

































11AX40SISO Ant1 5795



6dB Bandwidth:

11A Ant1 5720



11A Ant1 5745















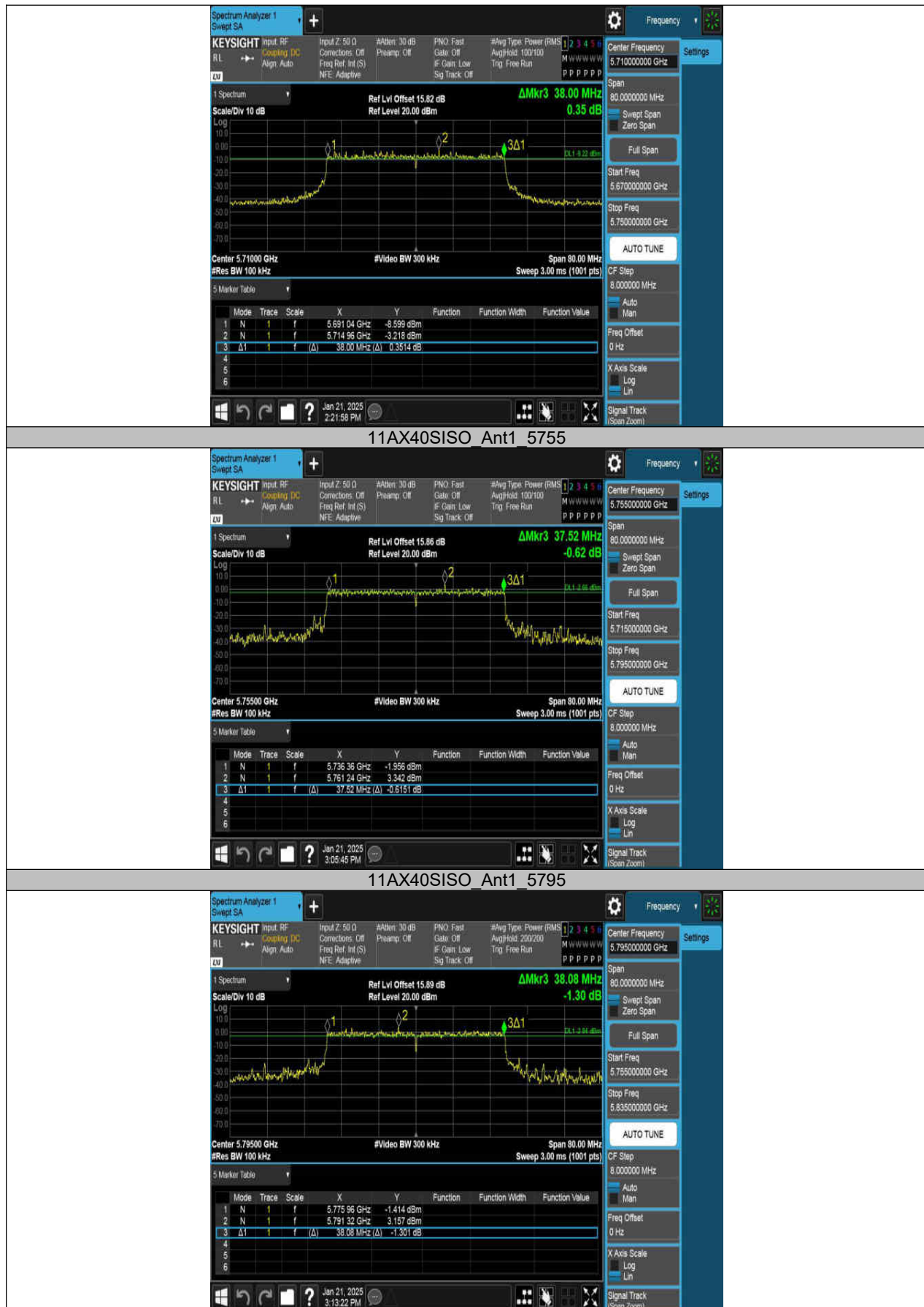
11AX20SISO_Ant1_5785



11AX20SISO_Ant1_5825



11AX40SISO Ant1 5710



10. Maximum Output Power

10.1. Block Diagram of Test Setup

Same as section 8.1

10.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm)	5150-5250
	☐ Indoor Access Point: 1 W (30 dBm)	
	☐ Fixed Point-To-Point Access Points: 1 W (30 dBm)	
	☒ Client Devices: 250 mW (24 dBm)	
	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250-5350 5470-5725
	Shall not exceed 1 Watt (30 dBm).	5725-5850

