

4.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.247(d),

In any 100 kHz bandwidth outside the authorized frequency band,

Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

4.5.2 Test Procedure

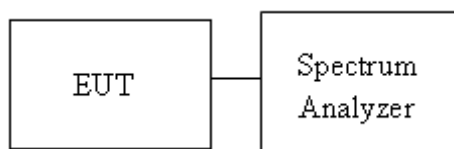
Test method Refer as ANSI C63.10:2013.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Remark:

1. For IEEE 802.11 b/g function, it supports SISO mode only.

4.5.3 Test Setup



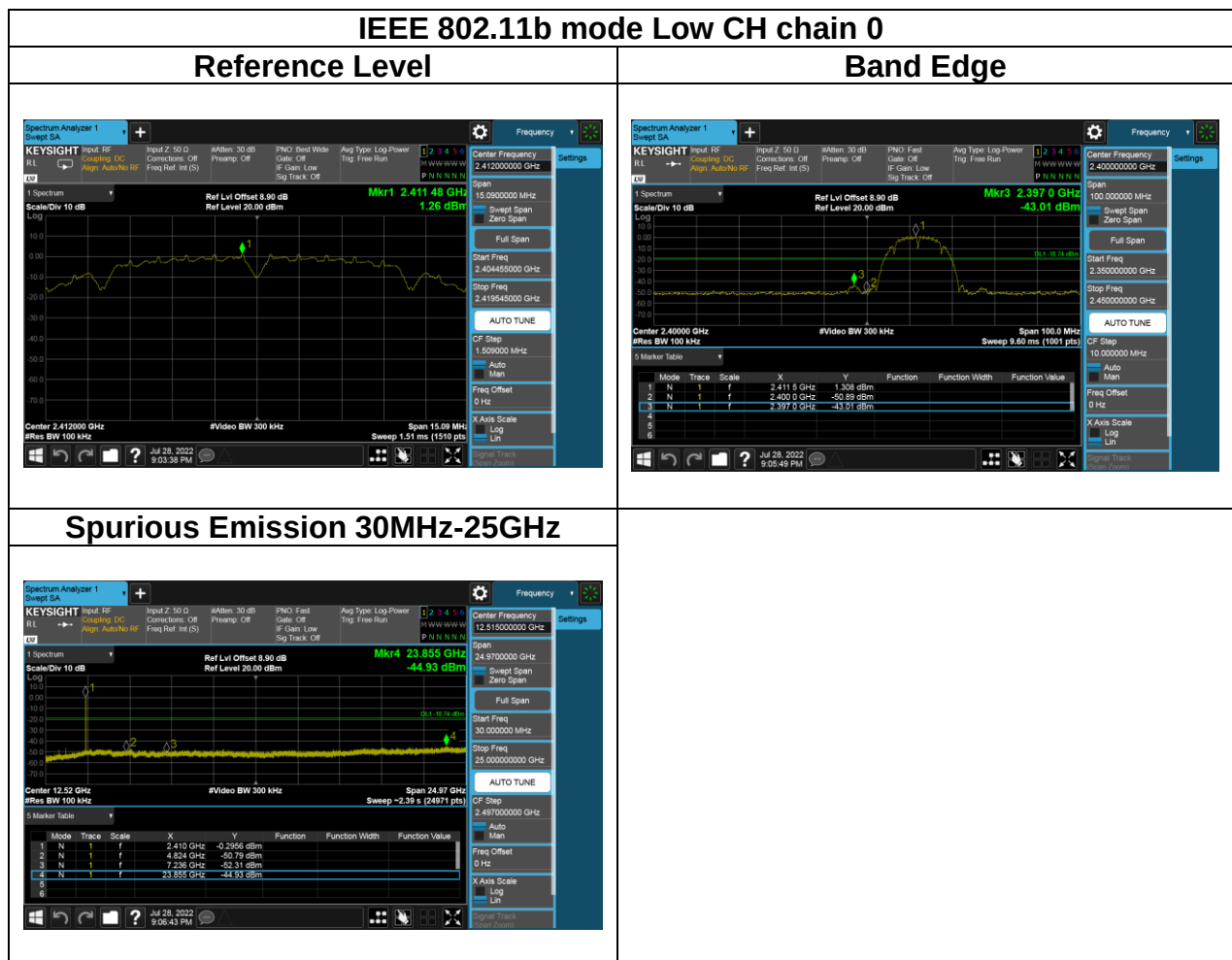
Report No.: TMWK2207002922KR

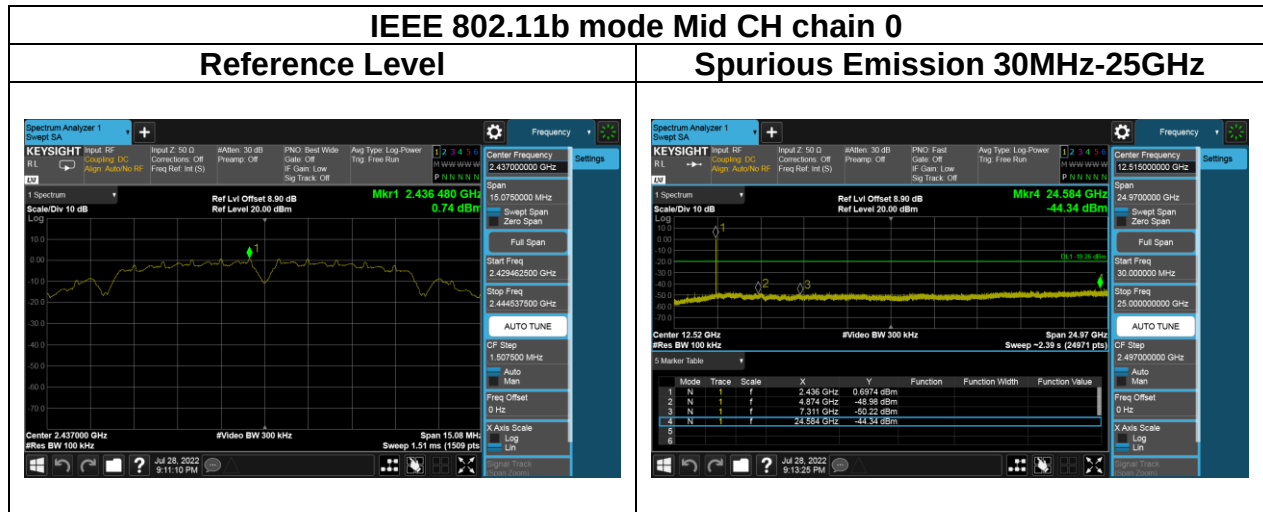
4.5.4 Test Result

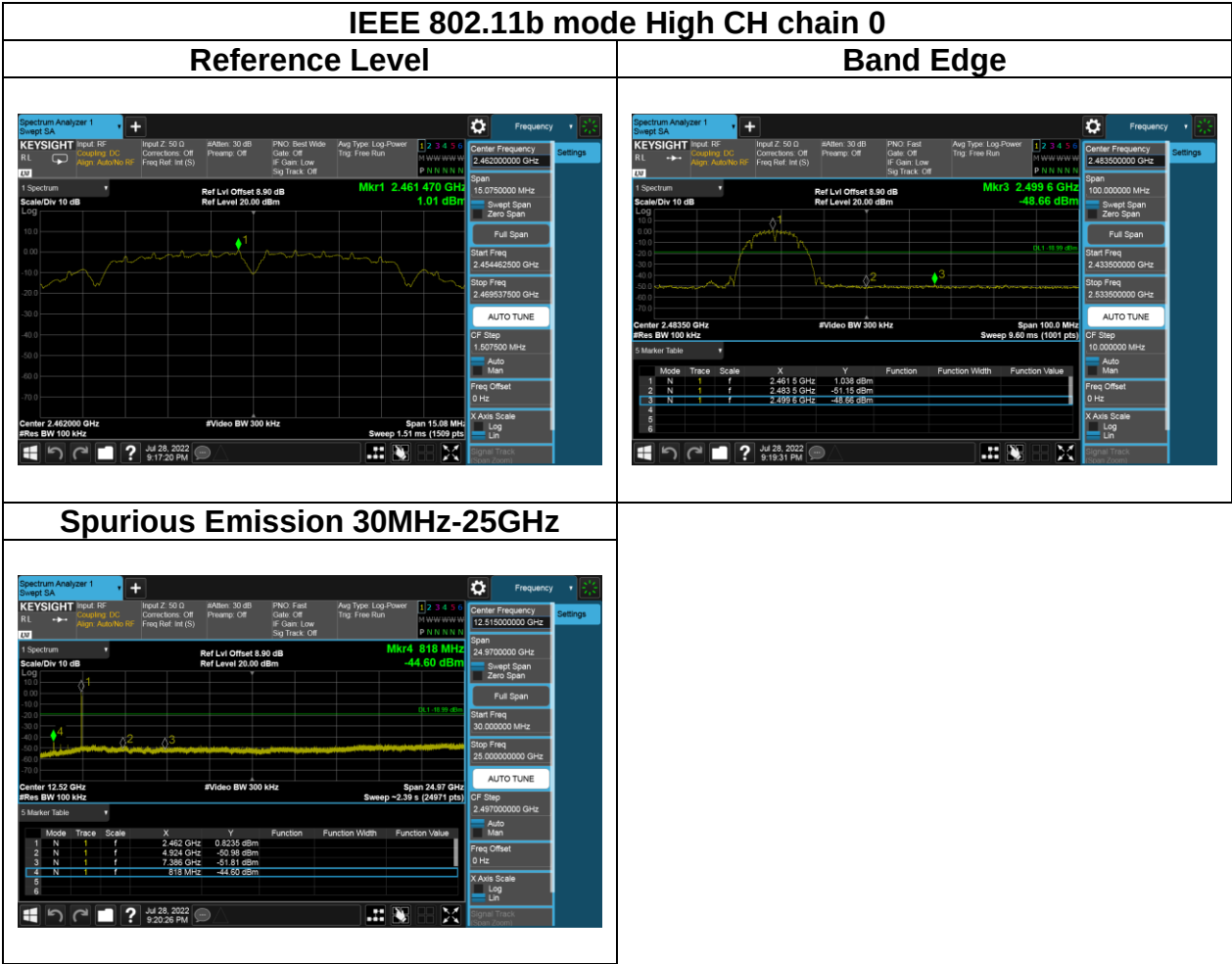
Temperature: 25.6~26.6°C
Humidity: 50~53% RH

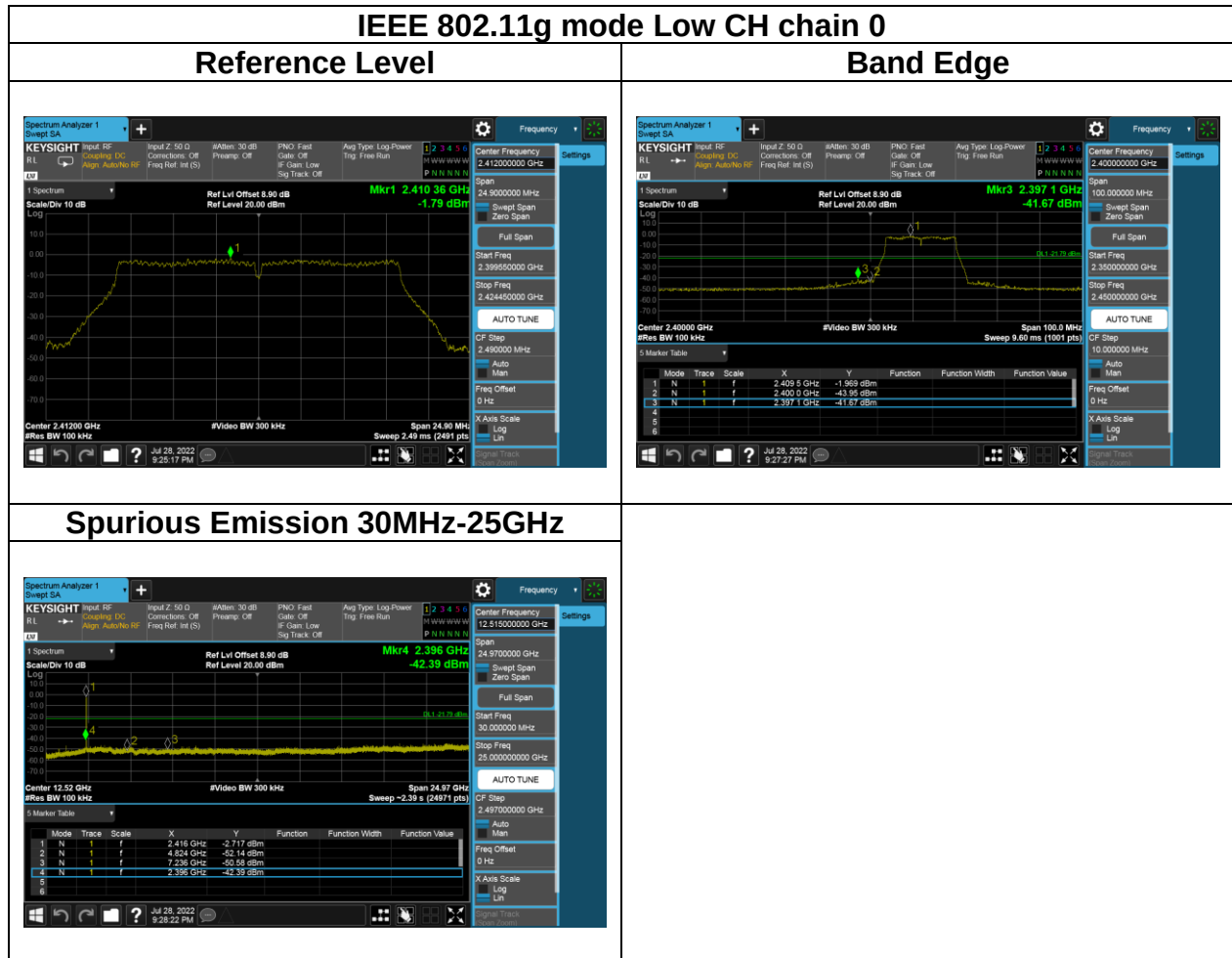
Test date: July 26~29, 2022
Tested by: Marco Chan

