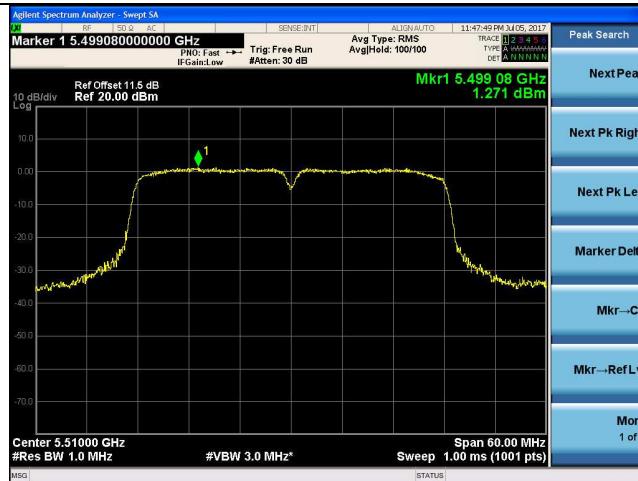
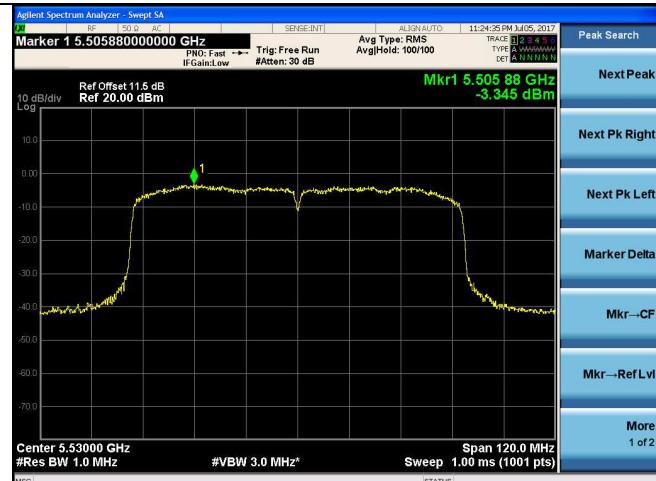




