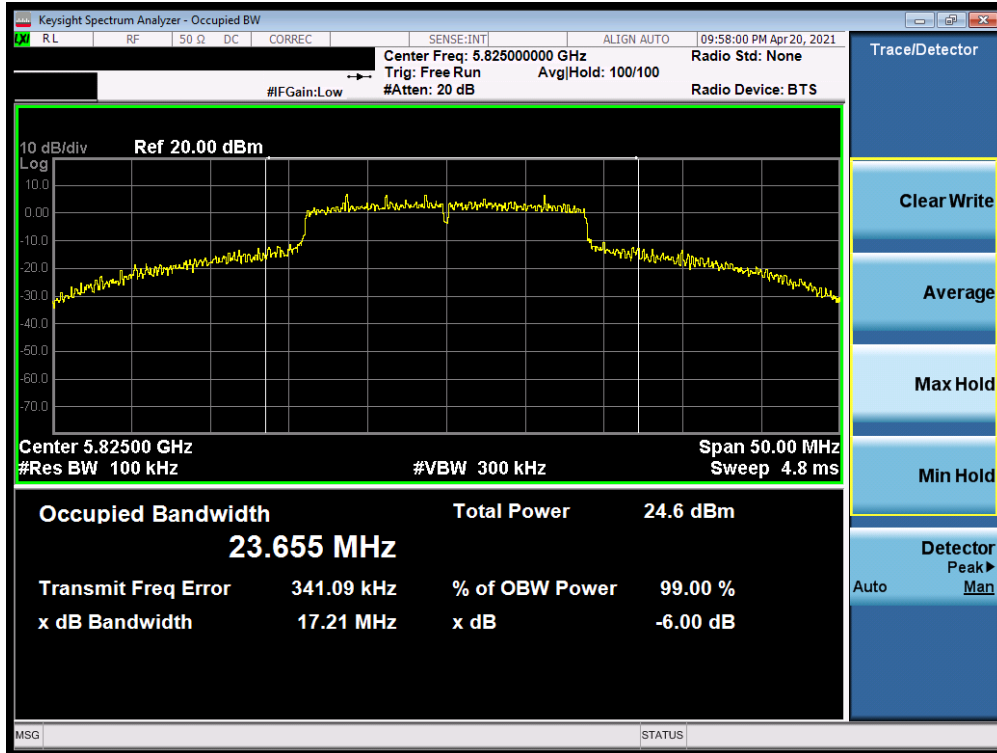


Plot 7-223. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



Plot 7-224. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 135 of 508



Plot 7-225. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

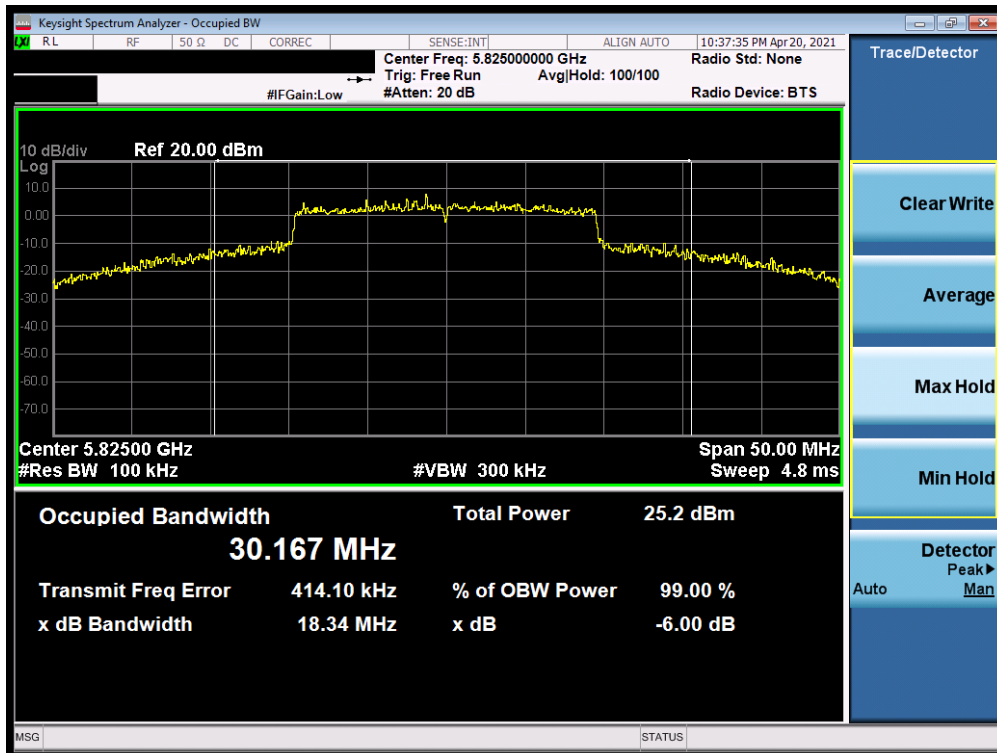


Plot 7-226. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 136 of 508

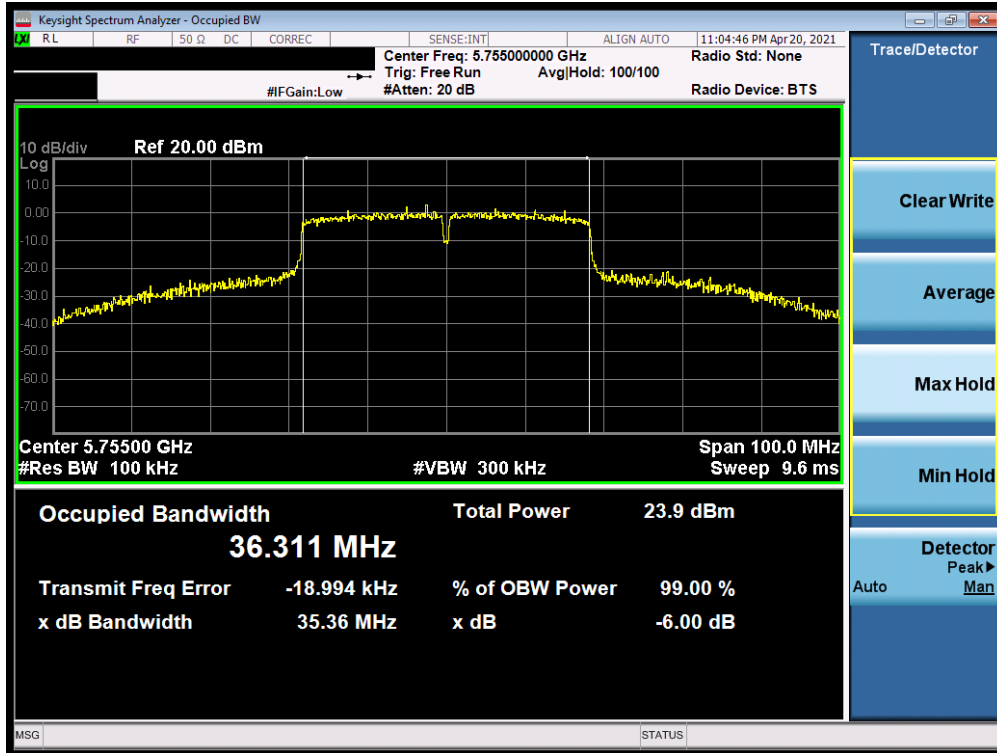


