

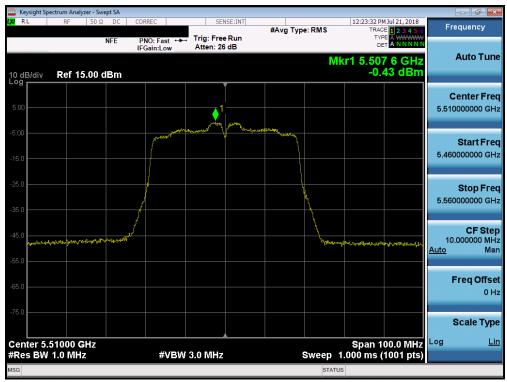
Plot 7-99. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) - Ch. 116)



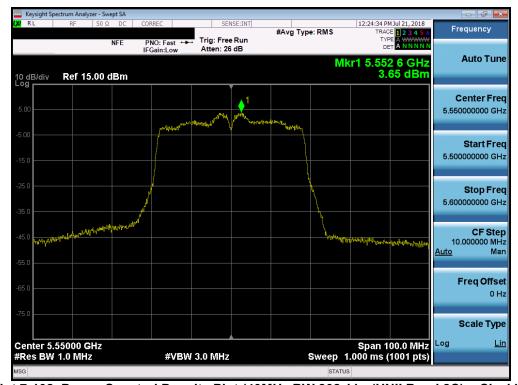
Plot 7-100. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 81 of 181
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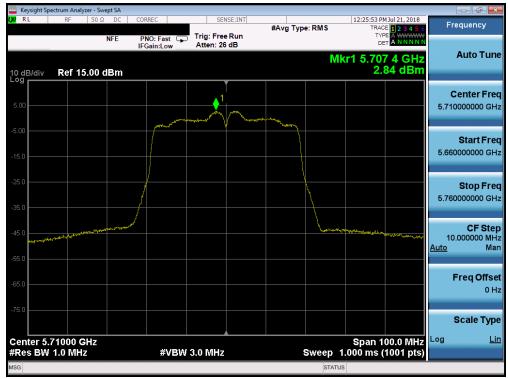
Plot 7-101. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)



Plot 7-102. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 110)

FCC ID: ZNFV405UA	PCTEST (NEINITING LANGATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 82 of 181
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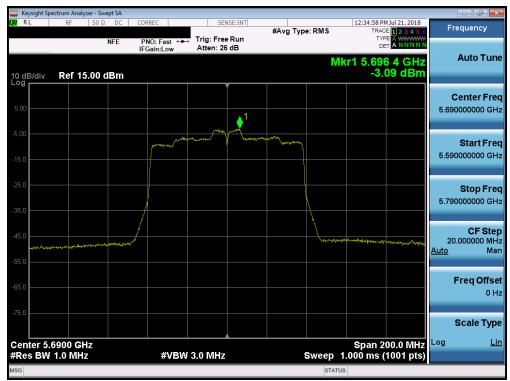
Plot 7-103. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)



Plot 7-104. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORS, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 83 of 181
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Plot 7-105. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: ZNFV405UA	PCTEST (NEINHING LANDANIDIT, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 84 of 181
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	7.97	30.0	-22.03
	5785	157	а	6	8.68	30.0	-21.32
	5825	165	а	6	8.02	30.0	-21.98
က	5745	149	n (20MHz)	6.5/7.2 (MCS0)	5.97	30.0	-24.03
Band	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.22	30.0	-23.78
ä	5825	165	n (20MHz)	6.5/7.2 (MCS0)	5.92	30.0	-24.08
	5755	151	n (40MHz)	13.5/15 (MCS0)	3.80	30.0	-26.20
	5795	159	n (40MHz)	13.5/15 (MCS0)	3.49	30.0	-26.51
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-2.74	30.0	-32.74

Table 7-19. Band 3 Conducted Power Spectral Density Measurements



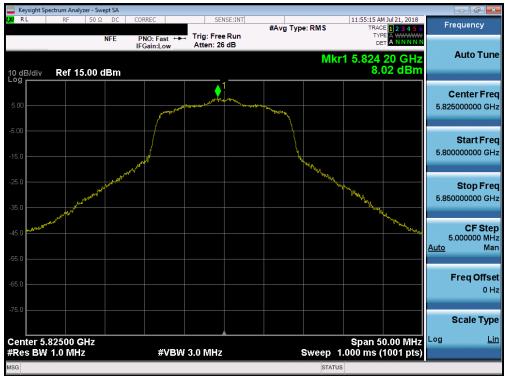
Plot 7-106. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 149)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dags 05 of 101	
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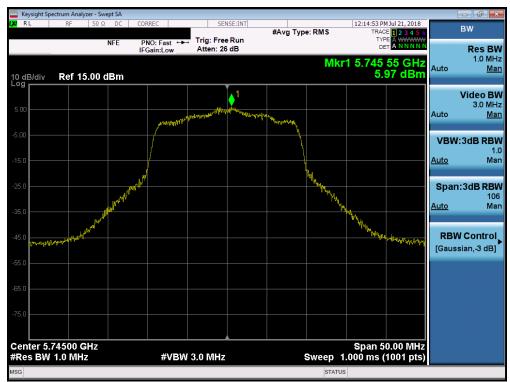
Plot 7-107. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 157)



Plot 7-108. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 165)

FCC ID: ZNFV405UA	PETEST:	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 86 of 181
1M1806200130-06-R1.ZNF	6/20/2018-8/2/2018	Portable Handset	rage oo or for





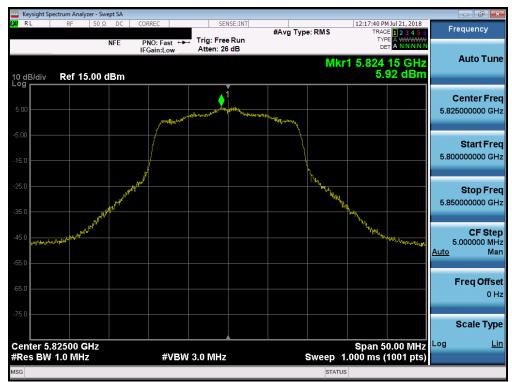
Plot 7-109. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



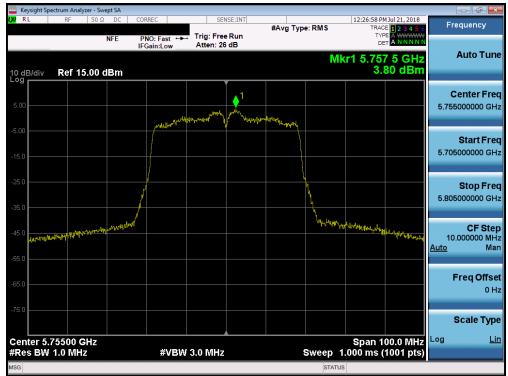
Plot 7-110. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 97 of 494
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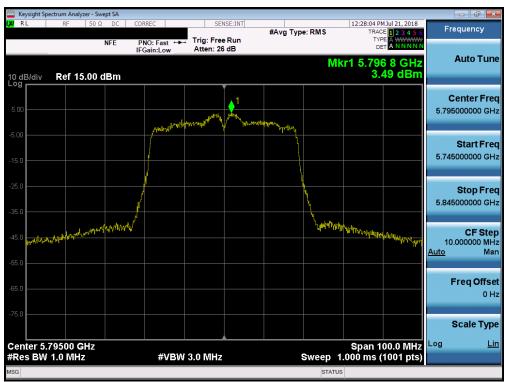
Plot 7-111. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



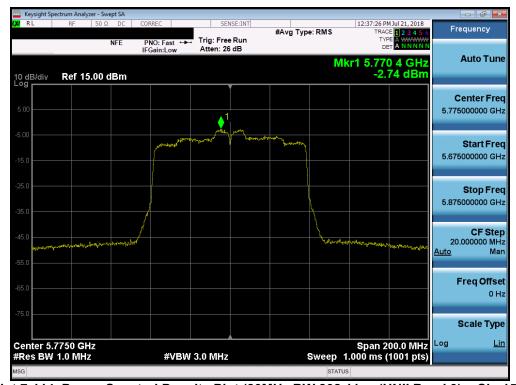
Plot 7-112. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) - Ch. 151)

FCC ID: ZNFV405UA	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	(1) LG	Approved by: Quality Manager
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Plot 7-113. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) - Ch. 159)



Plot 7-114. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)

FCC ID: ZNFV405UA	PCTEST (NEINITING LANGATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 90 of 191
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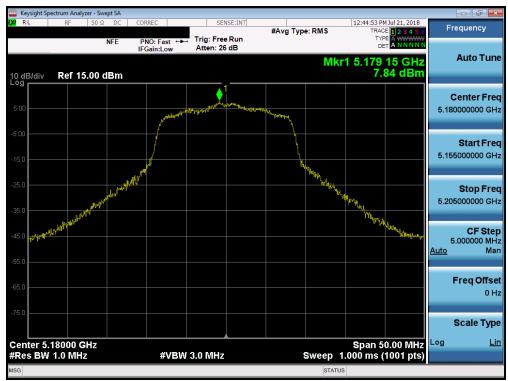
Antenna-2 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	7.84	11.0	-3.16
	5200	40	а	6	7.72	11.0	-3.28
	5240	48	а	6	7.68	11.0	-3.32
_	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.33	11.0	-5.67
Band 1	5200	40	n (20MHz)	6.5/7.2 (MCS0)	5.07	11.0	-5.93
ŭ	5240	48	n (20MHz)	6.5/7.2 (MCS0)	5.36	11.0	-5.64
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.10	11.0	-11.10
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.62	11.0	-7.38
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-2.29	11.0	-13.29
	5260	52	а	6	7.75	11.0	-3.25
	5280	56	а	6	8.02	11.0	-2.98
	5320	64	а	6	7.91	11.0	-3.09
8	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.46	11.0	-5.54
Band 2A	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.87	11.0	-5.13
Ba	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.94	11.0	-5.06
	5270	54	n (40MHz)	13.5/15 (MCS0)	3.57	11.0	-7.43
	5310	62	n (40MHz)	13.5/15 (MCS0)	0.50	11.0	-10.50
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-5.08	11.0	-16.08
	5500	100	а	6	7.76	11.0	-3.25
	5580	116	а	6	7.82	11.0	-3.18
	5720	144	а	6	7.68	11.0	-3.32
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.31	11.0	-5.70
2C	5580	116	n (20MHz)	6.5/7.2 (MCS0)	5.27	11.0	-5.73
Band 2C	5720	144	n (20MHz)	6.5/7.2 (MCS0)	5.64	11.0	-5.36
Ва	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.08	11.0	-11.08
	5550	110	n (40MHz)	13.5/15 (MCS0)	3.99	11.0	-7.01
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.55	11.0	-7.45
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-1.94	11.0	-12.94
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-1.95	11.0	-12.95

