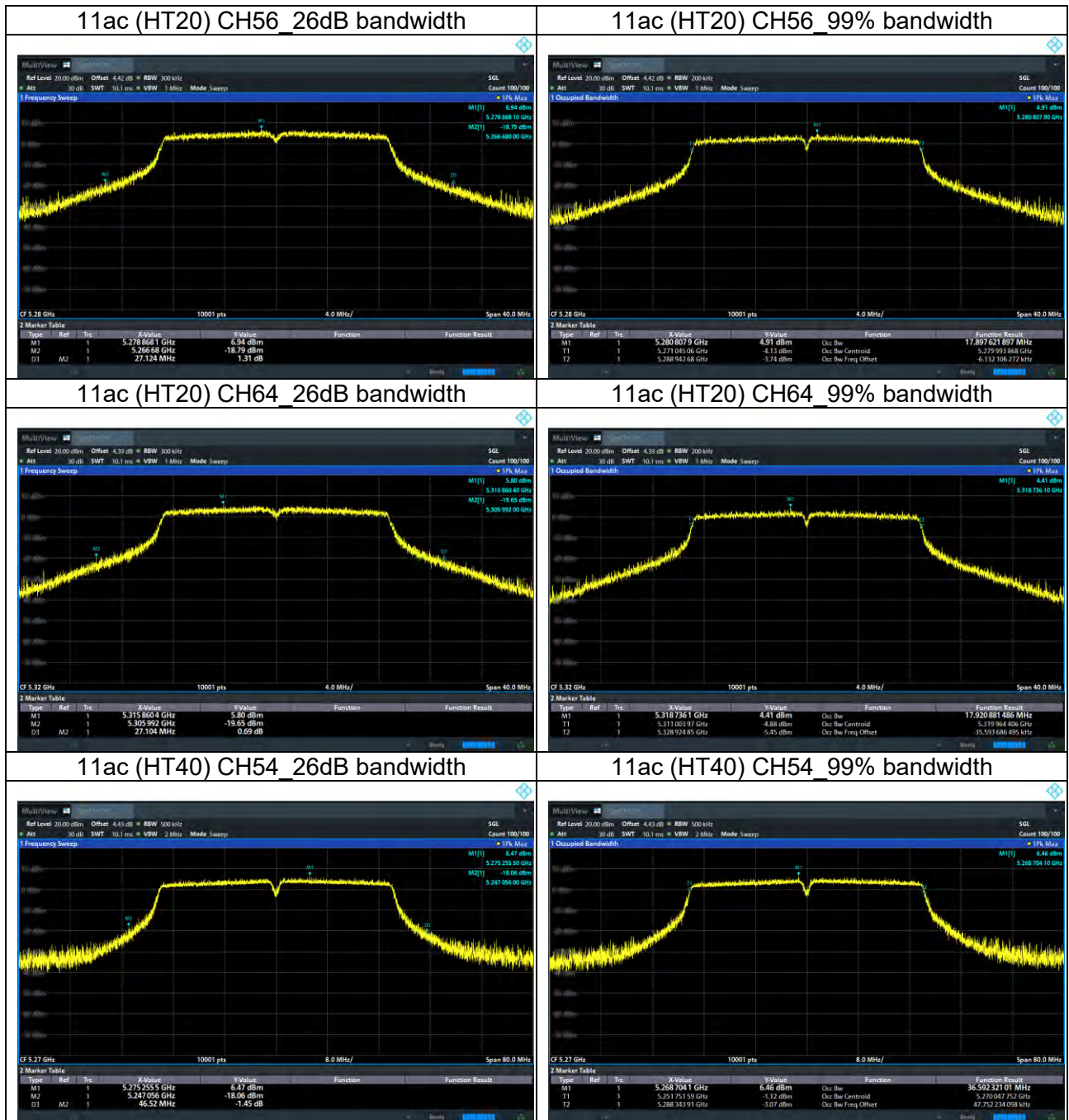
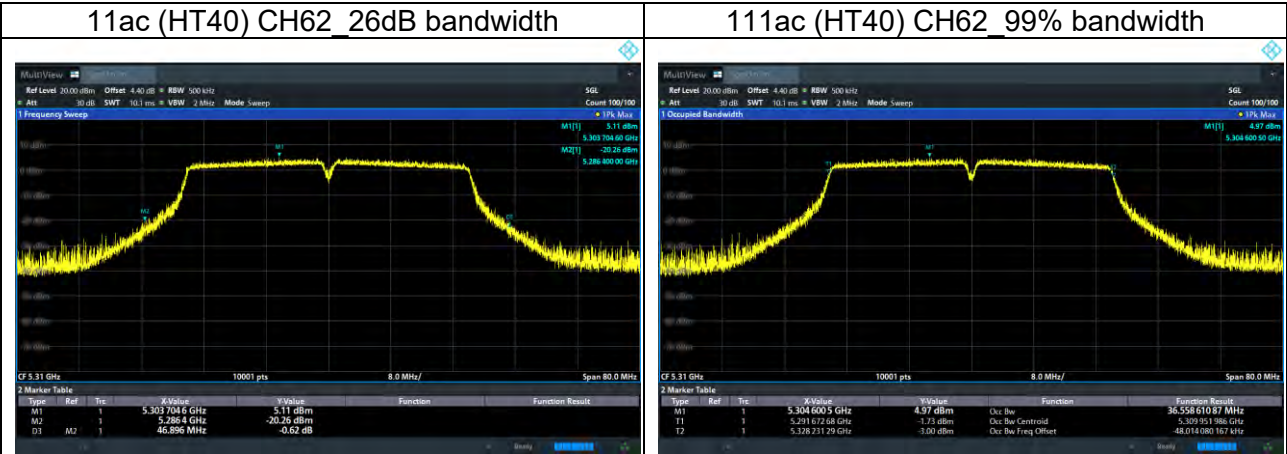


