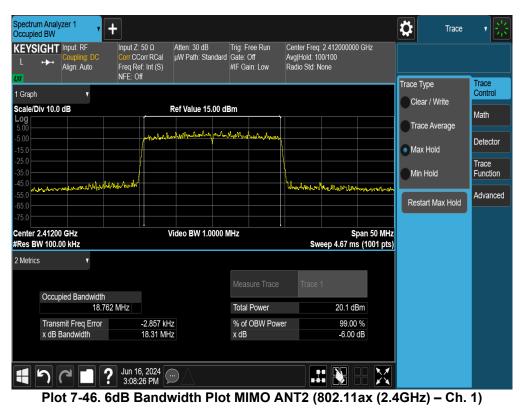


Spectrun Occupied	d BW		,	+														₿	Trace	• 崇
L L		Input: RF Coupling Align: Au	EDC	Co Fre		orr RCal : Int (S)		en: 30 dB / Path: Sta	andard	Gate:	Free Run Off ain: Low	1	Avg	ter Freq: Hold: 10 io Std: N		00000	GHz			
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Plot 7-45. 6dB Bandwidth Plot MIMO ANT2 (802.11n (2.4GHz) – Ch. 11)



 FCC ID: A3LSMX828U
 MEASUREMENT REPORT (CERTIFICATION)
 Approved by: Technical Manager

 Test Report S/N:
 Test Dates:
 EUT Type:

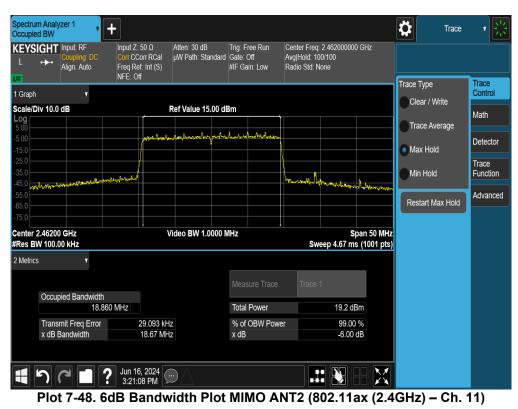
 1M2405140039-10.A3L
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Spectrum Occupied	n Analyzer 1 I BW	+							Ö	Trace	- * 影
-	GHT Input: RF ↔ Coupling: DC Align: Auto	Input Z: 50 Corr CCorr Freq Ref: In NFE: Off	RCal µW Pa	30 dB th: Standard	Trig: Free R Gate: Off #IF Gain: Lo	Center Freq: Avg Hold: 10 Radio Std: N) GHz			
1 Graph	v								Trace Type		Trace Control
Log	v 10.0 dB	f	Ref Val	ue 15.00 d	Bm				Clear / \		Math
5.00 -5.00 -15.0			have have been by the second	randon y northe	ntren market and				Trace A		Detector
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	.43700 GHz / 100.00 kHz		Video B	W 1.0000 I	MHz	Sw		pan 50 MHz s (1001 pts)			
2 Metrics	٣										
	Occupied Bandwid	th .686 MHz			Measure T	Trace	1 20.2 dE				
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					XUD		-0.00				
ľ	2 4	Jun 16, 2 3:15:48		7							

Plot 7-47. 6dB Bandwidth Plot MIMO ANT2 (802.11ax (2.4GHz) – Ch. 6)



 FCC ID: A3LSMX828U
 MEASUREMENT REPORT (CERTIFICATION)
 Approved by: Technical Manager

 Test Report S/N:
 Test Dates:
 EUT Type:

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 Portable Tablet

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7.3 Output Power Measurement

Test Overview and Limits

A transmitter antenna terminal of EUT is connected to the input of an RF power sensor. Measurement is made using a broadband power meter capable of making peak and average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

The maximum permissible conducted output power is 1 Watt per 15.247.

Test Procedure Used

ANSI C63.10-2013 – Section 11.9.1.3 PKPM1 Peak Power Method ANSI C63.10-2013 – Section 11.9.2.3.2 Method AVGPM-G ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique

Test Settings

Method PKPM1 (Peak Power Measurement)

Peak 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 pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

Method AVGPM-G (Average Power Measurement)

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 diagrams below.