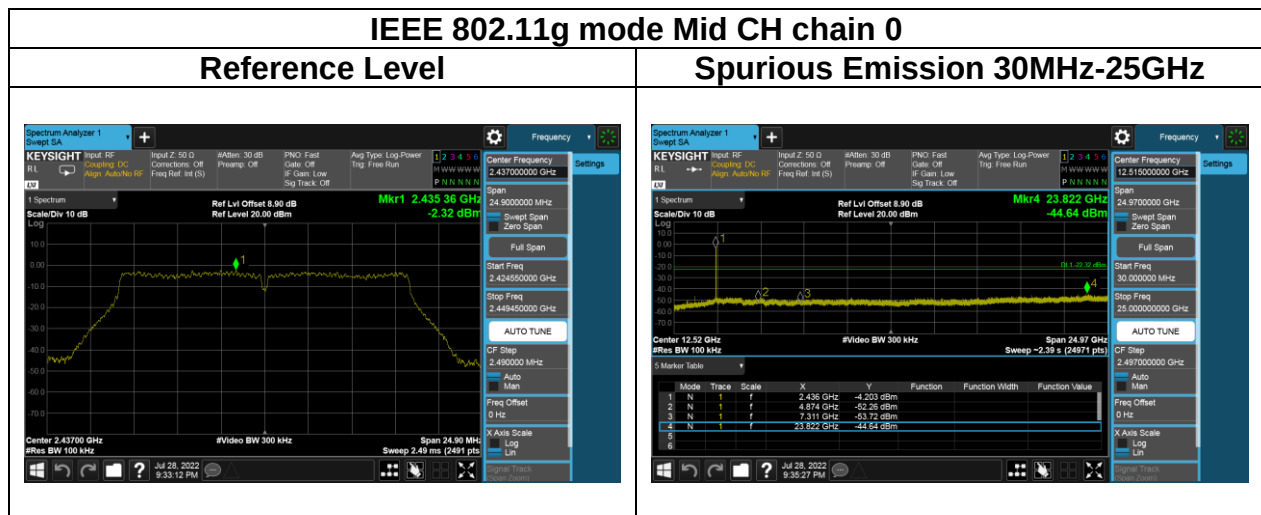
Test Data

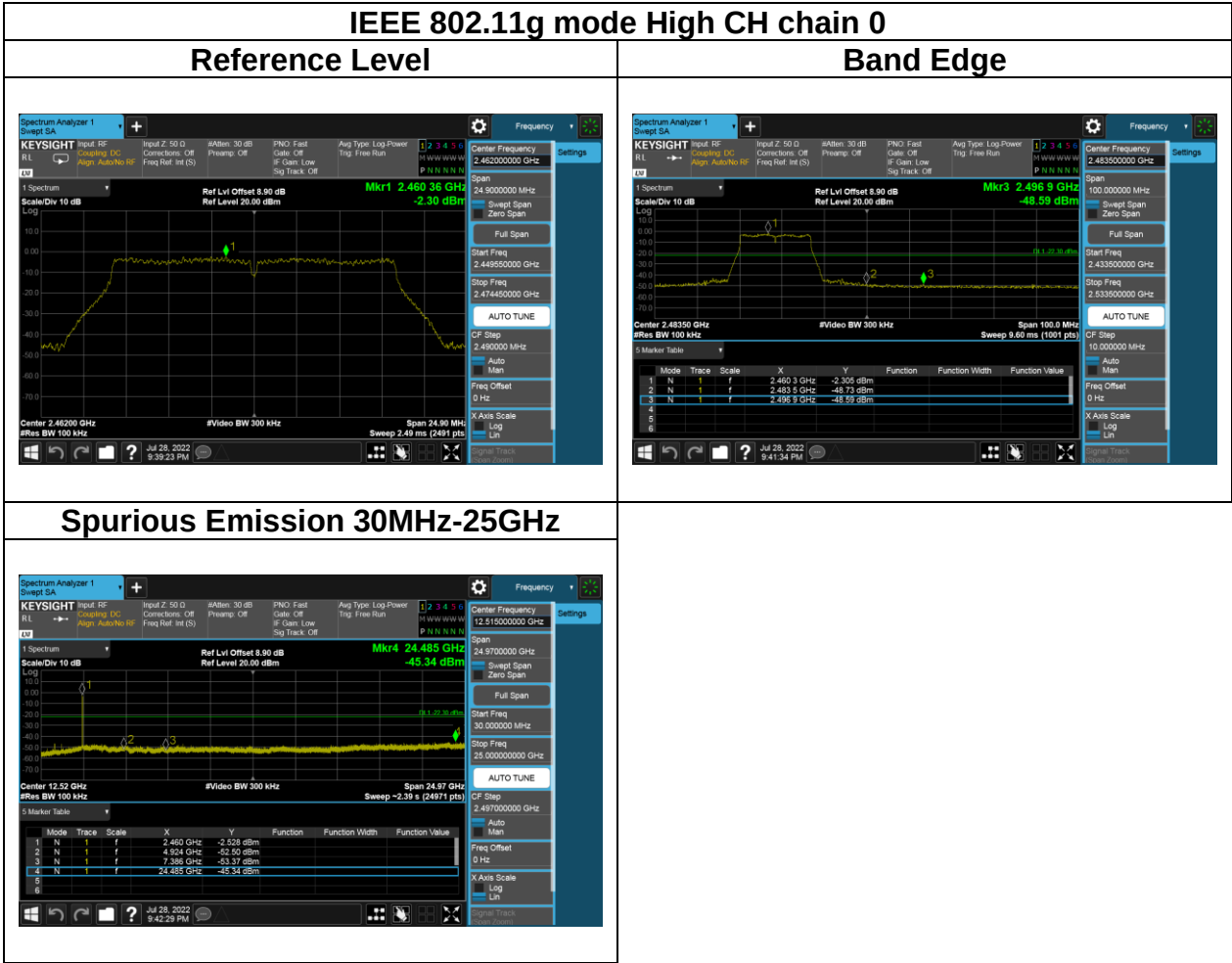


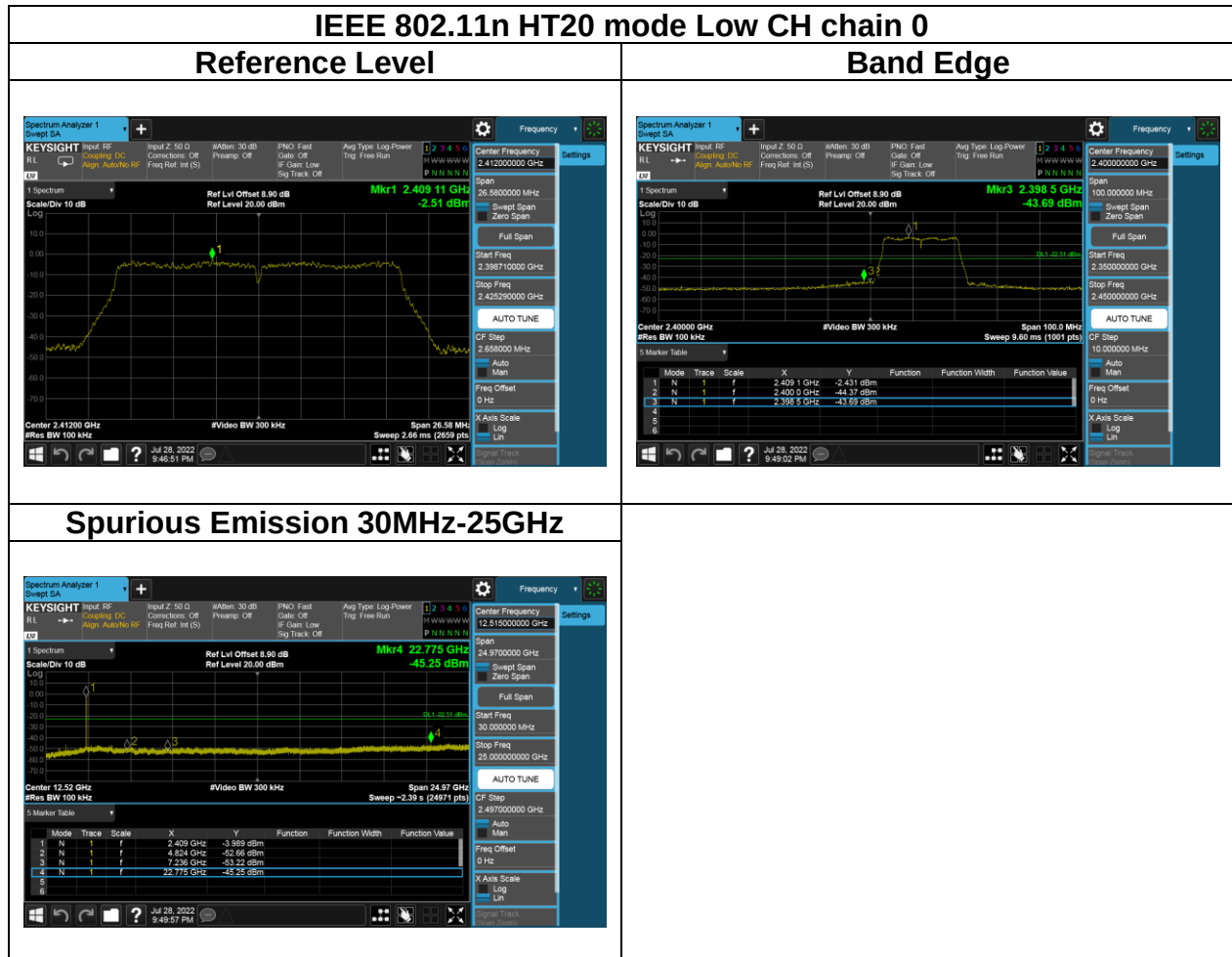


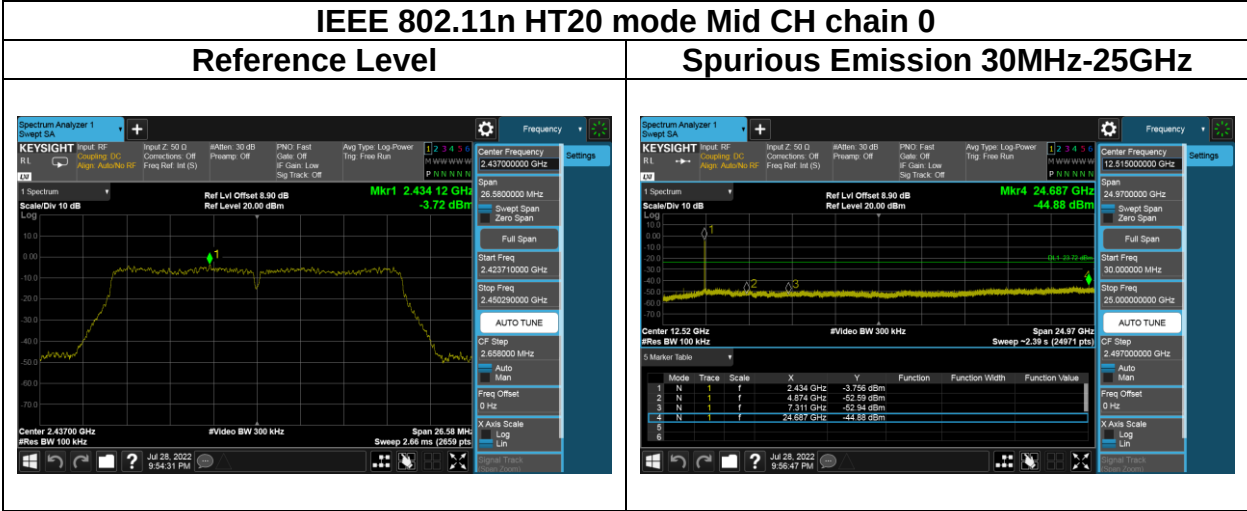


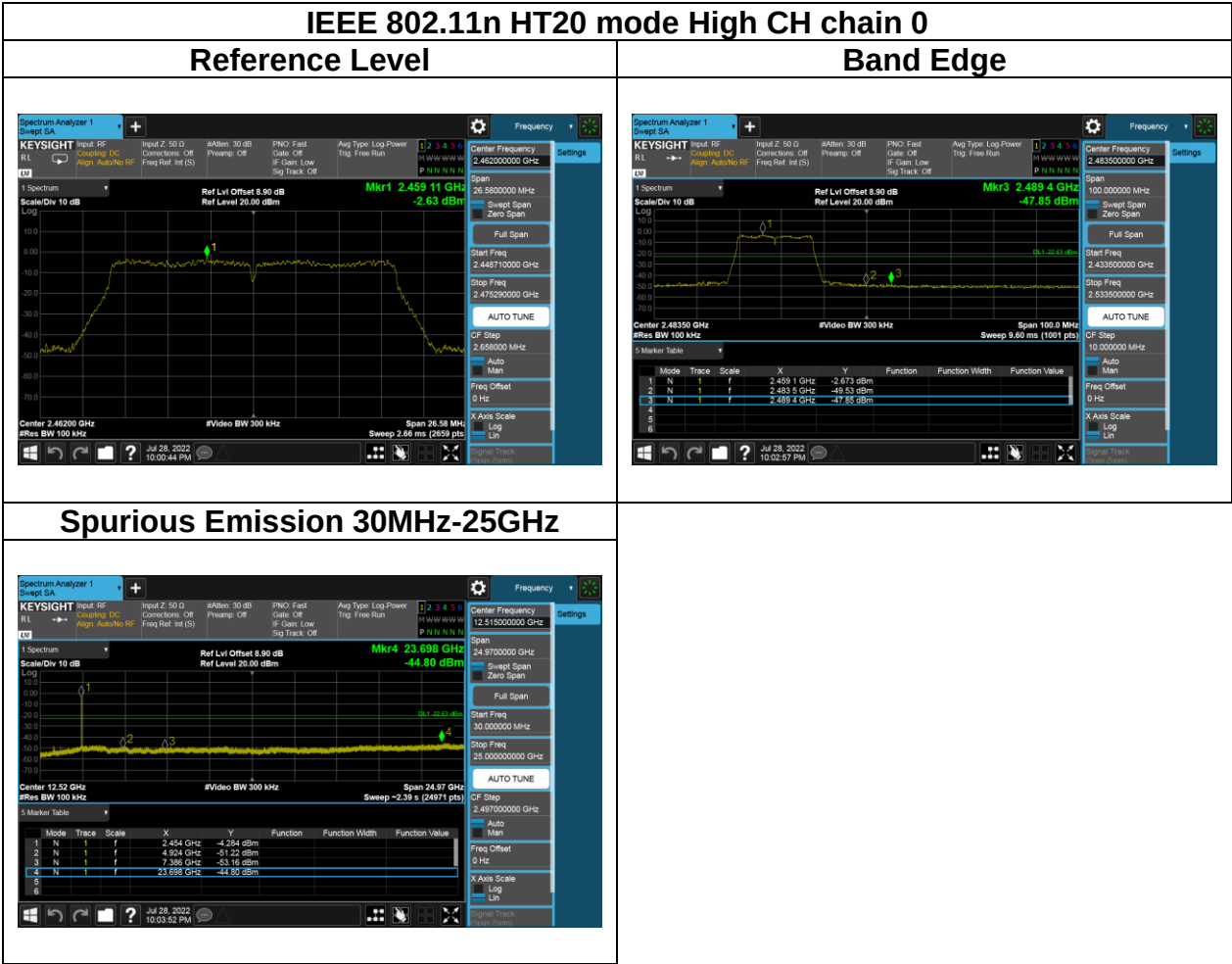






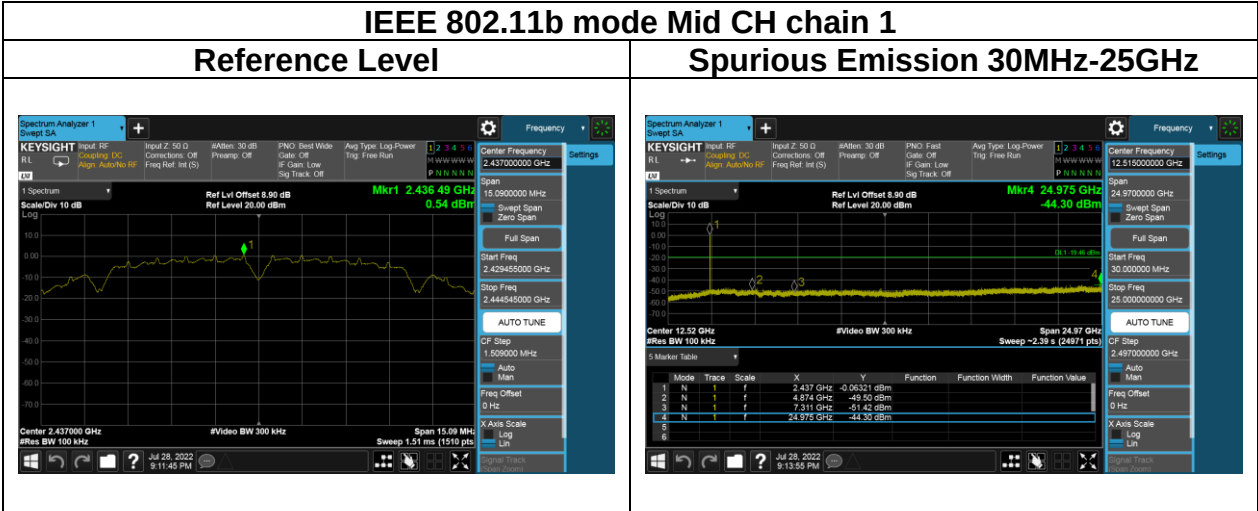


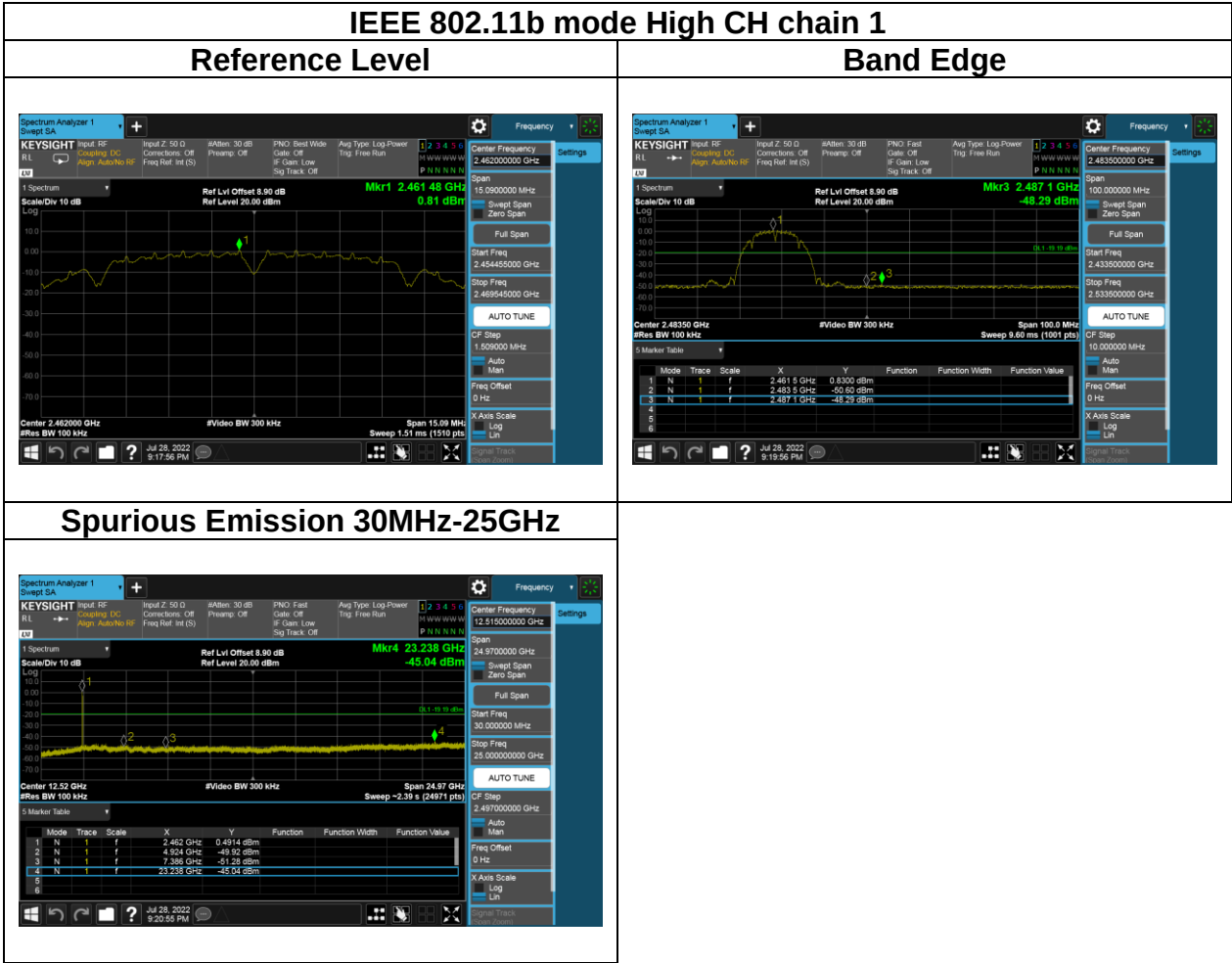


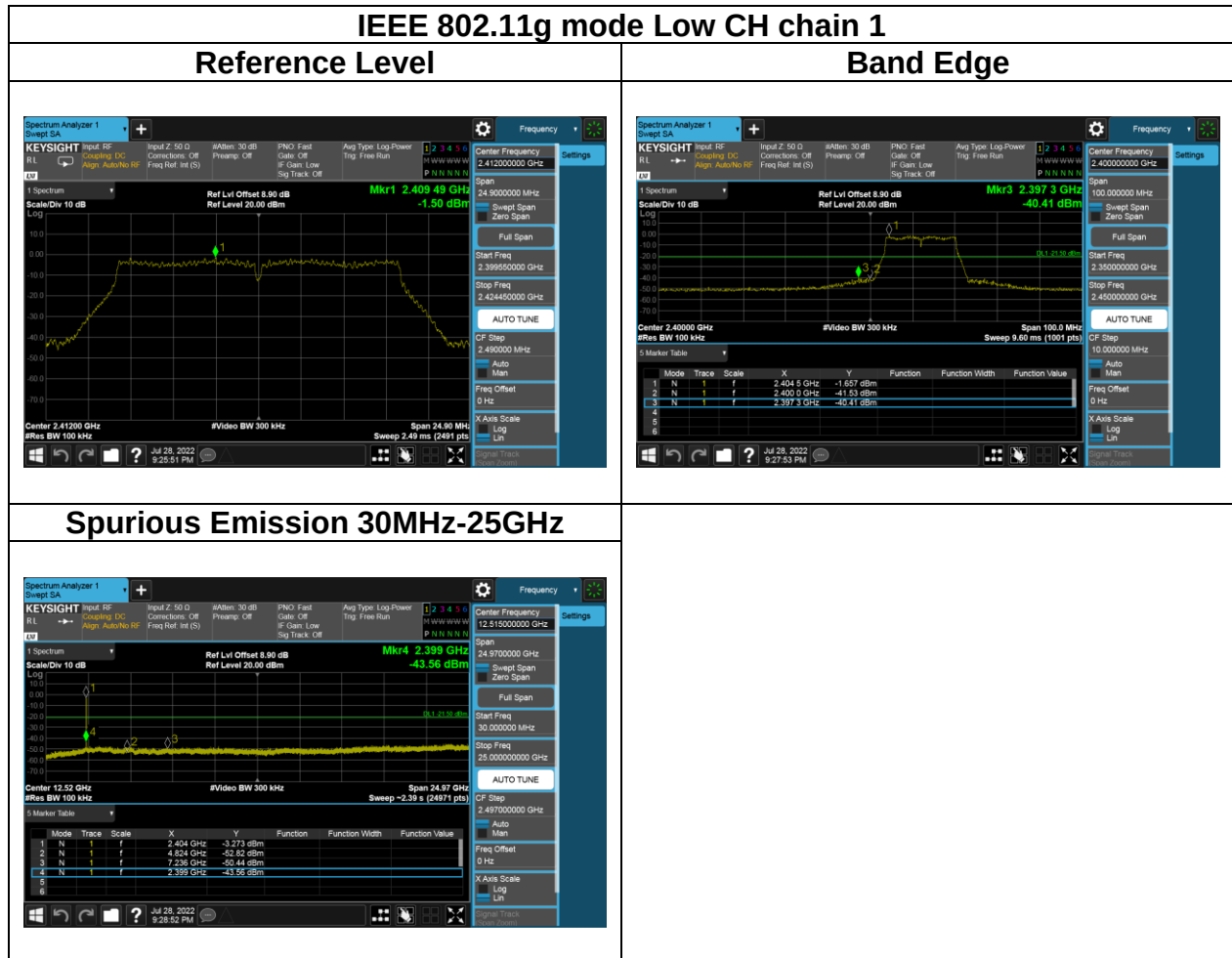


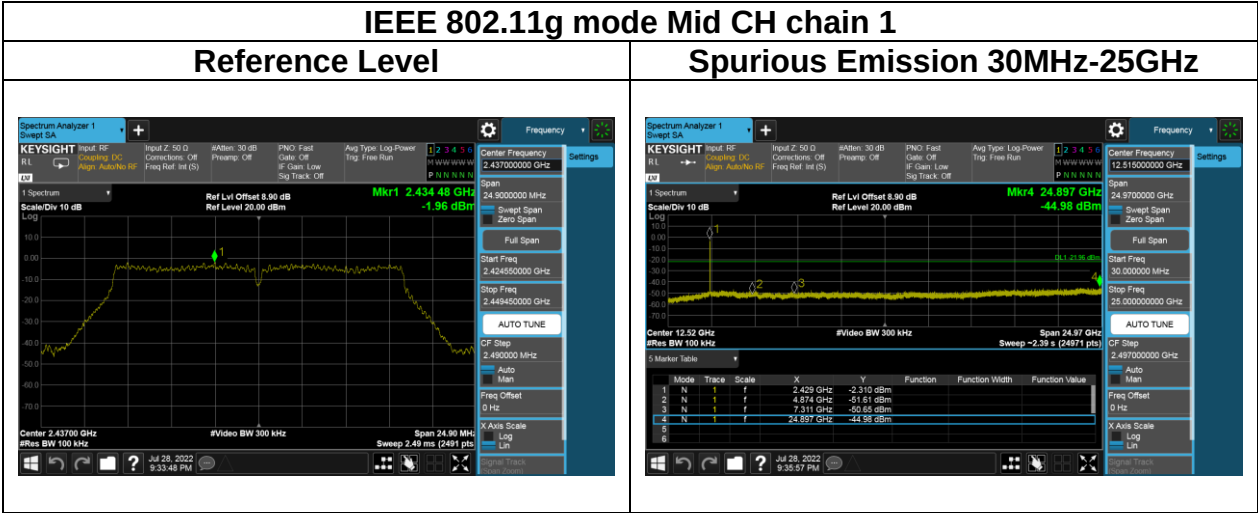
Report No.: TMWK2207002922KR

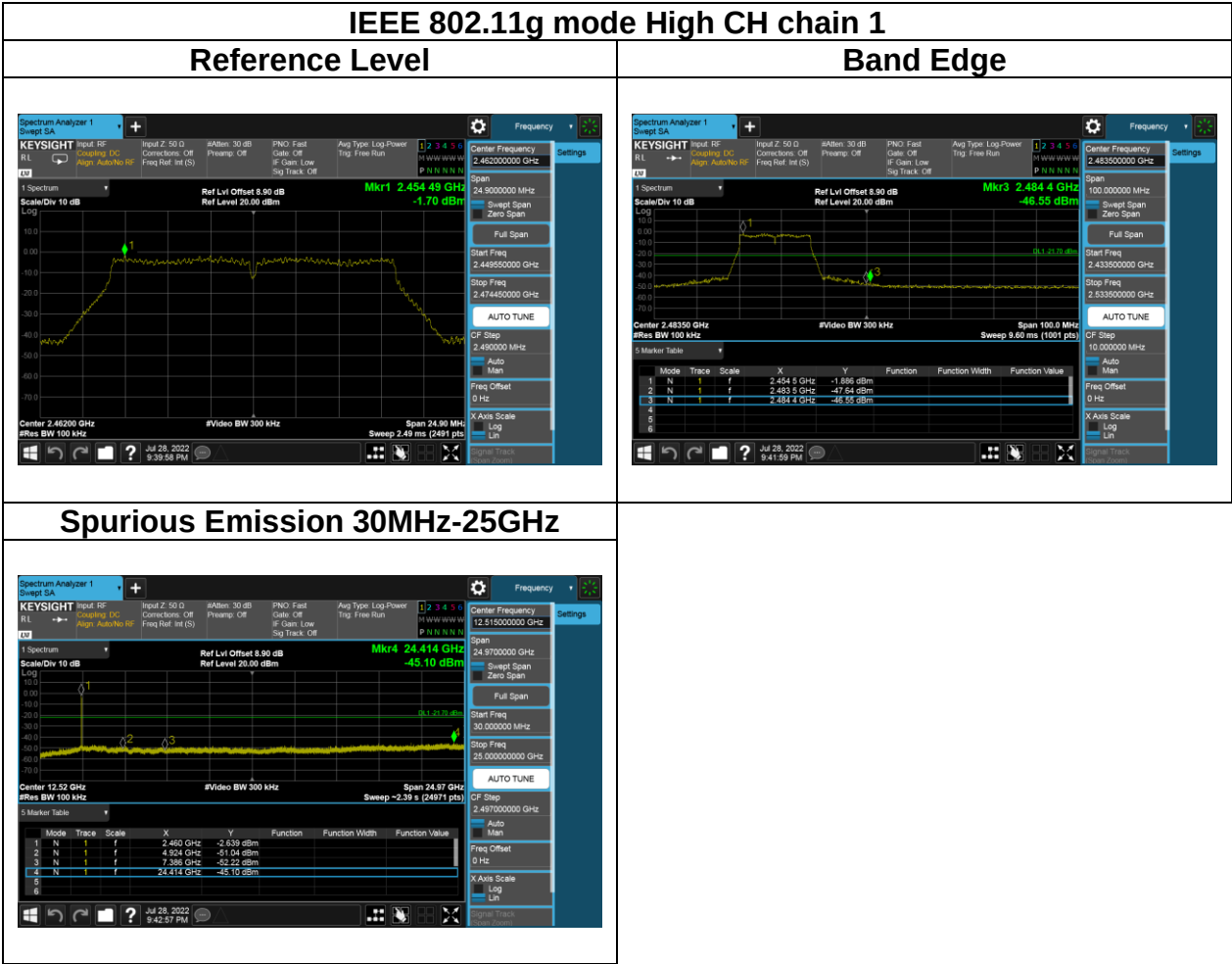




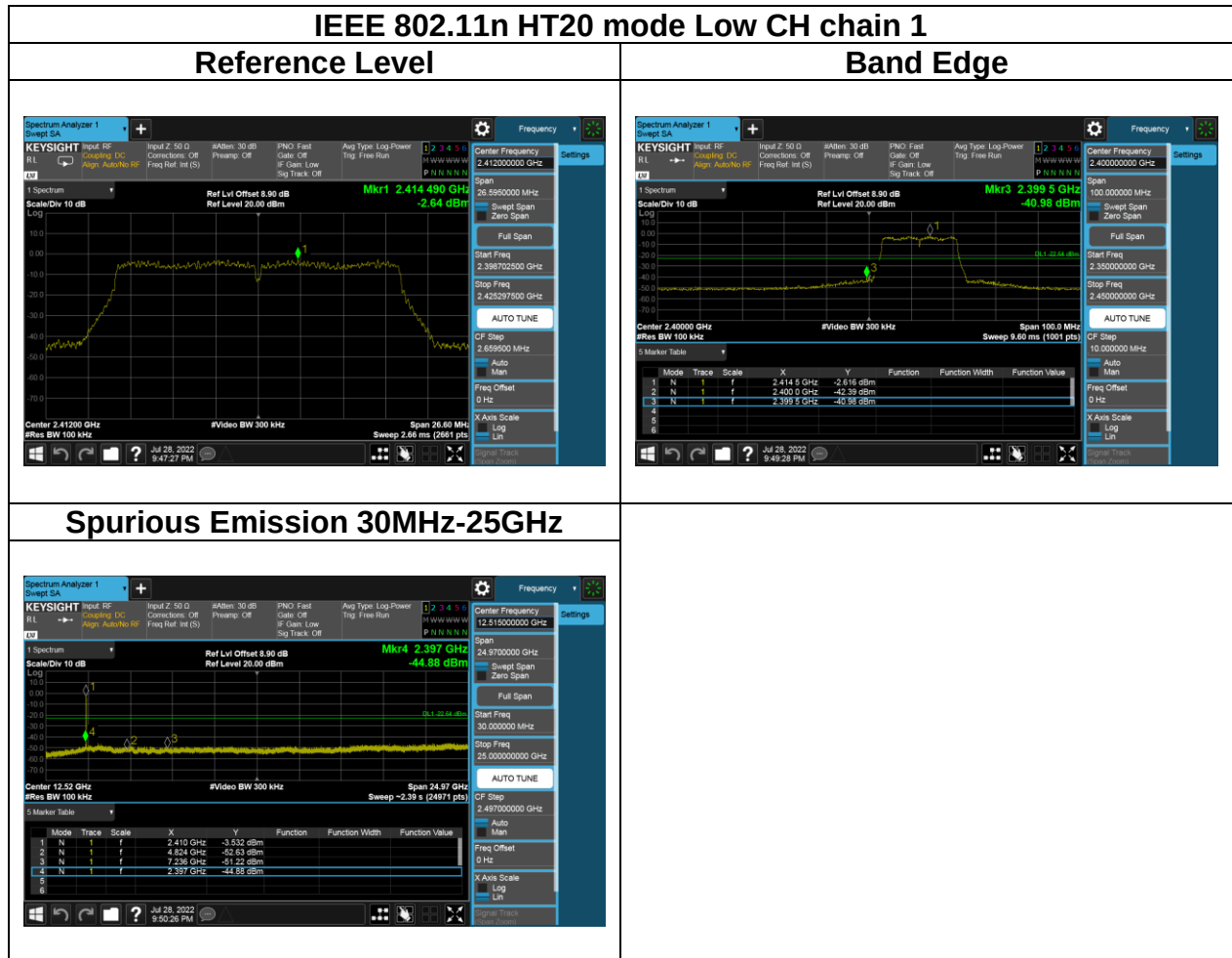


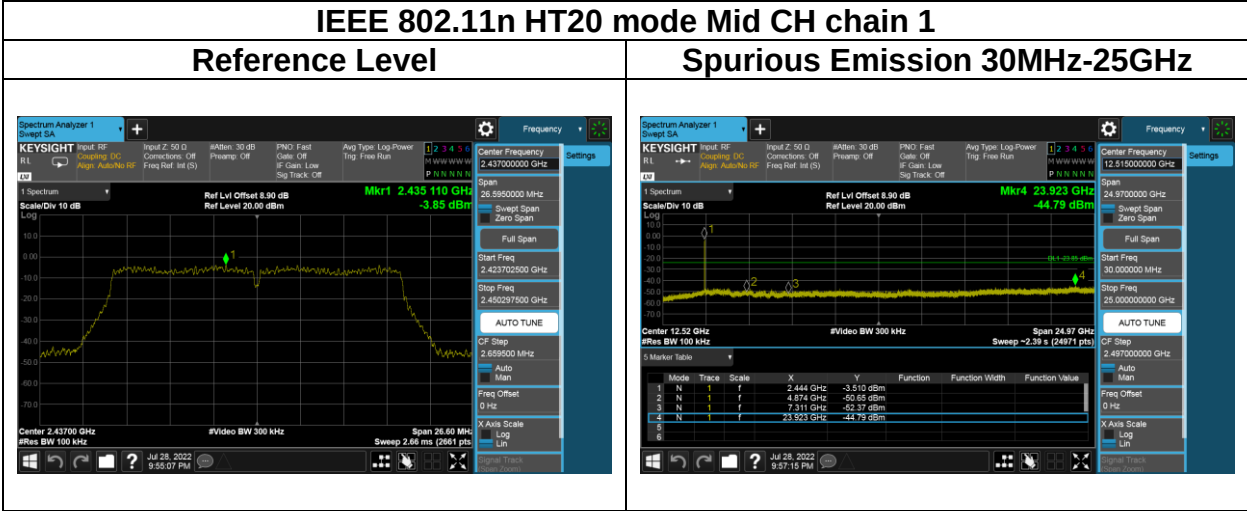




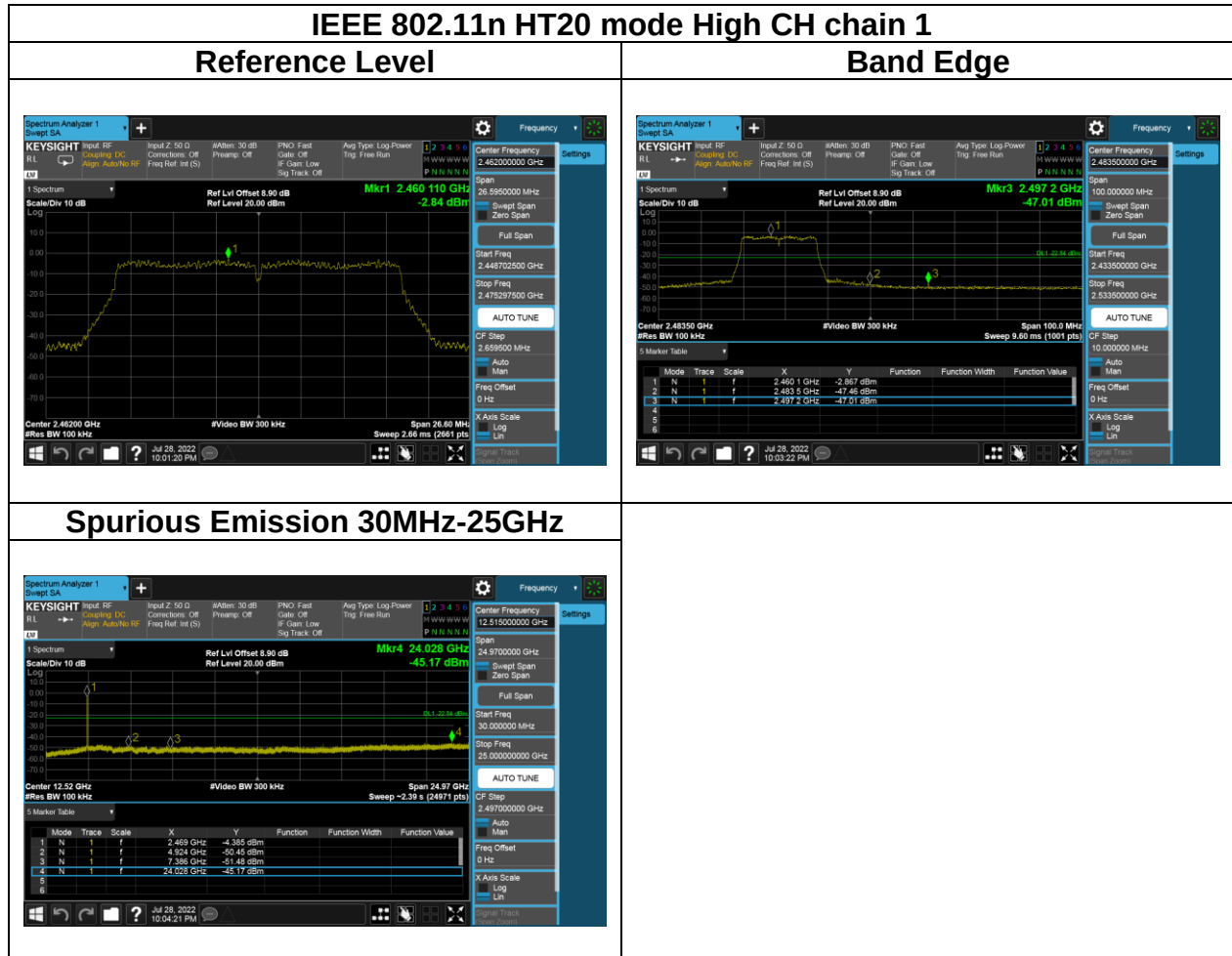


Spurious Emission 30MHz-25GHz