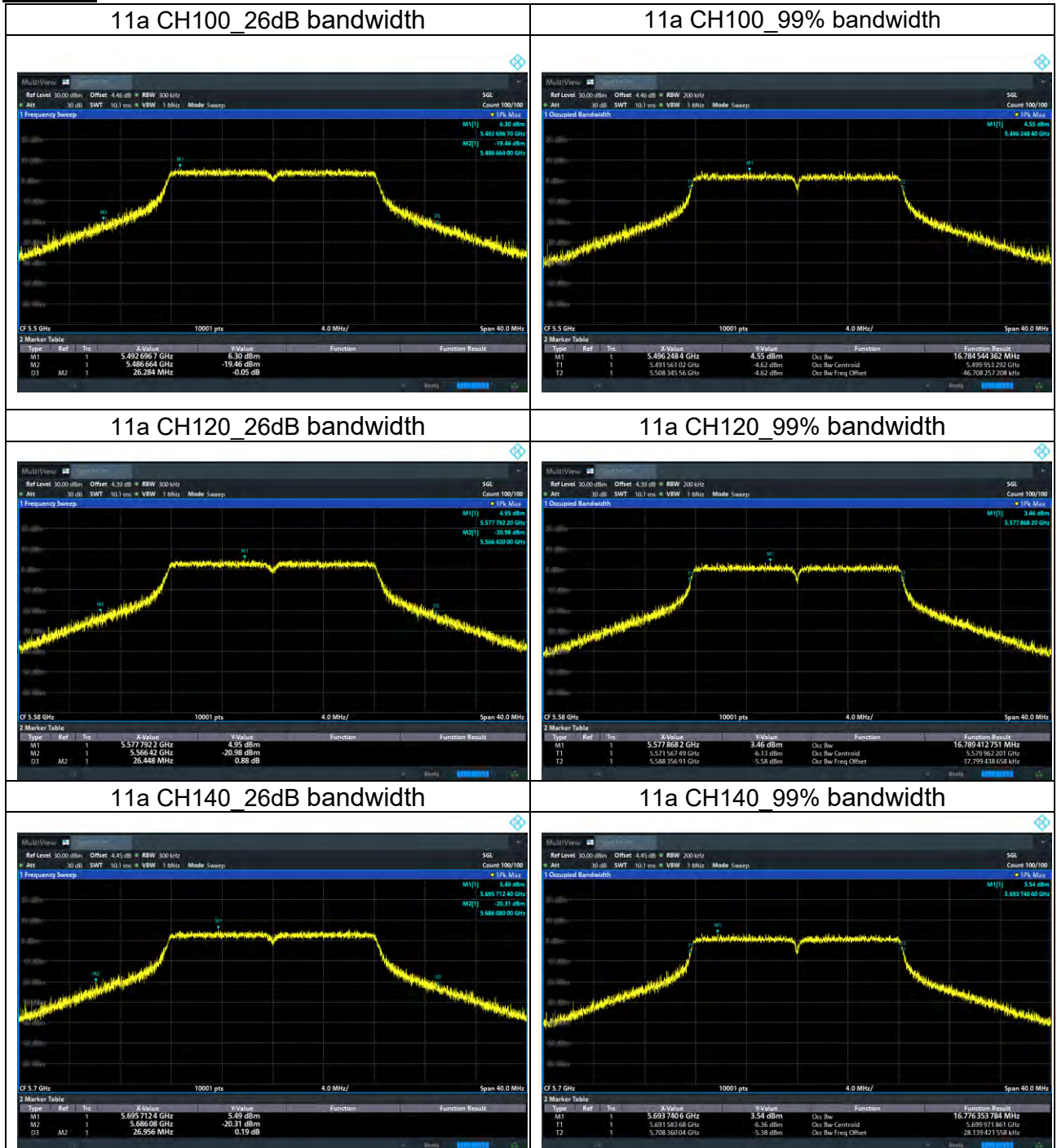


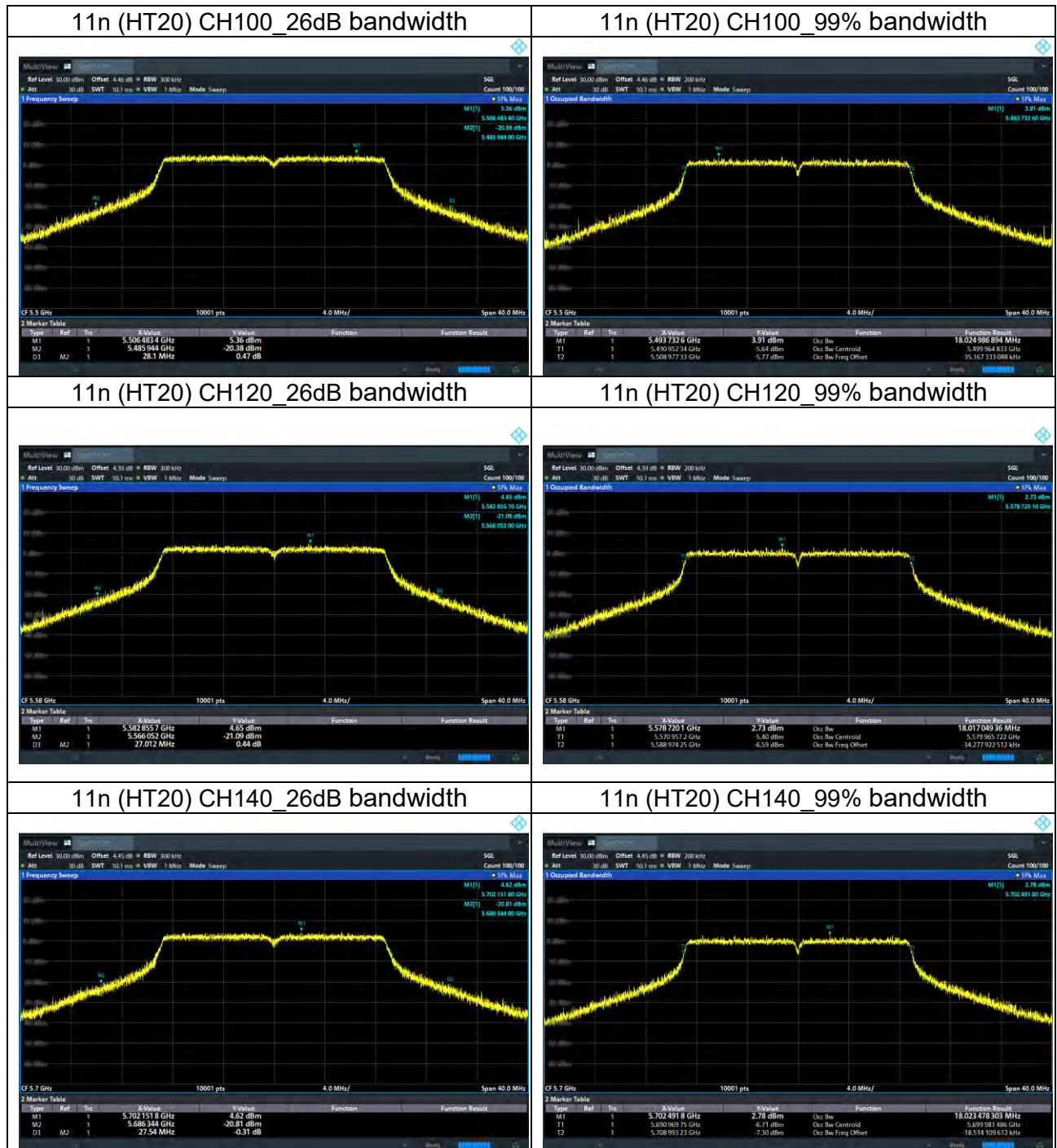


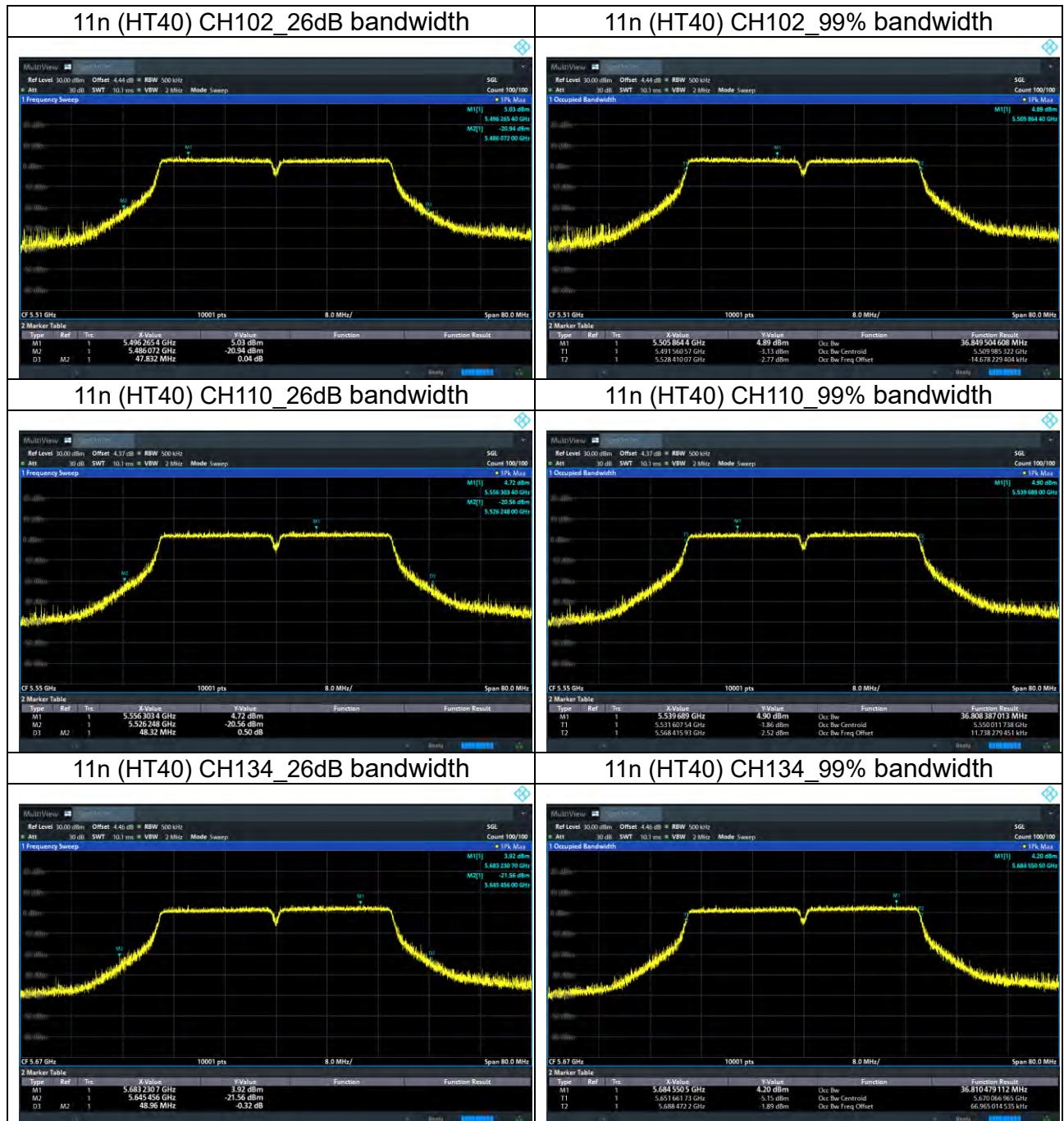
U-NII-2C

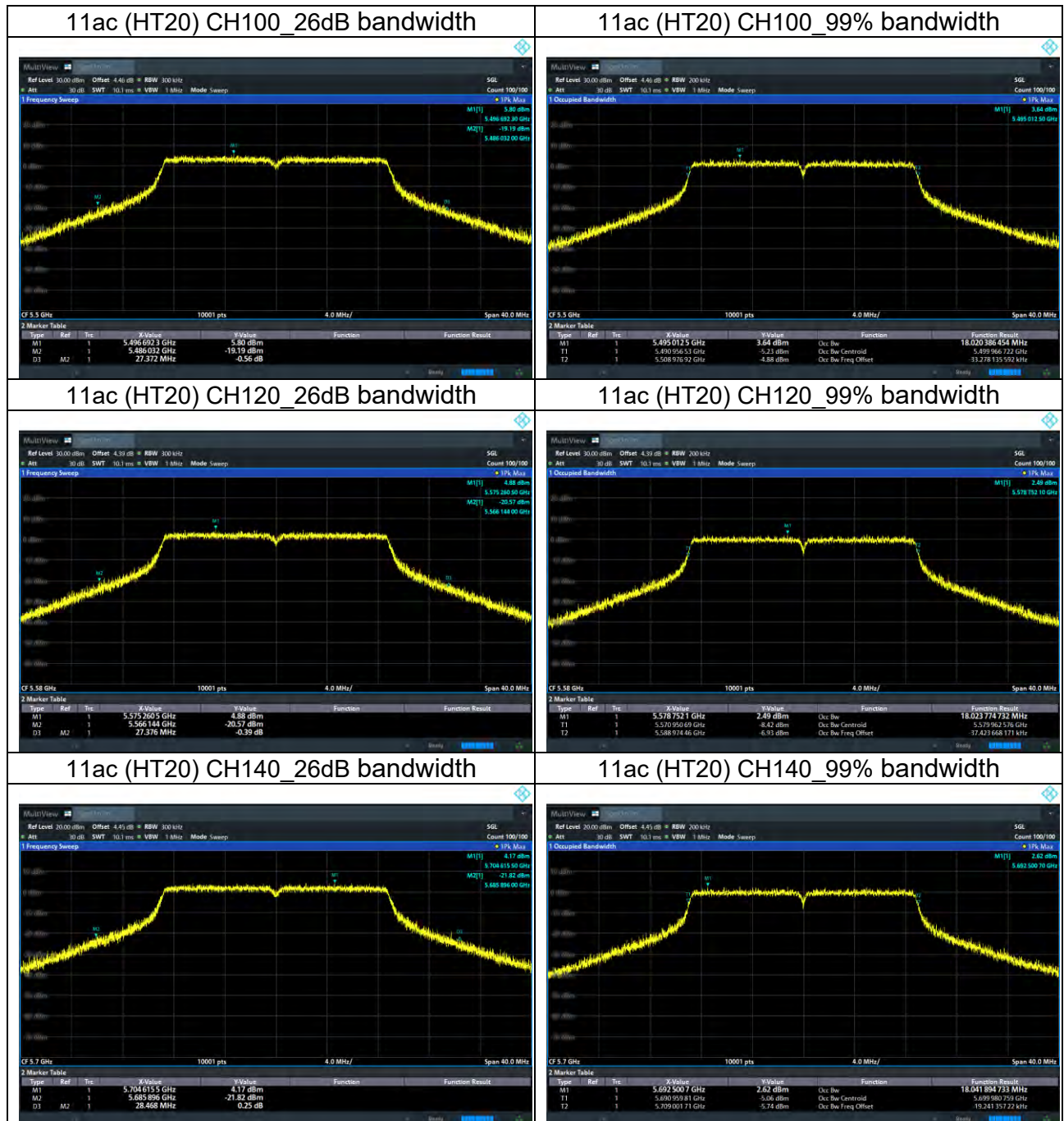
Channel	Test Channel	Frequency (MHz)	26dB bandwidth (MHz)	Limit (kHz)	99% bandwidth	Limit (kHz)	Result
11a	CH100	5500	26.284	/	16.785	/	Pass
11a	CH120	5600	26.448	/	16.789	/	Pass
11a	CH140	5700	26.956	/	16.776	/	Pass
11n (HT20)	CH100	5500	28.1	/	18.025	/	Pass
11n (HT20)	CH120	5600	27.012	/	18.017	/	Pass
11n (HT20)	CH140	5700	27.54	/	18.023	/	Pass
11n (HT40)	CH102	5510	47.832	/	36.85	/	Pass
11n (HT40)	CH110	5550	48.32	/	36.808	/	Pass
11n (HT40)	CH134	5670	48.96	/	36.81	/	Pass
11ac (HT20)	CH100	5500	27.372	/	18.02	/	Pass
11ac (HT20)	CH120	5600	27.376	/	18.024	/	Pass
11ac (HT20)	CH140	5700	28.468	/	18.042	/	Pass
11ac (HT40)	CH102	5510	49.304	/	36.838	/	Pass
11ac (HT40)	CH110	5550	47.16	/	36.814	/	Pass
11ac (HT40)	CH134	5670	47.656	/	36.765	/	Pass