Figure 7-2. Test Instrument & Measurement Setup for Power Meter Measurements

Test Notes

None.

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dama 42 af 422		
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	2.4GHz	WIFI (20MI	Hz 802.11b	SISO ANT1)	Conducted	Conducted
IEEE 802.11b	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Ш	2412	1		18.41	30.00	-11.59
м	2437	6	Average	18.53	30.00	-11.47
	2462	11		18.64	30.00	-11.36
œ	2412	1		20.98	30.00	-9.02
	2437	6	Peak	21.07	30.00	-8.93
	2462	11		21.19	30.00	-8.81
	2.4GHz	WIFI (20MI	Conducted	Conducted		
	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Power Limit [dBm]	Power Margin [dB]
D						
····	2412	1		16.83	30.00	-13.17
IEEE 802.11(2417	2	Augrage	17.48	30.00	-12.52
	2437	6	Average	17.43	30.00	-12.57
E C	2457	10		17.67	30.00	-12.33
	2462	11		17.64	30.00	-12.36
ω	2412	1		25.48	30.00	-4.52
	2417	2	Peak	25.75	30.00	-4.25
	2437	-	Peak	23.45	30.00	-6.55
	2457	10		25.72	30.00	-4.28
	2462	11	I= 900 11a	25.58 SISO ANT1)	30.00	-4.42
			Conducted	Conducted		
	Freq.	Channel	Detector	Conducted	Power Limit	Power Margin
L	[MHz]			Power [dBm]	[dBm]	[dB]
_				. one. [abiii]	[]	
_	2412	1		16.18	30.00	-13.82
Е 11	2412 2417	1 2				-13.82 -12.61
EE 11			Average	16.18	30.00	
EEE 2.11	2417	2	Average	16.18 17.39	30.00 30.00	-12.61 -12.61 -12.41
IEEE 02.11	2417 2437	2	Average	16.18 17.39 17.39 17.59 16.81	30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19
IEEE 802.11	2417 2437 2457	2 6 10 11 1	Average	16.18 17.39 17.39 17.59	30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41
IEEE 802.111	2417 2437 2457 2462	2 6 10 11		16.18 17.39 17.39 17.59 16.81 24.89 25.74	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19
IEEE 802.11	2417 2437 2457 2462 2412	2 6 10 11 1	Average Peak	16.18 17.39 17.39 17.59 16.81 24.89	30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11
IEEE 802.11	2417 2437 2457 2462 2412 2417 2437 2437 2457	2 6 10 11 1 2 6 10		16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44
IEEE 802.11	2417 2437 2457 2462 2412 2417 2437 2457 2462	2 6 10 11 2 6 10 11	Peak	16.18 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61
	2417 2437 2457 2462 2412 2417 2437 2457 2462	2 6 10 11 2 6 10 11	Peak	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44
	2417 2437 2457 2462 2412 2417 2437 2457 2462	2 6 10 11 2 6 10 11 WIFI (20MH	Peak	16.18 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted
	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz	2 6 10 11 2 6 10 11	Peak	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1)	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin [dB]
	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz V Freq.	2 6 10 11 2 6 10 11 WIFI (20MH	Peak Iz 802.11ax Detector	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1) Conducted	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin
	2417 2437 2457 2462 2412 2417 2437 2457 2457 2462 2.46Hz Freq. [MHz]	2 6 10 11 2 6 10 11 WIFI (20MH Channel	Peak	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1) Conducted Power [dBm]	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm]	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin [dB]
	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.46Hz Freq. [MHz] 2412	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1	Peak Iz 802.11ax Detector	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1) Conducted Power [dBm] 14.42	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin [dB] -15.58
	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.46Hz Freq. [MHz] 2412 2437	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1 6	Peak Iz 802.11ax Detector	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1) Conducted Power [dBm] 14.42 14.39	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin [dB] -15.58 -15.61
E 1ax -	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz Freq. [MHz] 2412 2437 2462	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1 6 11	Peak Iz 802.11ax Detector	16.18 17.39 17.39 17.59 16.81 24.89 25.74 23.39 25.56 25.61 SISO ANT1) Conducted Power [dBm] 14.42 14.39 14.46	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00 30.00 30.00	-12.61 -12.61 -12.41 -13.19 -5.11 -4.26 -6.61 -4.44 -4.39 Conducted Power Margin [dB] -15.58 -15.61 -15.54