Table 7-20. Conducted Power Spectral Density Measurements

FCC ID: ZNFV405UA	PCTEST (NEINBIRING LANDANIOST, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 00 of 191
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Plot 7-115. Power Spectral Density Plot (802.11a (UNII Band 1) - Ch. 36)



Plot 7-116. Power Spectral Density Plot (802.11a (UNII Band 1) - Ch. 40)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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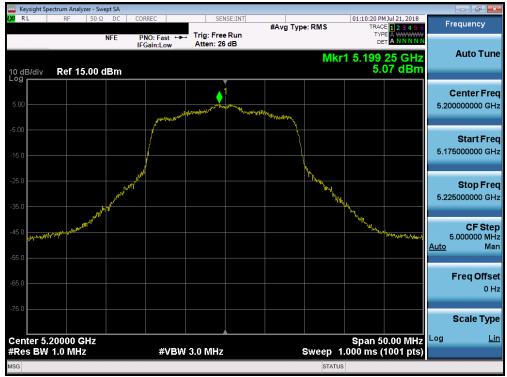
Plot 7-117. Power Spectral Density Plot (802.11a (UNII Band 1) - Ch. 48)



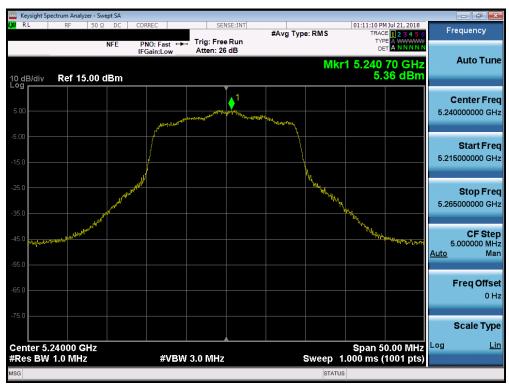
Plot 7-118. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) - Ch. 36)

FCC ID: ZNFV405UA	RETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 02 of 191
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Plot 7-119. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



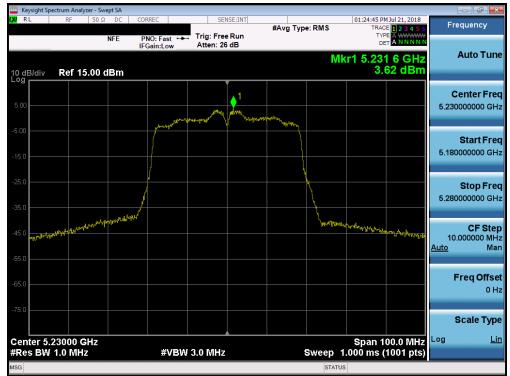
Plot 7-120. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

FCC ID: ZNFV405UA	PETEST. ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Down 02 of 191
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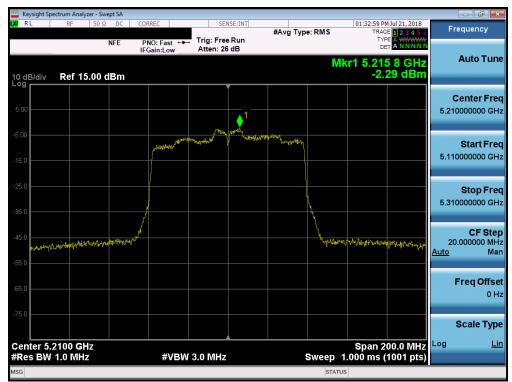
Plot 7-121. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) - Ch. 38)



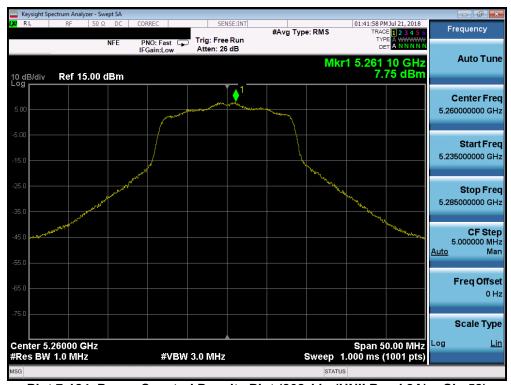
Plot 7-122. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) - Ch. 46)

FCC ID: ZNFV405UA	PCTEST (NEINITING LANGATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 04 of 101
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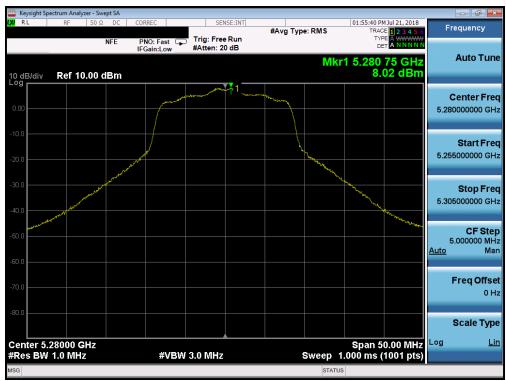
Plot 7-123. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)



Plot 7-124. Power Spectral Density Plot (802.11a (UNII Band 2A) - Ch. 52)

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 95 of 181
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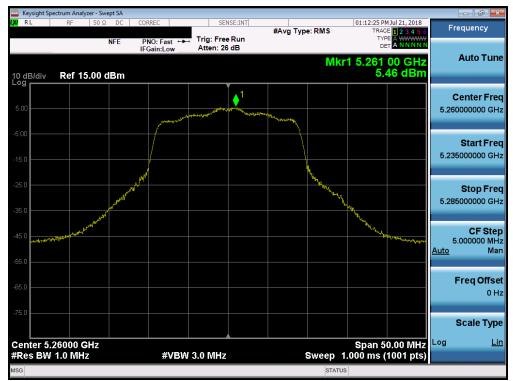
Plot 7-125. Power Spectral Density Plot (802.11a (UNII Band 2A) - Ch. 56)



Plot 7-126. Power Spectral Density Plot (802.11a (UNII Band 2A) - Ch. 64)

FCC ID: ZNFV405UA	PETEST (NGINITING LADORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 96 of 181
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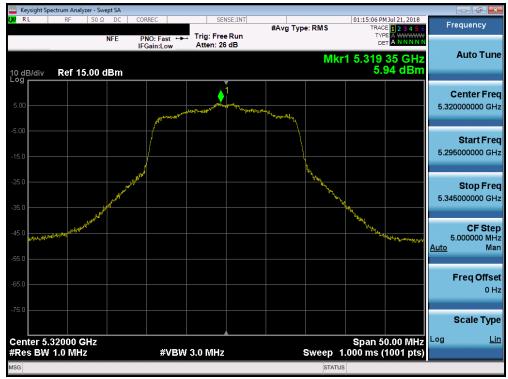
Plot 7-127. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



Plot 7-128. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 07 of 191
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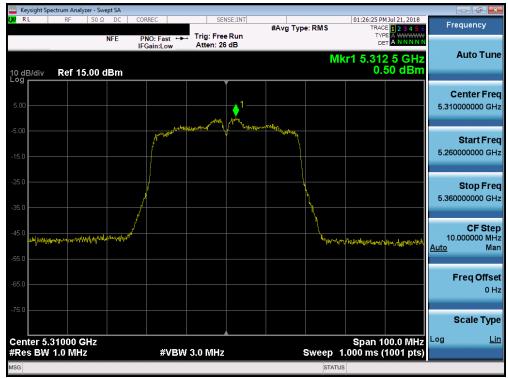
Plot 7-129. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



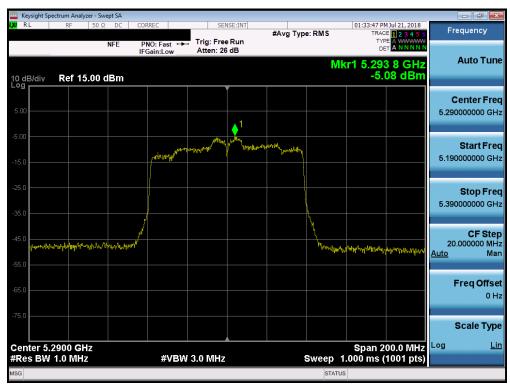
Plot 7-130. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)

FCC ID: ZNFV405UA	ENCINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 98 of 181
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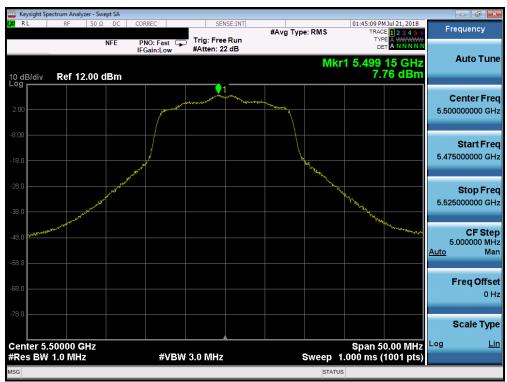
Plot 7-131. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)



Plot 7-132. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 99 of 181
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Plot 7-133. Power Spectral Density Plot (802.11a (UNII Band 2C) - Ch. 100)



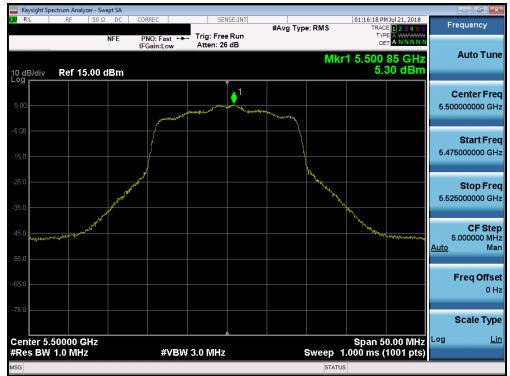
Plot 7-134. Power Spectral Density Plot (802.11a (UNII Band 2C) - Ch. 116)

FCC ID: ZNFV405UA	RETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(E) LQ	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 100 of 181
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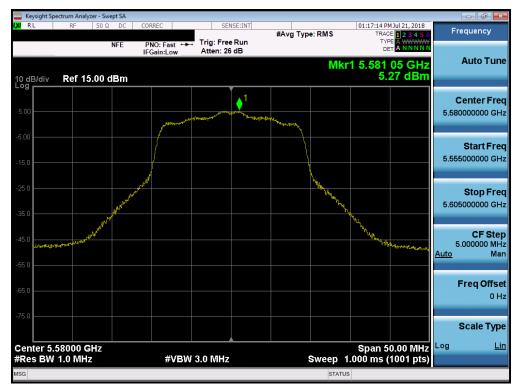
Plot 7-135. Power Spectral Density Plot (802.11a (UNII Band 2C) - Ch. 144)