11ac VHT40 5510MHz



11ac VHT80 5530MHz



5590MHz



5610MHz



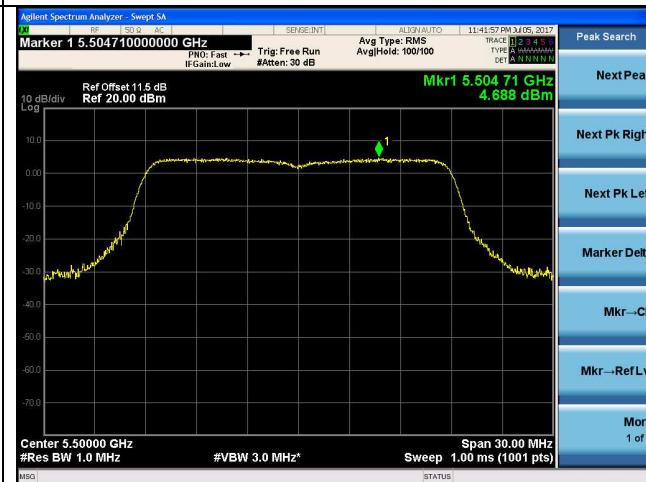
5670MHz

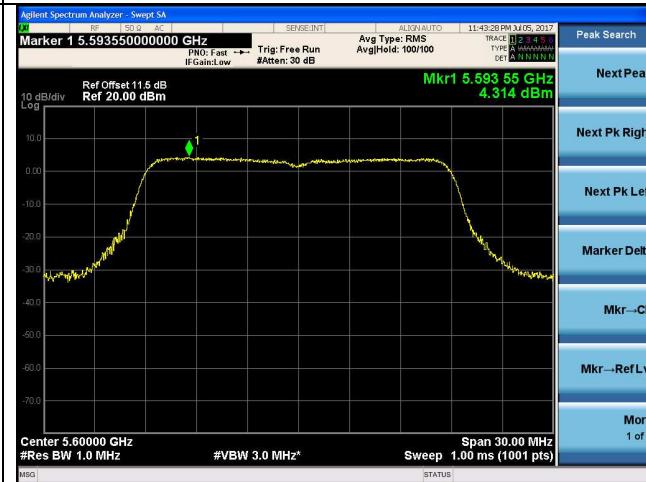


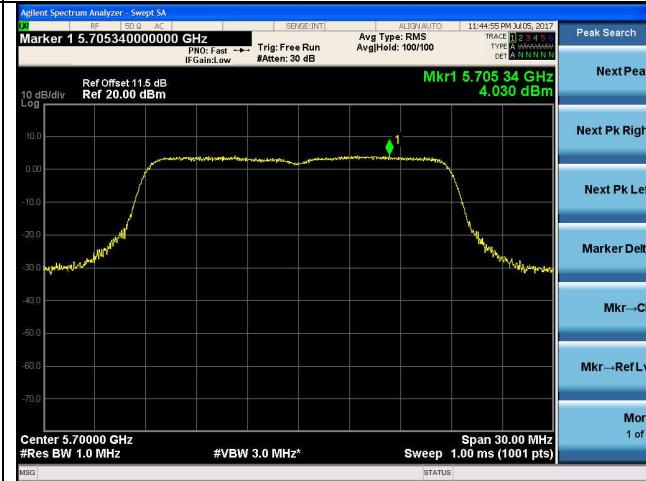
5690MHz



5500-5700MHz Band:
ANT 1
11a
5500MHz

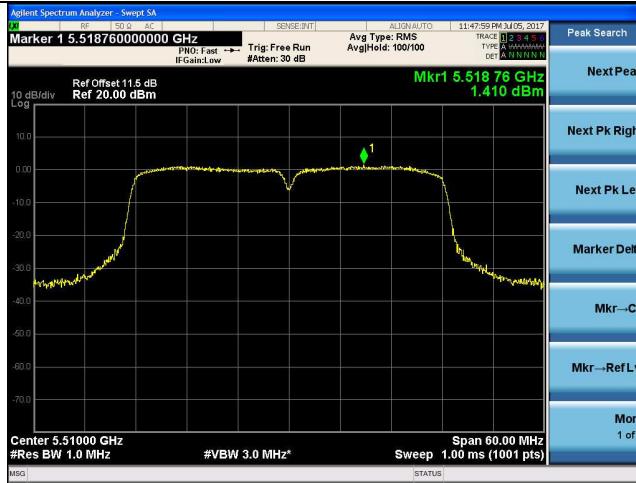
11n HT20
5500MHz

5600MHz

5600MHz

5700MHz

5700MHz


11n HT40	11ac VHT20
5510MHz	5500MHz
<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.499560000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.499 56 GHz 1.401 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.51000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.507800000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.507 80 GHz 4.606 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.50000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>
<p>5590MHz</p> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.576740000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.576 74 GHz 0.968 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.59000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>	<p>5600MHz</p> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.606120000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.606 12 GHz 4.188 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.60000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>
<p>5670MHz</p> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.658660000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.658 66 GHz 0.321 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.67000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>	<p>5700MHz</p> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 5.695140000000 GHz PPO: Fast → Trig: Free Run Avg Type: RMS AvgHold: 100/100 IFGain:Low #Atten: 30 dB</p> <p>Mkr1 5.695 14 GHz 4.465 dBm</p> <p>Ref Offset 11.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 5.70000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.00 ms (1001 pts)</p> <p>MSG STATUS</p>

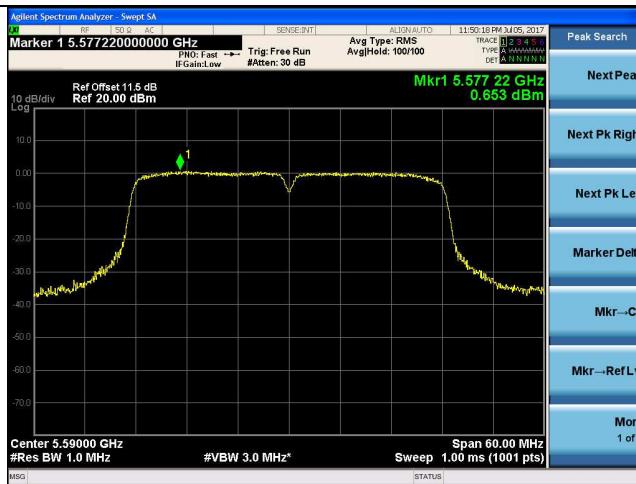
11ac VHT40 5510MHz



11ac VHT80 5530MHz



5590MHz



5610MHz



5670MHz



5690MHz

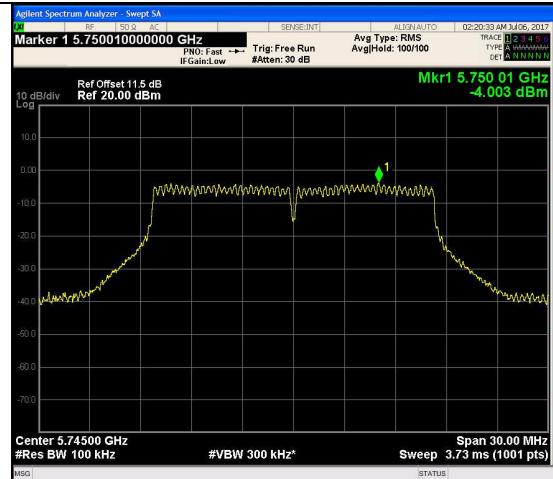


5745-5825MHz Band:

ANT 0

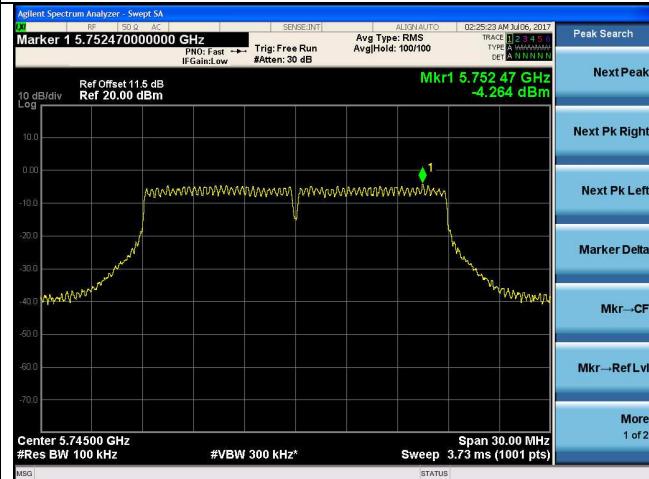
11a

5745MHz

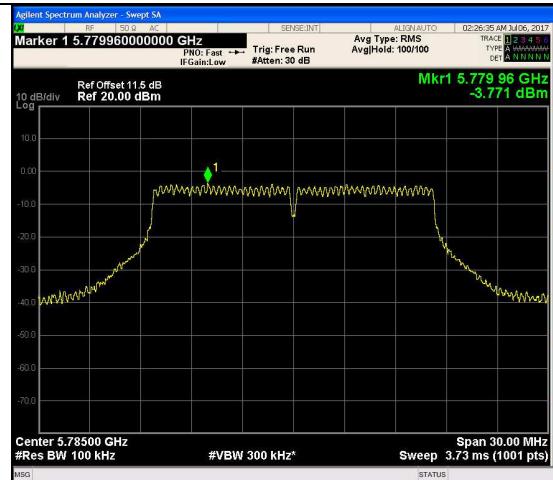


11n HT20

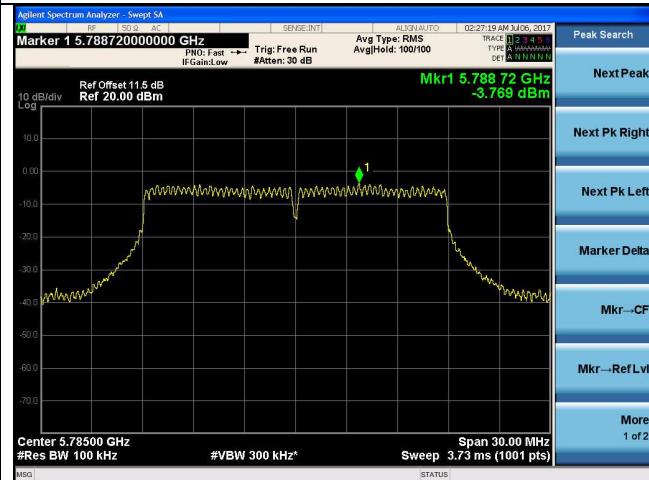
