8. RF antenna conducted test

8.1. Test Equipment

The following test equipments are used during the test:

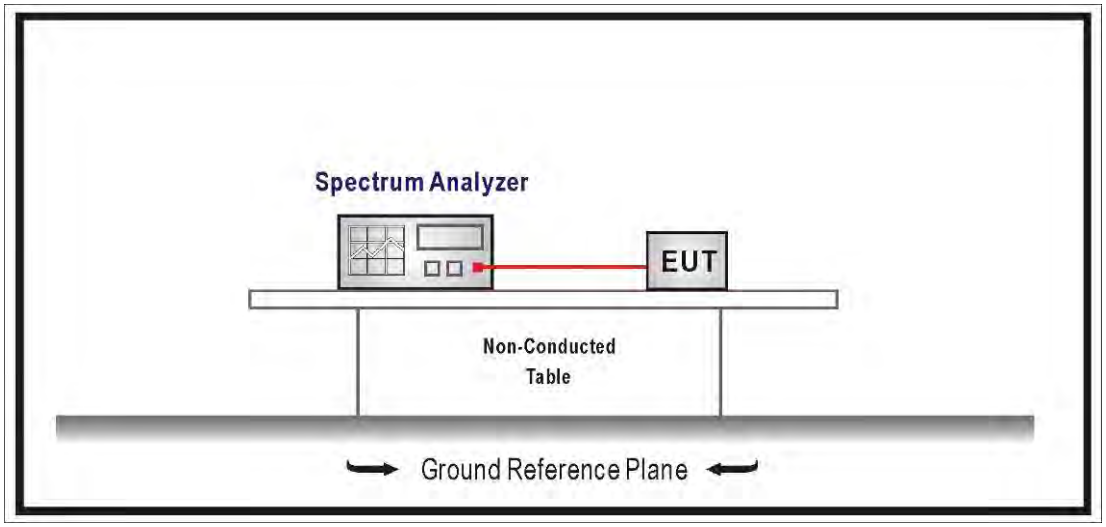
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup

RF Antenna Conducted Measurement:



8.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

8.4. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of 789033 D02 V01R02 for compliance to FCC 47CFR Subpart E requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

8.5. Uncertainty

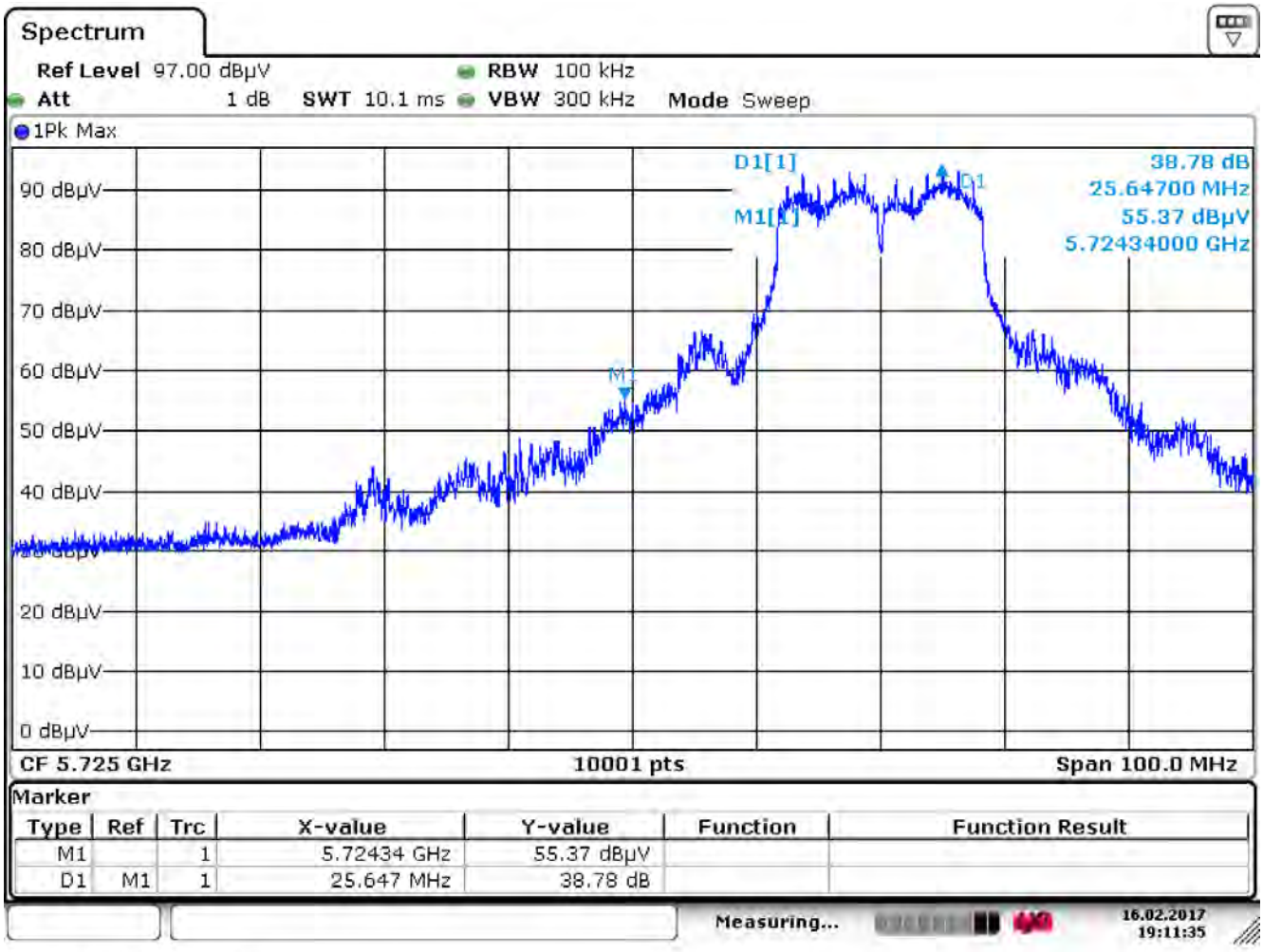
Conducted is defined as ± 1.27dB

8.6. Test Result

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/02/16	Test Site	SR10-H

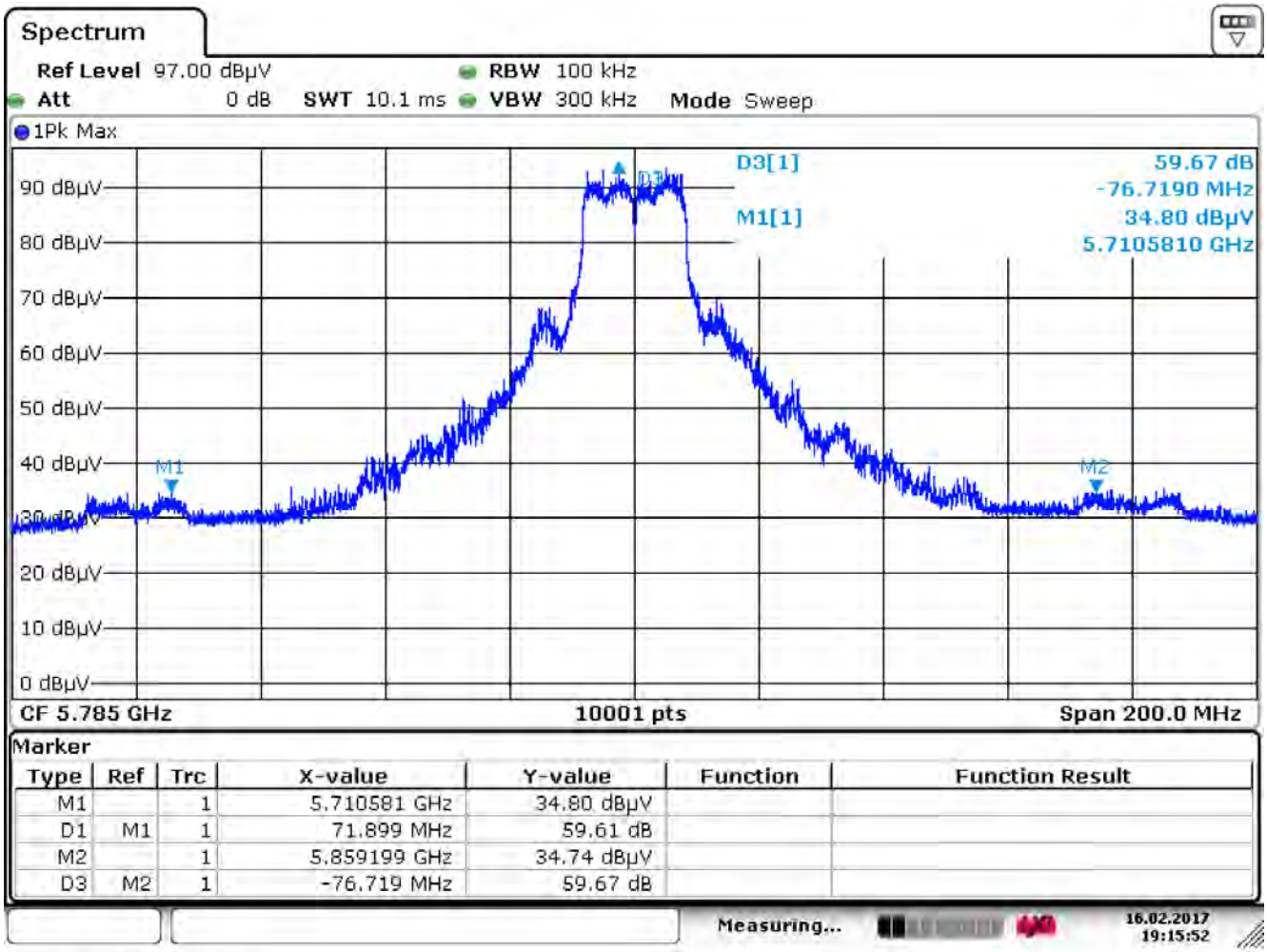
IEEE 802.11a				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
149	5745	55.37	≧30	Pass
157	5785	34.80	≧30	Pass
165	5825	51.45	≧30	Pass

RF antenna conducted test - Channel 149



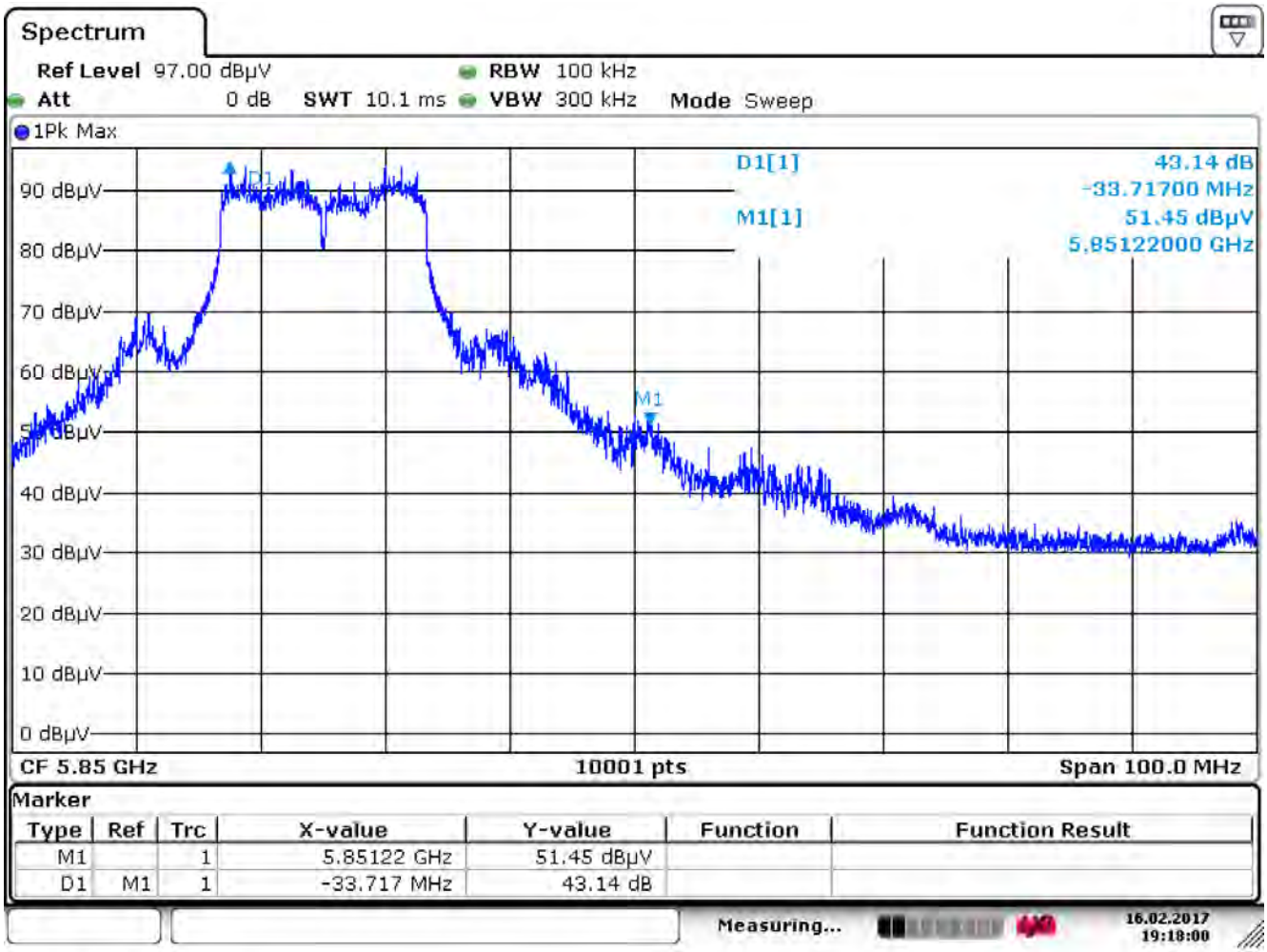
Date: 16.FEB.2017 19:11:35

RF antenna conducted test - Channel 157



Date: 16.FEB.2017 19:15:52

RF antenna conducted test - Channel 165

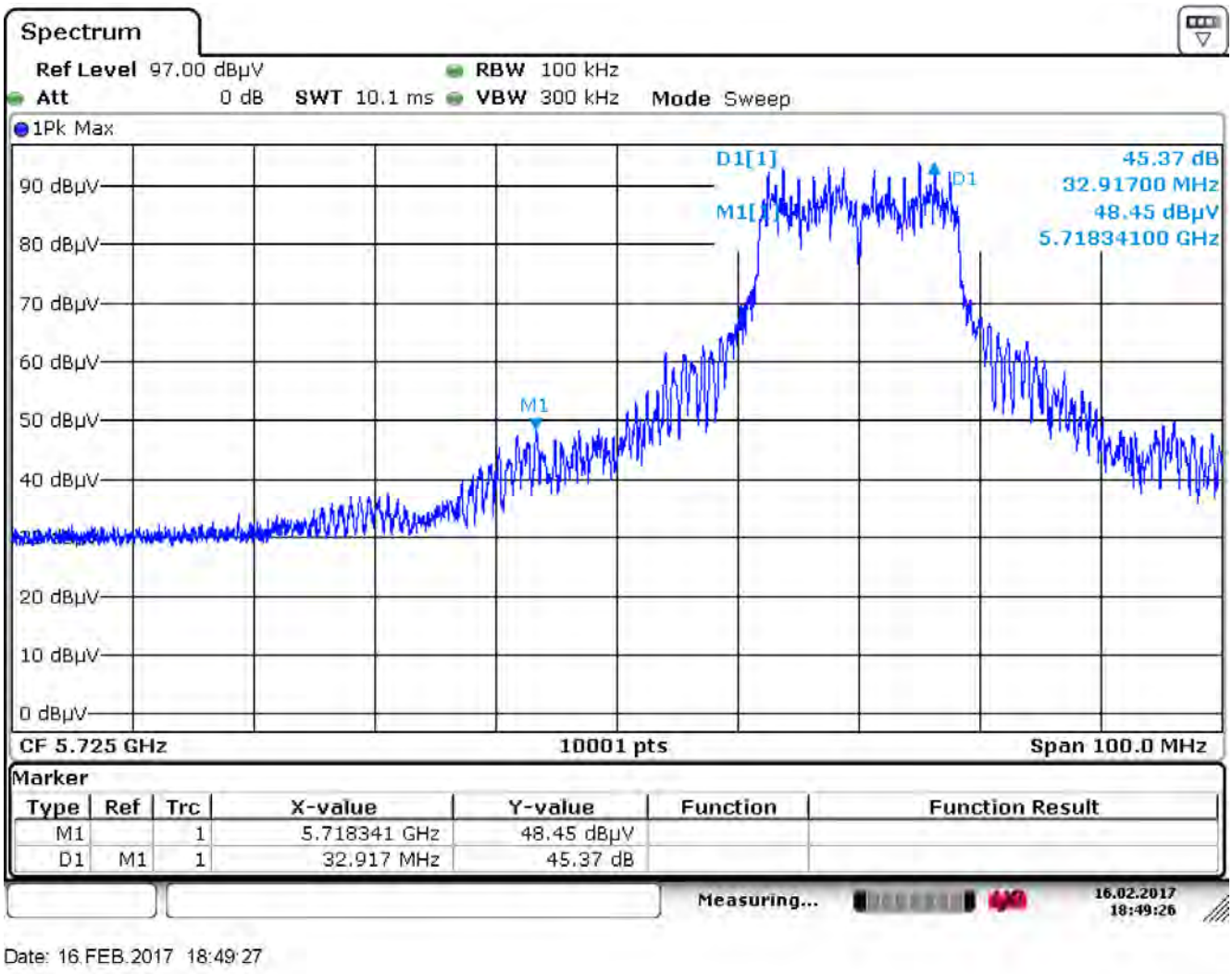


Date: 16.FEB.2017 19:18:00

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

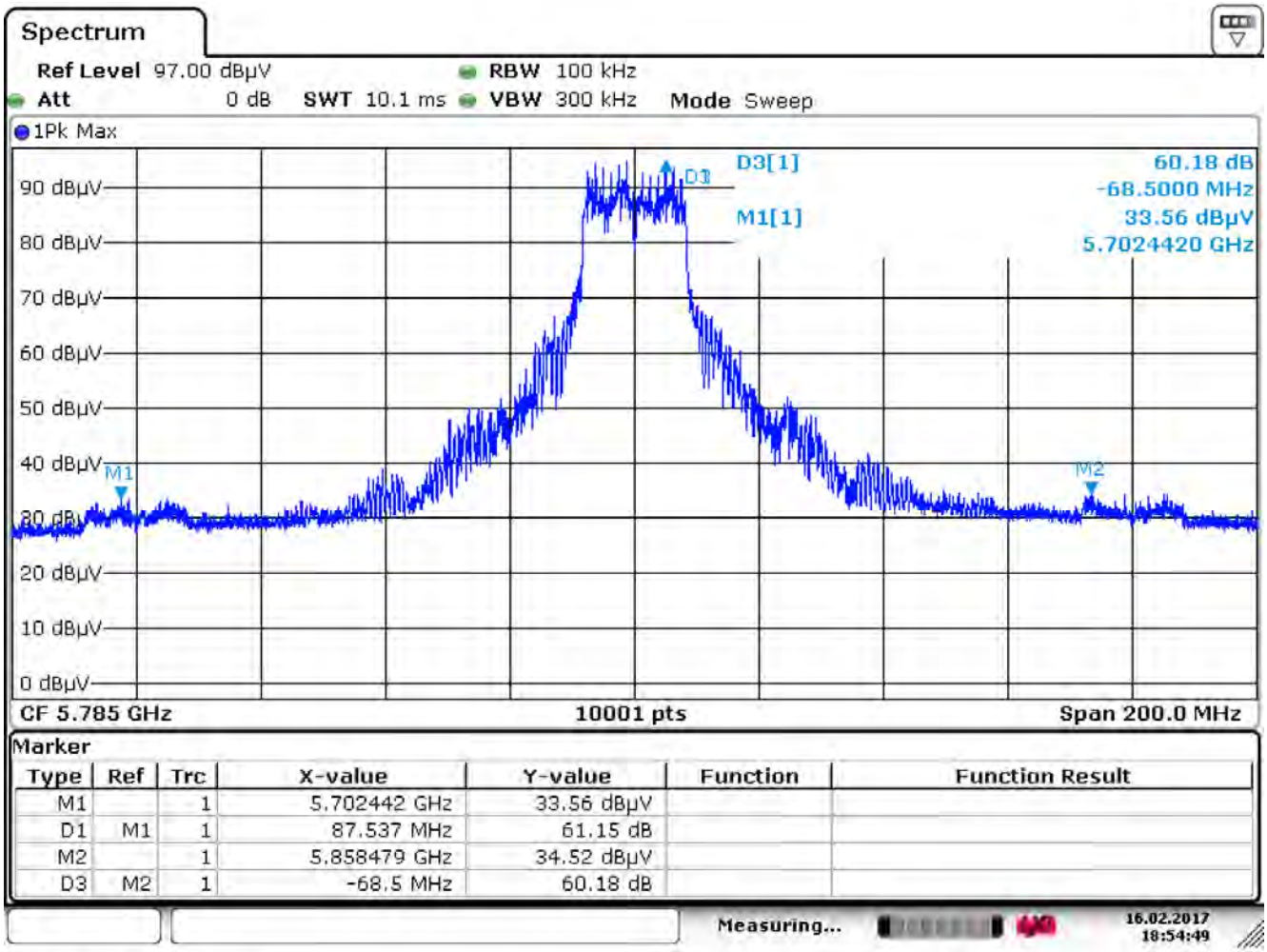
IEEE 802.11n(20MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
149	5745	48.45	≧30	Pass
157	5785	33.56	≧30	Pass
165	5825	49.16	≧30	Pass