Plot 7-136. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 101 of 181
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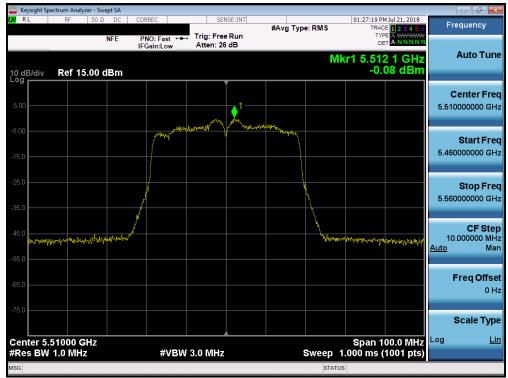
Plot 7-137. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) - Ch. 116)



Plot 7-138. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: ZNFV405UA	RETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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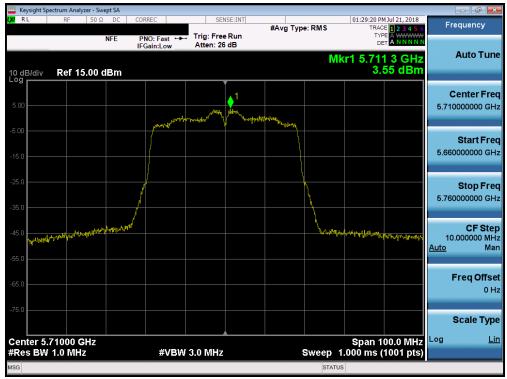
Plot 7-139. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)



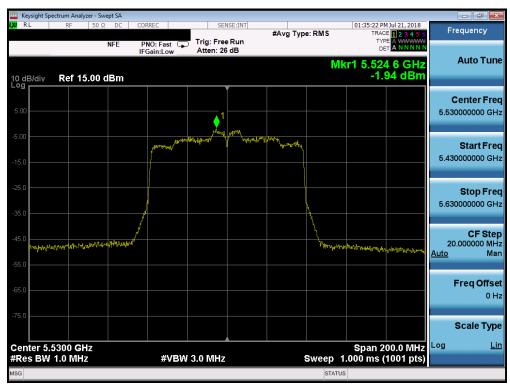
Plot 7-140. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 110)

FCC ID: ZNFV405UA	RETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-141. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)



Plot 7-142. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-143. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: ZNFV405UA	PCTEST (NEINHING LANDANIDIT, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	8.14	30.0	-21.86
	5785	157	а	6	8.54	30.0	-21.46
	5825	165	а	6	8.21	30.0	-21.79
က	5745	149	n (20MHz)	6.5/7.2 (MCS0)	6.02	30.0	-23.98
Band	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.19	30.0	-23.81
ă	5825	165	n (20MHz)	6.5/7.2 (MCS0)	6.04	30.0	-23.96
	5755	151	n (40MHz)	13.5/15 (MCS0)	3.64	30.0	-26.36
	5795	159	n (40MHz)	13.5/15 (MCS0)	4.32	30.0	-25.68
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-2.26	30.0	-32.26

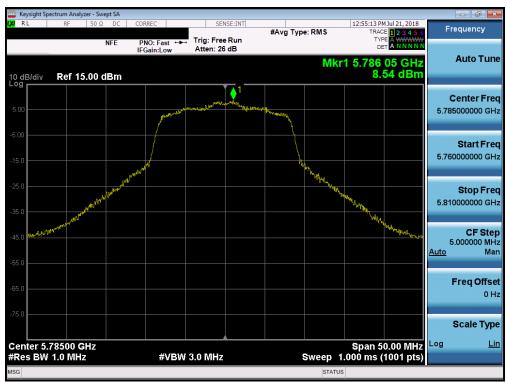
Table 7-21. Band 3 Conducted Power Spectral Density Measurements



Plot 7-144. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 149)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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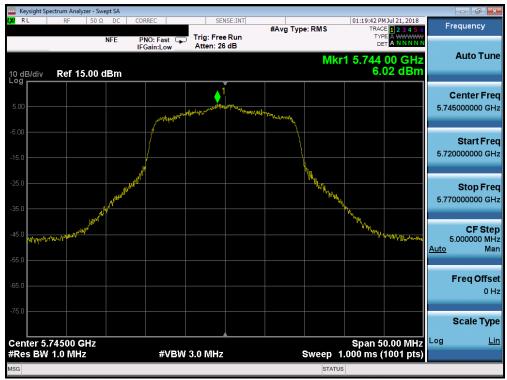
Plot 7-145. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 157)



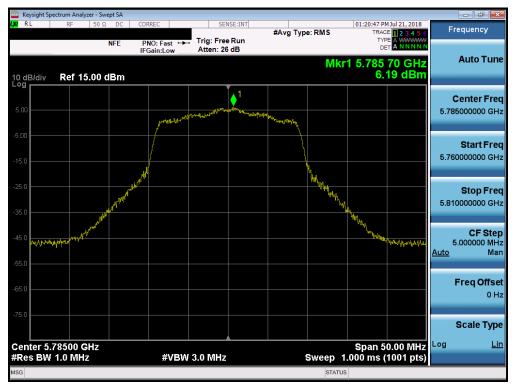
Plot 7-146. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 165)

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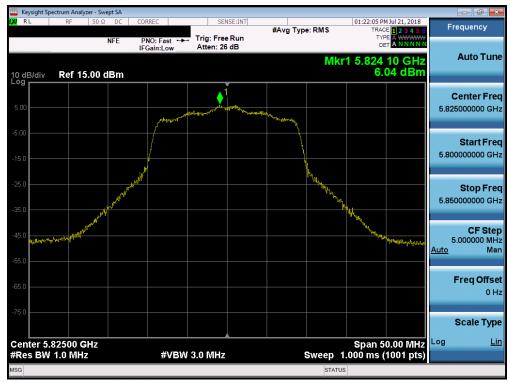
Plot 7-147. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



Plot 7-148. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

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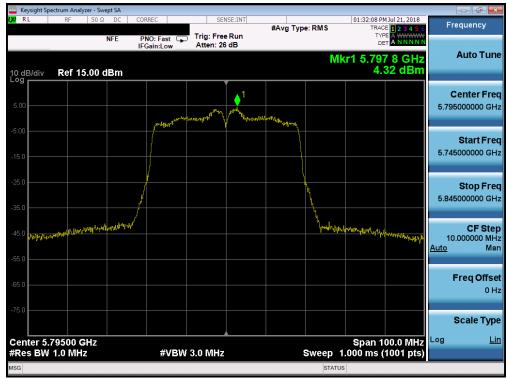
Plot 7-149. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



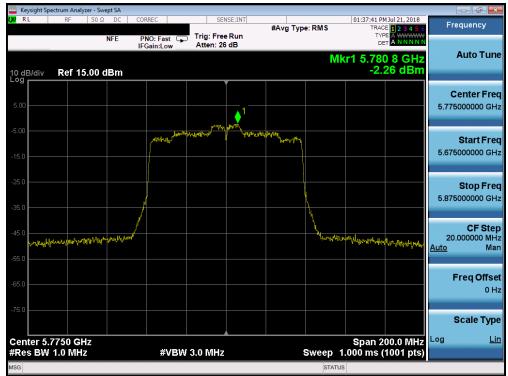
Plot 7-150. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) - Ch. 151)

FCC ID: ZNFV405UA	PCTEST (NEINHING LANGAGOT). INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-151. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) - Ch. 159)



Plot 7-152. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)

FCC ID: ZNFV405UA	RETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	7.72	7.92	10.83	11.0	-0.17
	5200	40	а	6	7.75	8.16	10.97	11.0	-0.03
	5240	48	а	6	6.83	8.62	10.82	11.0	-0.18
_	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.57	5.66	8.63	11.0	-2.37
Band	5200	40	n (20MHz)	6.5/7.2 (MCS0)	5.55	5.83	8.70	11.0	-2.30
ä	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.10	6.02	9.07	11.0	-1.93
	5190	38	n (40MHz)	13.5/15 (MCS0)	0.11	0.54	3.34	11.0	-7.66
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.16	3.45	6.32	11.0	-4.68
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-2.92	-4.82	-0.76	11.0	-11.76
	5260	52	а	6	7.50	7.87	10.70	11.0	-0.30
	5280	56	а	6	7.51	7.92	10.73	11.0	-0.27
	5320	64	а	6	7.66	7.49	10.59	11.0	-0.41
8	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.71	5.97	8.85	11.0	-2.15
Band 2A	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.53	6.01	8.79	11.0	-2.21
Ba	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.73	6.16	8.96	11.0	-2.04
	5270	54	n (40MHz)	13.5/15 (MCS0)	3.28	3.49	6.40	11.0	-4.60
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.07	0.19	3.07	11.0	-7.93
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-5.57	-5.19	-2.37	11.0	-13.37
	5500	100	а	6	7.71	7.87	10.80	11.0	-0.20
	5600	120	а	6	6.76	6.63	9.71	11.0	-1.29
	5720	144	а	6	7.70	7.85	10.79	11.0	-0.21
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.89	6.26	9.09	11.0	-1.91
0	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.19	4.43	7.84	11.0	-3.16
Band 2C	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.07	6.64	9.37	11.0	-1.63
gan	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.51	0.10	2.82	11.0	-8.18
ш	5590	118	n (40MHz)	13.5/15 (MCS0)	2.18	1.37	4.81	11.0	-6.19
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.44	3.94	6.70	11.0	-4.30
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-2.87	-2.30	0.44	11.0	-10.56
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-3.17	-3.79	-0.46	11.0	-11.46
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-3.19	-3.43	-0.30	11.0	-11.30

Table 7-22. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]		Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	6.00	6.07	9.05	30.0	-20.95
	5785	157	а	6	5.98	6.18	9.09	30.0	-20.91
	5825	165	а	6	6.22	6.25	9.25	30.0	-20.75
က	5745	149	n (20MHz)	6.5/7.2 (MCS0)	3.30	3.91	6.62	30.0	-23.38
Band	5785	157	n (20MHz)	6.5/7.2 (MCS0)	3.51	4.17	6.87	30.0	-23.13
ä	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.99	4.06	7.03	30.0	-22.97
	5755	151	n (40MHz)	13.5/15 (MCS0)	0.75	0.93	3.85	30.0	-26.15
	5795	159	n (40MHz)	13.5/15 (MCS0)	1.20	1.28	4.25	30.0	-25.75
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-4.82	-4.25	-1.51	30.0	-31.51

Table 7-23. Band 3 MIMO Conducted Power Spectral Density Measurements

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Note:

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

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 5.57 dBm for Antenna-1 and 5.66 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(5.57 dBm + 5.66 dBm) = (3.60 mW + 3.68 mW) = 7.29 mW = 8.63 dBm

