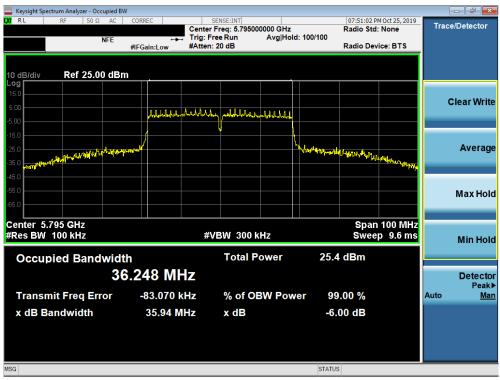


Keysight Spectrum Analyzer - Occupied RL RF 50 Ω AC	BW	SENSE:INT	07-40-10 PL	0+25 2010	- 6
KL RF 50 SZ AC		er Freq: 5.755000000 GHz	Radio Std:	None	Trace/Detector
NFE		Free Run Avg Hold: 1 en: 20 dB	100/100 Radio Devi	DTC	
	#IFGain:Low #Atte	en: 20 dB	Radio Devi	ce: BTS	
dB/div Ref 25.00 dE	m				
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enter 5.755 GHz			Span	100 MHz	
Res BW 100 kHz	ŧ	#VBW 300 kHz		9.6 ms	Min Ho
Occupied Bandwic	lth	Total Power	25.0 dBm		
3	6.217 MHz				Detect
					Pea
Transmit Freq Error	-85.553 kHz	% of OBW Power	r 99.00 %	A	uto <u>M</u>
x dB Bandwidth	36.26 MHz	x dB	-6.00 dB		
			, ,		
a			STATUS		

Plot 7-127. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



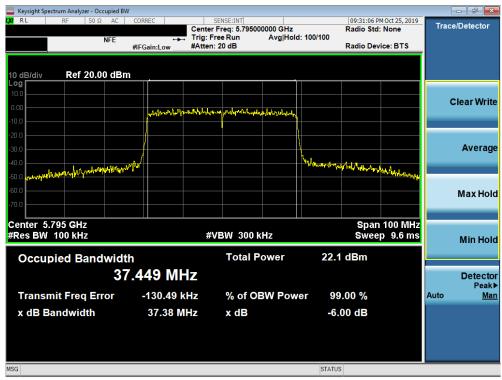
Plot 7-128. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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🔤 Keysight Spectrum Analyzer - Oo									_	
LX/ RL RF 50Ω	AC CORF	REC		SE:INT eq: 5.75500	0000 GHz		09:30:44 P	M Oct 25, 2019	Trac	e/Detector
	NFE		Trig: Free	Run	Avg Hold	l: 100/100				
	#IFG	ain:Low	#Atten: 20) dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.0	0 dBm									
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-50.0 -50.0								and the second		
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Center 5.755 GHz #Res BW 100 kHz			#\/R	W 300 k	H7			100 MHz p 9.6 ms		
WICES DVV TOO KITZ			#*0	44 300 K	112		Owee	5 9.0 ms		Min Hold
Occupied Band	width			Total P	ower	22.6	dBm			
		30 M⊦								Detector
	57.5		12							Detector Peak▶
Transmit Freq Er	ror -	123.71 k	Hz	% of O	3W Pow	er 99	.00 %		Auto	Man
x dB Bandwidth		37.73 M	Hz	x dB		-6.	00 dB			
MSG						STATUS				
mod						STATUS				

Plot 7-129. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



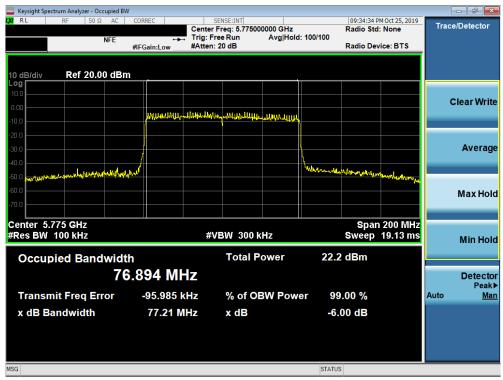
Plot 7-130. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied RL RF 50 Ω AC NFE	CORREC Cente	SENSE:INT er Freq: 5.775000000 GHz Free Run Avg Hold n: 20 dB	R: 100/100	17:55:13 PM Oct 25, 201 adio Std: None adio Device: BTS	0	Detector
0 dB/div Ref 25.00 dB 9g 5.0					c	lear Writ
00 5.0 5.0 5.0 5.0 5.0			I.	fortum-received		Averag
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enter 5.775 GHz Res BW 100 kHz		≠VBW 300 kHz Total Power	S 24.5 d	Span 200 MH weep 19.13 m		Min Hol
Occupied Bandwig	75.507 MHz	Total Fower	24.5 U	DIII		Detecto
Transmit Freq Error x dB Bandwidth	-170.56 kHz 75.72 MHz	% of OBW Powe x dB	er 99.00 -6.00		Auto	Ma
G			STATUS		-	

Plot 7-131. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



Plot 7-132. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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7.4 UNII Output Power Measurement – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

Test Overview and Limits

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter 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.

In the 5.15 – 5.25GHz band, the maximum permissible conducted output power is 250mW (23.98dBm). The maximum e.i.r.p. shall not exceed the lesser of 200 mW or 10 + 10 log10B, dBm.

In the 5.25 – 5.35GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or 11 dBm + $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(0.00) = -34.29dBm$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

In the 5.47 – 5.725GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or 11 dBm + $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(0.00) = -35.35dBm$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

In the 5.725 – 5.850GHz band, the maximum permissible conducted output power is 1W (30dBm). The maximum e.i.r.p. is 36 dBm.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.3.2 Method PM-G KDB 789033 D02 v02r01 – Section E)3)b) Method PM-G ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)1) Measure-and-Sum Technique

Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

Test Setup

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



Figure 7-3. Test Instrument & Measurement Setup

Test Notes

Per RSS-247 Section 6.2.3, transmission on channels which overlap the 5600-5650 MHz is prohibited. This device operates under these frequencies only under the control of a certified master device and does not support active scanning on these channels. This device does not transmit any beacons or initiate any transmissions in UNII Bands 2A or 2C.

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SISO Antenna-1 Conducted Output Power Measurements

	Freq [MHz]	Channel	Detector		IEEE Transn	nission Mode		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
E.	5180 5200 5220 5240			802.11a	802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]	[]	[]		
- D	5180	36	AVG	16.01	15.93	16.06	15.93	23.98	-7.92	-6.45	9.61	23.01	-13.40
ž	5200	40	AVG	17.64	17.76	17.61	15.99	23.98	-6.22	-6.69	11.07	23.01	-11.94
ğ	5220	44	AVG	17.72	17.71	17.56	15.92	23.98	-6.26	-6.45	11.27	23.01	-11.74
	5240	48	AVG	17.67	17.66	17.51	15.97	23.98	-6.31	-6.45	11.22	23.01	-11.79
8	5260	52	AVG	17.32	17.18	17.25	15.73	23.98	-6.66	-6.45	10.87	30.00	-19.13
Ŧ	5280	56	AVG	17.96	17.96	17.94	15.59	23.98	-6.02	-6.61	11.35	30.00	-18.65
÷.	5300	60	AVG	17.84	17.77	17.77	15.34	23.98	-6.14	-6.55	11.29	30.00	-18.71
WO	5320	64	AVG	16.14	16.12	16.16	15.97	23.98	-7.82	-6.55	9.61	30.00	-20.39
5	5500	100	AVG	16.48	16.34	16.41	15.99	23.98	-7.50	-6.99	9.49	30.00	-20.51
N	5600	120	AVG	17.68	17.76	17.64	15.97	23.98	-6.22	-6.99	10.77	-	-
НU	5720	144	AVG	17.77	17.75	17.71	15.98	23.98	-6.21	-6.99	10.78	30.00	-19.22
50	5745	149	AVG	17.98	17.35	17.29	15.48	30.00	-12.02	-6.99	10.99	-	-
	5785	157	AVG	17.73	17.74	17.72	15.98	30.00	-12.26	-6.86	10.88	-	-
	5825	165	AVG	17.74	17.84	17.77	15.97	30.00	-12.16	-6.95	10.89	-	

Table 7-6. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	IEEE Transmission Mode			Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]	[abi]	[abiii]	Ennic [GBIII]	margin [ab]
₽ ₽	5190	38	AVG	13.02	13.05	13.33	23.98	-10.93	-6.69	6.36	23.01	-16.65
	5230	46	AVG	16.49	16.50	13.75	23.98	-7.48	-6.45	10.05	23.01	-12.96
(40M width	5270	54	AVG	16.97	16.99	13.53	23.98	-6.99	-6.61	10.38	30.00	-19.62
4 V	5310	62	AVG	12.51	13.48	13.97	23.98	-10.50	-6.55	6.93	30.00	-23.07
Hzano	5510	102	AVG	14.35	14.41	13.27	23.98	-9.57	-6.99	7.42	30.00	-22.58
Ва С	5590	118	AVG	16.73	16.74	13.99	23.98	-7.24	-6.99	9.75	-	
50	5630	126	AVG	16.61	16.68	13.94	23.98	-7.30	-6.99	9.69	-	-
	5710	142	AVG	16.83	16.83	13.29	23.98	-7.15	-6.86	9.97	30.00	-20.03
	5755	151	AVG	16.46	16.45	13.61	30.00	-13.54	-6.86	9.60	-	-
	5795	159	AVG	16.65	16.64	13.86	30.00	-13.35	-6.95	9.70	-	-

Table 7-7. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Channel	Detector	IEEE Transn	nission Mode	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Hz (c				802.11ac	802.11ax	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]		
(80MH) width)	5210	42	AVG	13.02	12.85	23.98	-10.96	-6.45	6.57	23.01	-16.44	
<u> </u>	5290	58	AVG	11.61	12.22	23.98	-12.37	-6.55	5.06	30.00	-24.94	
6Hz Band	5530	106	AVG	12.36	12.98	23.98	-11.62	-6.99	5.37	30.00	-24.63	
B ₈	5610	122	AVG	15.31	12.85	23.98	-8.67	-6.99	8.32	-	-	
	5690	138	AVG	15.36	12.92	23.98	-8.62	-6.86	8.50	30.00	-21.50	
	5775	155	AVG	15.38	12.73	30.00	-14.62	-6.86	8.52	-	-	

Table 7-8. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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SISO Antenna-2 Conducted Output Power Measurements

	Freq [MHz]	Channel	Detector		IEEE Transm	nission Mode		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ē				802.11a	802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]	[[]		
width)	5180	36	AVG	16.20	16.16	16.13	15.55	23.98	-7.78	-6.45	9.75	23.01	-13.26
ž	5200	40	AVG	17.25	17.21	17.36	15.54	23.98	-6.62	-6.69	10.67	23.01	-12.34
and	5220	44	AVG	17.26	17.10	17.33	15.48	23.98	-6.65	-6.45	10.88	23.01	-12.13
ar	5240	48	AVG	17.25	17.16	17.39	15.49	23.98	-6.59	-6.45	10.94	23.01	-12.07
8	5260	52	AVG	17.26	17.25	17.44	15.59	23.98	-6.54	-6.45	10.99	30.00	-19.01
₽	5280	56	AVG	17.35	17.37	17.36	15.68	23.98	-6.61	-6.61	10.76	30.00	-19.24
÷.	5300	60	AVG	17.34	17.49	17.58	15.70	23.98	-6.40	-6.55	11.03	30.00	-18.97
MO	5320	64	AVG	16.31	16.24	16.24	15.69	23.98	-7.67	-6.55	9.76	30.00	-20.24
5	5500	100	AVG	16.08	16.02	16.06	15.32	23.98	-7.90	-6.99	9.09	30.00	-20.91
N	5600	120	AVG	17.53	17.16	17.23	15.55	23.98	-6.45	-6.99	10.54	-	-
НS	5720	144	AVG	17.29	17.91	17.15	15.40	23.98	-6.07	-6.99	10.92	30.00	-19.08
20	5745	149	AVG	17.13	17.36	17.34	15.55	30.00	-12.64	-6.99	10.37	-	-
	5785	157	AVG	17.25	17.19	17.54	15.69	30.00	-12.46	-6.86	10.68	-	-
	5825	165	AVG	16.98	17.96	17.21	15.42	30.00	-12.04	-6.95	11.01	-	-

Table 7-9. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	IEEE	Transmission	Mode	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]	[abi]	Lapud	Ennic [GB/1]	margin [ab]
₽ ⊂	5190	38	AVG	13.09	13.13	13.42	23.98	-10.85	-6.69	6.44	23.01	-16.57
부モ	5230	46	AVG	16.50	16.49	13.79	23.98	-7.48	-6.45	10.05	23.01	-12.96
(40M widtl	5270	54	AVG	16.54	16.38	13.58	23.98	-7.44	-6.61	9.93	30.00	-20.07
4 V	5310	62	AVG	13.03	13.09	13.41	23.98	-10.89	-6.55	6.54	30.00	-23.46
Hz	5510	102	AVG	14.82	14.81	13.49	23.98	-9.16	-6.99	7.83	30.00	-22.17
Ва Ва	5590	118	AVG	16.26	16.37	13.56	23.98	-7.61	-6.99	9.38	-	-
5C	5630	126	AVG	16.44	16.33	13.53	23.98	-7.54	-6.99	9.45	-	-
	5710	142	AVG	16.19	16.98	13.39	23.98	-7.00	-6.86	10.12	30.00	-19.88
	5755	151	AVG	16.25	16.28	13.70	30.00	-13.72	-6.86	9.42	-	-
	5795	159	AVG	16.98	16.97	13.31	30.00	-13.02	-6.95	10.03	-	-

Table 7-10. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	IEEE Transn	nission Mode	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
(Hz				802.11ac	802.11ax	[dBm]	Margin [dB]	[abi]	[abiii]	Ennie [GB/II]	margin [ab]	
(80MH width)	5210	42	AVG	13.45	12.44	23.98	-10.53	-6.45	7.00	23.01	-16.01	
<u></u>	5290	58	AVG	11.59	12.88	23.98	-12.39	-6.55	5.04	30.00	-24.96	
GHz Band	5530	106	AVG	12.28	12.98	23.98	-11.70	-6.99	5.29	30.00	-24.71	
B ₃	5610	122	AVG	15.65	12.45	23.98	-8.33	-6.99	8.66	-	-	
	5690	138	AVG	15.59	12.83	23.98	-8.39	-6.86	8.73	30.00	-21.27	
	5775	155	AVG	15.34	12.42	30.00	-14.66	-6.86	8.48	-	-	