Table 7-5. Conducted Output Power Measurements SISO ANT1

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dega 44 of 122		
1M2405140039-10.A3L	6/10/2024 - 7/30/2024	Portable Tablet	Page 44 of 133		
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	2.4GHz	WIFI (20MI	Hz 802.11b	SISO ANT2)	Conducted	Conducted
IEEE 802.11b	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Power Limit [dBm]	Power Margin [dB]
ш	2412	1		18.76	30.00	-11.24
NШ	2437	6	Average	18.45	30.00	-11.55
— O	2462	11		18.46	30.00	-11.54
8	2412	1		21.43	30.00	-8.57
	2437	6	Peak	20.96	30.00	-9.04
	2462	11		21.02	30.00	-8.98
	2.4GHz	WIFI (20MI	Conducted	Conducted		
802.11g	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Power Limit [dBm]	Power Margin [dB]
. :	2412	1		17.38	30.00	-12.62
\sim	2417	2		17.49	30.00	-12.51
0	2437	6	Average	17.52	30.00	-12.48
8	2457	10		17.65	30.00	-12.35
ш	2462	11		17.58	30.00	-12.42
Ë	2412	1		23.48	30.00	-6.52
	2417	2		23.98	30.00	-6.02
Ш	2437	6	Peak	23.96	30.00	-6.04
	2457	10		24.12	30.00	-5.88
	2462	11		24.13	30.00	-5.87
	2.4GHz	WIFI (20MI	Hz 802.11n	Conducted	Conducted	
L	Freq.	Channel	Detector	Conducted	Power Limit	Power Margin
	[MHz]	Channel		Power [dBm]	[dBm]	[dB]
—				i onei labiil	fanul	
.1	2412	1		15.95	30.00	-14.05
2.1	2412 2417	1 2				-14.05 -12.61
02.1		2	Average	15.95	30.00	-12.61 -12.68
802.1	2417	2	Average	15.95 17.39	30.00 30.00	-12.61
5 802.11	2417 2437	2	Average	15.95 17.39 17.32 17.47 16.55	30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68
	2417 2437 2457 2462 2412	2 6 10 11 1	Average	15.95 17.39 17.32 17.47 16.55 24.56	30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53
EE	2417 2437 2457 2462 2412 2412 2417	2 6 10 11		15.95 17.39 17.32 17.47 16.55 24.56 23.99	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01
EE	2417 2437 2457 2462 2412	2 6 10 11 1 2 6	Average Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94	30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44
	2417 2437 2457 2462 2412 2417 2437 2437 2457	2 6 10 11 1 2 6 10		15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47
EE	2417 2437 2457 2462 2412 2417 2437 2437 2457 2462	2 6 10 11 2 6 10 11	Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz	2 6 10 11 2 6 10 11	Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 3.92 SISO ANT2)	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted
IEEE	2417 2437 2457 2462 2412 2417 2437 2437 2457 2462	2 6 10 11 2 6 10 11 WIFI (20MH	Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz	2 6 10 11 2 6 10 11	Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted Power [dBm]	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.46Hz Freq. [MHz] 2412	2 6 10 11 2 6 10 11 WIFI (20MH	Peak Iz 802.11ax Detector	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted Power Margin
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2457 2462 2.4GHz Freq. [MHz]	2 6 10 11 2 6 10 11 WIFI (20MH Channel	Peak	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted Power [dBm]	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm]	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted Power Margin [dB]
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.46Hz Freq. [MHz] 2412	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1	Peak Iz 802.11ax Detector	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted Power [dBm] 14.72	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted Power Margin [dB] -15.28
IEEE	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.46Hz Freq. [MHz] 2412 2437	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1 6 11 1	Peak Iz 802.11ax Detector Average	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted Power [dBm] 14.72 14.42 14.53 24.27	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted Power Margin [dB] -15.28 -15.58
E 1ax IEEE I	2417 2437 2457 2462 2412 2417 2437 2457 2462 2.4GHz Freq. [MHz] 2412 2437 2462	2 6 10 11 2 6 10 11 WIFI (20MH Channel 1 6 11	Peak Iz 802.11ax Detector	15.95 17.39 17.32 17.47 16.55 24.56 23.99 23.94 24.53 23.92 SISO ANT2) Conducted Power [dBm] 14.72 14.42 14.53	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 Conducted Power Limit [dBm] 30.00 30.00 30.00	-12.61 -12.68 -12.53 -13.45 -5.44 -6.01 -6.06 -5.47 -6.08 Conducted Power Margin [dB] -15.28 -15.58 -15.47