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4.6 RADIATION BANDEGE AND SPURIOUS EMISSION

4.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Above 30 MHz

Frequency	Field Strength (microvolts/m)	Measurement Distance (metres)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

4.6.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.

3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

Note: No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)

Remark:

- (1) Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
- (2) For IEEE 802.11 b/g function, it supports SISO mode only.

4. The SA setting following :

(1) Below 1G : RBW = 100kHz, VBW $\geq$ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.

(2) Above 1G :

(2.1) For Peak measurement : RBW = 1MHz, VBW $\geq$ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.

(2.2) For Average measurement : RBW = 1MHz, VBW

·If Duty Cycle $\geq$ 98%, VBW=10Hz.

·If Duty Cycle < 98%, VBW=1/T.

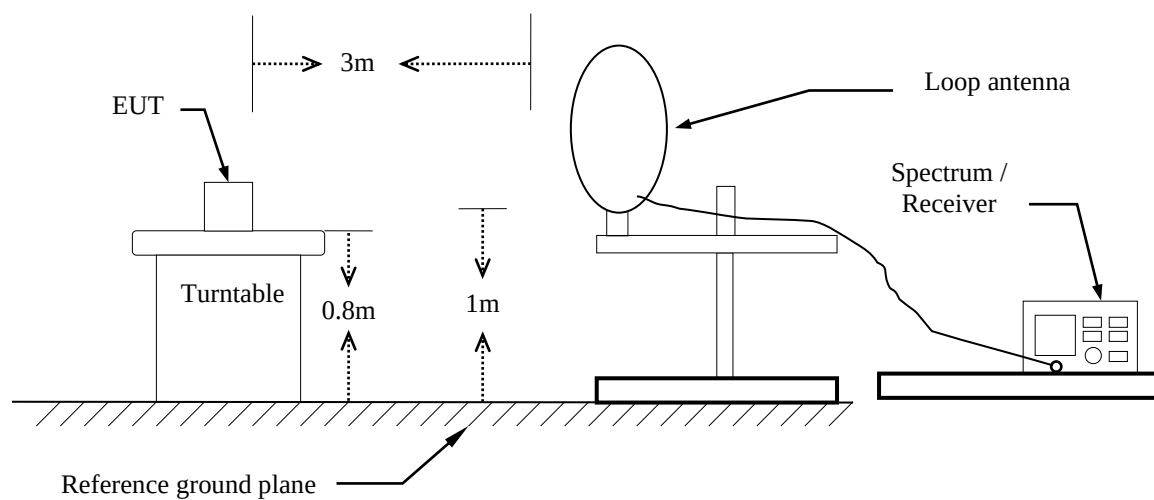
5. Data result :

Actual FS=Spectrum Reading Level + Factor

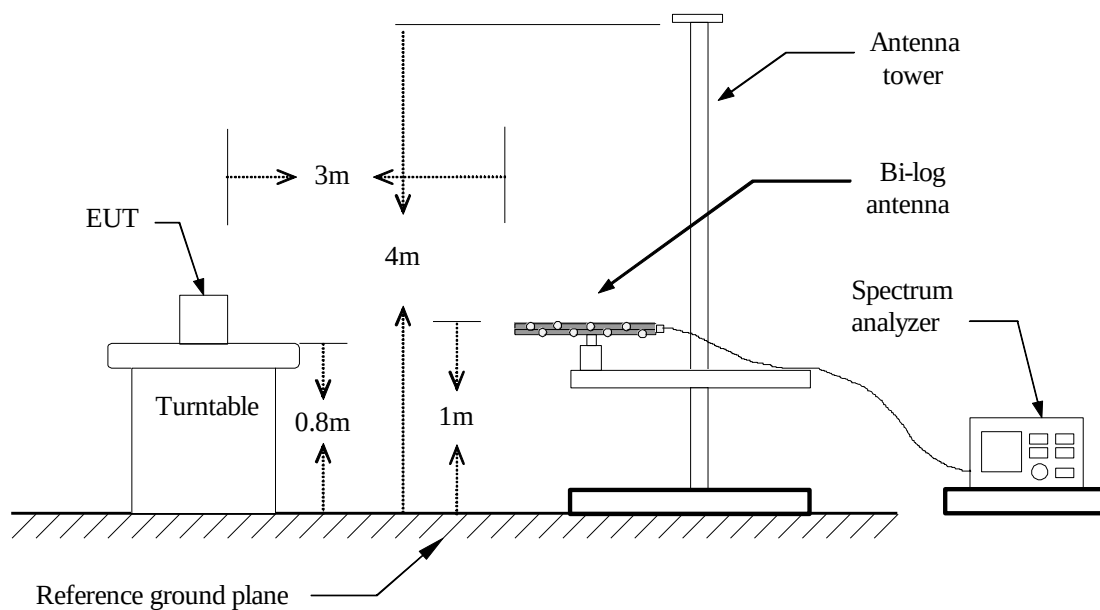
Margin=Actual FS- Limit

4.6.3 Test Setup

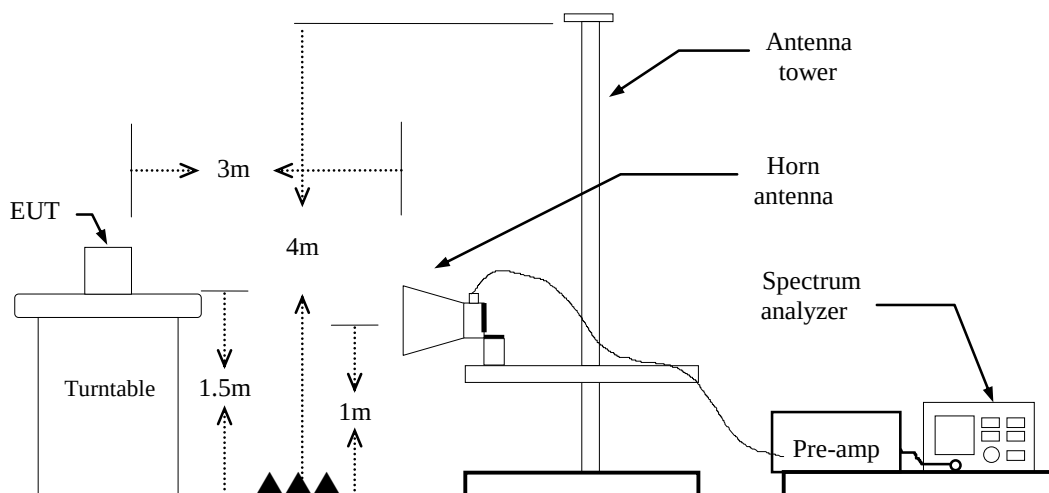
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz

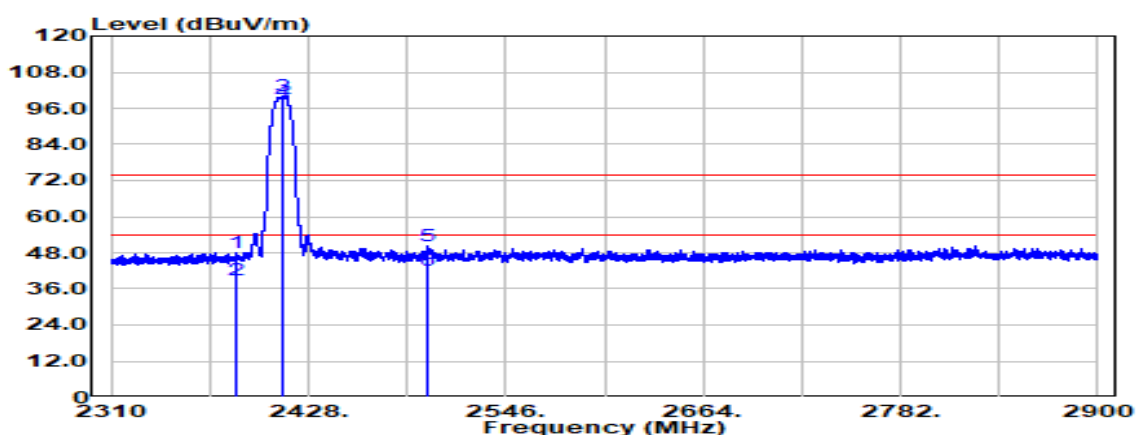


Report No.: TMWK2207002922KR

4.6.4 Test Result

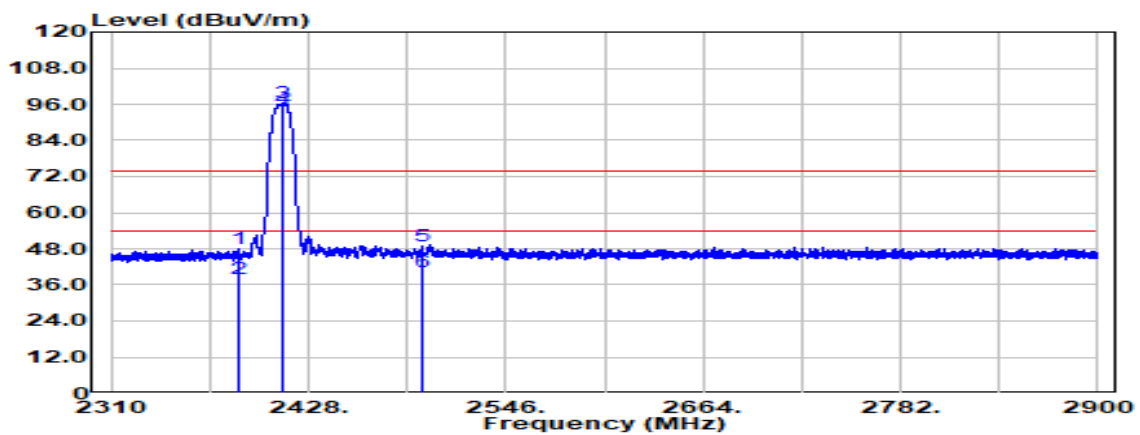
Band Edge Test Data

Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



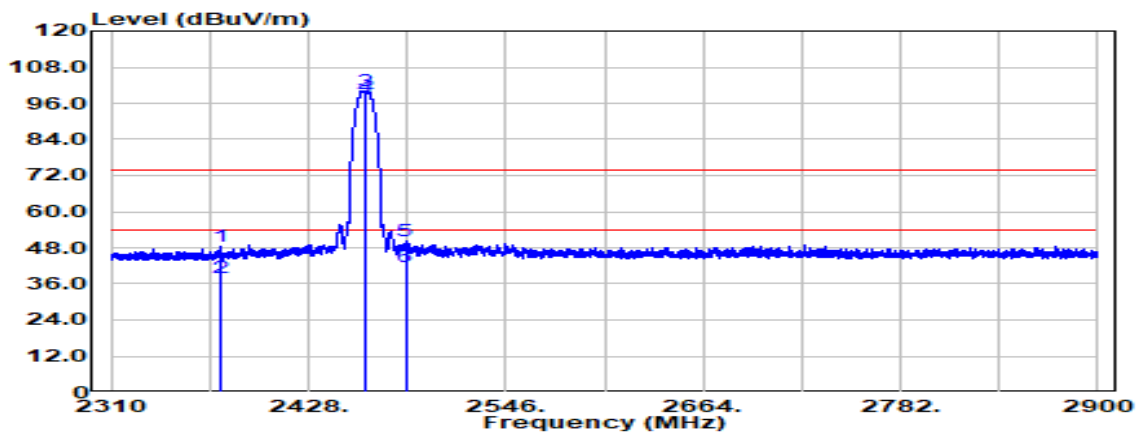
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2385.284	Peak	40.32	7.74	48.06	74.00	-25.94
2385.284	Average	31.39	7.74	39.12	54.00	-14.88
2412.000	Peak	92.20	7.86	100.06	--	--
2412.000	Average	90.41	7.86	98.27	--	--
2499.626	Peak	41.76	8.34	50.10	74.00	-23.90
2499.626	Average	33.88	8.34	42.22	54.00	-11.78

Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



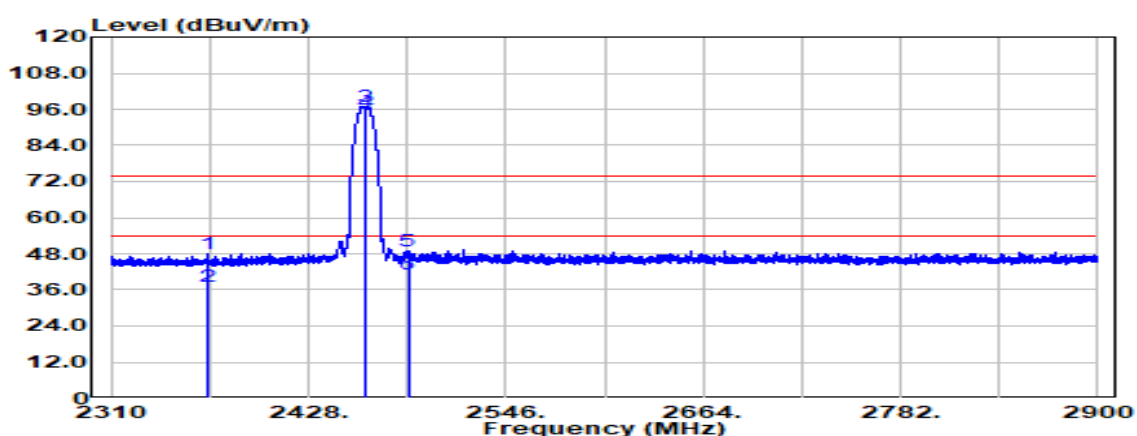
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2385.874	Peak	40.20	7.74	47.94	74.00	-26.06
2385.874	Average	30.38	7.74	38.13	54.00	-15.87
2412.000	Peak	88.52	7.86	96.38	--	--
2412.000	Average	86.73	7.86	94.59	--	--
2495.850	Peak	40.59	8.32	48.91	74.00	-25.09
2495.850	Average	32.05	8.32	40.37	54.00	-13.63

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



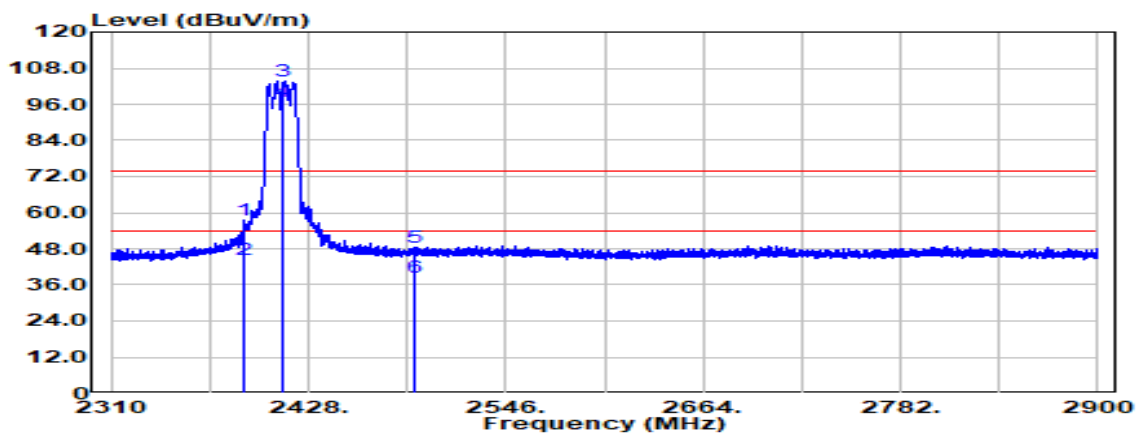
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
2375.490	Peak	40.54	7.71	48.25	74.00	-25.75
2375.490	Average	30.30	7.71	38.01	54.00	-15.99
2462.000	Peak	92.02	8.16	100.18	--	--
2462.000	Average	90.23	8.16	98.39	--	--
2486.056	Peak	41.79	8.27	50.06	74.00	-23.94
2486.056	Average	33.49	8.27	41.77	54.00	-12.23

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



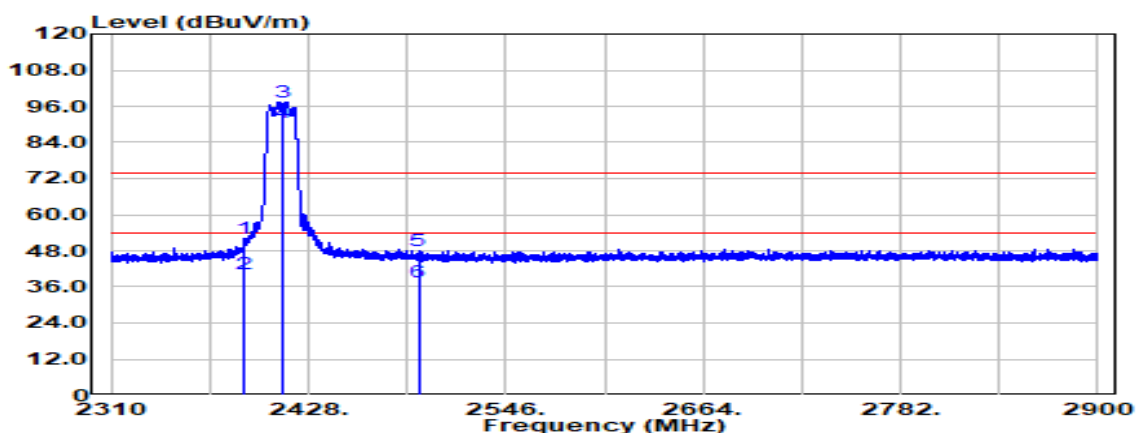
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
2368.056	Peak	40.31	7.69	48.00	74.00	-26.00
2368.056	Average	29.53	7.69	37.22	54.00	-16.78
2462.000	Peak	88.90	8.16	97.06	--	--
2462.000	Average	87.12	8.16	95.27	--	--
2487.590	Peak	40.82	8.28	49.10	74.00	-24.90
2487.590	Average	32.81	8.28	41.09	54.00	-12.91

Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



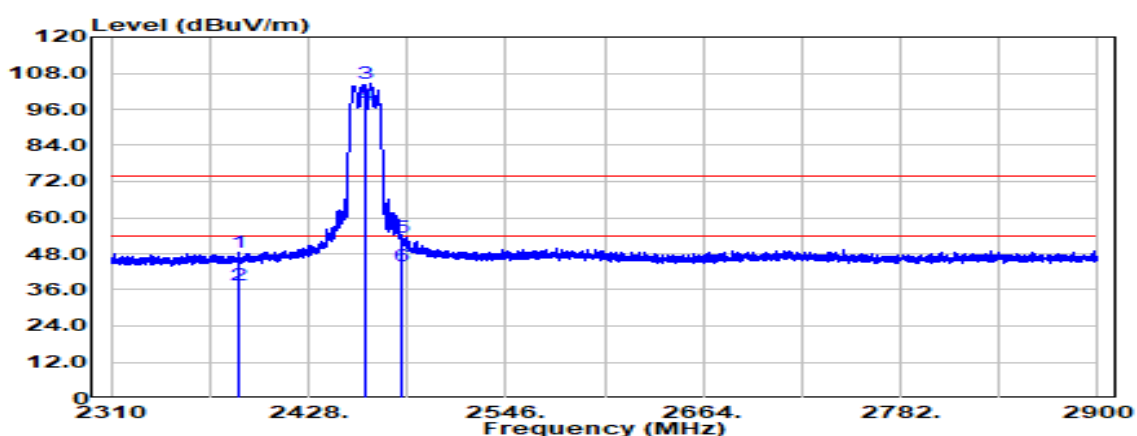
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2389.650	Peak	49.68	7.75	57.43	74.00	-16.57
2389.650	Average	36.77	7.75	44.52	54.00	-9.48
2412.000	Peak	95.82	7.86	103.68	--	--
2412.000	Average	89.23	7.86	97.09	--	--
2491.720	Peak	40.20	8.30	48.50	74.00	-25.50
2491.720	Average	30.12	8.30	38.42	54.00	-15.58

Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



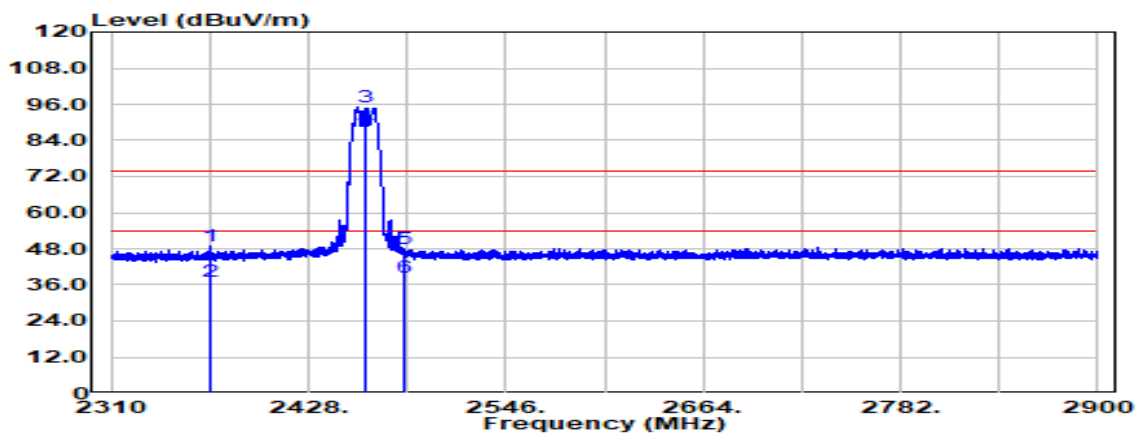
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2389.768	Peak	44.24	7.75	52.00	74.00	-22.00
2389.768	Average	32.74	7.75	40.50	54.00	-13.50
2412.000	Peak	89.73	7.86	97.58	--	--
2412.000	Average	82.91	7.86	90.77	--	--
2493.726	Peak	39.92	8.31	48.23	74.00	-25.77
2493.726	Average	29.27	8.31	37.58	54.00	-16.42

Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



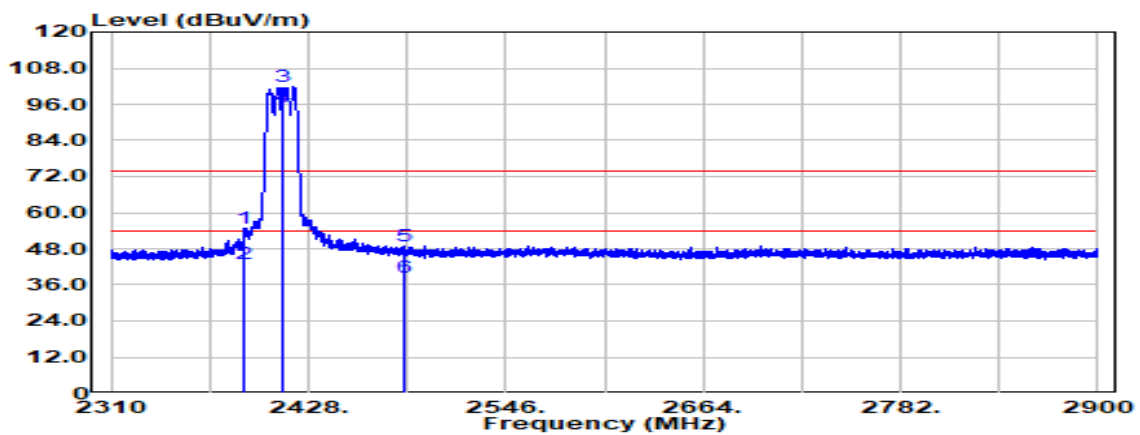
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
2386.228	Peak	40.73	7.74	48.47	74.00	-25.53
2386.228	Average	30.01	7.74	37.75	54.00	-16.25
2462.000	Peak	96.33	8.16	104.49	--	--
2462.000	Average	89.17	8.16	97.33	--	--
2484.286	Peak	45.08	8.26	53.35	74.00	-20.65
2484.286	Average	35.57	8.26	43.84	54.00	-10.16

Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak & Average		



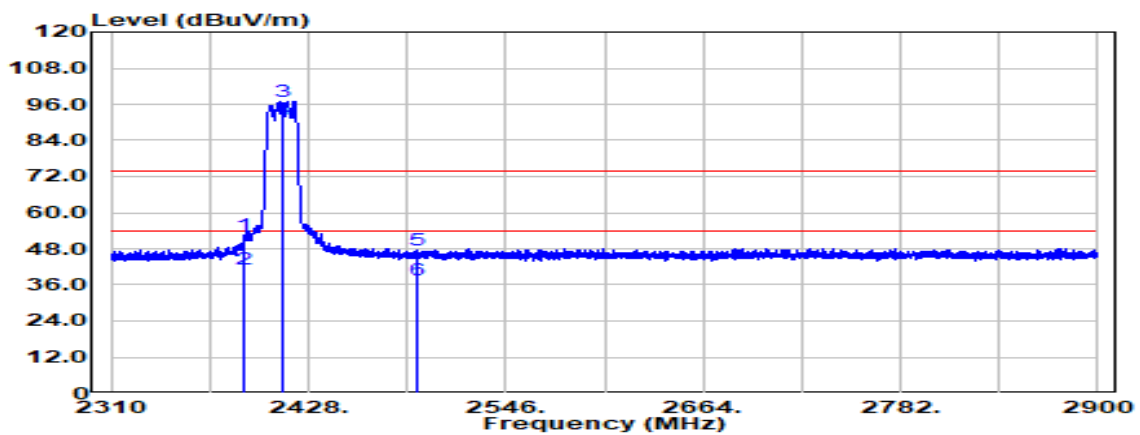
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2369.590	Peak	41.04	7.69	48.73	74.00	-25.27
2369.590	Average	29.48	7.69	37.18	54.00	-16.82
2462.000	Peak	86.96	8.16	95.12	--	--
2462.000	Average	80.00	8.16	88.16	--	--
2485.466	Peak	39.62	8.27	47.89	74.00	-26.11
2485.466	Average	30.13	8.27	38.40	54.00	-15.60

Test Mode	IEEE 802.11n HT20 Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2389.768	Peak	47.01	7.75	54.76	74.00	-19.24
2389.768	Average	35.29	7.75	43.04	54.00	-10.96
2412.000	Peak	93.98	7.86	101.84	--	--
2412.000	Average	87.35	7.86	95.21	--	--
2485.348	Peak	40.58	8.27	48.85	74.00	-25.15
2485.348	Average	30.17	8.27	38.44	54.00	-15.56

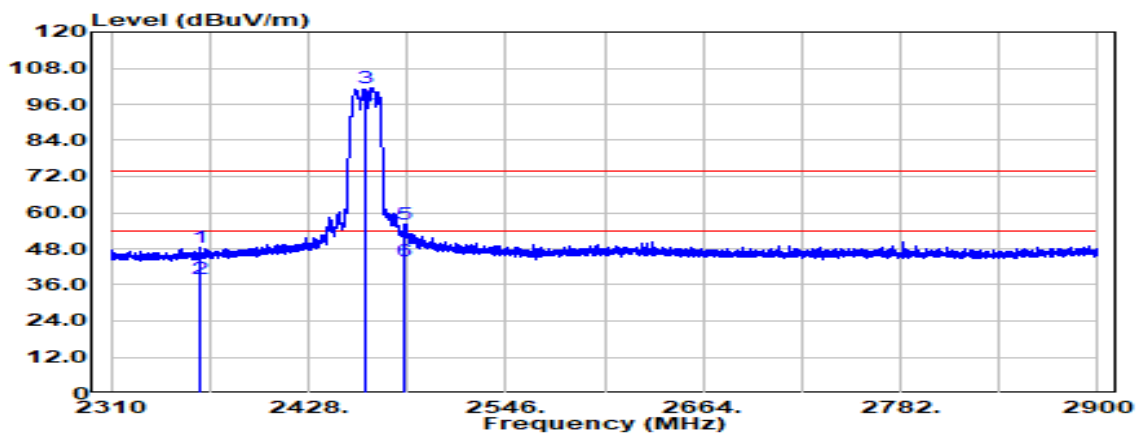
Test Mode	IEEE 802.11 n20 Low CH 2412MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2389.768	Peak	44.71	7.75	52.46	74.00	-21.54
2389.768	Average	33.50	7.75	41.25	54.00	-12.75
2412.000	Peak	89.27	7.86	97.12	--	--
2412.000	Average	83.04	7.86	90.90	--	--
2492.664	Peak	39.41	8.30	47.71	74.00	-26.29
2492.664	Average	29.25	8.30	37.55	54.00	-16.45

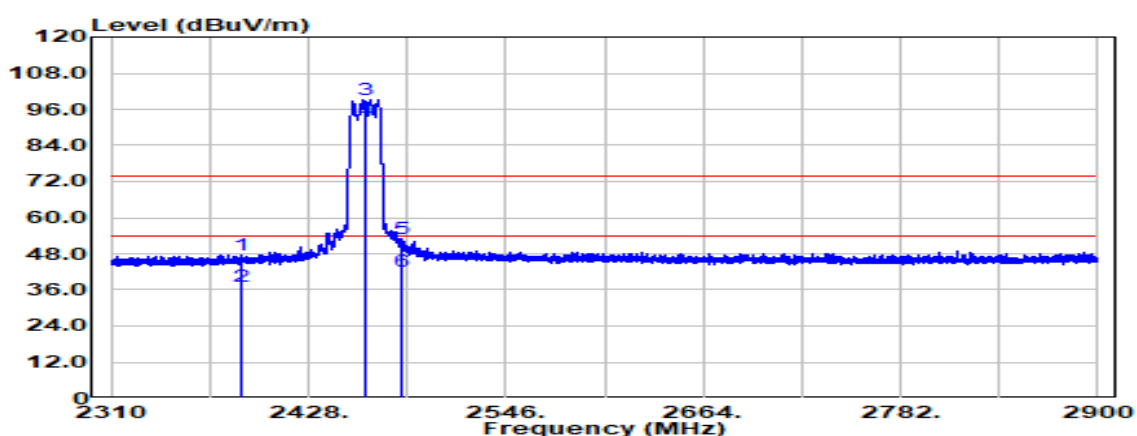
Report No.: TMWK2207002922KR

Test Mode	IEEE 802.11n HT20 High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2363.100	Peak	40.71	7.68	48.38	74.00	-25.62
2363.100	Average	30.38	7.68	38.06	54.00	-15.94
2462.000	Peak	93.49	8.16	101.64	--	--
2462.000	Average	86.94	8.16	95.10	--	--
2485.938	Peak	47.93	8.27	56.20	74.00	-17.80
2485.938	Average	35.86	8.27	44.13	54.00	-9.87

Test Mode	IEEE 802.11n20 High CH 2462MHz	Temp/Hum	24.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	August 8, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

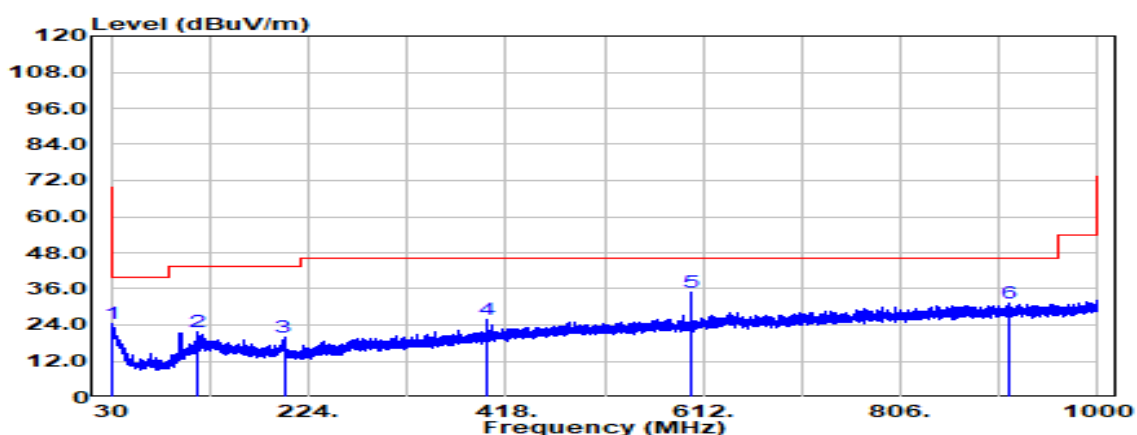


Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2388.588	Peak	39.87	7.75	47.62	74.00	-26.38
2388.588	Average	29.44	7.75	37.19	54.00	-16.81
2462.000	Peak	91.21	8.16	99.37	--	--
2462.000	Average	84.01	8.16	92.17	--	--
2483.696	Peak	44.76	8.26	53.02	74.00	-20.98
2483.696	Average	33.77	8.26	42.03	54.00	-11.97

Report No.: TMWK2207002922KR

Below 1G Test Data

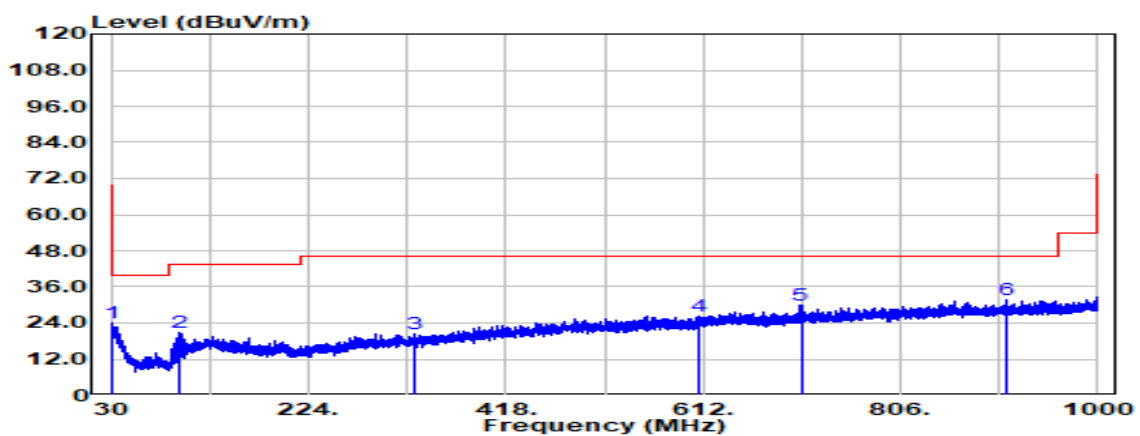
Test Mode	IEEE 802.11b / 2412 MHz	Temp/Hum	24.1(°C)/ 62%RH
Test Item	30MHz-1GHz	Test Date	August 12, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
31.940	Peak	28.26	-3.73	24.53	40.00	-15.47
115.603	Peak	31.60	-9.88	21.72	43.50	-21.78
199.993	Peak	30.05	-9.90	20.15	43.50	-23.35
400.055	Peak	31.70	-5.97	25.73	46.00	-20.27
599.996	Peak	37.60	-2.66	34.94	46.00	-11.06
912.579	Peak	28.79	2.58	31.37	46.00	-14.63

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

Test Mode	IEEE 802.11b / 2412 MHz	Temp/Hum	24.1(°C)/ 62%RH
Test Item	30MHz-1GHz	Test Date	August 12, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



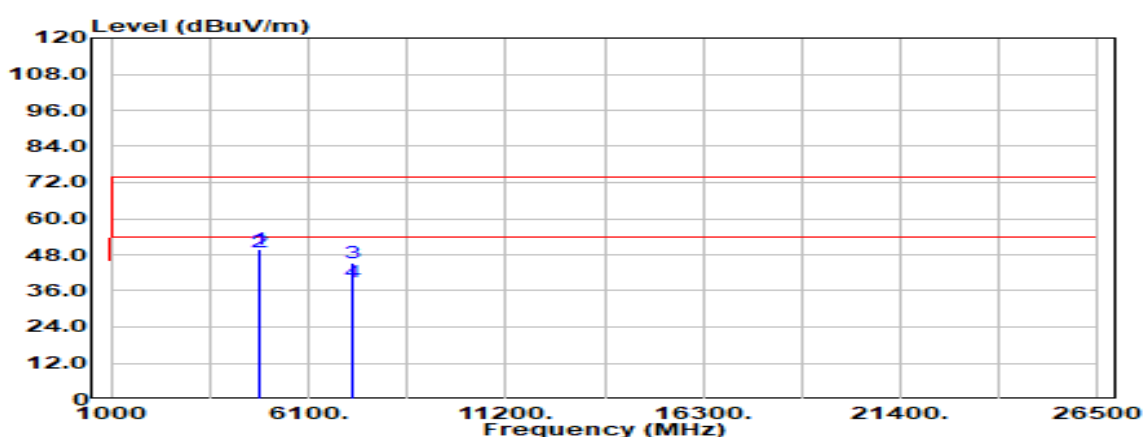
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
31.940	Peak	27.84	-3.73	24.11	40.00	-15.89
97.658	Peak	34.63	-13.76	20.87	43.50	-22.63
328.881	Peak	28.78	-8.22	20.57	46.00	-25.43
607.393	Peak	28.42	-2.19	26.23	46.00	-19.77
708.151	Peak	29.90	-0.17	29.73	46.00	-16.27
910.154	Peak	28.94	2.54	31.48	46.00	-14.52

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

Report No.: TMWK2207002922KR

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		

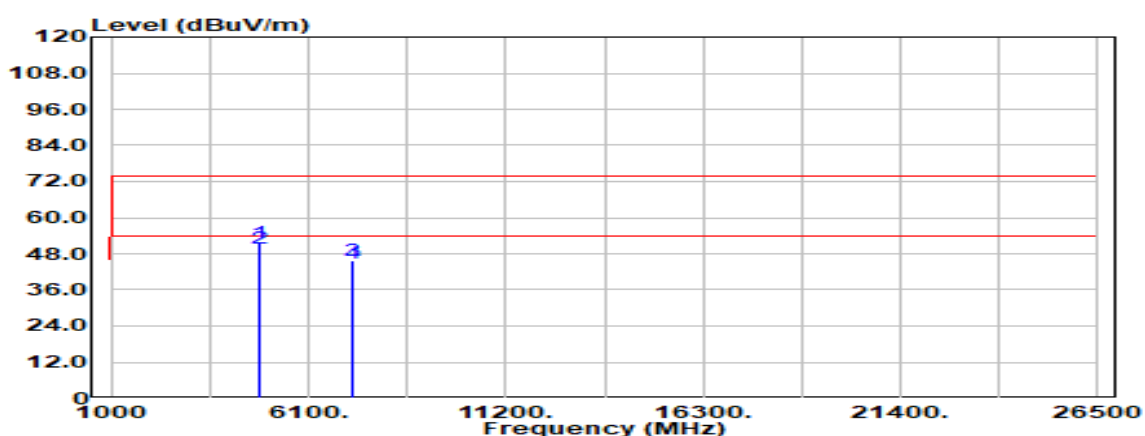


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4824.000	Peak	43.92	5.90	49.82	74.00	-24.18
4824.000	Average	42.87	5.90	48.77	54.00	-5.23
7236.000	Peak	32.13	13.31	45.45	74.00	-28.55
7236.000	Average	25.43	13.31	38.74	54.00	-15.26
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