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7.6 Radiated Spurious Emission Measurements – Above 1GHz §15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-24 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-24. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5 KDB 789033 D02 v02r01 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (RMS)
- Number of measurement points = 1001 (Number of points must be ≥ 2 x span/RBW)
- Averaging type = power (RMS)
- 7. Sweep time = auto couple
- 8. Trace was averaged over 100 sweeps

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Peak Measurements above 1GHz

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

Peak Measurements below 1GHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = 120kHz
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

Test Setup

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

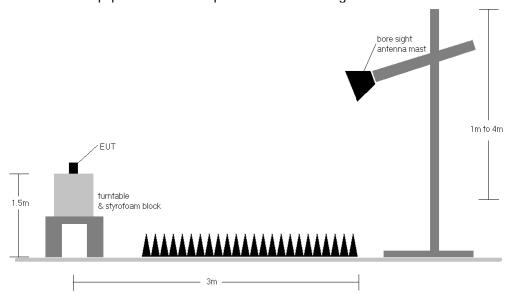


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Test Notes

- 1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-24.
- 2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-24. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
- 8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level [dBuV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- O AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- o Margin [dB] = Field Strength Level [dB μ V/m] Limit [dB μ V/m]

Radiated Band Edge Measurement Offset

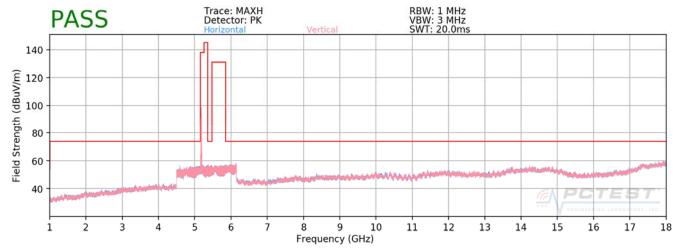
 The amplitude offset shown in the radiated restricted band edge plots in Section 7.6 was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) - Preamplifier Gain

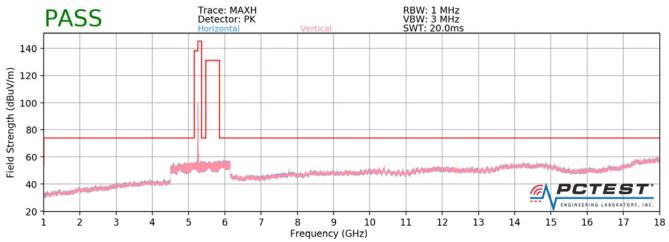
FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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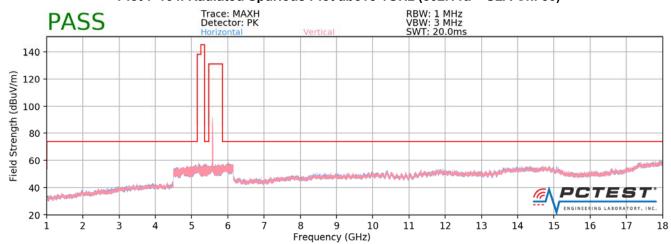
7.7.1 Antenna-1 Radiated Spurious Emission Measurements



Plot 7-153. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40)



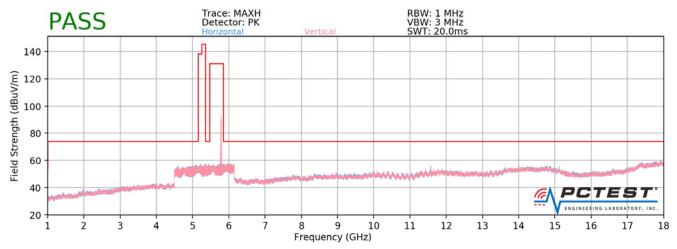
Plot 7-154. Radiated Spurious Plot above 1GHz (802.11a - U2A Ch. 56)



Plot 7-155. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120)

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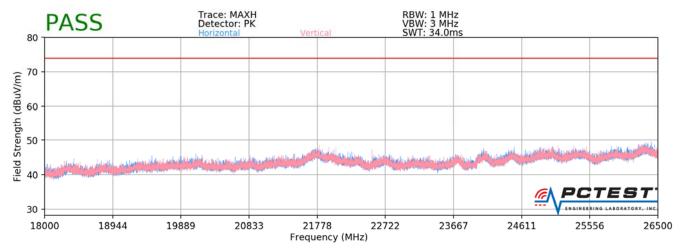


Plot 7-156. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157)

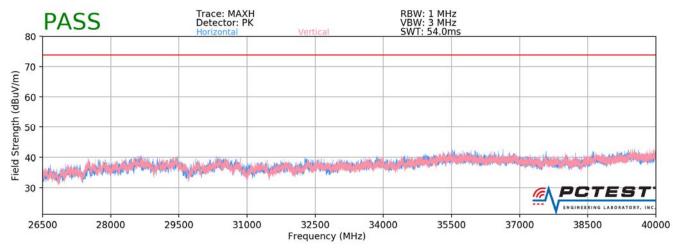
FCC ID: ZNFV405UA	PCTEST (NEINITING LANGATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(1) LG	Approved by: Quality Manager
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Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-157. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a)



Plot 7-158. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a)

FCC ID: ZNFV405UA	CHEMINING LANGATON, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG LG	Approved by: Quality Manager
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Antenna-1 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5180MHz Channel: 36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	V	-	-	-69.81	10.68	0.00	47.87	68.20	-20.33
*	15540.00	Average	٧	-	-	-80.73	13.80	0.00	40.07	53.98	-13.91
*	15540.00	Peak	V	-	-	-69.51	13.80	0.00	51.29	73.98	-22.69
*	20720.00	Average	V	-	-	-70.90	7.94	-9.54	34.50	53.98	-19.48
*	20720.00	Peak	V	-	-	-59.70	7.94	-9.54	45.70	73.98	-28.28
•	25900.00	Peak	V	-	-	-56.58	8.46	-9.54	49.34	68.20	-18.86

Table 7-25. Radiated Measurements

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5200MHz Channel: 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-69.53	10.90	0.00	48.37	68.20	-19.83
*	15600.00	Average	V	-	-	-80.45	13.62	0.00	40.17	53.98	-13.81
*	15600.00	Peak	٧	-	-	-68.79	13.62	0.00	51.83	73.98	-22.15
*	20800.00	Average	V	-	-	-71.03	7.95	-9.54	34.38	53.98	-19.60
*	20800.00	Peak	٧	-	-	-59.81	7.95	-9.54	45.60	73.98	-28.38
	26000.00	Peak	٧	-	-	-56.98	8.60	-9.54	49.08	68.20	-19.12

Table 7-26. Radiated Measurements

FCC ID: ZNFV405UA	PETEST (NGINITING LADORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5240MHz

Channel: 48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	V	-	-	-69.08	11.30	0.00	49.22	68.20	-18.98
*	15720.00	Average	٧	-	-	-80.75	12.07	0.00	38.32	53.98	-15.66
*	15720.00	Peak	V	-	-	-68.99	12.07	0.00	50.08	73.98	-23.90
*	20960.00	Average	٧	-	-	-71.57	7.91	-9.54	33.80	53.98	-20.18
*	20960.00	Peak	V	-	-	-59.96	7.91	-9.54	45.41	73.98	-28.57
•	26200.00	Peak	V	-	-	-57.03	8.62	-9.54	49.05	68.20	-19.15

Table 7-27. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5200MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-68.03	10.90	0.00	49.87	68.20	-18.33
*	15600.00	Average	٧	-	-	-77.77	13.62	0.00	42.85	53.98	-11.13
*	15600.00	Peak	V	-	-	-65.48	13.62	0.00	55.14	73.98	-18.84
*	20800.00	Average	V	-	-	-71.73	7.95	-9.54	33.68	53.98	-20.30
*	20800.00	Peak	V	-	-	-60.17	7.95	-9.54	45.24	73.98	-28.74
•	26000.00	Peak	V	-	-	-57.71	8.60	-9.54	48.35	68.20	-19.85

Table 7-28. Radiated Measurements with WCP

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5260MHz Channel: 52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-70.04	10.99	0.00	47.95	68.20	-20.25
*	15780.00	Average	٧	-	-	-81.58	11.07	0.00	36.49	53.98	-17.49
*	15780.00	Peak	V	-	-	-70.57	11.07	0.00	47.50	73.98	-26.48
*	21040.00	Average	V	-	-	-71.16	7.92	-9.54	34.22	53.98	-19.76
*	21040.00	Peak	V	-	-	-59.67	7.92	-9.54	45.71	73.98	-28.27
	26300.00	Peak	V	-	-	-55.68	8.73	-9.54	50.51	68.20	-17.69

Table 7-29. Radiated Measurements

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5280MHz Channel: 56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	V	-	-	-69.38	11.16	0.00	48.78	68.20	-19.42
*	15840.00	Average	٧	-	-	-81.23	11.20	0.00	36.97	53.98	-17.01
*	15840.00	Peak	٧	-	-	-69.82	11.20	0.00	48.38	73.98	-25.60
*	21120.00	Average	٧	-	-	-70.75	7.96	-9.54	34.67	53.98	-19.31
*	21120.00	Peak	V	-	-	-59.36	7.96	-9.54	46.06	73.98	-27.92
	26400.00	Peak	V	-	-	-56.61	8.94	-9.54	49.79	68.20	-18.41

Table 7-30. Radiated Measurements

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 121 of 181
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Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5320MHz

Channel: 64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	V	•	-	-81.53	11.47	0.00	36.94	53.98	-17.04
*	10640.00	Peak	٧	-	-	-70.36	11.47	0.00	48.11	73.98	-25.87
*	15960.00	Average	٧	-	-	-80.13	12.78	0.00	39.65	53.98	-14.33
*	15960.00	Peak	V	-	-	-69.28	12.78	0.00	50.50	73.98	-23.48
*	21280.00	Average	٧	-	-	-70.01	8.04	-9.54	35.49	53.98	-18.49
*	21280.00	Peak	V	-	-	-58.59	8.04	-9.54	46.91	73.98	-27.07
	26600.00	Peak	V	-	-	-59.71	-8.30	-9.54	29.44	68.20	-38.76

Table 7-31. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5320MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10640.00	Average	V	-	-	-78.35	11.47	0.00	40.12	53.98	-13.86
*	10640.00	Peak	٧	-	-	-66.20	11.47	0.00	52.27	73.98	-21.71
*	15960.00	Average	٧	-	-	-77.50	12.78	0.00	42.28	53.98	-11.70
*	15960.00	Peak	V	-	-	-65.46	12.78	0.00	54.32	73.98	-19.66
*	21280.00	Average	٧	-	-	-70.35	8.04	-9.54	35.15	53.98	-18.83
	21280.00	Peak	V	-	-	-60.05	8.04	-9.54	45.45	73.98	-28.53
	26600.00	Peak	V	-	-	-49.89	-8.30	-9.54	39.26	68.20	-28.94

