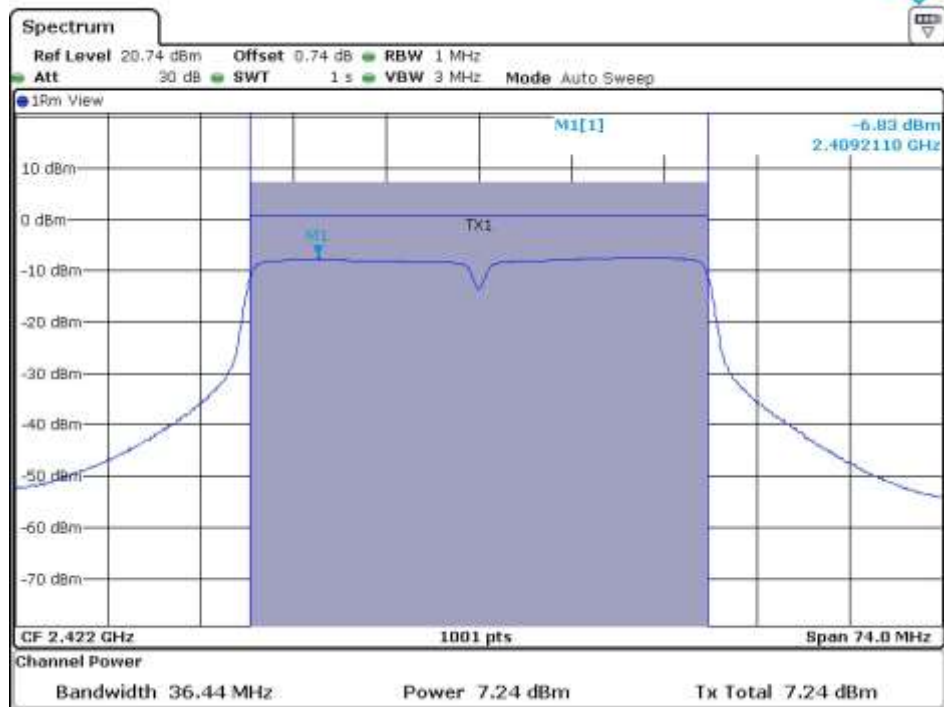
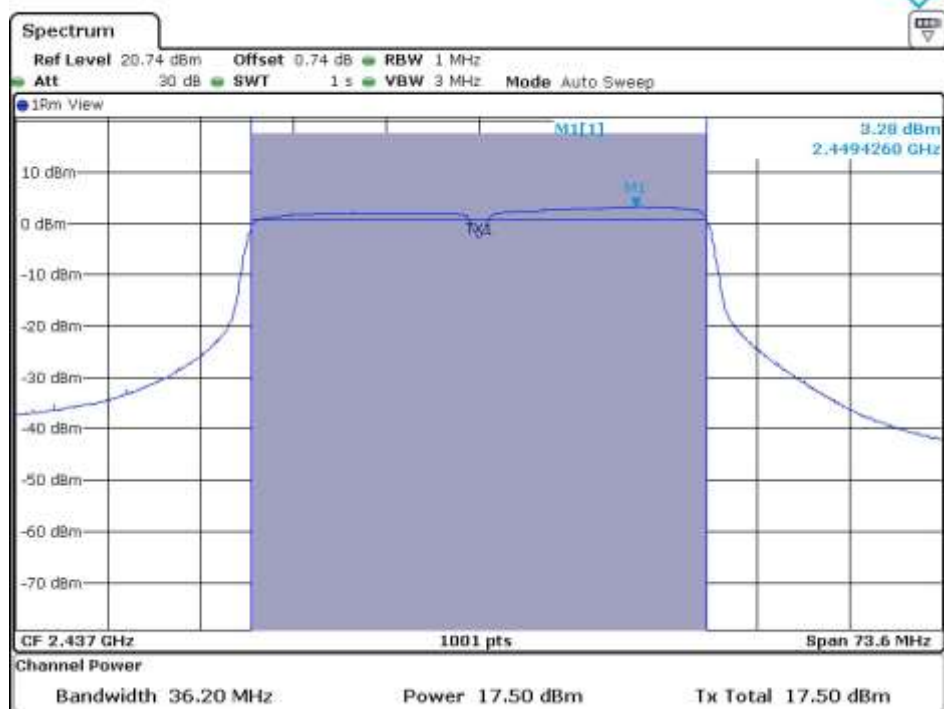
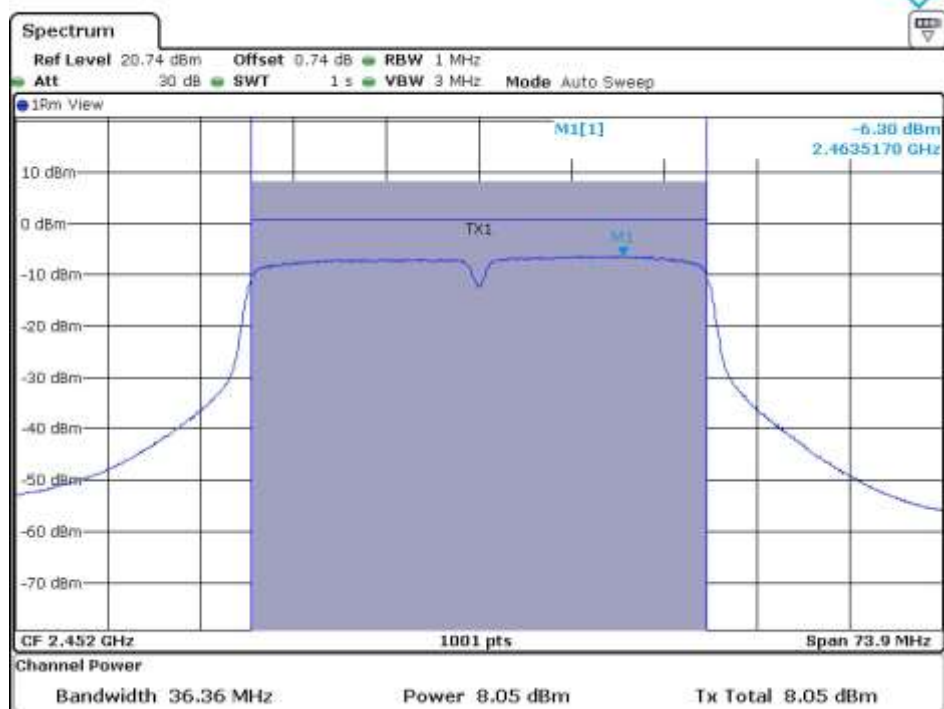




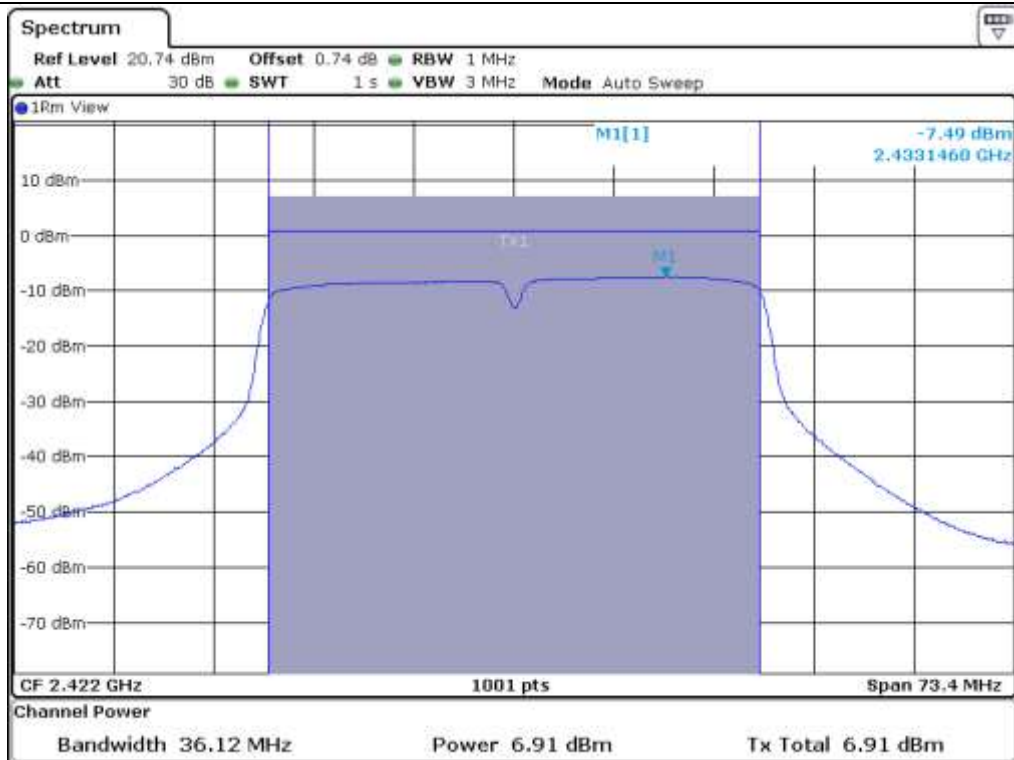
Low Channel (6 dB Bandwidth)



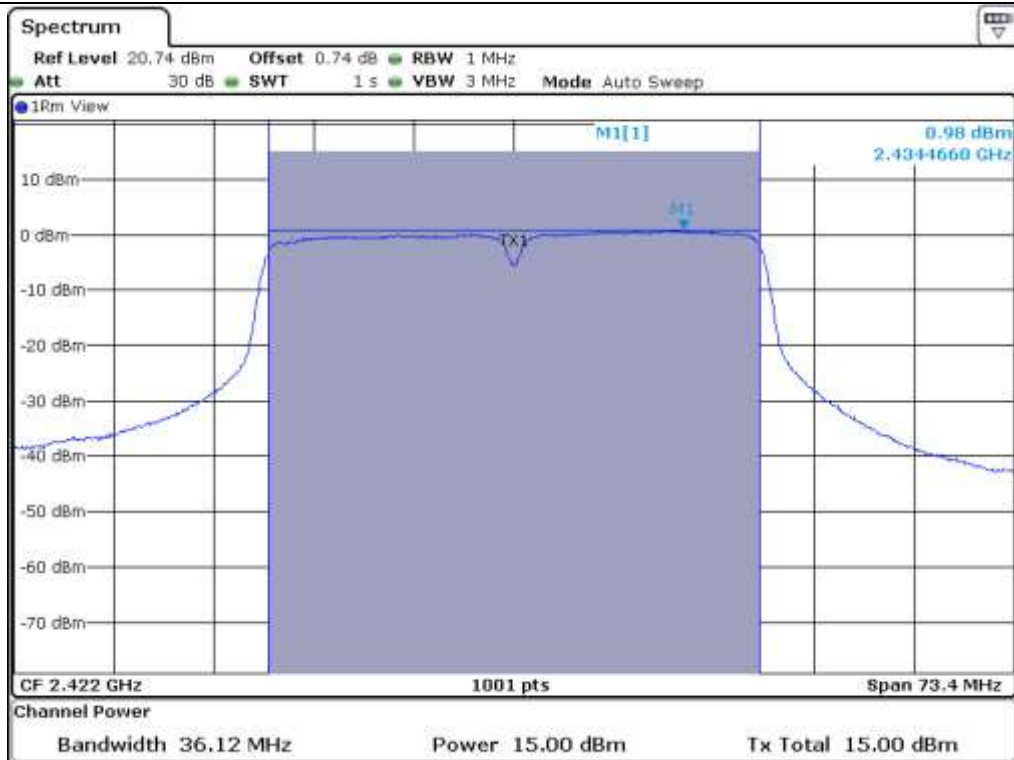
Middle Channel (6 dB Bandwidth)



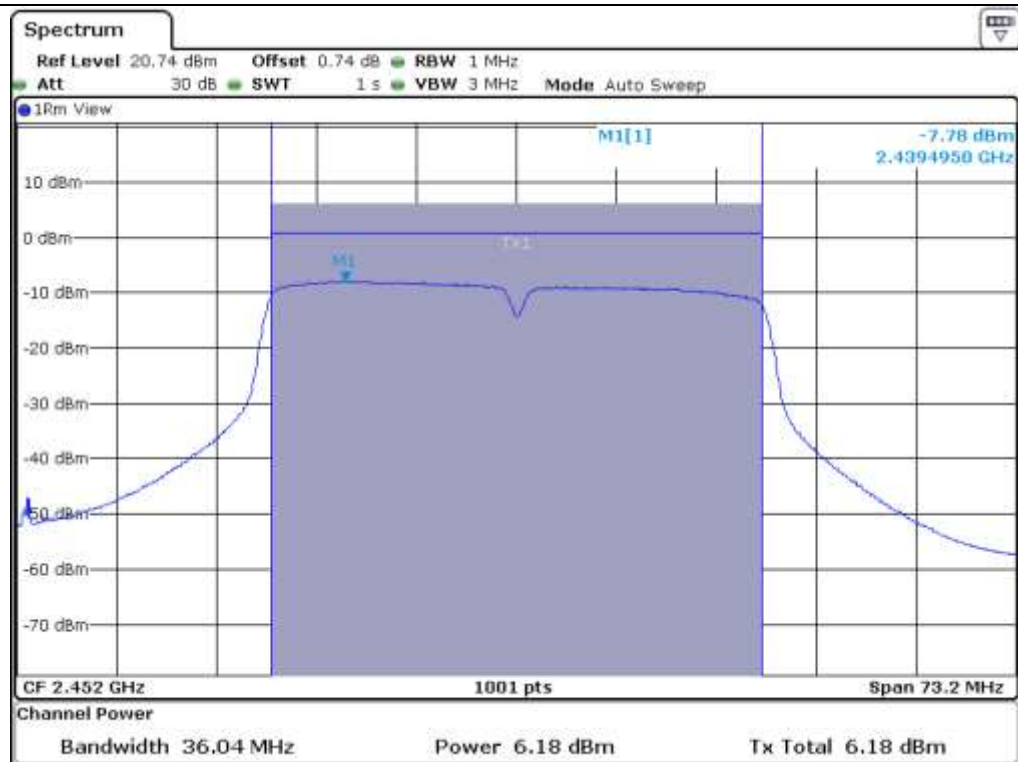
High Channel (6 dB Bandwidth)



Low Channel (99 % bandwidth)



Middle Channel (99 % bandwidth)



High Channel (99 % bandwidth)

8.7.4 Test data for Multiple transmit

-. Test Date : April 30, 2016

-. Test Result : Pass

-. FCC Test data

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422	36.44	11.99	26.55	14.56
MIDDLE	2 442	36.36	21.80	26.55	4.75
HIGH	2 452	36.44	11.94	26.55	14.61

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

Remark 3 : Limit = 30 dBm – Exceeds Antenna gain

Remark 4 : Exceeds Antenna gain = $10\log (10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

-. IC Test data

CHANNEL	FREQUENCY (MHz)	99 % bandwidth (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422	36.20	16.98	26.55	9.58
MIDDLE	2 442	36.12	23.99	26.55	2.56
HIGH	2 452	36.12	16.91	26.55	9.64

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

Remark 3 : Limit = 30 dBm – Exceeds Antenna gain

Remark 4 : Exceeds Antenna gain = $10\log (10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

Tested by: Jun-Hui, Lee / Senior Engineer

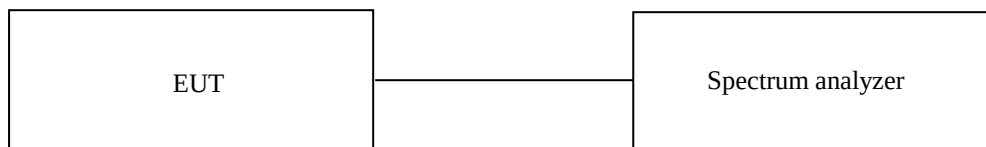
9. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

9.1 Operating environment

Temperature : 23 °C
Relative humidity : 41 % R.H.

9.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



9.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 30 MHz to 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

9.4 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Jul. 22, 2015 (1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Apr. 06, 2016 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2016 (1Y)
■ -	SCU-18	Rohde & Schwarz	Pre-Amplifier	10041	Nov. 23, 2015 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Jul. 10, 2014 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 31, 2015 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Aug. 31, 2015 (2Y)

All test equipment used is calibrated on a regular basis.