Table 7-11. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power

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	Freq [MHz]	Channel	Detector	Conc	lucted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
<u>í</u>				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
<u>d</u>	5180	36	AVG	16.01	16.20	19.12	23.98	-4.86	-3.44	15.68	23.01	-7.33
Š	5200	40	AVG	17.64	17.25	20.46	23.98	-3.52	-3.68	16.78	23.01	-6.23
andwidth	5220	44	AVG	17.72	17.26	20.51	23.98	-3.47	-3.44	17.07	23.01	-5.94
	5240	48	AVG	17.67	17.25	20.48	23.98	-3.50	-3.44	17.04	23.01	-5.97
B	5260	52	AVG	17.32	17.26	20.30	23.98	-3.68	-3.44	16.86	30.00	-13.14
Hz	5280	56	AVG	17.96	17.35	20.68	23.98	-3.30	-3.60	17.08	30.00	-12.92
⇒	5300	60	AVG	17.84	17.34	20.61	23.98	-3.37	-3.54	17.07	30.00	-12.93
(20M	5320	64	AVG	16.14	16.31	19.24	23.98	-4.74	-3.54	15.70	30.00	-14.30
2	5500	100	AVG	16.48	16.08	19.29	23.98	-4.69	-3.98	15.31	30.00	-14.69
N	5600	120	AVG	17.68	17.53	20.62	23.98	-3.36	-3.98	16.64	-	-
H L	5720	144	AVG	17.77	17.29	20.55	23.98	-3.43	-3.98	16.57	30.00	-13.43
5G	5745	149	AVG	17.98	17.13	20.59	30.00	-9.41	-3.98	16.61	-	-
	5785	157	AVG	17.73	17.25	20.51	30.00	-9.49	-3.85	16.66	-	-
	5825	165	AVG	17.74	16.98	20.39	30.00	-9.61	-3.94	16.45	-	-

MIMO Maximum Conducted Output Power Measurements

Table 7-12. MIMO 20MHz BW 802.11a (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
<u> </u>				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
<u>io</u>	5180	36	AVG	15.93	16.16	19.06	23.98	-4.92	-3.44	15.62	23.01	-7.39
3	5200	40	AVG	17.76	17.21	20.50	23.98	-3.48	-3.68	16.82	23.01	-6.19
andwidth)	5220	44	AVG	17.71	17.10	20.43	23.98	-3.55	-3.44	16.99	23.01	-6.02
	5240	48	AVG	17.66	17.16	20.43	23.98	-3.55	-3.44	16.99	23.01	-6.02
ß	5260	52	AVG	17.18	17.25	20.23	23.98	-3.75	-3.44	16.79	30.00	-13.21
μ	5280	56	AVG	17.96	17.37	20.69	23.98	-3.29	-3.60	17.09	30.00	-12.91
⇒	5300	60	AVG	17.77	17.49	20.64	23.98	-3.34	-3.54	17.10	30.00	-12.90
(20M	5320	64	AVG	16.12	16.24	19.19	23.98	-4.79	-3.54	15.65	30.00	-14.35
5	5500	100	AVG	16.34	16.02	19.19	23.98	-4.79	-3.98	15.21	30.00	-14.79
N	5600	120	AVG	17.76	17.16	20.48	23.98	-3.50	-3.98	16.50	-	-
л. Ж	5720	144	AVG	17.75	17.91	20.84	23.98	-3.14	-3.98	16.86	30.00	-13.14
5 G	5745	149	AVG	17.35	17.36	20.37	30.00	-9.63	-3.98	16.39	-	-
	5785	157	AVG	17.74	17.19	20.48	30.00	-9.52	-3.85	16.63	-	-
	5825	165	AVG	17.84	17.96	20.91	30.00	-9.09	-3.94	16.97	-	-

Table 7-13. MIMO 20MHz BW 802.11n (UNII) Maximum Conducted Output Power

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_	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
َ <u>جَ</u>				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
ğ	5180	36	AVG	16.06	16.13	19.11	23.98	-4.87	-3.44	15.67	23.01	-7.34
lwidth)	5200	40	AVG	17.61	17.36	20.50	23.98	-3.48	-3.68	16.82	23.01	-6.19
and	5220	44	AVG	17.56	17.33	20.46	23.98	-3.52	-3.44	17.02	23.01	-5.99
ar	5240	48	AVG	17.51	17.39	20.46	23.98	-3.52	-3.44	17.02	23.01	-5.99
8	5260	52	AVG	17.25	17.44	20.36	23.98	-3.62	-3.44	16.92	30.00	-13.08
Ŧ	5280	56	AVG	17.94	17.36	20.67	23.98	-3.31	-3.60	17.07	30.00	-12.93
Ξ	5300	60	AVG	17.77	17.58	20.69	23.98	-3.29	-3.54	17.15	30.00	-12.85
0	5320	64	AVG	16.16	16.24	19.21	23.98	-4.77	-3.54	15.67	30.00	-14.33
5	5500	100	AVG	16.41	16.06	19.25	23.98	-4.73	-3.98	15.27	30.00	-14.73
N	5600	120	AVG	17.64	17.23	20.45	23.98	-3.53	-3.98	16.47	-	-
Т.	5720	144	AVG	17.71	17.15	20.45	23.98	-3.53	-3.98	16.47	30.00	-13.53
56	5745	149	AVG	17.29	17.34	20.33	30.00	-9.67	-3.98	16.35	-	-
	5785	157	AVG	17.72	17.54	20.64	30.00	-9.36	-3.85	16.79	-	-
	5825	165	AVG	17.77	17.21	20.51	30.00	-9.49	-3.94	16.57	-	-

Table 7-14. MIMO 20MHz BW 802.11ac (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Conc	ducted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ē				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	Ennic [GB/1]	margin [ab]
<u>d</u>	5180	36	AVG	11.91	12.54	15.25	23.98	-8.73	-3.44	11.81	23.01	-11.20
ž	5200	40	AVG	11.94	12.56	15.27	23.98	-8.71	-3.68	11.59	23.01	-11.42
andwidth	5220	44	AVG	11.97	12.69	15.36	23.98	-8.62	-3.44	11.92	23.01	-11.09
a	5240	48	AVG	12.01	12.73	15.40	23.98	-8.58	-3.44	11.96	23.01	-11.05
8	5260	52	AVG	12.91	12.57	15.75	23.98	-8.23	-3.60	12.15	30.00	-17.85
μz	5280	56	AVG	13.03	12.65	15.85	23.98	-8.13	-3.60	12.25	30.00	-17.75
÷.	5300	60	AVG	12.85	12.71	15.79	23.98	-8.19	-3.54	12.25	30.00	-17.75
(20MI	5320	64	AVG	12.81	12.70	15.77	23.98	-8.21	-3.54	12.23	30.00	-17.77
2	5500	100	AVG	13.23	12.51	15.90	23.98	-8.08	-3.98	11.92	30.00	-18.08
문	5600	120	AVG	12.87	11.61	15.30	23.98	-8.68	-3.98	11.32	-	-
<u>+</u>	5720	144	AVG	12.76	11.37	15.13	23.98	-8.85	-3.85	11.28	30.00	-18.72
5G	5745	149	AVG	12.81	12.76	15.80	30.00	-14.20	-3.85	11.95	-	-
	5785	157	AVG	13.09	12.74	15.93	30.00	-14.07	-3.85	12.08	-	-
	5825	165	AVG	12.34	11.78	15.08	30.00	-14.92	-3.94	11.14	-	-
	Tab	lo 7-15			1002 11		Movimu	m Cond		thut Do	wor	

Table 7-15. MIMO 20MHz BW 802.11ax (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Ennie [GBIII]	margin [ab]
₽ 4	5190	38	AVG	13.02	13.09	16.07	23.98	-7.91	-3.68	12.39	23.01	-10.62
oMH	5230	46	AVG	16.49	16.50	19.51	23.98	-4.47	-3.68	15.83	23.01	-7.18
(40M width	5270	54	AVG	16.97	16.54	19.77	23.98	-4.21	-3.68	16.09	30.00	-13.91
4 V	5310	62	AVG	12.51	13.03	15.79	23.98	-8.19	-3.68	12.11	30.00	-17.89
Ρč	5510	102	AVG	14.35	14.82	17.60	23.98	-6.38	-3.68	13.92	30.00	-16.08
	5590	118	AVG	16.73	16.26	19.51	23.98	-4.47	-3.68	15.83	-	-
B G	5630	126	AVG	16.61	16.44	19.54	23.98	-4.44	-3.68	15.86	-	-
	5710	142	AVG	16.83	16.19	19.53	23.98	-4.45	-3.68	15.85	30.00	-14.15
	5755	151	AVG	16.46	16.25	19.37	30.00	-10.63	-3.68	15.69	-	-
	5795	159	AVG	16.65	16.98	19.83	30.00	-10.17	-3.68	16.15	-	-

Table 7-16. MIMO 40MHz BW 802.11n (UNII) Maximum Conducted Output Power

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	Freq [MHz]	Channel	I Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Ennic [GBIII]	
₽ Ţ	5190	38	AVG	13.05	13.13	16.10	23.98	-7.88	-3.68	12.42	23.01	-10.59
oMH	5230	46	AVG	16.50	16.49	19.51	23.98	-4.47	-3.68	15.83	23.01	-7.18
(40M width	5270	54	AVG	16.99	16.38	19.71	23.98	-4.27	-3.68	16.03	30.00	-13.97
(4) dw	5310	62	AVG	13.48	13.09	16.30	23.98	-7.68	-3.68	12.62	30.00	-17.38
Hz	5510	102	AVG	14.41	14.81	17.62	23.98	-6.36	-3.68	13.94	30.00	-16.06
ъ В В	5590	118	AVG	16.74	16.37	19.57	23.98	-4.41	-3.68	15.89	-	-
5 D B	5630	126	AVG	16.68	16.33	19.52	23.98	-4.46	-3.68	15.84	-	-
	5710	142	AVG	16.83	16.98	19.92	23.98	-4.06	-3.68	16.24	30.00	-13.76
	5755	151	AVG	16.45	16.28	19.38	30.00	-10.62	-3.68	15.70	-	-
	5795	159	AVG	16.64	16.97	19.82	30.00	-10.18	-3.68	16.14	-	-

Table 7-17. MIMO 40MHz BW 802.11ac (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Cond	lucted Power [[dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Linik [dbin]	mai giri [ab]
P 🕤	5190	38	AVG	10.14	10.49	13.33	23.98	-10.65	-3.68	9.65	23.01	-13.36
tt dt	5230	46	AVG	9.75	10.60	13.21	23.98	-10.77	-3.68	9.53	23.01	-13.48
_ ○ .≚	5270	54	AVG	10.41	10.37	13.40	23.98	-10.58	-3.60	9.80	30.00	-20.20
4) dv	5310	62	AVG	10.55	10.48	13.53	23.98	-10.45	-3.54	9.99	30.00	-20.01
HZ and	5510	102	AVG	11.22	10.33	13.81	23.98	-10.17	-3.98	9.83	30.00	-20.17
В G	5590	118	AVG	11.47	10.29	13.93	23.98	-10.05	-3.98	9.95	-	-
5C	5630	126	AVG	11.48	10.37	13.97	23.98	-10.01	-3.98	9.99	-	-
	5710	142	AVG	10.73	9.30	13.08	23.98	-10.90	-3.85	9.23	30.00	-20.77
	5755	151	AVG	10.75	11.06	13.92	30.00	-16.08	-3.85	10.07	-	-
	5795	159	AVG	10.97	10.93	13.96	30.00	-16.04	-3.94	10.02	-	-

Table 7-18. MIMO 40MHz BW 802.11ax (UNII) Maximum Conducted Output Power

	Freq [MHz]	z] Channel	Detector	Conducted Power [dBm]		Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
	Ϋ́ς			ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud		margin [ab]
(80MI width	5210	42	AVG	13.02	13.45	16.25	23.98	-7.73	-3.44	12.81	23.01	-10.20
	5290	58	AVG	11.61	11.59	14.61	23.98	-9.37	-3.54	11.07	30.00	-18.93
5GHz Band	5530	106	AVG	12.36	12.28	15.33	23.98	-8.65	-3.98	11.35	30.00	-18.65
B. 5G	5610	122	AVG	15.31	15.65	18.49	23.98	-5.49	-3.98	14.51	-	-
	5690	138	AVG	15.36	15.59	18.49	23.98	-5.49	-3.85	14.64	30.00	-15.36
	5775	155	AVG	15.38	15.34	18.37	30.00	-11.63	-3.85	14.52	-	-

Table 7-19. MIMO 80MHz BW 802.11ac (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Conc	lucted Power [dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ξ.				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
(80MH width)	5210	42	AVG	9.56	9.73	12.66	23.98	-11.32	-3.44	9.22	23.01	-13.79
(8) DV	5290	58	AVG	9.71	9.34	12.54	23.98	-11.44	-3.54	9.00	30.00	-21.00
5GHz Band	5530	106	AVG	10.07	9.20	12.67	23.98	-11.31	-3.98	8.69	30.00	-21.31
B 2C	5610	122	AVG	10.32	9.30	12.85	23.98	-11.13	-3.98	8.87	-	-
	5690	138	AVG	10.18	9.41	12.82	23.98	-11.16	-3.85	8.97	30.00	-21.03
	5775	155	AVG	9.92	9.41	12.68	30.00	-17.32	-3.85	8.83	-	-

Table 7-20. MIMO 80MHz BW 802.11ax (UNII) Maximum Conducted Output Power

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Note:

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

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where G_N is the gain of the nth antenna and N_{ANT} , the total number of antennas used.

Directional gain = $10 \log[(10^{G_{1/20}} + 10^{G_{2/20}} + ... + 10^{G_{N/20}})^2 / N_{ANT}] dBi$

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted output power was measured to be 15.93 dBm for Antenna-1 and 16.16 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(15.93 dBm + 16.16 dBm) = (39.17 mW + 41.30 mW) = 80.48 mW = 19.06 dBm

Sample e.i.r.p. Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO conducted power was calculated to be 19.06 dBm with directional gain of -3.44 dBi.

e.i.r.p. (dBm) = Conducted Power (dBm) + Ant gain (dBi)

19.06 dBm + -3.44 dBi = 15.62 dBm

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7.5 Maximum Power Spectral Density – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. Method SA-1, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, was used to measure the power spectral density.