5745MHz



5785MHz



5785MHz

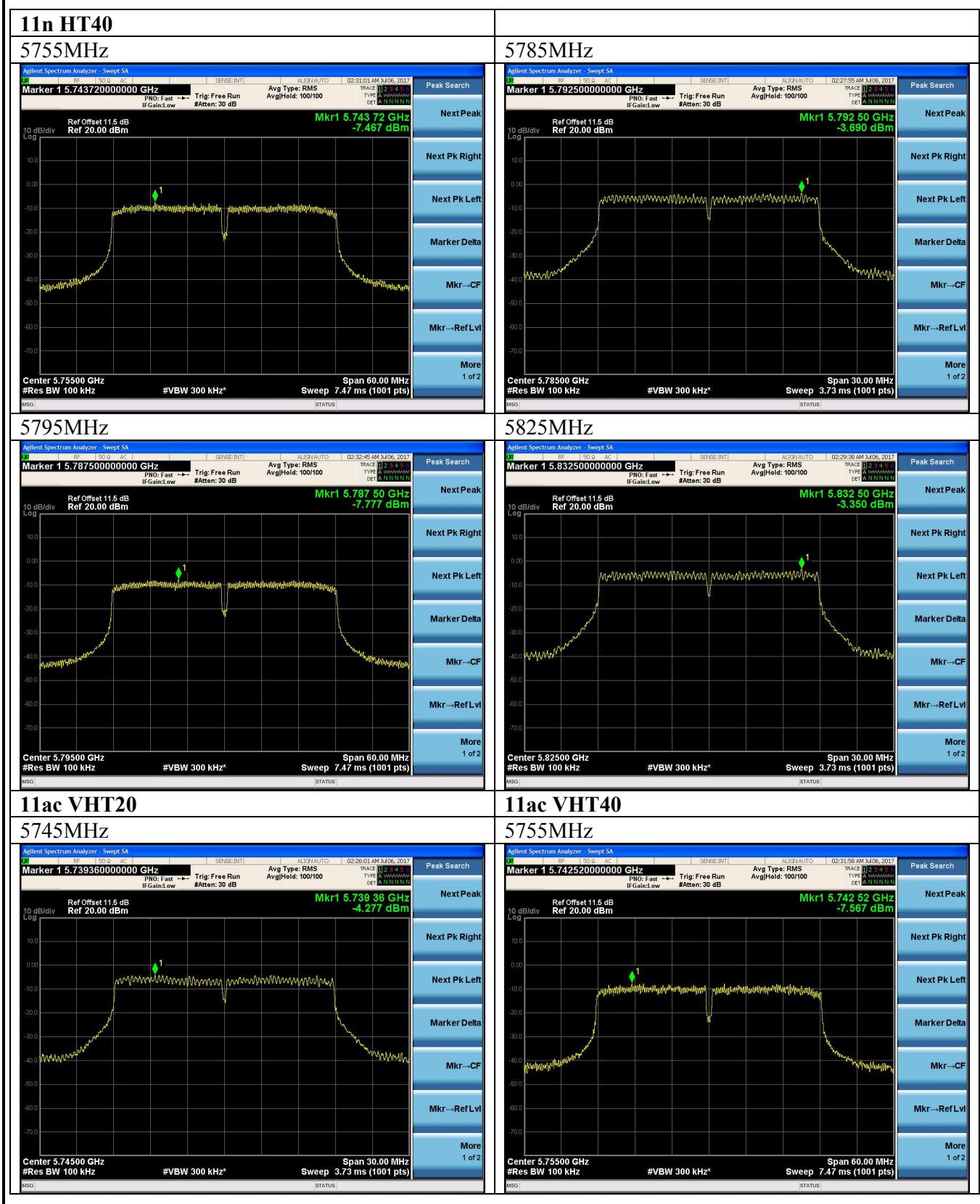


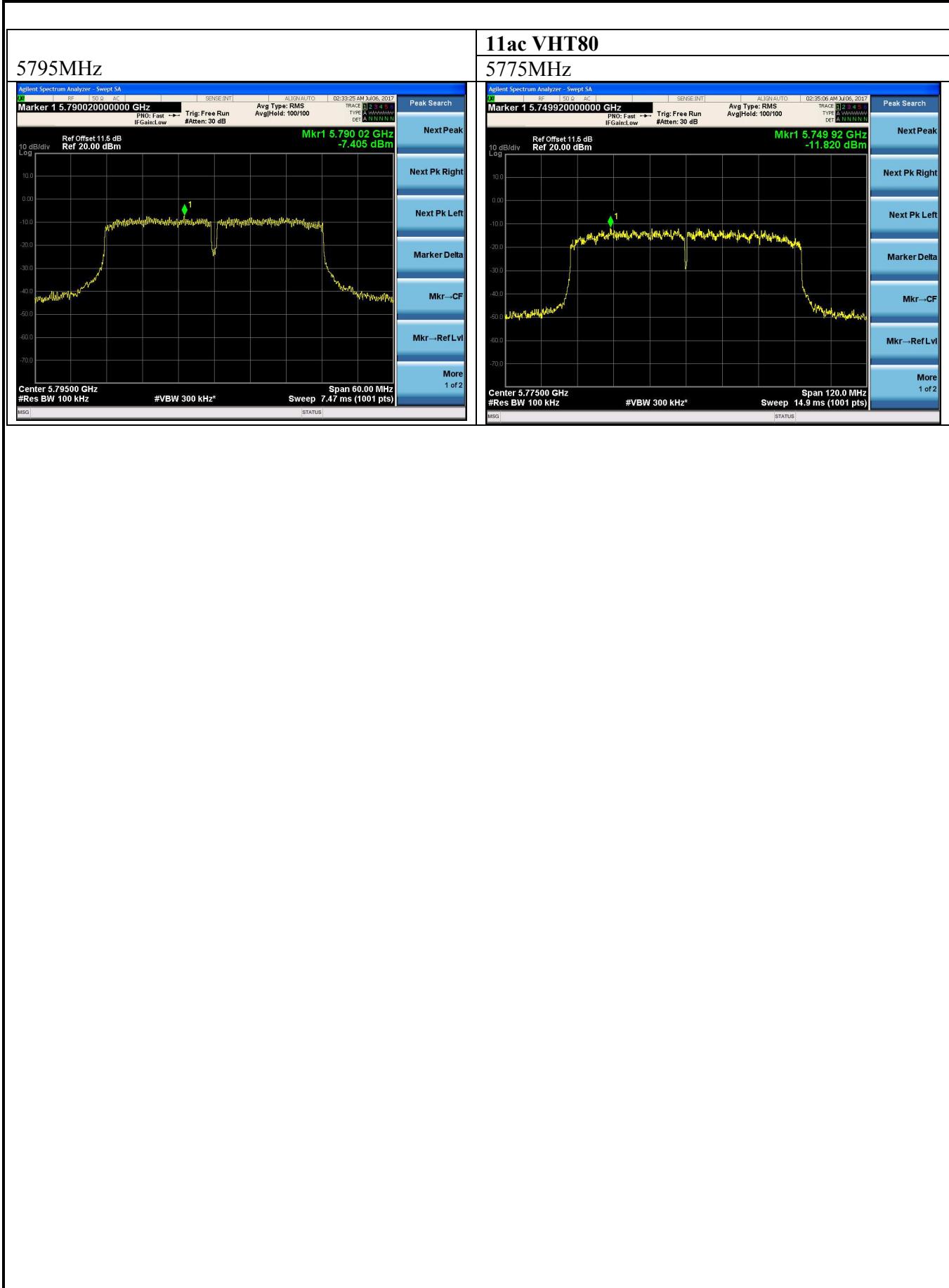
5825MHz



5825MHz







5745-5825MHz Band:

ANT 1

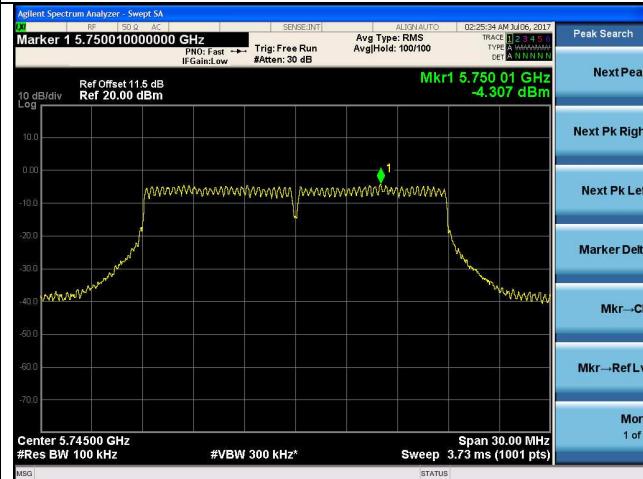
11a

5745MHz

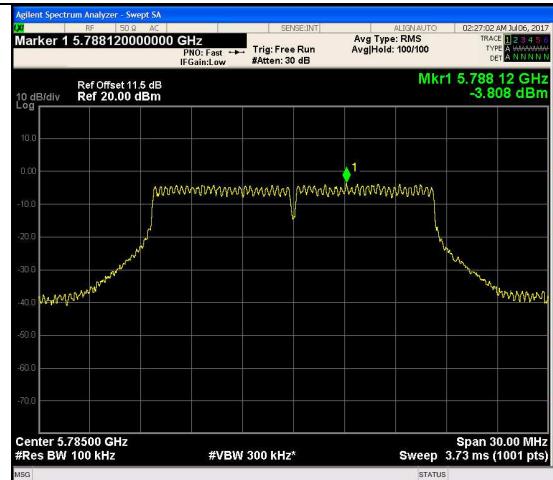


11n HT20

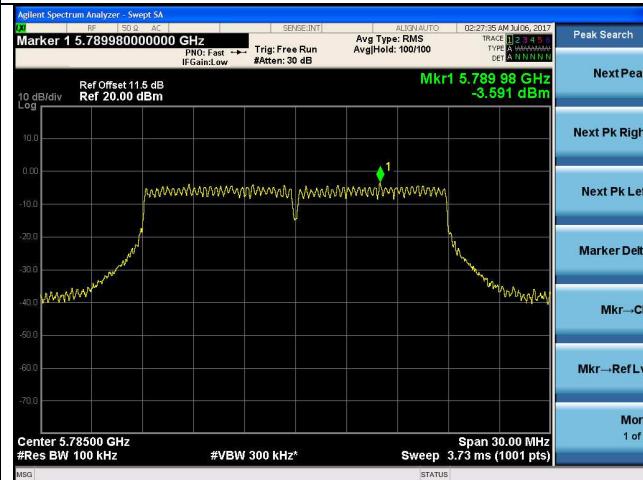
5745MHz



5785MHz



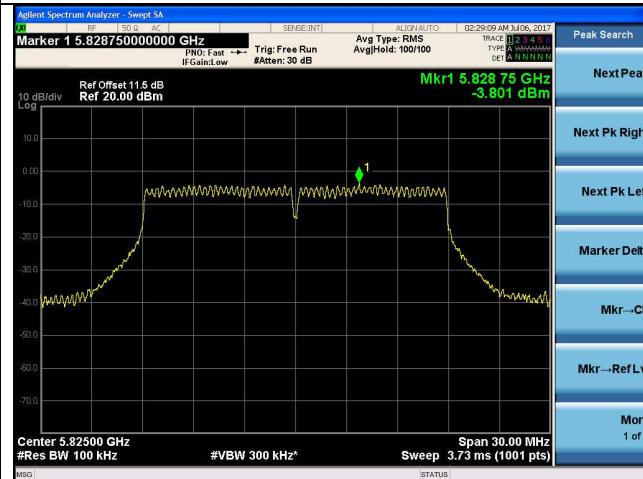
5785MHz

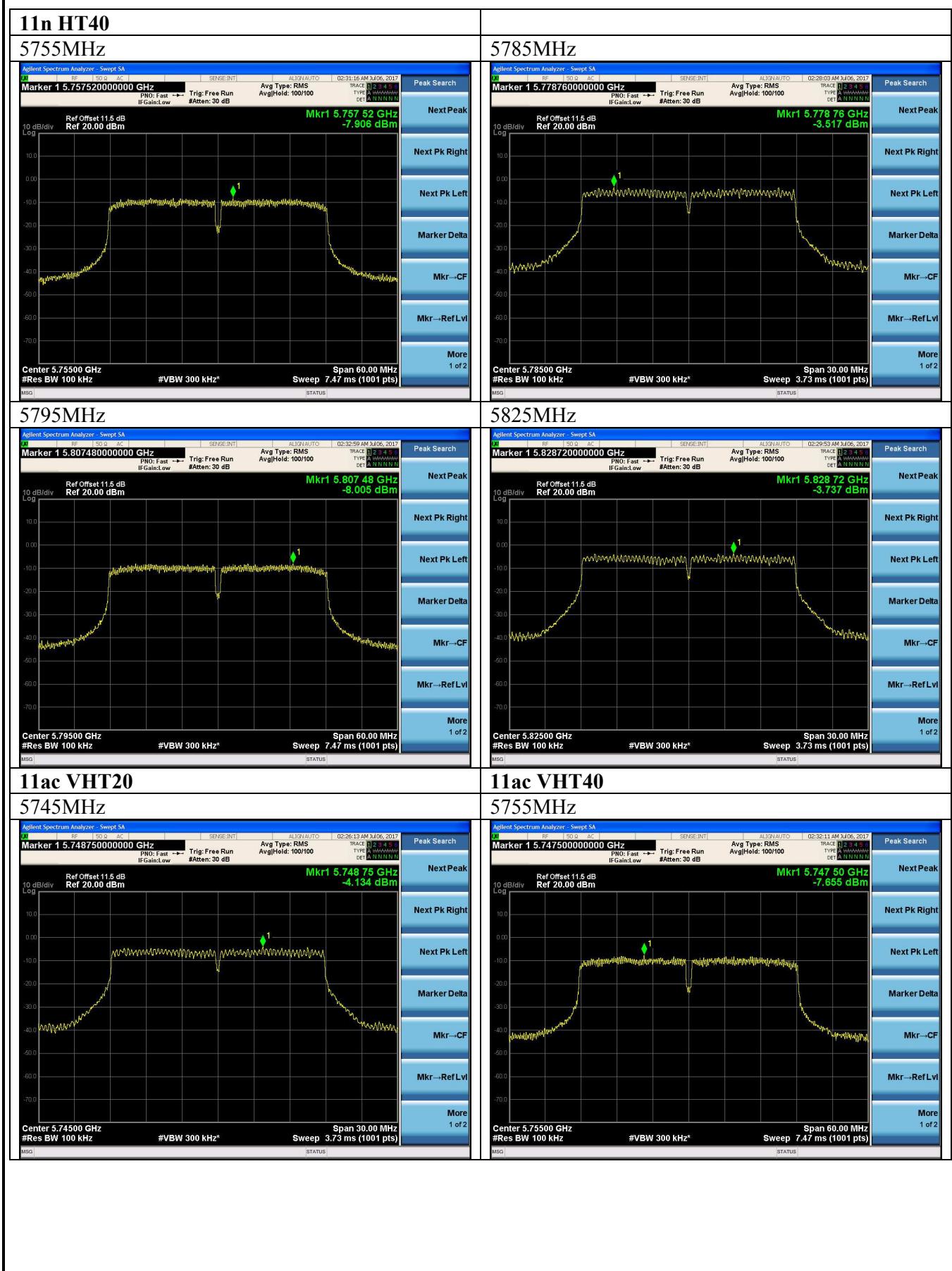


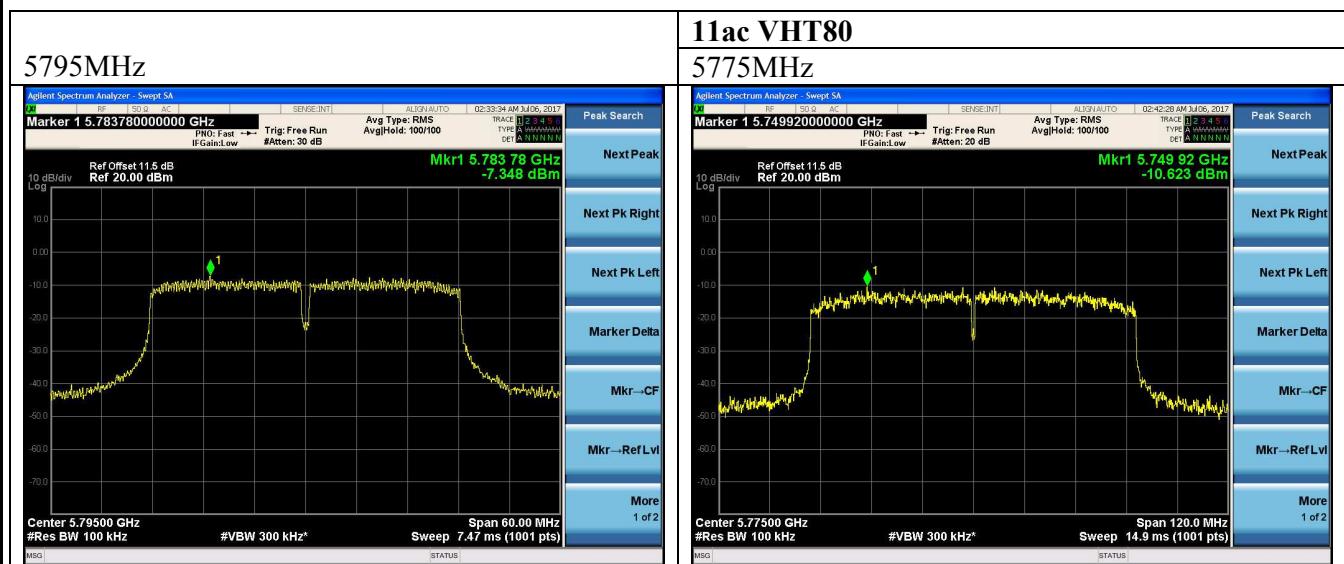
5825MHz



5825MHz







9. FREQUENCY STABILITY MEASUREMENT

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.15,16	1 Year
2.	Amp	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	MAY.15,17	1 Year
4.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.22,17	1 Year

9.2. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or $\pm 20\text{ppm}$

9.3. Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer. EUT have transmitted absence of modulation signal and fixed channelise. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings. fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 106 \text{ ppm}$ and the limit is less than $\pm 20\text{ppm}$ The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
2. Extreme temperature rule is $-30^\circ\text{C} \sim 50^\circ\text{C}$.

9.4. Test Result

EUT: Cash Register		
M/N: SPB1-01		
Test date: 2017-07-04	Pressure: $102.4 \pm 1.0 \text{ kpa}$	Humidity: $52.6 \pm 3.0\%$
Tested by: zack_zhu	Test site: RF site	Temperature: $23.2 \pm 0.6 \text{ }^\circ\text{C}$

Frequency Stability vs. Voltage:

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC108V	25	CH36	5180.015	5180	2.89	±20
		CH38	5190.005	5190	0.96	±20
		CH40	5200.01	5200	1.92	±20
		CH42	5210.004	5210	0.77	±20
		CH46	5230.001	5230	0.19	±20
		CH48	5240	5240	0	±20
		CH52	5260.048	5260	9.13	±20
		CH54	5270.032	5270	6.07	±20
		CH58	5290.023	5290	4.35	±20
		CH60	5300.004	5300	0.75	±20
		CH62	5309.995	5310	-0.94	±20
		CH64	5320.012	5320	2.26	±20
		CH100	5500.006	5500	1.09	±20
		CH102	5510.014	5510	2.54	±20
		CH106	5530.007	5530	1.27	±20
		CH118	5590.006	5590	1.07	±20
		CH120	5600.01	5600	1.79	±20
		CH122	5610.043	5610	7.66	±20
		CH134	5670.032	5670	5.64	±20
		CH138	5690.043	5690	7.56	±20
		CH140	5699.999	5700	-0.18	±20
		CH149	5745.009	5745	1.57	±20
		CH151	5755.045	5755	7.82	±20
		CH155	5775.007	5775	1.21	±20
		CH157	5785.035	5785	6.05	±20
		CH159	5795.015	5795	2.59	±20
		CH165	5825.01	5825	1.72	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	25	CH36	5179.990	5180	-1.93	±20
		CH38	5189.9860	5190	-2.70	±20
		CH40	5199.9890	5200	-2.11	±20
		CH42	5209.9840	5210	-3.07	±20
		CH46	5229.9825	5230	-3.34	±20
		CH48	5239.9900	5240	-1.91	±20
		CH52	5259.9875	5260	-2.38	±20
		CH54	5269.9820	5270	-3.42	±20
		CH58	5289.9825	5290	-3.31	±20
		CH60	5299.9840	5300	-3.02	±20
		CH62	5309.9815	5310	-3.48	±20
		CH64	5319.9855	5320	-2.73	±20
		CH100	5499.9850	5500	-2.73	±20
		CH102	5509.9825	5510	-3.18	±20
		CH106	5529.9810	5530	-3.44	±20
		CH118	5589.9845	5590	-2.77	±20
		CH120	5599.9845	5600	-2.77	±20
		CH122	5609.9830	5610	-3.03	±20
		CH134	5669.9820	5670	-3.17	±20
		CH138	5689.9825	5690	-3.08	±20
		CH140	5699.9840	5700	-2.81	±20
		CH149	5744.9840	5745	-2.79	±20
		CH151	5754.9845	5755	-2.69	±20
		CH155	5774.9825	5775	-3.03	±20
		CH157	5784.9845	5785	-2.68	±20
		CH159	5794.9835	5795	-2.85	±20
		CH165	5824.9835	5825	-2.83	±20
Conclusion: PASS						

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC132V	25	CH36	5179.974	5180	-5.02	±20
		CH38	5189.962	5190	-7.32	±20
		CH40	5199.976	5200	-4.62	±20
		CH42	5209.963	5210	-7.10	±20
		CH46	5229.961	5230	-7.46	±20
		CH48	5239.959	5240	-7.82	±20
		CH52	5259.963	5260	-7.03	±20
		CH54	5269.958	5270	-7.97	±20
		CH58	5289.963	5290	-6.99	±20
		CH60	5299.968	5300	-6.04	±20
		CH62	5309.964	5310	-6.78	±20
		CH64	5319.962	5320	-7.14	±20
		CH100	5499.962	5500	-6.91	±20
		CH102	5509.948	5510	-9.44	±20
		CH106	5529.959	5530	-7.41	±20
		CH118	5589.97	5590	-5.37	±20
		CH120	5599.96	5600	-7.14	±20
		CH122	5609.957	5610	-7.66	±20
		CH134	5669.958	5670	-7.41	±20
		CH138	5689.96	5690	-7.03	±20
		CH140	5699.969	5700	-5.44	±20
		CH149	5744.963	5745	-6.44	±20
		CH151	5754.966	5755	-5.91	±20
		CH155	5774.962	5775	-6.58	±20
		CH157	5784.969	5785	-5.35	±20
		CH159	5794.962	5795	-6.56	±20
		CH165	5824.969	5825	-5.32	±20

Conclusion: PASS

Frequency Stability vs.Temperature:

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	0°C	CH36	5179.966	5180	-6.56	±20
		CH38	5189.966	5190	-6.55	±20
		CH40	5199.967	5200	-6.35	±20
		CH42	5209.953	5210	-9.02	±20
		CH46	5229.957	5230	-8.22	±20
		CH48	5239.956	5240	-8.40	±20
		CH52	5259.962	5260	-7.22	±20
		CH54	5269.957	5270	-8.16	±20
		CH58	5289.96	5290	-7.56	±20
		CH60	5299.959	5300	-7.74	±20
		CH62	5309.946	5310	-1.02	±20
		CH64	5319.962	5320	-7.14	±20
		CH100	5499.943	5500	-1.03	±20
		CH102	5509.972	5510	-5.08	±20
		CH106	5529.955	5530	-8.14	±20
AC120V	0°C	CH118	5589.97	5590	-5.37	±20
		CH120	5599.972	5600	-5.00	±20
		CH122	5609.967	5610	-5.88	±20
		CH134	5669.958	5670	-7.41	±20
		CH138	5689.961	5690	-6.85	±20
		CH140	5699.968	5700	-5.61	±20
		CH149	5744.965	5745	-6.09	±20
		CH151	5754.967	5755	-5.73	±20
		CH155	5774.966	5775	-5.89	±20
		CH157	5784.958	5785	-7.26	±20
		CH159	5794.96	5795	-6.90	±20
		CH165	5824.968	5825	-5.49	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	10°C	CH36	5179.991	5180	-1.74	±20
		CH38	5189.982	5190	-3.47	±20
		CH40	5199.988	5200	-2.31	±20
		CH42	5209.973	5210	-5.18	±20
		CH46	5229.975	5230	-4.78	±20
		CH48	5239.966	5240	-6.49	±20
		CH52	5260.022	5260	4.18	±20
		CH54	5270.007	5270	1.32	±20
		CH58	5290	5290	0	±20
		CH60	5299.979	5300	-3.96	±20
		CH62	5309.959	5310	-7.72	±20
		CH64	5319.988	5320	-2.26	±20
		CH100	5499.964	5500	-6.54	±20
		CH102	5510.003	5510	5.44	±20
		CH106	5529.981	5530	-3.44	±20
		CH118	5589.991	5590	-1.61	±20
		CH120	5599.997	5600	-5.36	±20
		CH122	5610.027	5610	4.81	±20
		CH134	5670.008	5670	1.41	±20
		CH138	5690.021	5690	3.69	±20
		CH140	5699.983	5700	-2.98	±20
		CH149	5744.99	5745	-1.74	±20
		CH151	5755.027	5755	4.69	±20
		CH155	5774.99	5775	-1.73	±20
		CH157	5785.008	5785	1.38	±20
		CH159	5794.991	5795	-1.55	±20
		CH165	5824.994	5825	-1.03	±20
Conclusion: PASS						

