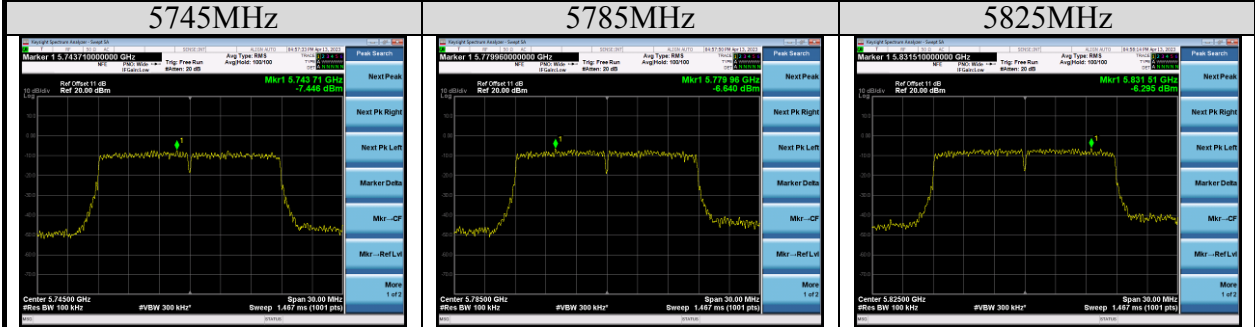


ANT1:

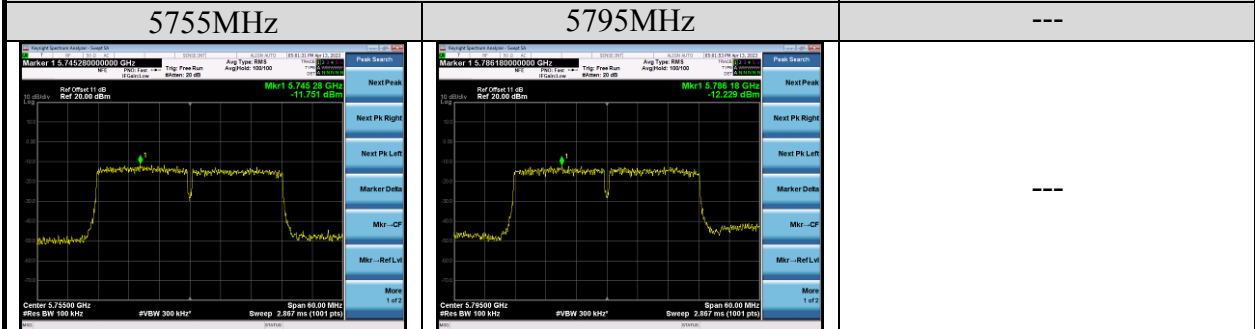
**U-NII-3 Band:**  
**IEEE 802.11a**



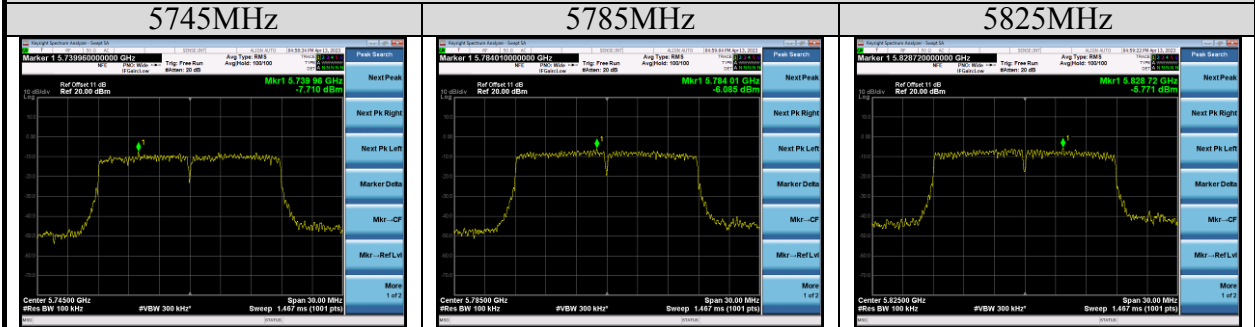
**IEEE 802.11n HT20**



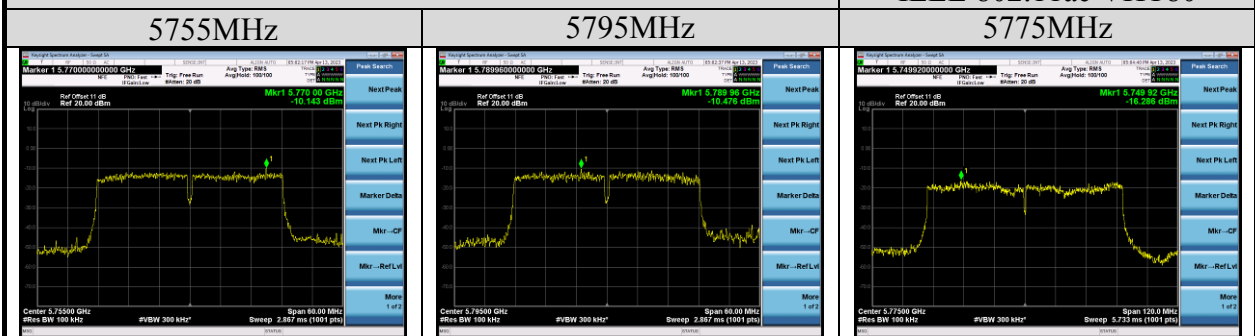
**IEEE 802.11n HT40**

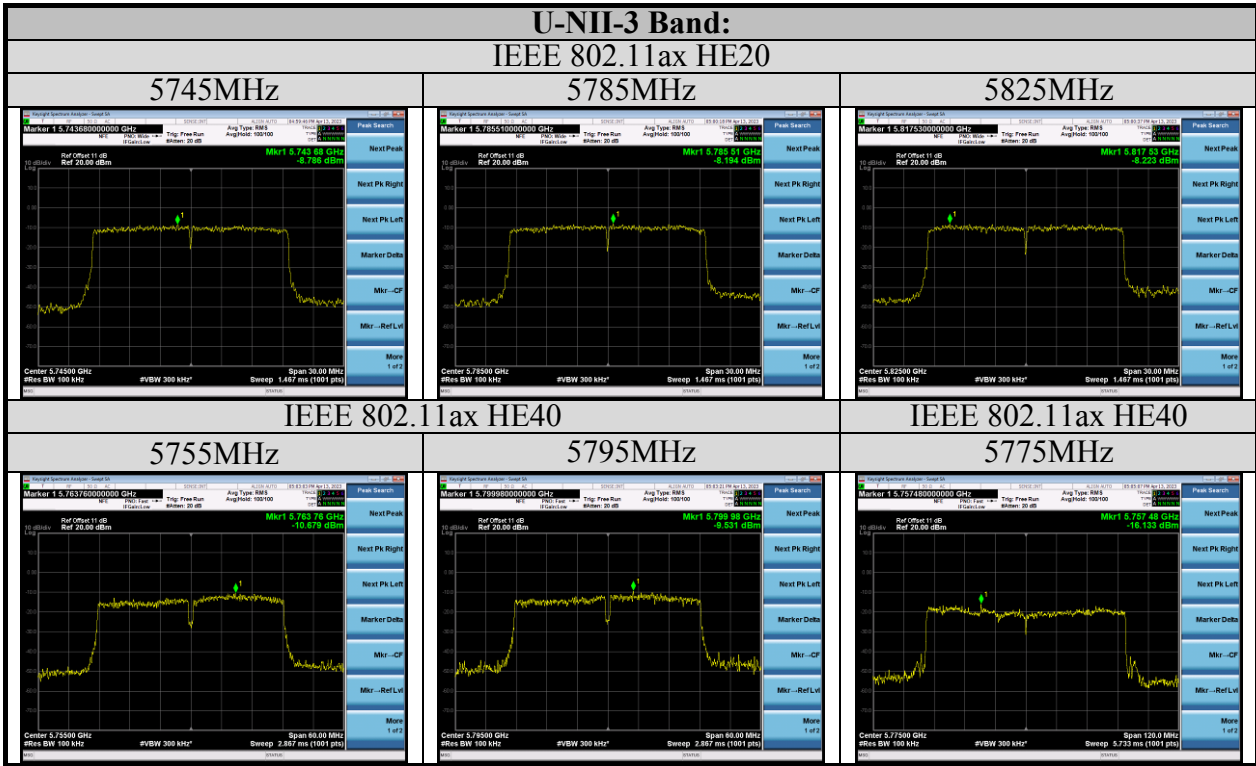


**IEEE 802.11ac VHT20**



**IEEE 802.11ac VHT40**





## 9. FREQUENCY STABILITY MEASUREMENT

### 9.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.02,23	1 Year
2.	Attenuator	Agilent	8491B	MY39269201	Oct.09,22	1 Year
3.	RF Cable	Mini-Circuits	CBL-1M-SMSM+	No.7	Oct.10,22	1 Year

### 9.2. 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.

### 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  $(f_c - f) / f \times 10^{-6}$  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~50°C.

### 9.4. Test Result

EUT: Mini PC		
M/N: A Series		
Test date: 2023-04-18	Pressure: 102.1±1.0 kpa	Humidity: 53.2±3.0%
Tested by: Nier	Test site: RF site	Temperature: 22.3±0.6 °C