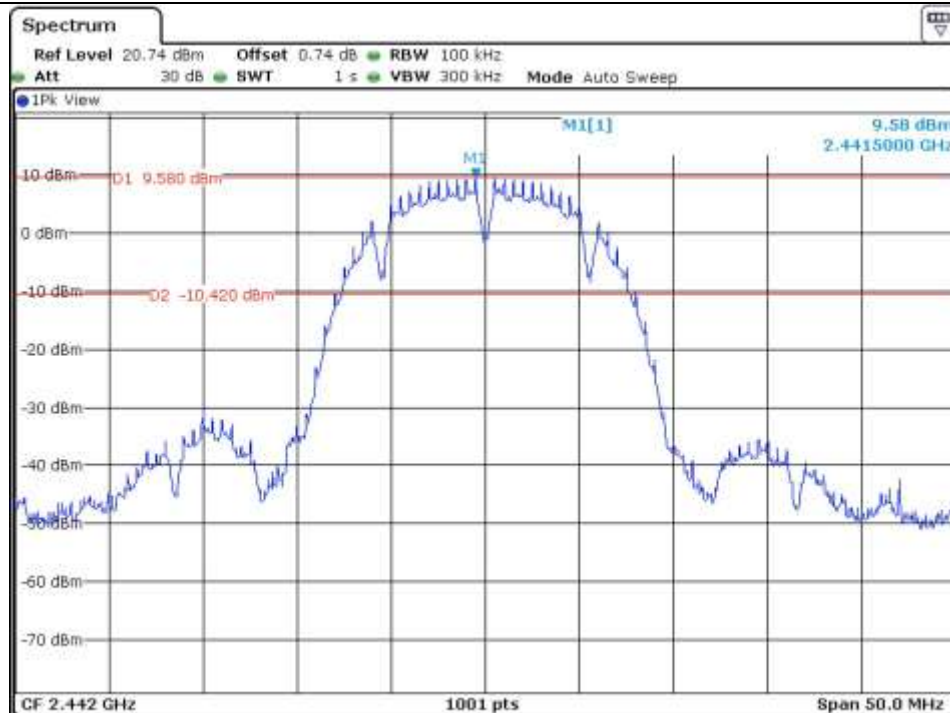
9.5 Test data for conducted emission

9.5.1 Test data for 802.11b WLAN Mode

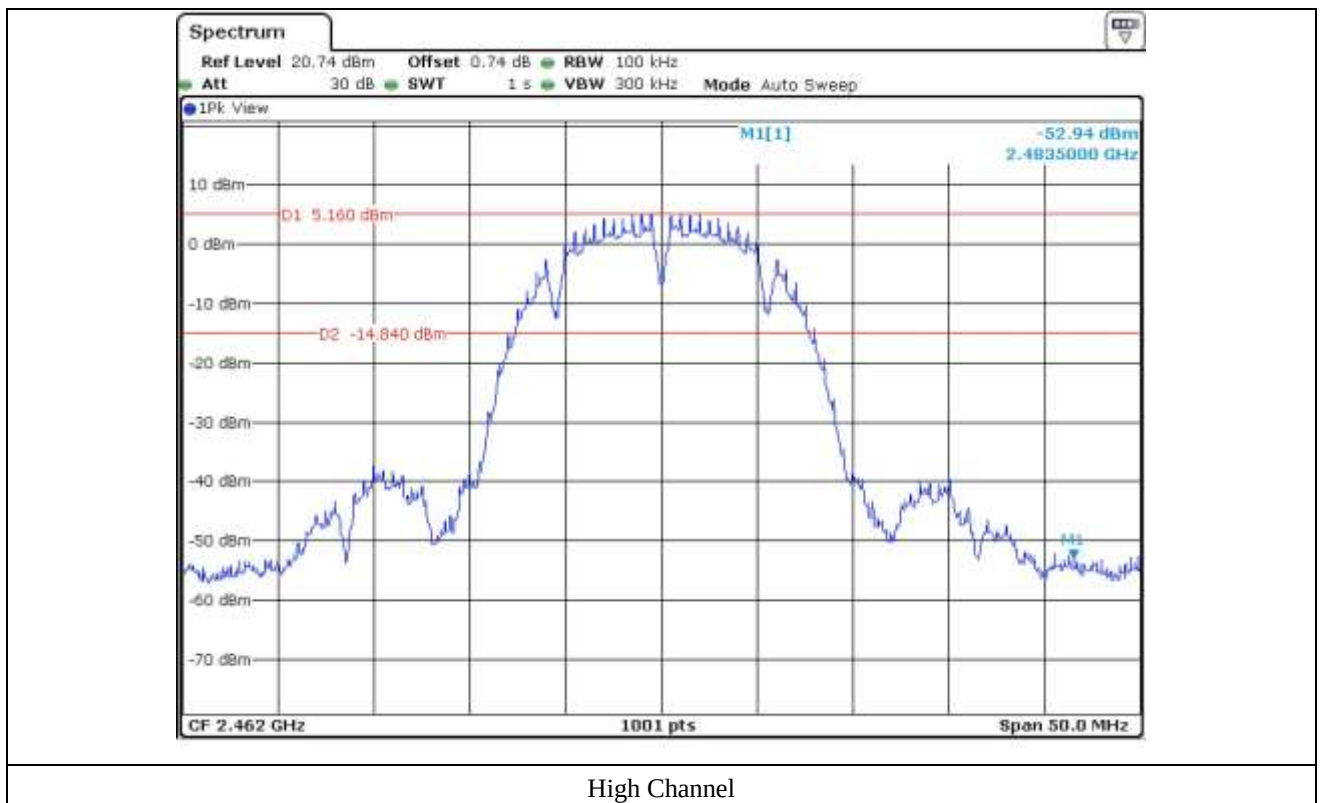
9.5.1.1 Test data for Antenna 0

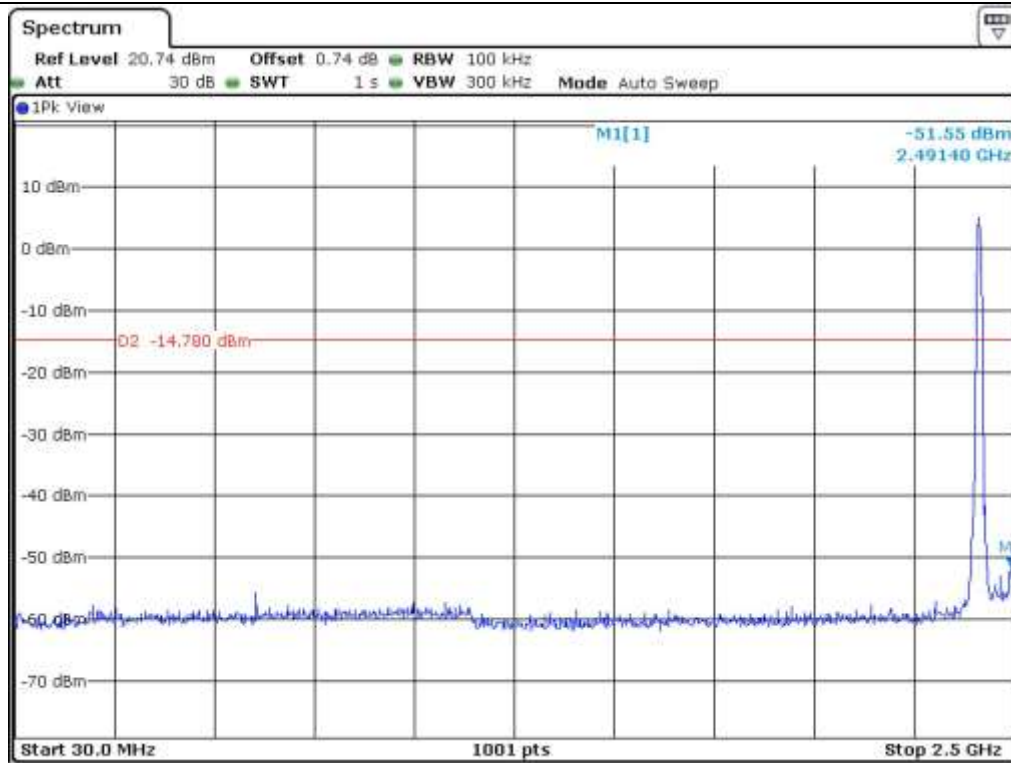


Low Channel

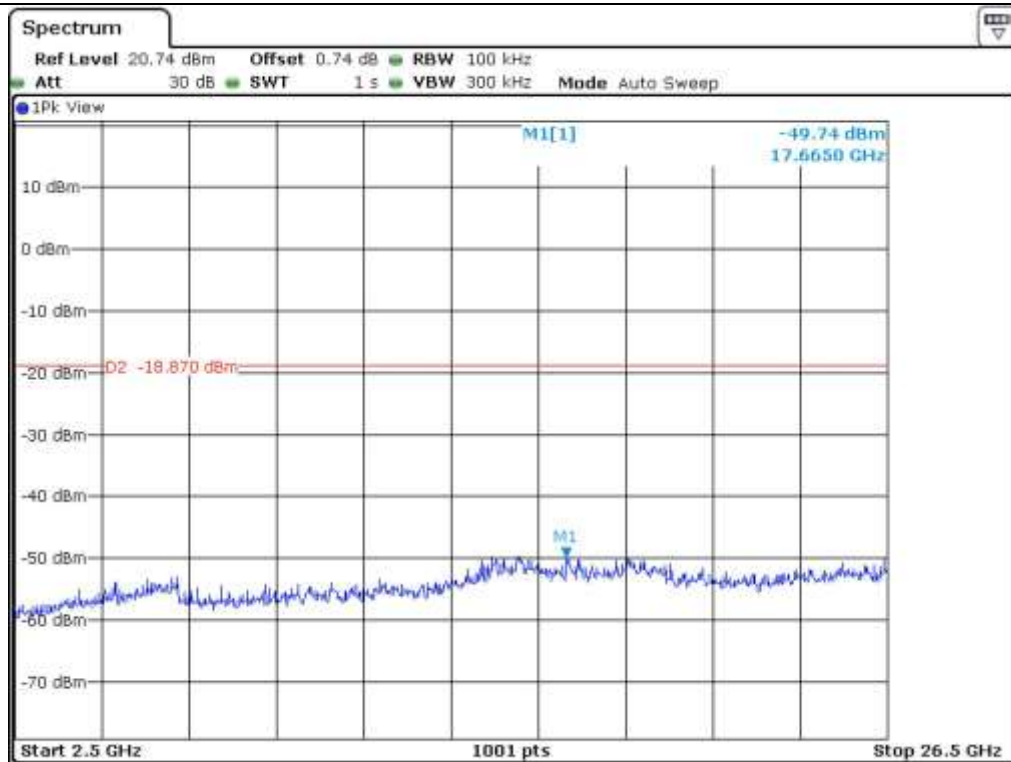


Middle Channel

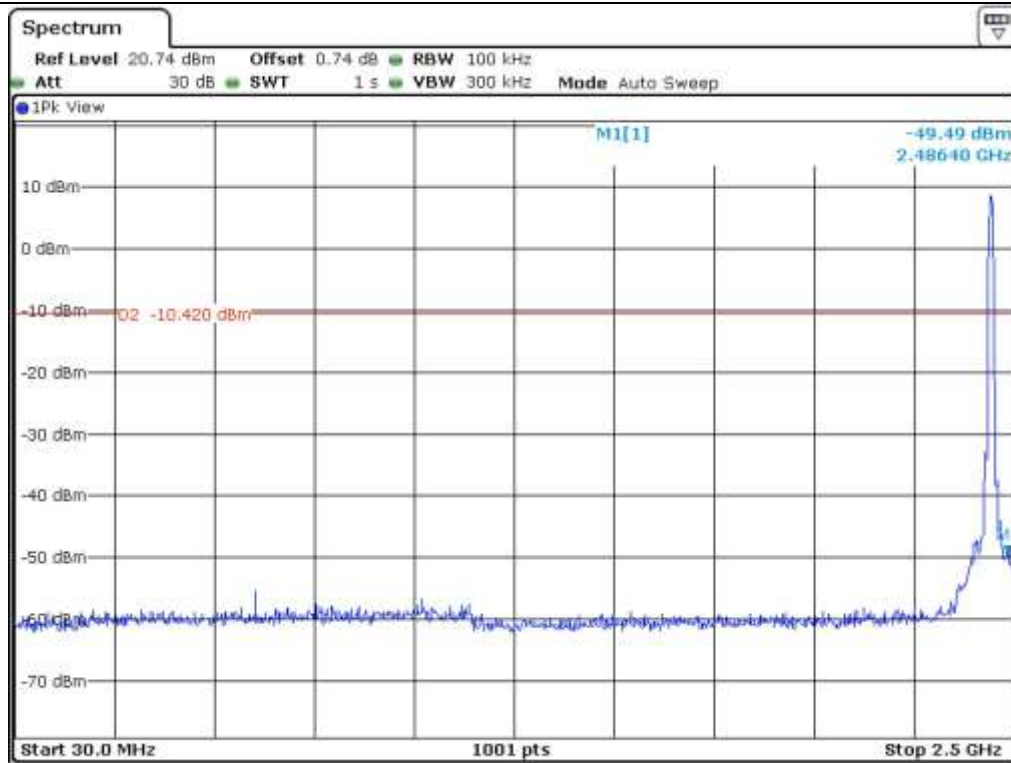




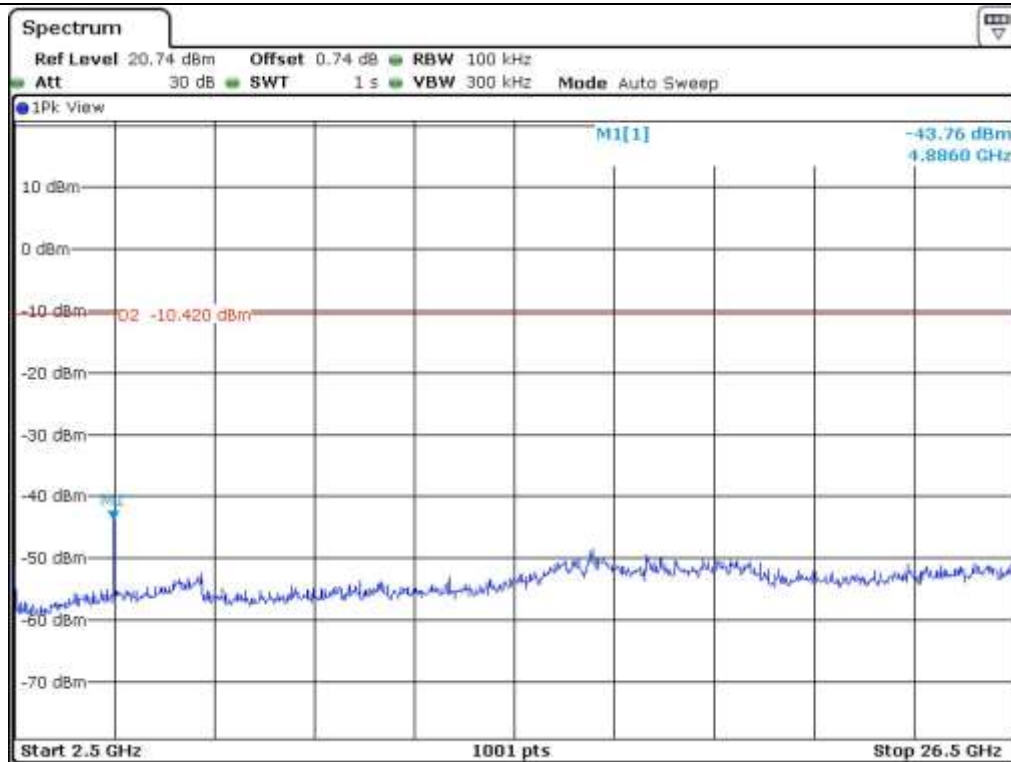
Low Channel



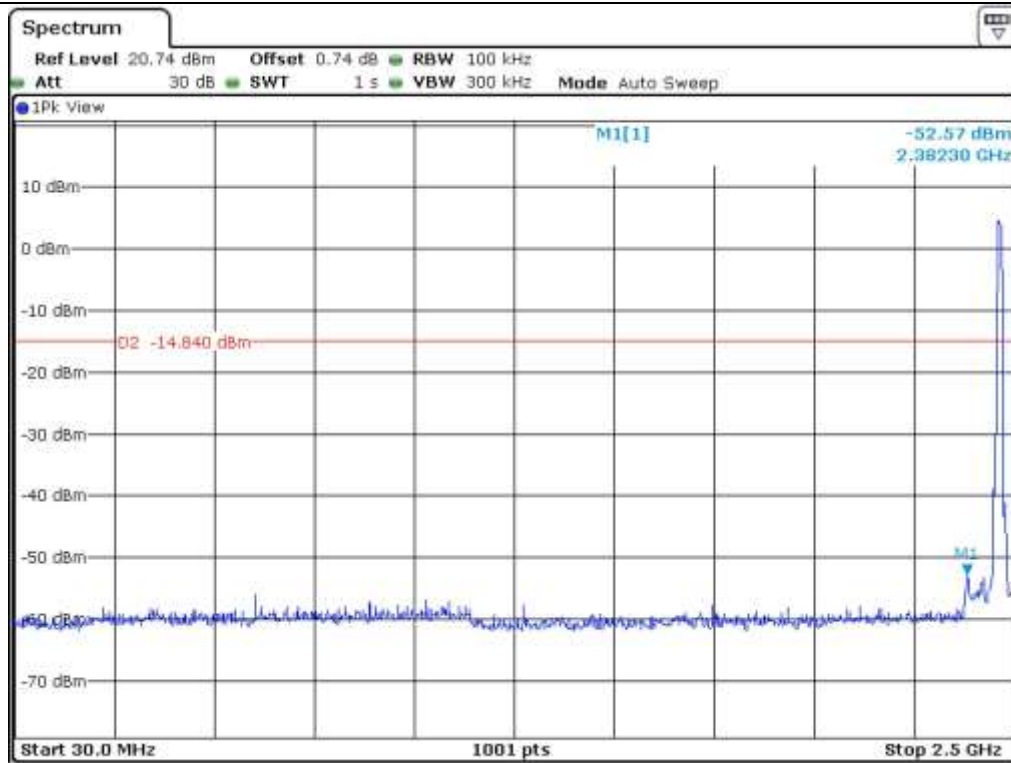
Low Channel