ISED RSS-247 ISSUE 2		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power or e.i.r.p.	The maximum e.i.r.p. shall not exceed 200 mW (23 dBm) or 10 + 10 log10B, dBm, whichever power is less. B is the 99 % emission bandwidth in megahertz.	5150-5250
	a. The maximum conducted output power shall not exceed 250 mW (24 dBm) or 11 + 10 log10B dBm, whichever is less.	5250-5350
	b. The maximum e.i.r.p. shall not exceed 1.0 W (30 dBm) or 17 + 10 log10B dBm, whichever is less. B is the 99 % emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.	5250-5350 5470-5600 5650-5725
	Shall not exceed 1 Watt (30 dBm). The e.i.r.p. shall not exceed 4 W	5725-5850

Note: The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

10.3. Test Procedure

- (1) Connect each EUT's antenna output to power meter by RF cable and attenuator
- (2) Add each antenna port's results to get the total output power of EUT.

10.4. Test Result

Test Mode	Ant.	Freq. (MHz)	Channel Power (dBm)	Duty Cycle (%)	DC Factor (dBm)	Result (dBm)	Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
11A	Ant1	5180	4.13	16.93	7.71	11.84	≤23.98	17.69	≤22.31	PASS
		5200	11.54	79.61	0.99	12.53	≤23.98	18.38	≤22.41	PASS
		5240	11.38	79.61	0.99	12.37	≤23.98	18.22	≤22.38	PASS
		5260	9.54	79.61	0.99	10.53	≤23.98	16.38	≤26.99	PASS
		5280	9.53	79.61	0.99	10.52	≤23.98	16.37	≤26.99	PASS
		5320	9.25	79.61	0.99	10.24	≤23.98	16.09	≤26.99	PASS
		5500	11.49	79.61	0.99	12.48	≤23.98	18.33	≤26.99	PASS
		5580	11.75	79.61	0.99	12.74	≤23.98	18.59	≤26.99	PASS
		5700	11.37	79.61	0.99	12.36	≤23.98	18.21	≤26.99	PASS
		5720_UNII-2C	9.50	79.61	0.99	10.49	≤23.46	16.34	≤26.99	PASS
		5720_UNII-3	3.36	79.61	0.99	4.35	≤30.00	10.20	---	PASS
		5745	10.53	79.61	0.99	11.52	≤30.00	17.37	---	PASS
		5785	9.86	79.69	0.99	10.85	≤30.00	16.70	---	PASS
		5825	9.78	79.61	0.99	10.77	≤30.00	16.62	---	PASS
11N20 SISO	Ant1	5180	9.78	78.42	1.06	10.84	≤23.98	16.69	≤22.67	PASS
		5200	9.24	78.42	1.06	10.30	≤23.98	16.15	≤22.67	PASS
		5240	9.22	78.51	1.05	10.27	≤23.98	16.12	≤22.68	PASS
		5260	8.73	78.42	1.06	9.79	≤23.98	15.64	≤26.99	PASS
		5280	8.86	78.10	1.07	9.93	≤23.98	15.78	≤26.99	PASS
		5320	9.15	78.10	1.07	10.22	≤23.98	16.07	≤26.99	PASS
		5500	9.35	78.75	1.04	10.39	≤23.98	16.24	≤26.99	PASS
		5580	9.43	78.42	1.06	10.49	≤23.98	16.34	≤26.99	PASS
		5700	8.38	78.75	1.04	9.42	≤23.98	15.27	≤26.99	PASS
		5720_UNII-2C	9.22	78.42	1.06	10.28	≤23.49	16.13	≤26.99	PASS
		5720_UNII-3	3.88	78.42	1.06	4.94	≤30.00	10.79	---	PASS
		5745	10.43	78.42	1.06	11.49	≤30.00	17.34	---	PASS
		5785	10.04	68.98	1.61	11.65	≤30.00	17.50	---	PASS
		5825	9.49	78.42	1.06	10.55	≤30.00	16.40	---	PASS
11N40 SISO	Ant1	5190	9.15	64.14	1.93	11.08	≤23.98	16.93	≤23.01	PASS
		5230	9.39	64.14	1.93	11.32	≤23.98	17.17	≤23.01	PASS
		5270	7.87	64.83	1.88	9.75	≤23.98	15.60	≤26.99	PASS
		5310	8.55	63.70	1.96	10.51	≤23.98	16.36	≤26.99	PASS
		5510	9.62	64.14	1.93	11.55	≤23.98	17.40	≤26.99	PASS
		5550	10.27	64.14	1.93	12.20	≤23.98	18.05	≤26.99	PASS
		5670	9.56	64.14	1.93	11.49	≤23.98	17.34	≤26.99	PASS
		5710_UNII-2C	8.66	64.14	1.93	10.59	≤23.98	16.44	≤26.99	PASS
		5710_UNII-3	-1.81	64.14	1.93	0.12	≤30.00	5.97	---	PASS
		5755	9.34	64.14	1.93	11.27	≤30.00	17.12	---	PASS
		5795	8.46	64.83	1.88	10.34	≤30.00	16.19	---	PASS
11AC20 SISO	Ant1	5180	8.83	78.10	1.07	9.90	≤23.98	15.75	≤22.70	PASS
		5200	7.99	78.10	1.07	9.06	≤23.98	14.91	≤22.69	PASS
		5240	9.28	78.42	1.06	10.34	≤23.98	16.19	≤22.69	PASS
		5260	8.85	78.51	1.05	9.90	≤23.98	15.75	≤26.99	PASS
		5280	8.80	78.51	1.05	9.85	≤23.98	15.70	≤26.99	PASS
		5320	8.04	73.36	1.35	9.39	≤23.98	15.24	≤26.99	PASS
		5500	9.74	78.51	1.05	10.79	≤23.98	16.64	≤26.99	PASS
		5580	9.60	78.51	1.05	10.65	≤23.98	16.50	≤26.99	PASS
		5700	8.49	78.42	1.06	9.55	≤23.98	15.40	≤26.99	PASS
		5720_UNII-2C	7.94	78.51	1.05	8.99	≤23.64	14.84	≤26.99	PASS