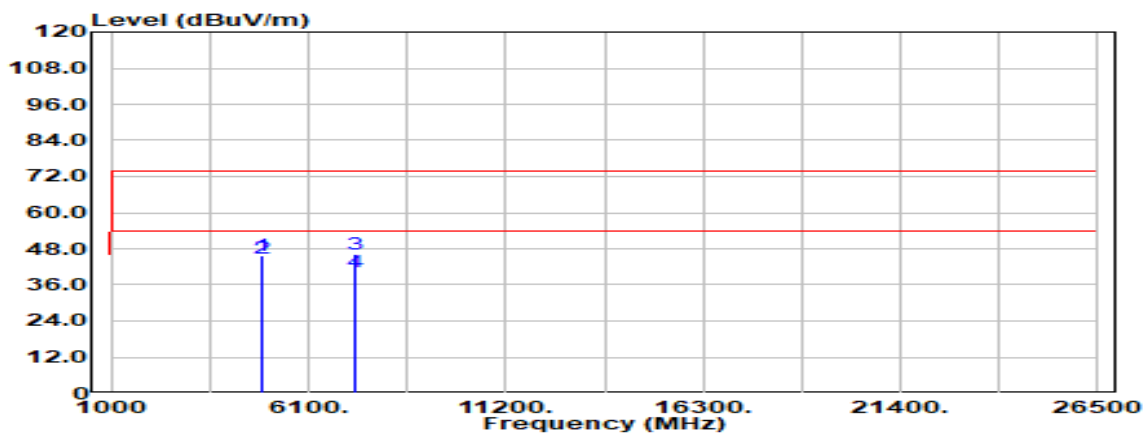


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4824.000	Peak	45.82	5.90	51.72	74.00	-22.28
4824.000	Average	44.08	5.90	49.98	54.00	-4.02
7236.000	Peak	32.41	13.31	45.72	74.00	-28.28
7236.000	Average	31.36	13.31	44.67	54.00	-9.33
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

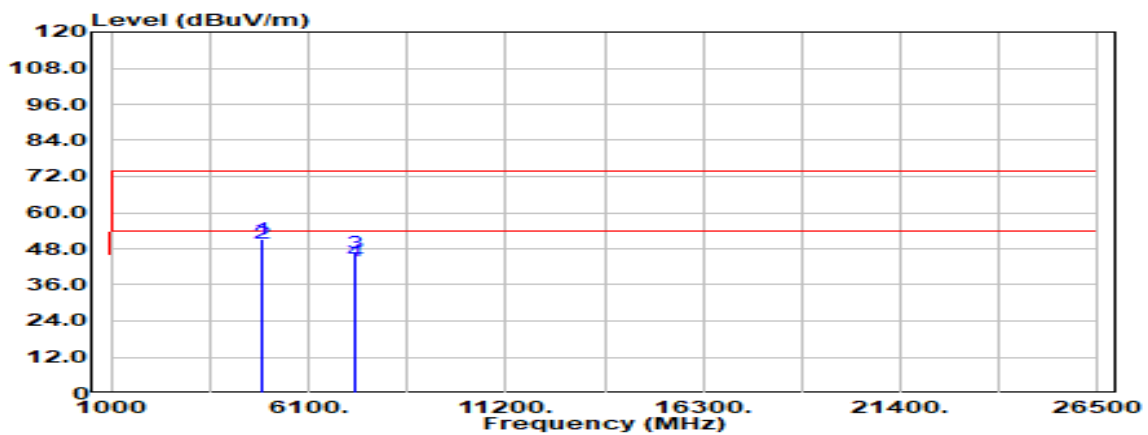


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	39.71	6.09	45.79	74.00	-28.21
4874.000	Average	38.64	6.09	44.72	54.00	-9.28
7311.000	Peak	32.74	13.33	46.07	74.00	-27.93
7311.000	Average	26.99	13.33	40.33	54.00	-13.67
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

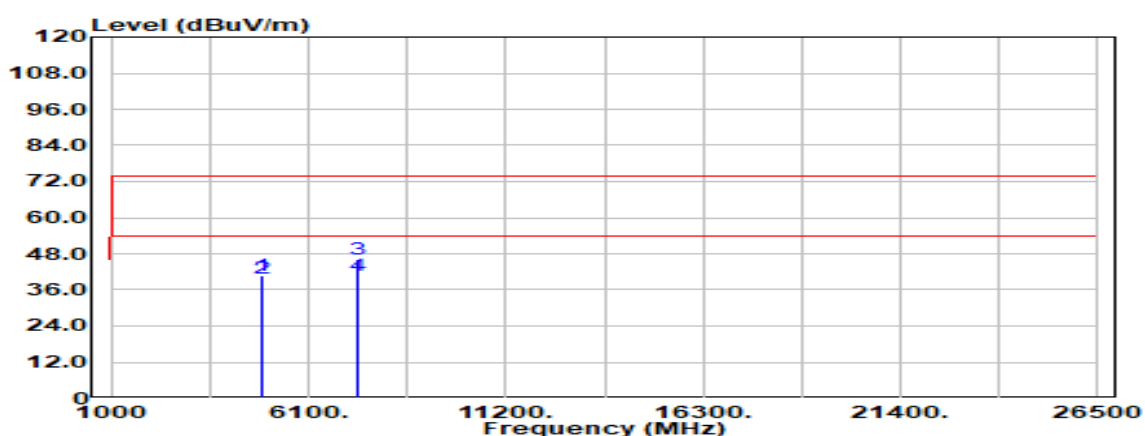


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	45.12	6.09	51.21	74.00	-22.79
4874.000	Average	43.60	6.09	49.69	54.00	-4.31
7311.000	Peak	33.41	13.33	46.74	74.00	-27.26
7311.000	Average	30.68	13.33	44.02	54.00	-9.98
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

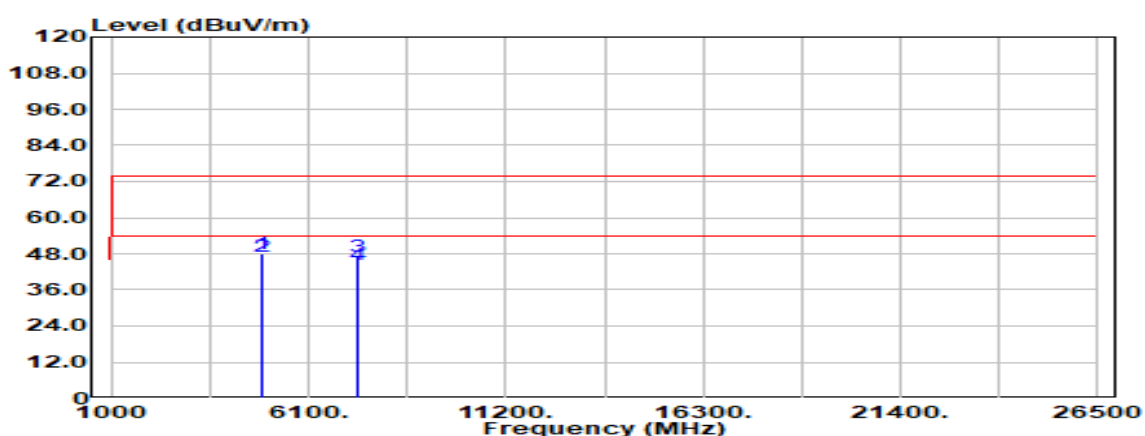


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4924.000	Peak	34.28	6.53	40.80	74.00	-33.20
4924.000	Average	33.13	6.53	39.66	54.00	-14.34
7386.000	Peak	33.03	13.33	46.36	74.00	-27.64
7386.000	Average	27.46	13.33	40.79	54.00	-13.21
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

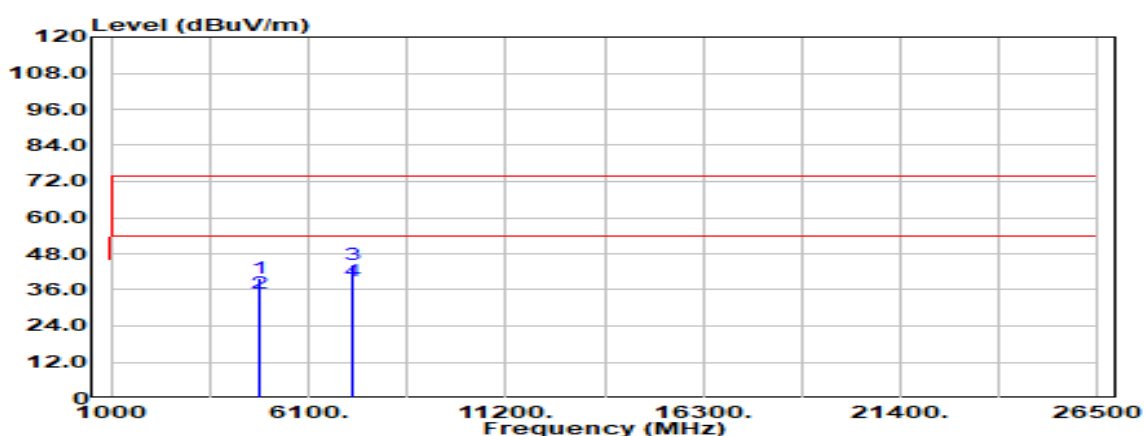


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4924.000	Peak	41.51	6.53	48.04	74.00	-25.96
4924.000	Average	40.49	6.53	47.02	54.00	-6.98
7386.000	Peak	33.96	13.33	47.29	74.00	-26.71
7386.000	Average	30.87	13.33	44.20	54.00	-9.80
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



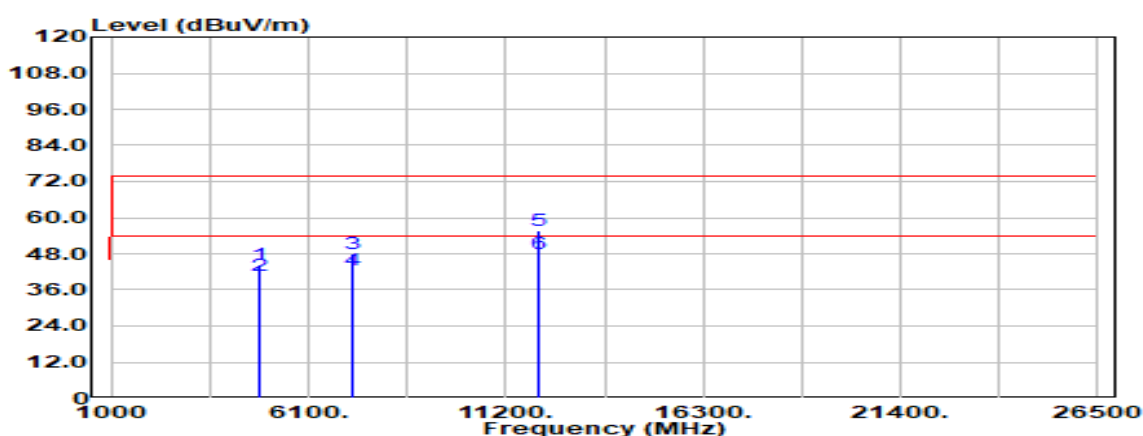
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4824.000	Peak	34.07	5.90	39.97	74.00	-34.03
4824.000	Average	28.90	5.90	34.80	54.00	-19.20
7236.000	Peak	31.28	13.31	44.59	74.00	-29.41
7236.000	Average	25.41	13.31	38.72	54.00	-15.28
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2207002922KR

Test Mode	IEEE 802.11g Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



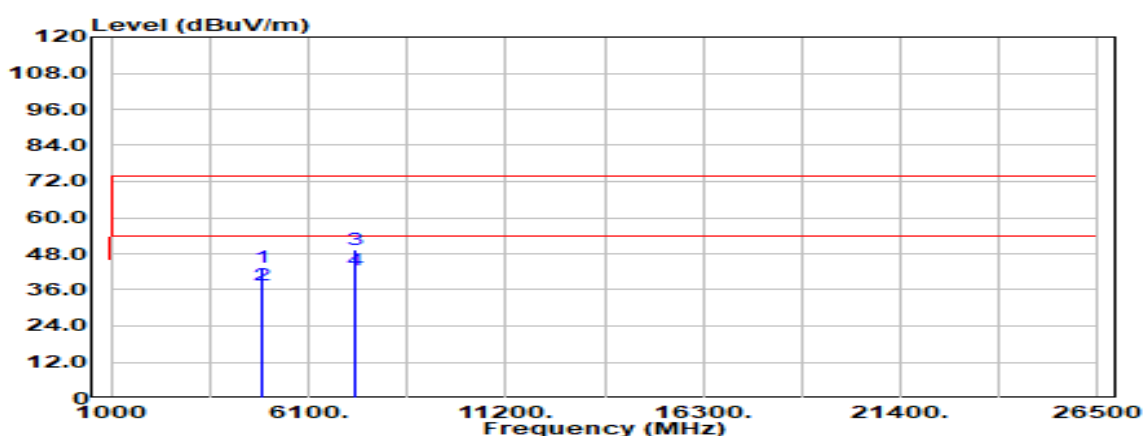
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4824.000	Peak	38.53	5.90	44.43	74.00	-29.57
4824.000	Average	34.71	5.90	40.61	54.00	-13.39
7236.000	Peak	34.54	13.31	47.85	74.00	-26.15
7236.000	Average	29.16	13.31	42.47	54.00	-11.53
12069.190	Peak	36.54	19.25	55.80	74.00	-18.20
12069.190	Average	28.88	19.25	48.13	54.00	-5.87

Remark:

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2207002922KR

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	37.49	6.09	43.58	74.00	-30.42
4874.000	Average	31.56	6.09	37.65	54.00	-16.35
7311.000	Peak	35.90	13.33	49.23	74.00	-24.77
7311.000	Average	29.08	13.33	42.41	54.00	-11.59
N/A						

Remark:

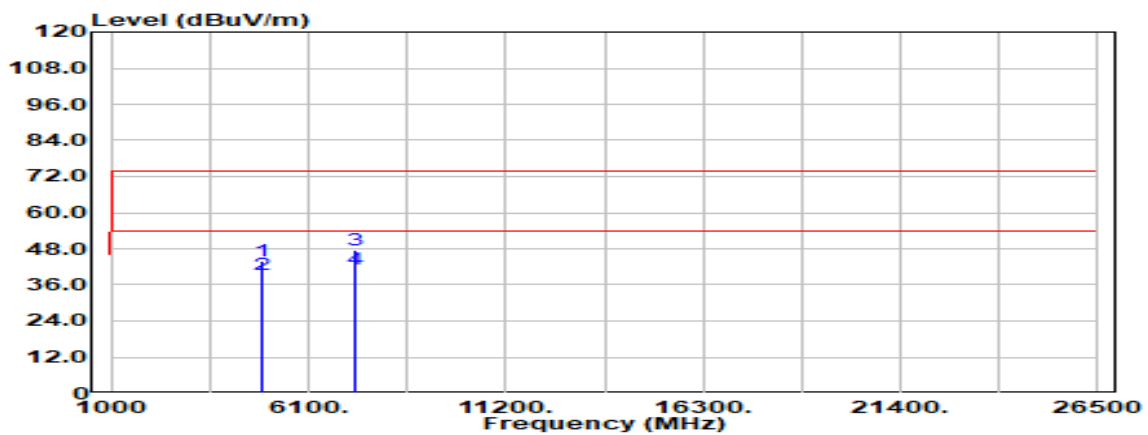
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.