Table 7-6. Conducted Output Power Measurements SISO ANT2

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)		
Test Report S/N:	Test Dates:	EUT Type:	Page 45 of 133	
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		2	.4GHz WIFI	(20MHz 802.1	1b MIMO)		Conducted	Conducted
1b	Freq [MHz]	Channel	Detector		lucted Power [Power Limit [dBm]	Power Margin [dB]
Ш				ANT1	ANT2	MIMO		
IEE 802.1	2412	1		18.42	18.87	21.66	30.00	-8.34
ШМ	2437	6	Average	18.47	18.41	21.45	30.00	-8.55
	2462	11		18.63	18.49	21.57	30.00	-8.43
8	2412	1	Peak	21.12	21.49	24.32	30.00	-5.68
	2437	6	Реак	21.01	20.95	23.99	30.00	-6.01
	2462	11		21.25	21.12	24.20	30.00	-5.80
		2	4GHZ WIFI	(20MHz 802.1	IG MIMO)		Conducted	Conducted
g	Freq	Channel	Detector	Cond	lucted Power [dBm]	Power Limit	Power Margin
~	[MHz]	Channel	Detector	ANT1	ANT2	MIMO	[dBm]	[dB]
<u> </u>	2412	1		16.96	17.46	20.23	30.00	-9.77
802.1	2412	2	1	17.50	17.73	20.23	30.00	-9.37
ö	2417	6	Average	17.47	17.42	20.03	30.00	-9.54
<u> </u>	2457	10		17.57	17.84	20.72	30.00	-9.28
	2462	11	1	17.65	17.78	20.73	30.00	-9.27
Щ	2412	1		23.58	24.43	27.04	30.00	-2.96
Щ	2417	2	1	23.48	23.97	26.74	30.00	-3.26
Ш	2437	6	Peak	23.04	23.53	26.30	30.00	-3.70
_	2457	10	1	23.18	24.18	26.72	30.00	-3.28
	2462	11	1	23.11	23.78	26.47	30.00	-3.53
		2	4GHz WIFI	(20MHz 802.1	1n MIMO)		Conducted	Conducted
u	Freq	Channel	Detector	Cond	lucted Power [dBm]	Power Limit	Power Margin
<u> </u>	[MHz]	Channer	Detector	ANT1	ANT2	мімо	[dBm]	[dB]
802.1	2412	1		15.46	16.14	18.82	30.00	-11.18
N	2417	2	1	17.44	17.58	20.52	30.00	-9.48
ö	2437	6	Average	17.39	17.34	20.38	30.00	-9.62
80	2457	10		17.42	17.83	20.64	30.00	-9.36
	2462	11	1	16.53	16.71	19.63	30.00	-10.37
EE	2412	1		23.18	24.05	26.65	30.00	-3.35
	2417	2	1	23.36	23.96	26.68	30.00	-3.32
<u>Ш</u>	2437	6	Peak	23.01	23.51	26.28	30.00	-3.72
	2457	10	1	23.21	24.26	26.78	30.00	-3.22
	2462	11	1	23.16	23.73	26.46	30.00	-3.54
		2.	4GHz WIFI	(20MHz 802.11	ax MIMO)		Conducted	Conducted
	Free			Conc	lucted Power [dBml	Power Limit	Power Margin
		Channel	Detector	COIR	deteu Power [
aX	Freq [MHz]	Channel	Detector				- [dBm]	I Idel
ш	[MHz]		Detector	ANT1	ANT2	MIMO	[dBm]	[dB]
ш	[MHz] 2412	1		14.32	14.83	17.59	30.00	-12.41
ш	[MHz] 2412 2437	1 6	Detector Average	14.32 14.22	14.83 14.43	17.59 17.34	30.00 30.00	-12.41 -12.66
ш	[MHz] 2412 2437 2462	1 6 11		14.32 14.22 14.68	14.83 14.43 14.51	17.59 17.34 17.61	30.00 30.00 30.00	-12.41 -12.66 -12.39
ш	[MHz] 2412 2437 2462 2412	1 6 11 1	Average	14.32 14.22 14.68 23.27	14.83 14.43 14.51 23.84	17.59 17.34 17.61 26.57	30.00 30.00 30.00 30.00 30.00	-12.41 -12.66 -12.39 -3.43
ш 🥿	[MHz] 2412 2437 2462	1 6 11		14.32 14.22 14.68	14.83 14.43 14.51	17.59 17.34 17.61	30.00 30.00 30.00	-12.41 -12.66 -12.39