Table 7-32. Radiated Measurements with WCP

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 122 of 181
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5500MHz

Channel: 100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	-	-	-80.02	11.57	0.00	38.55	53.98	-15.43
*	11000.00	Peak	٧	-	-	-68.72	11.57	0.00	49.85	73.98	-24.13
	16500.00	Peak	V	-	-	-69.09	13.23	0.00	51.14	68.20	-17.06
	22000.00	Peak	V	-	-	-58.09	8.43	-9.54	47.79	68.20	-20.41
•	27500.00	Peak	V	-	-	-57.96	-8.80	-9.54	30.70	68.20	-37.50

Table 7-33. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 600MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	V		-	-80.92	11.17	0.00	37.25	53.98	-16.73
*	11200.00	Peak	٧	-	-	-64.75	11.17	0.00	53.42	73.98	-20.56
	16800.00	Peak	٧	-	-	-68.75	13.05	0.00	51.30	68.20	-16.90
*	22400.00	Average	٧	-	-	-69.67	8.08	-9.54	35.87	53.98	-18.11
*	22400.00	Peak	V	-	-	-58.22	8.08	-9.54	47.32	73.98	-26.66
	28000.00	Peak	V	-	-	-57.59	-9.08	-9.54	30.79	68.20	-37.41

Table 7-34. Radiated Measurements

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5720MHz

Channel: 144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-80.93	12.04	0.00	38.11	53.98	-15.87
*	11440.00	Peak	٧	-	-	-70.00	12.04	0.00	49.04	73.98	-24.94
	17160.00	Peak	٧	-	-	-68.94	15.94	0.00	54.00	68.20	-14.20
*	22880.00	Average	٧	-	-	-71.44	8.28	-9.54	34.30	53.98	-19.68
*	22880.00	Peak	V	-	-	-59.78	8.28	-9.54	45.96	73.98	-28.02
	28600.00	Peak	V	-	-	-55.41	-9.08	-9.54	32.97	68.20	-35.23

Table 7-35. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5720MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	>	-	-	-78.04	12.04	0.00	41.00	53.98	-12.98
*	11440.00	Peak	٧	-	-	-65.68	12.04	0.00	53.36	73.98	-20.62
	17160.00	Peak	V	-	-	-65.74	15.94	0.00	57.20	68.20	-11.00
	22880.00	Average	V	-	-	-71.64	8.28	-9.54	34.10	53.98	-19.88
	22880.00	Peak	V	-	-	-61.50	8.28	-9.54	44.24	73.98	-29.74
•	28600.00	Peak	V	-	-	-48.38	-9.08	-9.54	40.00	68.20	-28.20

Table 7-36. Radiated Measurements with WCP

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5745MHz

Channel: 149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	-	-	-79.58	10.99	0.00	38.41	53.98	-15.57
*	11490.00	Peak	٧	-	-	-67.28	10.99	0.00	50.71	73.98	-23.27
	17235.00	Peak	V	-	-	-69.49	16.64	0.00	54.15	68.20	-14.05
*	22980.00	Average	V	-	-	-71.33	8.16	-9.54	34.29	53.98	-19.69
*	22980.00	Peak	V	-	-	-59.86	8.16	-9.54	45.76	73.98	-28.22
	28725.00	Peak	V	-	-	-55.11	-9.24	-9.54	33.11	68.20	-35.09

Table 7-37. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5785MHz

Channel: 157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]		Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	104	294	-79.56	11.81	0.00	39.25	53.98	-14.73
*	11570.00	Peak	V	104	294	-67.93	11.81	0.00	50.88	73.98	-23.10
	17355.00	Peak	V	-	-	-68.85	19.70	0.00	57.85	68.20	-10.35
	23140.00	Peak	V	-	-	-58.66	8.37	-9.54	47.17	68.20	-21.03
	28925.00	Peak	V	-	-	-53.68	-9.65	-9.54	34.13	68.20	-34.07

Table 7-38. Radiated Measurements

FCC ID: ZNFV405UA	ENCINETING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5825MHz
Channel: 165

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	-	-	-80.23	11.32	0.00	38.09	53.98	-15.89
*	11650.00	Peak	٧	-	-	-68.97	11.32	0.00	49.35	73.98	-24.63
	17475.00	Peak	٧	-	-	-69.09	19.69	0.00	57.60	68.20	-10.60
	23300.00	Peak	٧	-	-	-59.84	8.50	-9.54	46.12	68.20	-22.08
	29125.00	Peak	V	-	-	-56.67	-9.87	-9.54	30.92	68.20	-37.28

Table 7-39. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5785MHz

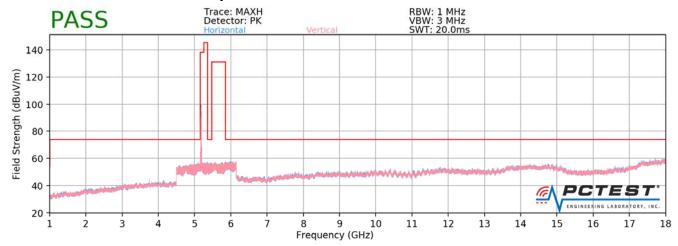
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	-	-	-74.07	11.81	0.00	44.74	53.98	-9.24
*	11570.00	Peak	V	-	-	-67.64	11.81	0.00	51.17	73.98	-22.81
	17355.00	Peak	V	-	-	-64.55	19.70	0.00	62.15	68.20	-6.05
	23140.00	Peak	V	-	-	-60.84	8.37	-9.54	44.99	68.20	-23.21
	28925.00	Peak	V	-	-	-48.31	-9.65	-9.54	39.50	68.20	-28.70

Table 7-40. Radiated Measurements with WCP

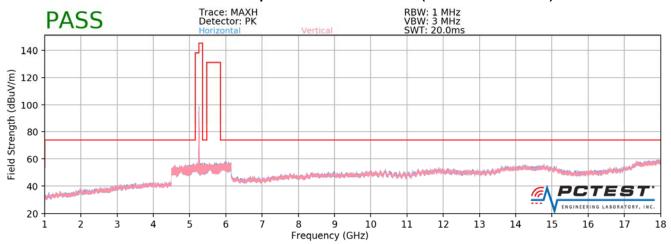
FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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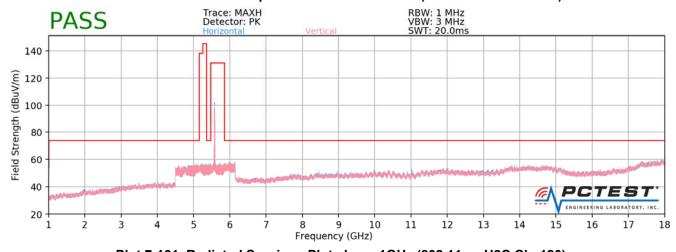
7.7.2 Antenna-2 Radiated Spurious Emission Measurements



Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a - U1 Ch. 40)



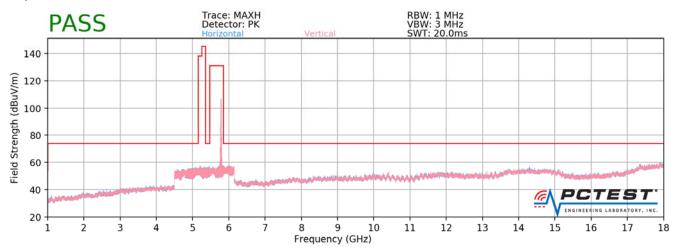
Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a - U2A Ch. 56)



Plot 7-161. Radiated Spurious Plot above 1GHz (802.11a - U2C Ch. 120)

FCC ID: ZNFV405UA	PETEST. ENGINEERING LANDANTON, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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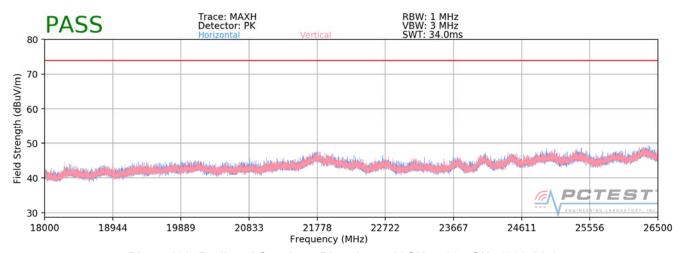


Plot 7-162. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157)

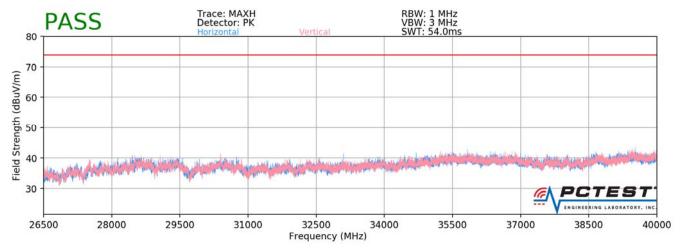
FCC ID: ZNFV405UA	PCTEST (NEINHING LARGANIST, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-163. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a)



Plot 7-164. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a)

FCC ID: ZNFV405UA	PCTEST (NEINHING LANGAGOT). INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
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Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:

Worst Case Transfer Rate:

Distance of Measurements:

Operating Frequency:

Channel:

802.11a

6Mbps

1 & 3 Meters

5180MHz

36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	Н	-	-	-68.62	10.68	0.00	49.06	68.20	-19.14
*	15540.00	Average	Н	135	34	-77.98	13.80	0.00	42.82	53.98	-11.16
*	15540.00	Peak	Н	135	34	-65.89	13.80	0.00	54.91	73.98	-19.07
*	20720.00	Average	Н	100	123	-69.93	7.94	-9.54	35.47	53.98	-18.51
*	20720.00	Peak	Н	100	123	-58.08	7.94	-9.54	47.32	73.98	-26.66
	25900.00	Peak	Н	-	-	-56.57	8.46	-9.54	49.35	68.20	-18.85

Table 7-41. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5200MHz

Channel: 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	Н	-	-	-69.50	10.90	0.00	48.40	68.20	-19.80
*	15600.00	Average	Н	125	23	-78.19	13.62	0.00	42.43	53.98	-11.55
*	15600.00	Peak	Н	125	23	-66.07	13.62	0.00	54.55	73.98	-19.43
*	20800.00	Average	Н	-	-	-71.04	7.95	-9.54	34.37	53.98	-19.61
*	20800.00	Peak	Н	-	-	-58.40	7.95	-9.54	47.01	73.98	-26.97
	26000.00	Peak	Н	-	-	-56.75	8.60	-9.54	49.31	68.20	-18.89

Table 7-42. Radiated Measurements

FCC ID: ZNFV405UA	PCTEST (NEINHING LANGAGOT). INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 120 of 191
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5240MHz