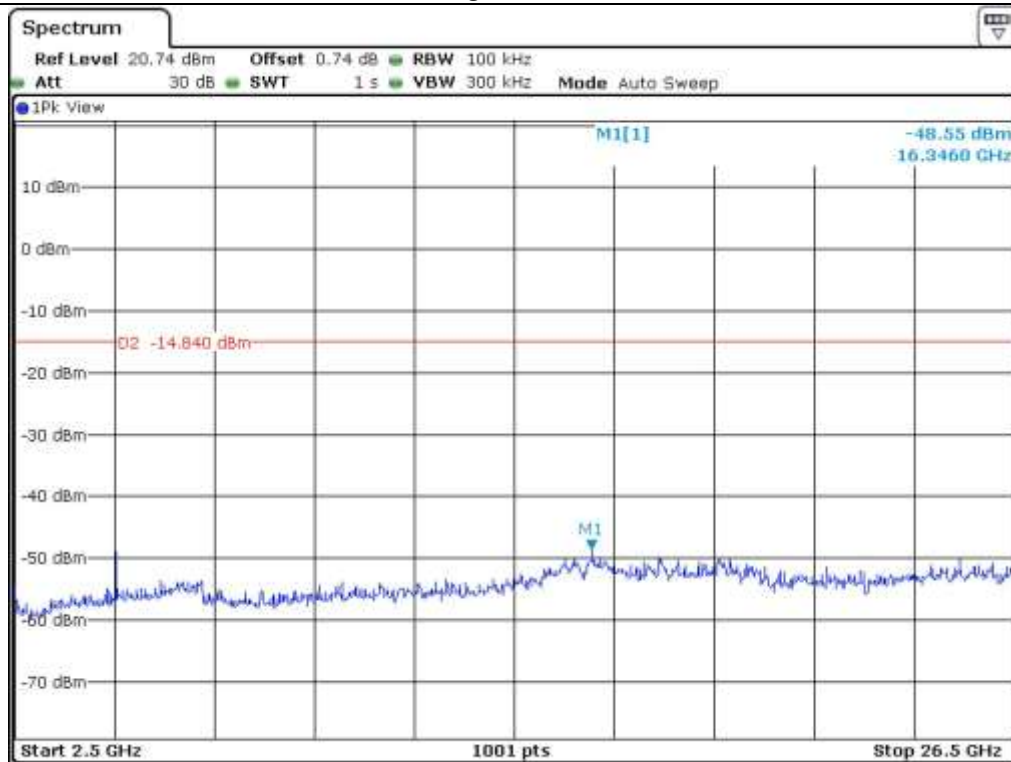
Middle Channel



Middle Channel

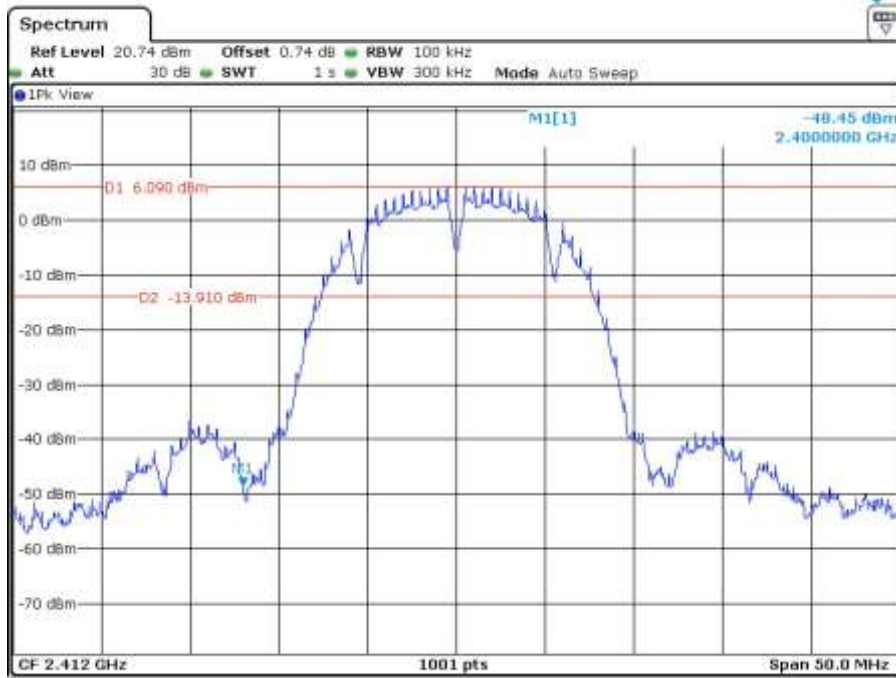


High Channel

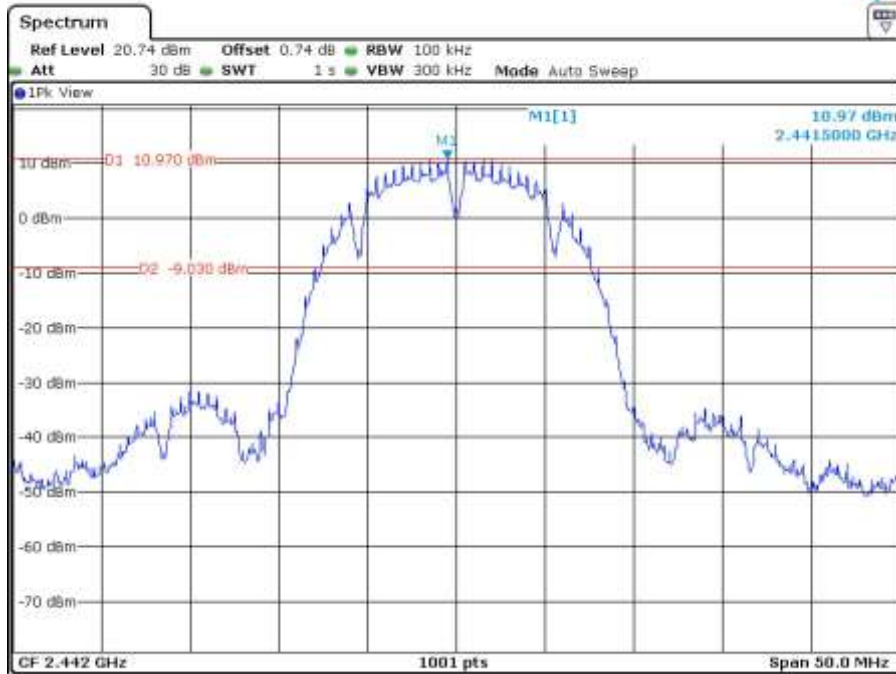


High Channel

9.5.1.2 Test data for Antenna 1



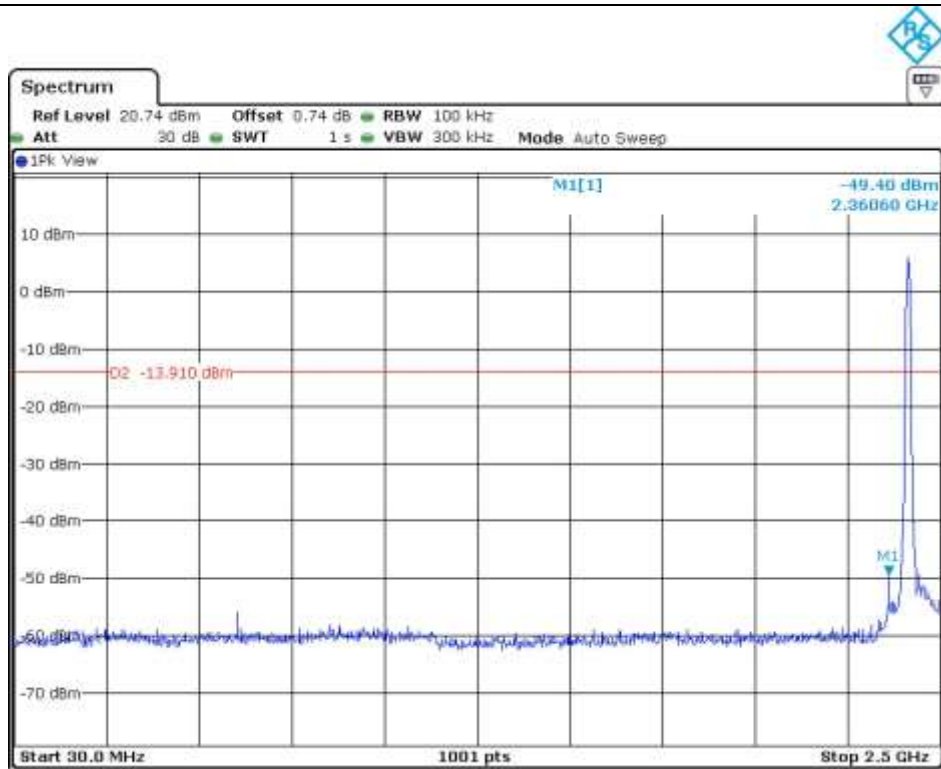
Low Channel



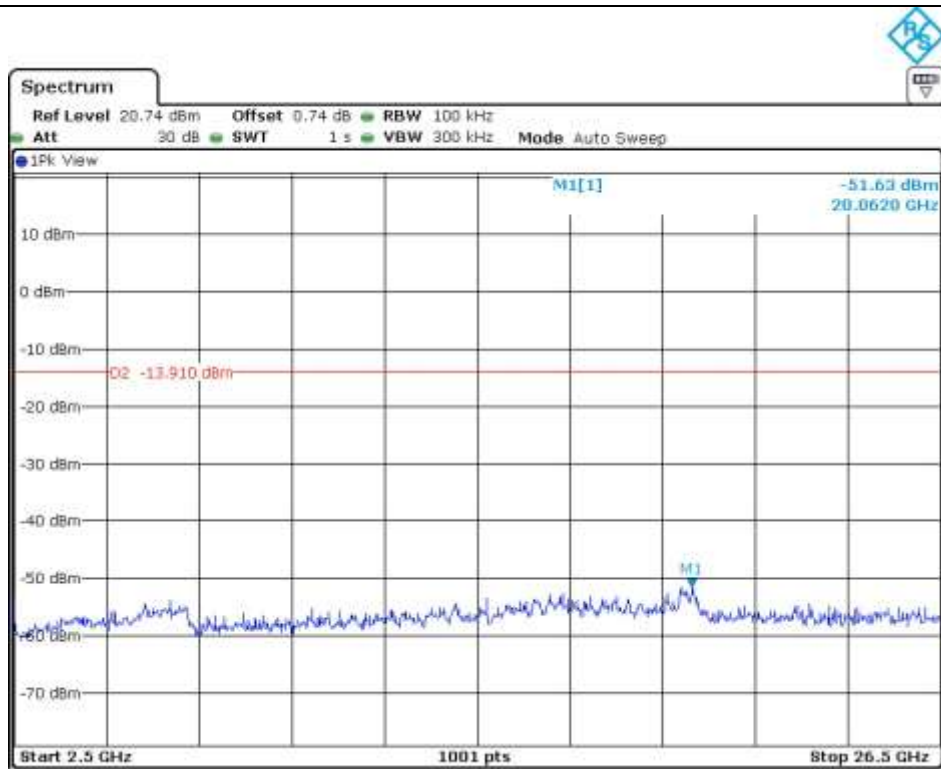
Middle Channel



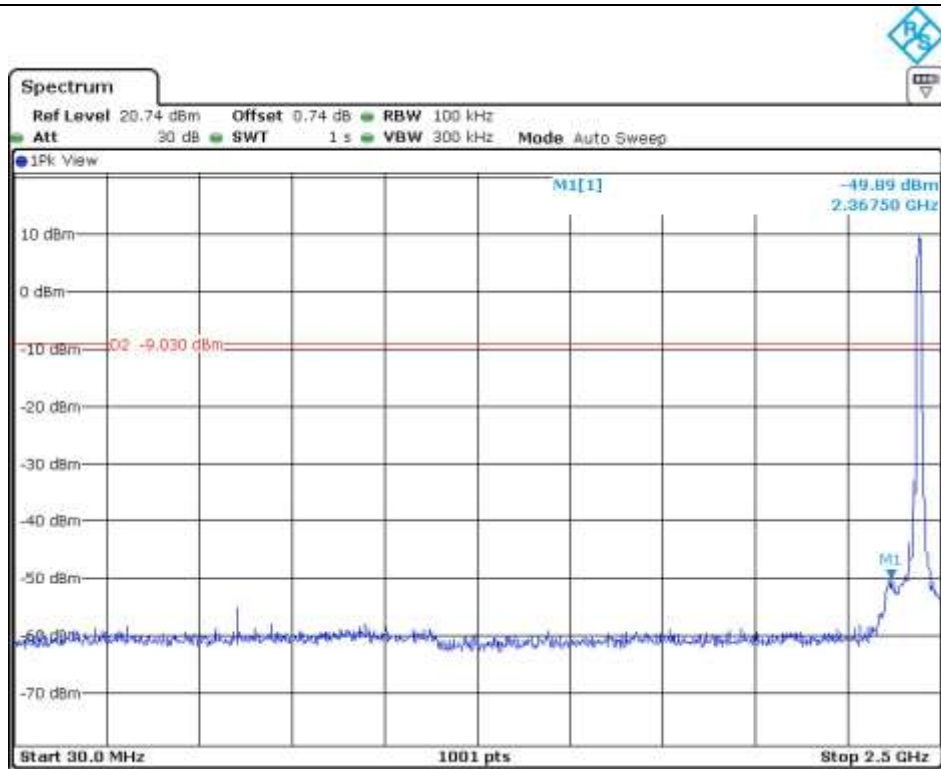
High Channel



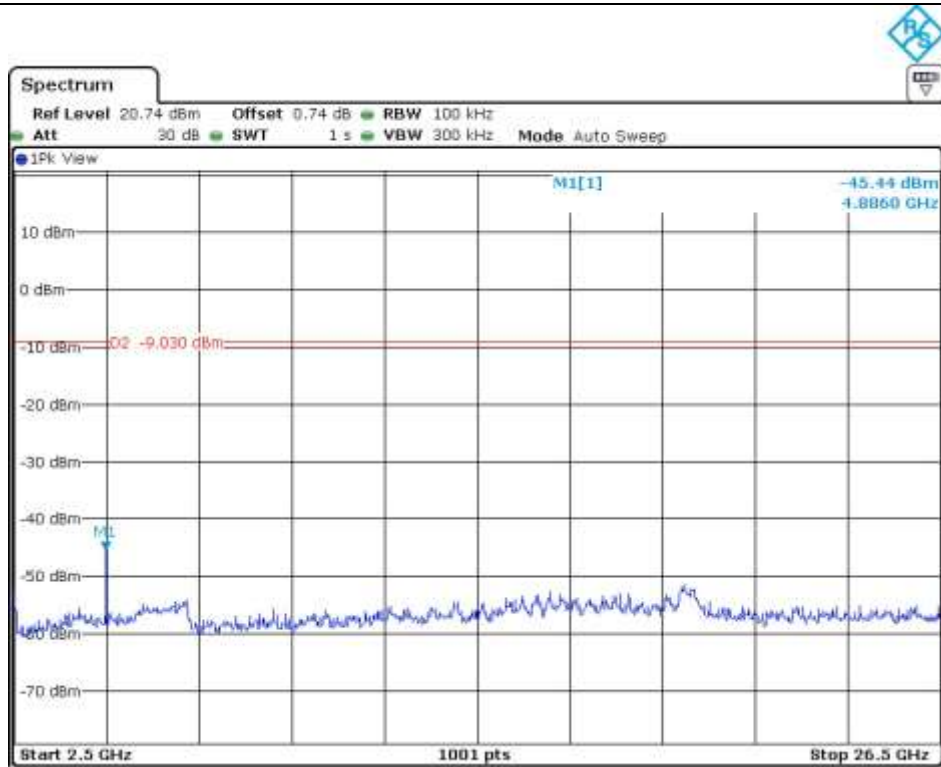
Low Channel