In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2 KDB 789033 D02 v02r01 – Section F ANSI C63.10-2013 – Section 14.3.2.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

Test Settings

- 1. Analyzer was set to the center frequency of the UNII channel under investigation
- 2. Span was set to encompass the entire emission bandwidth of the signal
- 3. RBW = 1MHz
- 4. VBW = 3MHz
- 5. Number of sweep points $\geq 2 \times (\text{span/RBW})$
- 6. Sweep time = auto
- 7. Detector = power averaging (RMS)
- 8. Trigger was set to free run for all modes
- 9. Trace was averaged over 100 sweeps
- 10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

Test Setup

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





Test Notes

None

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SISO Antenna-1 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Automated (raw data)	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	4.84	4.84	11.0	-6.16
	5200	40	а	6	7.15	7.15	11.0	-3.85
	5240	48	а	6	7.49	7.49	11.0	-3.51
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.57	5.57	11.0	-5.43
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.88	6.88	11.0	-4.12
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.16	7.16	11.0	-3.84
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.51	5.51	11.0	-5.49
Band 1	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.13	5.13	11.0	-5.87
ä	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.59	5.59	11.0	-5.41
	5190	38	n (40MHz)	13.5/15 (MCS0)	4.18	4.18	11.0	-6.82
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.29	3.29	11.0	-7.71
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.03	-0.03	11.0	-11.03
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.64	0.64	11.0	-10.36
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.04	0.04	11.0	-10.96
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-3.73	-3.73	11.0	-14.73
	5260	52	а	6	7.37	7.37	11.0	-3.63
	5280	56	а	6	8.16	8.16	11.0	-2.84
	5320	64	а	6	6.09	6.09	11.0	-4.91
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.08	7.08	11.0	-3.92
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.81	7.81	11.0	-3.19
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.67	5.67	11.0	-5.33
 ₹	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	5.36	5.36	11.0	-5.64
Band 2A	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	4.98	4.98	11.0	-6.02
Bar	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	5.87	5.87	11.0	-5.13
	5270	54	n (40MHz)	13.5/15 (MCS0)	3.98	3.98	11.0	-7.02
	5310	62	n (40MHz)	13.5/15 (MCS0)	4.61	4.61	11.0	-6.39
	5270	54	ax (40MHz)	13.5/15 (MCS0)	0.33	0.33	11.0	-10.67
	5310	62	ax (40MHz)	13.5/15 (MCS0)	1.12	1.12	11.0	-9.88
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.48	0.48	11.0	-10.52
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-4.29	-4.29	11.0	-15.29
	5500	100	a	6	6.17	6.17	11.0	-4.83
	5600	120	a	6	7.35	7.35	11.0	-3.65
	5720	144	a	6	7.82	7.82	11.0	-3.18
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.69	5.69	11.0	-5.31
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	7.06	7.06	11.0	-3.94
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	7.54	7.54	11.0	-3.46
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	4.98	4.98	11.0	-6.02
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	5.08	5.08	11.0	-5.92
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	5.67	5.67	11.0	-5.33
сı	5510	102	n (40MHz)	13.5/15 (MCS0)	4.17	4.17	11.0	-6.83
Band 2C	5590	118	n (40MHz)	13.5/15 (MCS0)	3.20	3.20	11.0	-7.80
Ban	5710	142	n (40MHz)	13.5/15 (MCS0)	3.70	3.70	11.0	-7.30
-	5510	102	ax (40MHz)	13.5/15 (MCS0)	3.70	-0.61	11.0	-11.61
	5590	102	ax (40MHz)	13.5/15 (MCS0)	0.75	0.75	11.0	-10.25
	5710	142	ax (40MHz)	13.5/15 (MCS0)	0.06	0.75	11.0	-10.23
	5530	142	ac (80MHz)	29.3/32.5 (MCS0)	-0.47	-0.47	11.0	-11.47
	5610	100	ac (80MHz)	29.3/32.5 (MCS0)	-0.47	-0.47 -1.61	11.0	-11.47
	5690	122	ac (80MHz)	29.3/32.5 (MCS0) 29.3/32.5 (MCS0)	-3.61	-1.61	11.0	-12.61
			, ,	(,				
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-4.26	-4.26	11.0	-15.26
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-4.21	-4.21	11.0	-15.21
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-6.20	-6.20	11.0	-17.20

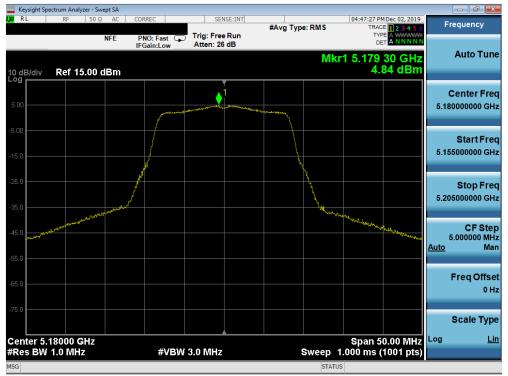
Table 7-21. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT1

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	4.84	-6.45	-1.61	10.0	-11.61
	5200	40	а	6	7.15	-6.69	0.46	10.0	-9.54
	5240	48	а	6	7.49	-6.45	1.04	10.0	-8.96
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.57	-6.45	-0.88	10.0	-10.88
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.88	-6.69	0.19	10.0	-9.81
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.16	-6.45	0.71	10.0	-9.29
-	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.51	-6.45	-0.94	10.0	-10.94
Band	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.13	-6.69	-1.56	10.0	-11.56
ä	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.59	-6.45	-0.86	10.0	-10.86
	5190	38	n (40MHz)	13.5/15 (MCS0)	4.18	-6.45	-2.27	10.0	-12.27
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.29	-6.45	-3.16	10.0	-13.16
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.03	-6.45	-6.48	10.0	-16.48
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.64	-6.45	-5.81	10.0	-15.81
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.04	-6.45	-6.41	10.0	-16.41
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-3.73	-6.45	-10.18	10.0	-20.18

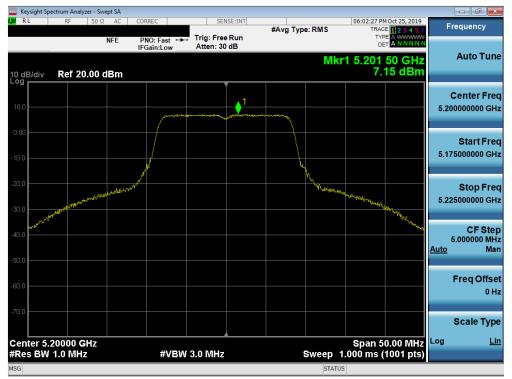
Table 7-22. Band 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED) SISO ANT1



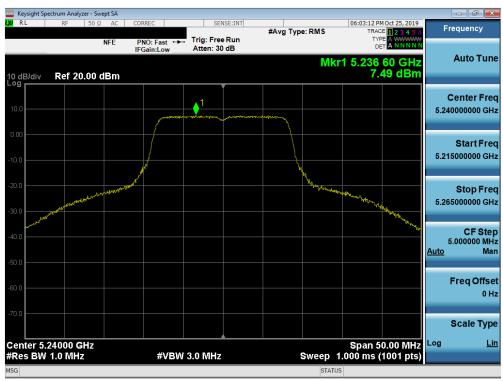
Plot 7-133. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	
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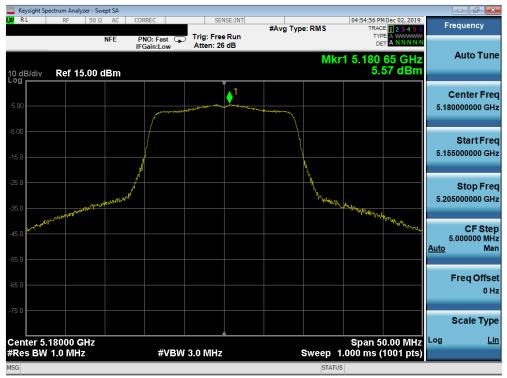
Plot 7-134. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 40)



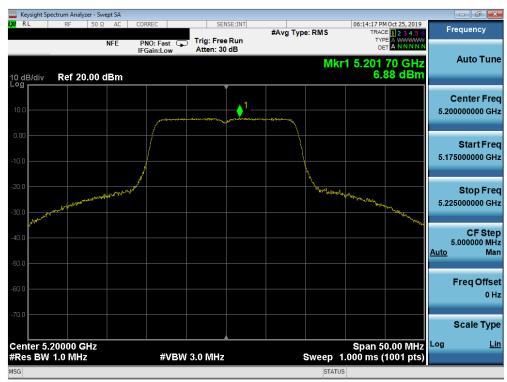
Plot 7-135. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 48)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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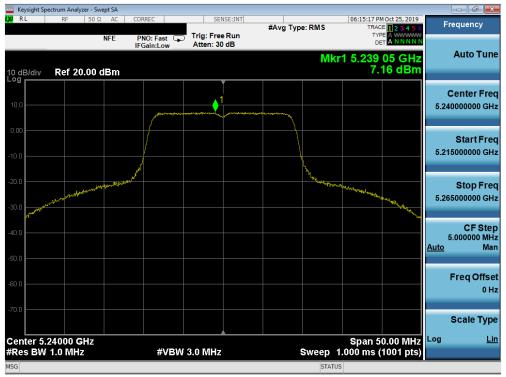
Plot 7-136. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)



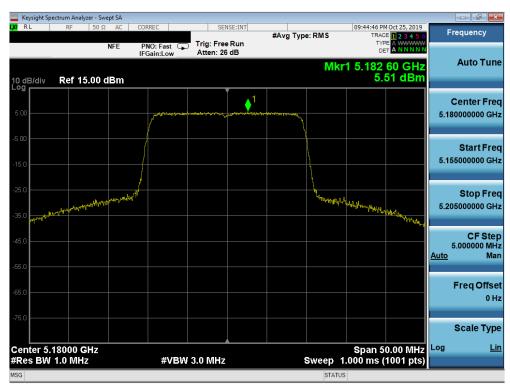
Plot 7-137. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	
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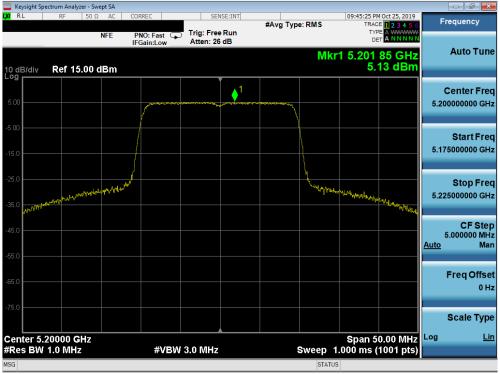
Plot 7-138. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)



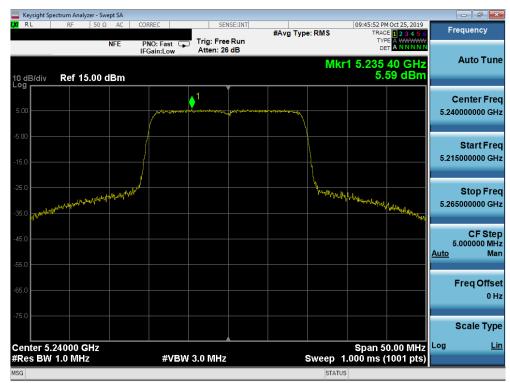
Plot 7-139. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-140. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)



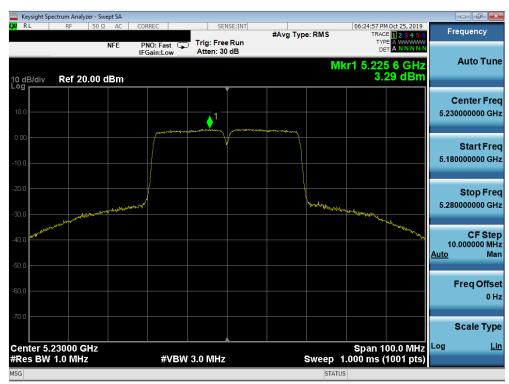
Plot 7-141. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 242
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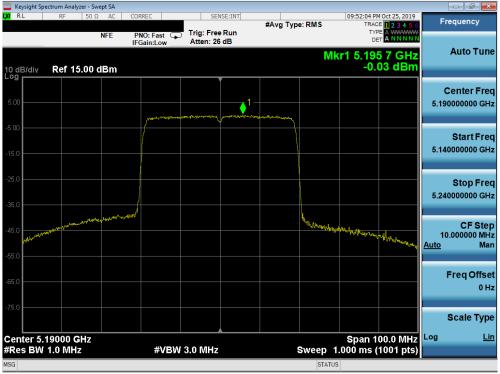
Plot 7-142. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)



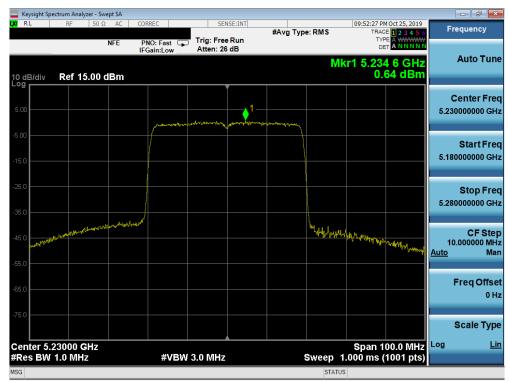
Plot 7-143. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-144. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)



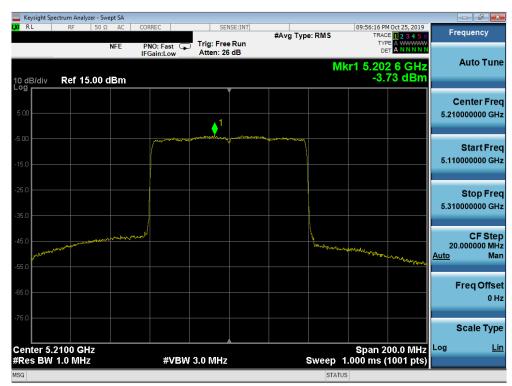
Plot 7-145. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 af 040
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	rum Analyzer - Sw									
LX/IRL	RF 50 Ω	AC CO	RREC		ISE:INT	#Avg Typ	e: RMS	TRAC	4 Oct 25, 2019 E <mark>1 2 3 4 5</mark> 6	Frequency
	B - 6 00 00 -	IF	NO: Fast 🕞 Gain:Low	Trig: Free Atten: 30			Mk	r1 5.21	2 2 GHz 04 dBm	Auto Tune
10 dB/div	Ref 20.00 (aBm								Center Freq 5.210000000 GHz
0.00				· herefunger wergetig	↓1					
-10.0			-	- Portante -						Start Freq 5.110000000 GHz
-20.0										Stop Freq 5.310000000 GHz
-40.0	and the second week	and we have a grand					-	mdare for the grant way	Manutan.	CF Step 20.000000 MHz Auto Man
-50.0										Freq Offset
-60.0										0 Hz
-70.0										Scale Type
Center 5.21 #Res BW 1.			#VBW	/ 3.0 MHz			Sweep 1	2 Span .000 m <u>s (</u>	00.0 MHz 1001 pts)	Log <u>Lin</u>
MSG							STATUS			

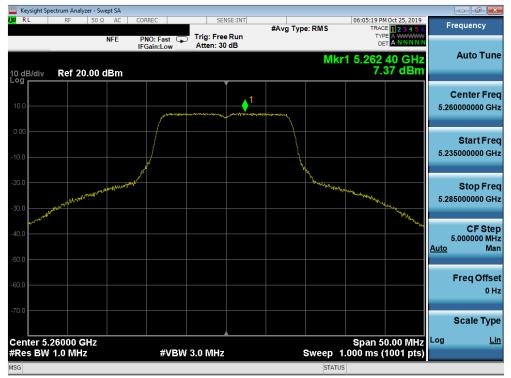
Plot 7-146. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)