Table 7-7. Conducted Output Power Measurements MIMO

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Note:

Per ANSI C63.10-2013 Section 14.2, 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.

Sample MIMO Calculation:

At 2412MHz the average conducted output power was measured to be 18.42 dBm for Antenna 1 and 18.87 dBm for Antenna 2.

Antenna 1 + Antenna 2 = MIMO

(18.42dBm + 18.87 dBm) = (69.50 mW + 77.09 mW) = 146.59 mW = 21.66 dBm

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7.4 Power Spectral Density

Test Overview and Limit

The peak power density is measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates are investigated and the worst-case configuration results are reported in this section.

The maximum permissible power spectral density shall not be greater than 8 dBm in any 3 kHz band.

Test Procedure Used

ANSI C63.10-2013 – Section 11.10.2 Method PKPSD ANSI C63.10-2013 – Section 14.3.1 Measure-and-Sum Technique

Test Settings

- 1. Analyzer was set to the center frequency of the DTS channel under investigation
- 2. Span = 1.5 times the DTS channel bandwidth
- 3. RBW = 10kHz
- 4. VBW = 1MHz
- 5. Detector = peak
- 6. Sweep time = auto couple
- 7. Trace mode = max hold
- 8. Trace was allowed to stabilize

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

None.

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Power Spectral Density Measurements

Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Spectral Density [dBm]	Maximum Permissible Power Density [dBm / 3kHz]	Margin [dB]	Pass / Fail
2412	1	b	1	-0.90	8.00	-8.90	Pass
2437	6	b	1	-1.11	8.00	-9.11	Pass
2462	11	b	1	-1.38	8.00	-9.38	Pass
2412	1	g	6	-4.45	8.00	-12.45	Pass
2437	6	g	6	-4.34	8.00	-12.34	Pass
2462	11	g	6	-4.34	8.00	-12.34	Pass
2412	1	n	6.5/7.2 (MCS0)	-5.39	8.00	-13.39	Pass
2437	6	n	6.5/7.2 (MCS0)	-4.36	8.00	-12.36	Pass
2462	11	n	6.5/7.2 (MCS0)	-4.38	8.00	-12.38	Pass
2412	1	ax	6.5/7.2 (MCS0)	-7.24	8.00	-15.24	Pass
2437	6	ax	6.5/7.2 (MCS0)	-6.77	8.00	-14.77	Pass
2462	11	ax	6.5/7.2 (MCS0)	-6.73	8.00	-14.73	Pass

Table 7-8. Conducted Power Spectral Density Measurements SISO ANT1

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Spectral Density [dBm]	Maximum Permissible Power Density [dBm / 3kHz]	Margin [dB]	Pass / Fail
2412	1	b	1	-0.82	8.00	-8.82	Pass
2437	6	b	1	-1.78	8.00	-9.78	Pass
2462	11	b	1	-2.34	8.00	-10.34	Pass
2412	1	g	6	-5.19	8.00	-13.19	Pass
2437	6	g	6	-4.75	8.00	-12.75	Pass
2462	11	g	6	-4.45	8.00	-12.45	Pass
2412	1	n	6.5/7.2 (MCS0)	-6.04	8.00	-14.04	Pass
2437	6	n	6.5/7.2 (MCS0)	-3.26	8.00	-11.26	Pass
2462	11	n	6.5/7.2 (MCS0)	-6.30	8.00	-14.30	Pass
2412	1	ax	6.5/7.2 (MCS0)	-8.29	8.00	-16.29	Pass
2437	6	ax	6.5/7.2 (MCS0)	-6.03	8.00	-14.03	Pass
2462	11	ax	6.5/7.2 (MCS0)	-8.31	8.00	-16.31	Pass