Channel: 48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	-	-	-69.21	11.30	0.00	49.09	68.20	-19.11
*	15720.00	Average	Н	143	12	-78.57	12.07	0.00	40.50	53.98	-13.48
*	15720.00	Peak	Н	143	12	-66.18	12.07	0.00	52.89	73.98	-21.09
*	20960.00	Average	Н	-	-	-71.56	7.91	-9.54	33.81	53.98	-20.17
*	20960.00	Peak	Н	-	-	-58.66	7.91	-9.54	46.71	73.98	-27.27
•	26200.00	Peak	Н	-	-	-55.69	8.62	-9.54	50.39	68.20	-17.81

Table 7-43. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5240MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	-	-	-66.22	10.90	0.00	51.68	68.20	-16.52
*	15720.00	Average	Н	-	-	-76.76	13.62	0.00	43.86	53.98	-10.12
*	15720.00	Peak	Н	-	-	-64.03	13.62	0.00	56.59	73.98	-17.39
*	20960.00	Average	Н	-	-	-70.90	7.95	-9.54	34.51	53.98	-19.47
*	20960.00	Peak	Н	-	-	-60.31	7.95	-9.54	45.10	73.98	-28.88
•	26200.00	Peak	Н	-	-	-58.00	8.60	-9.54	48.06	68.20	-20.14

Table 7-44. Radiated Measurements with WCP

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 131 of 181
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Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5260MHz

Channel: 52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	Н	-	-	-68.84	10.99	0.00	49.15	68.20	-19.05
*	15780.00	Average	Н	154	350	-78.20	11.07	0.00	39.87	53.98	-14.11
*	15780.00	Peak	Н	154	350	-65.87	11.07	0.00	52.20	73.98	-21.78
*	21040.00	Average	Н	100	109	-69.77	7.92	-9.54	35.61	53.98	-18.37
*	21040.00	Peak	Н	100	109	-58.05	7.92	-9.54	47.33	73.98	-26.65
	26300.00	Peak	Н	-	-	-55.46	8.73	-9.54	50.73	68.20	-17.47

Table 7-45. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5280MHz

Channel: 56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	Н		-	-68.83	11.16	0.00	49.33	68.20	-18.87
*	15840.00	Average	Н	114	358	-79.01	11.20	0.00	39.19	53.98	-14.79
*	15840.00	Peak	Н	114	358	-66.71	11.20	0.00	51.49	73.98	-22.49
*	21120.00	Average	Н	-	-	-70.75	7.96	-9.54	34.67	53.98	-19.31
*	21120.00	Peak	Н	-	-	-58.98	7.96	-9.54	46.44	73.98	-27.54
	26400.00	Peak	Н	-	-	-56.64	8.94	-9.54	49.76	68.20	-18.44

Table 7-46. Radiated Measurements

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 132 of 181
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Channel:

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5320MHz

64

Distance Ant. **Antenna Turntable** Analyzer **Field AFCL** Frequency Limit Margin Correction **Detector** Pol. Height Azimuth Level Strength [dB/m] [MHz] [dBµV/m] [dB] **Factor** [H/V] [cm] [degree] [dBm] [dBµV/m] [dB] 10640.00 Average Η -76.21 11.47 0.00 42.26 53.98 -11.72 10640.00 Peak Н -68.12 11.47 0.00 50.35 73.98 -23.63 15960.00 Average Н 124 321 -78.51 12.78 0.00 41.27 53.98 -12.71 15960.00 Peak Н 124 321 -65.76 12.78 0.00 54.02 73.98 -19.96 -70.21 21280.00 Н 8.04 -9.54 35.29 53.98 -18.69 Average 21280.00 Peak Н -58.68 8.04 -9.54 46.82 73.98 -27.16 26600.00 Peak Н -58.83 -8.30 -9.54 30.32 68.20 -37.88

Table 7-47. Radiated Measurements

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5320MHz Channel: 64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10640.00	Average	Н	-	-	-75.54	11.47	0.00	42.93	53.98	-11.05
*	10640.00	Peak	Н	-	-	-65.92	11.47	0.00	52.55	73.98	-21.43
*	15960.00	Average	Н	-	-	-77.49	12.78	0.00	42.29	53.98	-11.69
*	15960.00	Peak	Н	-	-	-65.81	12.78	0.00	53.97	73.98	-20.01
*	21280.00	Average	Н	-	-	-70.25	8.04	-9.54	35.25	53.98	-18.73
	21280.00	Peak	Н	-	-	-60.10	8.04	-9.54	45.40	73.98	-28.58
	26600.00	Peak	Н	-	-	-50.99	-8.30	-9.54	38.16	68.20	-30.04

Table 7-48. Radiated Measurements with WCP

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 122 of 191
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Worst Case Mode:

Worst Case Transfer Rate:

Distance of Measurements:

Operating Frequency:

Channel:

802.11a

6Mbps

1 & 3 Meters

5500MHz

100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	Н	189	49	-78.51	11.57	0.00	40.06	53.98	-13.92
*	11000.00	Peak	Н	189	49	-65.89	11.57	0.00	52.68	73.98	-21.30
	16500.00	Peak	Н	150	37	-63.84	13.23	0.00	56.39	68.20	-11.81
	22000.00	Peak	Н	-	-	-57.91	8.43	-9.54	47.97	68.20	-20.23
	27500.00	Peak	Н	-	-	-58.37	-8.80	-9.54	30.29	68.20	-37.91

Table 7-49. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 600MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	Н	209	42	-78.63	11.17	0.00	39.54	53.98	-14.44
*	11200.00	Peak	Н	209	42	-66.63	11.17	0.00	51.54	73.98	-22.44
	16800.00	Peak	Н	153	44	-64.46	13.05	0.00	55.59	68.20	-12.61
*	22400.00	Average	Н	-	-	-69.74	8.08	-9.54	35.80	53.98	-18.18
*	22400.00	Peak	Н	-	-	-58.81	8.08	-9.54	46.73	73.98	-27.25
	28000.00	Peak	Н	-	-	-57.31	-9.08	-9.54	31.07	68.20	-37.13

Table 7-50. Radiated Measurements

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 124 of 101
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Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters Operating Frequency: 5720MHz

Channel: 144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	210	87	-78.01	12.04	0.00	41.03	53.98	-12.95
*	11440.00	Peak	Н	210	87	-66.24	12.04	0.00	52.80	73.98	-21.18
	17160.00	Peak	Н	167	75	-65.30	15.94	0.00	57.64	68.20	-10.56
*	22880.00	Average	Н	-	-	-71.14	8.28	-9.54	34.60	53.98	-19.38
*	22880.00	Peak	Н	-	-	-59.86	8.28	-9.54	45.88	73.98	-28.10
	28600.00	Peak	Н	-	-	-54.47	-9.08	-9.54	33.91	68.20	-34.29

Table 7-51. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters Operating Frequency: 5720MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-77.83	12.04	0.00	41.21	53.98	-12.77
*	11440.00	Peak	Н	-	-	-64.49	12.04	0.00	54.55	73.98	-19.43
	17160.00	Peak	Н	-	-	-64.47	15.94	0.00	58.47	68.20	-9.73
	22880.00	Average	Н	-	-	-71.59	8.28	-9.54	34.15	53.98	-19.83
	22880.00	Peak	Н	-	-	-61.49	8.28	-9.54	44.25	73.98	-29.73
	28600.00	Peak	Н	-	-	-49.83	-9.08	-9.54	38.55	68.20	-29.65

Table 7-52. Radiated Measurements with WCP

FCC ID: ZNFV405UA	PCTEST (NEINHING LARGANIST, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 125 of 101
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Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5745MHz Channel: 149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	Н	112	28	-76.20	10.99	0.00	41.79	53.98	-12.19
*	11490.00	Peak	н	112	28	-63.50	10.99	0.00	54.49	73.98	-19.49
	17235.00	Peak	Н	157	301	-66.21	16.64	0.00	57.43	68.20	-10.77
*	22980.00	Average	Н	-	-	-71.33	8.16	-9.54	34.29	53.98	-19.69
*	22980.00	Peak	Н	-	-	-60.14	8.16	-9.54	45.48	73.98	-28.50
	28725.00	Peak	Н	-	-	-55.13	-9.24	-9.54	33.09	68.20	-35.11

Table 7-53. Radiated Measurements

Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps Distance of Measurements: 1 & 3 Meters Operating Frequency: 5785MHz Channel: 157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	Н	100	7	-76.94	11.81	0.00	41.87	53.98	-12.11
*	11570.00	Peak	Н	100	7	-64.02	11.81	0.00	54.79	73.98	-19.19
	17355.00	Peak	Η	167	313	-66.86	19.70	0.00	59.84	68.20	-8.36
	23140.00	Peak	Η	-	-	-59.56	8.37	-9.54	46.27	68.20	-21.93
	28925.00	Peak	Н	-	-	-54.05	-9.65	-9.54	33.76	68.20	-34.44

Table 7-54. Radiated Measurements

FCC ID: ZNFV405UA	PCTEST (NEINHING LARGANIST, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 126 of 101
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Worst Case Mode: 802.11a Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5825MHz

Channel: 165

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	115	38	-76.02	11.32	0.00	42.30	53.98	-11.68
*	11650.00	Peak	I	115	38	-65.28	11.32	0.00	53.04	73.98	-20.94
	17475.00	Peak	Н	150	358	-65.89	19.69	0.00	60.80	68.20	-7.40
	23300.00	Peak	Н	-	-	-59.64	8.50	-9.54	46.32	68.20	-21.88
	29125.00	Peak	Н	-	-	-56.44	-9.87	-9.54	31.15	68.20	-37.05

Table 7-55. Radiated Measurements

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 1 & 3 Meters

Operating Frequency: 5825MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	122	228	-74.24	11.32	0.00	44.08	53.98	-9.90
*	11650.00	Peak	Н	122	228	-61.87	11.32	0.00	56.45	73.98	-17.53
	17475.00	Peak	Н	-	-	-76.26	19.69	0.00	50.43	68.20	-17.77
	23300.00	Peak	Н	-	-	-60.13	8.50	-9.54	45.83	68.20	-22.37
	29125.00	Peak	Н	-	-	-48.40	-9.87	-9.54	39.19	68.20	-29.01