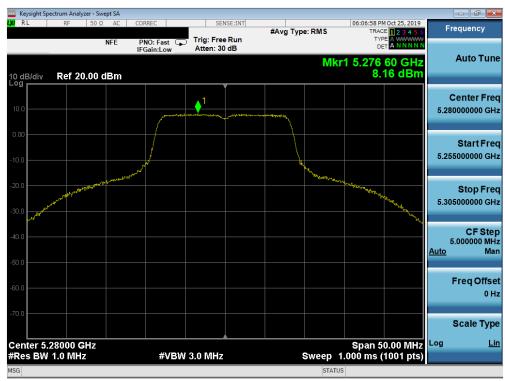
Plot 7-147. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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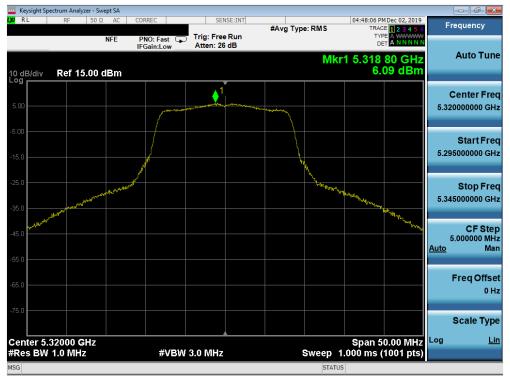
Plot 7-148. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) – Ch. 52)



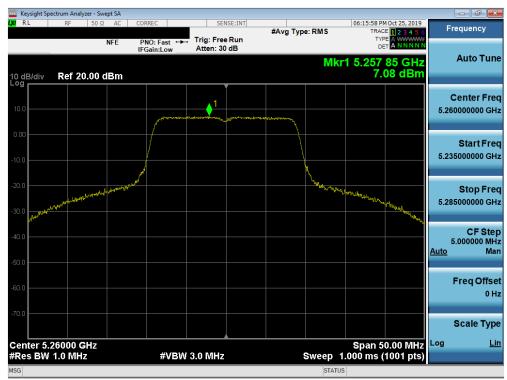
Plot 7-149. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986JPN	<u> PCTEST</u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 242
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Plot 7-150. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) - Ch. 64)



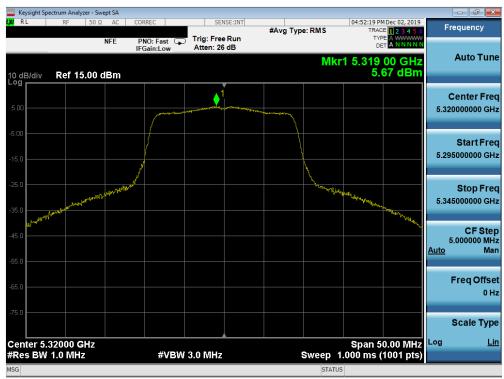
Plot 7-151. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 405 at 040
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🔤 Keysight Spectrum Analyzer - 🛛					
LX RL RF 50	Ω AC CORREC	SENSE:INT	#Avg Type: RMS	06:17:28 PM Oct 25, 2019 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00	NFE PNO: Fast	→ Trig: Free Run Atten: 30 dB		1 5.275 00 GHz 7.81 dBm	Auto Tune
		1	agender of a set of a		Center Freq 5.280000000 GHz
-10.0					Start Freq 5.255000000 GHz
-20.0	hard and a first a fir			A Construction of the cons	Stop Freq 5.305000000 GHz
-40.0					CF Step 5.000000 MHz <u>Auto</u> Man
-60.0					Freq Offset 0 Hz
-70.0 Center 5.28000 GHz				Span 50.00 MHz	Scale Type
#Res BW 1.0 MHz		W 3.0 MHz	Sweep	Span 50.00 MHz 1.000 ms (1001 pts)	
MSG			STATU	S	

Plot 7-152. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)



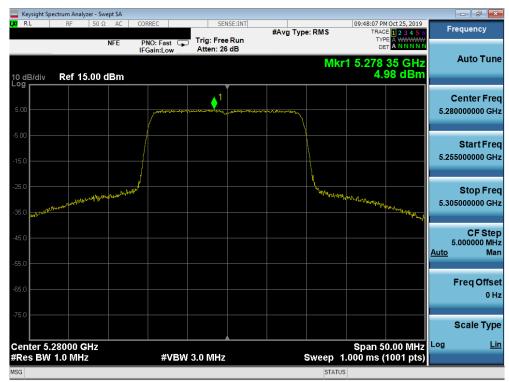
Plot 7-153. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG986JPN	<u><i>CPCTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 242
1M2001240012-06.A3L	10/11/19 - 03/05/2020	Portable Handset	Page 106 of 243
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🔤 Keysight Spectrum Analyzer - Si					- F ×
1,20 RL RF 50 S	Ω AC CORREC	SENSE:INT	#Avg Type: RMS	09:47:36 PM Oct 25, 2019 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
10 dB/div Ref 15.00	IFGain:Low	Atten: 26 dB	Mkr	1 5.255 65 GHz 5.36 dBm	Auto Tune
5.00	A statistical states	needers and an and a second and a second and a second a s	manne		Center Freq 5.260000000 GHz
-15.0					Start Freq 5.235000000 GHz
-25.0	aproved and a second		the solution	4MJ-MANTALES Marchard March	Stop Freq 5.285000000 GHz
-45.0					CF Step 5.000000 MHz <u>Auto</u> Man
-65.0					Freq Offset 0 Hz
-75.0				Shon 50 00 Mile	Scale Type
Center 5.26000 GHz #Res BW 1.0 MHz	#VB	W 3.0 MHz	Sweep 1	Span 50.00 MHz .000 ms (1001 pts)	
MSG			STATUS	5	

Plot 7-154. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2A) - Ch. 52)



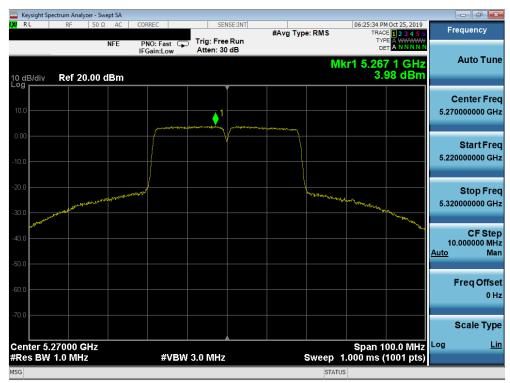
Plot 7-155. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986JPN	<u> PCTEST</u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 107 of 242
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🔤 Keysight Spectrum Analyzer - Sv					
LXI RL RF 50 S	Ω AC CORREC	SENSE:INT	#Avg Type: RMS	09:48:40 PM Oct 25, 2019 TRACE 1 2 3 4 5 6	Frequency
	NFE PNO: Fast 😱 IFGain:Low	Trig: Free Run Atten: 26 dB		TYPE A WWWW DET A NNNNN 1 5.325 15 GHz	Auto Tune
10 dB/div Ref 15.00	dBm			5.87 dBm	
5.00			↓ 1		Center Freq 5.320000000 GHz
-5.00					Start Freq 5.295000000 GHz
-25.0	In the second			an manufacture of the light of the start of	Stop Freq 5.345000000 GHz
-45.0					CF Step 5.000000 MHz <u>Auto</u> Man
-65.0					Freq Offset 0 Hz
-75.0					Scale Type
Center 5.32000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 1	Span 50.00 MHz .000 ms (1001 pts)	Log <u>Lin</u>
MSG			STATUS		

Plot 7-156. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2A) - Ch. 64)



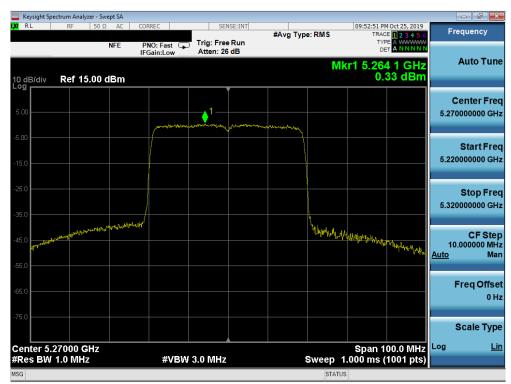
Plot 7-157. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 of 040
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Plot 7-158. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)



Plot 7-159. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 242
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Keysight Spectrum Analyzer -			T		
X RL RF 50	NFE PNO: Fast	Trig: Free Run Atten: 26 dB	#Avg Type: RMS	09:53:16 PM Oct 25, 2019 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div Ref 15.00	IFGain:Low	Atten: 26 dB	M	kr1 5.303 1 GHz 1.12 dBm	Auto Tune
5.00		1	murray		Center Fred 5.310000000 GHz
15.0					Start Fred 5.260000000 GH2
25.0	where and the part of the fund			marin and and and and and and and and and an	Stop Free 5.360000000 GH
45.0				and	CF Step 10.000000 MH <u>Auto</u> Mar
65.0					Freq Offse 0 H
75.0				Spop 100 0 Mills	Scale Type
Center 5.31000 GHz ≉Res BW 1.0 MHz		V 3.0 MHz	Sweep 7	Span 100.0 MHz I.000 ms (1001 pts)	
ISG			STATU	S	

Plot 7-160. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)



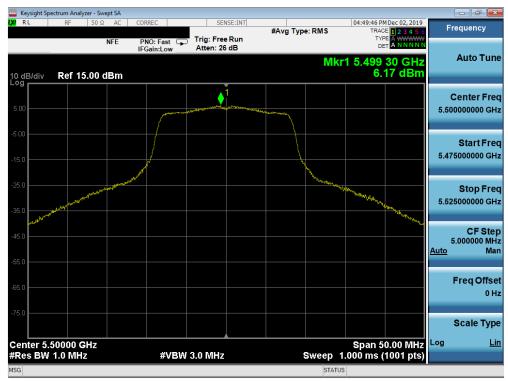
Plot 7-161. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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W RL RF 50 Ω AC CORREC SENSE:INT 09:56:49 PM Od: 25, 2019 Frequence NFE PNO: Fast IFGain:Low Trig: Free Run Atten: 26 dB Trig: Free Run DET ANNNNN Trig: Free Run DET ANNNNN Trig: Free Run Atten: 26 dB Trig: Free Run DET ANNNNN Auto 10 dB/div Ref 15.00 dBm -4.29 dBm Auto	
NFE PNO: Fast Trig: Free Run TryE A	Tune
5.00 Center 5.2900000	
	U GHZ
Start	
-15.0	_
-25.0 Stop 5.3900000	Freq
	U GHZ
-45.0	
.55.0 hourself and the service	Man
-65.0 Freq C	
	0 Hz
Scale	Туре
Center 5.2900 GHz Span 200.0 MHz Span 200.0 MHz Log #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	<u>Lin</u>
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	

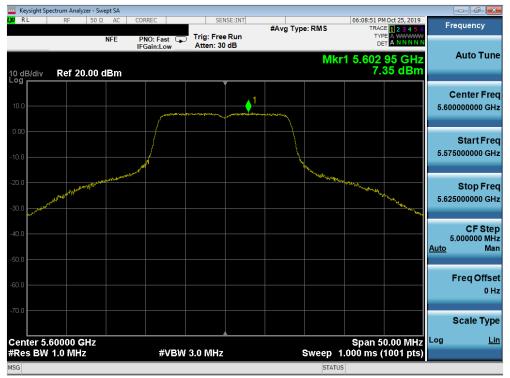
Plot 7-162. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)



Plot 7-163. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-164. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) – Ch. 120)



Plot 7-165. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG986JPN	<u><i>CTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-166. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)



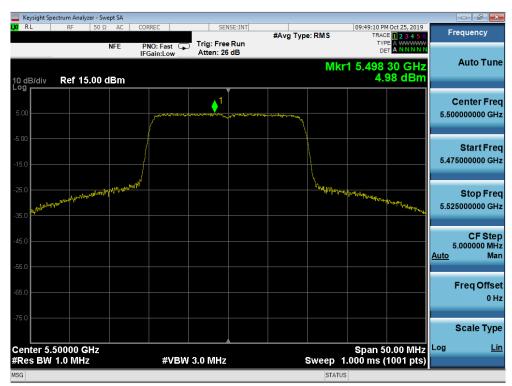
Plot 7-167. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		De
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Plot 7-168. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)



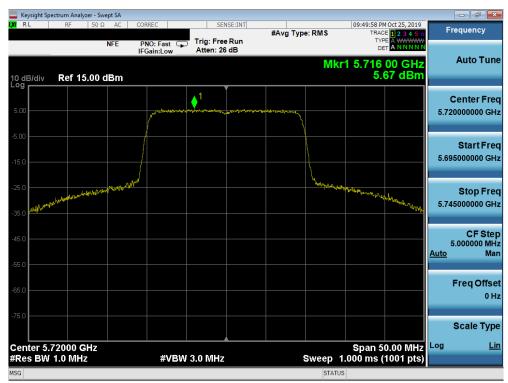
Plot 7-169. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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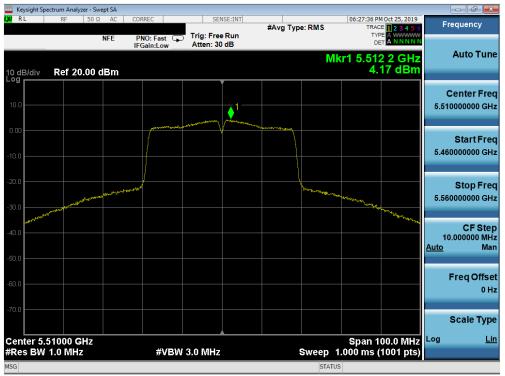
Plot 7-170. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2C) - Ch. 120)



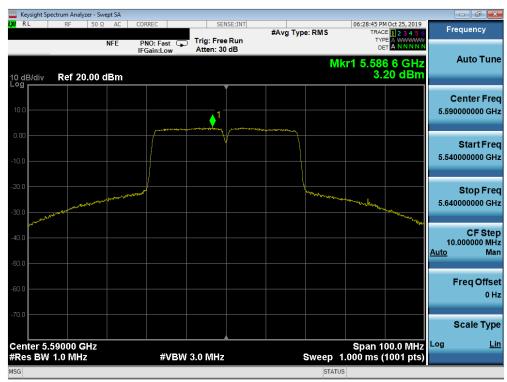
Plot 7-171. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 115 of 242
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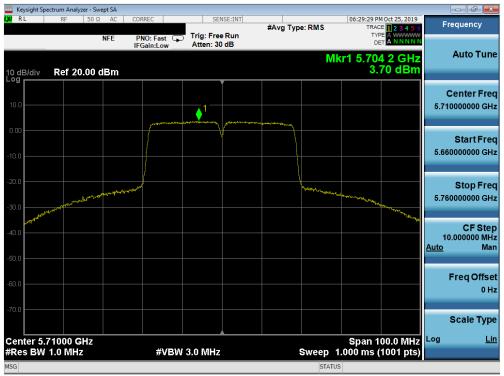
Plot 7-172. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)