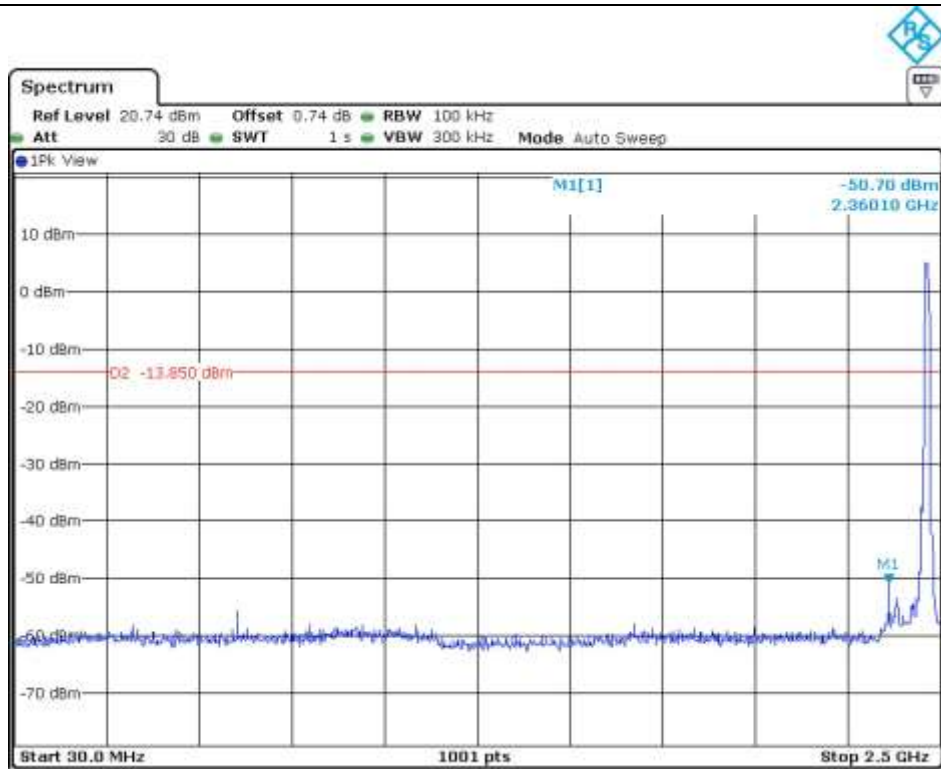
Low Channel



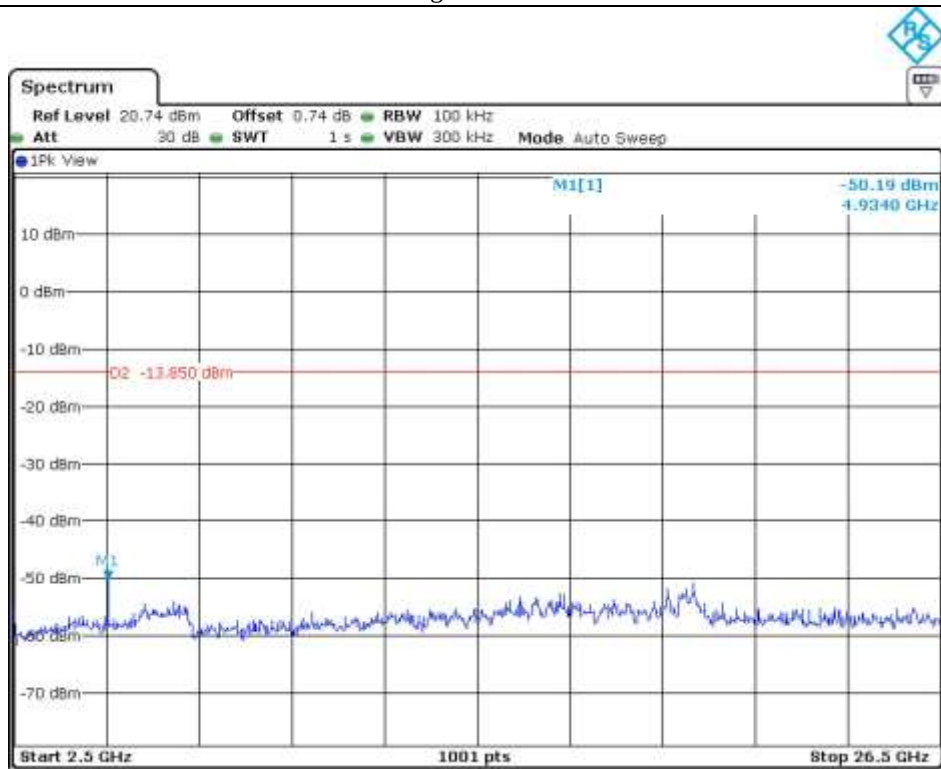
Middle Channel



Middle Channel

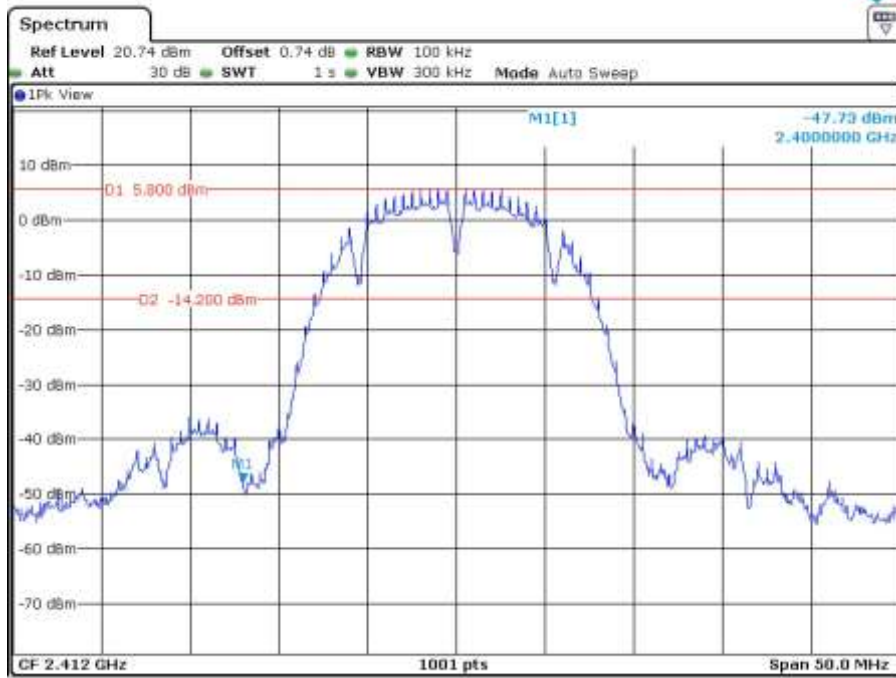


High Channel

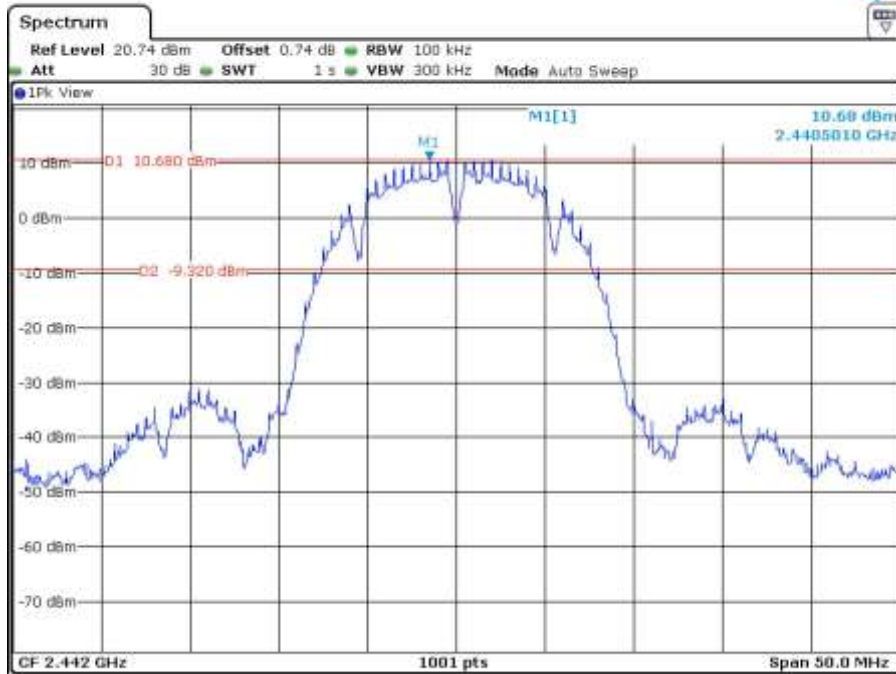


High Channel

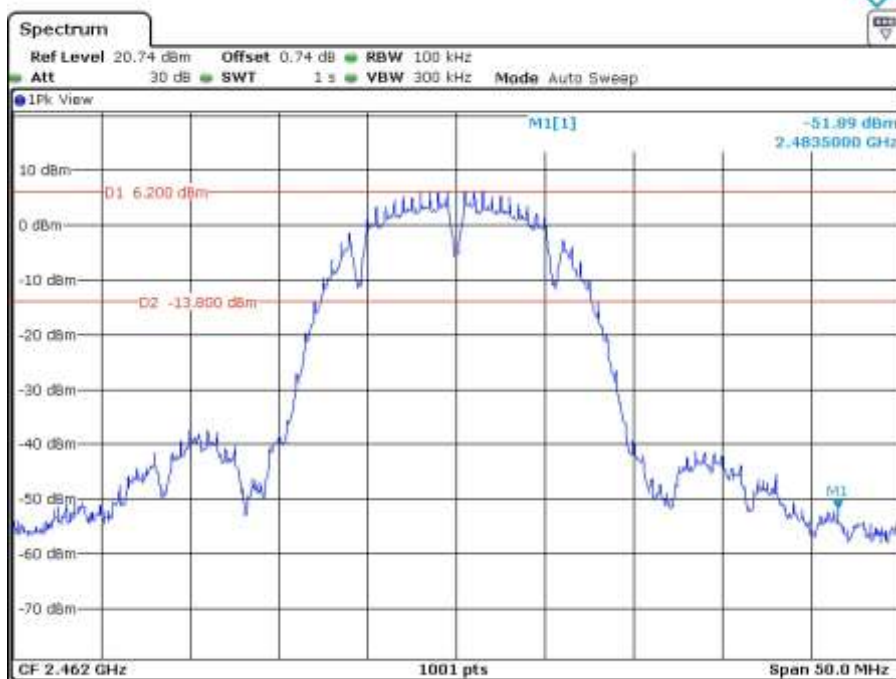
9.5.1.3 Test data for Antenna 2



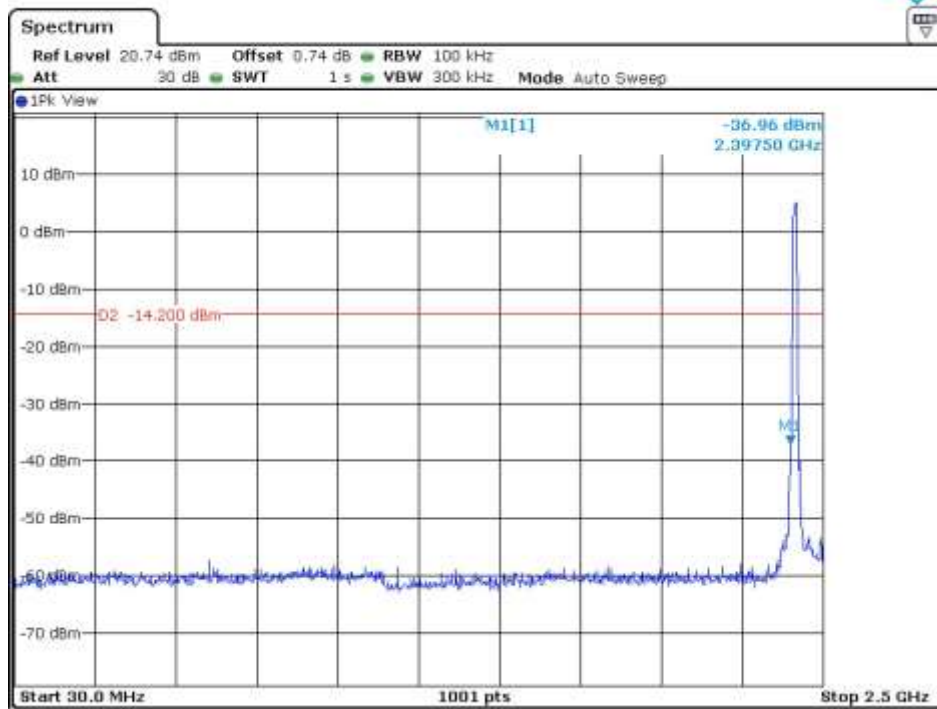
Low Channel



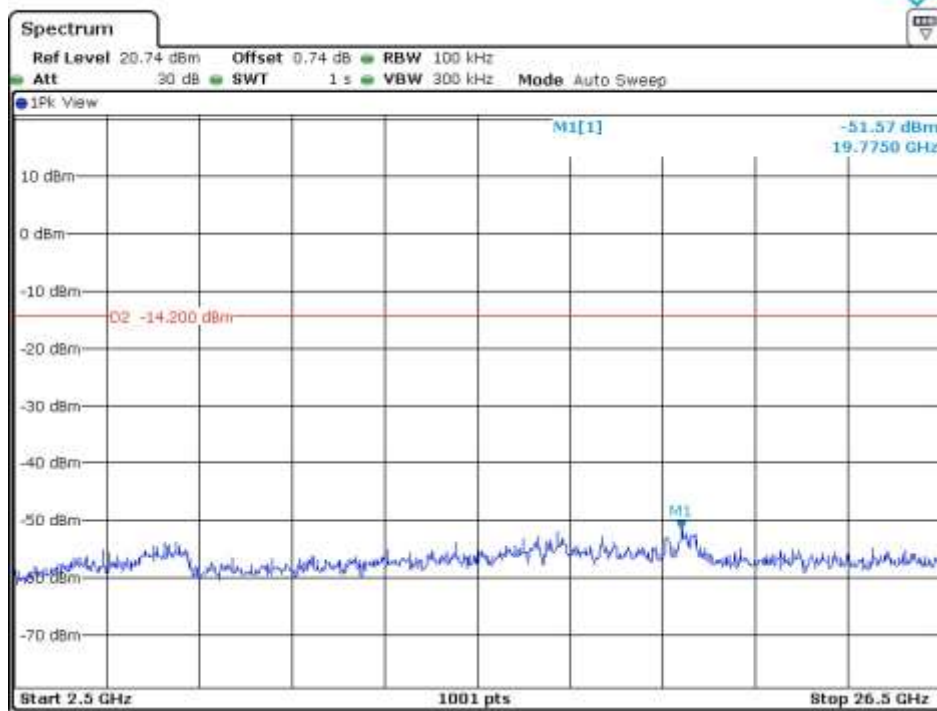
Middle Channel



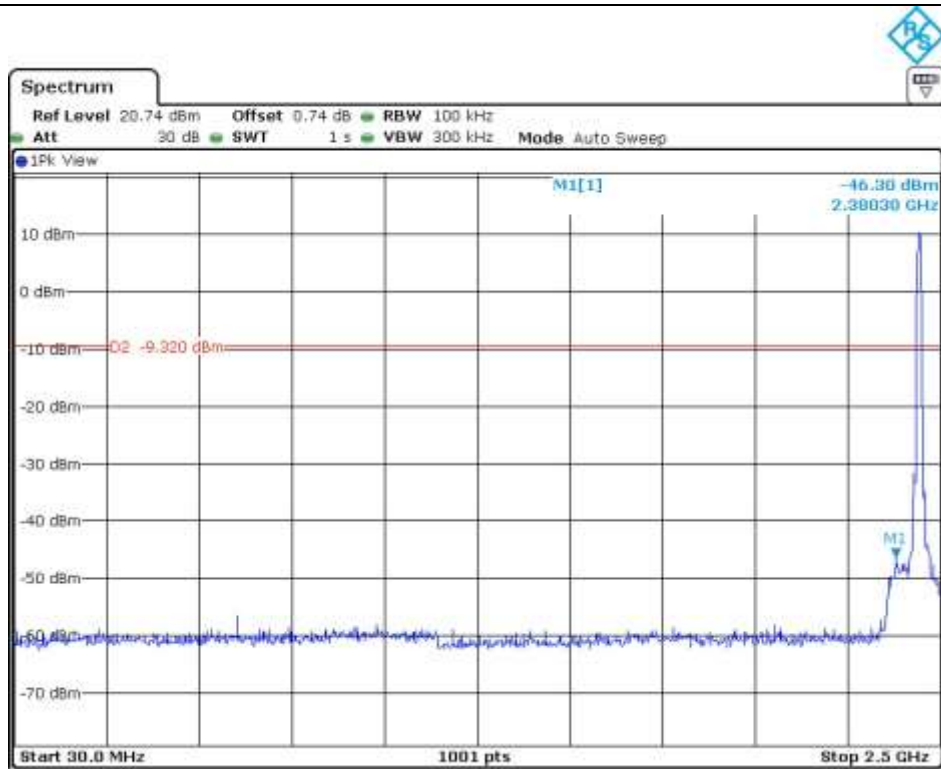
High Channel