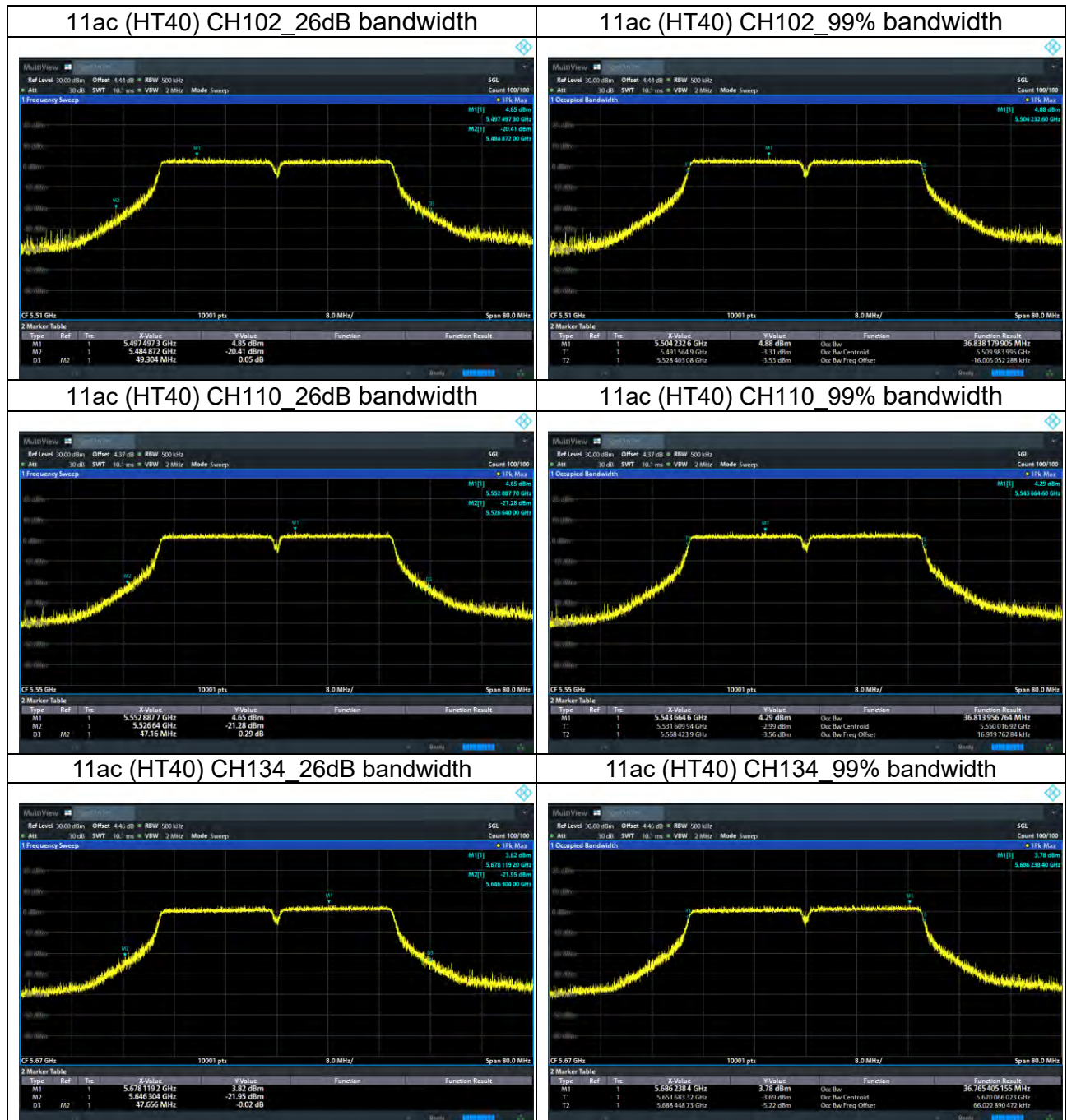
Test plots:
U-NII-2C











5.7 6 dB Bandwidth

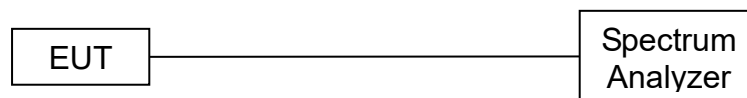
5.7.1 Limit

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.7.2 Test Procedure

1. Set RBW= 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

5.7.3 Test Setup



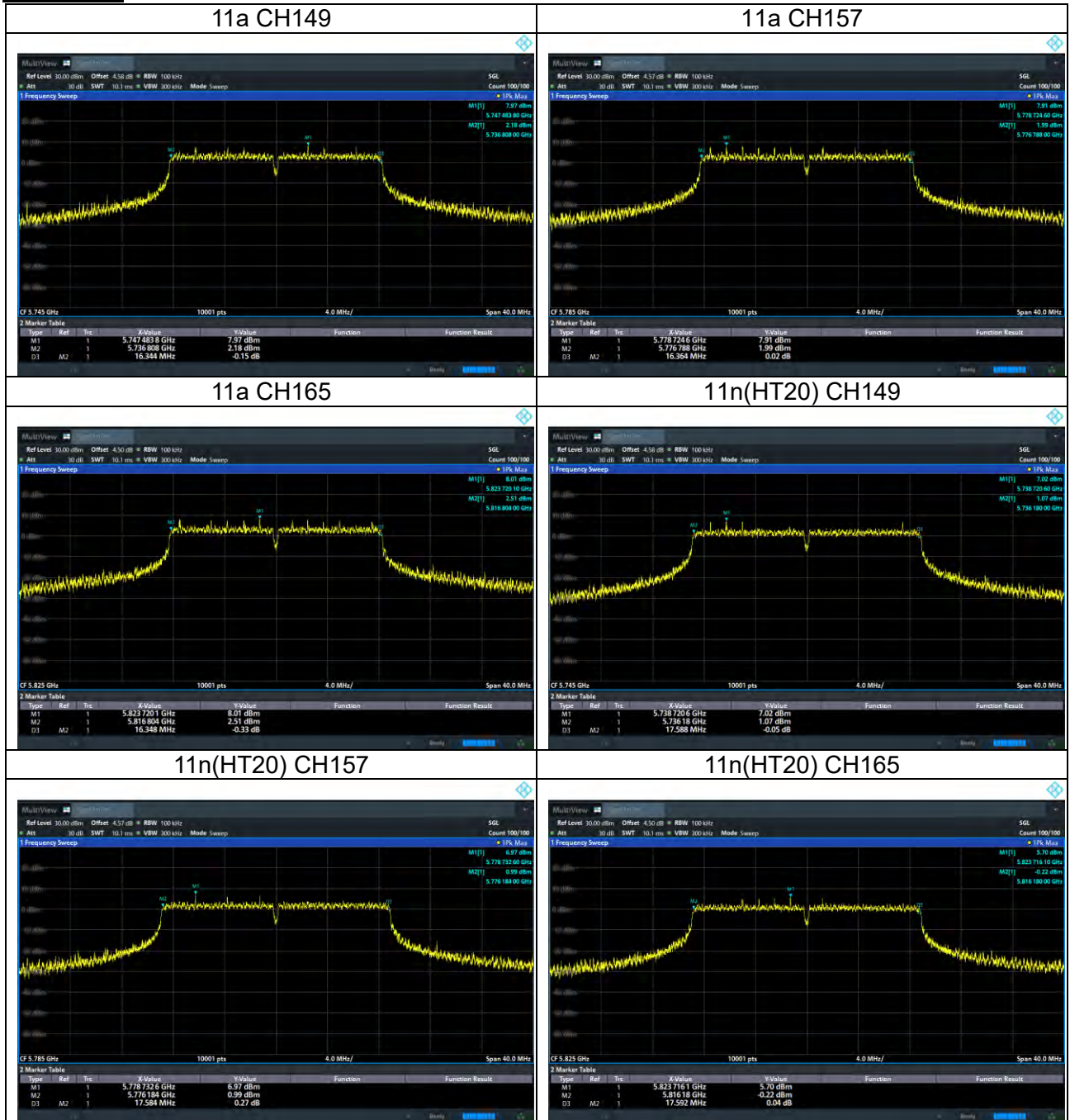
5.7.4 Test Results

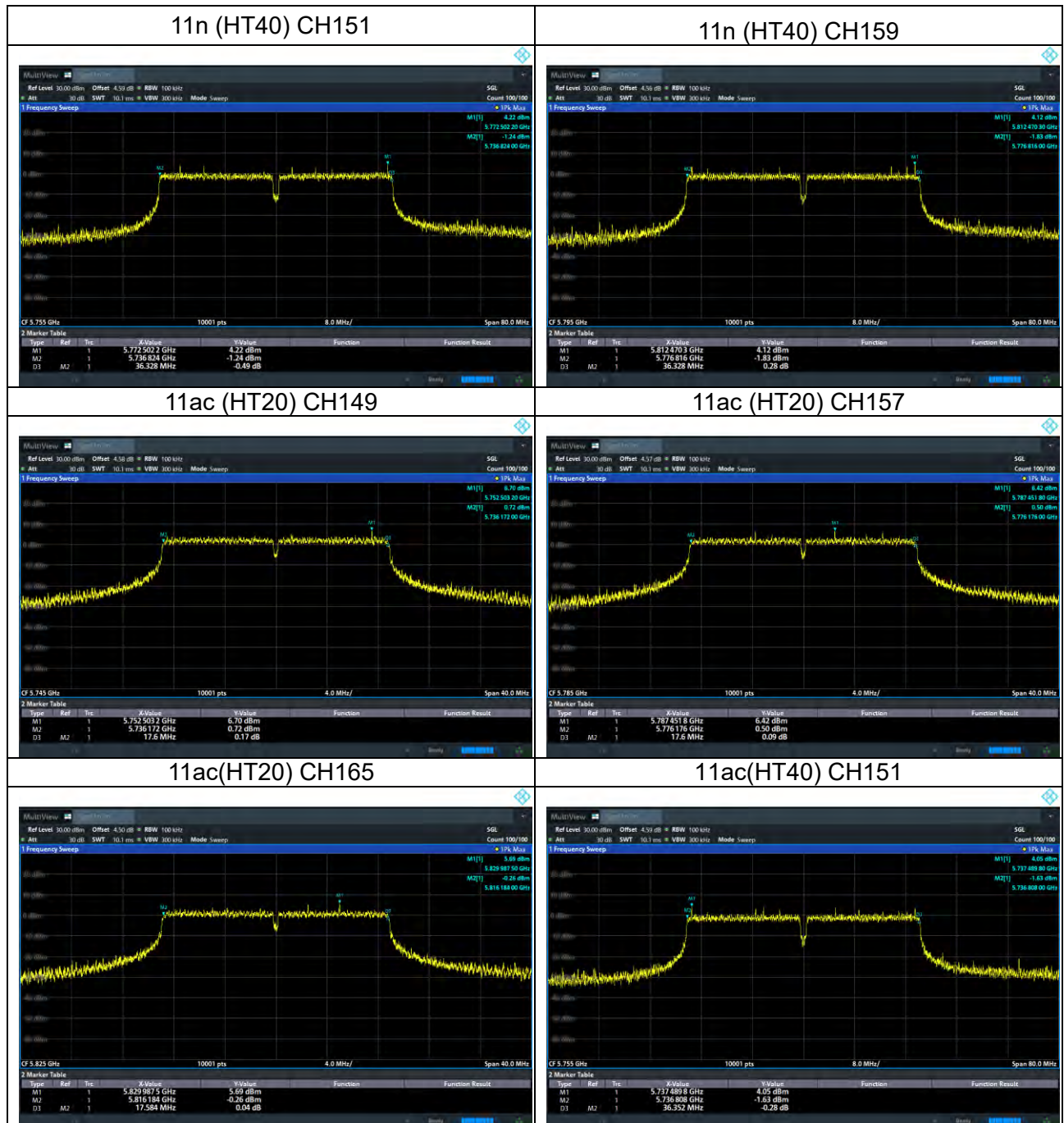
EUT:	Wireless carplay adapter	Model Name:	KY-4232
Test Mode:	TX	Test Voltage:	DC 5V from adapter AC 120V/60Hz