		5720_UNII -3	1.59	78.51	1.05	2.64	≤30.00	8.49	---	PASS
		5745	9.04	78.93	1.03	10.07	≤30.00	15.92	---	PASS
		5785	8.52	78.51	1.05	9.57	≤30.00	15.42	---	PASS
		5825	7.52	78.51	1.05	8.57	≤30.00	14.42	---	PASS
11AC4 0SISO	Ant1	5190	8.77	64.38	1.91	10.68	≤23.98	16.53	≤23.01	PASS
		5230	8.68	64.14	1.93	10.61	≤23.98	16.46	≤23.01	PASS
		5270	8.40	63.09	2.00	10.40	≤23.98	16.25	≤26.99	PASS
		5310	7.93	64.38	1.91	9.84	≤23.98	15.69	≤26.99	PASS
		5510	8.53	64.14	1.93	10.46	≤23.98	16.31	≤26.99	PASS
		5550	8.97	64.14	1.93	10.90	≤23.98	16.75	≤26.99	PASS
		5670	8.88	64.14	1.93	10.81	≤23.98	16.66	≤26.99	PASS
		5710_UNII -2C	7.96	64.14	1.93	9.89	≤23.98	15.74	≤26.99	PASS
		5710_UNII -3	-2.93	64.14	1.93	-1.00	≤30.00	4.85	---	PASS
		5755	8.06	64.83	1.88	9.94	≤30.00	15.79	---	PASS
		5795	7.78	64.83	1.88	9.66	≤30.00	15.51	---	PASS
11AX2 0SISO	Ant1	5180	10.43	73.74	1.32	11.75	≤23.98	17.60	≤22.87	PASS
		5200	9.61	73.74	1.32	10.93	≤23.98	16.78	≤22.85	PASS
		5240	8.62	55.94	2.52	11.14	≤23.98	16.99	≤22.84	PASS
		5260	6.36	56.59	2.47	8.83	≤23.98	14.68	≤26.99	PASS
		5280	6.47	55.89	2.53	9.00	≤23.98	14.85	≤26.99	PASS
		5320	7.37	73.74	1.32	8.69	≤23.98	14.54	≤26.99	PASS
		5500	10.48	73.74	1.32	11.80	≤23.98	17.65	≤26.99	PASS
		5580	10.54	73.74	1.32	11.86	≤23.98	17.71	≤26.99	PASS
		5700	9.90	73.87	1.32	11.22	≤23.98	17.07	≤26.99	PASS
		5720_UNII -2C	8.68	73.60	1.33	10.01	≤23.65	15.86	≤26.99	PASS
		5720_UNII -3	2.78	73.60	1.33	4.11	≤30.00	9.96	---	PASS
		5745	10.20	73.87	1.32	11.52	≤30.00	17.37	---	PASS
		5785	9.71	73.74	1.32	11.03	≤30.00	16.88	---	PASS
		5825	8.78	73.74	1.32	10.10	≤30.00	15.95	---	PASS
11AX4 0SISO	Ant1	5190	9.35	59.38	2.26	11.61	≤23.98	17.46	≤23.01	PASS
		5230	8.53	59.38	2.26	10.79	≤23.98	16.64	≤23.01	PASS
		5270	6.94	59.38	2.26	9.20	≤23.98	15.05	≤26.99	PASS
		5310	6.82	59.38	2.26	9.08	≤23.98	14.93	≤26.99	PASS
		5510	9.30	60.16	2.21	11.51	≤23.98	17.36	≤26.99	PASS
		5550	9.07	59.38	2.26	11.33	≤23.98	17.18	≤26.99	PASS
		5670	9.22	59.38	2.26	11.48	≤23.98	17.33	≤26.99	PASS
		5710_UNII -2C	8.37	60.16	2.21	10.58	≤23.98	16.43	≤26.99	PASS
		5710_UNII -3	-1.23	60.16	2.21	0.98	≤30.00	6.83	---	PASS
		5755	8.40	59.38	2.26	10.66	≤30.00	16.51	---	PASS
		5795	8.19	59.84	2.23	10.42	≤30.00	16.27	---	PASS