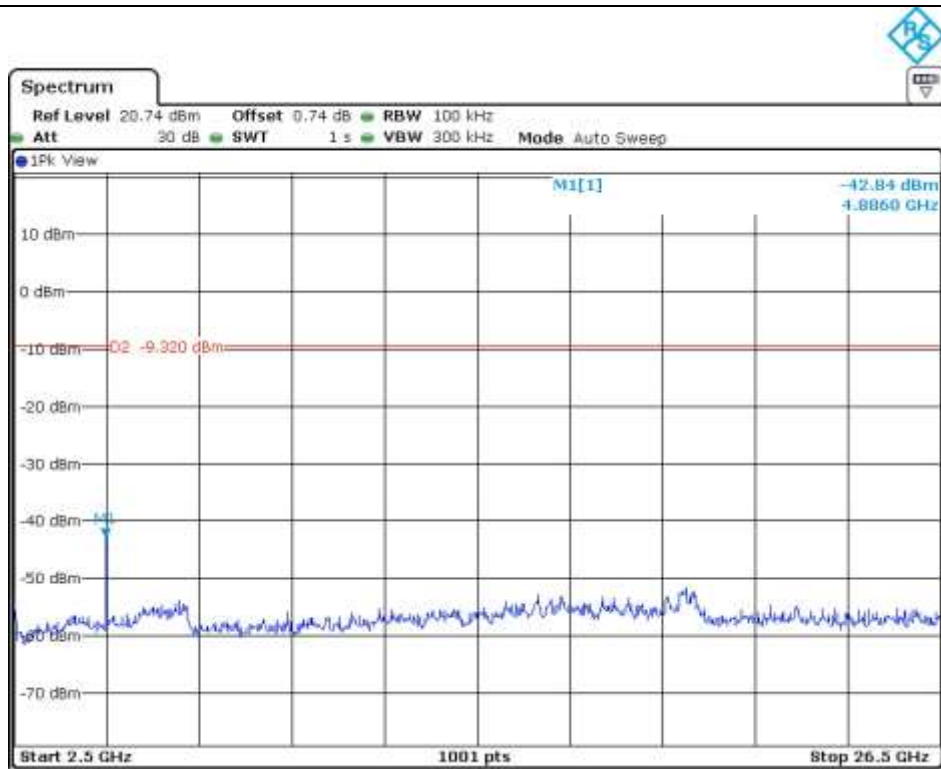
Low Channel



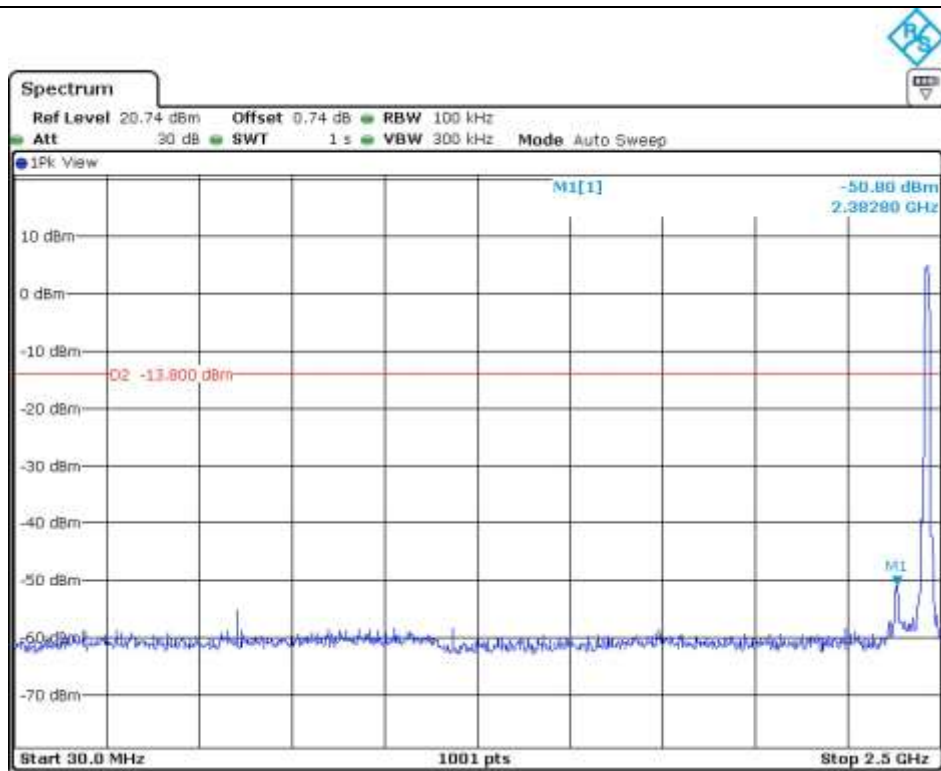
Low Channel



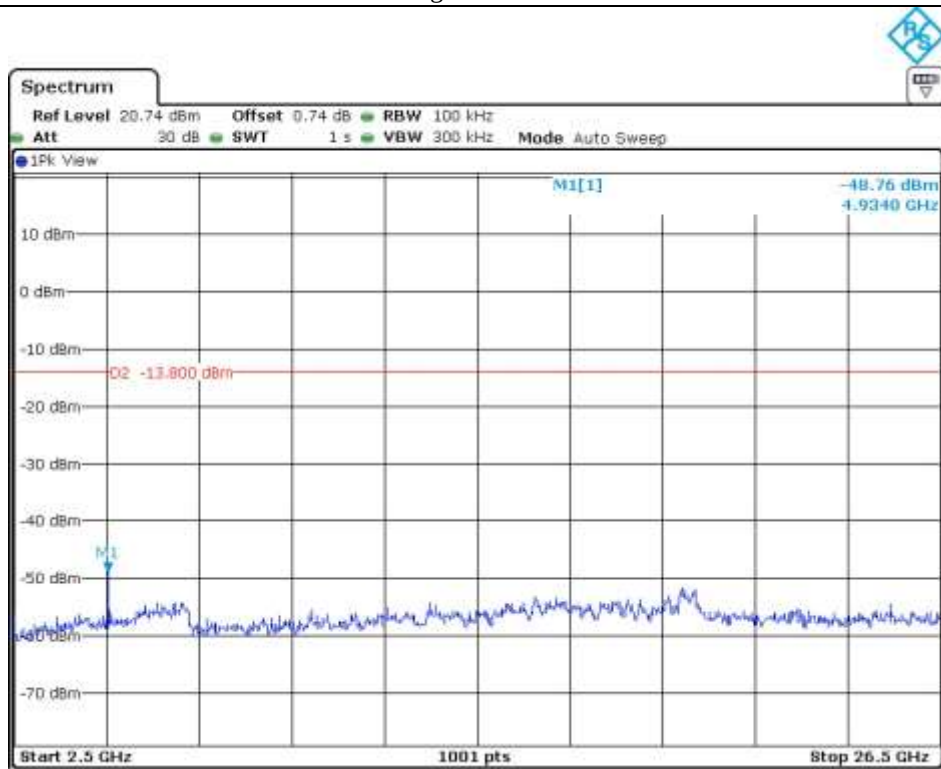
Middle Channel



Middle Channel



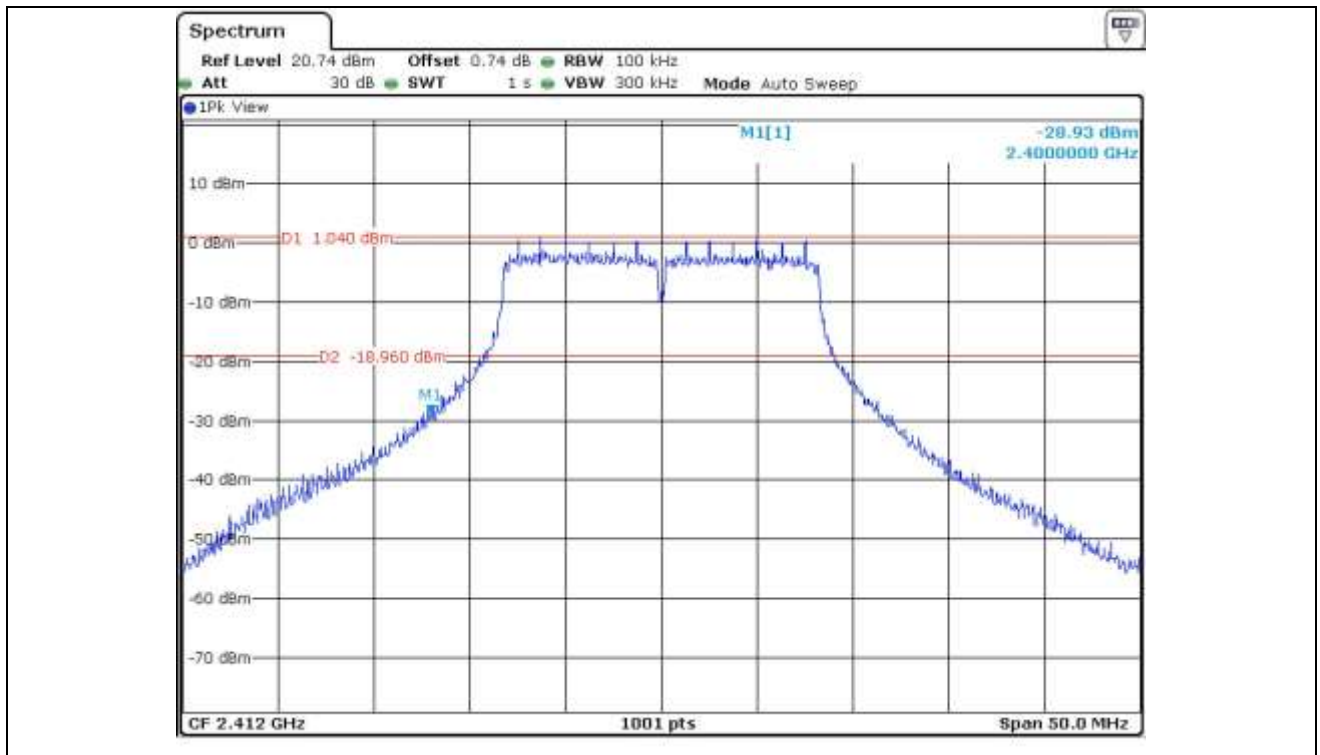
High Channel



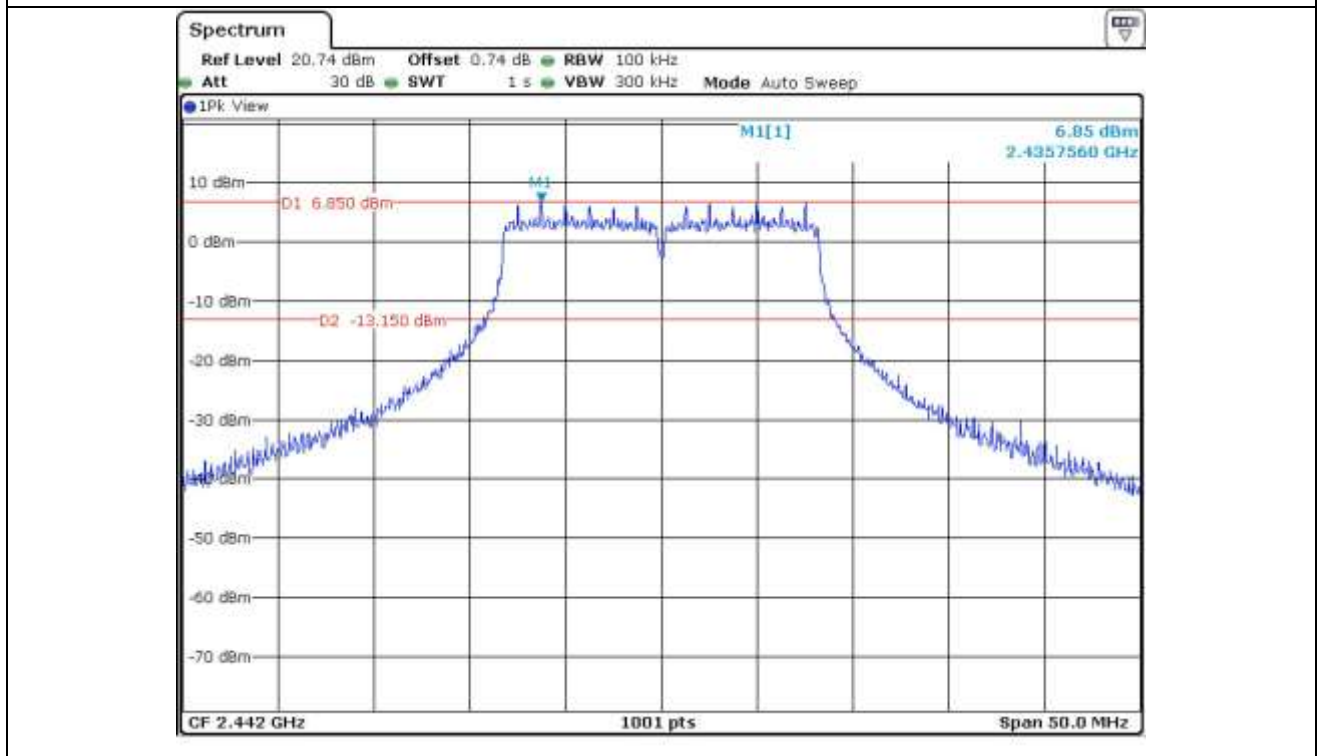
High Channel

9.5.2 Test data for 802.11g WLAN Mode

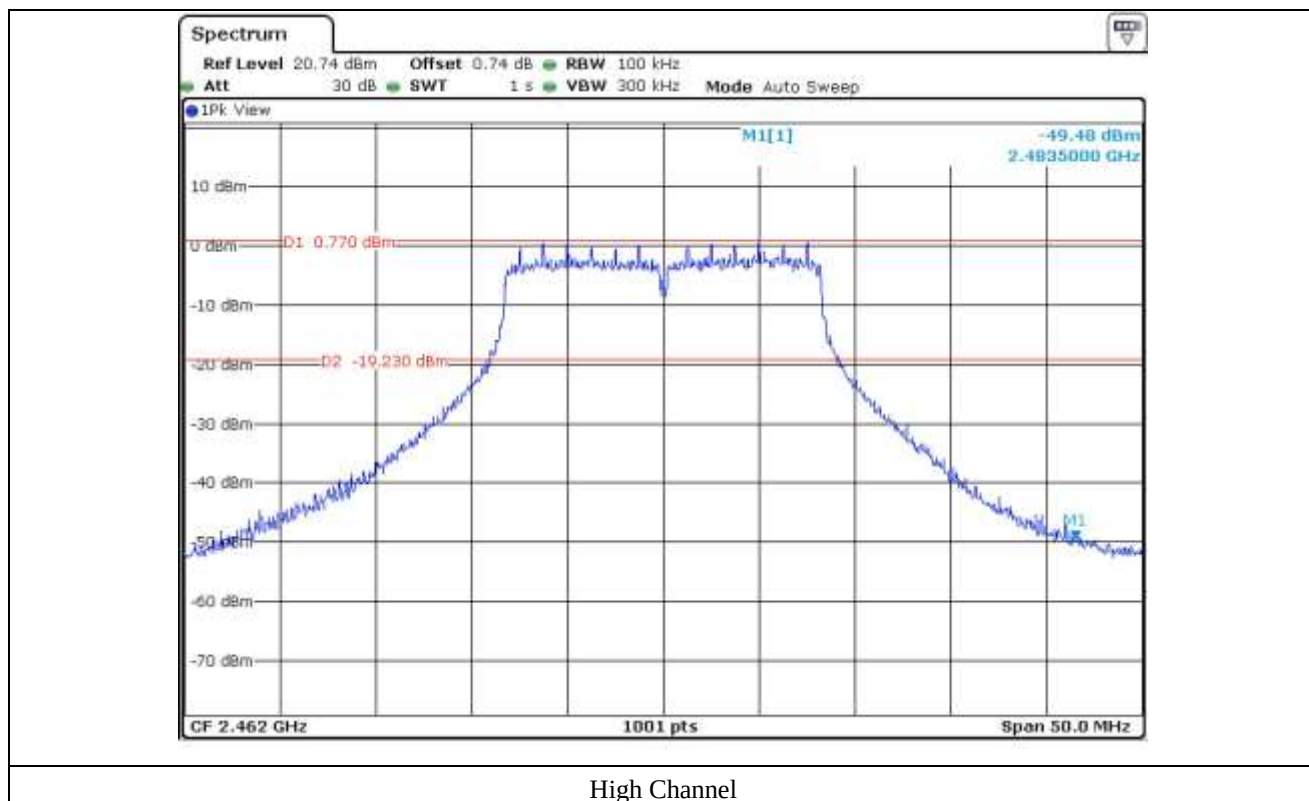
9.5.2.1 Test data for Antenna 0

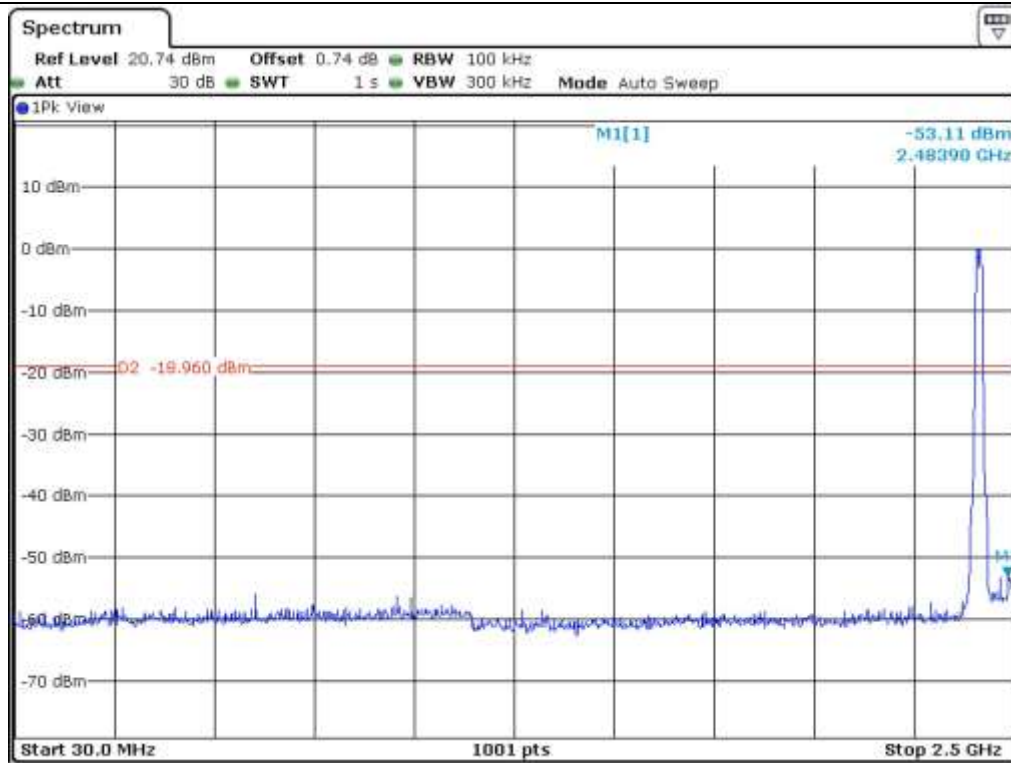