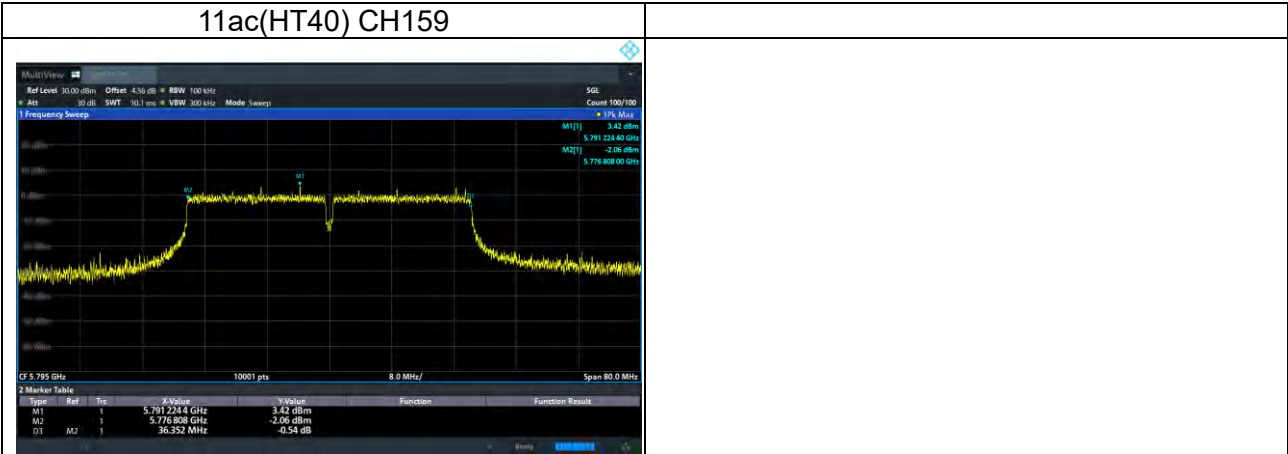
For U-NII-3

Channel	Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
11a	CH149	5745	16.344	500	Pass
11a	CH157	5785	16.364	500	Pass
11a	CH165	5825	16.348	500	Pass
11n (HT20)	CH149	5745	17.588	500	Pass
11n (HT20)	CH157	5785	17.584	500	Pass
11n (HT20)	CH165	5825	17.592	500	Pass
11n (HT40)	CH151	5755	36.328	500	Pass
11n (HT40)	CH159	5795	36.328	500	Pass
11ac (HT20)	CH149	5745	17.6	500	Pass
11ac (HT20)	CH157	5785	17.6	500	Pass
11ac (HT20)	CH165	5825	17.584	500	Pass
11ac (HT40)	CH151	5755	36.352	500	Pass
11ac (HT40)	CH159	5795	36.352	500	Pass

Test plots:
For U-NII-3







5.8 Out Of Band Emission

5.8.1 Limit

According to FCC §15.407(b).

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725–5.850 GHz band:
 - (i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

5.8.2 Test Procedure

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- c) Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
- d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- e) Repeat above procedures until all measured frequencies were complete.

5.8.3 Test Setup

EUT

Spectrum
Analyzer

5.8.4 Test Results

5150-5250 MHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side



(802.11n20) Band Edge, Right Side

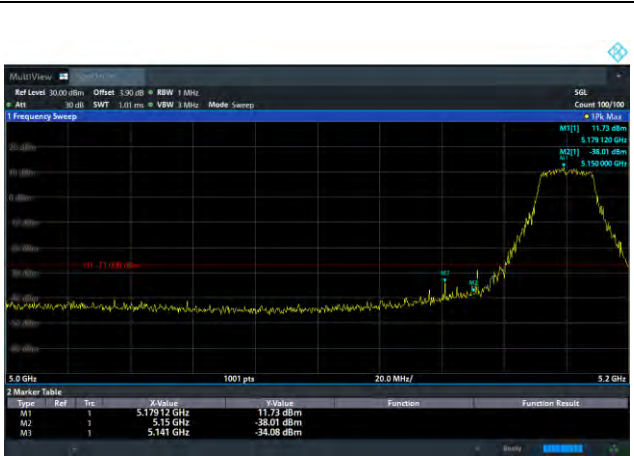


5150-5250 MHz

(802.11n40) Band Edge, Left Side



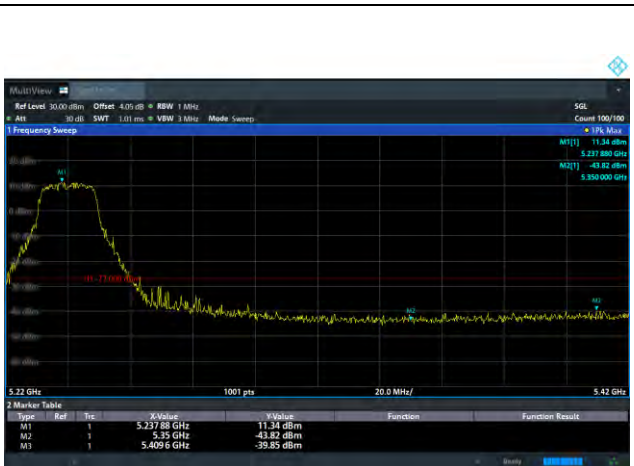
(802.11ac20) Band Edge, Left Side

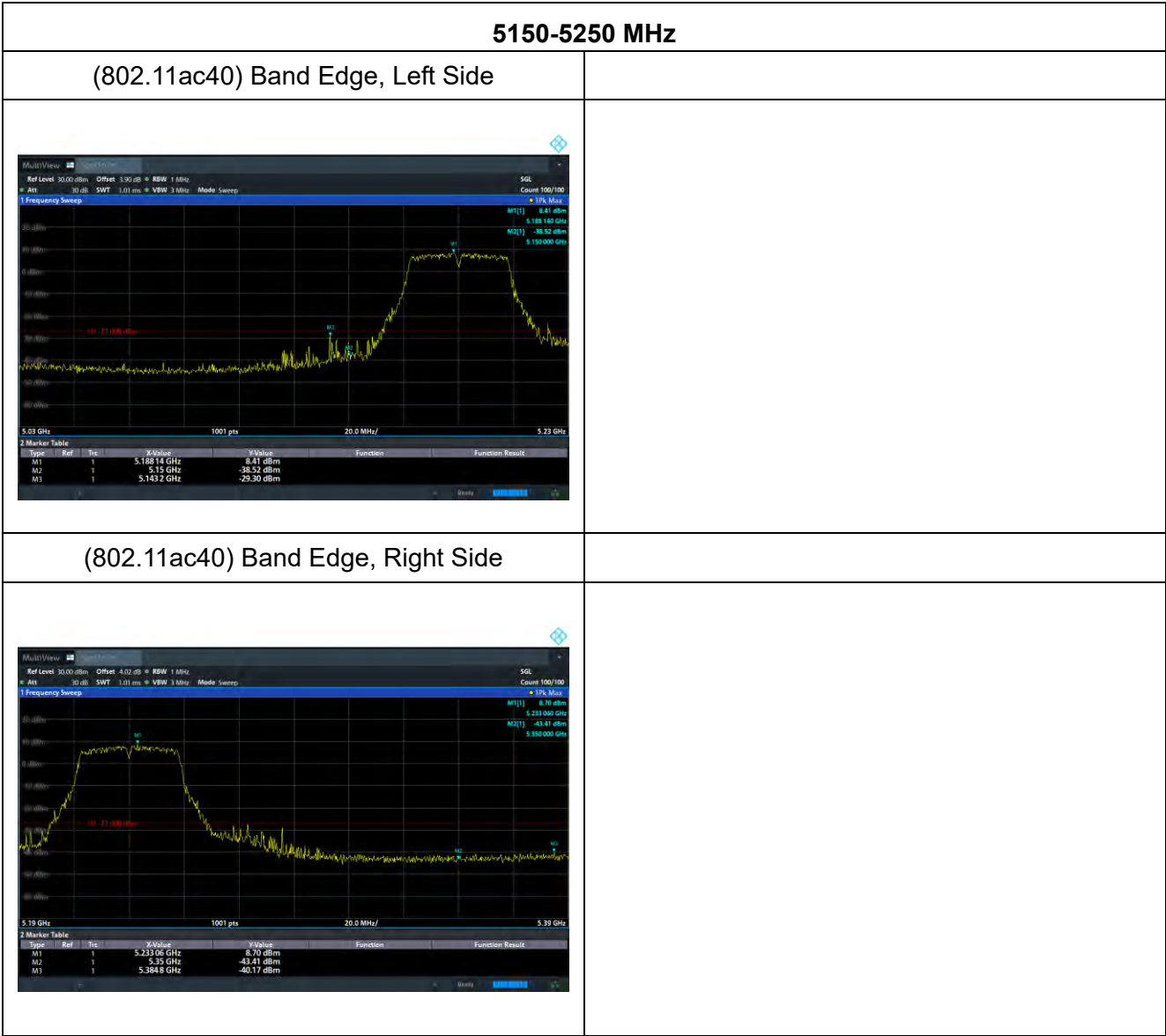


(802.11n40) Band Edge, Right Side



(802.11ac20) Band Edge, Right Side





5250-5350 MHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side



(802.11n20) Band Edge, Right Side



5250-5350 MHz

(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Right Side



(802.11ac20) Band Edge, Right Side



5250-5350 MHz

(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side

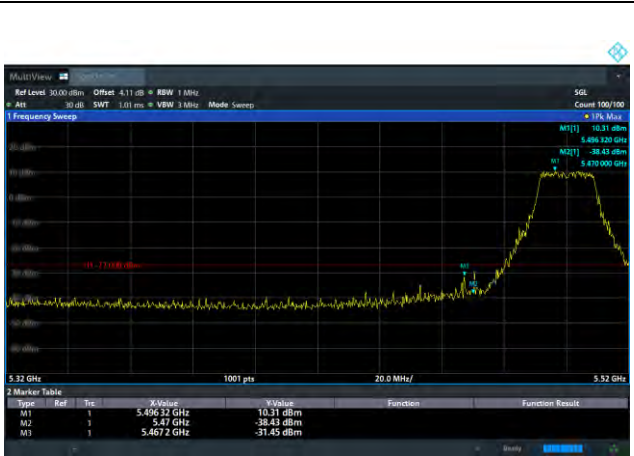


5470-5725 MHz

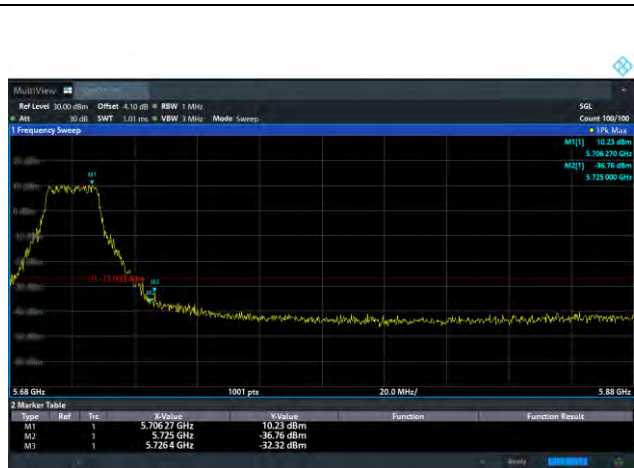
(802.11a) Band Edge, Left Side



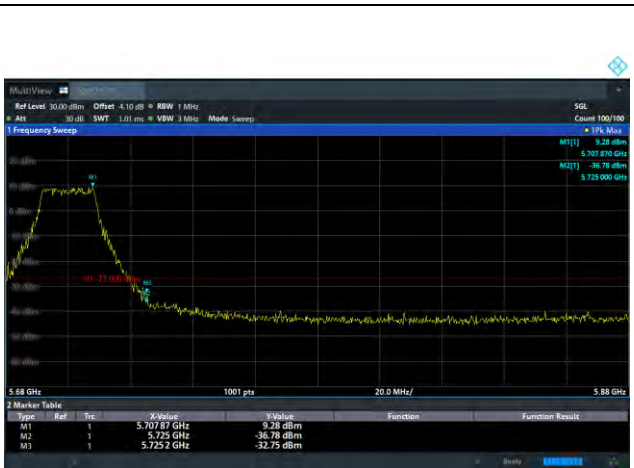
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