RF antenna conducted test - Channel 149



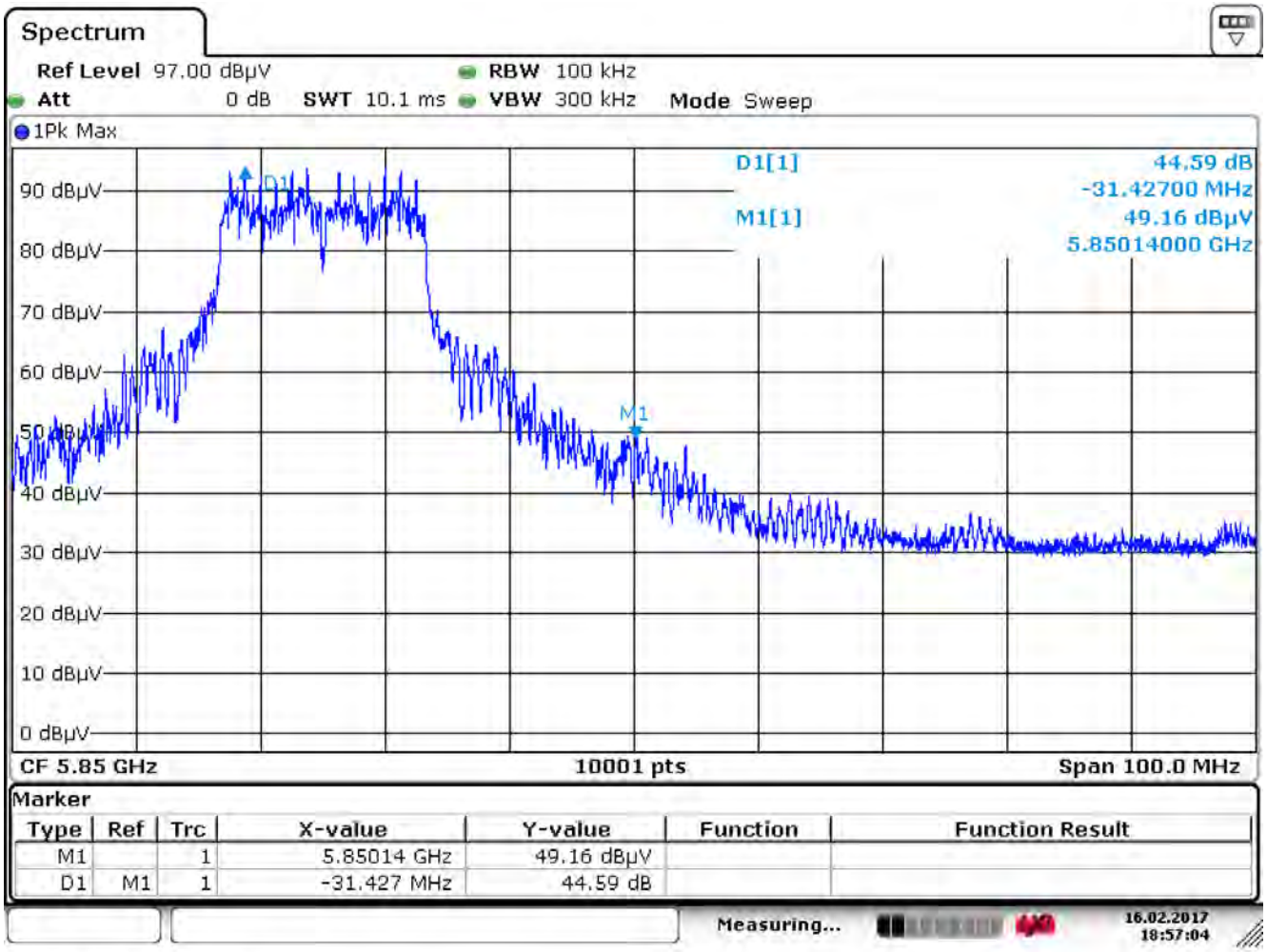
Date: 16.FEB.2017 18:49:27

RF antenna conducted test - Channel 157



Date: 16.FEB.2017 18:54:50

RF antenna conducted test - Channel 165

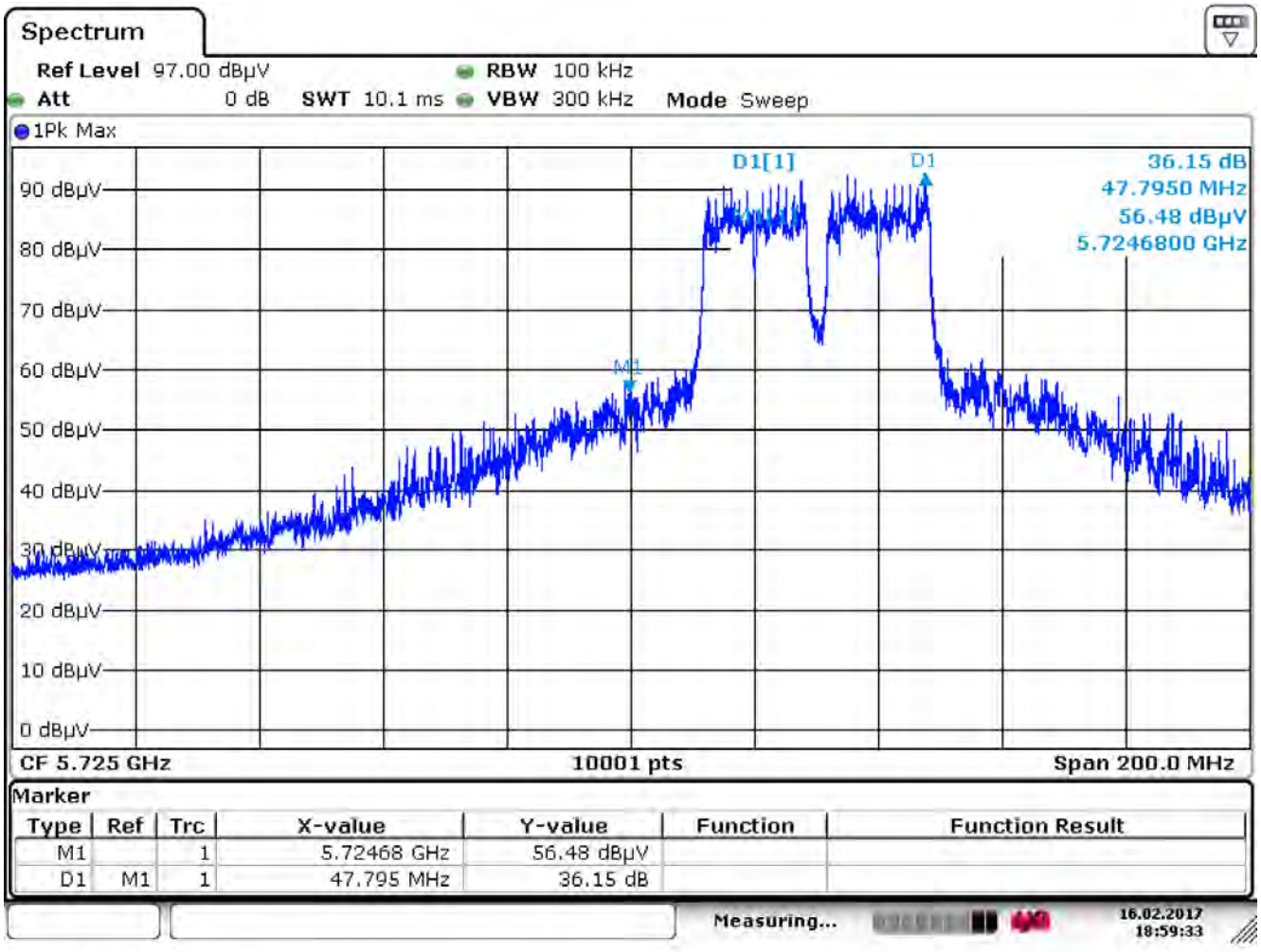


Date: 16.FEB.2017 18:57:04

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

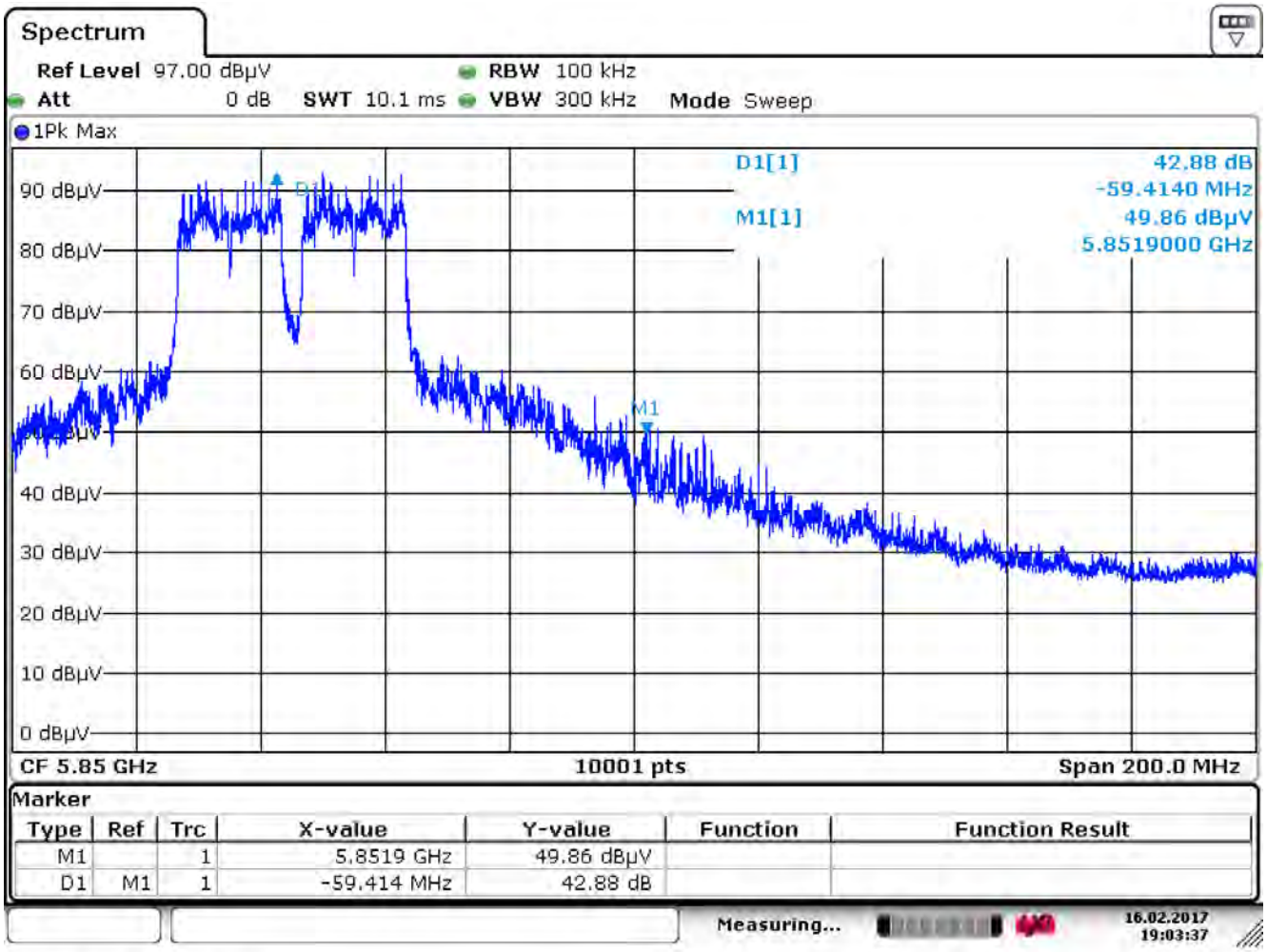
IEEE 802.11n (40MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
151	5755	56.48	≧30	Pass
159	5795	49.86	≧30	Pass

RF antenna conducted test - Channel 151



Date: 16.FEB.2017 18:59:33

RF antenna conducted test - Channel 159

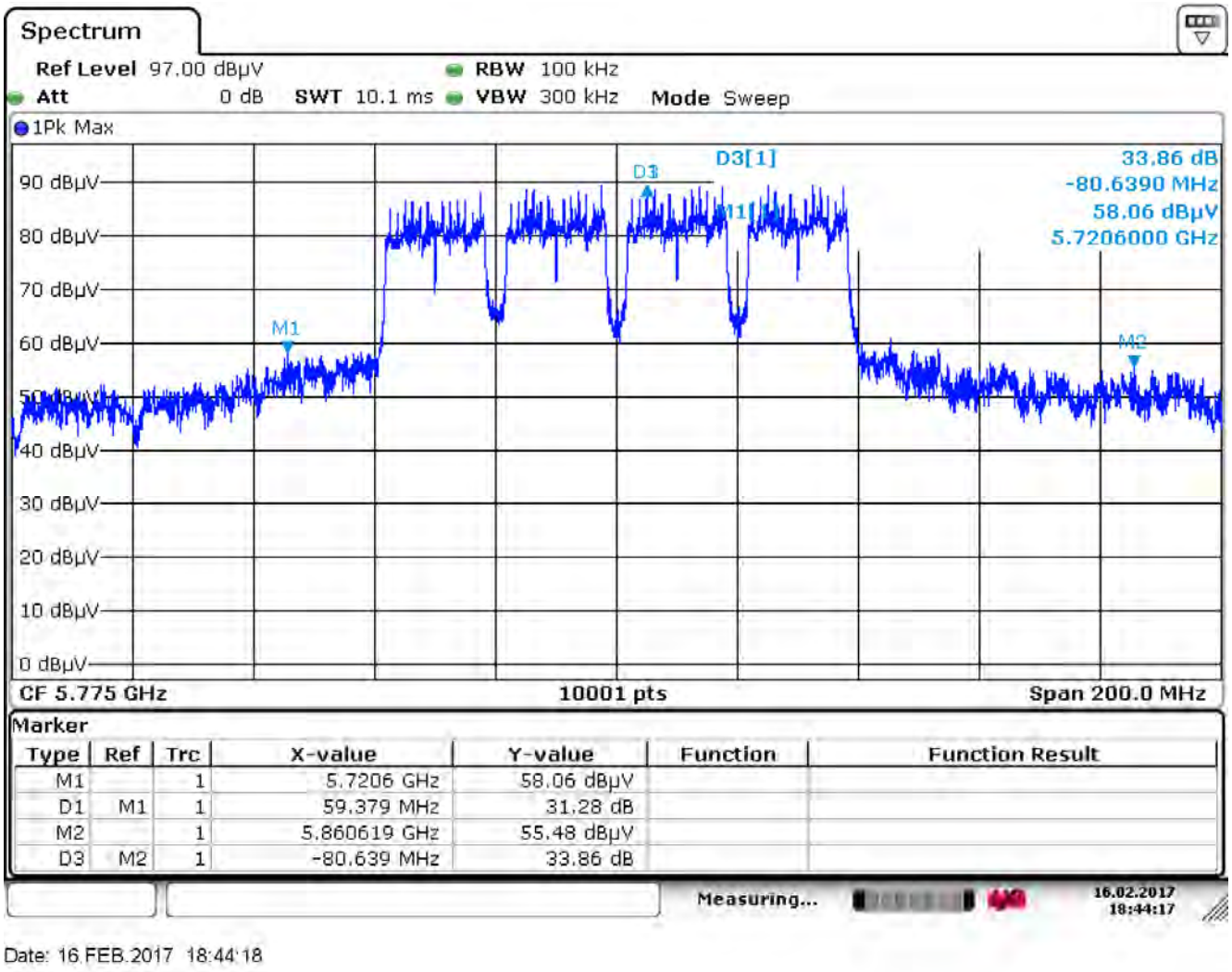


Date: 16.FEB.2017 19:03:38

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

IEEE 802.11ac (80MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
155	5775	58.06	≧30	Pass

RF antenna conducted test - Channel 155

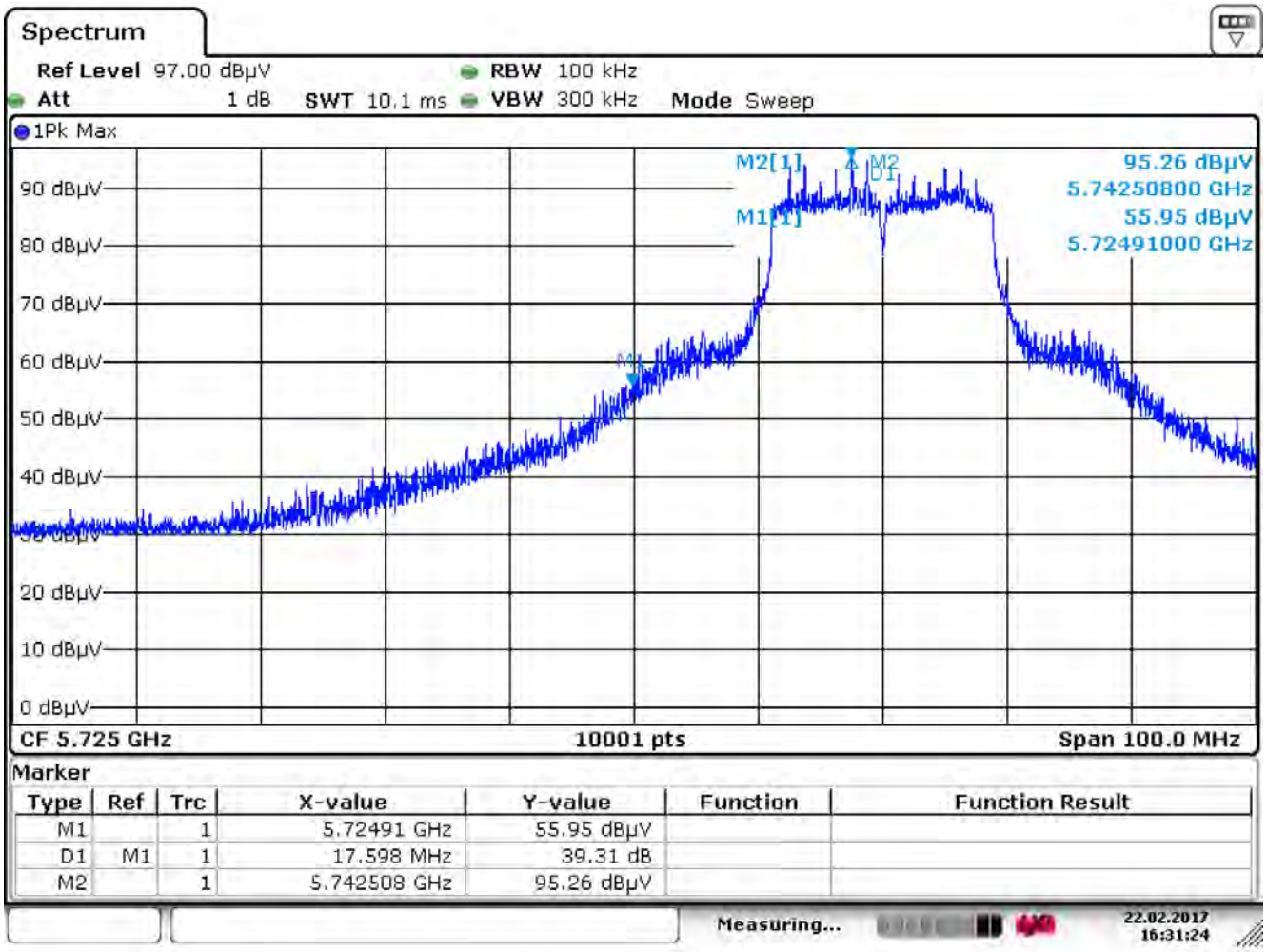


Date: 16.FEB.2017 18:44:18

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 3: Tx_ADP: AD890326010-2LF_ Beamforming Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