Table 7-56. Radiated Measurements with WCP

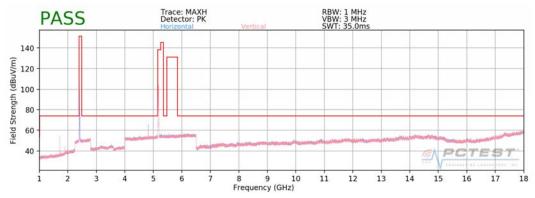
FCC ID: ZNFV405UA	ENCINETING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 137 of 181
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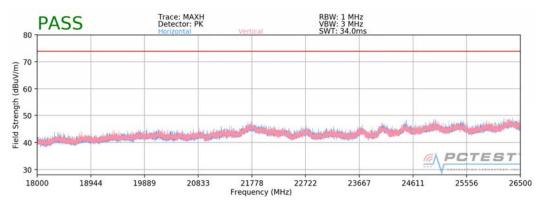
7.7.3 Simultaneous Tx Radiated Spurious Emissions Measurements §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	1	36
Operating Frequency (MHz)	2412	5180
Data Rate (Mbps)	1Mbps	6Mbps
Mode	b	а

Table 7-57. Config-1 (ANT1 2.4GHz & ANT2 5GHz)



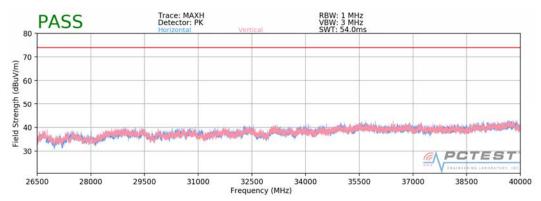
Plot 7-165. Radiated Spurious Plot above 1GHz (2.4GHz - 5GHz)



Plot 7-166. Radiated Spurious Plot 18GHz - 26.5GHz (2.4GHz - 5GHz)

FCC ID: ZNFV405UA	PCTEST (NEINHING LARGANIST, INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
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Plot 7-167. Radiated Spurious Plot above 26.5GHz (2.4GHz - 5GHz)

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	356.00	Average	٧	130	287	-82.18	-13.76	11.06	53.98	-42.92
	356.00	Peak	V	130	287	-73.90	-13.76	19.34	73.98	-54.64
	3124.00	Average	V	-	-	-77.53	0.77	30.24	53.98	-23.74
	3124.00	Peak	٧	-	-	-66.58	0.77	41.19	73.98	-32.79
	5892.00	Average	٧	-	-	-79.59	4.87	32.28	53.98	-21.69
	5892.00	Peak	V	-	-	-67.29	4.87	44.58	73.98	-29.39
	7948.00	Average	V	-	-	-80.53	9.08	35.55	53.98	-18.43
	7948.00	Peak	٧	-	-	-69.77	9.08	46.31	73.98	-27.67
*	10716.00	Average	V	-	-	-82.53	13.02	37.49	53.98	-16.49
*	10716.00	Peak	V	-	-	-69.88	13.02	50.14	73.98	-23.84
*	13484.00	Average	V	-	-	-83.46	15.68	39.22	53.98	-14.76
*	13484.00	Peak	V	-	-	-71.48	15.68	51.20	73.98	-22.78

Table 7-58. Radiated Measurements (ANT1 2.4GHz - ANT2 5GHz)

FCC ID: ZNFV405UA	PETEST*	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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7.7.4 Antenna-1 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

802.11n

MCS0

3 Meters

5180MHz

36



Plot 7-168. Radiated Lower Band Edge Plot (Average – UNII Band 1)



Plot 7-169. Radiated Lower Band Edge Plot (Peak – UNII Band 1)

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

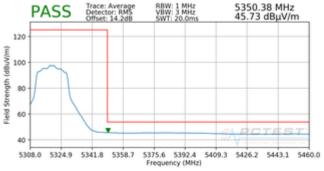
802.11n

MCS0

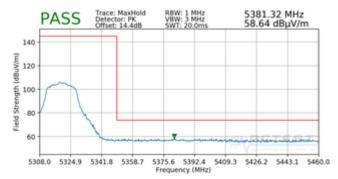
3 Meters

5320MHz

64



Plot 7-170. Radiated Upper Band Edge Plot (Average – UNII Band 2A)

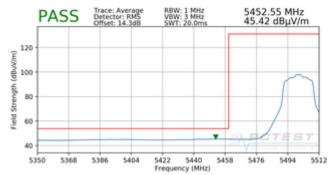


Plot 7-171. Radiated Upper Band Edge Plot (Peak – UNII Band 2A)

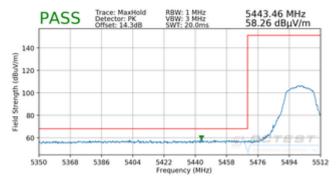
FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(1) LQ	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 140 of 181
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Worst Case Mode: 802.11n MCS0 Worst Case Transfer Rate: Distance of Measurements: 3 Meters 5500MHz Operating Frequency: Channel: 100



Plot 7-172. Radiated Lower Band Edge Plot (Average - UNII Band 2C)

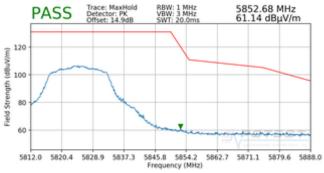


Plot 7-173. Radiated Lower Band Edge Plot (Peak -**UNII Band 2C)**

FCC ID: ZNFV405UA	PETEST:	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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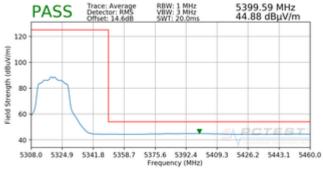


Worst Case Mode: 802.11n MCS0 Worst Case Transfer Rate: Distance of Measurements: 3 Meters Operating Frequency: 5825MHz Channel: 165

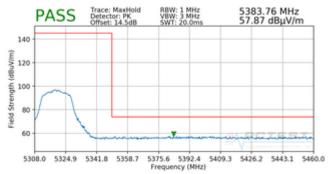


Plot 7-174. Radiated Upper Band Edge Plot (Peak -UNII Band 3)

Worst Case Mode: 802.11n MCS0 Worst Case Transfer Rate: Distance of Measurements: 3 Meters Operating Frequency: 5320MHz Channel: 64



Plot 7-175. Radiated Band Edge Plot (Average -WCP)



Plot 7-176. Radiated Band Edge Plot (Peak - WCP)

FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 142 of 181
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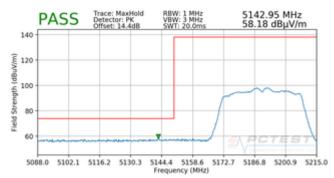


7.7.5 Antenna-1 Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5190MHz Channel: 38

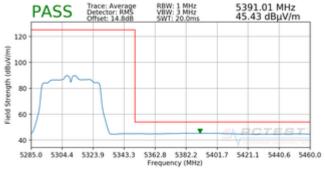


Plot 7-177. Radiated Lower Band Edge Plot (Average - UNII Band 1)

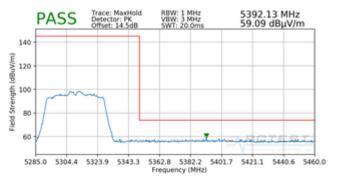


Plot 7-178. Radiated Lower Band Edge Plot (Peak -**UNII Band 1)**

Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5310MHz Channel: 62



Plot 7-179. Radiated Upper Band Edge Plot (Average - UNII Band 2A)

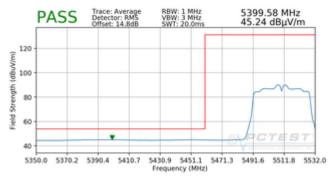


Plot 7-180. Radiated Upper Band Edge Plot (Peak -**UNII Band 2A)**

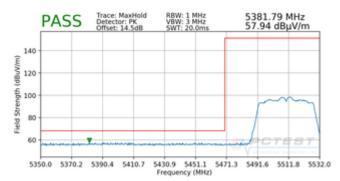
FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode: 802.11n MCS0 Worst Case Transfer Rate: Distance of Measurements: 3 Meters 5510MHz Operating Frequency: Channel: 102



Plot 7-181. Radiated Lower Band Edge Plot (Average - UNII Band 2C)



Plot 7-182. Radiated Lower Band Edge Plot (Peak -**UNII Band 2C)**

FCC ID: ZNFV405UA	PETEST:	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

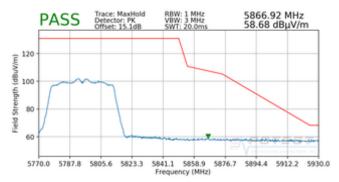
802.11n

MCS0

3 Meters

5795MHz

159



Plot 7-183. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

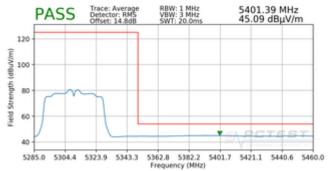
802.11n

MCS0

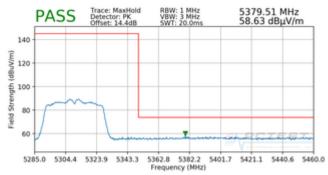
3 Meters

5310MHz

62



Plot 7-184. Radiated Band Edge Plot (Average – WCP)



Plot 7-185. Radiated Band Edge Plot (Peak - WCP)

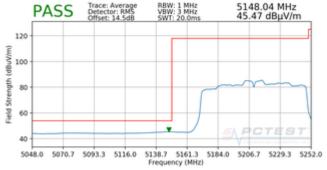
FCC ID: ZNFV405UA	CHEMINING LANGATON, INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 145 of 181
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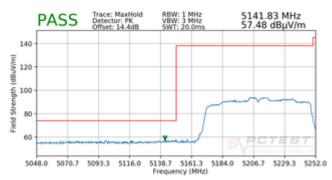
7.7.6 Antenna-1 Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ac
MCS0
3 Meters
5210MHz
42



Plot 7-186. Radiated Lower Band Edge Plot (Average – UNII Band 1)



Plot 7-187. Radiated Lower Band Edge Plot (Peak – UNII Band 1)

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ac

MCS0

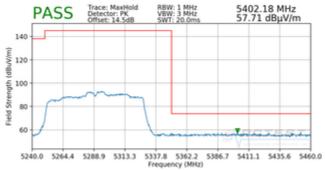
3 Meters

5290MHz

58



Plot 7-188. Radiated Upper Band Edge Plot (Average – UNII Band 2A)

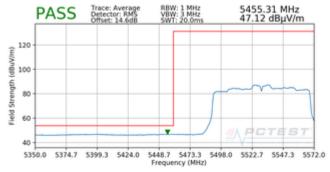


Plot 7-189. Radiated Upper Band Edge Plot (Peak – UNII Band 2A)

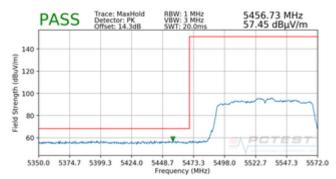
FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(1) LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 146 of 181
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Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5530MHz Channel: 106

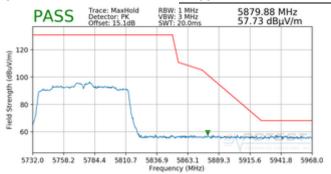


Plot 7-190. Radiated Lower Band Edge Plot (Average - UNII Band 2C)



