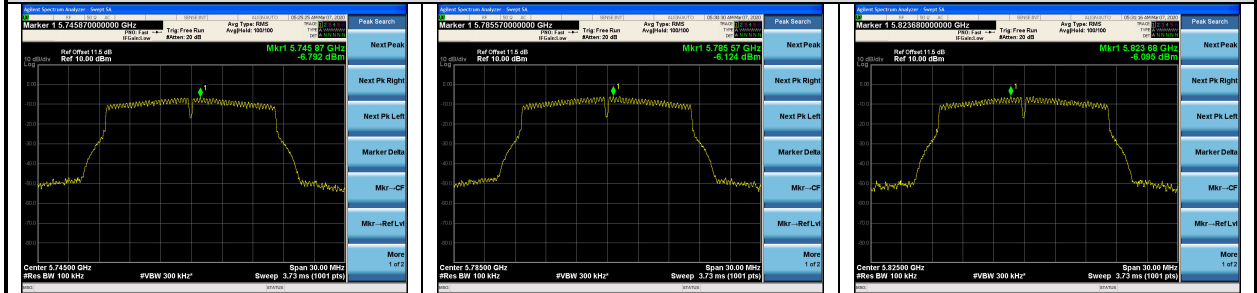
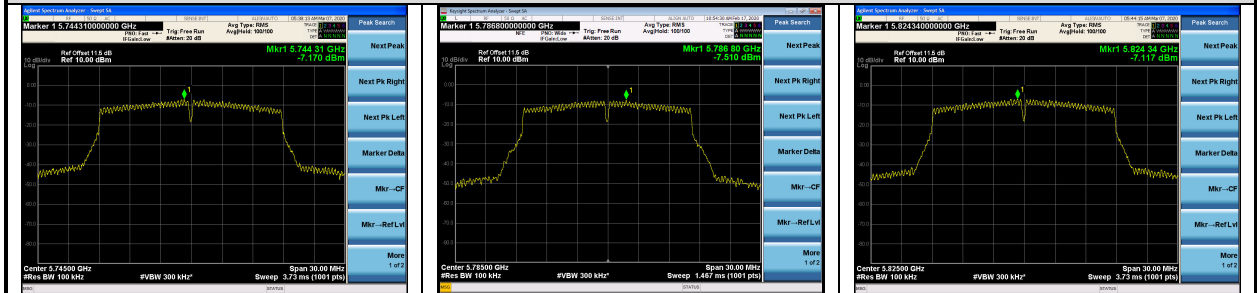