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Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	ANT 1 Power Spectral Density [dBm]	ANT 2 Power Spectral Density [dBm]	Summed MIMO Power Spectral Density [dBm]	Maximum Permissible Power Density [dBm / 3kHz]	Margin [dB]	Pass / Fail
2412	1	b	1	-2.88	-1.73	0.74	8.00	-7.26	Pass
2437	6	b	1	-2.23	-2.07	0.86	8.00	-7.14	Pass
2462	11	b	1	-1.74	-0.97	1.67	8.00	-6.33	Pass
2412	1	g	6	-8.65	-7.53	-5.04	8.00	-13.04	Pass
2437	6	g	6	-4.93	-3.47	-1.13	8.00	-9.13	Pass
2462	11	g	6	-7.64	-6.83	-4.21	8.00	-12.21	Pass
2412	1	n	6.5/7.2 (MCS0)	-6.93	-6.61	-3.76	8.00	-11.76	Pass
2437	6	n	6.5/7.2 (MCS0)	-3.01	-2.76	0.13	8.00	-7.87	Pass
2462	11	n	6.5/7.2 (MCS0)	-6.12	-6.31	-3.20	8.00	-11.20	Pass
2412	1	ax	6.5/7.2 (MCS0)	-8.26	-6.06	-4.01	8.00	-12.01	Pass
2437	6	ax	6.5/7.2 (MCS0)	-7.38	-5.96	-3.60	8.00	-11.60	Pass
2462	11	ax	6.5/7.2 (MCS0)	-8.19	-7.81	-4.99	8.00	-12.99	Pass

Table 7-10. Conducted Power Spectral Density Measurements MIMO

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)		
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7.4.1 SISO Antenna-1 Power Spectral Density Measurements





Plot 7-50. Power Spectral Density Plot SISO ANT1 (802.11b – Ch. 6)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)		
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Plot 7-51. Power Spectral Density Plot SISO ANT1 (802.11b - Ch. 11)



Plot 7-52. Power Spectral Density Plot SISO ANT1 (802.11g - Ch. 1)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Plot 7-53. Power Spectral Density Plot SISO ANT1 (802.11g - Ch. 6)



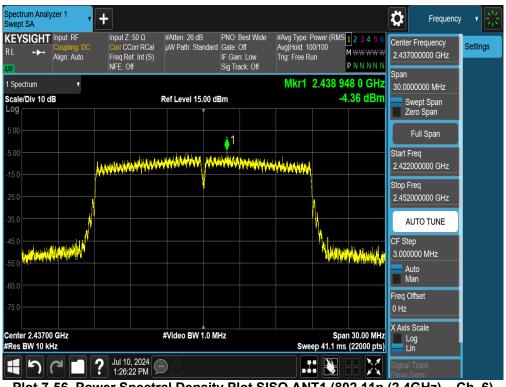
Plot 7-54. Power Spectral Density Plot SISO ANT1 (802.11g - Ch. 11)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
Test Report S/N:	Test Dates:	EUT Type:	Dege E4 of 122
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Plot 7-55. Power Spectral Density Plot SISO ANT1 (802.11n (2.4GHz) - Ch. 1)



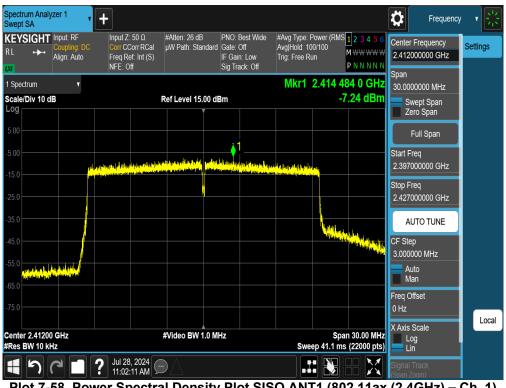
Plot 7-56. Power Spectral Density Plot SISO ANT1 (802.11n (2.4GHz) – Ch. 6)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Plot 7-57. Power Spectral Density Plot SISO ANT1 (802.11n (2.4GHz) - Ch. 11)