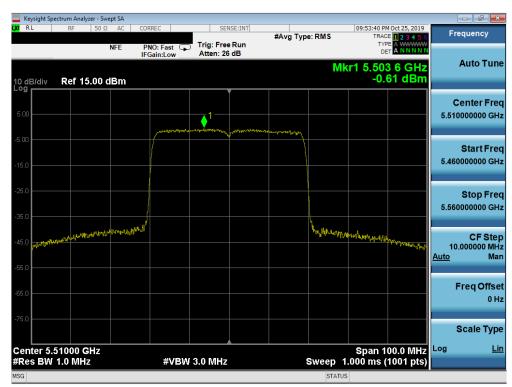
Plot 7-173. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-174. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)



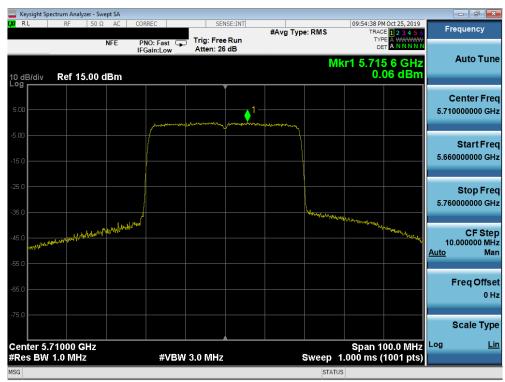
Plot 7-175. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 117 of 242
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Plot 7-176. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)



Plot 7-177. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Da
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🔤 Keysight Spectrum A									
LX/RL RF	50 Ω AC	CORREC	SEN	ISE:INT	#Avg Typ	e: RMS		HOct 25, 2019	Frequency
	NFE	PNO: Fast IFGain:Low	Trig: Free Atten: 30				TYF De		
10 dB/div Ref	20.00 dBm					M	kr1 5.53 -0.4	2 6 GHz 47 dBm	Auto Tune
			ľ í						Center Freq
10.0				1					5.530000000 GHz
0.00			Manage and		×				Start Freq
-10.0					and the second second				5.430000000 GHz
-20.0									Stop Freq
-30.0	- ARAMANA	NA				and and a factor of the second			5.630000000 GHz
	And and a start of the start of						a manufacture.	harristan	CF Step
-40.0									20.000000 MHz <u>Auto</u> Man
-50.0									
-60.0									Freq Offset
									0 Hz
-70.0									Scale Type
Contor 5 5200	04-						Cnor 2		Log Lin
Center 5.5300 #Res BW 1.0 N		#VBW	3.0 MHz			Sweep	span 2 1.000 ms (00.0 MHz 1001 pts)	
MSG						STATU			

Plot 7-178. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)



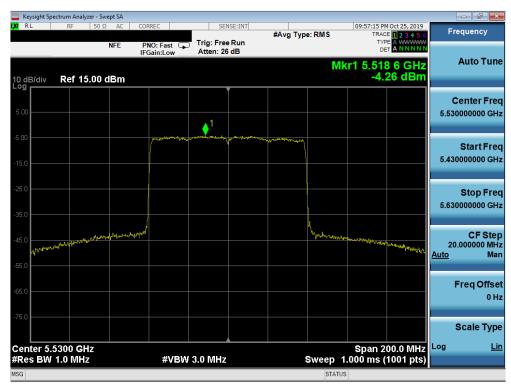
Plot 7-179. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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	pectrum Analyzer - S									
L <mark>XI</mark> RL	RF 50	Ω AC I	CORREC		SE:INT	#Avg Typ	e: RMS	TRAC	¹ Oct 25, 2019 E 1 2 3 4 5 6	Frequency
	_	NFE	PNO: Fast G	Trig: Free Atten: 30				TYF		
10 dB/div Log	Ref 20.00	dBm					M	kr1 5.698 -3.	38 GHz 61 dBm	Auto Tune
										Center Freq
10.0										5.69000000 GHz
0.00					1					
-10.0			maria	monter	and and a start of the second	however				Start Freq 5.59000000 GHz
-10.0			ĺ							
-20.0										Stop Freq
-30.0										5.790000000 GHz
	- manual	white and the second starting	~~~				J. Joogh Mr. James	and		CF Step
-40.0	Marrian								an adversary	20.000000 MHz Auto Man
-50.0										Auto
-60.0										Freq Offset
										0 Hz
-70.0										Scale Type
	0000 011-									Log Lin
	.6900 GHz / 510 kHz		#VBW	3.0 MHz			Sweep 1	span 2 1.000 ms (00.0 MHz 1001 pts)	
MSG							STATU	S		

Plot 7-180. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)



Plot 7-181. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		De
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Keysight Spectrum Analyzer - S									
(X) RL RF 50		NO: Fast		Run	#Avg Typ	e: RMS	TRAC	MOct 25, 2019 E 1 2 3 4 5 6 E A WWWW	Frequency
10 dB/div Ref 15.00	I	Gain:Low	Atten: 26	dB		Mł	(r1 5.60 ⁻	1 8 GHz 21 dBm	Auto Tu
5.00			` 1						Center Fr 5.610000000 G
-15.0		- Myter, hurring	and the second second	1990-000000	man and a second				Start Fr 5.510000000 G
-25.0									Stop Fr 5.710000000 G
-45.0	n ^{ta} fferfan wy Wither					manan	ad the starting	Water and Water Production	CFSt 20.000000 M <u>Auto</u> M
-65.0									Freq Offs 0
-75.0									Scale Ty
Center 5.6100 GHz #Res BW 1.0 MHz		#VBW	/ 3.0 MHz			Sweep_1	2 Span . 000 m <u>s (</u>	00.0 MHz 1001 pts)	
MSG						STATUS			

Plot 7-182. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)



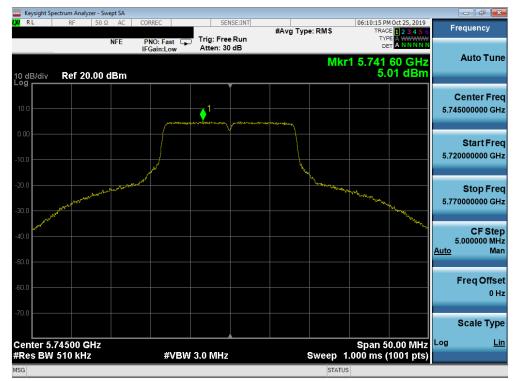
Plot 7-183. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 404 at 040
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-	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]		Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	5.01	30.0	-24.99
	5785	157	а	6	4.06	30.0	-25.94
	5825	165	а	6	3.95	30.0	-26.05
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	4.02	30.0	-25.98
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	3.97	30.0	-26.03
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.67	30.0	-26.33
ო	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	1.90	30.0	-28.10
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	2.00	30.0	-28.00
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	1.92	30.0	-28.08
	5755	151	n (40MHz)	13.5/15 (MCS0)	-0.20	30.0	-30.20
	5795	159	n (40MHz)	13.5/15 (MCS0)	0.16	30.0	-29.84
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-2.89	30.0	-32.89
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-2.87	30.0	-32.87
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.49	30.0	-31.49
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-4.16	30.0	-34.16

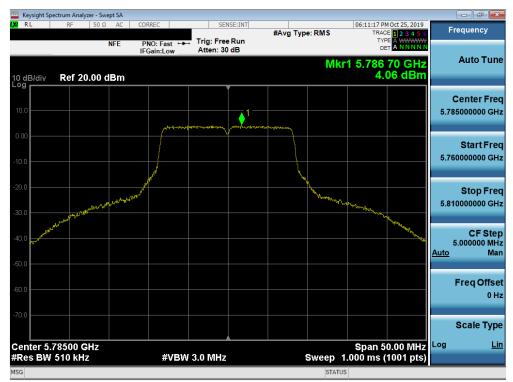
Table 7-23. Band 3 Conducted Power Spectral Density Measurements SISO ANT1



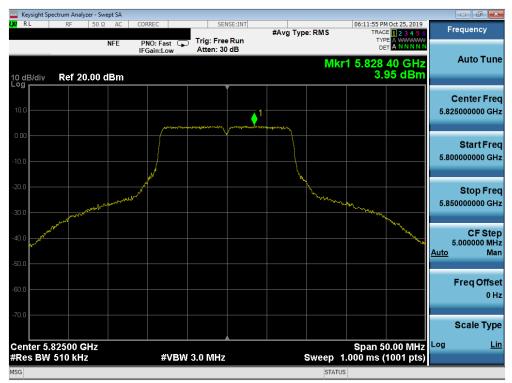
Plot 7-184. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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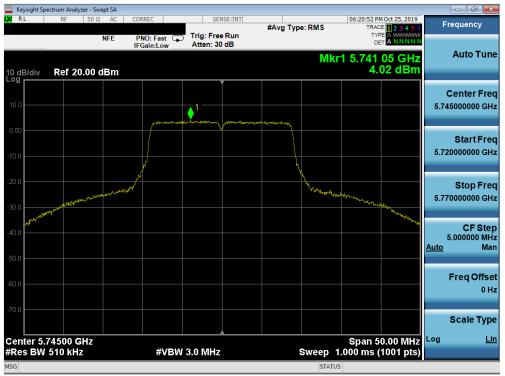
Plot 7-185. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) - Ch. 157)



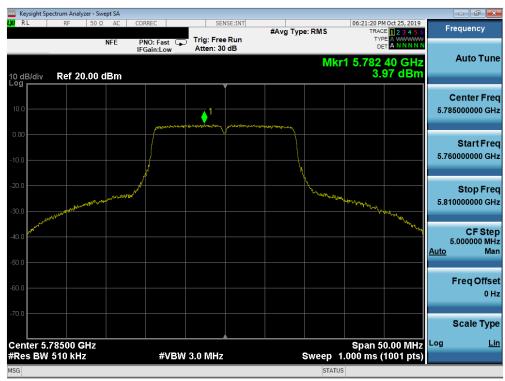
Plot 7-186. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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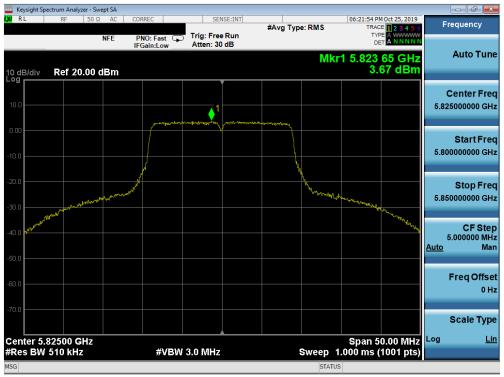
Plot 7-187. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



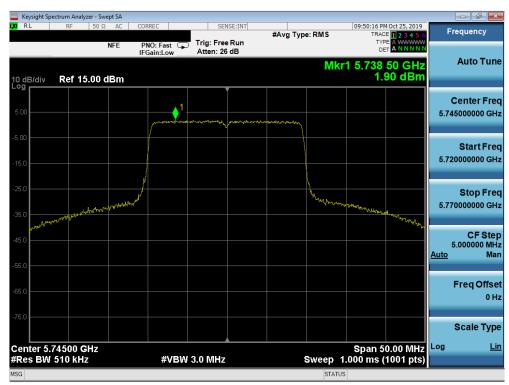
Plot 7-188. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-189. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



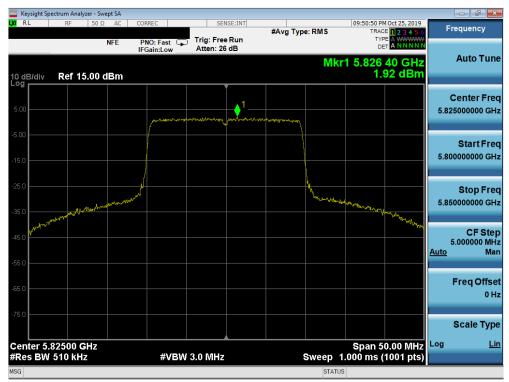
Plot 7-190. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-191. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 3) - Ch. 157)



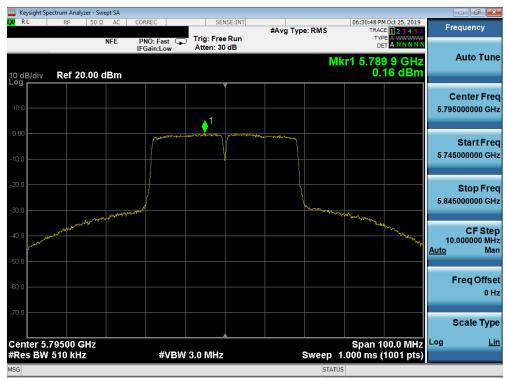
Plot 7-192. Power Spectral Density Plot SISO ANT1 (20MHz 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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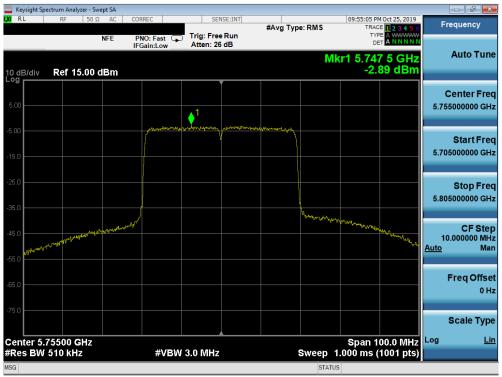
Plot 7-193. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



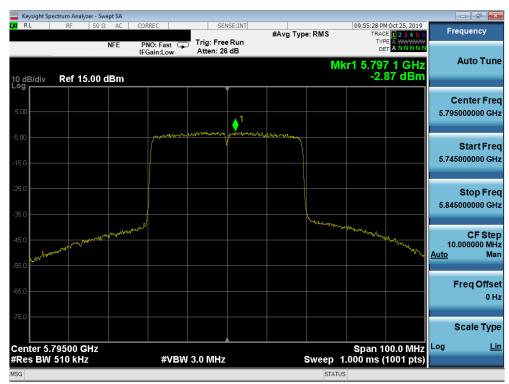
Plot 7-194. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-195. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



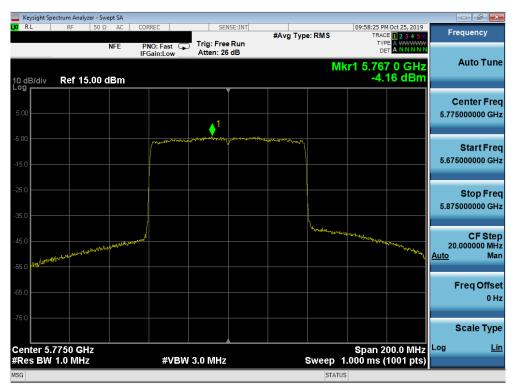
Plot 7-196. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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	ectrum Analyzer - Sw									
LX/RL	RF 50 Ω	AC C	ORREC	SEI	ISE:INT	#Avg Typ	e: RMS		HOct 25, 2019	Frequency
			PNO: Fast 🕞 FGain:Low) Trig: Free Atten: 30		•	M	TYP		Auto Tun
10 dB/div Log	Ref 20.00	dBm						-1.4	49 dBm	
209										Center Free
10.0										5.775000000 GH
0.00					1					
			Mary allowing the age	- marine marine	and	antering				Start Free
-10.0										5.675000000 GH
-20.0										Oton Ero
										Stop Free 5.87500000 GH
-30.0			J				a martin man	Lag al state		
-40.0	مادان المان المانية المانية المانية الماني .	and and the second						. all an all and a second	Mr. all Marminely	CF Stej 20.000000 MH
-40.0	Andrew								لرمد	Auto Mar
-50.0										
-60.0										Freq Offse 0 H
										UN
-70.0										Scale Type
Contor 5 7	750 CH-			,				Enon 2		Log <u>L</u> ii
Center 5.7 #Res BW			#VBW	3.0 MHz			Sweep	span 2 1.000 ms (00.0 MHz 1001 pts)	
MSG							STAT	US		