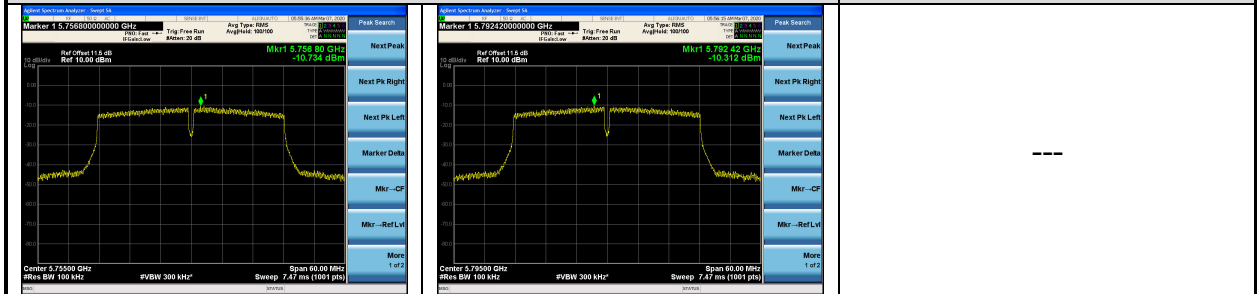
U-NII-3 Band: ANTA IEEE 802.11a



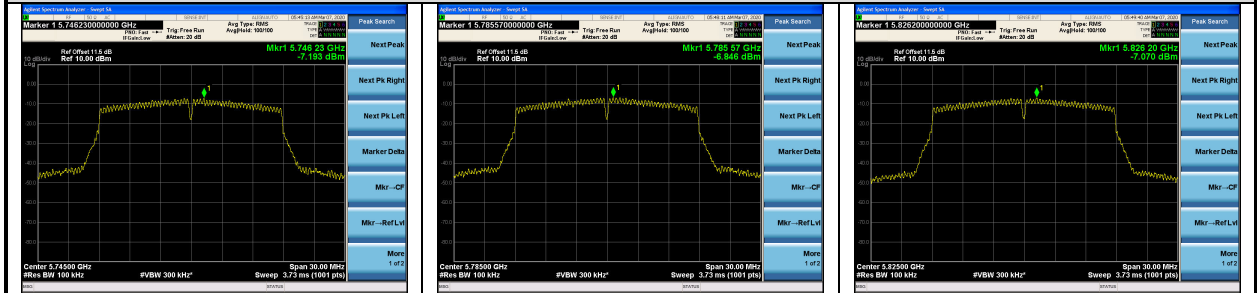
IEEE 802.11n HT20



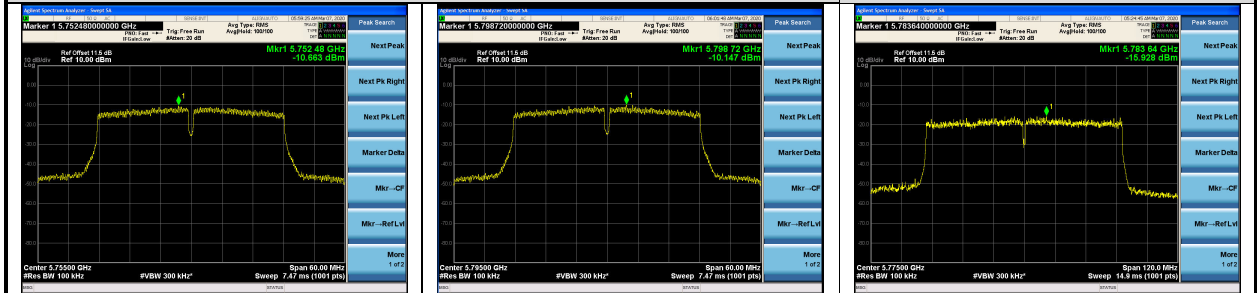
IEEE 802.11n HT40



IEEE 802.11ac VHT20



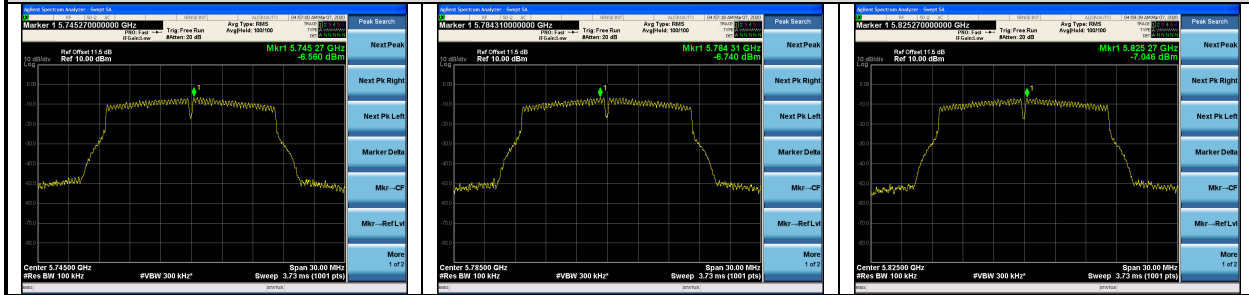
IEEE 802.11ac VHT40



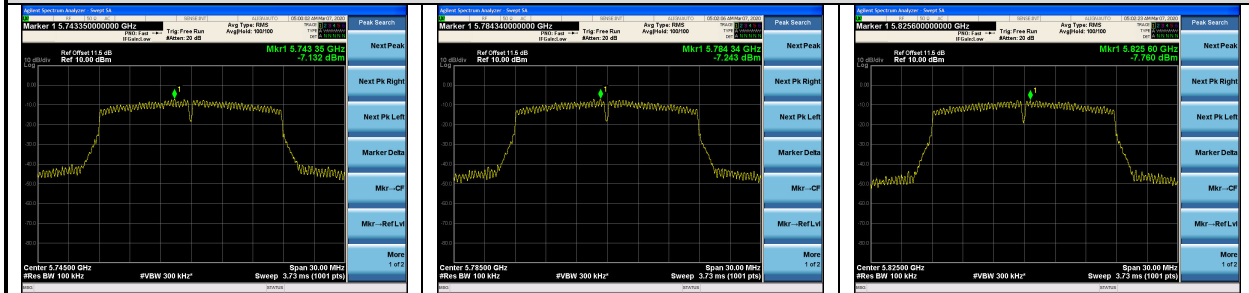
IEEE 802.11ac VHT80



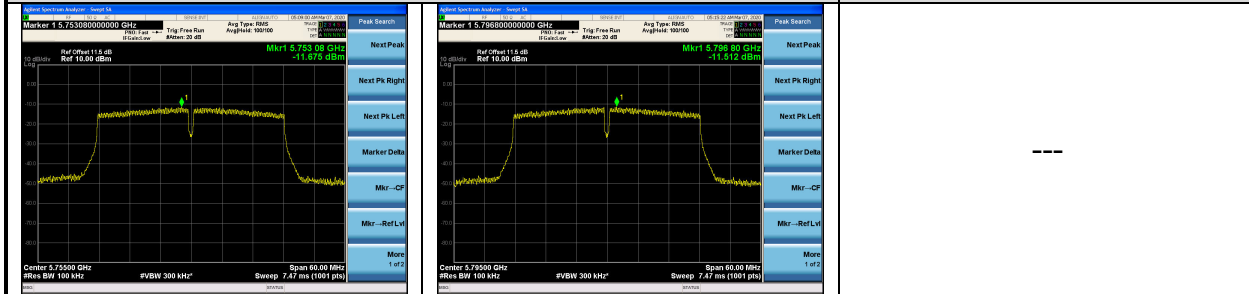
U-NII-3 Band: ANTB IEEE 802.11a



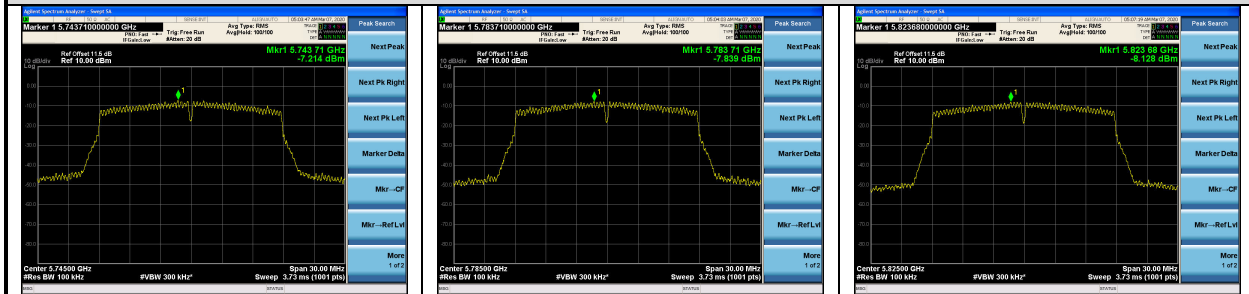
IEEE 802.11n HT20



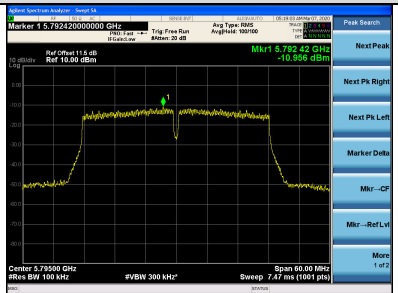