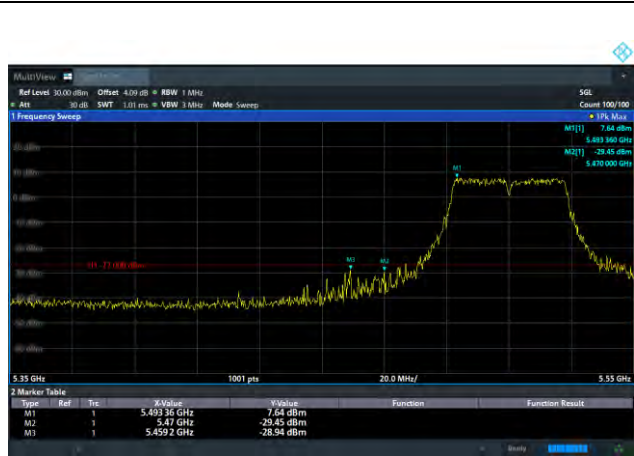


(802.11n20) Band Edge, Right Side



5470-5725 MHz

(802.11n40) Band Edge, Left Side



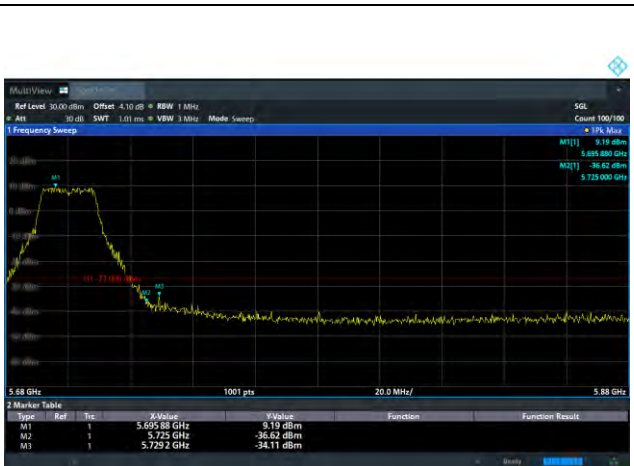
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Right Side



(802.11ac20) Band Edge, Right Side



5470-5725 MHz

(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



5725-5850 MHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side



(802.11n20) Band Edge, Right Side



5725-5850 MHz

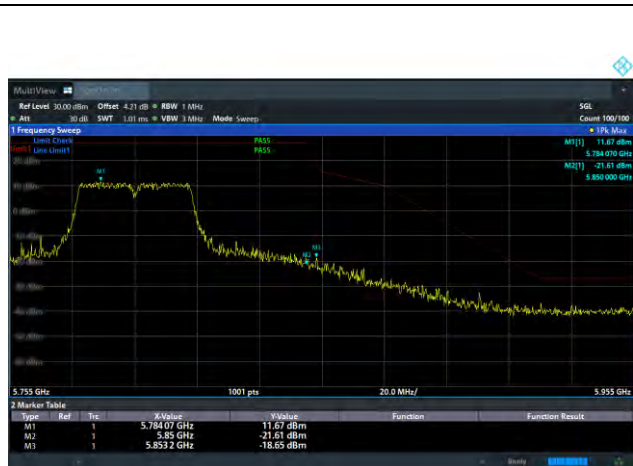
(802.11n40) Band Edge, Left Side



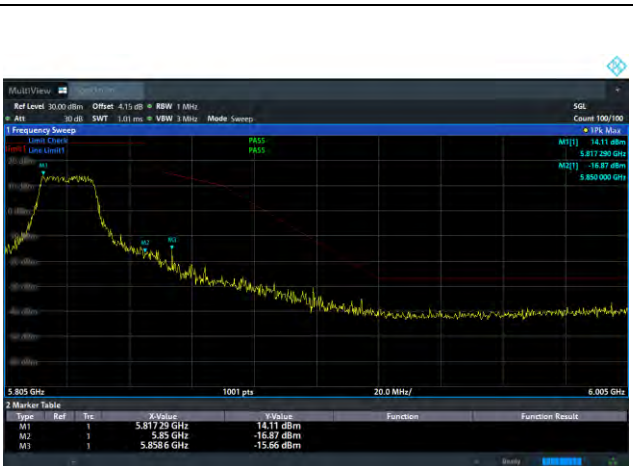
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Right Side



(802.11ac20) Band Edge, Right Side



5725-5850 MHz

(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



5.9 Spurious RF Conducted Emissions

5.9.1 Limit

According to FCC §15.407(b).

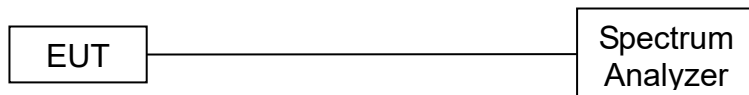
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725–5.850 GHz band:
 - (i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

5.9.2 Test Procedure

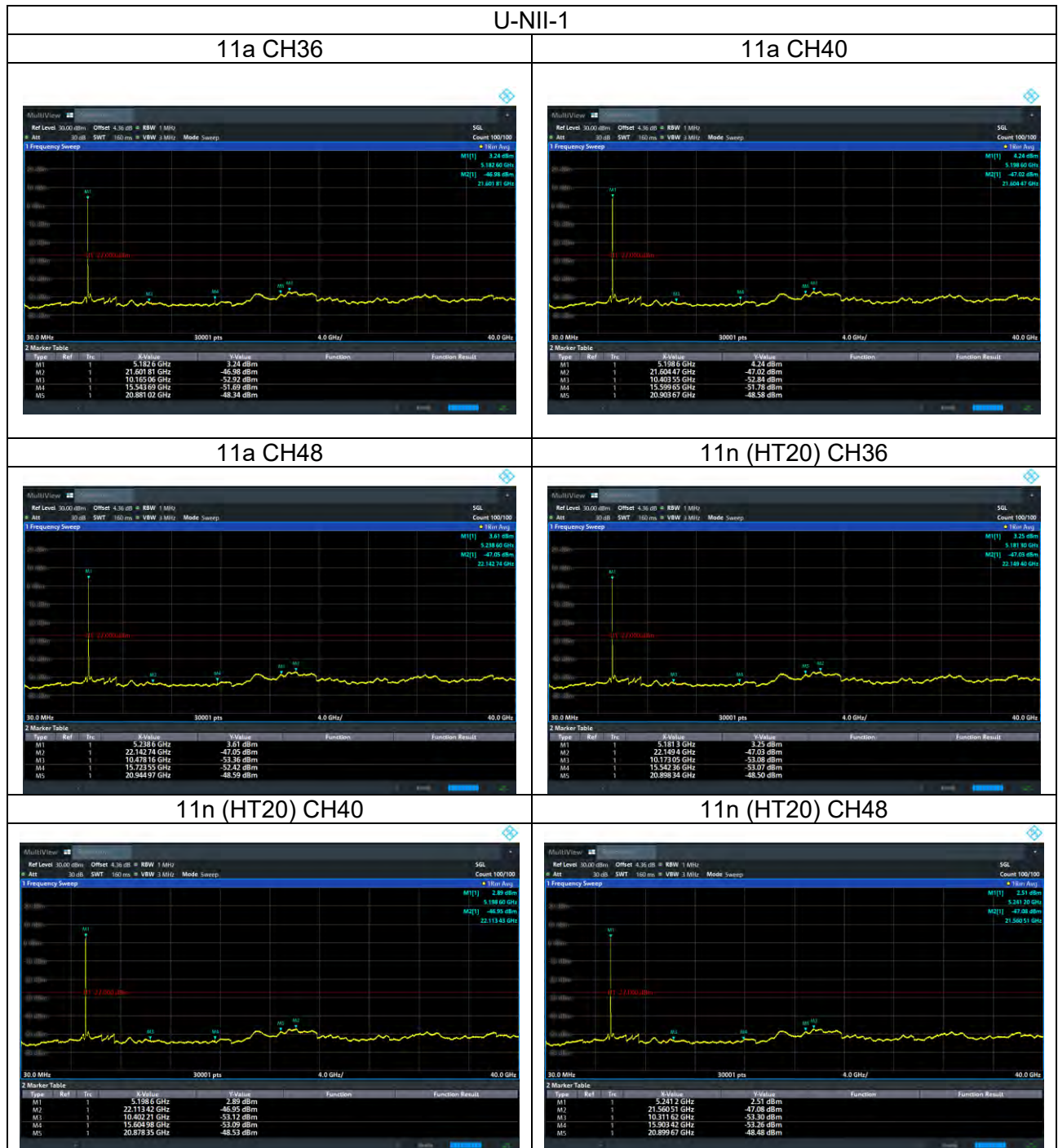
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2020 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW=300kHz to measure the peak field strength, and measure frequency range from 9kHz to 26.5GHz.

5.9.3 Test Setup

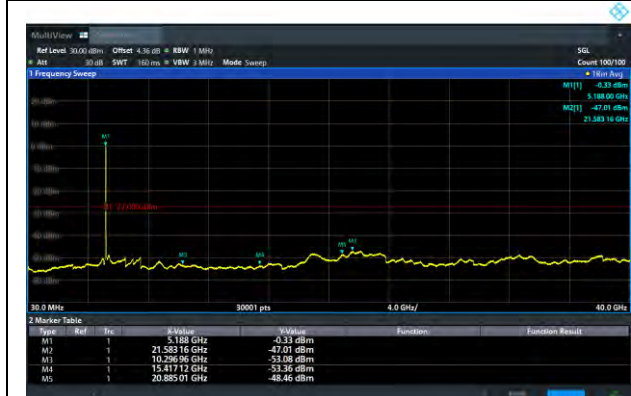


5.9.4 Test Results

Note: the measurement frequency range is from 9kHz to the 10th harmonic of the fundamental frequency; The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.