Plot 7-197. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



Plot 7-198. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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SISO 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	5.66	11.0	-5.34
	5200	40	а	6	6.98	11.0	-4.02
	5240	48	а	6	7.12	11.0	-3.88
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.54	11.0	-5.46
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.57	11.0	-4.43
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.79	11.0	-4.21
-	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	4.46	11.0	-6.54
Band 1	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	4.63	11.0	-6.37
ä	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	4.73	11.0	-6.27
	5190	38	n (40MHz)	13.5/15 (MCS0)	3.73	11.0	-7.27
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.85	11.0	-8.15
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.37	11.0	-11.37
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.26	11.0	-10.74
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.40	11.0	-10.60
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-4.49	11.0	-15.49
	5260	52	а	6	6.96	11.0	-4.04
	5280	56	а	6	7.07	11.0	-3.93
	5320	64	а	6	6.65	11.0	-4.35
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	6.76	11.0	-4.24
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	6.05	11.0	-4.95
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	6.77	11.0	-4.23
ZA	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	4.87	11.0	-6.13
Band 2A	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	4.98	11.0	-6.02
Bal	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	4.77	11.0	-6.23
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.81	11.0	-8.19
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.80	11.0	-7.20
	5270	54	ax (40MHz)	13.5/15 (MCS0)	0.00	11.0	-11.00
	5310	62	ax (40MHz)	13.5/15 (MCS0)	-0.27	11.0	-11.27
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-0.18	11.0	-11.18
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-3.93	11.0	-14.93
	5500	100	а	6	5.88	11.0	-5.12
	5600	120	а	6	6.72	11.0	-4.28
	5720	144	а	6	7.22	11.0	-3.78
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.53	11.0	-5.47
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	6.95	11.0	-4.05
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	7.49	11.0	-3.51
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	4.45	11.0	-6.55
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	4.62	11.0	-6.38
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	4.92	11.0	-6.08
Ŋ	5510	102	n (40MHz)	13.5/15 (MCS0)	3.86	11.0	-7.14
Band 2C	5590	118	n (40MHz)	13.5/15 (MCS0)	2.43	11.0	-8.57
Bai	5710	142	n (40MHz)	13.5/15 (MCS0)	2.69	11.0	-8.31
	5510	102	ax (40MHz)	13.5/15 (MCS0)	-0.47	11.0	-11.47
	5590	118	ax (40MHz)	13.5/15 (MCS0)	-0.45	11.0	-11.45
	5710	142	ax (40MHz)	13.5/15 (MCS0)	0.08	11.0	-10.92
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	0.77	11.0	-10.23
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-0.68	11.0	-11.68
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-4.09	11.0	-15.09
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-4.11	11.0	-15.11
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-4.23	11.0	-15.23
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-6.97	11.0	-17.97
Tah				Spectral Dens			

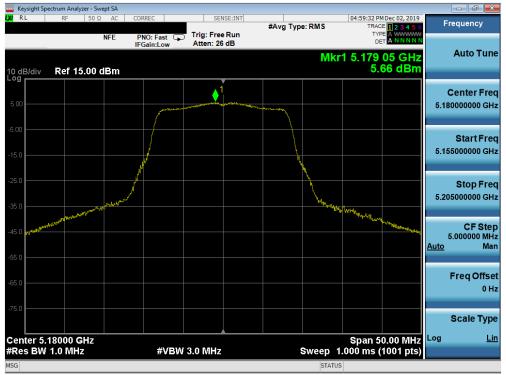
Table 7-24. Conducted Power Spectral Density Measurements SISO ANT2

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 120 of 242
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	5.66	-6.45	-0.79	10.0	-10.79
	5200	40	а	6	6.98	-6.69	0.29	10.0	-9.71
	5240	48	а	6	7.12	-6.45	0.67	10.0	-9.33
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.54	-6.45	-0.91	10.0	-10.91
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.57	-6.69	-0.12	10.0	-10.12
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.79	-6.45	0.34	10.0	-9.66
-	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	4.46	-6.45	-1.99	10.0	-11.99
Band	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	4.63	-6.69	-2.06	10.0	-12.06
ä	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	4.73	-6.45	-1.72	10.0	-11.72
	5190	38	n (40MHz)	13.5/15 (MCS0)	3.73	-6.45	-2.72	10.0	-12.72
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.85	-6.45	-3.60	10.0	-13.60
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.37	-6.45	-6.82	10.0	-16.82
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.26	-6.45	-6.19	10.0	-16.19
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.40	-6.45	-6.05	10.0	-16.05
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-4.49	-6.45	-10.94	10.0	-20.94

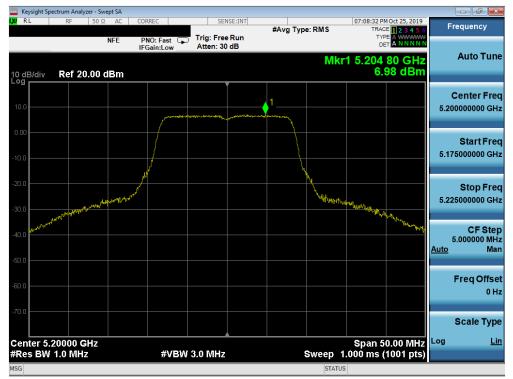
Table 7-25. Band 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED) SISO ANT2



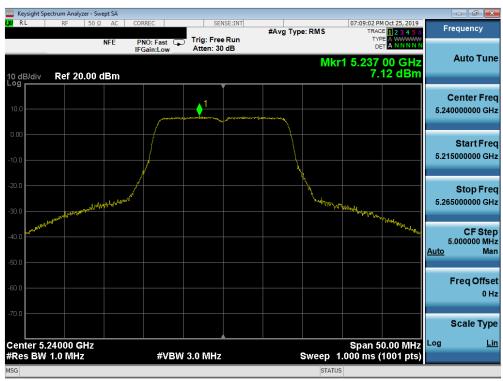
Plot 7-199. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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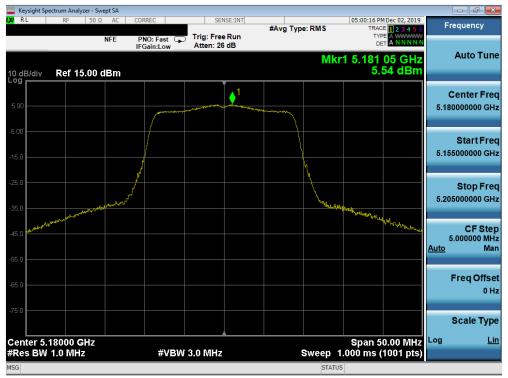
Plot 7-200. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) - Ch. 40)



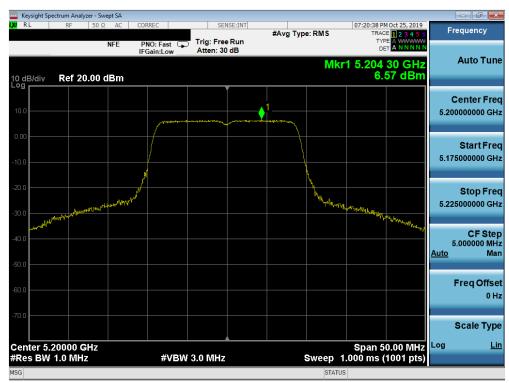
Plot 7-201. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) - Ch. 48)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 242
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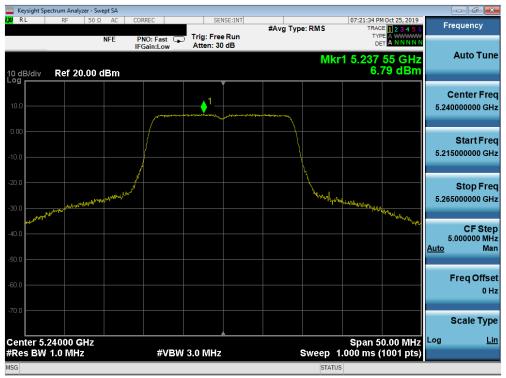
Plot 7-202. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)



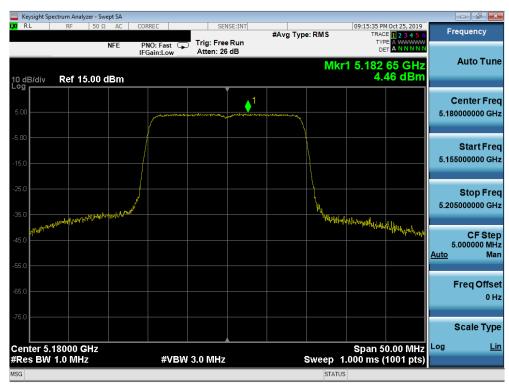
Plot 7-203. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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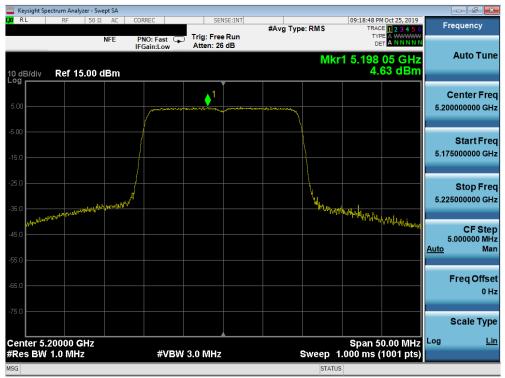
Plot 7-204. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)



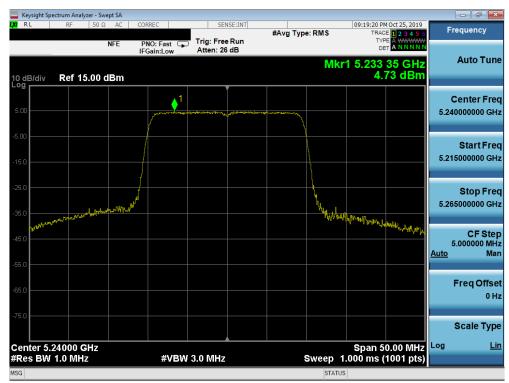
Plot 7-205. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 124 of 242
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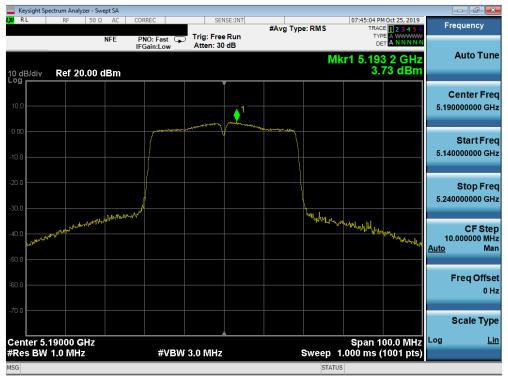
Plot 7-206. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 1) - Ch. 40)



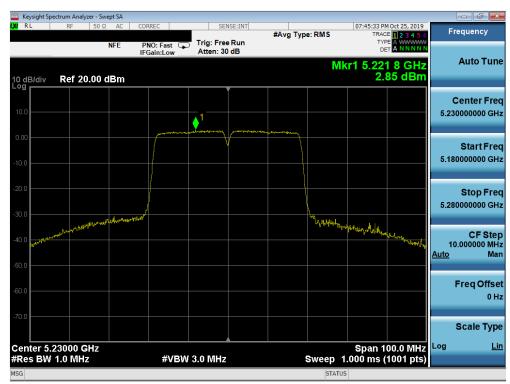
Plot 7-207. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 1) - Ch. 48)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-208. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)



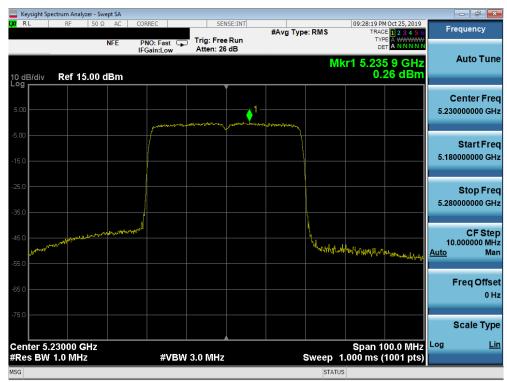
Plot 7-209. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-210. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)



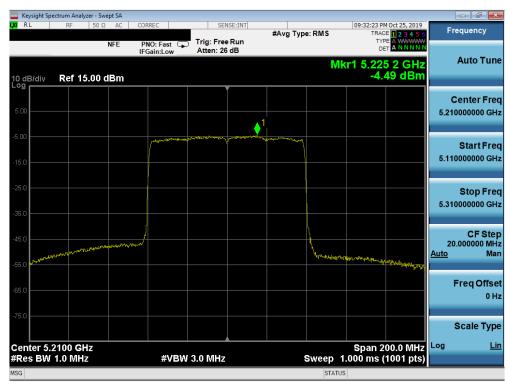
Plot 7-211. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 107 of 040
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Keysight Spectrum Analyzer										
LXI RL RF 5	50Ω AC C	ORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	10ct 25, 2019 E 1 2 3 4 5 6	Frequen	су
	NFE	PNO: Fast 🖵 FGain:Low	Trig: Free Atten: 30				TYP			
10 dB/div Ref 20.0						Mk	(r1 5.21) 0.4	1 8 GHz 40 dBm	Auto	Tune
									Center	
10.0				. 1					5.21000000	0 GHz
0.00			Des altric	\						
		procession	- martine		Lungerson					t Freq
-10.0									5.11000000	0 GHz
-20.0									Stop	Freq
-30.0									5.31000000	0 GHz
-30.0	وروبيه وروبي والمحمد و					l,				
-40.0	and the second	1				Warmer and phone	WWWWILE.		CF 20.00000	Step
W. Washwallow and a war							himigene hiller for	Walk with the second	<u>Auto</u>	Man
-50.0										
									FreqC	Offset
-60.0										0 Hz
-70.0										
									Scale	Туре
Center 5.2100 GHz							Snan-2	00.0 MHz	Log	Lin
#Res BW 1.0 MHz		#VBW	/ 3.0 MHz			Sweep 1	.000 ms (1001 pts)		
MSG						STATUS				

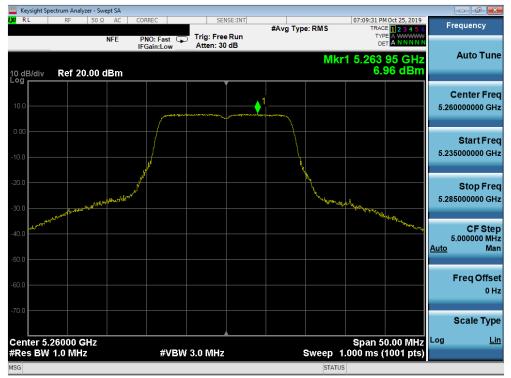
Plot 7-212. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)