Low Channel

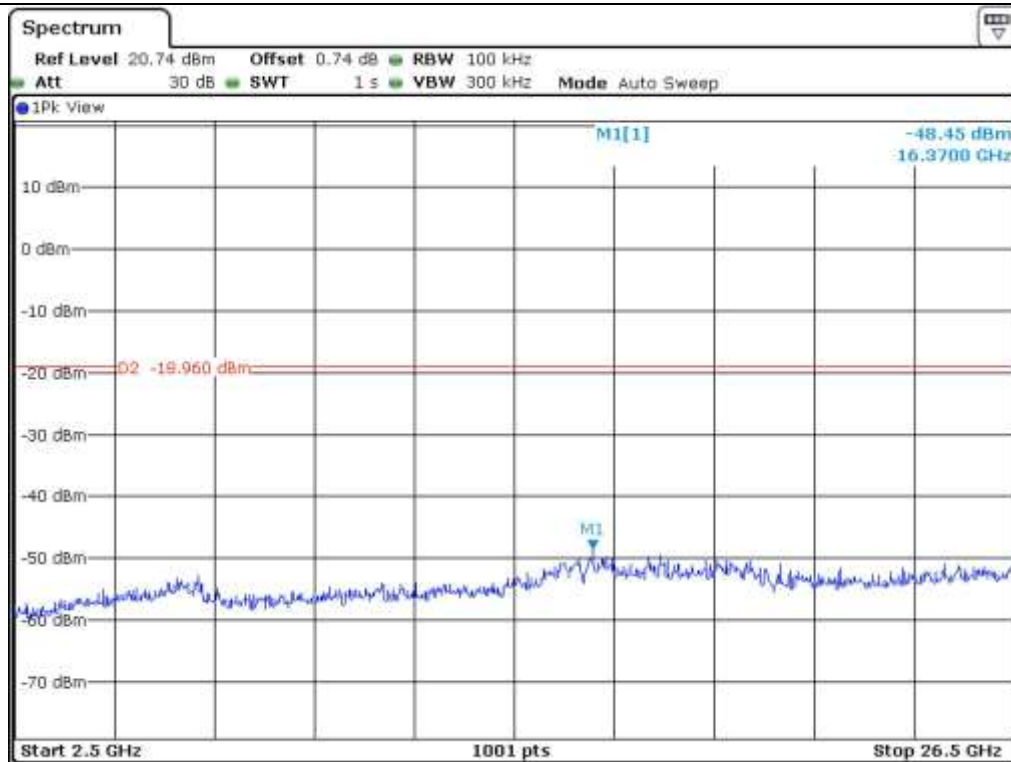


Middle Channel

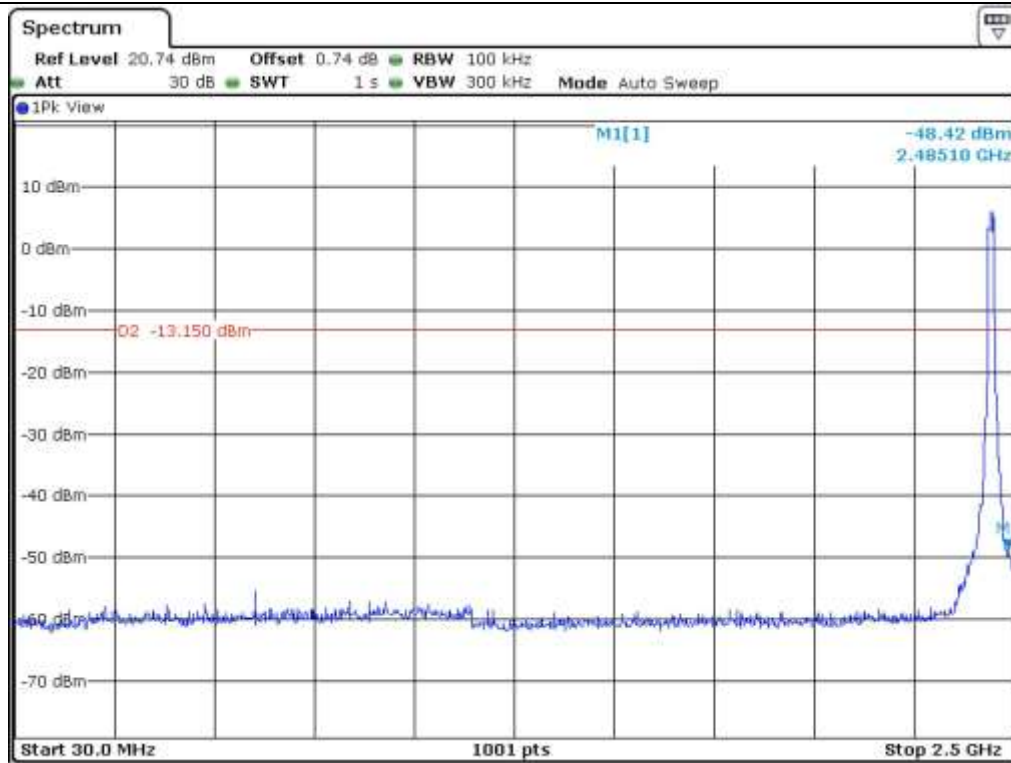




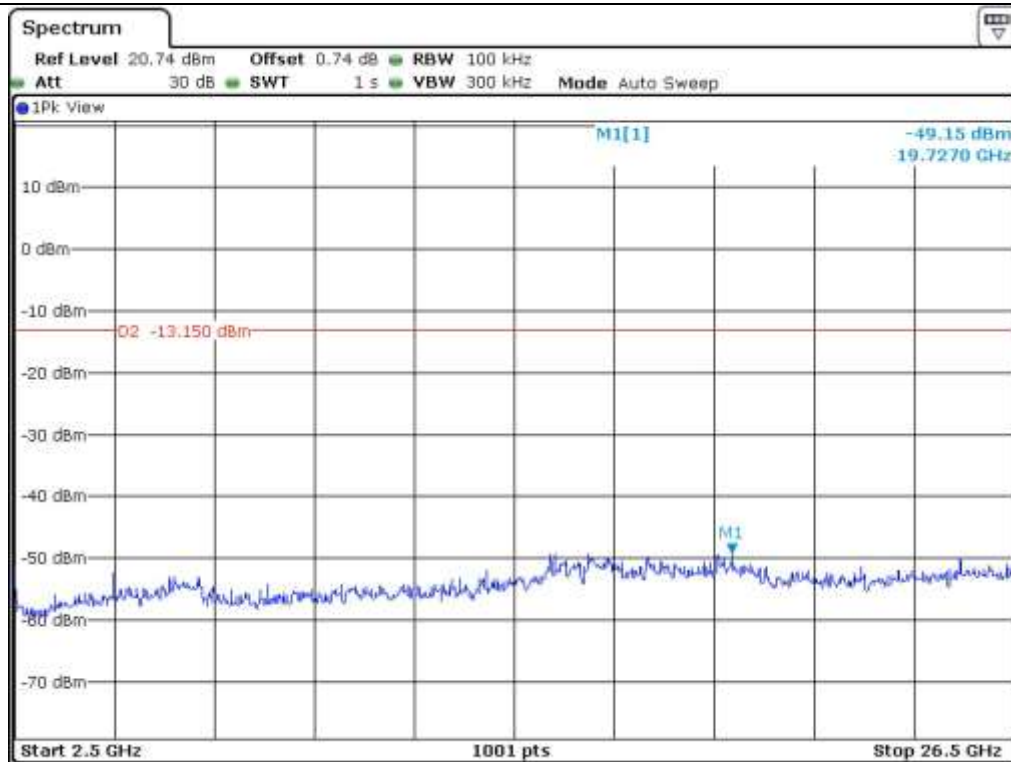
Low Channel



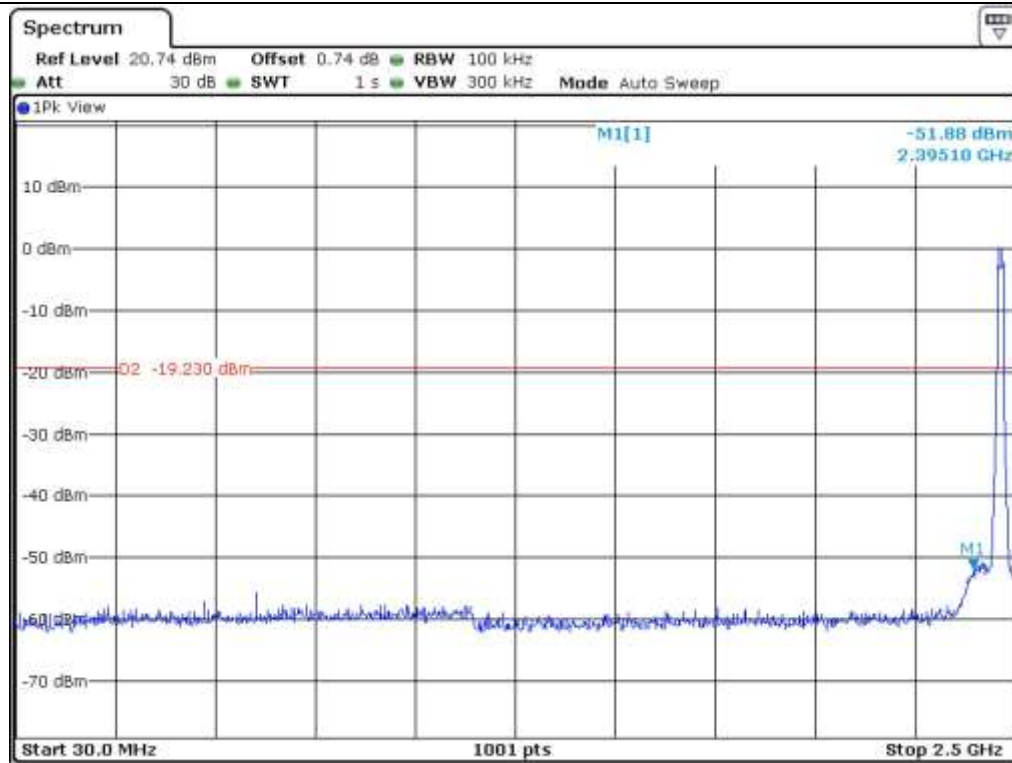
Low Channel



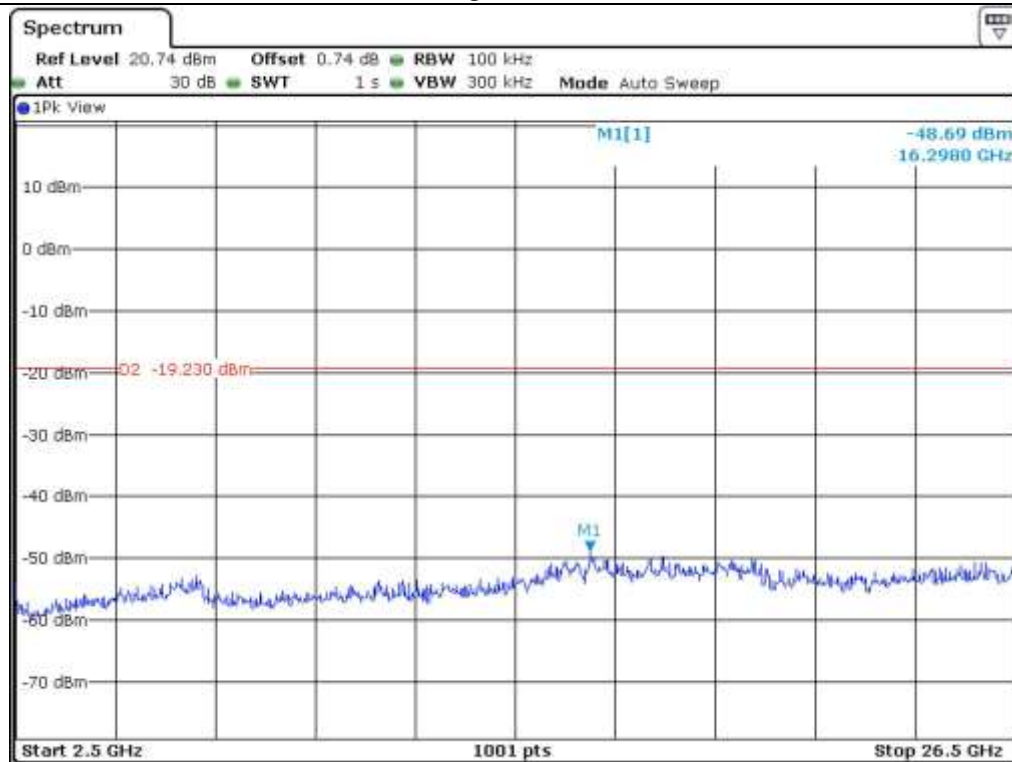
Middle Channel



Middle Channel

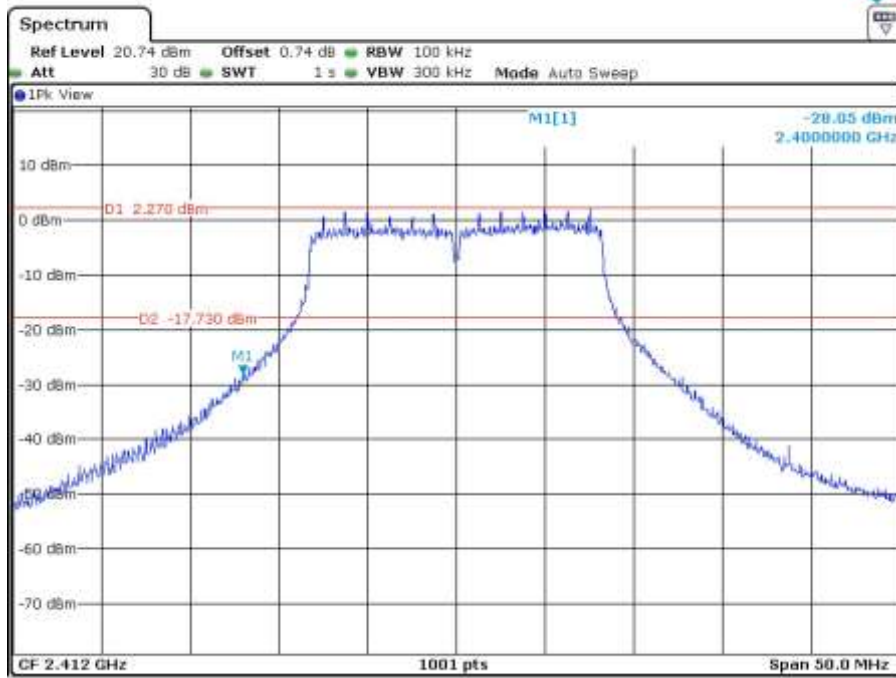


High Channel

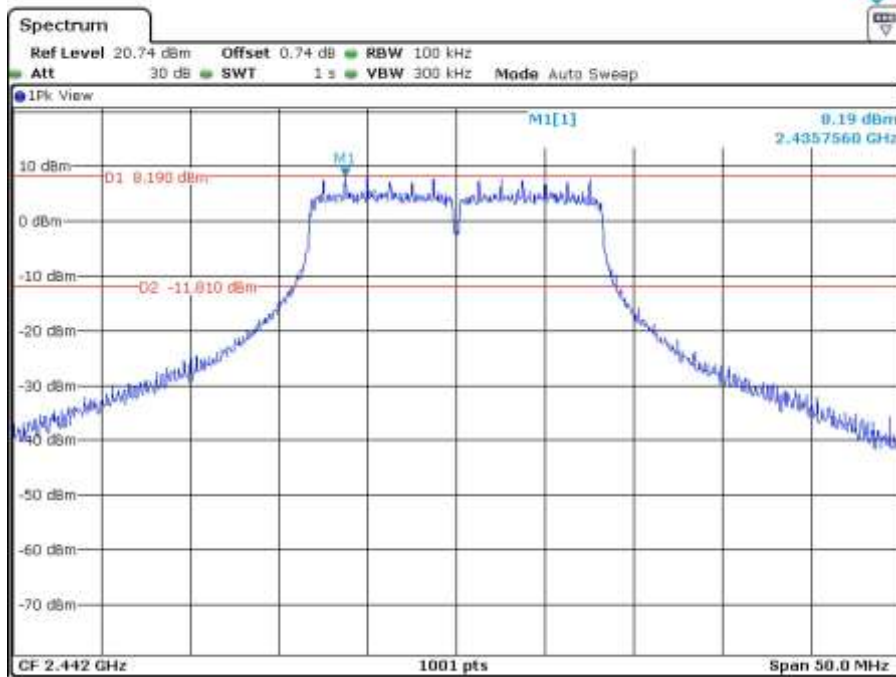


High Channel

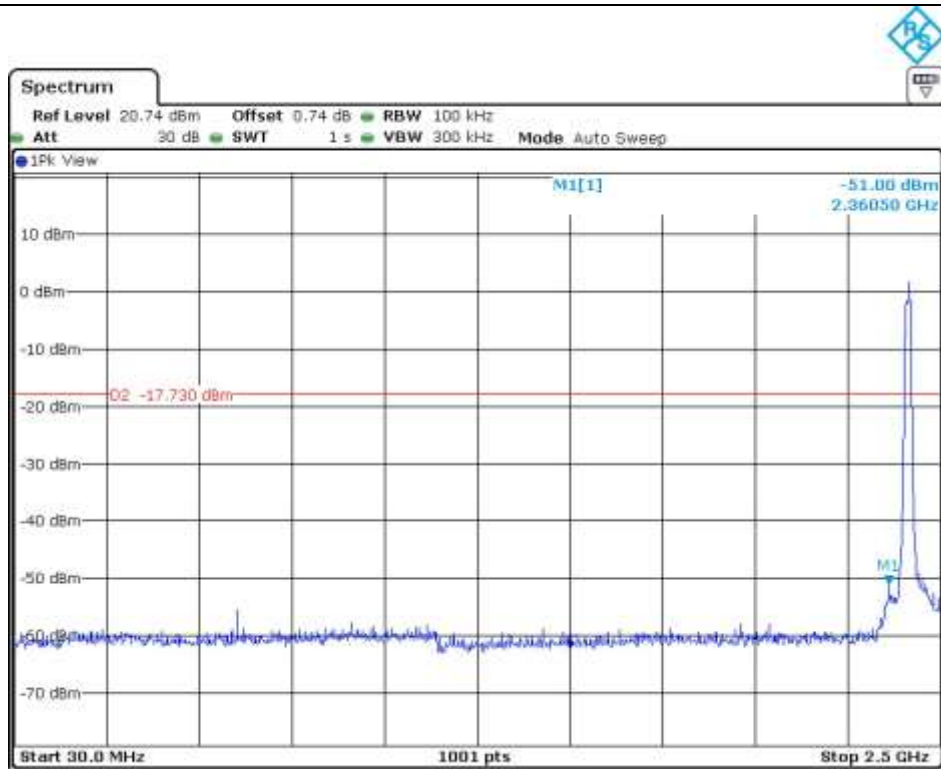