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Test Mode	IEEE 802.11g Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

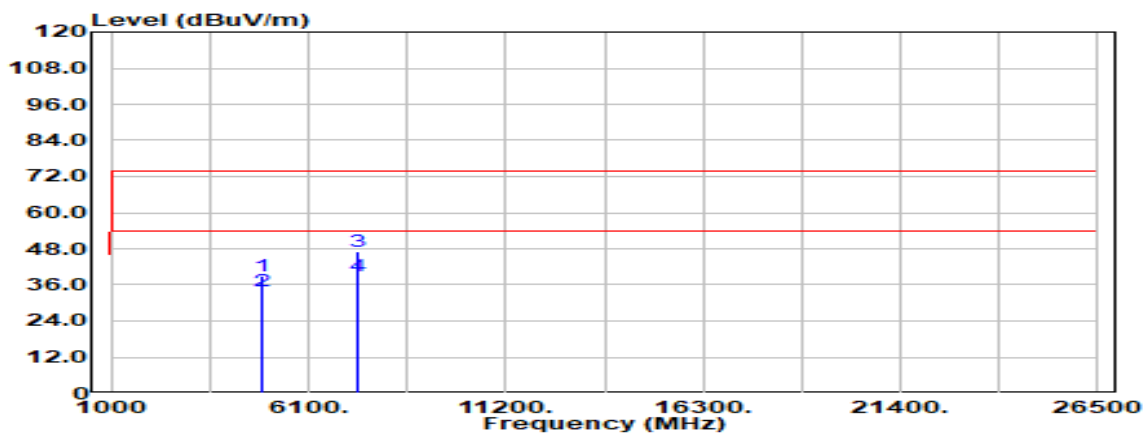


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	37.92	6.09	44.01	74.00	-29.99
4874.000	Average	33.21	6.09	39.30	54.00	-14.70
7311.000	Peak	34.27	13.33	47.60	74.00	-26.40
7311.000	Average	28.01	13.33	41.34	54.00	-12.66
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

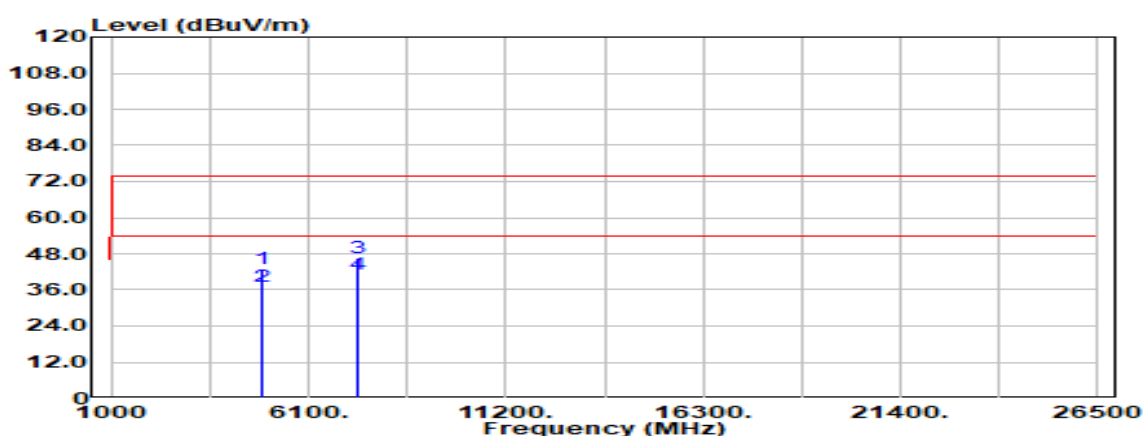


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4924.000	Peak	32.49	6.53	39.02	74.00	-34.98
4924.000	Average	27.39	6.53	33.92	54.00	-20.08
7386.000	Peak	33.72	13.33	47.05	74.00	-26.95
7386.000	Average	25.76	13.33	39.09	54.00	-14.91
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



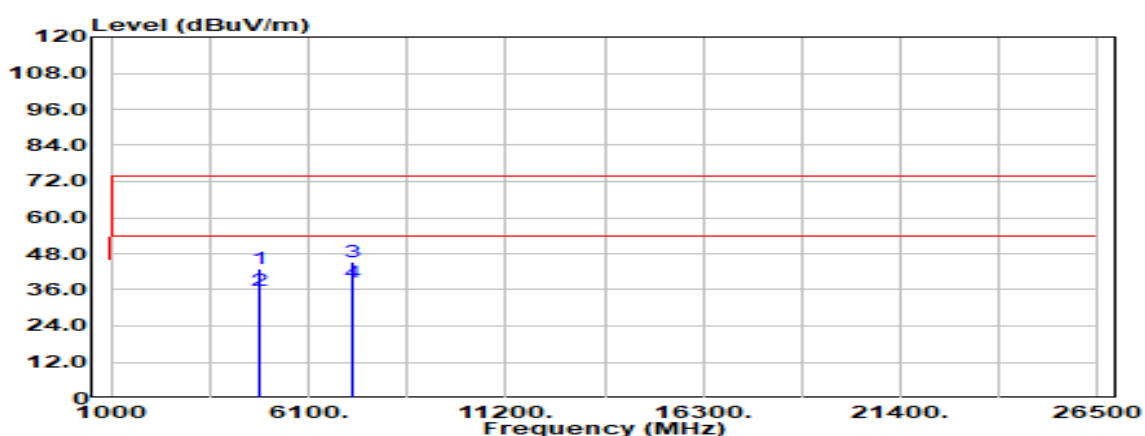
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBPV)	Factor (dB)	Actual FS (dBPV/m)	Limit @3m (dBPV/m)	Margin (dB)
4924.000	Peak	36.49	6.53	43.01	74.00	-30.99
4924.000	Average	30.64	6.53	37.17	54.00	-16.83
7386.000	Peak	33.38	13.33	46.71	74.00	-27.29
7386.000	Average	27.96	13.33	41.29	54.00	-12.71
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2207002922KR

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

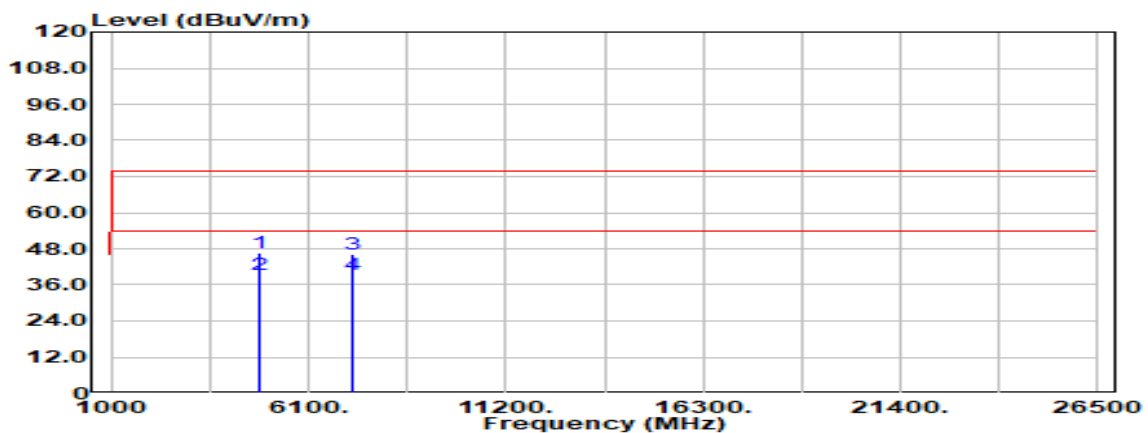


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4824.000	Peak	37.11	5.90	43.01	74.00	-30.99
4824.000	Average	29.92	5.90	35.82	54.00	-18.18
7236.000	Peak	31.91	13.31	45.22	74.00	-28.78
7236.000	Average	25.40	13.31	38.71	54.00	-15.29
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

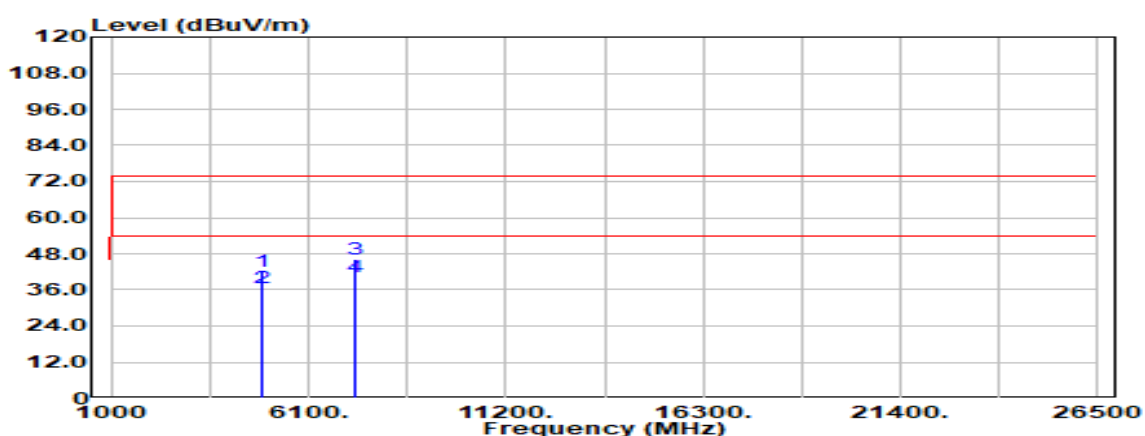


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4824.000	Peak	40.83	5.90	46.73	74.00	-27.27
4824.000	Average	33.64	5.90	39.53	54.00	-14.47
7236.000	Peak	32.70	13.31	46.01	74.00	-27.99
7236.000	Average	26.00	13.31	39.32	54.00	-14.68
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

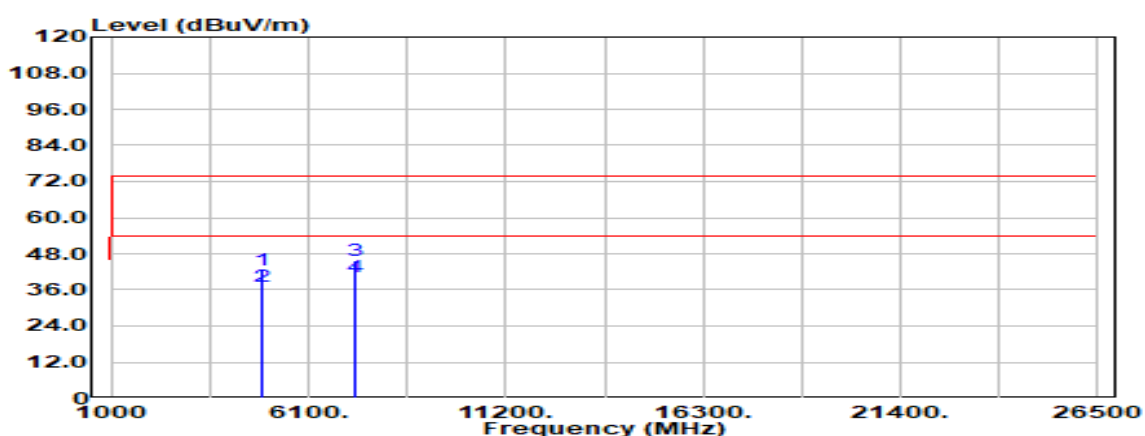


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	35.83	6.09	41.92	74.00	-32.08
4874.000	Average	30.72	6.09	36.81	54.00	-17.19
7311.000	Peak	32.76	13.33	46.09	74.00	-27.91
7311.000	Average	26.95	13.33	40.28	54.00	-13.72
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



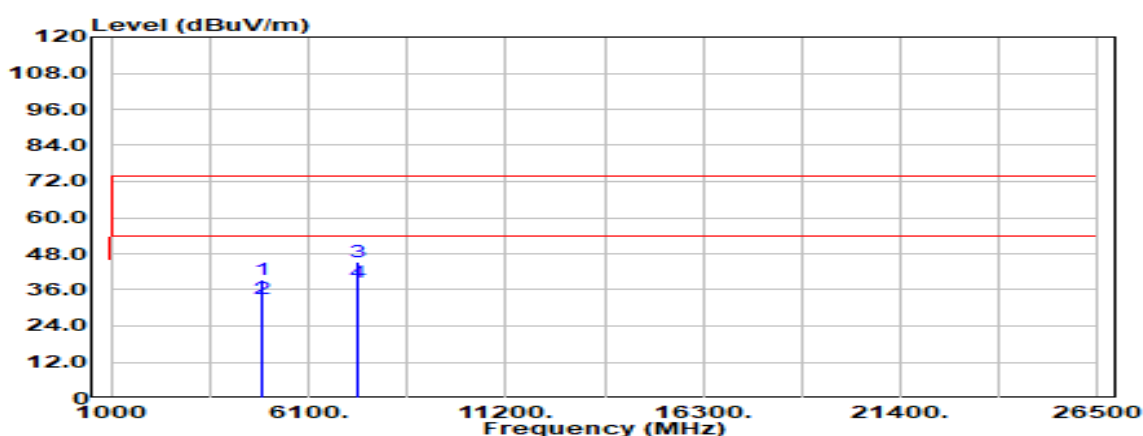
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4874.000	Peak	36.68	6.09	42.76	74.00	-31.24
4874.000	Average	31.19	6.09	37.28	54.00	-16.72
7311.000	Peak	32.23	13.33	45.56	74.00	-28.44
7311.000	Average	26.75	13.33	40.08	54.00	-13.92
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2207002922KR

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

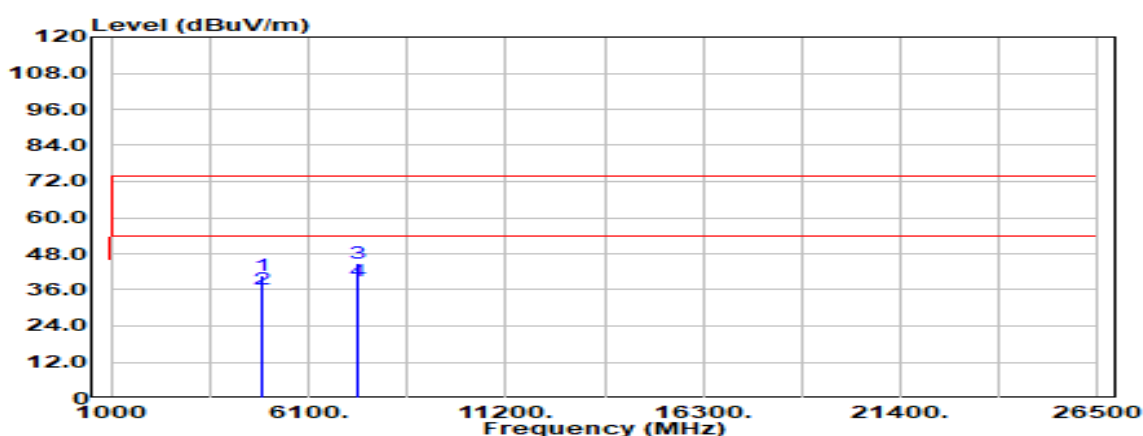


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBUV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBUV/m)	Margin (dB)
4924.000	Peak	32.97	6.53	39.50	74.00	-34.50
4924.000	Average	26.48	6.53	33.01	54.00	-20.99
7386.000	Peak	32.04	13.33	45.37	74.00	-28.63
7386.000	Average	24.94	13.33	38.27	54.00	-15.73
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	24.6(°C)/ 63%RH
Test Item	Harmonic	Test Date	August 10, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBUV/m)	Limit @3m (dBμV/m)	Margin (dB)
4924.000	Peak	34.24	6.53	40.77	74.00	-33.23
4924.000	Average	29.48	6.53	36.01	54.00	-17.99
7386.000	Peak	31.60	13.33	44.93	74.00	-29.07
7386.000	Average	25.42	13.33	38.75	54.00	-15.25
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

- End of Test Report -