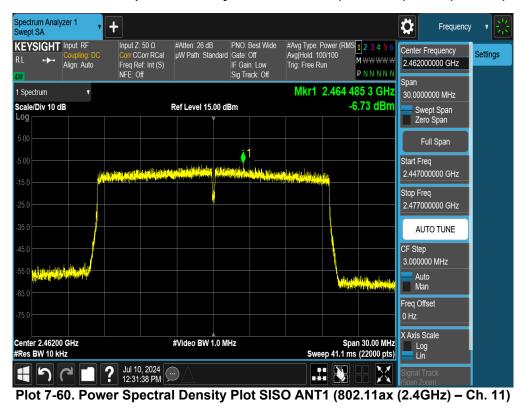
Plot 7-58. Power Spectral Density Plot SISO ANT1 (802.11ax (2.4GHz) - Ch. 1)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-59. Power Spectral Density Plot SISO ANT1 (802.11ax (2.4GHz) – Ch. 6)



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7.4.2 SISO Antenna-2 Power Spectral Density Measurements





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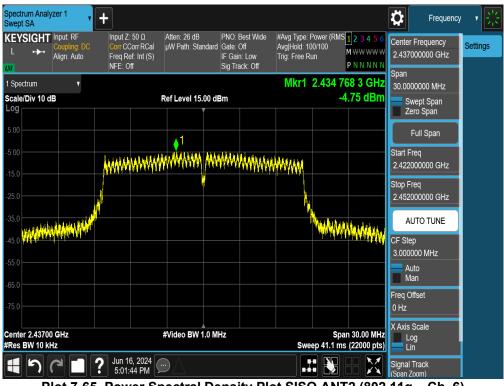
Plot 7-63. Power Spectral Density Plot SISO ANT2 (802.11b - Ch. 11)



Plot 7-64. Power Spectral Density Plot SISO ANT2 (802.11g - Ch. 1)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-65. Power Spectral Density Plot SISO ANT2 (802.11g - Ch. 6)



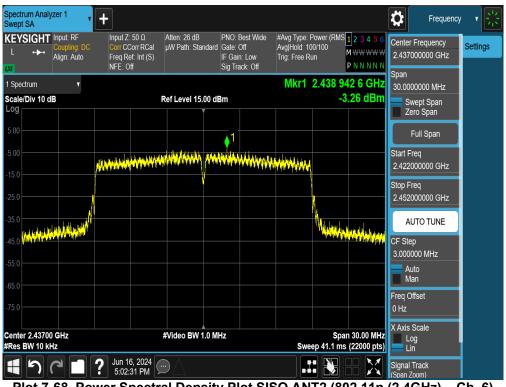
Plot 7-66. Power Spectral Density Plot SISO ANT2 (802.11g - Ch. 11)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-67. Power Spectral Density Plot SISO ANT2 (802.11n (2.4GHz) - Ch. 1)



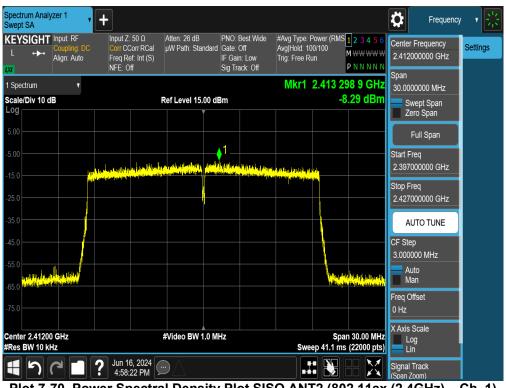
Plot 7-68. Power Spectral Density Plot SISO ANT2 (802.11n (2.4GHz) – Ch. 6)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 61 of 122
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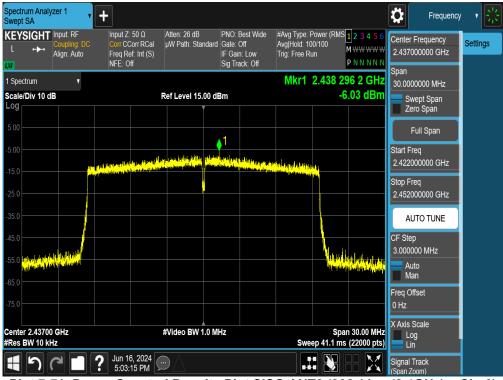
Plot 7-69. Power Spectral Density Plot SISO ANT2 (802.11n (2.4GHz) - Ch. 11)