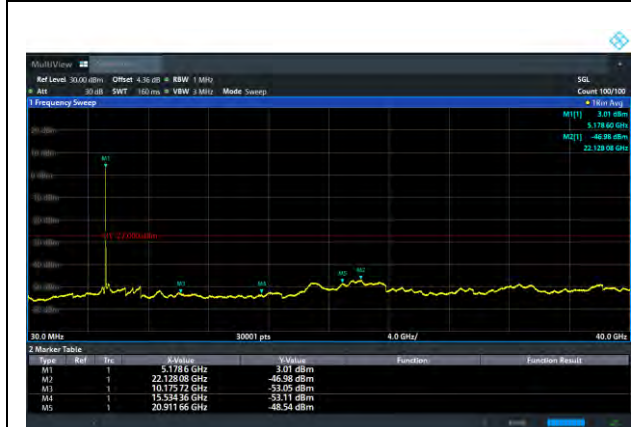
11n (HT40) CH38



11n (HT40) CH46



11ac (HT20) CH36



11ac (HT20) CH40

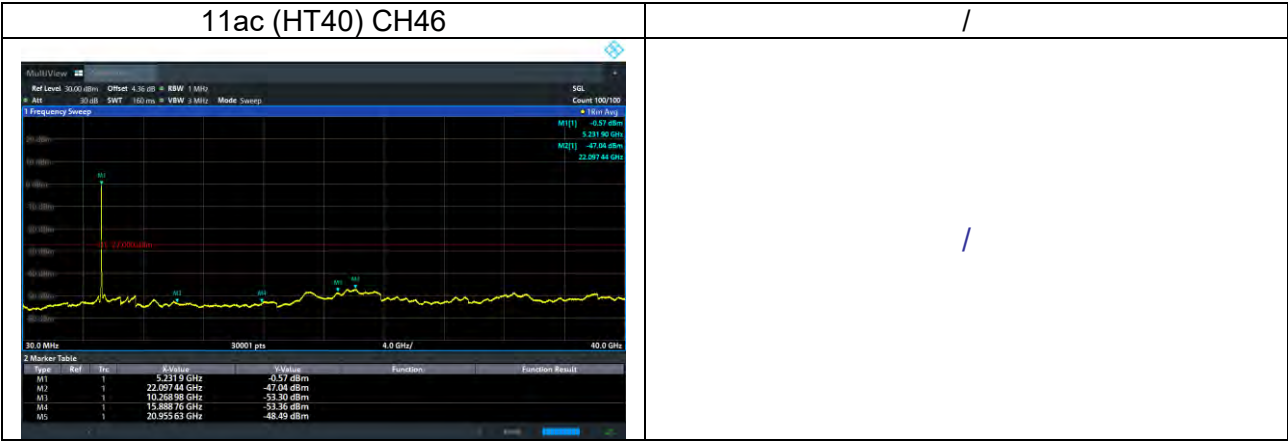


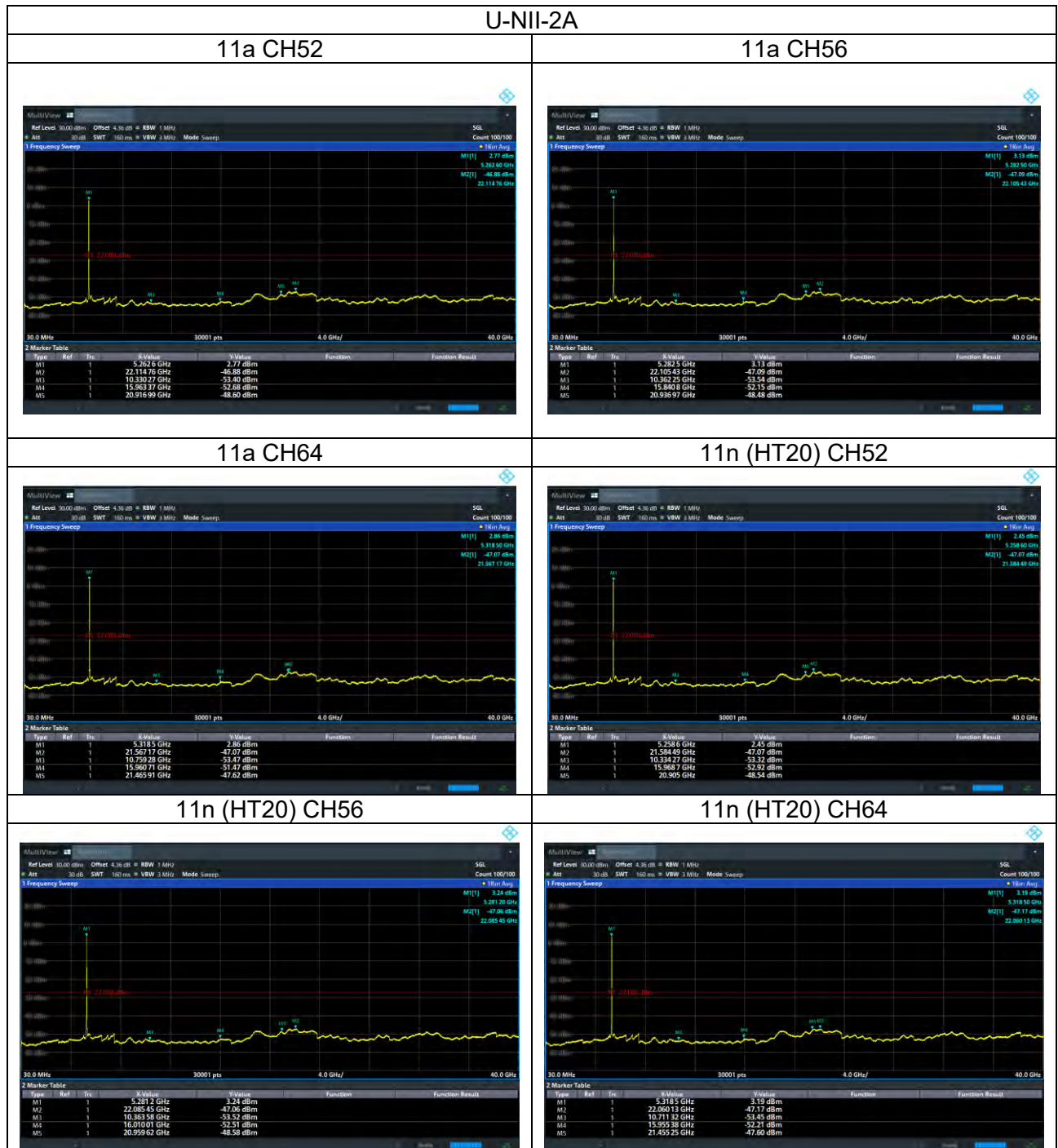
11ac (HT20) CH48



11ac (HT40) CH38







11n (HT40) CH54



11n (HT40) CH62



11ac (HT20) CH52



11ac (HT20) CH56

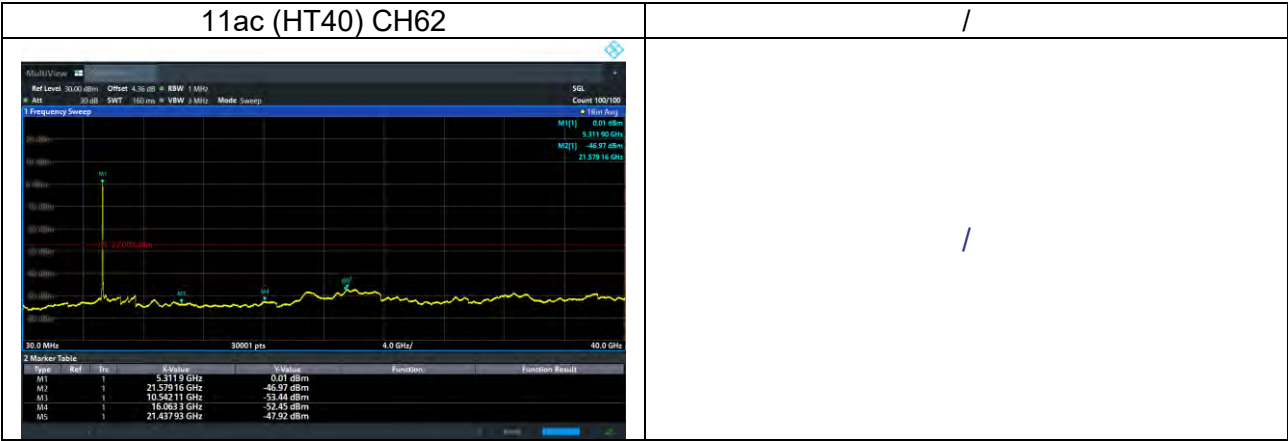


11ac (HT20) CH64



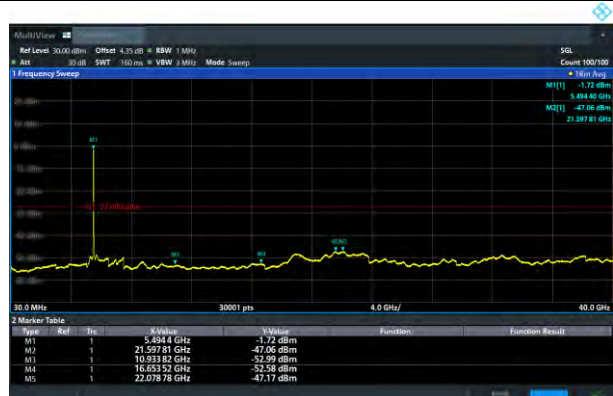
11ac (HT40) CH54



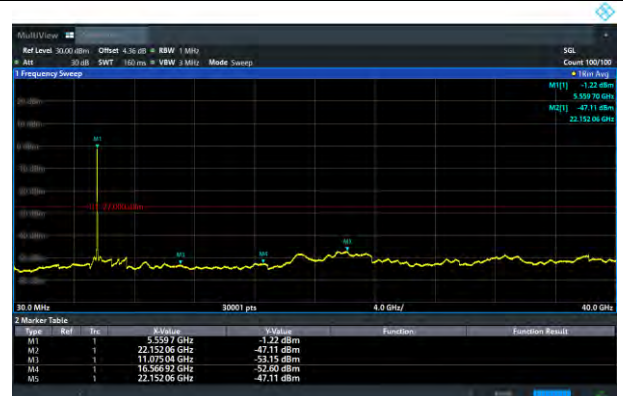




11n (HT40) CH102



11n (HT40) CH110



11n (HT40) CH134



11ac (HT20) CH100

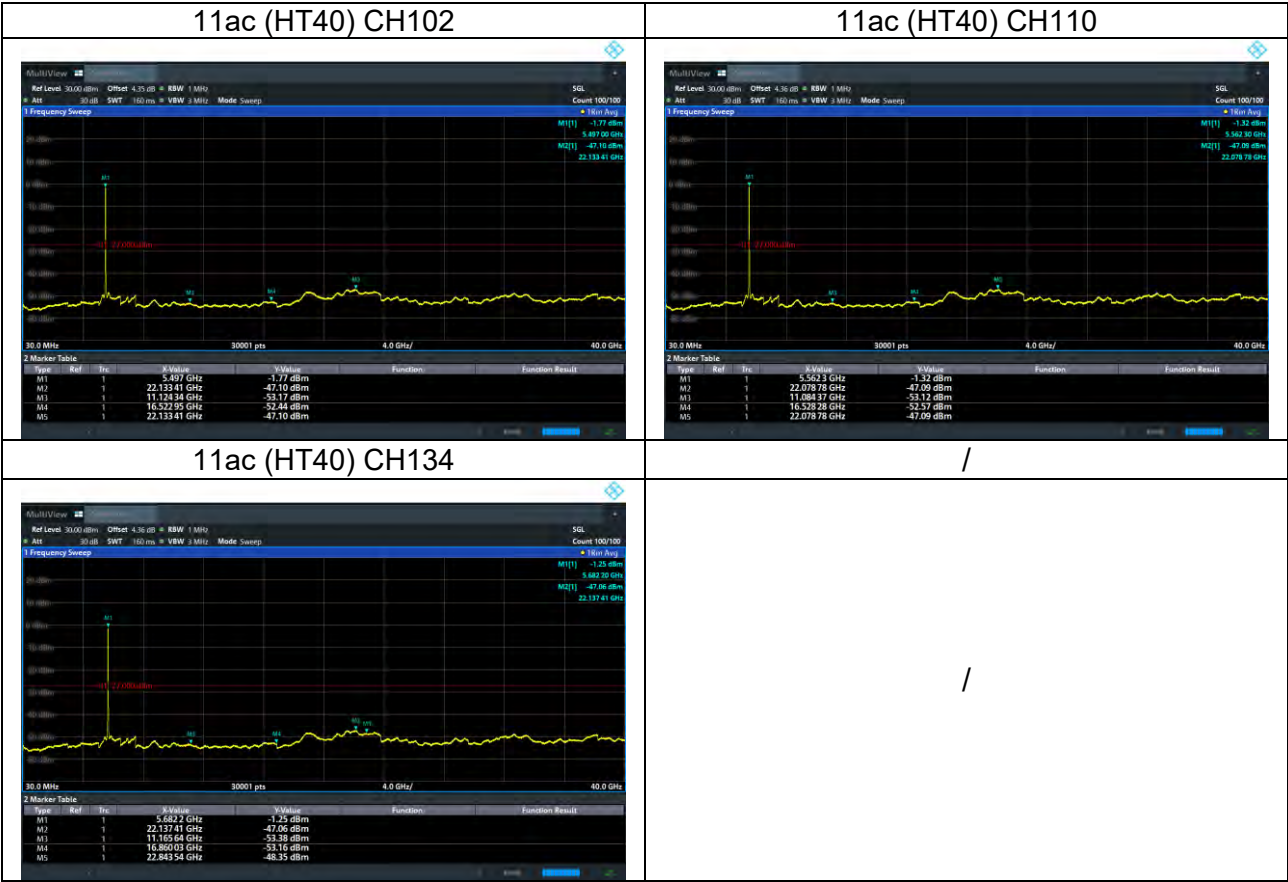


11ac (HT20) CH120



11ac (HT20) CH140





U-NII-3

11a CH149



11a CH157



11a CH165



11n(HT20) CH149



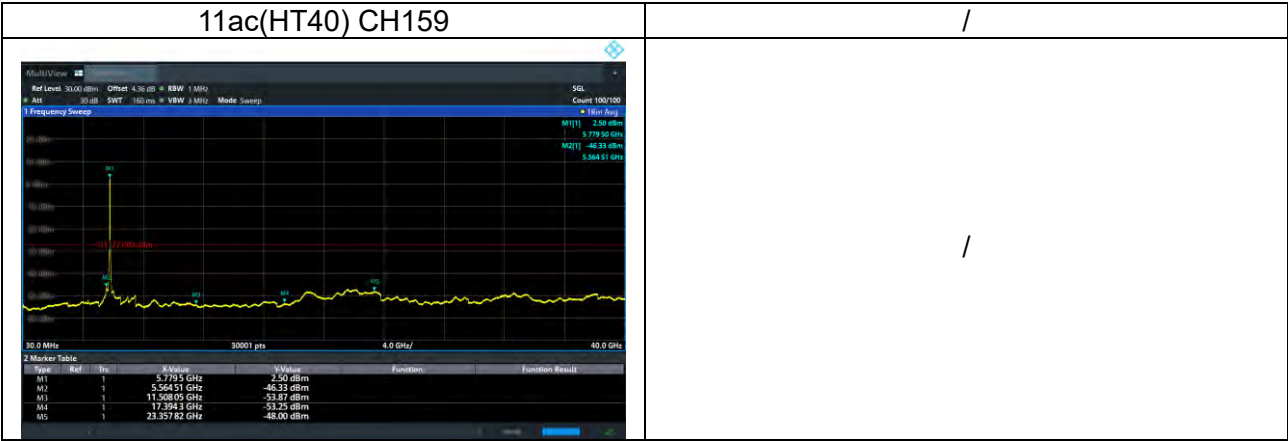
11n(HT20) CH157



11n(HT20) CH165







5.10 Frequency Stability

5.10.1 Limit

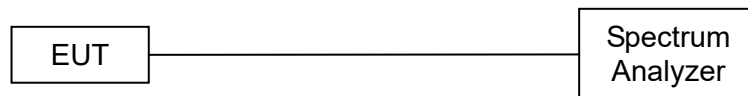
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

5.10.2 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and the limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$.