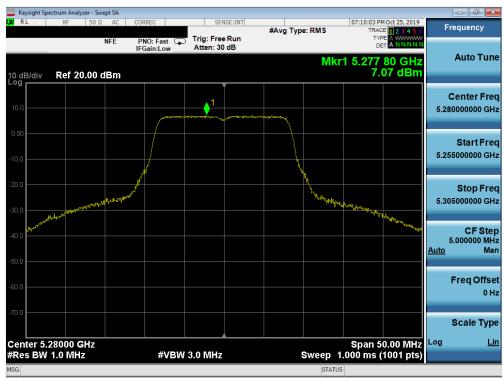
Plot 7-213. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 242	
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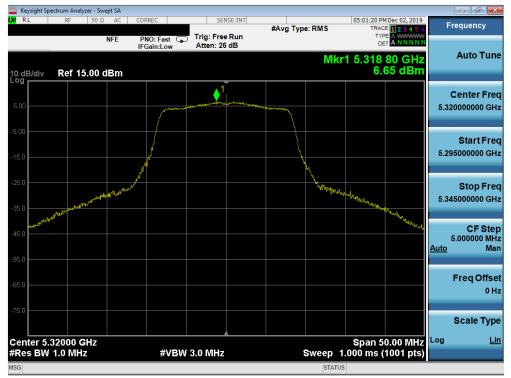
Plot 7-214. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 52)



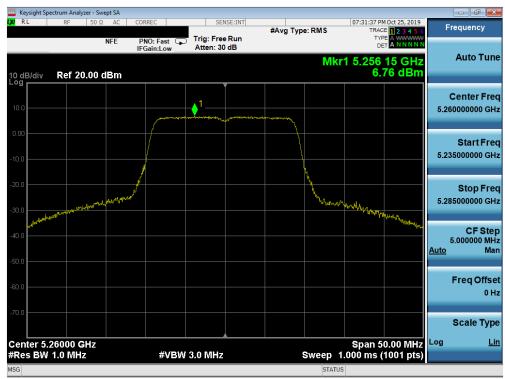
Plot 7-215. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 242	
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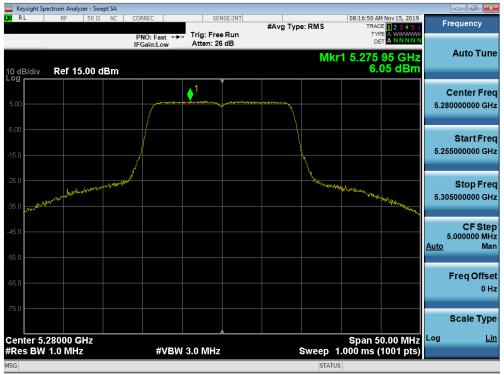
Plot 7-216. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 64)



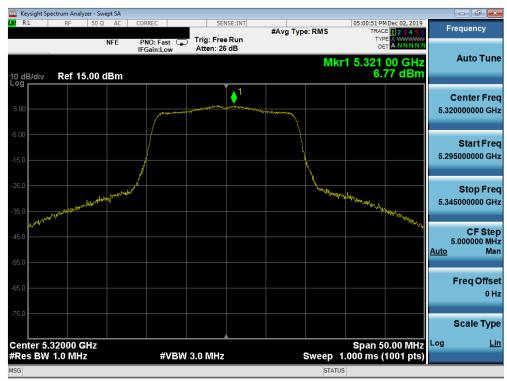
Plot 7-217. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG986JPN	<u><i>CPCTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 140 of 242	
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Plot 7-218. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)



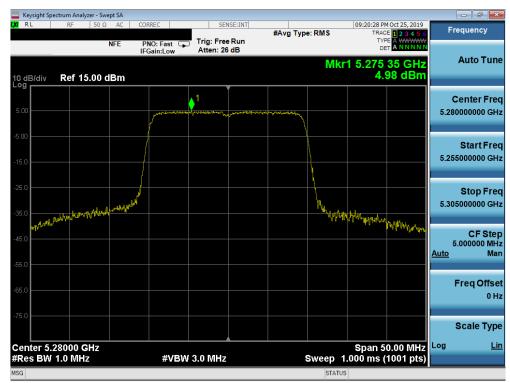
Plot 7-219. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG986JPN	<u><i>CPCTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 111 of 212	
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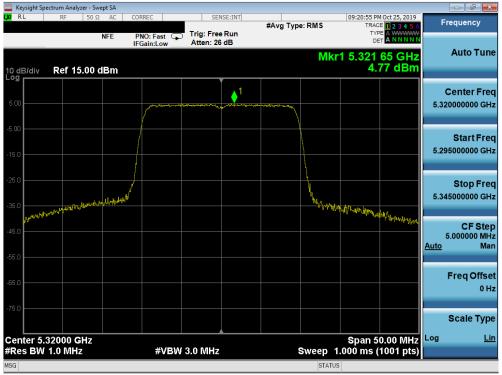
Plot 7-220. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 2A) - Ch. 52)



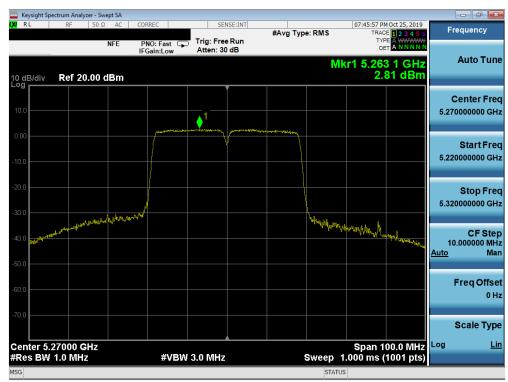
Plot 7-221. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (20MHz UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 440 at 040
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Plot 7-222. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (20MHz UNII Band 2A) - Ch. 64)



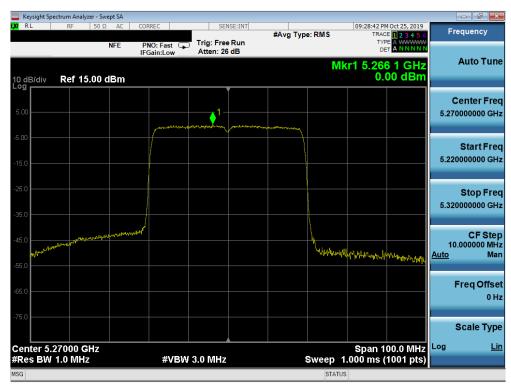
Plot 7-223. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 142 of 242	
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	ectrum Analyzer - Sw										a X
L <mark>X/</mark> RL	RF 50 Ω		ORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	MOct 25, 2019	Frequen	су
10 dB/div Log r	Ref 20.00 d	1	PNO: Fast 🕞 FGain:Low	Trig: Free Atten: 30			M	or 1 5.31	1 2 GHz 80 dBm	Auto	Tune
10.0					<u>1</u>					Cente 5.31000000	
-10.0					<u></u>					Star 5.26000000	t Freq 00 GHz
-20.0		u all bid and paraget	/							Stop 5.36000000	o Freq 00 GHz
-40.0	maninumahluthana	VAN ^{NU VIII}					- Wy al Alexandree	Marker Way	and the state of t	CF 10.00000 <u>Auto</u>	Step 00 MHz Man
-60.0										Freq	Offset 0 Hz
-70.0 Center 5.3	31000 GHz							Span 1	00.0 MHz	Scale	e Type <u>Lin</u>
#Res BW			#VBW	/ 3.0 MHz			Sweep 1	.000 ms (1001 pts)		
MSG							STATUS	3			

Plot 7-224. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)



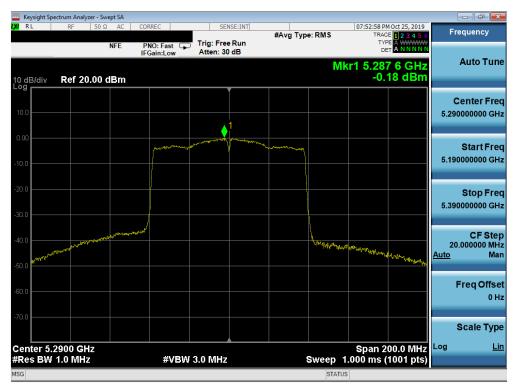
Plot 7-225. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 111 of 212
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Keysight Spectrum Analyzer -									×
LX RL RF 50		PNO: Fast		#Avg Typ	e:RMS	TRAC TYP	4 Oct 25, 2019 E 1 2 3 4 5 6 E A WWWWW	Frequency	v
10 dB/div Ref 15.00	I	Gain:Low	Atten: 26		Mk	r1 5.30	7 4 GHz 27 dBm	Auto T	Tune
5.00		and the second second	1	 				Center 5.31000000	
-15.0								Start I 5.260000000	
-25.0								Stop I 5.360000000	
-45.0	and a standard				homeelly	nulululu	MAN MARINA	CF \$ 10.000000 <u>Auto</u>	Step MHz Man
-65.0								Freq Of	ffset 0 Hz
-75.0 Center 5.31000 GHz						Span 1	00.0 MHz	Scale 1 Log	Type <u>Lin</u>
#Res BW 1.0 MHz		#VBW	3.0 MHz			.000 ms (1001 pts)		
MSG					STATUS				

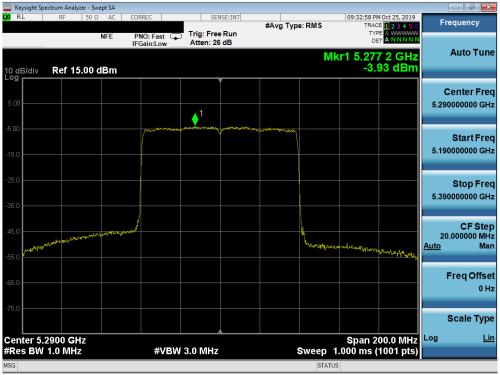
Plot 7-226. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)



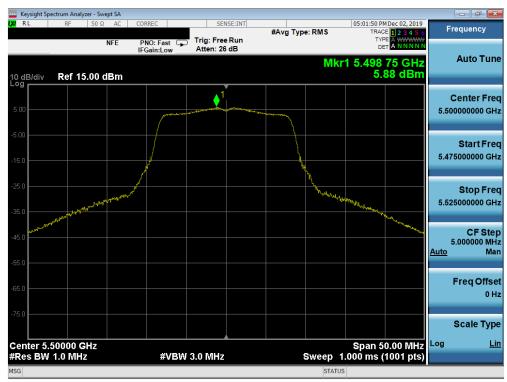
Plot 7-227. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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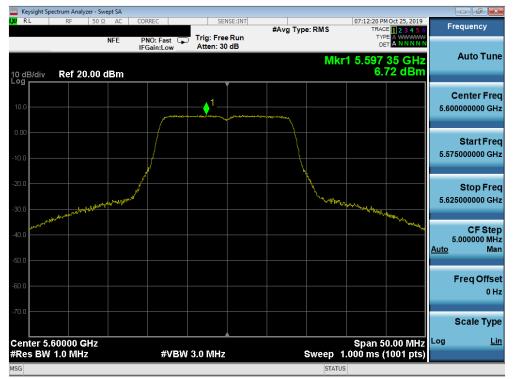
Plot 7-228. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)



Plot 7-229. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG986JPN	<u><i>CTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-230. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 120)



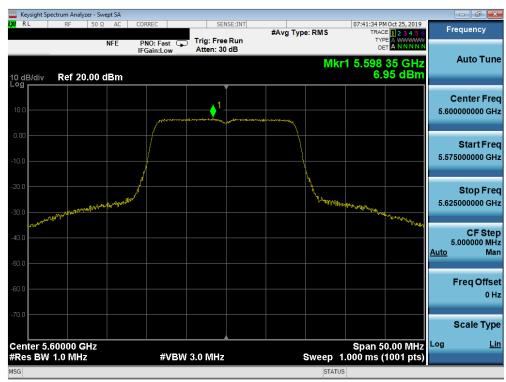
Plot 7-231. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG986JPN	<u><i>CTEST</i></u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 117 of 242
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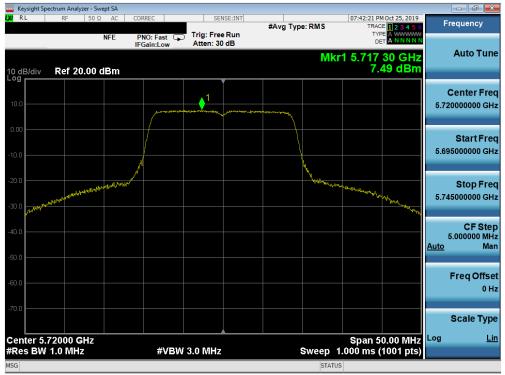
Plot 7-232. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)



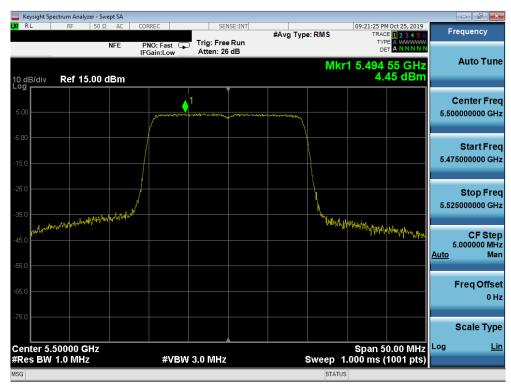
Plot 7-233. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 140 of 242
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Plot 7-234. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)



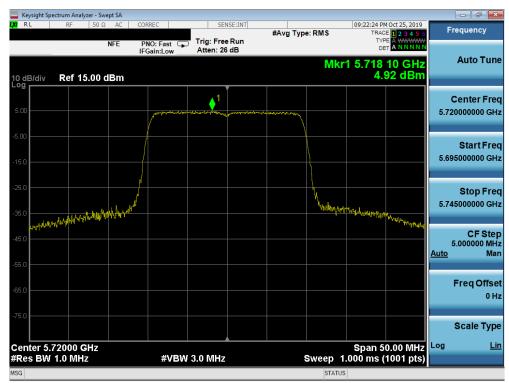
Plot 7-235. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-236. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 2C) - Ch. 120)