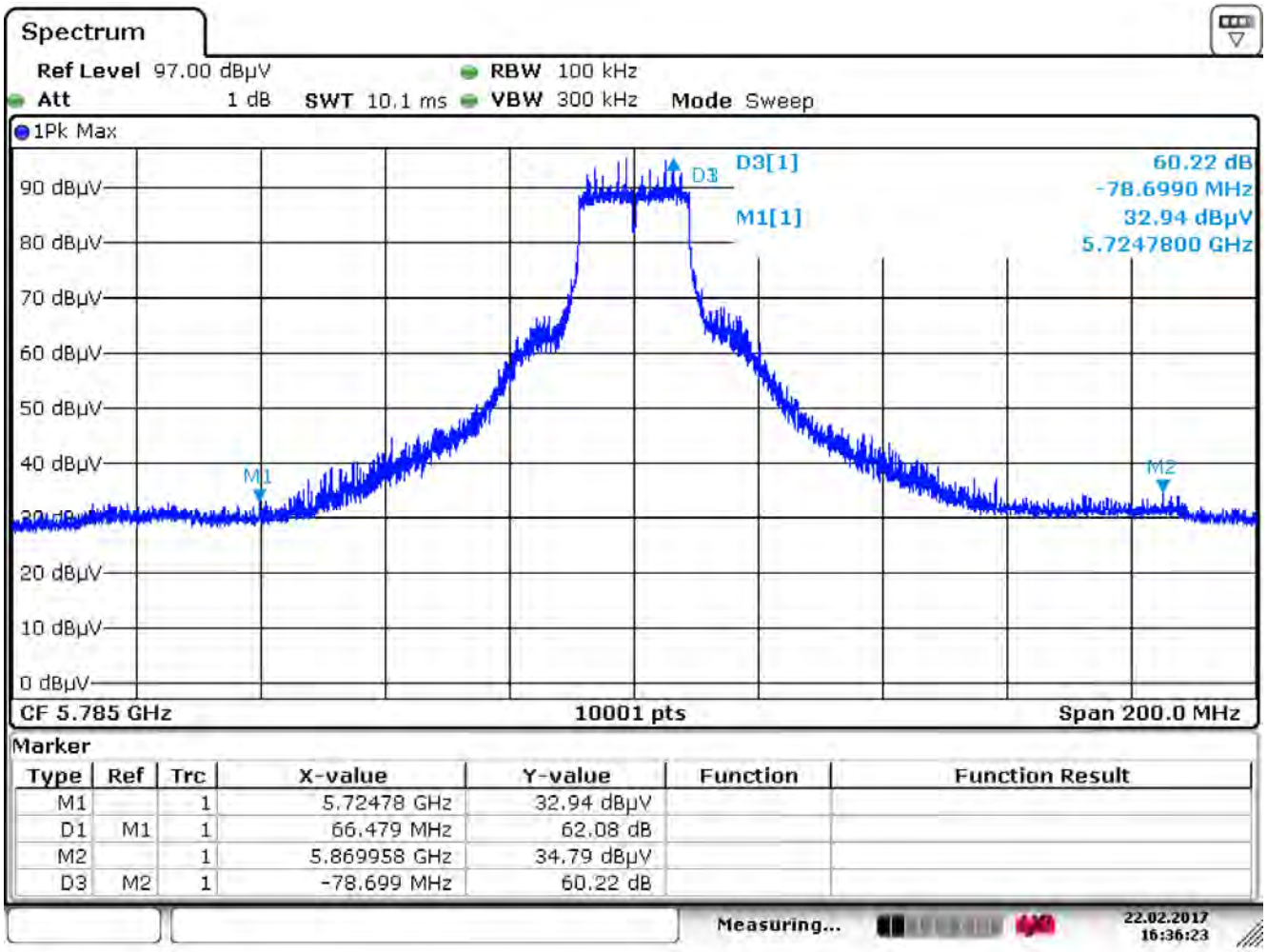
IEEE 802.11n(20MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
149	5745	55.95	≧30	Pass
157	5785	32.94	≧30	Pass
165	5825	49.40	≧30	Pass

RF antenna conducted test - Channel 149



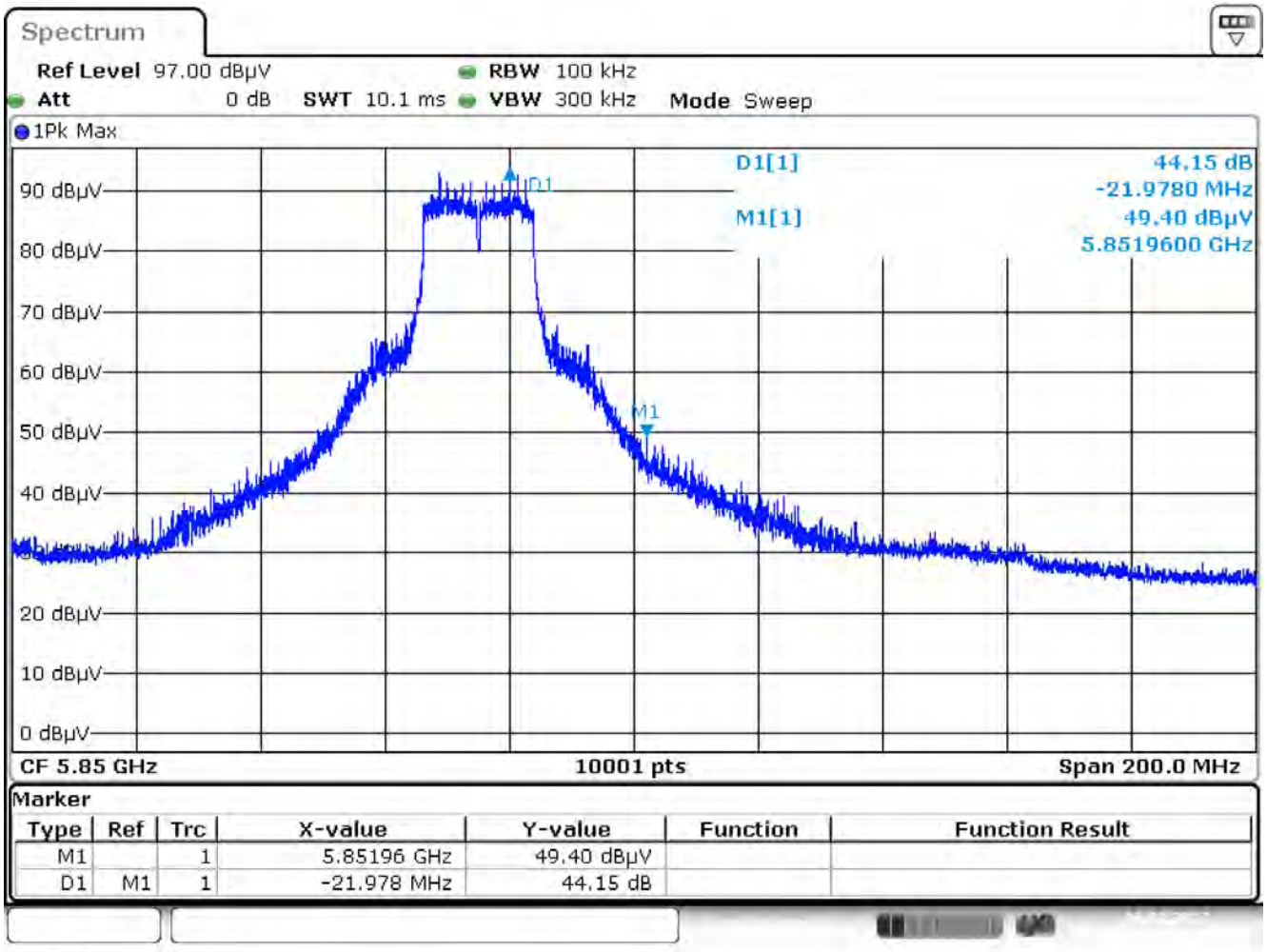
Date: 22.FEB.2017 16:31:25

RF antenna conducted test - Channel 157



Date: 22.FEB.2017 16:36:24

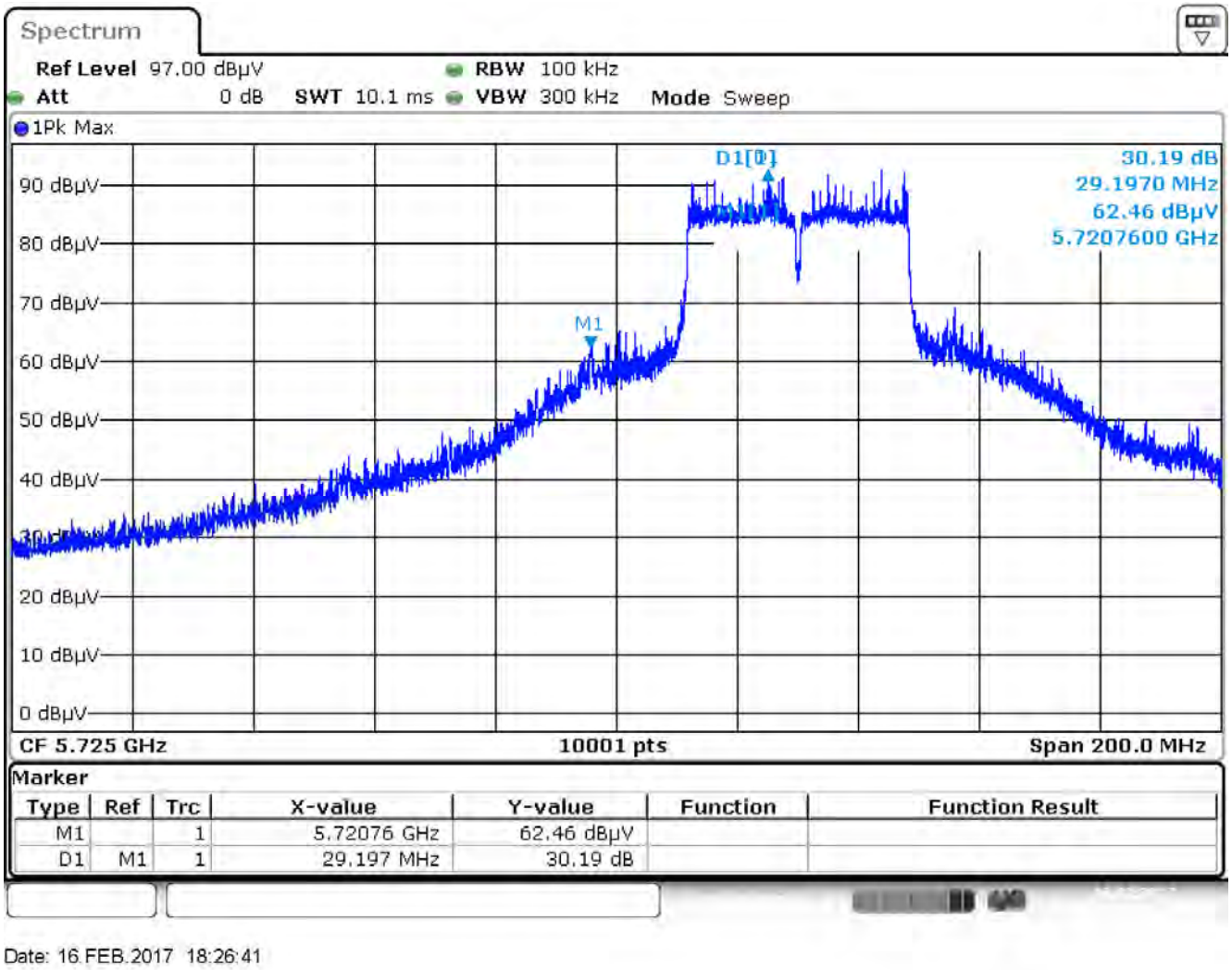
RF antenna conducted test - Channel 165



Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 3: Tx_ADP: AD890326010-2LF_ Beamforming Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

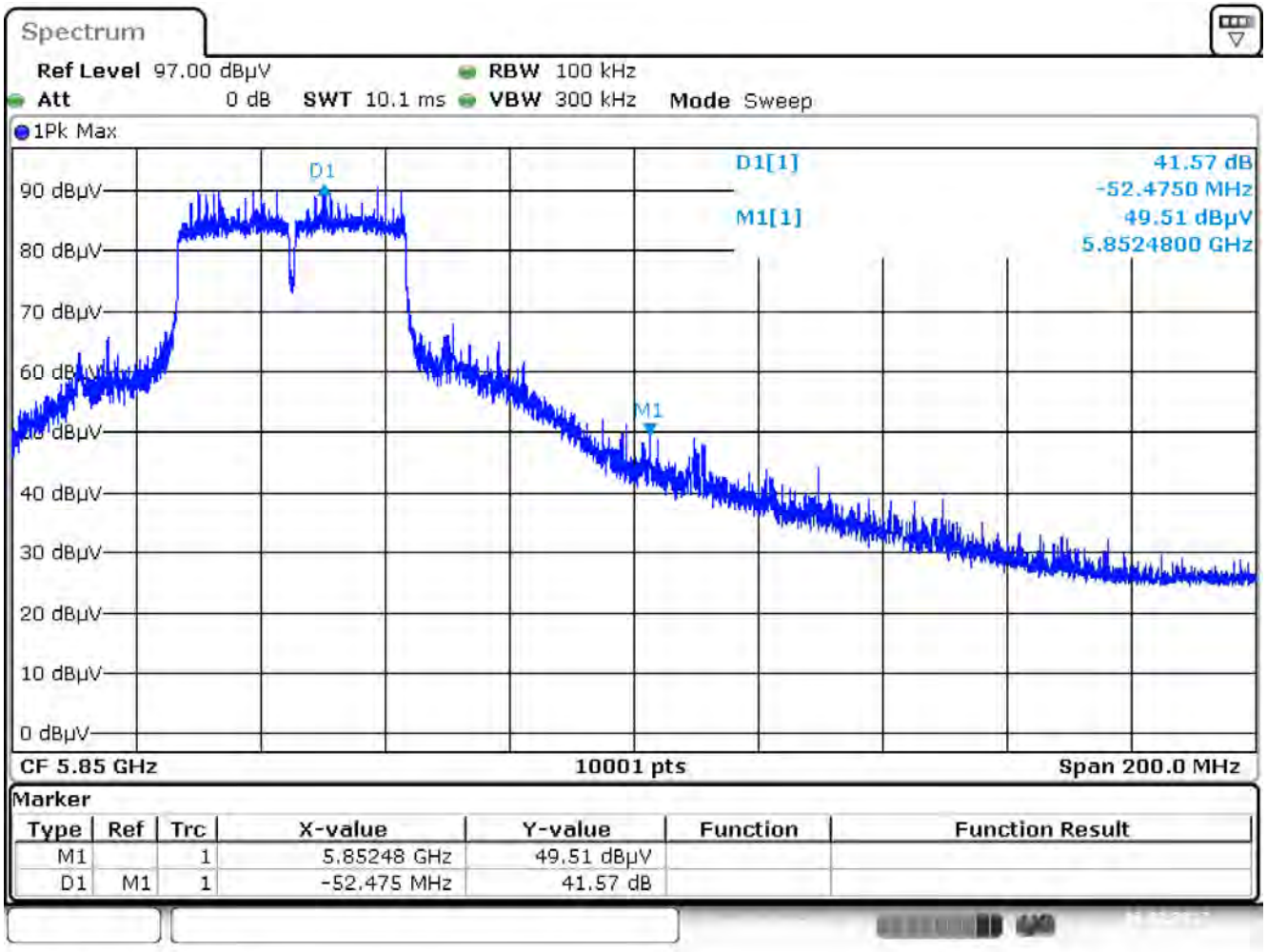
IEEE 802.11n (40MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
151	5755	62.46	≧30	Pass
159	5795	49.51	≧30	Pass

RF antenna conducted test - Channel 151



Date: 16.FEB.2017 18:26:41

RF antenna conducted test - Channel 159

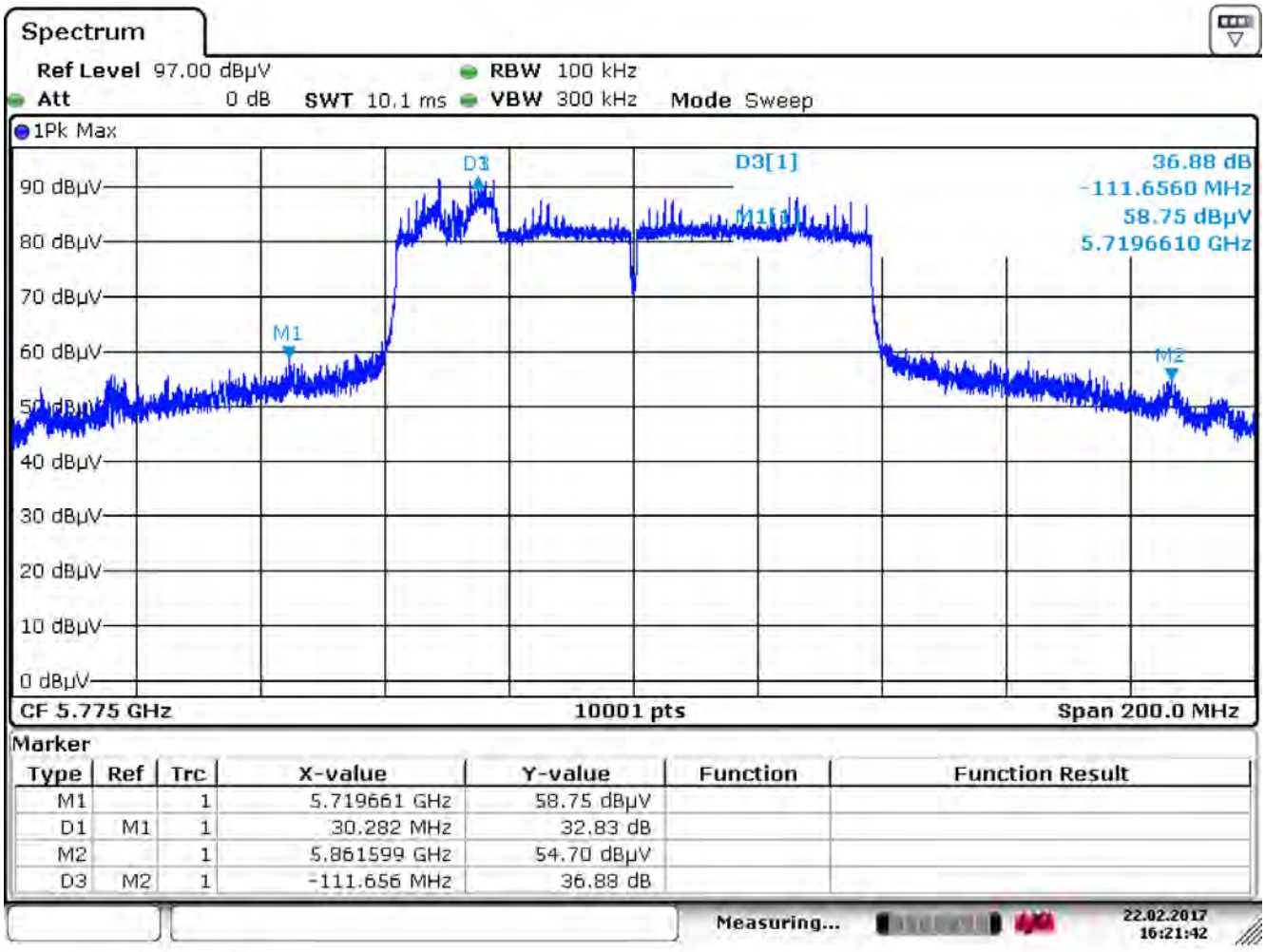


Date: 16.FEB.2017 18:31:10

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 3: Tx_ADP: AD890326010-2LF_ Beamforming Mode (802.11 n20/40)		
Date of Test	2017/02/16	Test Site	SR10-H

IEEE 802.11ac (80MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
155	5775	58.75	≧30	Pass