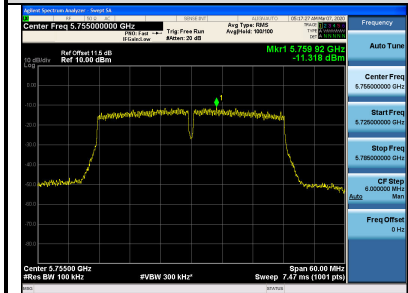
IEEE 802.11n HT40



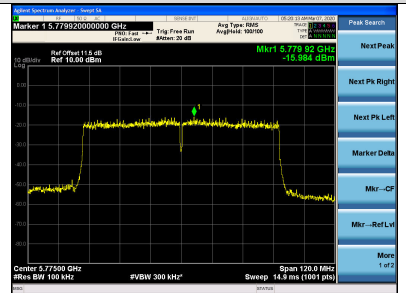
IEEE 802.11ac VHT20



IEEE 802.11ac VHT40



IEEE 802.11ac VHT80



10.FREQUENCY STABILITY MEASUREMENT

10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
4.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Jun.30,19	1 Year
5.	Attenuator	Agilent	8491B	MY39269201	Oct.13,19	1 Year
6.	RF Cable	EMCI	EMC102-KM-KM 3500	170702	May.13,19	1 Year

10.2.Limit

Manufacturers of U-NII 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 in the user's manual.