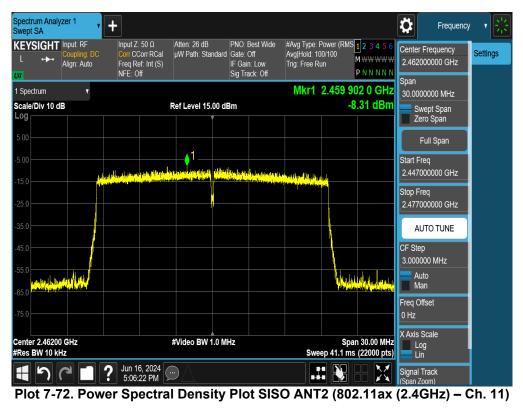
Plot 7-70. Power Spectral Density Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 1)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 62 of 122
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Plot 7-71. Power Spectral Density Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 6)



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7.4.3 MIMO Power Spectral Density Measurements





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Plot 7-75. Power Spectral Density Plot MIMO ANT1 (802.11b - Ch. 11)



Plot 7-76. Power Spectral Density Plot MIMO ANT1 (802.11g - Ch. 1)

FCC ID: A3LSMX828U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-77. Power Spectral Density Plot MIMO ANT1 (802.11g - Ch. 6)



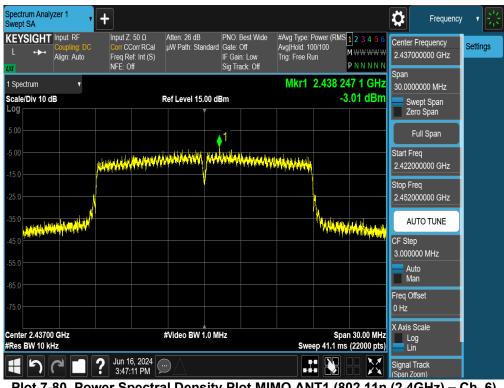
Plot 7-78. Power Spectral Density Plot MIMO ANT1 (802.11g - Ch. 11)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Plot 7-79. Power Spectral Density Plot MIMO ANT1 (802.11n (2.4GHz) - Ch. 1)



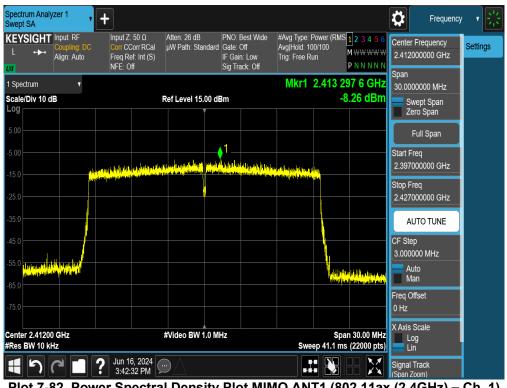
Plot 7-80. Power Spectral Density Plot MIMO ANT1 (802.11n (2.4GHz) – Ch. 6)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Plot 7-81. Power Spectral Density Plot MIMO ANT1 (802.11n (2.4GHz) - Ch. 11)



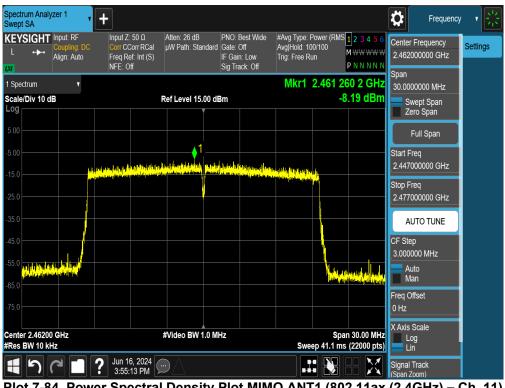
Plot 7-82. Power Spectral Density Plot MIMO ANT1 (802.11ax (2.4GHz) - Ch. 1)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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Plot 7-83. Power Spectral Density Plot MIMO ANT1 (802.11ax (2.4GHz) – Ch. 6)



Plot 7-84. Power Spectral Density Plot MIMO ANT1 (802.11ax (2.4GHz) – Ch. 11)

FCC ID: A3LSMX828U		MEASUREMENT REPORT (CERTIFICATION)	
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