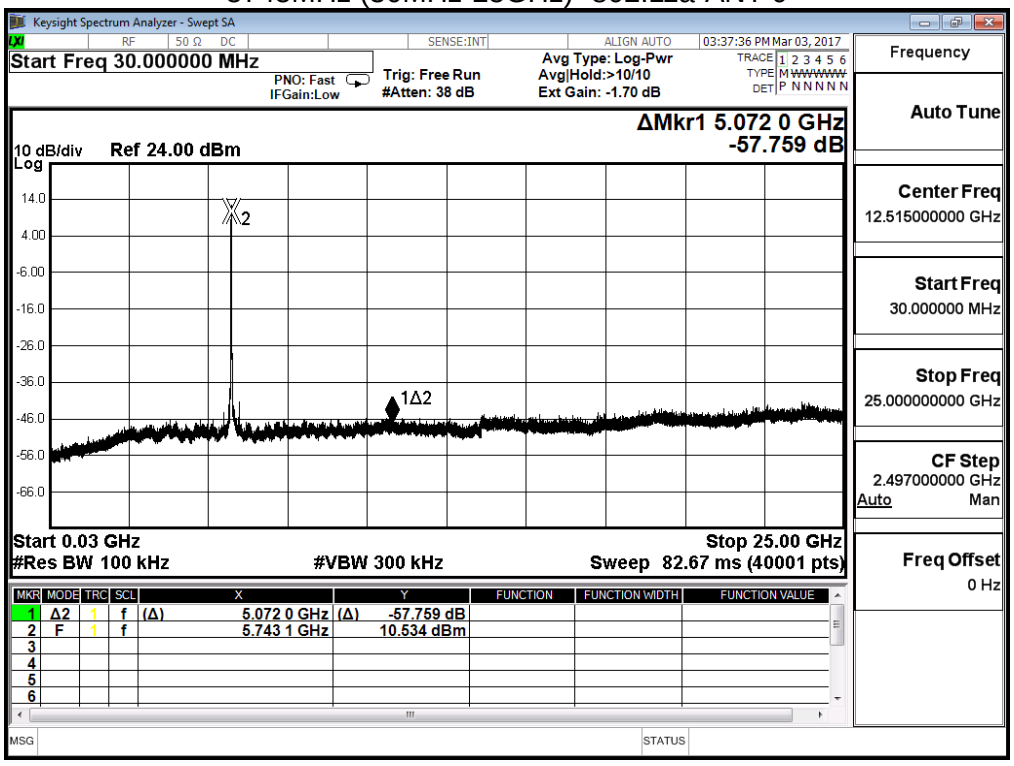
RF antenna conducted test - Channel 155



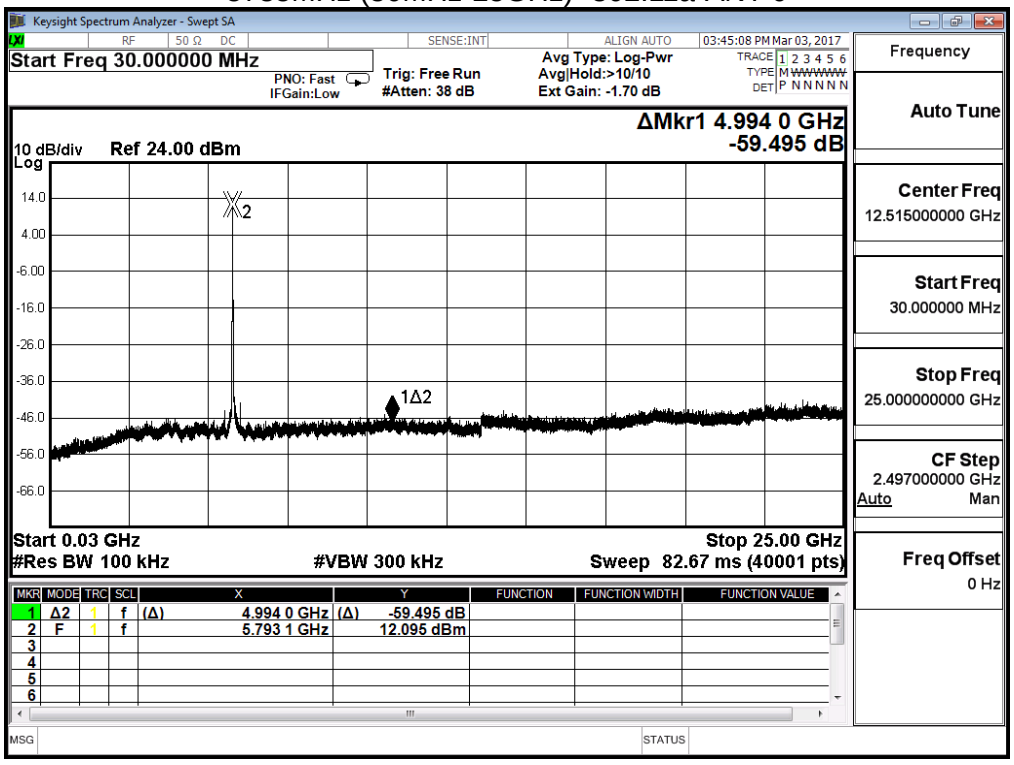
Date: 22.FEB.2017 16:21:42

Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/03/03	Test Site	SR10-H

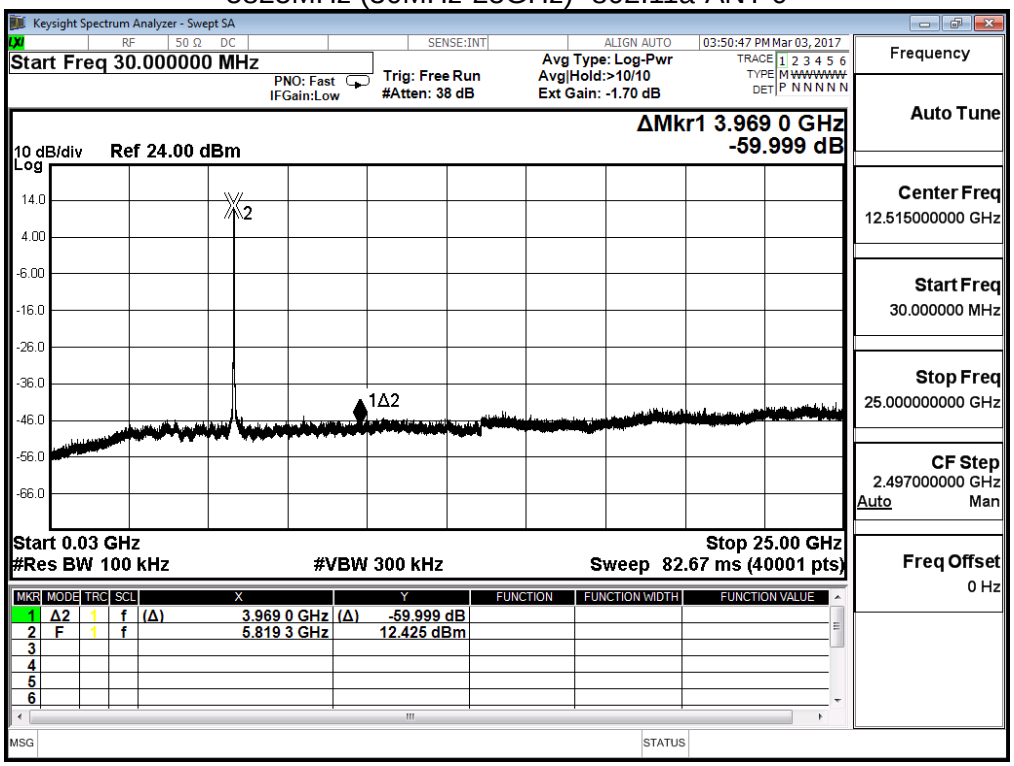
5745MHz (30MHz-25GHz)- 802.11a-ANT 0



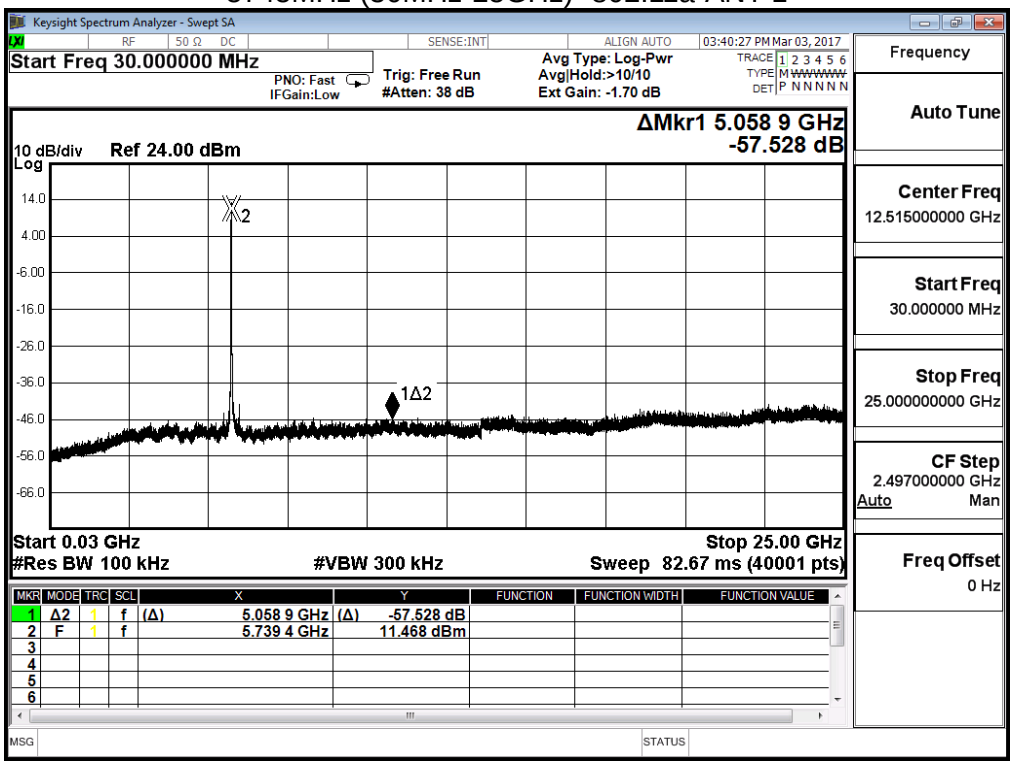
5785MHz (30MHz-25GHz)- 802.11a-ANT 0



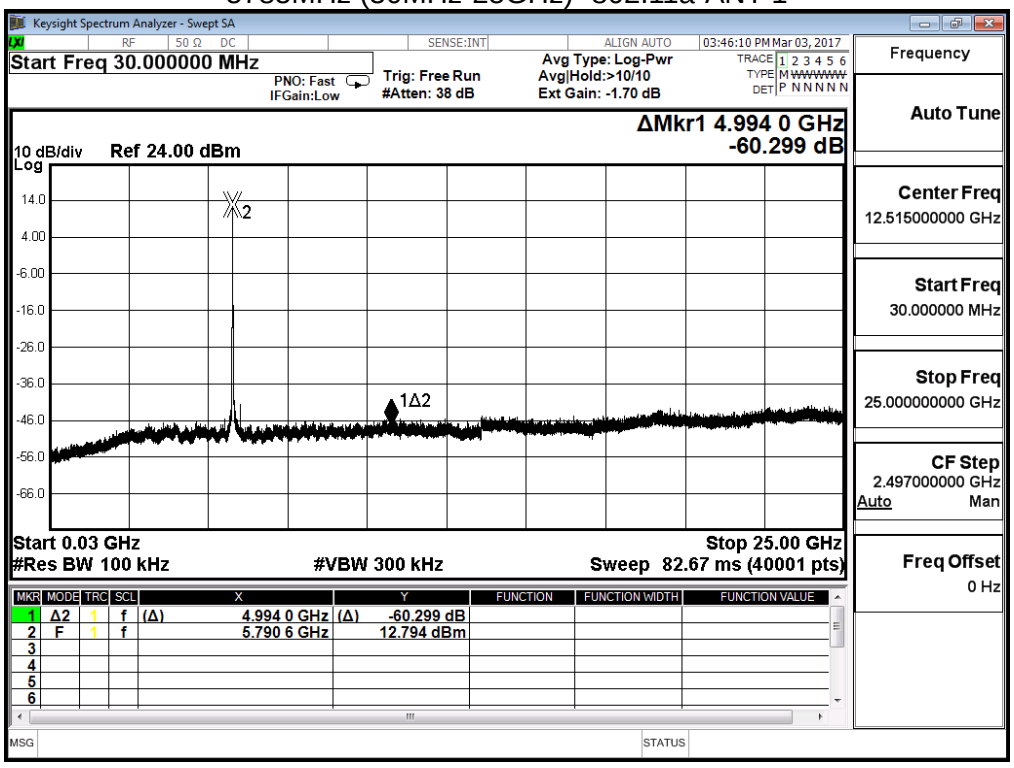
5825MHz (30MHz-25GHz) -802.11a-ANT 0



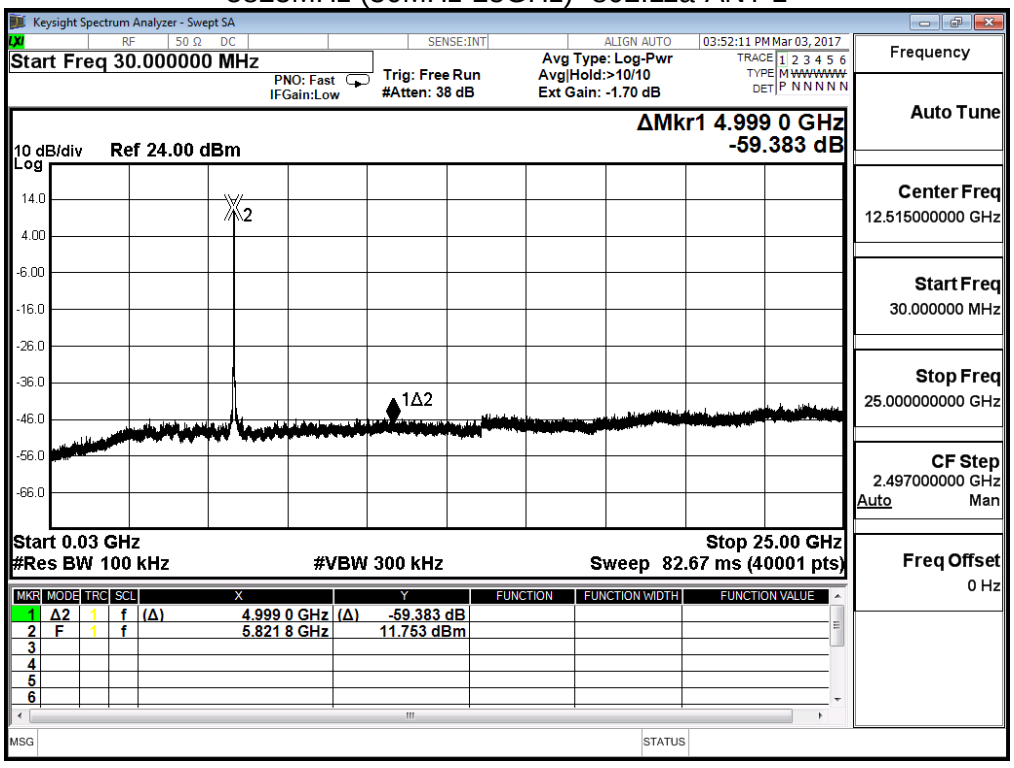
5745MHz (30MHz-25GHz)- 802.11a-ANT 1



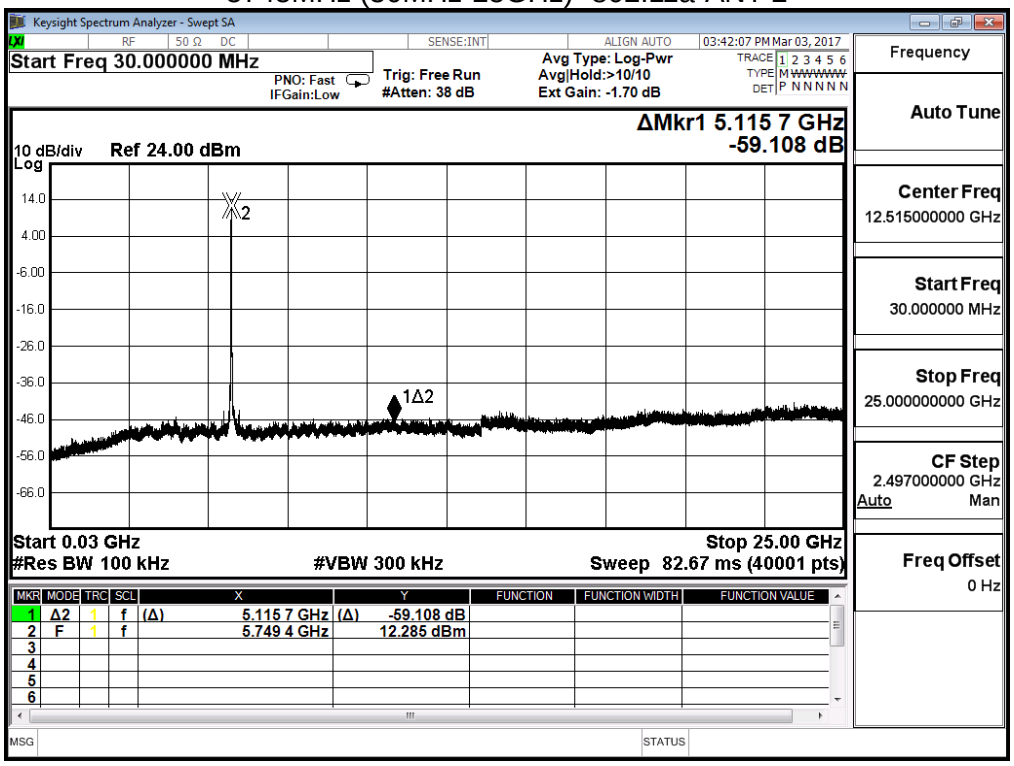
5785MHz (30MHz-25GHz)- 802.11a-ANT 1



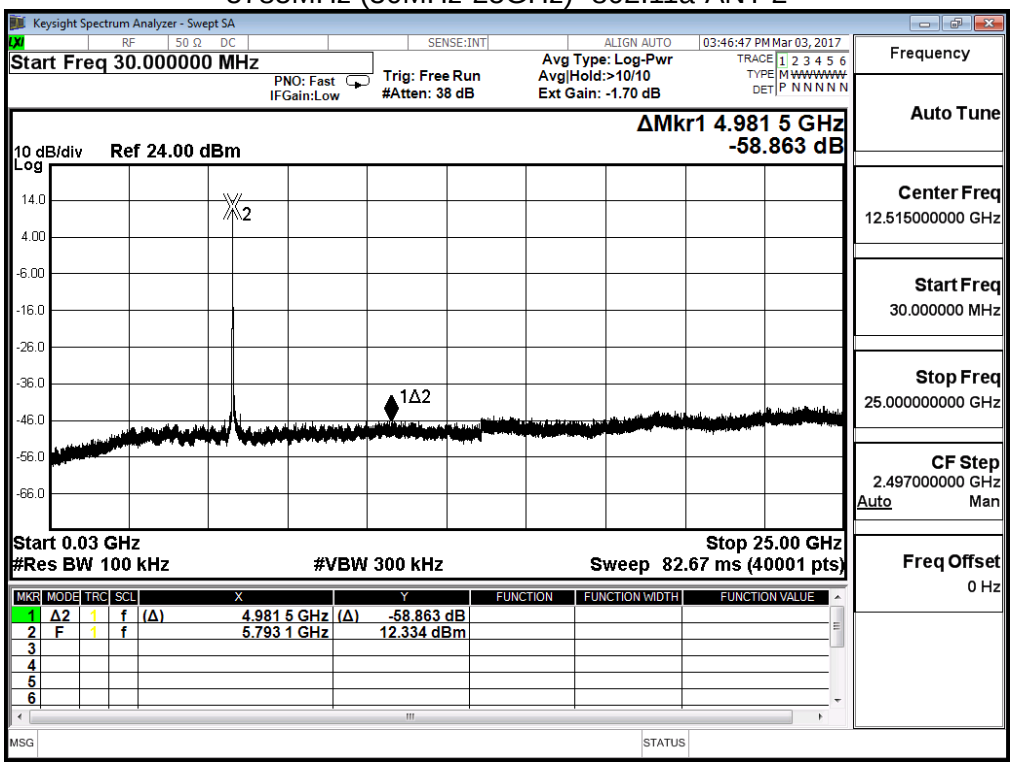
5825MHz (30MHz-25GHz) -802.11a-ANT 1



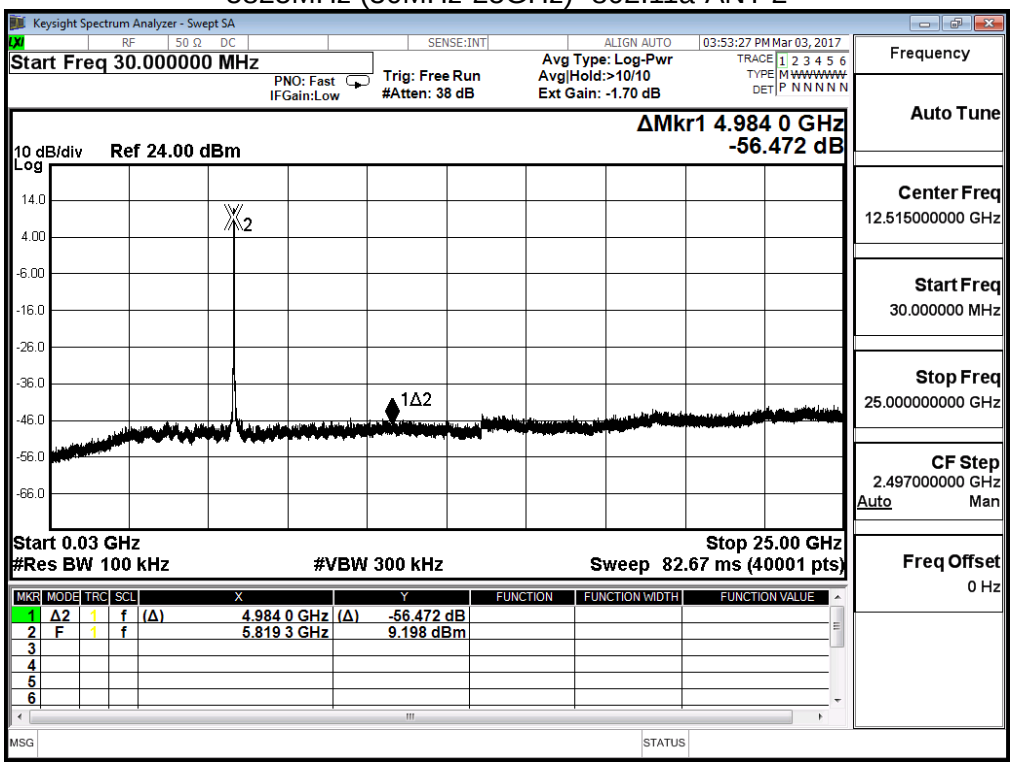