10.3.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 $(f_c - f) / f \times 10^{-6}$ 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 0°C~60°C.

10.4. Test Result

EUT: WiFi +BT module		
M/N: WCT5GM2511		
Test date: 2020-03-07	Pressure: 102.7±1.0 kpa	Humidity: 52.5±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.7±0.6 °C

Frequency Stability vs. Voltage:

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
DC 5V	25°C	CH36	5179.968	5180	-6.18
		CH40	5199.985	5200	-2.88
		CH48	5239.955	5240	-8.59
		CH149	5744.975	5745	-4.35
		CH157	5784.966	5785	-5.88
		CH165	5824.975	5825	-4.29
DC 4.25V	25°C	CH36	5179.915	5180	-16.41
		CH40	5199.952	5200	-9.23
		CH48	5239.936	5240	-12.21
		CH149	5744.945	5745	-9.57
		CH157	5784.956	5785	-7.61
		CH165	5824.932	5825	-11.67
DC 5.75V	25°C	CH36	5179.926	5180	-14.29
		CH40	5199.953	5200	-9.04
		CH48	5239.963	5240	-7.06
		CH149	5744.985	5745	-2.61
		CH157	5784.986	5785	-2.42
		CH165	5824.996	5825	-0.69

Frequency Stability vs. Temperature:

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
DC 5V	0°C	CH36	5179.959	5180	-7.92
		CH40	5199.976	5200	-4.62
		CH48	5239.969	5240	-5.92
		CH149	5744.989	5745	-1.91
		CH157	5784.996	5785	-0.69
		CH165	5824.978	5825	-3.78
DC 5V	10°C	CH36	5179.969	5180	-5.98
		CH40	5199.986	5200	-2.69
		CH48	5239.989	5240	-2.10
		CH149	5744.979	5745	-3.66
		CH157	5784.956	5785	-7.61
		CH165	5824.986	5825	-2.40
DC 5V	20°C	CH36	5179.996	5180	-0.77
		CH40	5199.985	5200	-2.88
		CH48	5239.979	5240	-4.01
		CH149	5744.992	5745	-1.39
		CH157	5784.986	5785	-2.42
		CH165	5824.995	5825	-0.86
DC 5V	30°C	CH36	5179.956	5180	-8.49
		CH40	5199.985	5200	-2.88
		CH48	5239.978	5240	-4.20
		CH149	5744.986	5745	-2.44
		CH157	5784.949	5785	-8.82
		CH165	5824.986	5825	-2.40
DC 5V	40°C	CH36	5179.956	5180	-8.49
		CH40	5199.986	5200	-2.69
		CH48	5239.986	5240	-2.67
		CH149	5744.978	5745	-3.83
		CH157	5784.974	5785	-4.49
		CH165	5824.962	5825	-6.52

DC 5V	50°C	CH36	5179.968	5180	-6.18
		CH40	5199.996	5200	-0.77
		CH48	5239.923	5240	-14.69
		CH149	5744.954	5745	-8.01
		CH157	5784.948	5785	-8.99
		CH165	5824.936	5825	-10.99
DC 5V	60°C	CH36	5179.956	5180	-8.49
		CH40	5199.936	5200	-12.31
		CH48	5239.987	5240	-2.48
		CH149	5744.989	5745	-1.91
		CH157	5784.948	5785	-8.99
		CH165	5824.976	5825	-4.12

11. ANTENNA REQUIREMENT

11.1. 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.

11.2. Antenna Connected Construction

The antennas used for this product are PCB 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 **U-NII-1 Band:**ANT A: 3.06dBi & ANT B: 3.04dBi; **U-NII-3 Band:**ANT A: 3.08dBi & ANT B: 3.10dBi.

12. DEVIATION TO TEST SPECIFICATIONS

[NONE]

..... **THE END**