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	20°C	CH36	5180.007	5180	1.35	±20
		CH38	5190.006	5190	1.16	±20
		CH40	5200.001	5200	0.19	±20
		CH42	5209.994	5210	-1.15	±20
		CH46	5229.997	5230	-0.57	±20
		CH48	5239.997	5240	-0.57	±20
		CH52	5260.002	5260	0.38	±20
		CH54	5270.031	5270	4.74	±20
		CH58	5290.02	5290	3.78	±20
		CH60	5299.995	5300	-0.94	±20
		CH62	5309.977	5310	-4.33	±20
		CH64	5320.012	5320	2.26	±20
		CH100	5499.987	5500	-2.36	±20
		CH102	5510.015	5510	2.72	±20
		CH106	5530.003	5530	0.54	±20
		CH118	5590.006	5590	1.07	±20
		CH120	5600.022	5600	3.93	±20
		CH122	5610.024	5610	4.28	±20
		CH134	5670.032	5670	5.64	±20
		CH138	5690.019	5690	3.34	±20
		CH140	5699.998	5700	-0.35	±20
		CH149	5745.011	5745	1.91	±20
		CH151	5755.026	5755	4.51	±20
		CH155	5775.011	5775	1.90	±20
		CH157	5785.024	5785	4.15	±20
		CH159	5795.013	5795	2.24	±20
		CH165	5825.009	5825	1.55	±20
Conclusion: PASS						

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	30°C	CH36	5180.028	5180	5.41	±20
		CH38	5190.026	5190	5.01	±20
		CH40	5200.023	5200	4.42	±20
		CH42	5210.025	5210	4.79	±20
		CH46	5230.023	5230	4.40	±20
		CH48	5240.019	5240	3.63	±20
		CH52	5260.023	5260	4.37	±20
		CH54	5270.031	5270	5.88	±20
		CH58	5290.028	5290	5.29	±20
		CH60	5300.02	5300	3.77	±20
		CH62	5310.013	5310	2.45	±20
		CH64	5320.021	5320	3.95	±20
		CH100	5500.023	5500	4.18	±20
		CH102	5510.029	5510	5.26	±20
		CH106	5530.021	5530	3.80	±20
		CH118	5590.018	5590	3.22	±20
		CH120	5600.022	5600	3.93	±20
		CH122	5610.026	5610	4.63	±20
		CH134	5670.017	5670	2.30	±20
		CH138	5690.028	5690	4.92	±20
		CH140	5700.014	5700	2.46	±20
		CH149	5745.03	5745	5.22	±20
		CH151	5755.033	5755	5.73	±20
		CH155	5775.028	5775	4.85	±20
		CH157	5785.019	5785	3.28	±20
		CH159	5795.025	5795	4.31	±20
		CH165	5825.016	5825	2.75	±20
Conclusion: PASS						

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	40°C	CH36	5180.026	5180	5.02	±20
		CH38	5190.03	5190	5.78	±20
		CH40	5200.019	5200	3.65	±20
		CH42	5210.02	5210	3.84	±20
		CH46	5230.023	5230	4.40	±20
		CH48	5240.025	5240	4.77	±20
		CH52	5260.062	5260	1.18	±20
		CH54	5270.039	5270	7.40	±20
		CH58	5290.021	5290	3.97	±20
		CH60	5300.013	5300	2.45	±20
		CH62	5310.016	5310	3.01	±20
		CH64	5320.031	5320	5.83	±20
		CH100	5500.033	5500	6.0	±20
		CH102	5510.03	5510	5.44	±20
		CH106	5530.023	5530	4.16	±20
		CH118	5590.024	5590	4.29	±20
		CH120	5600.017	5600	3.04	±20
		CH122	5610.031	5610	5.52	±20
		CH134	5670.048	5670	8.47	±20
		CH138	5690.033	5690	5.80	±20
		CH140	5700.013	5700	2.28	±20
		CH149	5745.028	5745	4.87	±20
		CH151	5755.034	5755	5.91	±20
		CH155	5775.031	5775	5.37	±20
		CH157	5785.05	5785	8.64	±20
		CH159	5795.026	5795	4.48	±20
		CH165	5825.019	5825	3.26	±20
Conclusion: PASS						

10. ANTENNA REQUIREMENT

10.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. Antenna Connected Construction

The antennas used for this product are PIFA antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 6.98dBi.



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11. DEVIATION TO TEST SPECIFICATIONS

[NONE]