Plot 7-227. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 157)

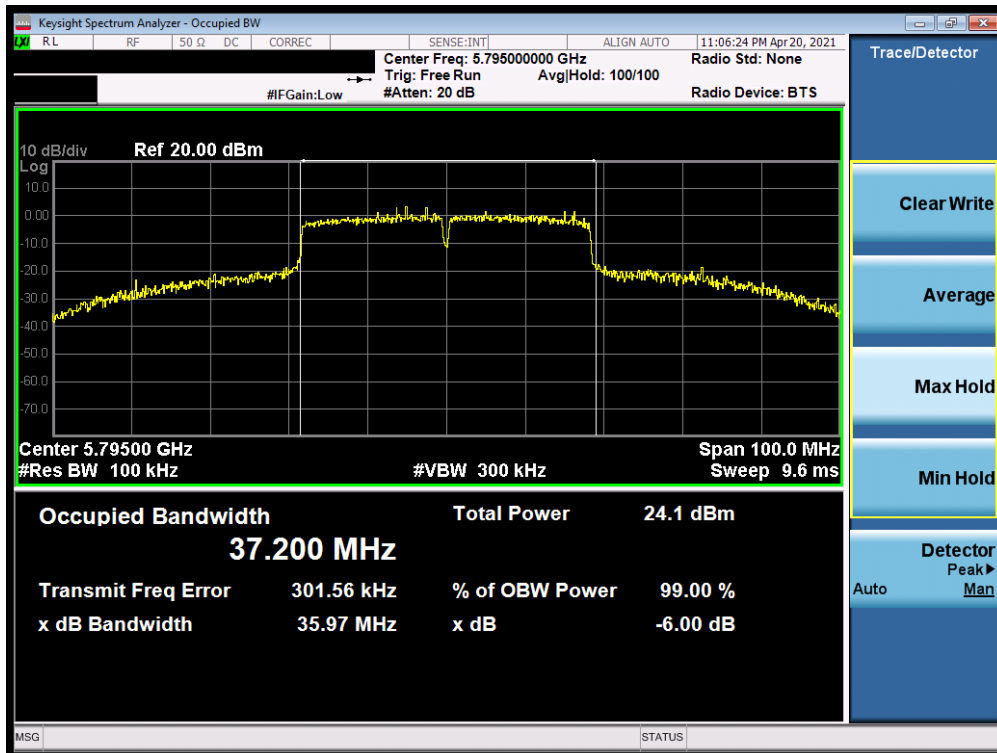


Plot 7-228. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 137 of 508



Plot 7-229. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



Plot 7-230. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF711B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104130035-12.A3L	Test Dates: 04/12/2021 - 06/04/2021	EUT Type: Portable Handset		Page 138 of 508