11. Power Spectral Density

11.1. Block Diagram of Test Setup

Same as section 8.1

11.2. Limits

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☒ Client Devices: 11 dBm/MHz	5150-5250
	11 dBm/MHz	5250-5350 5470-5725
	30 dBm/500 kHz	5725-5850

ISED RSS-247 ISSUE 2		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.	5150-5250
	The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.	5250-5350 5470-5600 5650-5725
	30 dBm/500 kHz	5725-5850

Note: The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

11.3. Test Procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyzer and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold

Sweep time	Auto
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Note:

1. For UNII-3, according to KdB publication 789033 D02 General U-NII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 1 MHz and VBW at 3 MHz if the spectrum analyzer does not have 500 kHz RBW.

2. The value measured with RBW=1MHz is to be added with $10\log(500\text{kHz}/1\text{MHz})$ which is - 3dB. For example, if the measured value is +30 dBm using RBW=500kHz (that is +30 dBm/500kHz), then the converted value will be +33 dBm/1MHz.

3. Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

11.4. Test Result

Test Mode	Antenna	Frequency (MHz)	Result (dBm/MHz)	Limit(dBm/MHz)	EIRP	Limit(dBm/MHz)	Verdict
11A	Ant1	5180	-5.36	≤ 11.00	0.49	≤ 10.00	PASS
		5200	-0.94	≤ 11.00	4.91	≤ 10.00	PASS
		5240	-1.11	≤ 11.00	4.74	≤ 10.00	PASS
		5260	-2.29	≤ 11.00	3.56	---	PASS
		5280	-2.31	≤ 11.00	3.54	---	PASS
		5320	-3.28	≤ 11.00	2.57	---	PASS
		5500	-0.15	≤ 11.00	5.70	---	PASS
		5580	-0.21	≤ 11.00	5.64	---	PASS
		5700	0.08	≤ 11.00	5.93	---	PASS
		5720_UNII-2 C	-0.11	≤ 11.00	5.74	---	PASS
		5720_UNII-3	-3.39	≤ 30.00	2.46	---	PASS
		5745	-3.03	≤ 30.00	2.82	---	PASS
		5785	-3.85	≤ 30.00	2.00	---	PASS
		5825	-4.52	≤ 30.00	1.33	---	PASS
11N20SISO	Ant1	5180	-1.90	≤ 11.00	3.95	≤ 10.00	PASS
		5200	-2.81	≤ 11.00	3.04	≤ 10.00	PASS
		5240	-2.34	≤ 11.00	3.51	≤ 10.00	PASS
		5260	-4.58	≤ 11.00	1.27	---	PASS
		5280	-4.56	≤ 11.00	1.29	---	PASS
		5320	-5.02	≤ 11.00	0.83	---	PASS
		5500	-2.03	≤ 11.00	3.82	---	PASS
		5580	-2.08	≤ 11.00	3.77	---	PASS
		5700	-2.57	≤ 11.00	3.28	---	PASS
		5720_UNII-2 C	-3.15	≤ 11.00	2.70	---	PASS
		5720_UNII-3	-5.88	≤ 30.00	-0.03	---	PASS
		5745	-5.92	≤ 30.00	-0.07	---	PASS
		5785	-6.24	≤ 30.00	-0.39	---	PASS
		5825	-6.85	≤ 30.00	-1.00	---	PASS
11N40SISO	Ant1	5190	-5.43	≤ 11.00	0.42	≤ 10.00	PASS
		5230	-6.16	≤ 11.00	-0.31	≤ 10.00	PASS
		5270	-7.51	≤ 11.00	-1.66	---	PASS
		5310	-8.97	≤ 11.00	-3.12	---	PASS
		5510	-5.87	≤ 11.00	-0.02	---	PASS
		5550	-2.57	≤ 11.00	3.28	---	PASS
		5670	-4.03	≤ 11.00	1.82	---	PASS
		5710_UNII-2 C	-3.95	≤ 11.00	1.90	---	PASS
		5710_UNII-3	-8.24	≤ 30.00	-2.39	---	PASS
		5755	-7.60	≤ 30.00	-1.75	---	PASS
11AC20SISO	Ant1	5795	-7.99	≤ 30.00	-2.14	---	PASS
		5180	-1.69	≤ 11.00	4.16	≤ 10.00	PASS
		5200	-1.76	≤ 11.00	4.09	≤ 10.00	PASS