9.5.2.2 Test data for Antenna 1



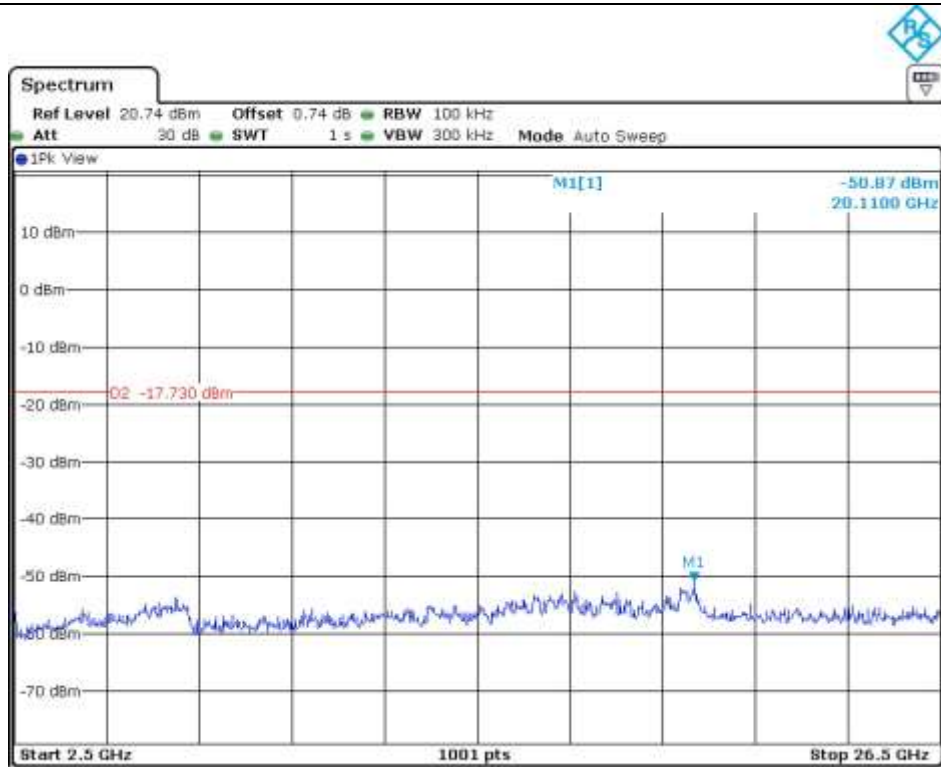
Low Channel



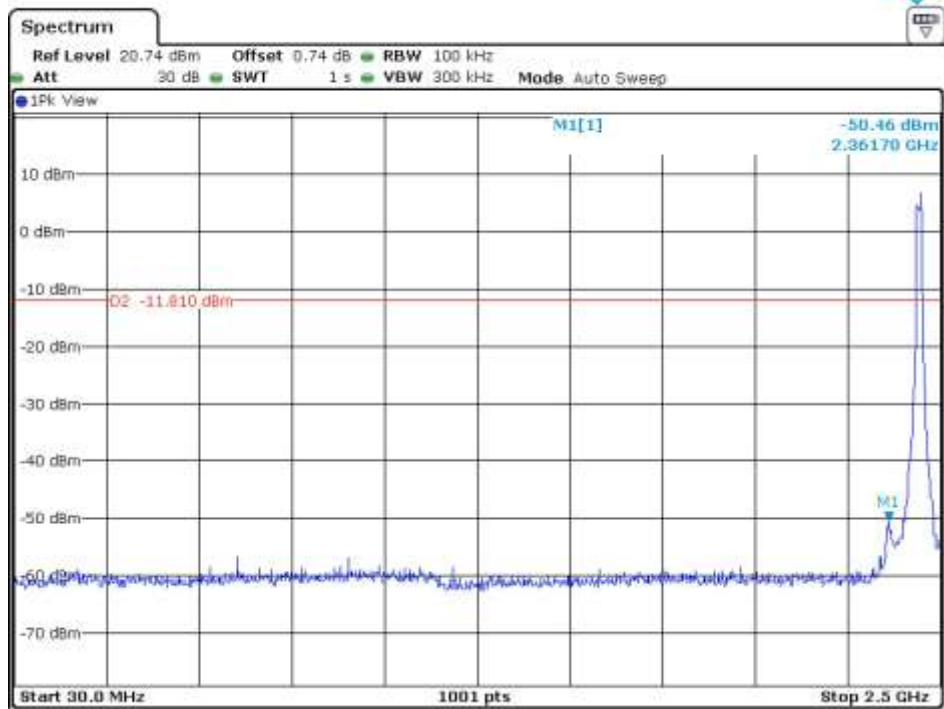
Middle Channel



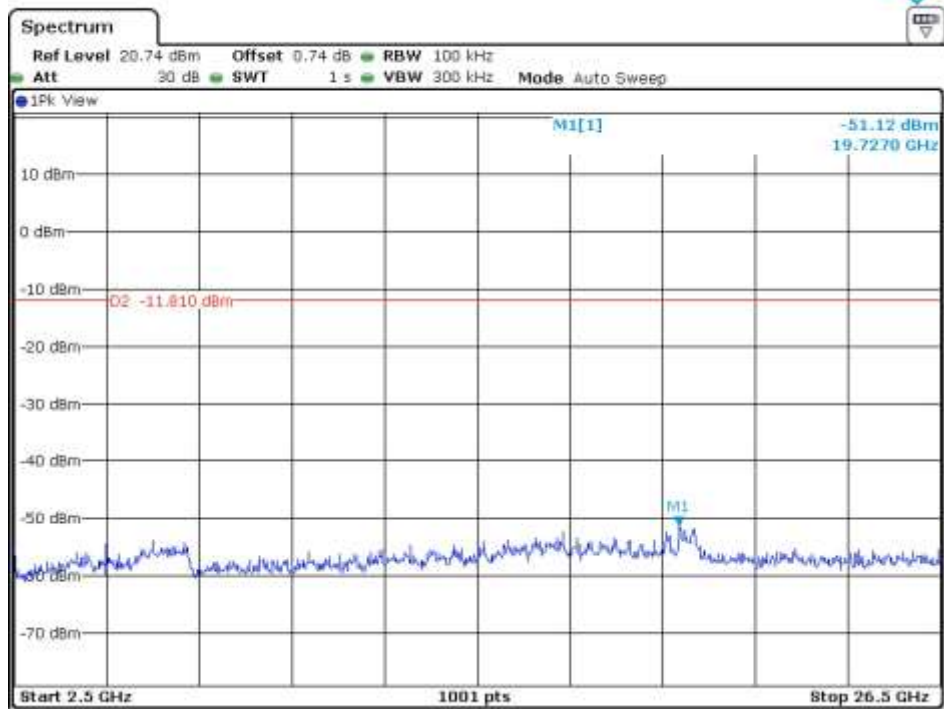
Low Channel



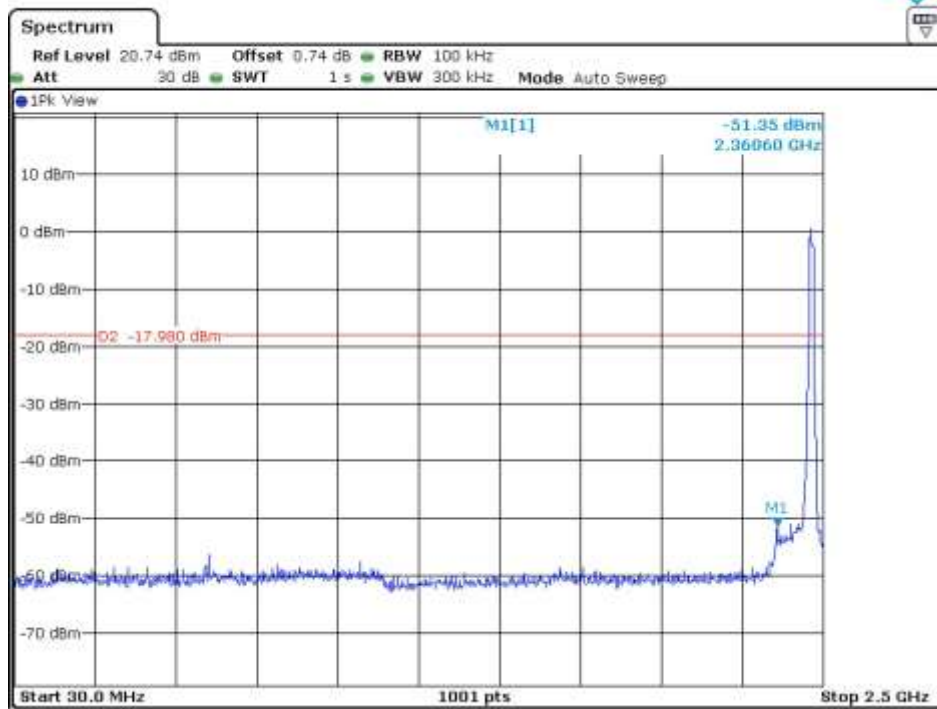
Low Channel



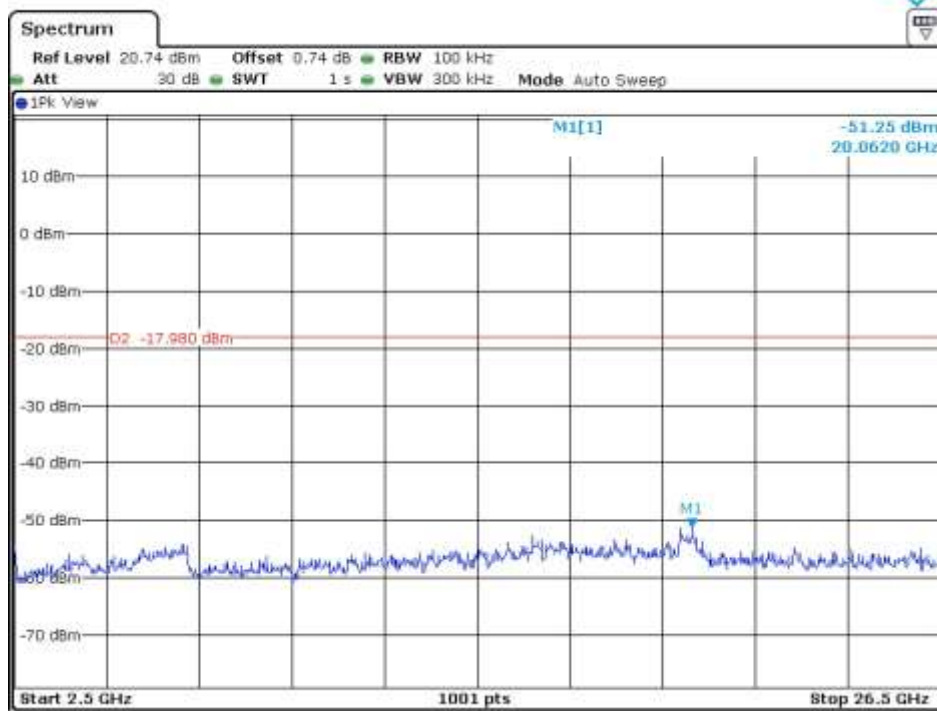
Middle Channel



Middle Channel

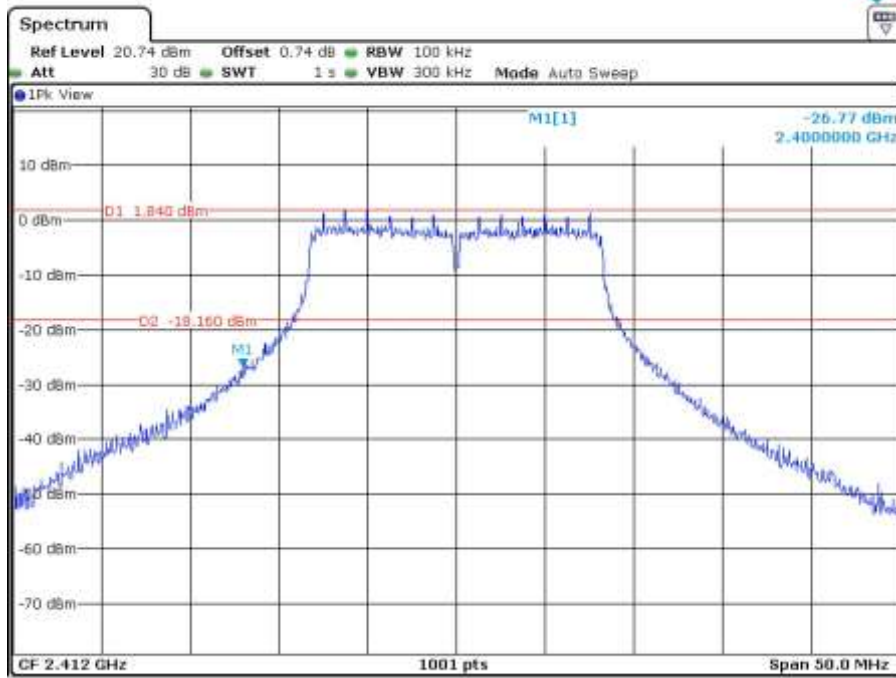


High Channel

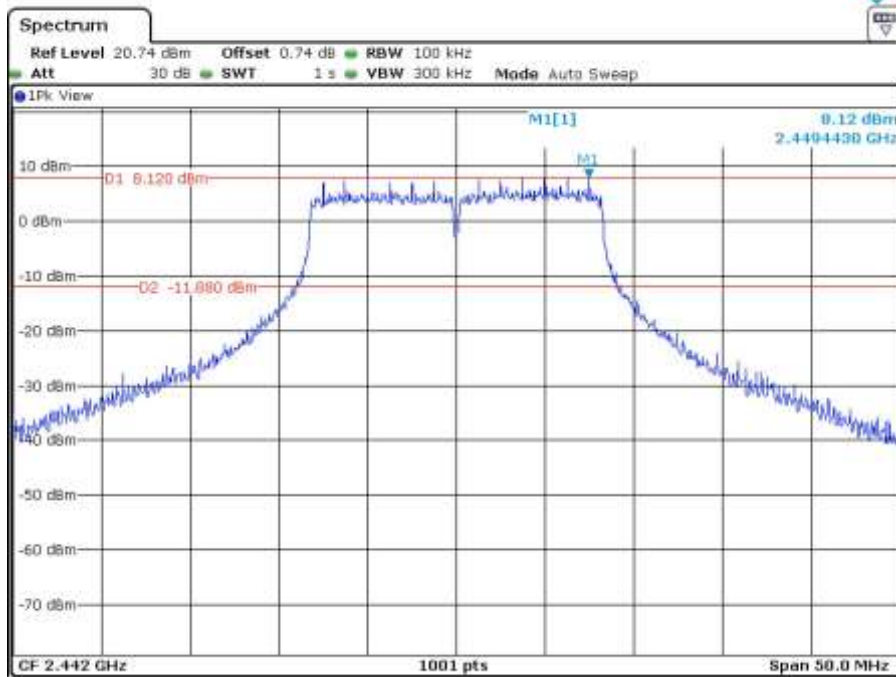


High Channel

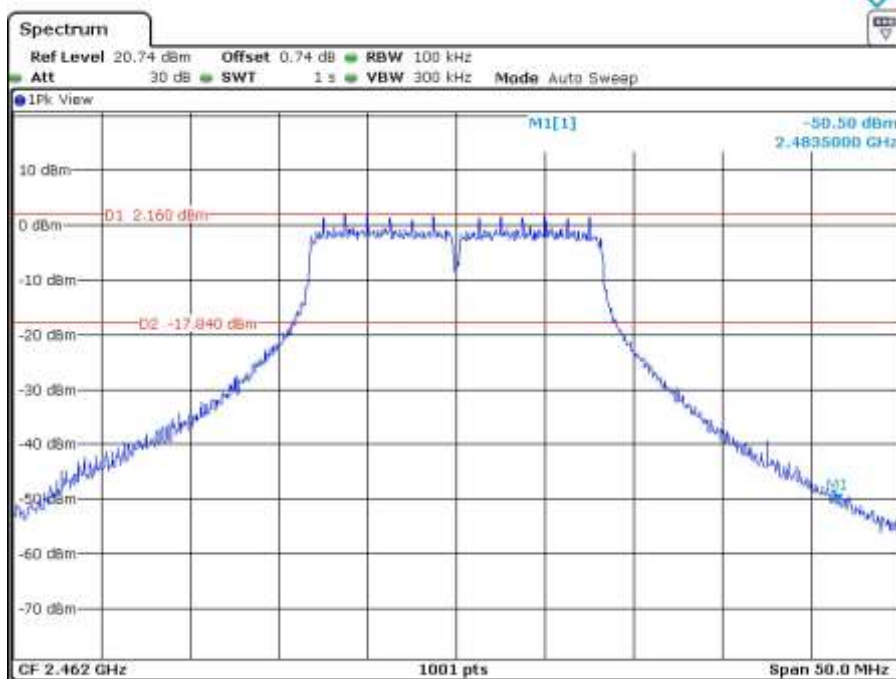