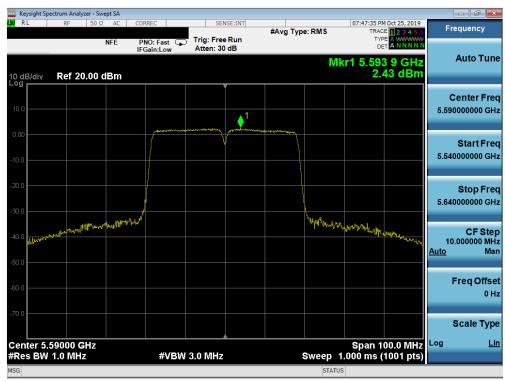
Plot 7-237. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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	ctrum Analyzer - Sw									
L <mark>XI</mark> RL	RF 50 Ω	AC C	ORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	MOct 25, 2019	Frequency
			PNO: Fast 🗔 Gain:Low	Trig: Free Atten: 30						
							M	(r1 5.51)	2 0 GHz	Auto Tune
10 dB/div Log	Ref 20.00	dBm						3.	86 dBm	
										Center Freq
10.0					<u> </u>					5.510000000 GHz
0.00			-	amania						
0.00										Start Freq
-10.0										5.460000000 GHz
-20.0			-				N N			Stop Freq
-30.0							\			5.560000000 GHz
-30.0	who want	were flagure dans	L .				mall record	human hallman		
-40.0	opposed and the second second							a wooder the Physics	proprieta .	CF Step 10.000000 MHz
- 10 ·									· · · · · · · · · · · · · · · · · · ·	Auto Man
-50.0										
-60.0										Freq Offset
-00.0										0 Hz
-70.0										
										Scale Type
Center 5.5	51000 GHz							Span 1	00.0 MHz	Log <u>Lin</u>
#Res BW			#VBW	/ 3.0 MHz			Sweep 1	.000 ms (1001 pts)	
MSG							STATUS	5		

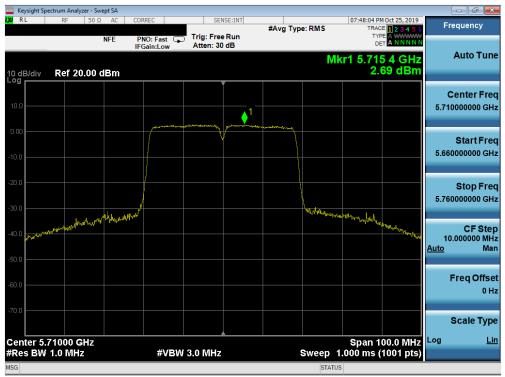
Plot 7-238. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)



Plot 7-239. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-240. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)



Plot 7-241. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 450 at 040
1M2001240012-06.A3L	10/11/19 - 03/05/2020	Portable Handset		Page 152 of 243
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W RL RF SO S. AC CORREC SENSEINT (0):3:0:2 MO dt 25, 2019 Frequency NFE PN0: Fait (F6ain:Low) Trig: Free Run Atten: 26 dB Trig: Free Run -0.45 dBm Trig: Free Run -0.45 dBm Auto Tune 10 dE/div Ref 15.00 dBm -0.45 dBm Center Freq 5.59000000 GHz Start Freq 5.54000000 GHz Start Freq 5.5400	Keysight Spectrum Analyze								
NFE PNO: Fast IFGainLow Trig: Free Run Atten: 26 dB Mikr1 5.583 9 GHz Auto Tune 10 dB/div Ref 15.00 dBm -0.45 dBm Center Freq 500 -0.45 dBm -0.45 dBm Start Freq 550000000 GHz -0.45 dBm -0.45 dBm Start Freq 550000000 GHz -0.45 dBm -0.45 dBm -0.45 dBm 650 -0.40 dBm -0.40 dBm -0.40 dBm -0.40 dBm 650 -0.40 dBm -0.40 dBm -0.40 dBm -0.40 dBm 750 -0.40 dBm -0.40 dBm -0.40 dBm -0.40 dBm 750 -0.40 dBm -0.40 dBm -0.40 dBm -0.40 dBm 750 </td <td>LXU RL RF</td> <td>50 Ω AC CO</td> <td></td> <td>SENSE:INT</td> <td>#Avg Type</td> <td></td> <td>TRACE</td> <td>23456</td> <td>Frequency</td>	LXU RL RF	50 Ω AC CO		SENSE:INT	#Avg Type		TRACE	23456	Frequency
10 dB/div Ref 15.00 dBm -0.45 dBm 500 1 1 1 500 1 1 1 1 500 1 1 1 1 500 1 1 1 1 1 500 1 1 1 1 1 1 500 1						Mkr	TYPE / DET		Auto Tune
5.00 1 5.59000000 GHz 5.00 5.59000000 GHz 5.00 5.54000000 GHz 5.54000000 GHz 5.54000000 GHz		00 dBm		•			-0.45	5 dBm	
500 500 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Center Freq</td>									Center Freq
15.0 Start Freq 15.0 Start Freq 25.0 Stop Freq 35.0 Stop Freq 45.0 Stop Freq 45.0 Stop Freq 45.0 Stop Freq 45.0 Stop Freq 55.0 Stop Freq 10.000000 MHz Man Freq Offset 0 Hz Scale Type Log Center 5.59000 GHz Span 100.0 MHz				1-	and the second s				5.590000000 GHz
150 Stop Freq 250 Stop Freq 350 Stop Freq 450 Stop Freq 450 Stop Freq 450 Stop Freq 450 Stop Freq 50 Stop Freq 60 Stop Freq 750 Stop Freq 60 Stop Freq 50 Stop Freq 60 Stop Freq 61 Stop Freq 62 Stop Freq 63 Stop Freq 64 Stop Freq 65 Stop Freq 65 Stop	-5.00								Start Freq
35.0 Stop Freq 45.0 Stop Freq 45.0 Stop Freq 55.0 Stop Freq 65.0 Stop Freq 75.0	-15.0								5.540000000 GHz
350 5.64000000 GHz 450 450 450 450 450 450 550 4000000 GHz 550 5.64000000 GHz	-25.0								Stop Freq
45.0 10.00000 MHz 55.0 10.00000 MHz 65.0 10.00000 MHz 75.0 10.00000 MHz 75.0 10.00000 MHz Center 5.59000 GHz Span 100.0 MHz	-35.0								
10.000000 MHz 10.00000 MHz 10.0000 Mz	45.0	and the second							CF Step
265.0 0 Hz 75.0 Scale Type Center 5.59000 GHz Span 100.0 MHz	anotel Malthouse and					h where why her was	vlauy) million de la	ph-shippon	
-650 -75.0 Center 5.59000 GHz Span 100.0 MHz Log Lin									Fred Offset
Center 5.59000 GHz Scale Type	-65.0								
Center 5.59000 GHz Scale Type	-75.0								
Center 5.59000 GHz Span 100.0 MHz Log Lin #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) Log Lin									Scale Type
#Res BW 1.0 MHZ #VBW 3.0 MHZ Sweep 1.000 ms (1001 pts)		iz	#\/DW/ 2.0	DALL-			Span 100	0.0 MHz	Log <u>Lin</u>
MSG STATUS			#VBW 3.0	WINZ	8		oo ms (1u	or pts)	

Plot 7-242. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)



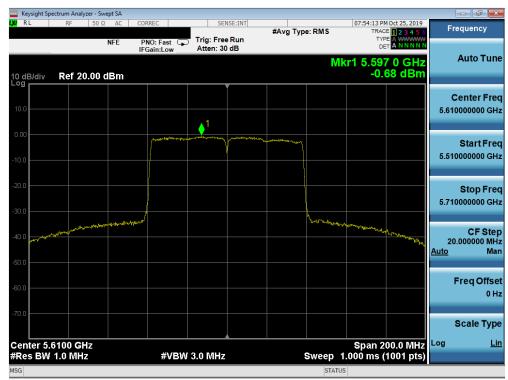
Plot 7-243. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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	pectrum Analyzer - Sw									
LXU RL	RF 50 Ω	AC CO	RREC	SEI	SE:INT	#Avg Typ	e: RMS		HOct 25, 2019	Frequency
			NO:Fast 🖵 Gain:Low	Trig: Free Atten: 30				TYP		
							M	(r1 5.53	2 2 GHz	Auto Tune
10 dB/div Log	Ref 20.00	dBm						0.	77 dBm	
					Í					Center Freq
10.0					4					5.530000000 GHz
0.00					\					
0.00			freedown and age	-Marine Contraction	and the second se	Low mercent				Start Freq
-10.0										5.430000000 GHz
-20.0										Stop Freq
-30.0			/							5.63000000 GHz
00.0	A Starbard Strategy and	par marken and and	4				breekgroups			
-40.0	North Contraction of the other o							and a second sec	Whenher	CF Step 20.000000 MHz
										<u>Auto</u> Man
-50.0										
-60.0										Freq Offset
										0 Hz
-70.0										
										Scale Type
	.5300 GHz							Span 2	00.0 MHz	Log <u>Lin</u>
	1.0 MHz		#VBW	3.0 MHz					1001 pts)	
MSG							STATUS	5		

Plot 7-244. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)



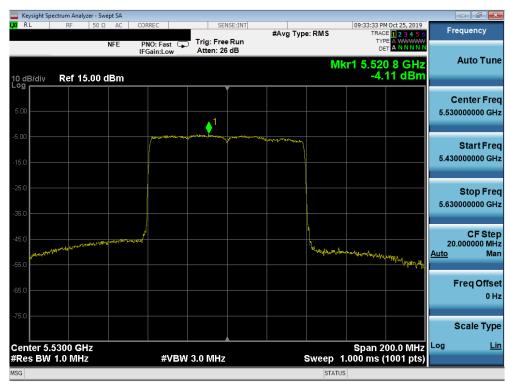
Plot 7-245. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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🔤 Keysight Spectrum Analy								
LXU RL RF	50 Ω AC CO	RREC	SENSE:INT	#Avg Typ	e: RMS	07:54:53 PM Oct TRACE	23456	Frequency
			Frig: Free Run Atten: 30 dB					
10 dB/div Ref 20	0.00 dBm				Mk	r1 5.677 6 -4.09	GHz dBm	Auto Tune
10.0								Center Freq 5.69000000 GHz
-10.0			•1	Margare Margare				Start Freq 5.590000000 GHz
-20.0								Stop Freq 5.790000000 GHz
-40.0	merana introducer and				humanyan	mantenneway	www.www.	CF Step 20.000000 MHz <u>Auto</u> Man
-60.0								Freq Offset 0 Hz
-70.0								Scale Type
Center 5.6900 GI #Res BW 510 kH		#VBW 3.	0 MHz		Sween _1	Span 200. 000 ms (100	V 1911 12	Log <u>Lin</u>
MSG		# • B • • •			STATUS	000 m3 (100	- p.(3)	

Plot 7-246. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)



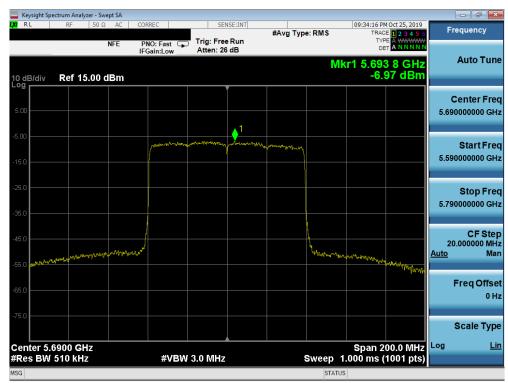
Plot 7-247. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMG986JPN	<u><u><u></u><u>PCTEST</u></u></u>	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Keysight Spectrum Analyzer								
🗶 RL RF 5	NFE PNC	: Fast Trig:	SENSE:INT	#Avg Typ	e: RMS	TRAC TYP	Oct 25, 2019 E 1 2 3 4 5 6 E A WWWW	Frequency
10 dB/div Ref 15.0		in:Low Atter	: 26 dB		Mk	(r1 5.59	5 2 GHz 23 dBm	Auto Tun
5.00		1						Center Free 5.610000000 GH
15.0		Norge 2006 Pringer and	ananta para di pana di	warmen appropriate				Start Free 5.510000000 GH
35.0								Stop Free 5.710000000 GH
45.0	mananana				A Mithdayer and an	and the strates of	Mrs Aberly all all all all all all all all all a	CF Stej 20.000000 MH <u>Auto</u> Ma
55.0								Freq Offse 0 H
75.0 Center 5.6100 GHz						Span 2	00.0 MHz	Scale Type Log <u>Li</u> i
#Res BW 1.0 MHz		#VBW 3.0 M	Hz			.000 ms (1001 pts)	
ISG					STATUS	5		

Plot 7-248. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)



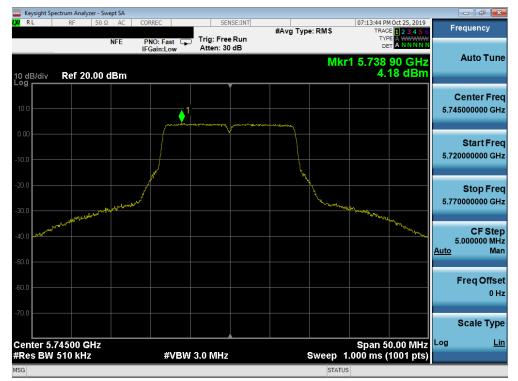
Plot 7-249. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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-	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]		Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	4.18	30.0	-25.82
	5785	157	а	6	4.01	30.0	-25.99
	5825	165	а	6	3.87	30.0	-26.13
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	3.96	30.0	-26.04
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	3.67	30.0	-26.33
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	4.37	30.0	-25.63
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	2.37	30.0	-27.63
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	1.88	30.0	-28.12
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	1.79	30.0	-28.21
	5755	151	n (40MHz)	13.5/15 (MCS0)	0.21	30.0	-29.79
	5795	159	n (40MHz)	13.5/15 (MCS0)	0.95	30.0	-29.05
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-2.34	30.0	-32.34
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-2.72	30.0	-32.72
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-0.88	30.0	-30.88
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-3.48	30.0	-33.48

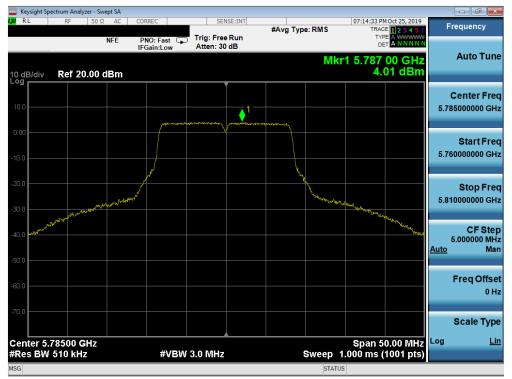
Table 7-26. Band 3 Conducted Power Spectral Density Measurements SISO ANT2



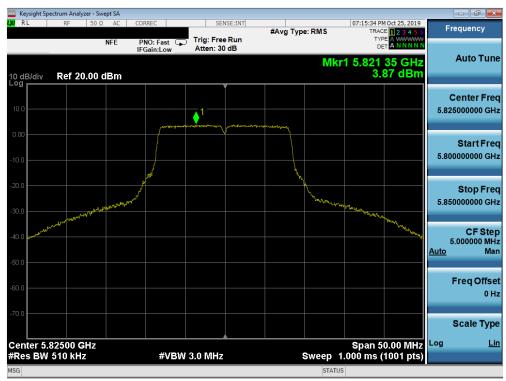
Plot 7-250. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG986JPN	<u> PCTEST</u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-251. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 157)



Plot 7-252. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 165)

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