Plot 7-191. Radiated Lower Band Edge Plot (Peak -**UNII Band 2C)**

Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5775MHz Channel: 155

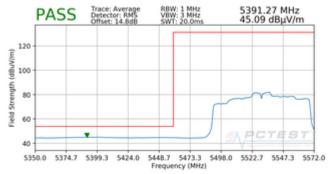


Plot 7-192. Radiated Upper Band Edge Plot (Peak -**UNII Band 3)**

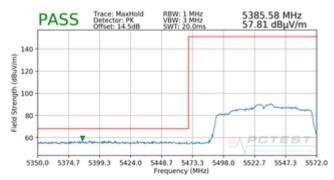
FCC ID: ZNFV405UA	PETEST (INCIDENTIAL LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 147 of 191
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Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5530MHz Channel: 106



Plot 7-193. Radiated Band Edge Plot (Average -WCP)



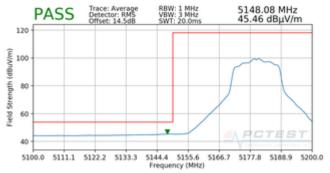
Plot 7-194. Radiated Band Edge Plot (Peak – WCP)

FCC ID: ZNFV405UA	INCIDENTIAL LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 140 of 101
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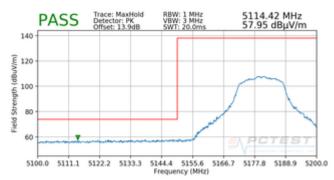


7.7.7 Antenna-2 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5180MHz Channel: 36

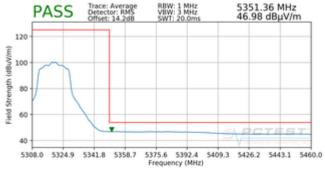


Plot 7-195. Radiated Lower Band Edge Plot (Average - UNII Band 1)

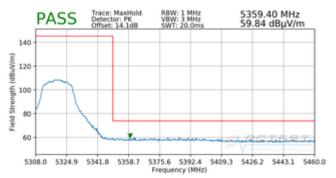


Plot 7-196. Radiated Lower Band Edge Plot (Peak -**UNII Band 1)**

Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5320MHz Channel: 64



Plot 7-197. Radiated Upper Band Edge Plot (Average - UNII Band 2A)



Plot 7-198. Radiated Upper Band Edge Plot (Peak -**UNII Band 2A)**

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(1) LQ	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

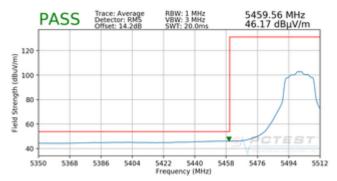
802.11n

MCS0

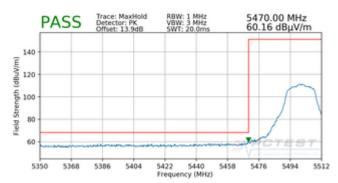
3 Meters

5500MHz

100



Plot 7-199. Radiated Lower Band Edge Plot (Average – UNII Band 2C)



Plot 7-200. Radiated Lower Band Edge Plot (Peak – UNII Band 2C)

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

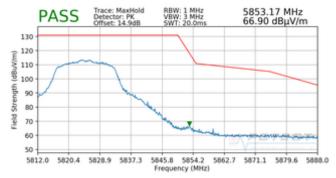
802.11n

MCS0

3 Meters

5825MHz

165

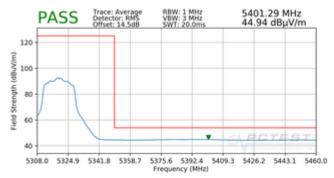


Plot 7-201. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

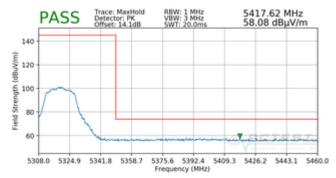
FCC ID: ZNFV405UA	ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 150 of 181
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Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5320MHz Channel: 64



Plot 7-202. Radiated Band Edge Plot (Average -WCP)



Plot 7-203. Radiated Band Edge Plot (Peak – WCP)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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7.7.8 Antenna-2 Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

802.11n

MCS0

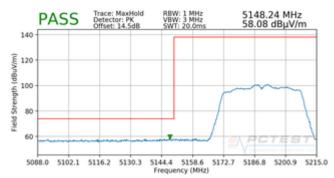
3 Meters

5190MHz

38

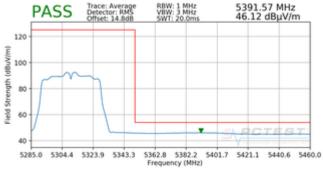


Plot 7-204. Radiated Lower Band Edge Plot (Average – UNII Band 1)

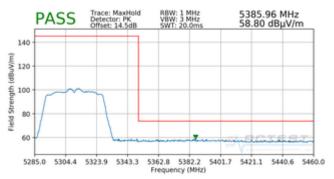


Plot 7-205. Radiated Lower Band Edge Plot (Peak – UNII Band 1)

Worst Case Mode: 802.11n
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5310MHz
Channel: 62



Plot 7-206. Radiated Upper Band Edge Plot (Average – UNII Band 2A)



Plot 7-207. Radiated Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: ZNFV405UA	RECEIVED LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

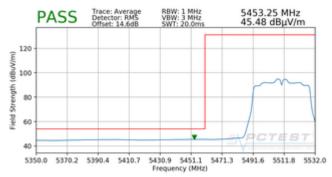
802.11n

MCS0

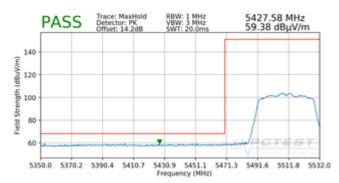
3 Meters

5510MHz

102



Plot 7-208. Radiated Lower Band Edge Plot (Average – UNII Band 2C)



Plot 7-209. Radiated Lower Band Edge Plot (Peak – UNII Band 2C)

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

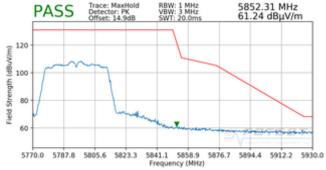
802.11n

MCS0

3 Meters

5795MHz

159



Plot 7-210. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

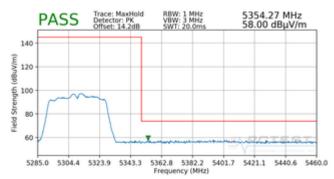
FCC ID: ZNFV405UA	CHEMINING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(1) LQ	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 153 of 181
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Worst Case Mode: 802.11n Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5310MHz Channel: 62



Plot 7-211. Radiated Band Edge Plot (Average -WCP)



Plot 7-212. Radiated Band Edge Plot (Peak – WCP)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 154 of 101
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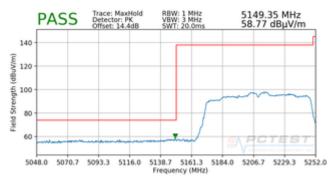


7.7.9 Antenna-2 Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5210MHz Channel: 42



Plot 7-213. Radiated Lower Band Edge Plot (Average - UNII Band 1)

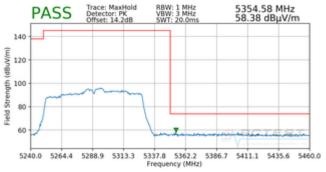


Plot 7-214. Radiated Lower Band Edge Plot (Peak -**UNII Band 1)**

Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5290MHz Channel: 58



Plot 7-215. Radiated Upper Band Edge Plot (Average - UNII Band 2A)

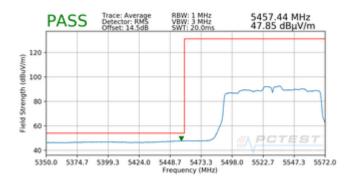


Plot 7-216. Radiated Upper Band Edge Plot (Peak -**UNII Band 2A)**

FCC ID: ZNFV405UA	ENCINETING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 155 of 181
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Worst Case Mode: 802.11ac MCS0 Worst Case Transfer Rate: Distance of Measurements: 3 Meters Operating Frequency: 5530MHz Channel: 106

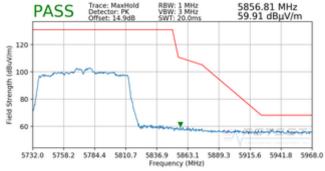


Plot 7-217. Radiated Lower Band Edge Plot (Average - UNII Band 2C)

Trace: MaxHold Detector: PK Offset: 14.1dB 5462.78 MHz 58.81 dBμV/m PASS 140 120 Field Strength 100 80 5448.7 5473.3 5498.0 5522.7 5547.3 5572.0 Frequency (MHz)

Plot 7-218. Radiated Lower Band Edge Plot (Peak -**UNII Band 2C)**

Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters 5775MHz Operating Frequency: Channel: 155

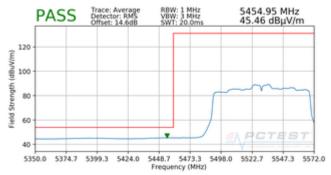


Plot 7-219. Radiated Upper Band Edge Plot (Peak -UNII Band 3)

FCC ID: ZNFV405UA	ENGINEERING LANDAATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Worst Case Mode: 802.11ac Worst Case Transfer Rate: MCS0 Distance of Measurements: 3 Meters Operating Frequency: 5210MHz Channel: 42



Plot 7-220. Radiated Band Edge Plot (Average -WCP)



Plot 7-221. Radiated Band Edge Plot (Peak – WCP)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 157 of 181
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7.7.10 CDD Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:
Worst Case Transfer Rate:
Distance of Measurements:
Operating Frequency:
Channel:

802.11a
6Mbps
3 Meters
5180MHz
36

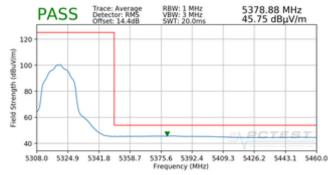


Plot 7-222. Radiated Lower Band Edge Plot (Average – UNII Band 1)

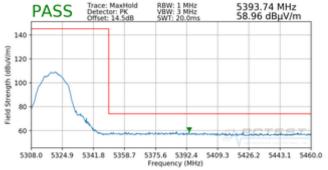


Plot 7-223. Radiated Lower Band Edge Plot (Peak – UNII Band 1)

Worst Case Mode: 802.11ac
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5320MHz
Channel: 64



Plot 7-224. Radiated Upper Band Edge Plot (Average – UNII Band 2A)



Plot 7-225. Radiated Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: ZNFV405UA	PETEST (INCIDENCE LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	(L)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 158 of 181
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