5745MHz (30MHz-25GHz)- 802.11a-ANT 2



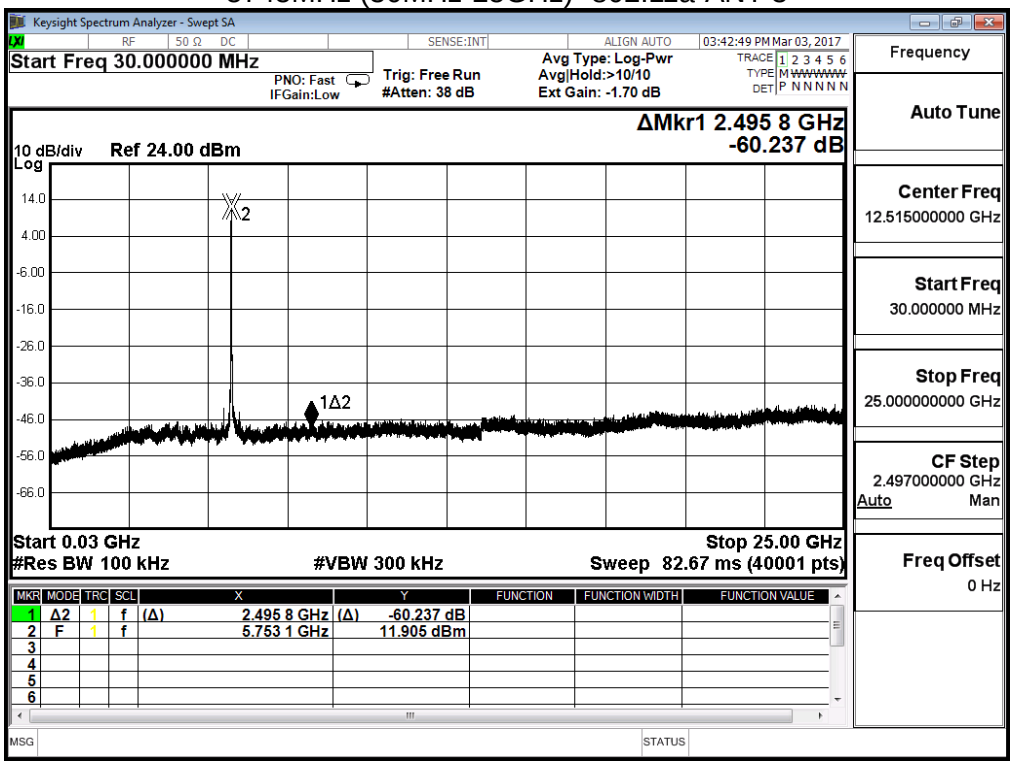
5785MHz (30MHz-25GHz)- 802.11a-ANT 2



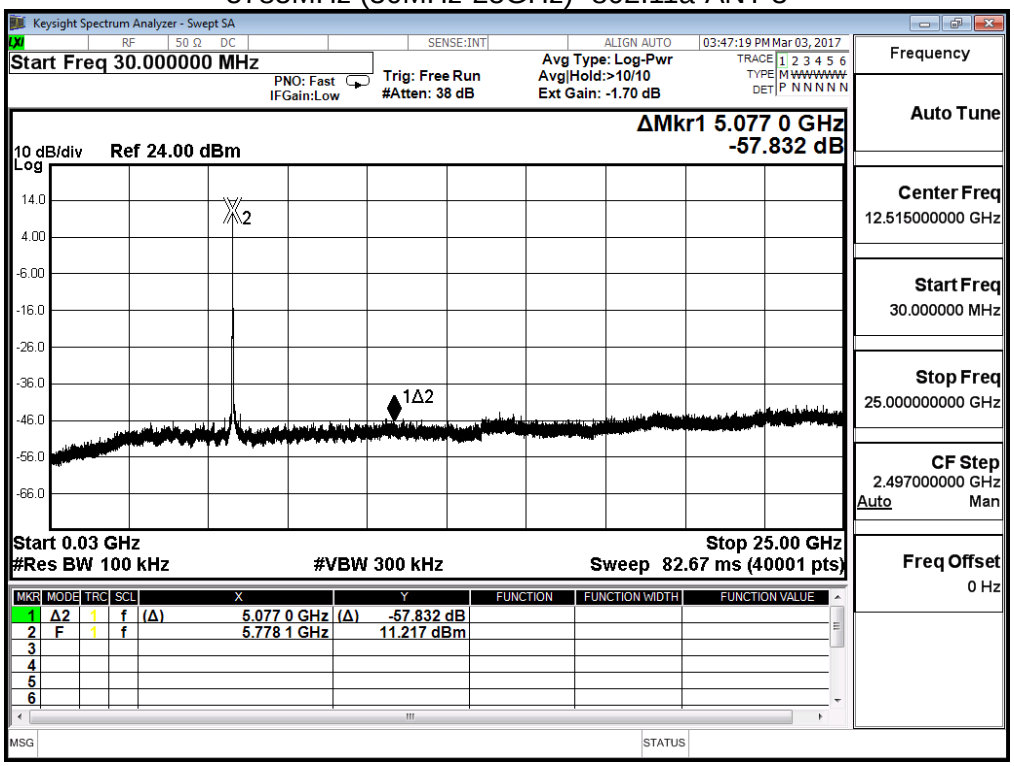
5825MHz (30MHz-25GHz) -802.11a-ANT 2



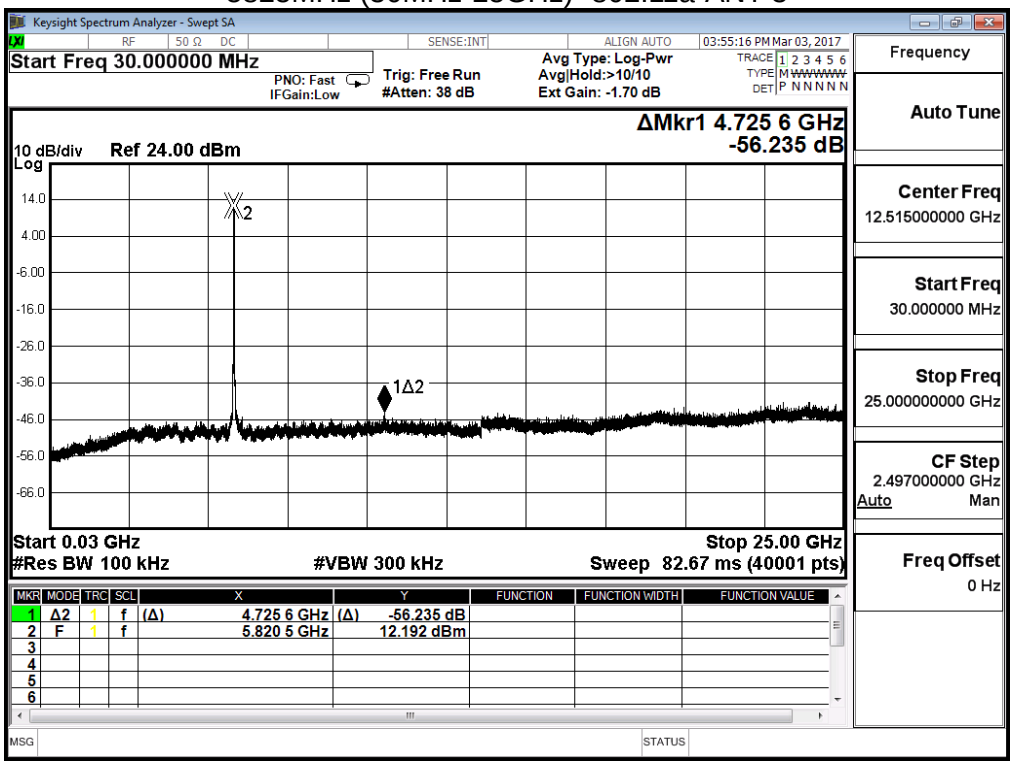
5745MHz (30MHz-25GHz)- 802.11a-ANT 3



5785MHz (30MHz-25GHz)- 802.11a-ANT 3

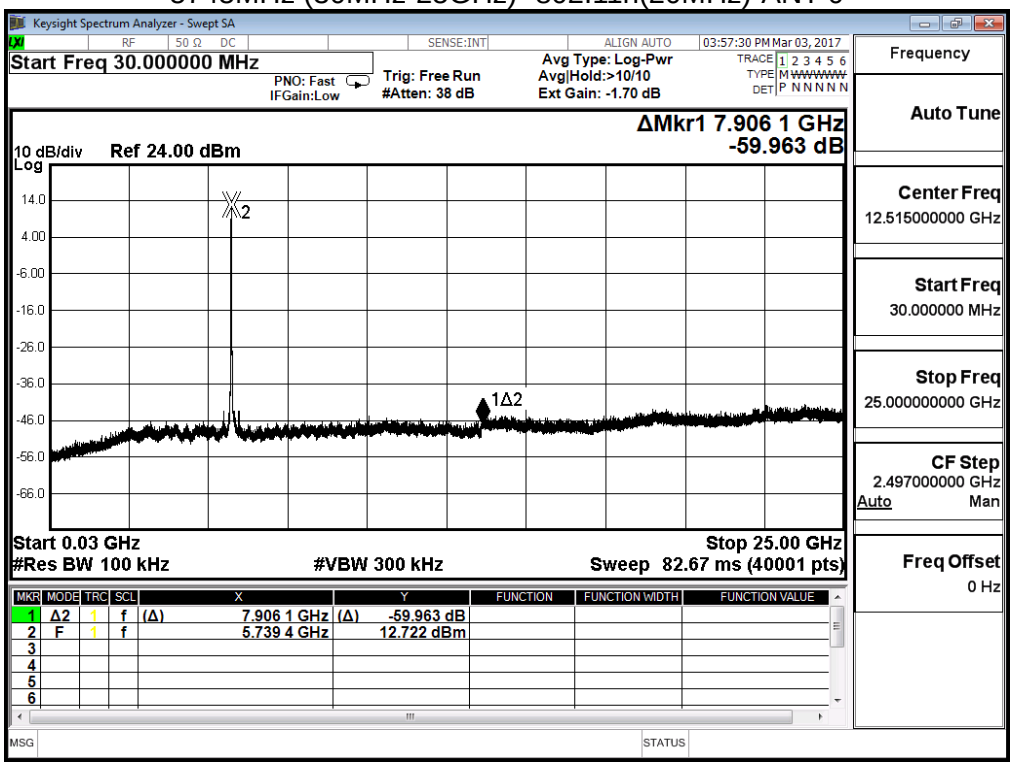


5825MHz (30MHz-25GHz) -802.11a-ANT 3

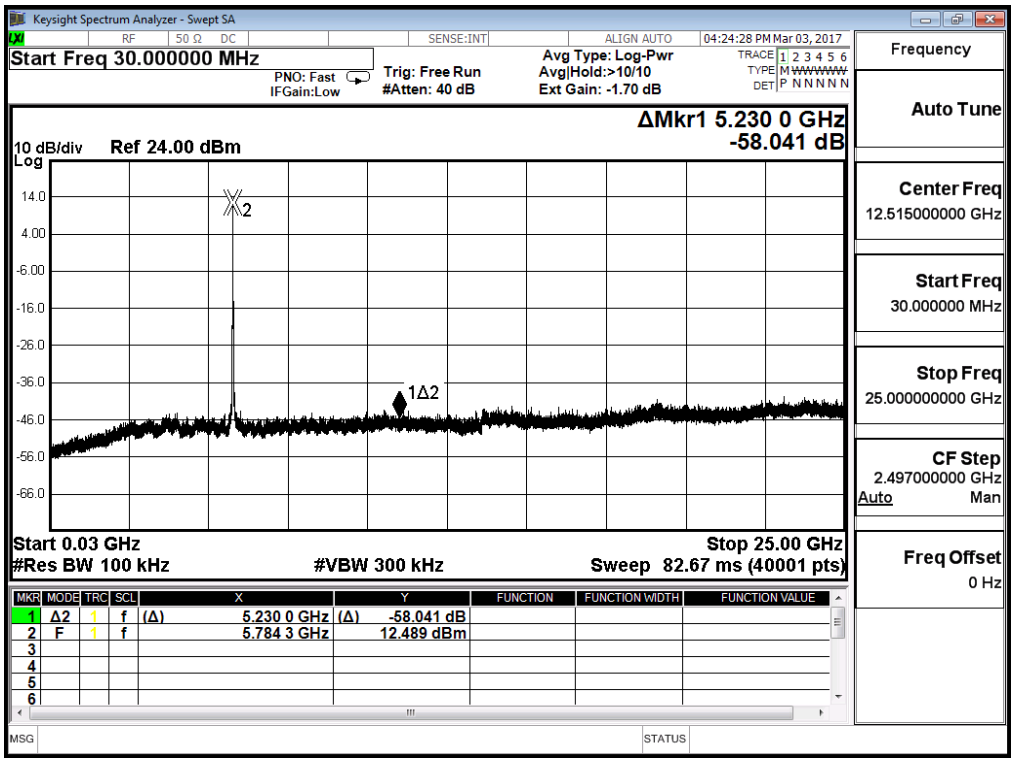


Product	Dual-band Wireless-AC600 USB Adapter		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/03	Test Site	SR10-H

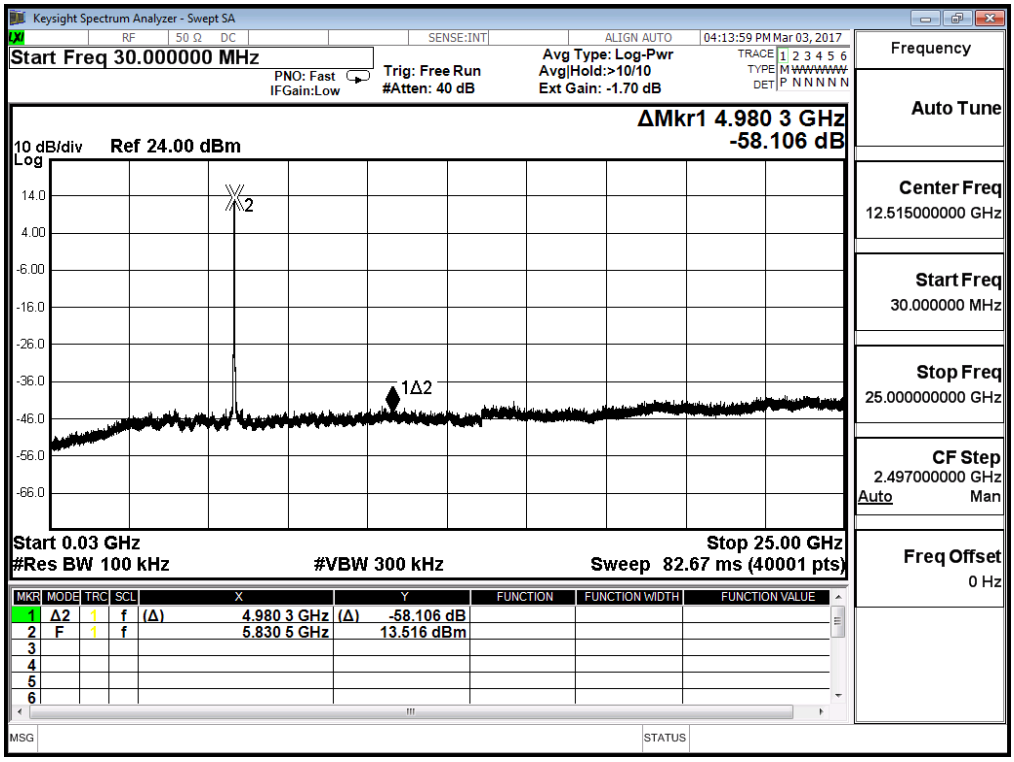
5745MHz (30MHz-25GHz)- 802.11n(20MHz)-ANT 0



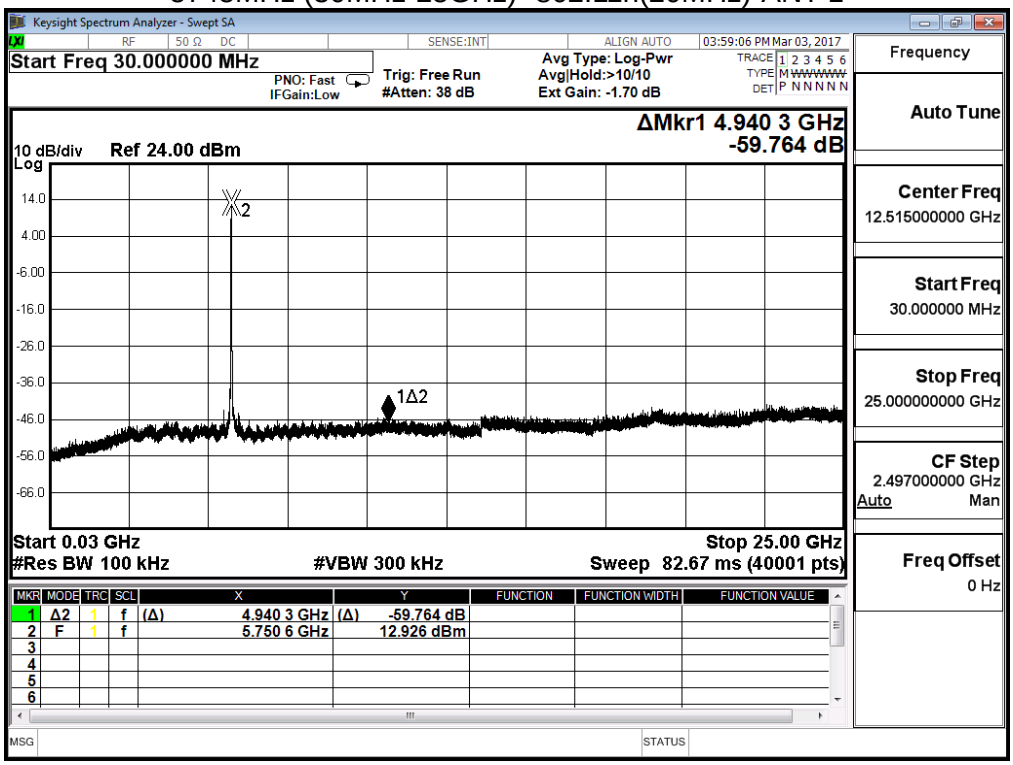
5785MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 0