#### Frequency Stability vs. Voltage:

Test Voltage	Temperature	CH	Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	25°C	CH36	5179.9785	5180	-4.1506
		CH38	5189.9780	5190	-4.2389
		CH40	5199.9775	5200	-4.3269
		CH42	5209.9765	5210	-4.5106
		CH44	5229.9770	5230	-4.3977
		CH48	5239.9770	5240	-4.3893
		CH149	5744.9700	5745	-5.2219
		CH153	5754.9855	5755	-2.5195
		CH155	5774.9785	5775	-3.7229
		CH157	5784.9745	5785	-4.4080
		CH161	5794.9790	5795	-3.6238
AC 132V	25°C	CH36	5179.9790	5180	-4.0541
		CH38	5189.9785	5190	-4.1426
		CH40	5199.9780	5200	-4.2308
		CH42	5209.9770	5210	-4.4146
		CH44	5229.9775	5230	-4.3021
		CH48	5239.9775	5240	-4.2939
		CH149	5744.9705	5745	-5.1349
		CH153	5754.9860	5755	-2.4327
		CH155	5774.9790	5775	-3.6364
		CH157	5784.9750	5785	-4.3215
		CH161	5794.9795	5795	-3.5375
AC 108V	25°C	CH36	5179.9780	5180	-4.2471
		CH38	5189.9775	5190	-4.3353
		CH40	5199.9770	5200	-4.4231
		CH42	5209.9760	5210	-4.6065
		CH44	5229.9765	5230	-4.4933
		CH48	5239.9765	5240	-4.4847
		CH149	5744.9695	5745	-5.3090
		CH153	5754.9850	5755	-2.6064
		CH155	5774.9780	5775	-3.8095
		CH157	5784.9740	5785	-4.4944
		CH161	5794.9785	5795	-3.7101
CH165	5824.9735	5825	-4.5494		

Frequency Stability vs. Temperature:

Test Voltage	Temperature	CH	Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	0°C	CH36	5179.9755	5180	-4.7297
		CH38	5189.9750	5190	-4.8170
		CH40	5199.9745	5200	-4.9038
		CH42	5209.9735	5210	-5.0864
		CH44	5229.9740	5230	-4.9713
		CH48	5239.9740	5240	-4.9618
		CH149	5744.9670	5745	-5.7441
		CH153	5754.9825	5755	-3.0408
		CH155	5774.9755	5775	-4.2424
		CH157	5784.9715	5785	-4.9265
		CH161	5794.9760	5795	-4.1415
		CH165	5824.9710	5825	-4.9785
AC 120V	5°C	CH36	5179.9760	5180	-4.6332
		CH38	5189.9755	5190	-4.7206
		CH40	5199.9750	5200	-4.8077
		CH42	5209.9740	5210	-4.9904
		CH44	5229.9745	5230	-4.8757
		CH48	5239.9745	5240	-4.8664
		CH149	5744.9675	5745	-5.6571
		CH153	5754.9830	5755	-2.9540
		CH155	5774.9760	5775	-4.1558
		CH157	5784.9720	5785	-4.8401
		CH161	5794.9765	5795	-4.0552
		CH165	5824.9715	5825	-4.8927
AC 120V	10°C	CH36	5179.9765	5180	-4.5367
		CH38	5189.9760	5190	-4.6243
		CH40	5199.9755	5200	-4.7115
		CH42	5209.9745	5210	-4.8944
		CH44	5229.9750	5230	-4.7801
		CH48	5239.9750	5240	-4.7710
		CH149	5744.9680	5745	-5.5701
		CH153	5754.9835	5755	-2.8671
		CH155	5774.9765	5775	-4.0693
		CH157	5784.9725	5785	-4.7537
		CH161	5794.9770	5795	-3.9689
		CH165	5824.9720	5825	-4.8069

Test Voltage	Temperature	CH	Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	15°C	CH36	5179.9770	5180	-4.4402
		CH38	5189.9765	5190	-4.5279
		CH40	5199.9760	5200	-4.6154
		CH42	5209.9750	5210	-4.7985
		CH44	5229.9755	5230	-4.6845
		CH48	5239.9755	5240	-4.6756
		CH149	5744.9685	5745	-5.4830
		CH153	5754.9840	5755	-2.7802
		CH155	5774.9770	5775	-3.9827
		CH157	5784.9730	5785	-4.6672
		CH161	5794.9775	5795	-3.8827
		CH165	5824.9725	5825	-4.7210
AC 120V	20°C	CH36	5179.9775	5180	-4.3436
		CH38	5189.9770	5190	-4.4316
		CH40	5199.9765	5200	-4.5192
		CH42	5209.9755	5210	-4.7025
		CH44	5229.9760	5230	-4.5889
		CH48	5239.9760	5240	-4.5802
		CH149	5744.9690	5745	-5.3960
		CH153	5754.9845	5755	-2.6933
		CH155	5774.9775	5775	-3.8961
		CH157	5784.9735	5785	-4.5808
		CH161	5794.9780	5795	-3.7964
		CH165	5824.9730	5825	-4.6352
AC 120V	35°C	CH36	5179.9795	5180	-3.9575
		CH38	5189.9790	5190	-4.0462
		CH40	5199.9785	5200	-4.1346
		CH42	5209.9775	5210	-4.3186
		CH44	5229.9780	5230	-4.2065
		CH48	5239.9780	5240	-4.1985
		CH149	5744.9710	5745	-5.0479
		CH153	5754.9865	5755	-2.3458
		CH155	5774.9795	5775	-3.5498
		CH157	5784.9755	5785	-4.2351
		CH161	5794.9800	5795	-3.4513
		CH165	5824.9750	5825	-4.2918

## **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 3.28dBi.



## 11. DEVIATION TO TEST SPECIFICATIONS

[ NONE ]

..... THE END .....