5.10.3 Test Setup



5.10.4 Test Results

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5180.015	5180	0.015	2.90
		V max (V)	5.75	5180.039	5180	0.039	7.54
		V min (V)	4.25	5180.035	5180	0.035	6.78
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.027	5180	0.027	5.23
		T (°C)	-10	5180.007	5180	0.007	1.35
		T (°C)	0	5180.029	5180	0.029	5.60
		T (°C)	10	5180.013	5180	0.013	2.52
		T (°C)	20	5180.009	5180	0.009	1.77
		T (°C)	30	5180.023	5180	0.023	4.36
		T (°C)	40	5180.024	5180	0.024	4.69
		T (°C)	50	5180.017	5180	0.017	3.27
		T (°C)	60	5180.022	5180	0.022	4.19
		T (°C)	70	5180.050	5180	0.050	9.64
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5200.015	5200	0.015	2.93
		V max (V)	5.75	5200.042	5200	0.042	8.12
		V min (V)	4.25	5200.032	5200	0.032	6.15
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.001	5200	0.001	0.14
		T (°C)	-10	5200.037	5200	0.037	7.21
		T (°C)	0	5200.034	5200	0.034	6.61
		T (°C)	10	5200.001	5200	0.001	0.19
		T (°C)	20	5200.021	5200	0.021	3.98
		T (°C)	30	5200.032	5200	0.032	6.14
		T (°C)	40	5200.025	5200	0.025	4.88
		T (°C)	50	5200.046	5200	0.046	8.84
		T (°C)	60	5200.003	5200	0.003	0.55
		T (°C)	70	5200.044	5200	0.044	8.49
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5240.034	5240	0.034	6.41
		V max (V)	5.75	5240.042	5240	0.042	7.97
		V min (V)	4.25	5240.015	5240	0.015	2.91
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.040	5240	0.040	7.54
		T (°C)	-10	5240.027	5240	0.027	5.11
		T (°C)	0	5240.003	5240	0.003	0.54
		T (°C)	10	5240.050	5240	0.050	9.48
		T (°C)	20	5240.026	5240	0.026	4.96
		T (°C)	30	5240.004	5240	0.004	0.78
		T (°C)	40	5240.023	5240	0.023	4.40
		T (°C)	50	5240.009	5240	0.009	1.76
		T (°C)	60	5240.050	5240	0.050	9.45
		T (°C)	70	5240.039	5240	0.039	7.42
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5190MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5190.050	5190	0.050	9.62
		V max (V)	5.75	5190.022	5190	0.022	4.32
		V min (V)	4.25	5190.035	5190	0.035	6.72
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5190MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5190.042	5190	0.042	8.10
		T (°C)	-10	5190.013	5190	0.013	2.56
		T (°C)	0	5190.013	5190	0.013	2.53
		T (°C)	10	5190.000	5190	0.000	0.02
		T (°C)	20	5190.038	5190	0.038	7.37
		T (°C)	30	5190.013	5190	0.013	2.42
		T (°C)	40	5190.038	5190	0.038	7.27
		T (°C)	50	5190.024	5190	0.024	4.65
		T (°C)	60	5190.038	5190	0.038	7.27
		T (°C)	70	5190.028	5190	0.028	5.32
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5230MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5230.004	5230	0.004	0.80
		V max (V)	5.75	5230.007	5230	0.007	1.32
		V min (V)	4.25	5230.037	5230	0.037	7.06
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5230MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5230.002	5230	0.002	0.46
		T (°C)	-10	5230.024	5230	0.024	4.52
		T (°C)	0	5230.016	5230	0.016	3.14
		T (°C)	10	5230.018	5230	0.018	3.49
		T (°C)	20	5230.013	5230	0.013	2.41
		T (°C)	30	5230.023	5230	0.023	4.38
		T (°C)	40	5230.017	5230	0.017	3.34
		T (°C)	50	5230.015	5230	0.015	2.84
		T (°C)	60	5230.006	5230	0.006	1.08
		T (°C)	70	5230.026	5230	0.026	5.04
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5260.009	5260	0.009	1.73
		V max (V)	5.75	5260.006	5260	0.006	1.07
		V min (V)	4.25	5260.013	5260	0.013	2.42
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5260.023	5260	0.023	4.40
		T (°C)	-10	5260.015	5260	0.015	2.78
		T (°C)	0	5260.049	5260	0.049	9.41
		T (°C)	10	5260.038	5260	0.038	7.30
		T (°C)	20	5260.006	5260	0.006	1.09
		T (°C)	30	5260.044	5260	0.044	8.39
		T (°C)	40	5260.046	5260	0.046	8.67
		T (°C)	50	5260.001	5260	0.001	0.20
		T (°C)	60	5260.017	5260	0.017	3.32
		T (°C)	70	5260.022	5260	0.022	4.26
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5280.002	5280	0.002	0.41
		V max (V)	5.75	5280.037	5280	0.037	6.98
		V min (V)	4.25	5280.013	5280	0.013	2.54
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5280.023	5280	0.023	4.29
		T (°C)	-10	5280.021	5280	0.021	4.04
		T (°C)	0	5280.018	5280	0.018	3.35
		T (°C)	10	5280.005	5280	0.005	0.94
		T (°C)	20	5280.028	5280	0.028	5.34
		T (°C)	30	5280.020	5280	0.020	3.70
		T (°C)	40	5280.010	5280	0.010	1.89
		T (°C)	50	5280.036	5280	0.036	6.90
		T (°C)	60	5280.017	5280	0.017	3.23
		T (°C)	70	5280.019	5280	0.019	3.51
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5320.004	5320	0.004	0.72
		V max (V)	5.75	5320.018	5320	0.018	3.46
		V min (V)	4.25	5320.001	5320	0.001	0.15
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5320.033	5320	0.033	6.18
		T (°C)	-10	5320.008	5320	0.008	1.57
		T (°C)	0	5320.018	5320	0.018	3.43
		T (°C)	10	5320.025	5320	0.025	4.79
		T (°C)	20	5320.045	5320	0.045	8.48
		T (°C)	30	5320.032	5320	0.032	5.98
		T (°C)	40	5320.021	5320	0.021	4.02
		T (°C)	50	5320.019	5320	0.019	3.61
		T (°C)	60	5320.004	5320	0.004	0.72
		T (°C)	70	5320.045	5320	0.045	8.41
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5270MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5270.027	5270	0.027	5.10
		V max (V)	5.75	5270.028	5270	0.028	5.22
		V min (V)	4.25	5270.007	5270	0.007	1.39
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5270MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5270.040	5270	0.040	7.65
		T (°C)	-10	5270.016	5270	0.016	2.96
		T (°C)	0	5270.004	5270	0.004	0.82
		T (°C)	10	5270.020	5270	0.020	3.71
		T (°C)	20	5270.002	5270	0.002	0.37
		T (°C)	30	5270.021	5270	0.021	3.91
		T (°C)	40	5270.001	5270	0.001	0.20
		T (°C)	50	5270.024	5270	0.024	4.59
		T (°C)	60	5270.004	5270	0.004	0.78
		T (°C)	70	5270.029	5270	0.029	5.55
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5310MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5310.050	5310	0.050	9.40
		V max (V)	5.75	5310.043	5310	0.043	8.15
		V min (V)	4.25	5310.019	5310	0.019	3.54
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5310MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5310.035	5310	0.035	6.68
		T (°C)	-10	5310.008	5310	0.008	1.48
		T (°C)	0	5310.040	5310	0.040	7.50
		T (°C)	10	5310.001	5310	0.001	0.12
		T (°C)	20	5310.048	5310	0.048	8.95
		T (°C)	30	5310.032	5310	0.032	6.11
		T (°C)	40	5310.012	5310	0.012	2.26
		T (°C)	50	5310.027	5310	0.027	4.99
		T (°C)	60	5310.022	5310	0.022	4.09
		T (°C)	70	5310.038	5310	0.038	7.13
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5500.005	5500	0.005	0.97
		V max (V)	5.75	5500.010	5500	0.010	1.90
		V min (V)	4.25	5500.000	5500	0.000	0.05
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5500.002	5500	0.002	0.38
		T (°C)	-10	5500.011	5500	0.011	1.94
		T (°C)	0	5500.006	5500	0.006	1.14
		T (°C)	10	5500.000	5500	0.000	0.07
		T (°C)	20	5500.024	5500	0.024	4.35
		T (°C)	30	5500.007	5500	0.007	1.26
		T (°C)	40	5500.003	5500	0.003	0.56
		T (°C)	50	5500.048	5500	0.048	8.66
		T (°C)	60	5500.008	5500	0.008	1.52