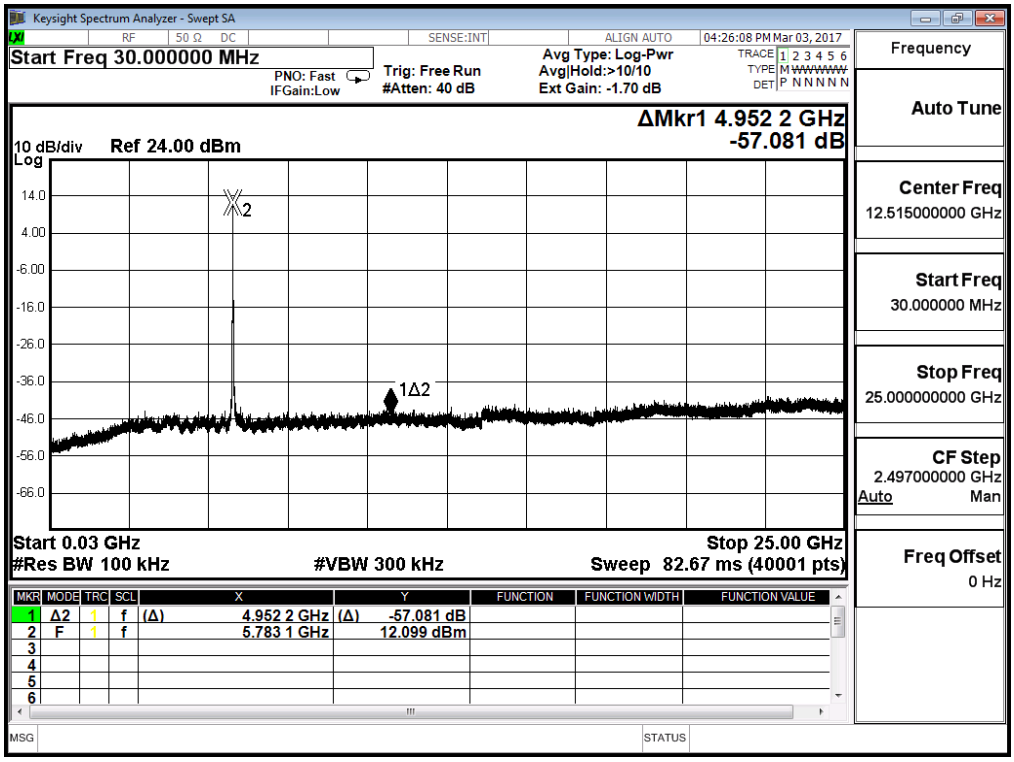
5825MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 0



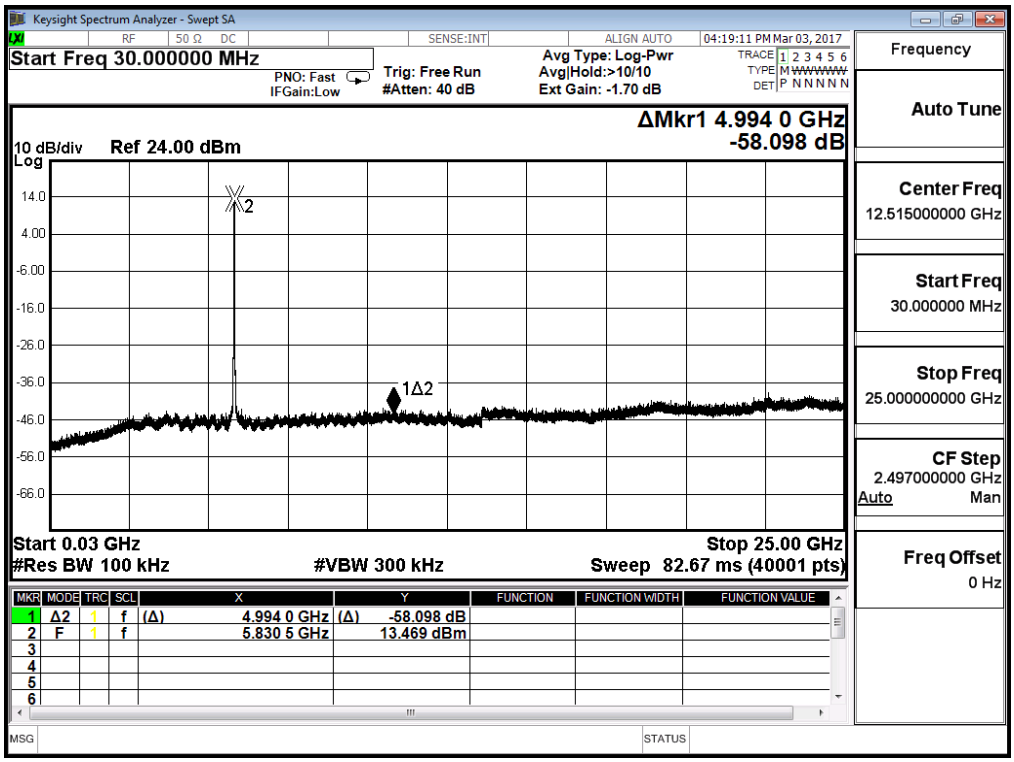
5745MHz (30MHz-25GHz)- 802.11n(20MHz)-ANT 1



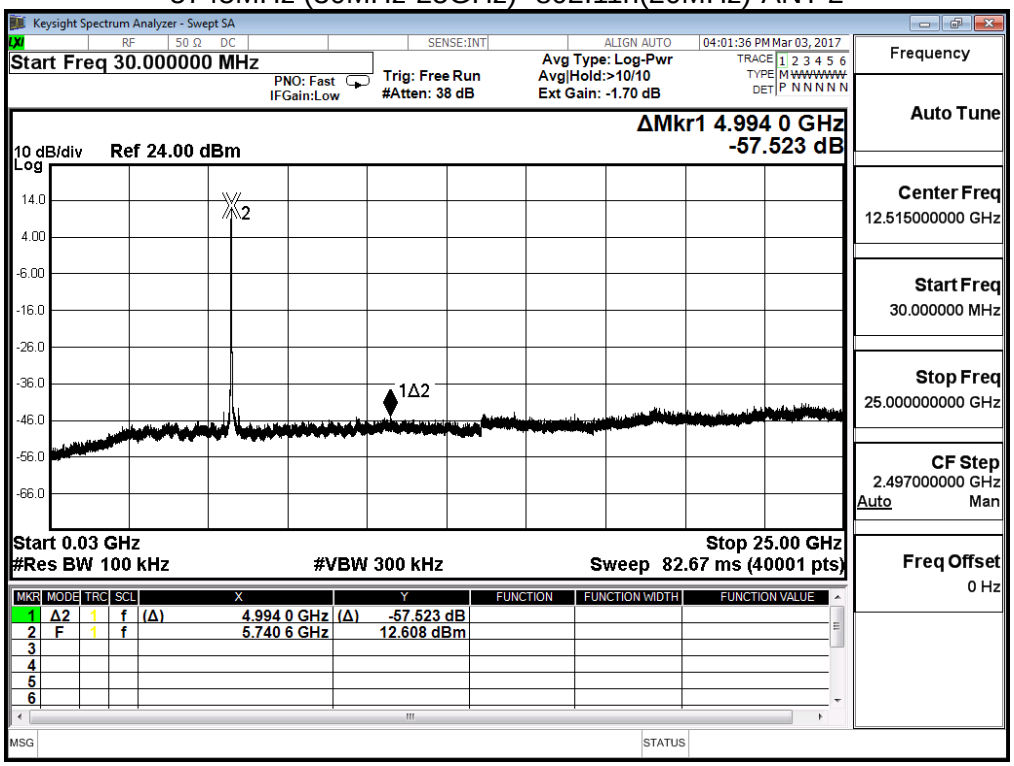
5785MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 1



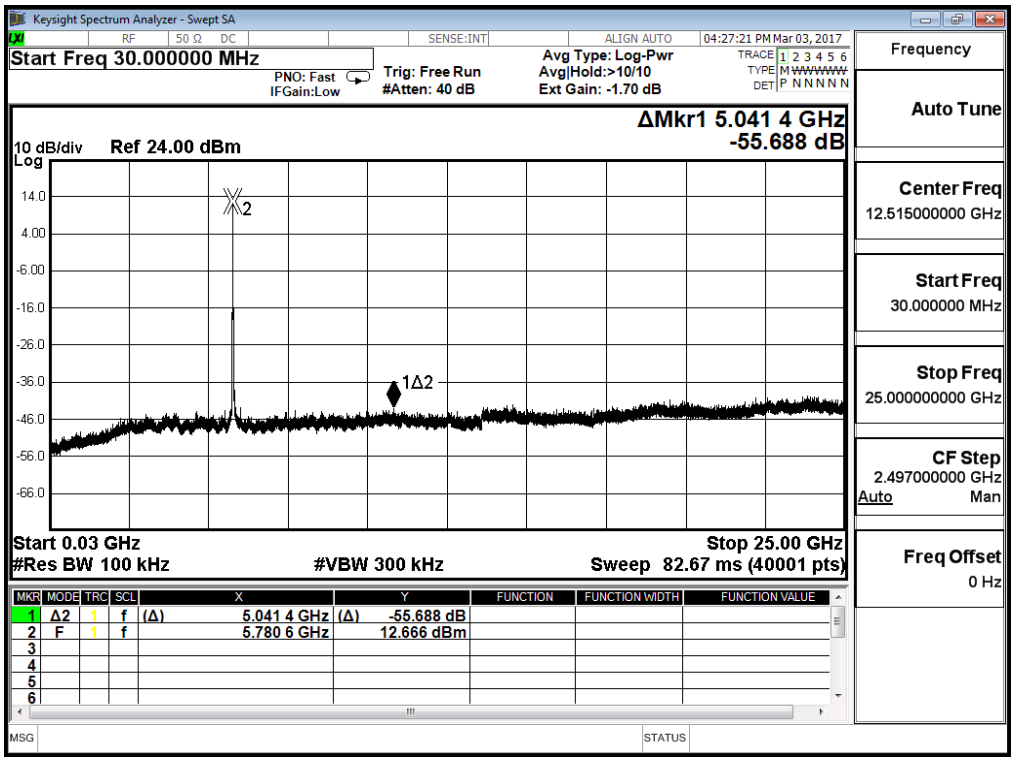
5825MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 1



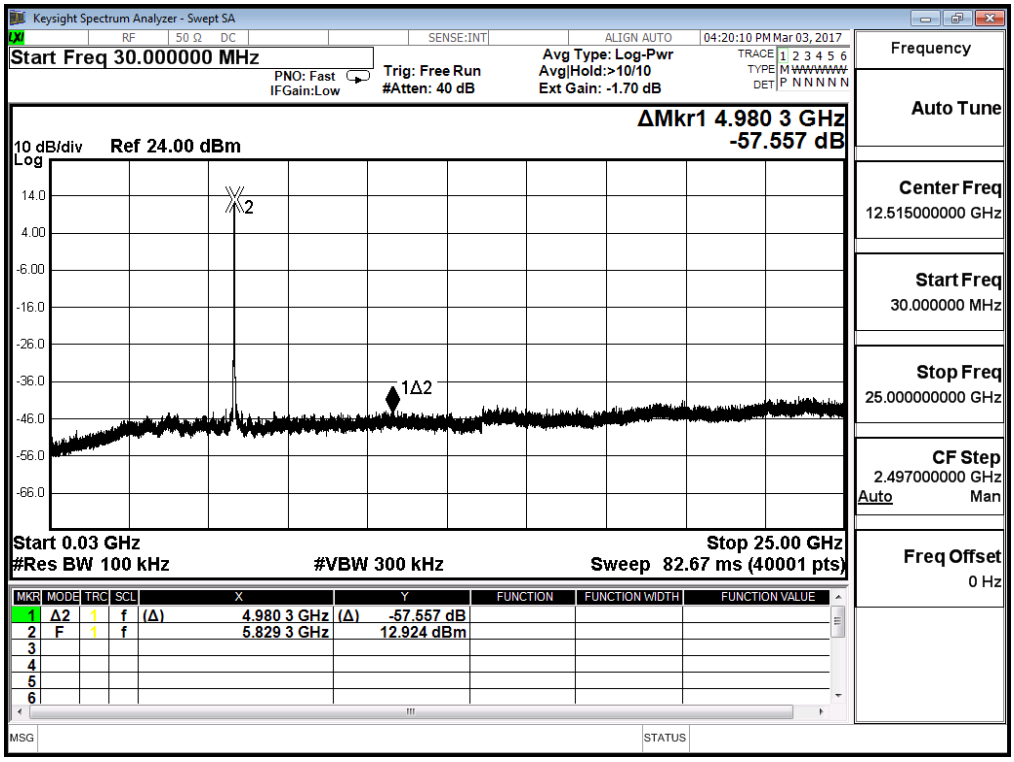
5745MHz (30MHz-25GHz)- 802.11n(20MHz)-ANT 2



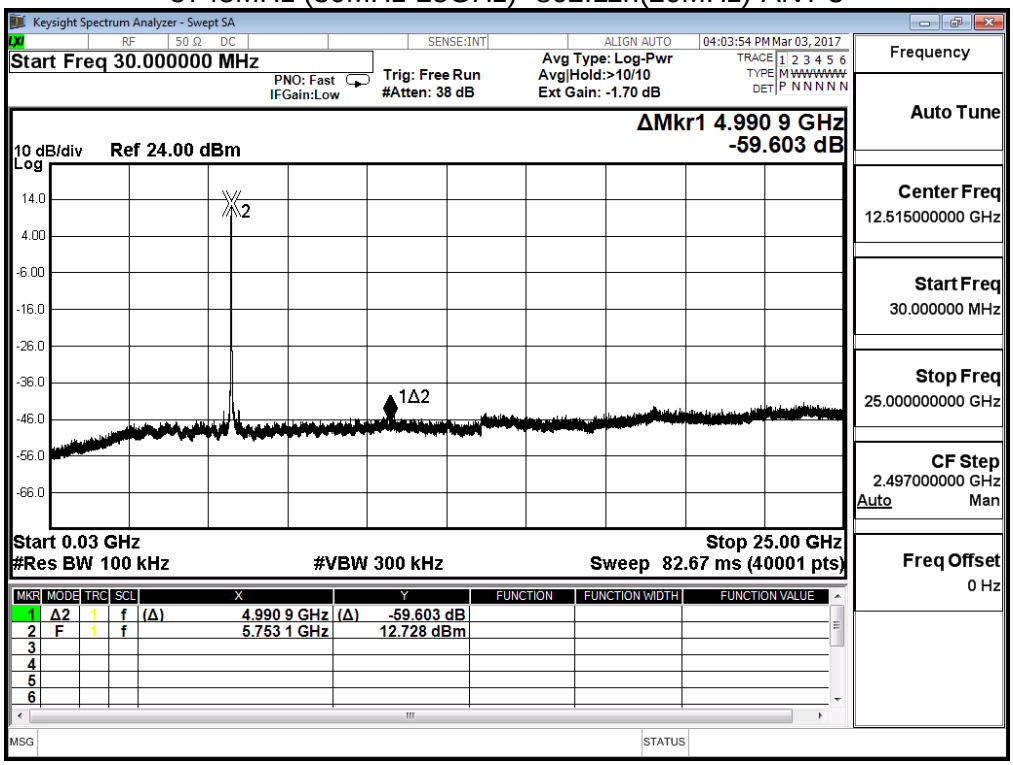
5785MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 2



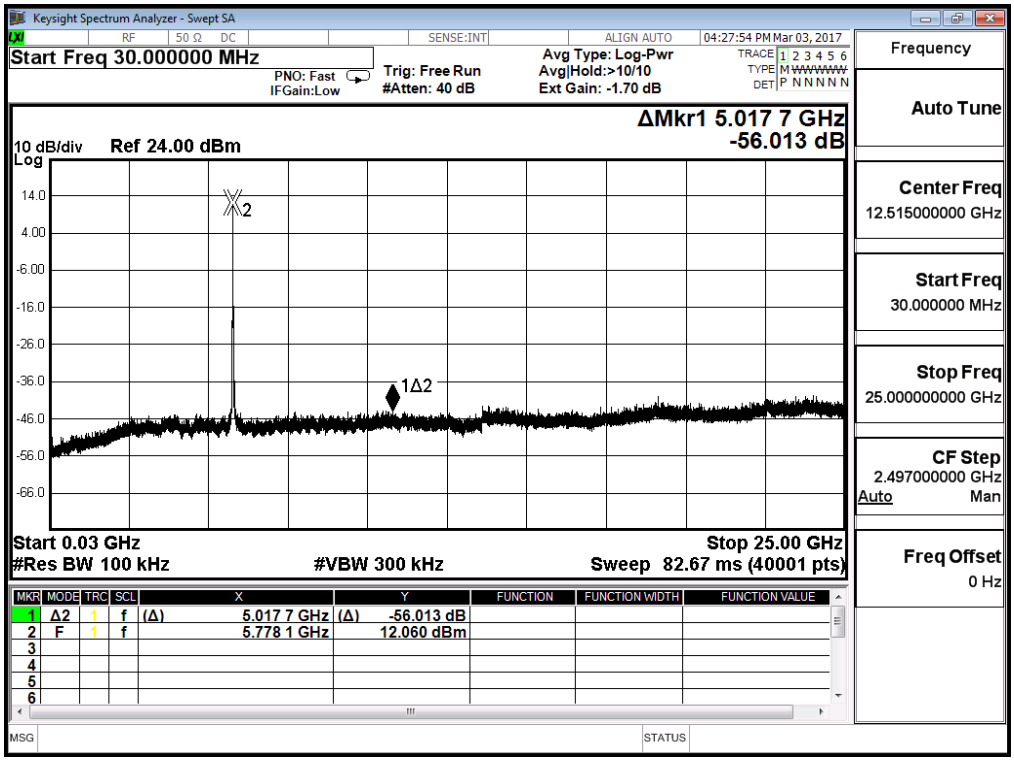
5825MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 2



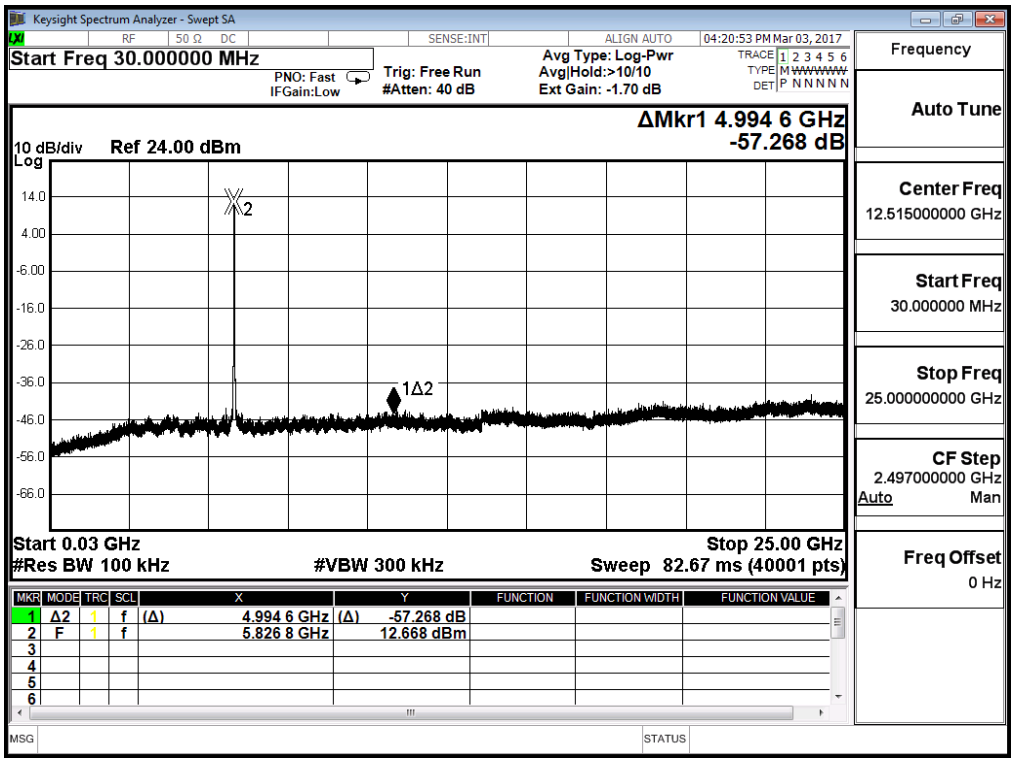
5745MHz (30MHz-25GHz)- 802.11n(20MHz)-ANT 3