		5240	-1.98	≤11.00	3.87	≤10.00	PASS
		5260	-3.71	≤11.00	2.14	---	PASS
		5280	-4.00	≤11.00	1.85	---	PASS
		5320	-4.29	≤11.00	1.56	---	PASS
		5500	-1.81	≤11.00	4.04	---	PASS
		5580	-1.60	≤11.00	4.25	---	PASS
		5700	-2.24	≤11.00	3.61	---	PASS
		5720_UNII-2 C	-2.68	≤11.00	3.17	---	PASS
		5720_UNII-3	-5.62	≤30.00	0.23	---	PASS
		5745	-5.80	≤30.00	0.05	---	PASS
		5785	-6.19	≤30.00	-0.34	---	PASS
		5825	-7.66	≤30.00	-1.81	---	PASS
11AC40SIS O	Ant1	5190	-5.01	≤11.00	0.84	≤10.00	PASS
		5230	-6.64	≤11.00	-0.79	≤10.00	PASS
		5270	-7.81	≤11.00	-1.96	---	PASS
		5310	-8.61	≤11.00	-2.76	---	PASS
		5510	-5.79	≤11.00	0.06	---	PASS
		5550	-6.04	≤11.00	-0.19	---	PASS
		5670	-5.99	≤11.00	-0.14	---	PASS
		5710_UNII-2 C	-5.84	≤11.00	0.01	---	PASS
		5710_UNII-3	-8.98	≤30.00	-3.13	---	PASS
		5755	-8.63	≤30.00	-2.78	---	PASS
		5795	-9.00	≤30.00	-3.15	---	PASS
11AX20SIS O	Ant1	5180	-2.06	≤11.00	3.79	≤10.00	PASS
		5200	-1.43	≤11.00	4.42	≤10.00	PASS
		5240	-2.45	≤11.00	3.40	≤10.00	PASS
		5260	-4.06	≤11.00	1.79	---	PASS
		5280	-4.24	≤11.00	1.61	---	PASS
		5320	-3.80	≤11.00	2.05	---	PASS
		5500	-1.64	≤11.00	4.21	---	PASS
		5580	-1.41	≤11.00	4.44	---	PASS
		5700	-2.29	≤11.00	3.56	---	PASS
		5720_UNII-2 C	-1.98	≤11.00	3.87	---	PASS
		5720_UNII-3	-5.41	≤30.00	0.44	---	PASS
		5745	-4.97	≤30.00	0.88	---	PASS
		5785	-5.93	≤30.00	-0.08	---	PASS
		5825	-6.63	≤30.00	-0.78	---	PASS
11AX40SIS O	Ant1	5190	-3.33	≤11.00	2.52	≤10.00	PASS
		5230	-4.46	≤11.00	1.39	≤10.00	PASS
		5270	-6.27	≤11.00	-0.42	---	PASS
		5310	-6.65	≤11.00	-0.80	---	PASS
		5510	-3.32	≤11.00	2.53	---	PASS
		5550	-3.57	≤11.00	2.28	---	PASS
		5670	-3.75	≤11.00	2.10	---	PASS
		5710_UNII-2 C	-4.09	≤11.00	1.76	---	PASS
		5710_UNII-3	-8.20	≤30.00	-2.35	---	PASS
		5755	-6.21	≤30.00	-0.36	---	PASS
		5795	-8.28	≤30.00	-2.43	---	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

11.5. Original Test Data