		T (°C)	70	5500.008	5500	0.008	1.45
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5600MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5600.042	5600	0.042	7.59
		V max (V)	5.75	5600.004	5600	0.004	0.68
		V min (V)	4.25	5600.032	5600	0.032	5.80
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5600MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5600.013	5600	0.013	2.27
		T (°C)	-10	5600.013	5600	0.013	2.32
		T (°C)	0	5600.024	5600	0.024	4.32
		T (°C)	10	5600.010	5600	0.010	1.76
		T (°C)	20	5600.039	5600	0.039	6.89
		T (°C)	30	5600.042	5600	0.042	7.56
		T (°C)	40	5600.031	5600	0.031	5.58
		T (°C)	50	5600.016	5600	0.016	2.79
		T (°C)	60	5600.018	5600	0.018	3.19
		T (°C)	70	5600.028	5600	0.028	4.94
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5700.038	5700	0.038	6.64
		V max (V)	5.75	5700.010	5700	0.010	1.75
		V min (V)	4.25	5700.017	5700	0.017	3.06
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5700.027	5700	0.027	4.68
		T (°C)	-10	5700.005	5700	0.005	0.94
		T (°C)	0	5700.010	5700	0.010	1.76
		T (°C)	10	5700.031	5700	0.031	5.36
		T (°C)	20	5700.043	5700	0.043	7.55
		T (°C)	30	5700.043	5700	0.043	7.51
		T (°C)	40	5700.030	5700	0.030	5.29
		T (°C)	50	5700.012	5700	0.012	2.14
		T (°C)	60	5700.046	5700	0.046	8.09
		T (°C)	70	5700.030	5700	0.030	5.22
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5510MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5510.019	5510	0.019	3.39
		V max (V)	5.75	5510.021	5510	0.021	3.74
		V min (V)	4.25	5510.000	5510	0.000	0.05
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5510MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5510.044	5510	0.044	7.89
		T (°C)	-10	5510.001	5510	0.001	0.24
		T (°C)	0	5510.005	5510	0.005	0.87
		T (°C)	10	5510.050	5510	0.050	9.07
		T (°C)	20	5510.022	5510	0.022	4.00
		T (°C)	30	5510.033	5510	0.033	5.94
		T (°C)	40	5510.046	5510	0.046	8.41
		T (°C)	50	5510.047	5510	0.047	8.53
		T (°C)	60	5510.045	5510	0.045	8.20
		T (°C)	70	5510.017	5510	0.017	3.03
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5550MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5550.012	5550	0.012	2.13
		V max (V)	5.75	5550.035	5550	0.035	6.26
		V min (V)	4.25	5550.044	5550	0.044	7.93
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5550MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5550.034	5550	0.034	6.21
		T (°C)	-10	5550.040	5550	0.040	7.22
		T (°C)	0	5550.042	5550	0.042	7.60
		T (°C)	10	5550.035	5550	0.035	6.30
		T (°C)	20	5550.003	5550	0.003	0.60
		T (°C)	30	5550.030	5550	0.030	5.36
		T (°C)	40	5550.005	5550	0.005	0.90
		T (°C)	50	5550.019	5550	0.019	3.34
		T (°C)	60	5550.020	5550	0.020	3.59
		T (°C)	70	5550.006	5550	0.006	1.01
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5670MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5670.001	5670	0.001	0.21
		V max (V)	5.75	5670.032	5670	0.032	5.57
		V min (V)	4.25	5670.034	5670	0.034	6.01
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5670MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5670.048	5670	0.048	8.49
		T (°C)	-10	5670.036	5670	0.036	6.32
		T (°C)	0	5670.022	5670	0.022	3.87
		T (°C)	10	5670.030	5670	0.030	5.33
		T (°C)	20	5670.012	5670	0.012	2.18
		T (°C)	30	5670.001	5670	0.001	0.21
		T (°C)	40	5670.050	5670	0.050	8.76
		T (°C)	50	5670.044	5670	0.044	7.77
		T (°C)	60	5670.046	5670	0.046	8.04
		T (°C)	70	5670.010	5670	0.010	1.72
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5745.001	5745	0.001	0.11
		V max (V)	5.75	5745.048	5745	0.048	8.39
		V min (V)	4.25	5745.001	5745	0.001	0.09
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.033	5745	0.033	5.73
		T (°C)	-10	5745.006	5745	0.006	1.09
		T (°C)	0	5745.047	5745	0.047	8.18
		T (°C)	10	5745.010	5745	0.010	1.80
		T (°C)	20	5745.048	5745	0.048	8.40
		T (°C)	30	5745.004	5745	0.004	0.78
		T (°C)	40	5745.019	5745	0.019	3.29
		T (°C)	50	5745.015	5745	0.015	2.69
		T (°C)	60	5745.046	5745	0.046	8.09
		T (°C)	70	5745.045	5745	0.045	7.82
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5785.036	5785	0.036	6.22
		V max (V)	5.75	5785.018	5785	0.018	3.15
		V min (V)	4.25	5785.045	5785	0.045	7.74
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.032	5785	0.032	5.49
		T (°C)	-10	5785.015	5785	0.015	2.53
		T (°C)	0	5785.037	5785	0.037	6.31
		T (°C)	10	5785.007	5785	0.007	1.16
		T (°C)	20	5785.013	5785	0.013	2.30
		T (°C)	30	5785.041	5785	0.041	7.04
		T (°C)	40	5785.001	5785	0.001	0.10
		T (°C)	50	5785.026	5785	0.026	4.44
		T (°C)	60	5785.028	5785	0.028	4.76
		T (°C)	70	5785.028	5785	0.028	4.89
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5825.025	5825	0.025	4.36
		V max (V)	5.75	5825.049	5825	0.049	8.46
		V min (V)	4.25	5825.011	5825	0.011	1.81
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.041	5825	0.041	6.95
		T (°C)	-10	5825.035	5825	0.035	5.96
		T (°C)	0	5825.033	5825	0.033	5.66
		T (°C)	10	5825.043	5825	0.043	7.32
		T (°C)	20	5825.025	5825	0.025	4.31
		T (°C)	30	5825.007	5825	0.007	1.25
		T (°C)	40	5825.032	5825	0.032	5.51
		T (°C)	50	5825.022	5825	0.022	3.81
		T (°C)	60	5825.006	5825	0.006	1.04
		T (°C)	70	5825.002	5825	0.002	0.34
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5755MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5755.033	5755	0.033	5.68
		V max (V)	5.75	5755.045	5755	0.045	7.88
		V min (V)	4.25	5755.035	5755	0.035	6.14
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5755MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5755.042	5755	0.042	7.29
		T (°C)	-10	5755.007	5755	0.007	1.16
		T (°C)	0	5755.001	5755	0.001	0.19
		T (°C)	10	5755.028	5755	0.028	4.91
		T (°C)	20	5755.017	5755	0.017	2.98
		T (°C)	30	5755.033	5755	0.033	5.77
		T (°C)	40	5755.006	5755	0.006	1.09
		T (°C)	50	5755.013	5755	0.013	2.28
		T (°C)	60	5755.035	5755	0.035	6.16
		T (°C)	70	5755.015	5755	0.015	2.54
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5795MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5795.044	5795	0.044	7.57
		V max (V)	5.75	5795.030	5795	0.030	5.23
		V min (V)	4.25	5795.013	5795	0.013	2.26
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5795MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5795.046	5795	0.046	7.99
		T (°C)	-10	5795.039	5795	0.039	6.74
		T (°C)	0	5795.028	5795	0.028	4.89
		T (°C)	10	5795.003	5795	0.003	0.50
		T (°C)	20	5795.018	5795	0.018	3.12
		T (°C)	30	5795.024	5795	0.024	4.20
		T (°C)	40	5795.024	5795	0.024	4.09
		T (°C)	50	5795.041	5795	0.041	7.10
		T (°C)	60	5795.034	5795	0.034	5.92
		T (°C)	70	5795.015	5795	0.015	2.59
Limits				± 20 ppm			
Result				Complies			

6 Photographs of the Test Setup

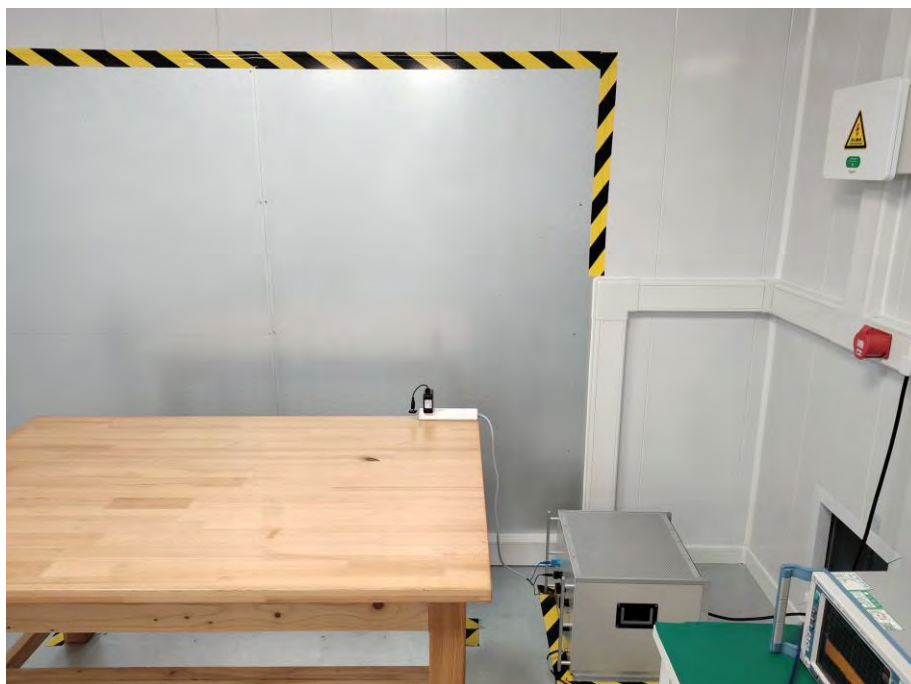
Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



Conducted Emission



7 Photographs of the EUT

Please refer to report HB20250722001E-01 for product photos.

******* END OF REPORT *******