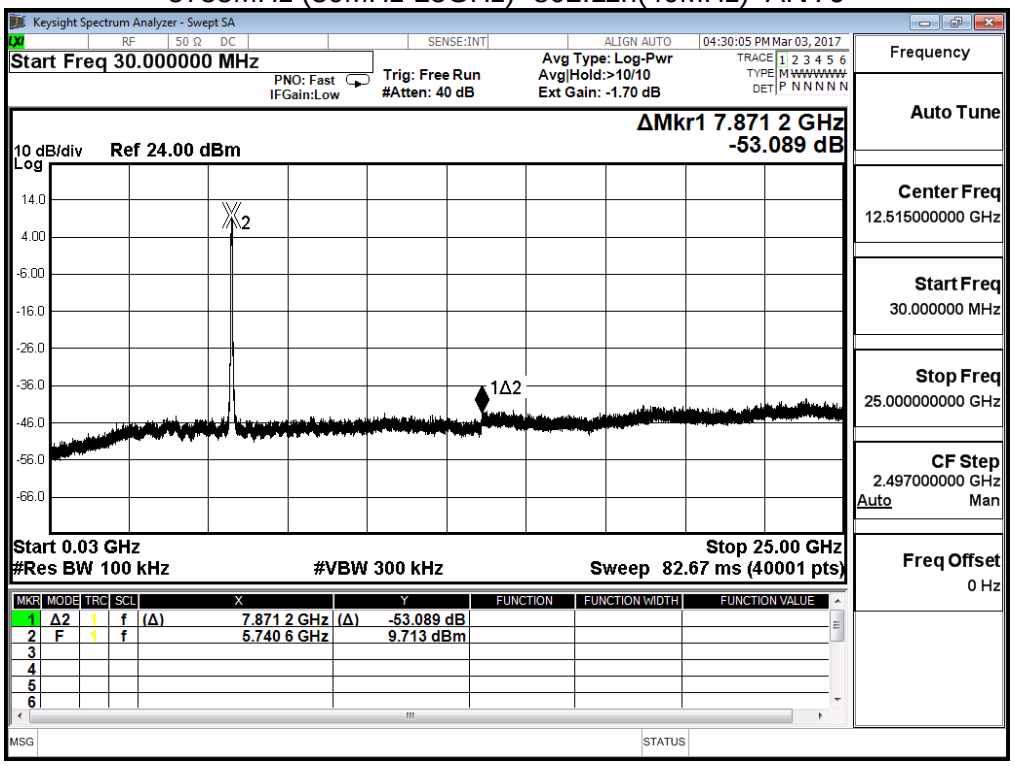
5785MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 3



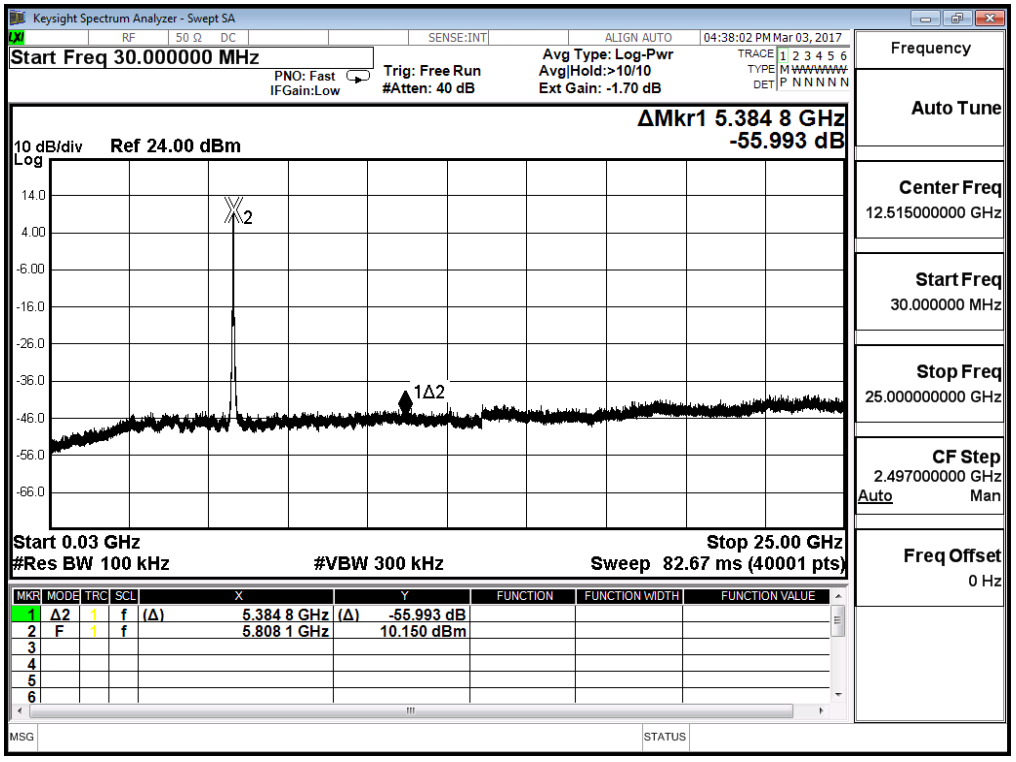
5825MHz (30MHz-25GHz) -802.11n(20MHz)-ANT 3



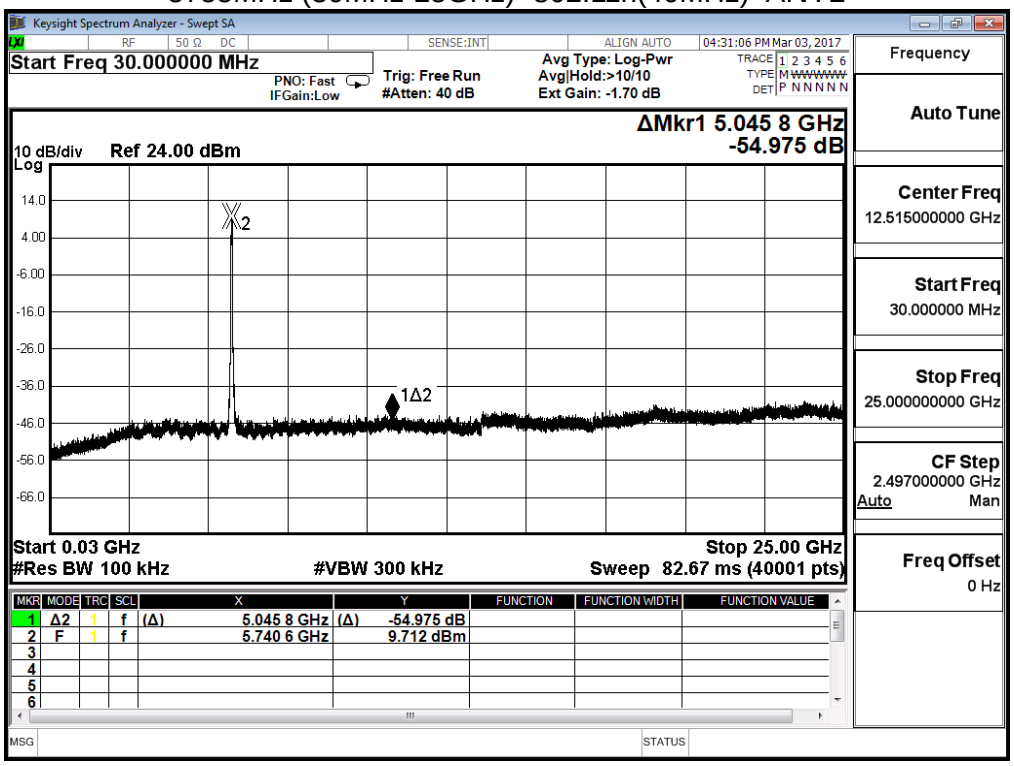
5755MHz (30MHz-25GHz)- 802.11n(40MHz)–ANT0



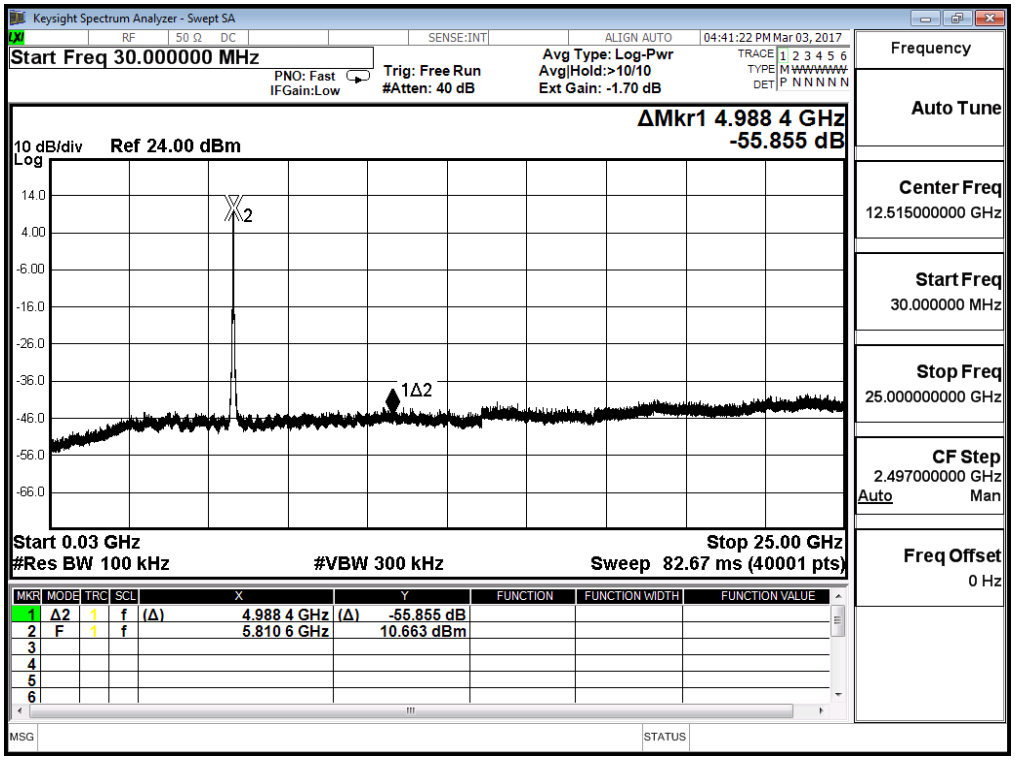
5795MHz (30MHz-25GHz) -802.11n(40MHz)–ANT0



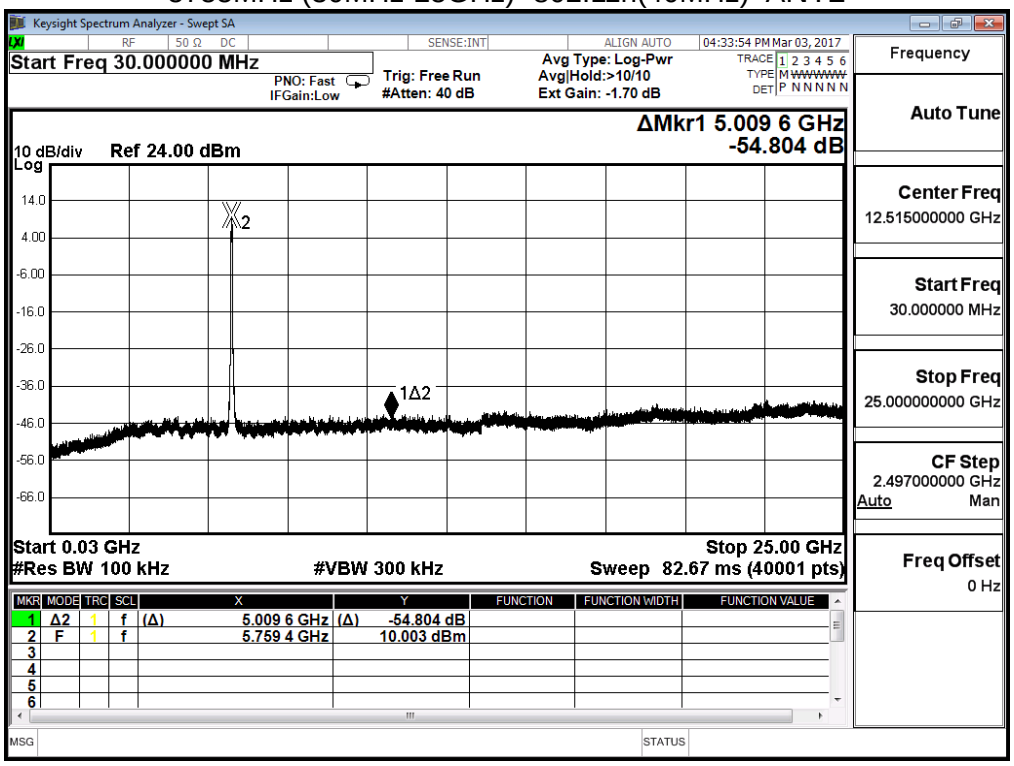
5755MHz (30MHz-25GHz)- 802.11n(40MHz)–ANT1



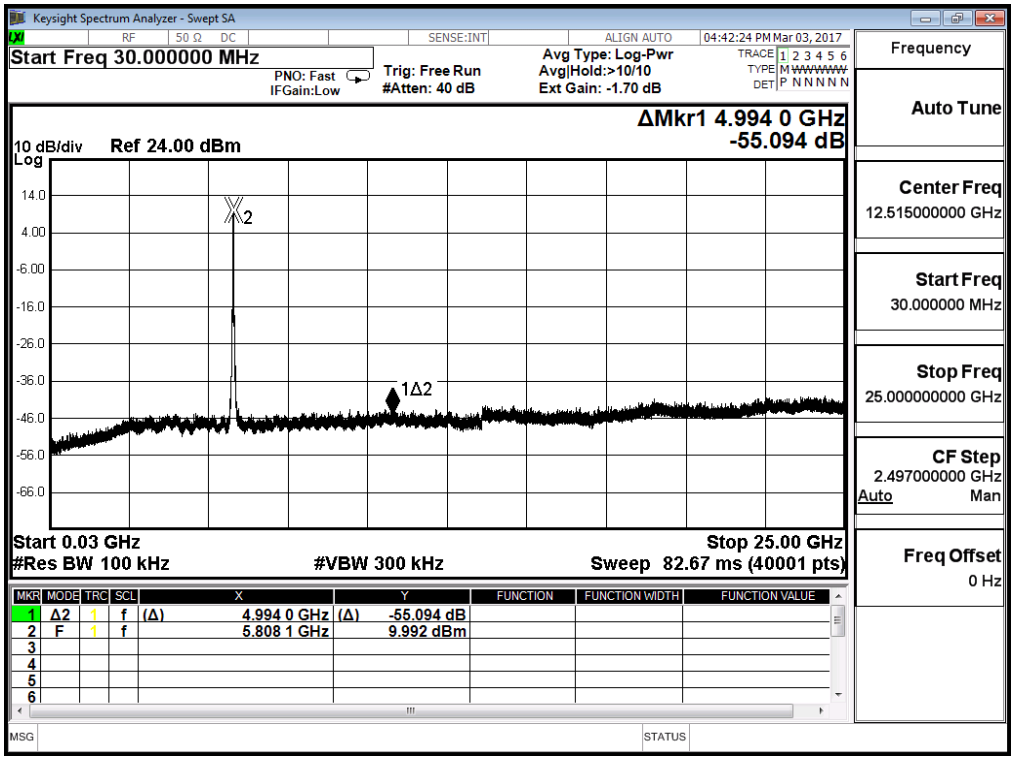
5795MHz (30MHz-25GHz) -802.11n(40MHz)–ANT1



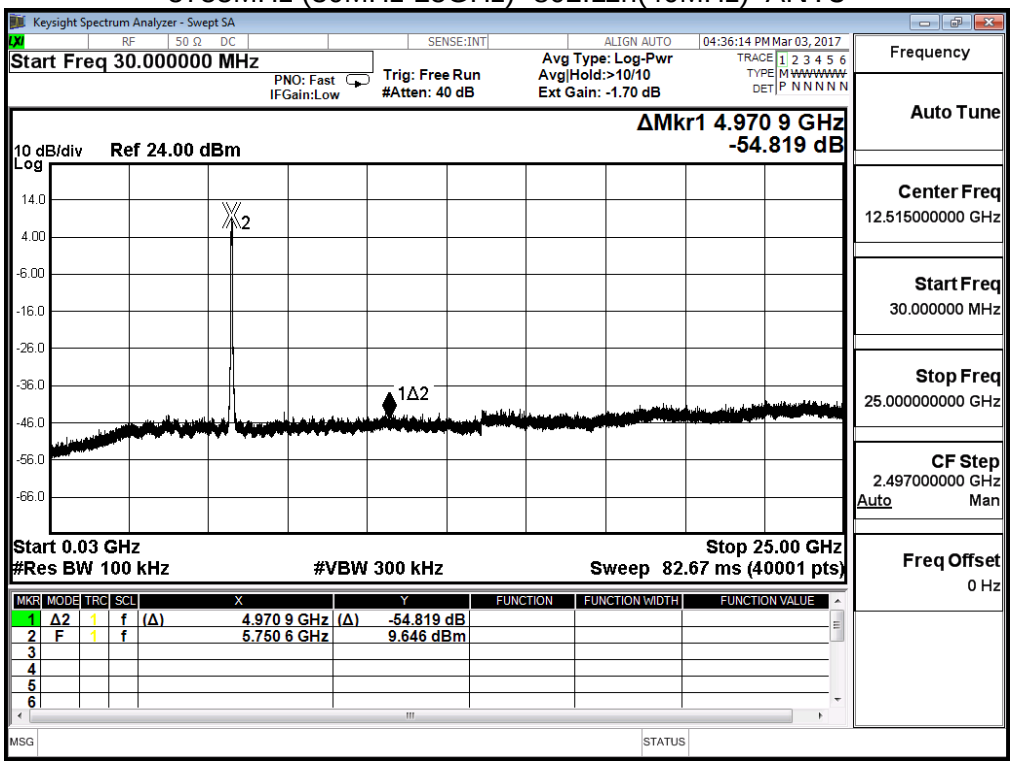
5755MHz (30MHz-25GHz)- 802.11n(40MHz)–ANT2



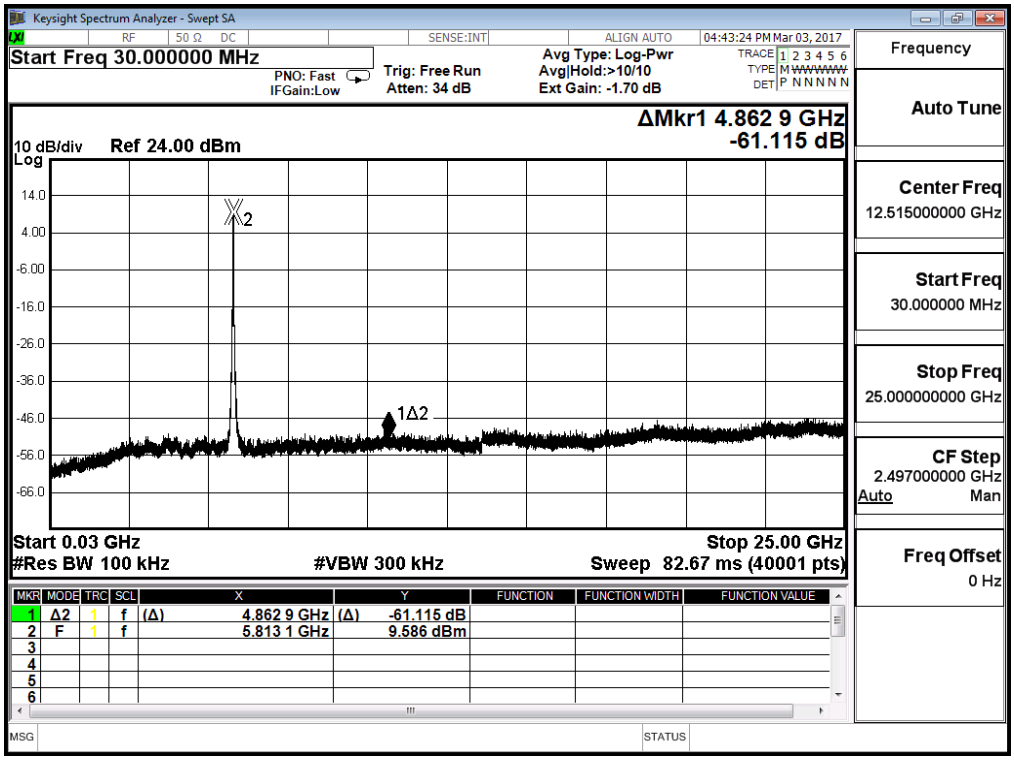
5795MHz (30MHz-25GHz) -802.11n(40MHz)–ANT2



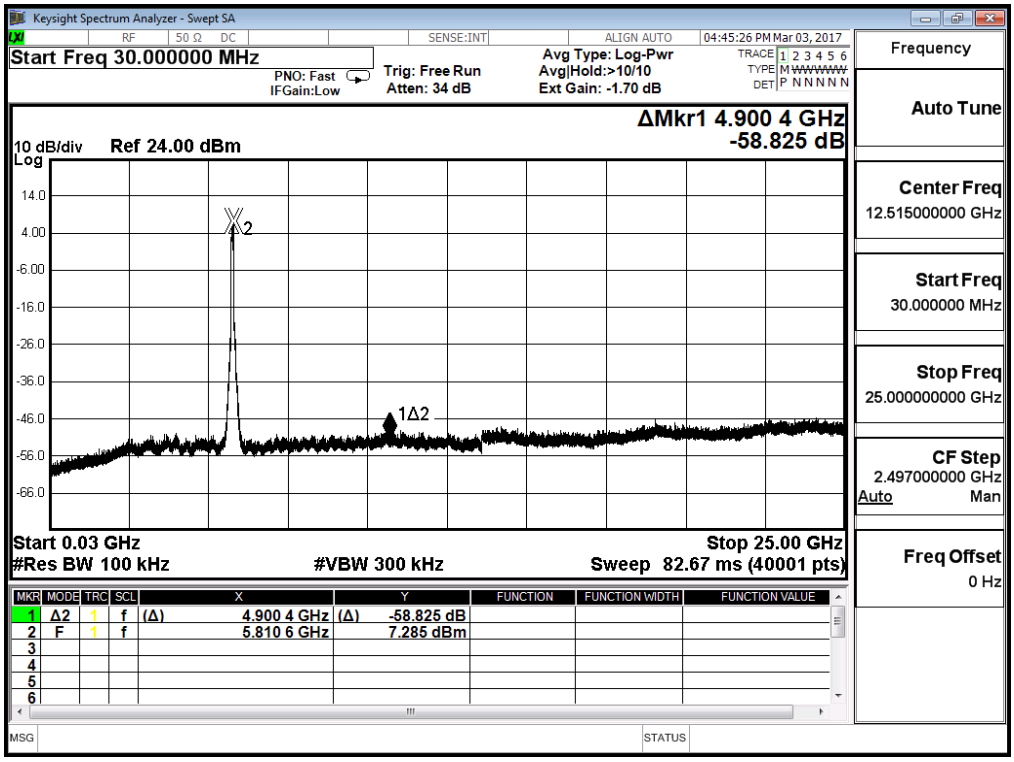
5755MHz (30MHz-25GHz)- 802.11n(40MHz)–ANT3



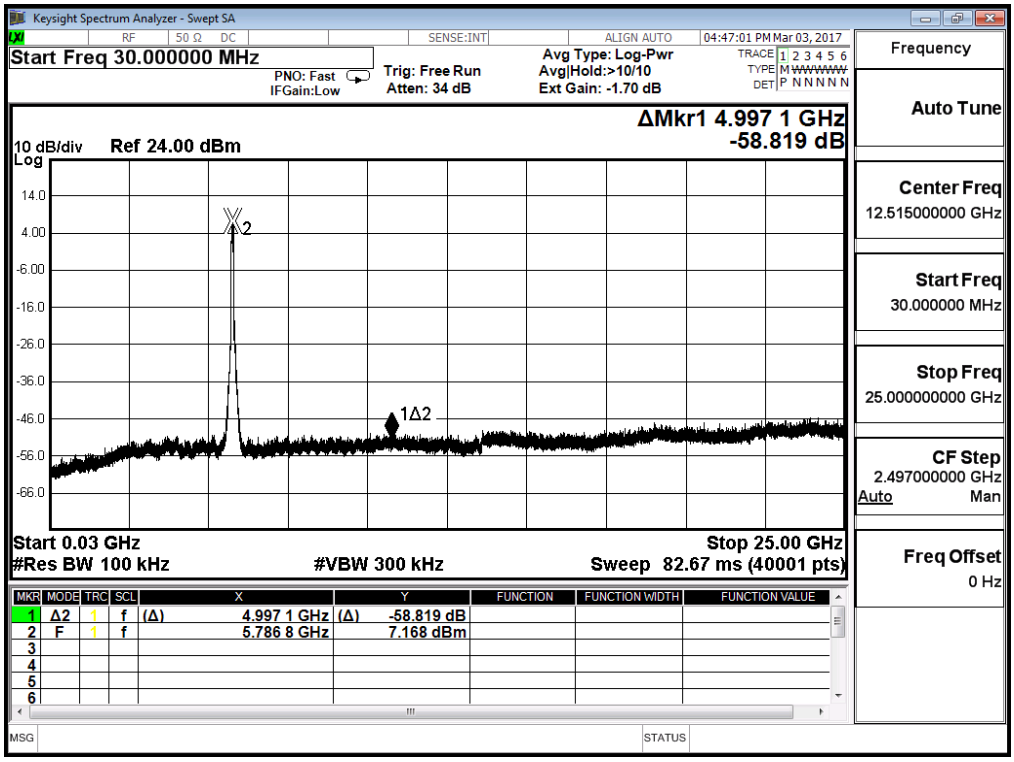
5795MHz (30MHz-25GHz) -802.11n(40MHz)–ANT3



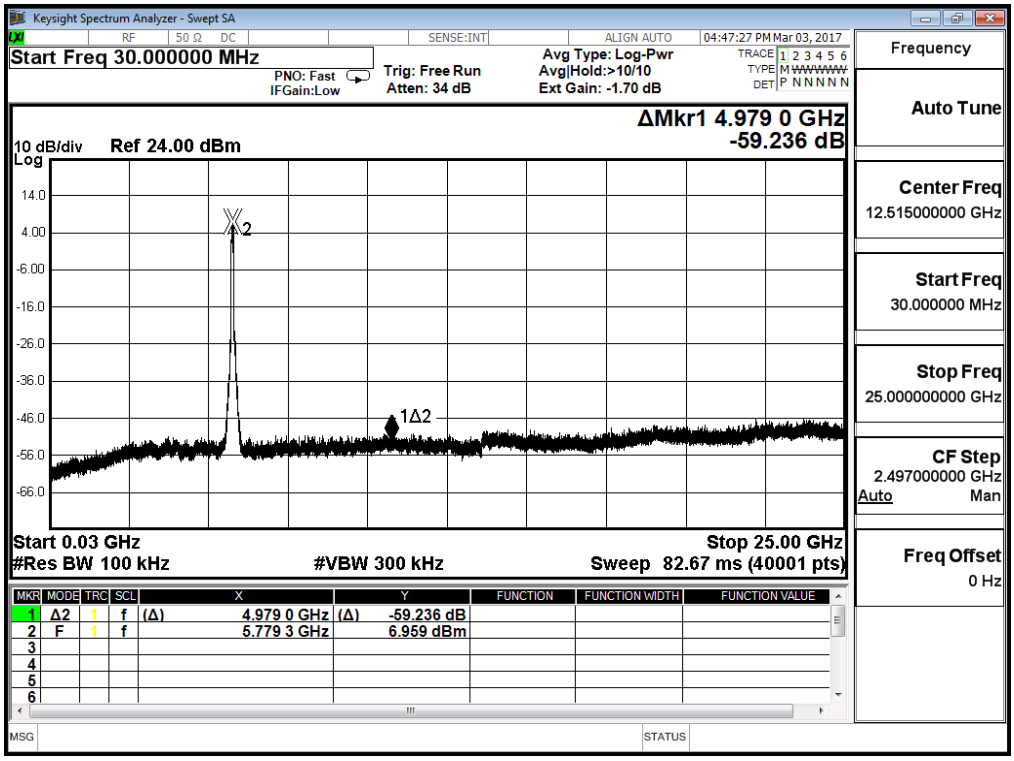
5775MHz (30MHz-25GHz) -802.11ac (80MHz)–ANT0



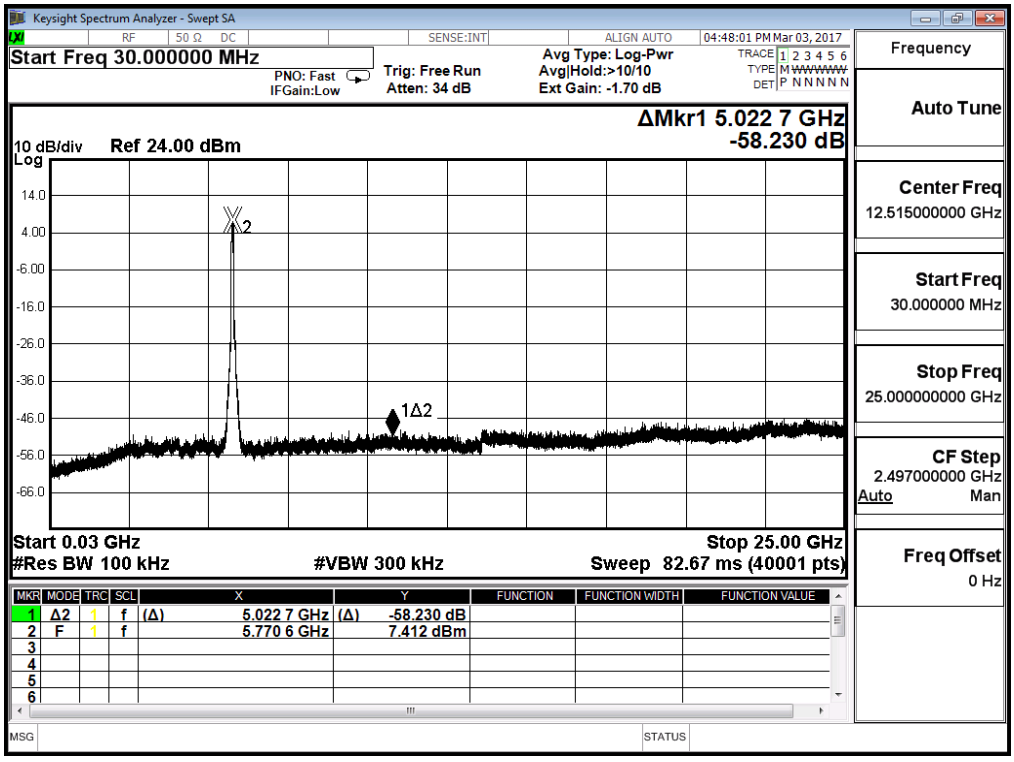
5775MHz (30MHz-25GHz) -802.11ac (80MHz)–ANT1



5775MHz (30MHz-25GHz) -802.11ac (80MHz)–ANT2



5775MHz (30MHz-25GHz) -802.11ac (80MHz)–ANT3



9. Frequency Stability

9.1. Test Equipment

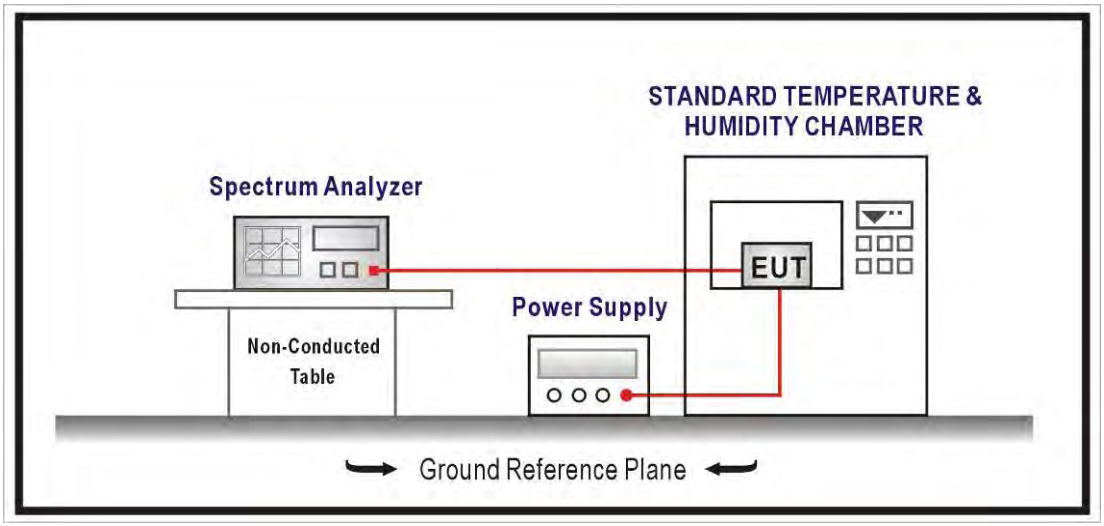
The following test equipments are used during the radiated emission tests:

Frequency Stability / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Temperature & Humidity Chamber	WIT	TH-1S-B	1082101	2018/02/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22

Note: All equipments that need to calibrate are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

Manufactures of aII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

9.4. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of 789033 D02 V01R02 for compliance to FCC 47CFR Subpart E requirements.

9.5. Uncertainty

The measurement uncertainty is defined as ± 150 Hz

9.6. Test Result

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11a - 5180MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.0259	5.0044	Pass
-10		5180.0124	2.3966	Pass
0		5179.9768	-4.4754	Pass
10		5179.9874	-2.4294	Pass
20		5179.9961	-0.7571	Pass
30		5179.9628	-7.1751	Pass
40		5179.9904	-1.8446	Pass
50		5179.9571	-8.2747	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5179.9930	-1.3479	Pass
	120	5179.9983	-0.3272	Pass
	138	5179.9954	-0.8835	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11a - 5240MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.0117	2.2399	Pass
-10		5240.0036	0.6831	Pass
0		5239.9784	-4.1131	Pass
10		5239.9983	-0.3259	Pass
20		5239.9828	-3.2832	Pass
30		5239.9798	-3.8613	Pass
40		5239.9597	-7.6955	Pass
50		5239.9641	-6.8494	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5239.9989	-0.2064	Pass
	120	5239.9979	-0.3998	Pass
	138	5240.0042	0.7963	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_20M - 5180MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.0012	0.2247	Pass
-10		5180.0199	3.8325	Pass
0		5179.9818	-3.5192	Pass
10		5179.9784	-4.1741	Pass
20		5179.9771	-4.4275	Pass
30		5179.9991	-0.1753	Pass
40		5179.9639	-6.9744	Pass
50		5179.9722	-5.3616	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.0016	0.3168	Pass
	120	5179.9873	-2.4521	Pass
	138	5180.0062	1.1896	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_20M - 5240MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.0040	0.7652	Pass
-10		5240.0197	3.7657	Pass
0		5239.9855	-2.7600	Pass
10		5239.9852	-2.8335	Pass
20		5239.9920	-1.5173	Pass
30		5239.9558	-8.4277	Pass
40		5239.9574	-8.1220	Pass
50		5239.9896	-1.9781	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5239.9962	-0.7336	Pass
	120	5239.9872	-2.4407	Pass
	138	5240.0038	0.7157	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_40M - 5190MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.0153	2.9466	Pass
-10		5190.0016	0.3036	Pass
0		5189.9974	-0.5042	Pass
10		5189.9608	-7.5456	Pass
20		5189.9791	-4.0330	Pass
30		5189.9720	-5.3910	Pass
40		5189.9801	-3.8352	Pass
50		5189.9786	-4.1284	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5189.9947	-1.0126	Pass
	120	5189.9918	-1.5729	Pass
	138	5190.0015	0.2880	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_40M - 5230MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.0092	1.7621	Pass
-10		5230.0162	3.0937	Pass
0		5229.9891	-2.0915	Pass
10		5229.9919	-1.5525	Pass
20		5229.9697	-5.7861	Pass
30		5229.9763	-4.5239	Pass
40		5229.9899	-1.9362	Pass
50		5229.9820	-3.4373	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5229.9978	-0.4207	Pass
	120	5229.9985	-0.2904	Pass
	138	5230.0006	0.1061	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11ac_80M-5210MHz

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5210.0174	3.3473	Pass
-10		5210.0021	0.3982	Pass
0		5209.9708	-5.6013	Pass
10		5209.9873	-2.4294	Pass
20		5209.9935	-1.2461	Pass
30		5209.9944	-1.0709	Pass
40		5209.9955	-0.8717	Pass
50		5209.9914	-1.6446	Pass

Temperature Interval (oC)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5209.9957	-0.8314	Pass
	120	5209.9830	-3.2553	Pass
	138	5210.0022	0.4266	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11a - 5745MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5745.0178	3.0931	Pass
-10		5745.0183	3.1775	Pass
0		5744.9939	-1.0680	Pass
10		5744.9756	-4.2415	Pass
20		5744.9976	-0.4252	Pass
30		5744.9954	-0.7954	Pass
40		5744.9739	-4.5391	Pass
50		5744.9725	-4.7870	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5745.0082	1.4238	Pass
	120	5744.9839	-2.8003	Pass
	138	5745.0002	0.0434	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 1: Tx_ADP: AD890326010-2LF_ CDD Mode (802.11 a)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11a - 5825MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5825.0167	2.8698	Pass
-10		5825.0153	2.6273	Pass
0		5824.9893	-1.8289	Pass
10		5824.9995	-0.0935	Pass
20		5824.9996	-0.0629	Pass
30		5824.9630	-6.3439	Pass
40		5824.9710	-4.9729	Pass
50		5824.9706	-5.0536	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5824.9994	-0.1079	Pass
	120	5825.0017	0.2931	Pass
	138	5825.0062	1.0596	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_20M - 5745MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5745.0166	2.8880	Pass
-10		5745.0043	0.7430	Pass
0		5744.9776	-3.9036	Pass
10		5744.9776	-3.8952	Pass
20		5744.9561	-7.6439	Pass
30		5744.9976	-0.4214	Pass
40		5744.9630	-6.4358	Pass
50		5744.9620	-6.6154	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5745.0061	1.0559	Pass
	120	5744.9917	-1.4396	Pass
	138	5744.9965	-0.6148	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_20M - 5825MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5825.0097	1.6687	Pass
-10		5825.0026	0.4515	Pass
0		5824.9709	-4.9964	Pass
10		5824.9674	-5.5965	Pass
20		5824.9661	-5.8160	Pass
30		5824.9589	-7.0537	Pass
40		5824.9616	-6.6000	Pass
50		5824.9598	-6.8927	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5824.9960	-0.6843	Pass
	120	5824.9957	-0.7369	Pass
	138	5825.0048	0.8214	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_40M - 5755MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.0153	2.9466	Pass
-10		5190.0016	0.3036	Pass
0		5189.9974	-0.5042	Pass
10		5189.9608	-7.5456	Pass
20		5189.9791	-4.0330	Pass
30		5189.9720	-5.3910	Pass
40		5189.9801	-3.8352	Pass
50		5189.9786	-4.1284	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5189.9947	-1.0126	Pass
	120	5189.9918	-1.5729	Pass
	138	5190.0015	0.2880	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11n_40M - 5795MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5795.0139	2.4036	Pass
-10		5795.0183	3.1627	Pass
0		5794.9753	-4.2662	Pass
10		5794.9769	-3.9884	Pass
20		5794.9635	-6.2936	Pass
30		5794.9722	-4.7951	Pass
40		5794.9593	-7.0219	Pass
50		5794.9887	-1.9551	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5794.9929	-1.2308	Pass
	120	5794.9908	-1.5913	Pass
	138	5795.0023	0.3996	Pass

Product	Wireless-AC2900 Dual Band Gigabit Router		
Test Item	Frequency Stability		
Test Mode	Mode 2: Tx_ADP: AD890326010-2LF_ MIMO Mode (802.11 n20/40)		
Date of Test	2017/03/12	Test Site	SR10-H

802.11ac_80M-5775MHz

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5775.0277	4.7923	Pass
-10		5775.0163	2.8229	Pass
0		5774.9922	-1.3430	Pass
10		5774.9664	-5.8214	Pass
20		5774.9845	-2.6788	Pass
30		5774.9564	-7.5582	Pass
40		5774.9695	-5.2892	Pass
50		5774.9692	-5.3252	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5774.9985	-0.2600	Pass
	120	5775.0023	0.3996	Pass
	138	5774.9945	-0.9494	Pass