9.5.2.3 Test data for Antenna 2



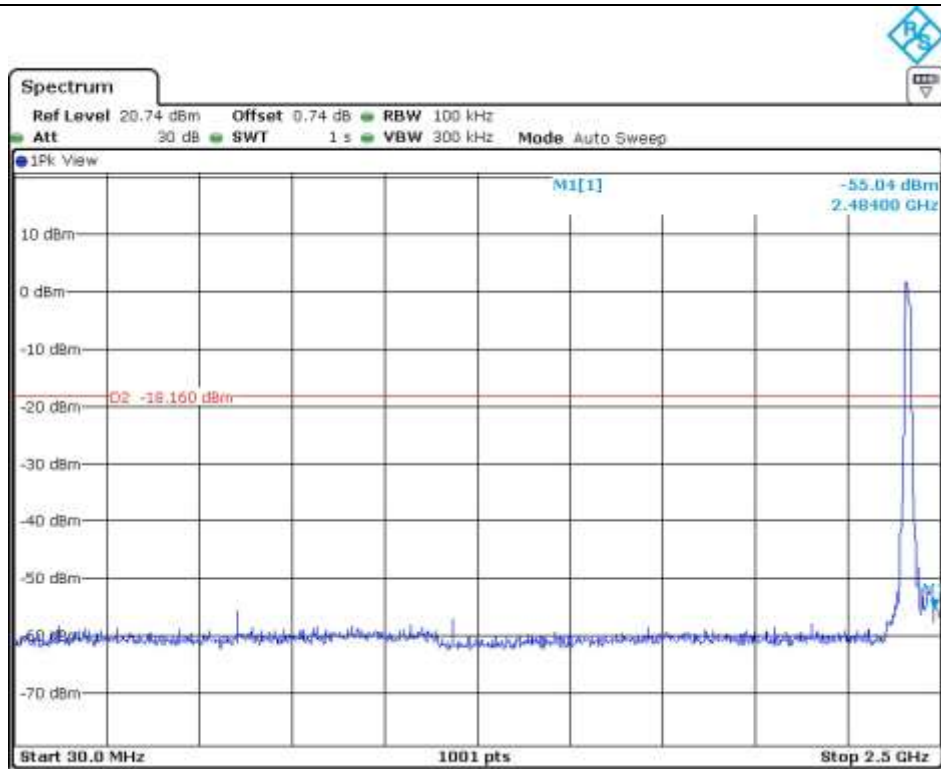
Low Channel



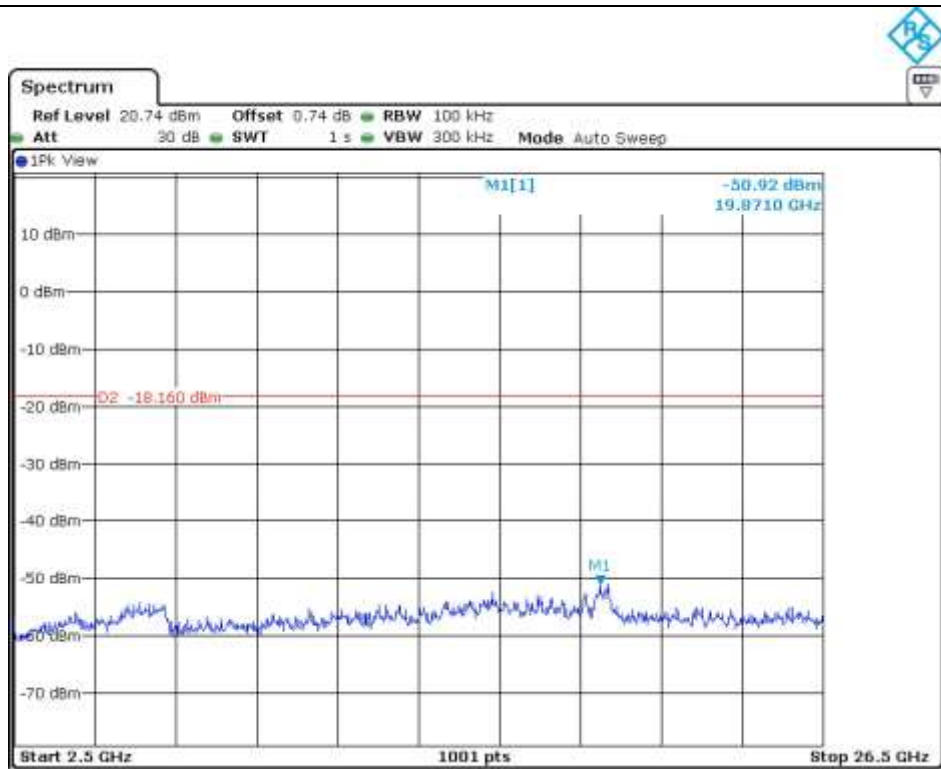
Middle Channel



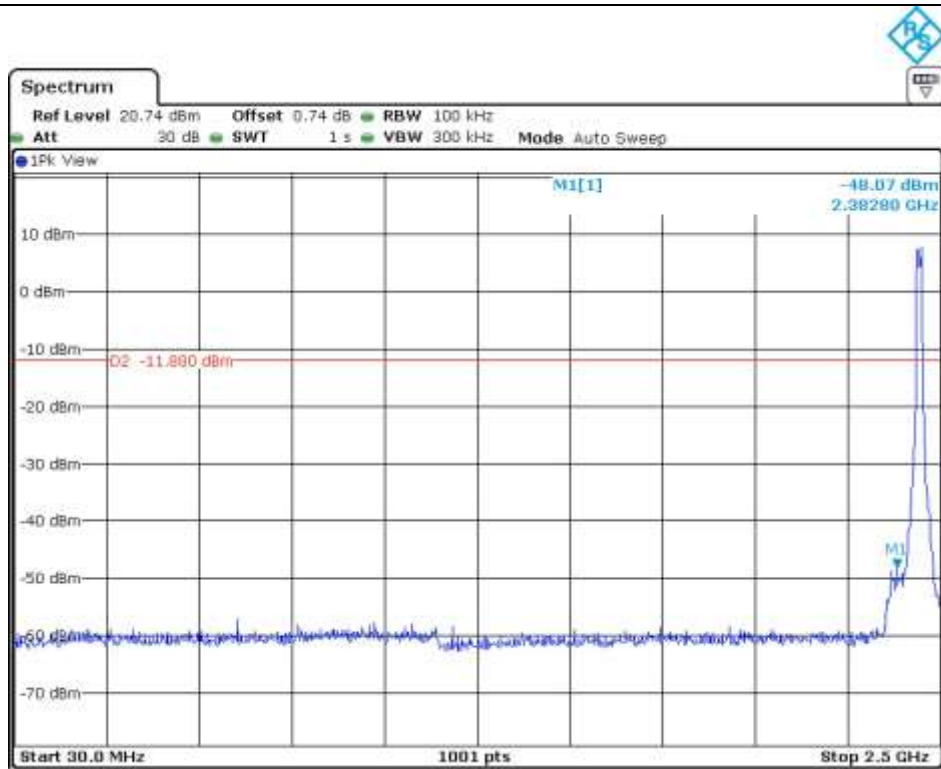
High Channel



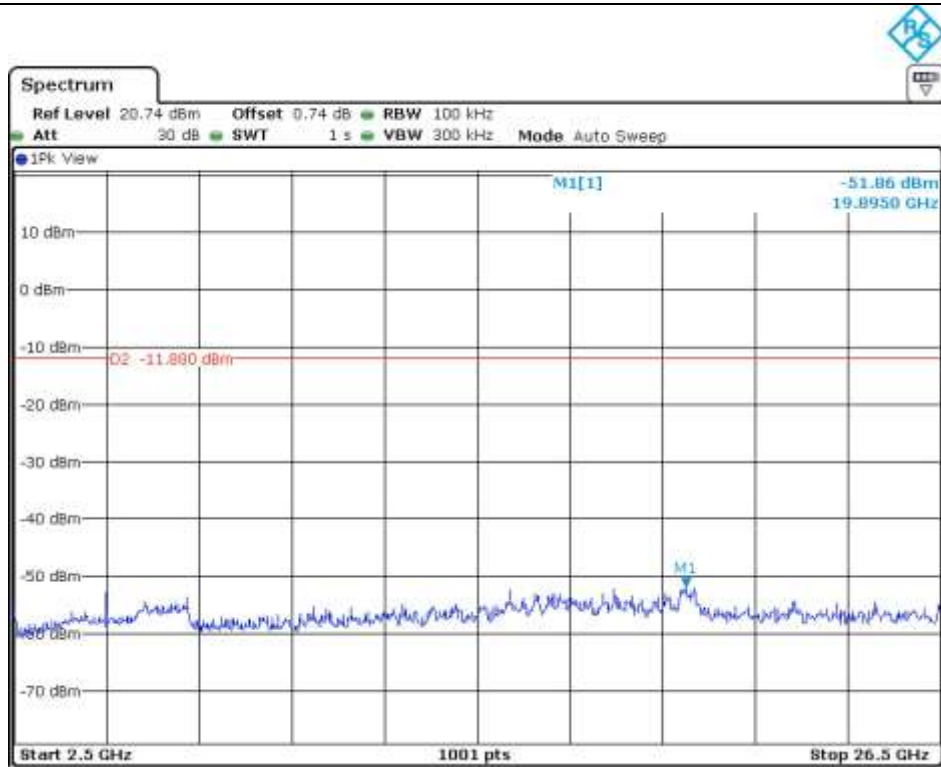
Low Channel



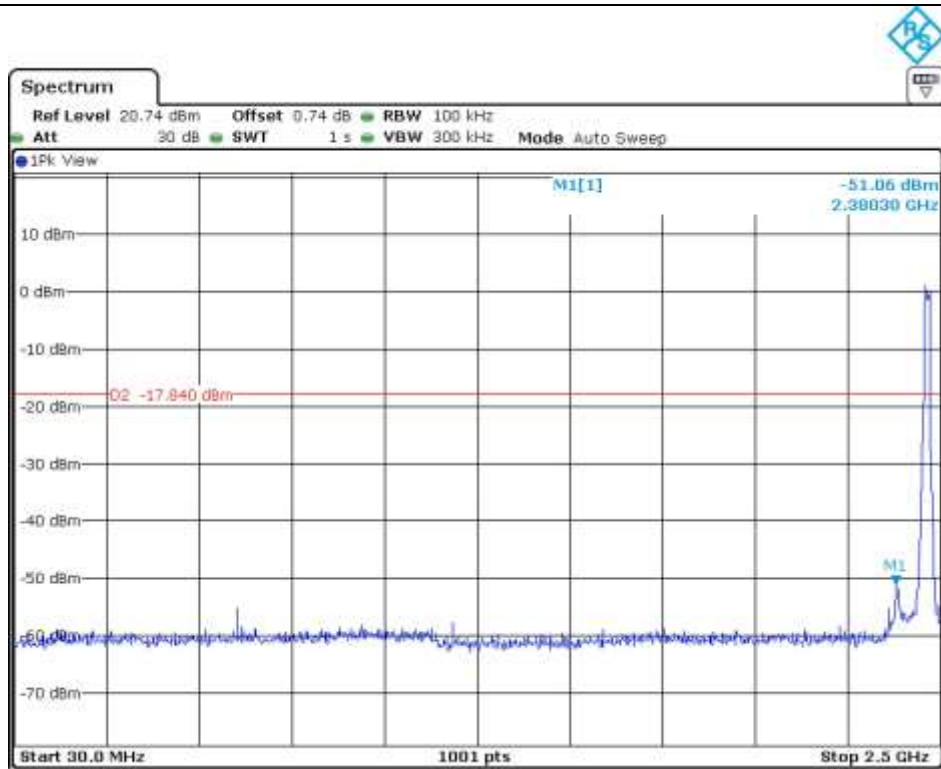
Low Channel



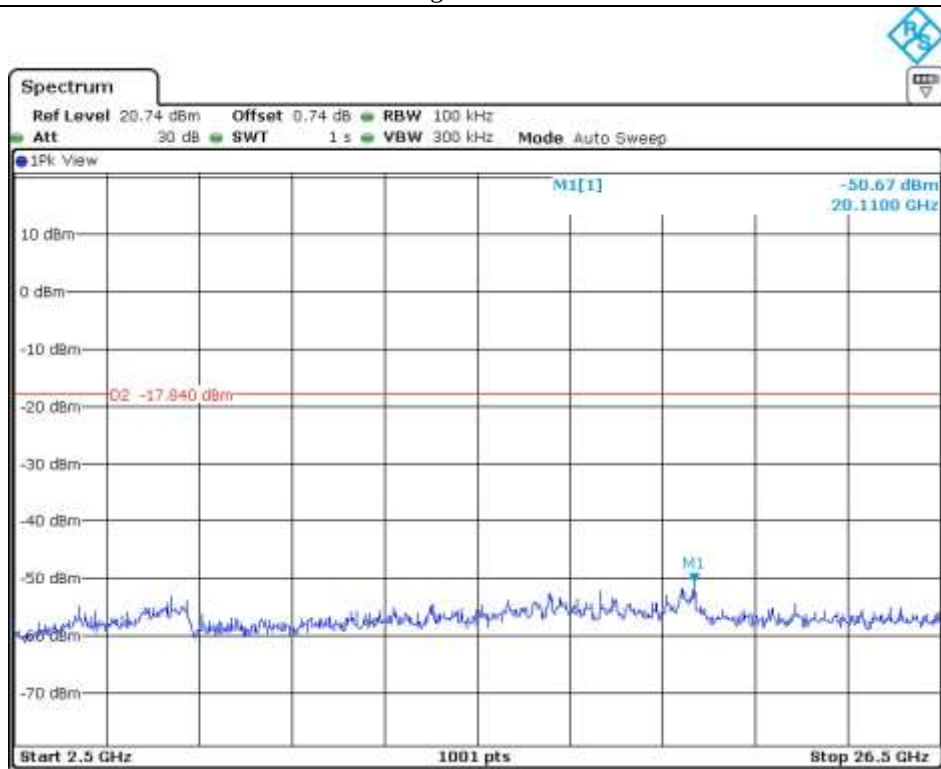
Middle Channel



Middle Channel



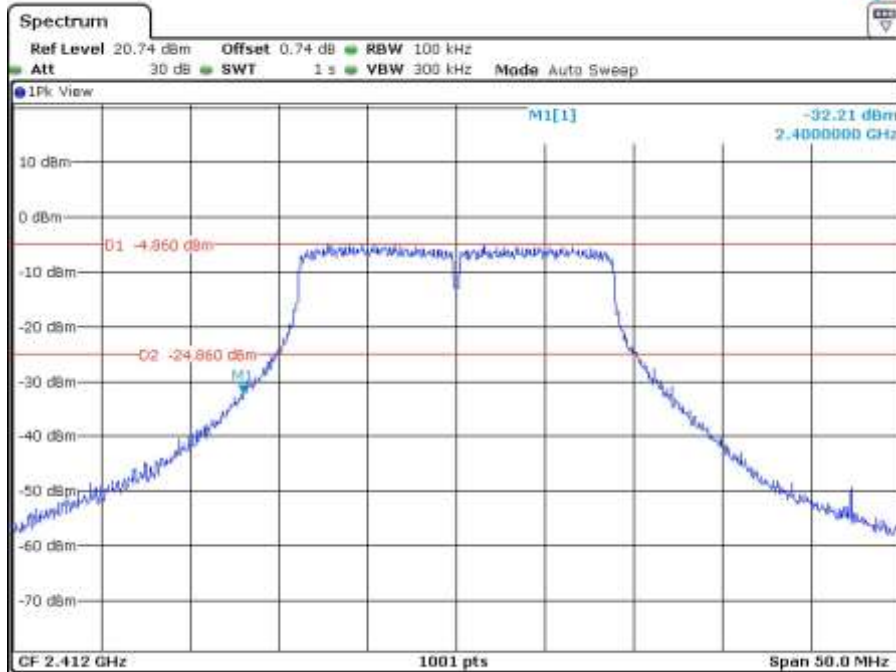
High Channel



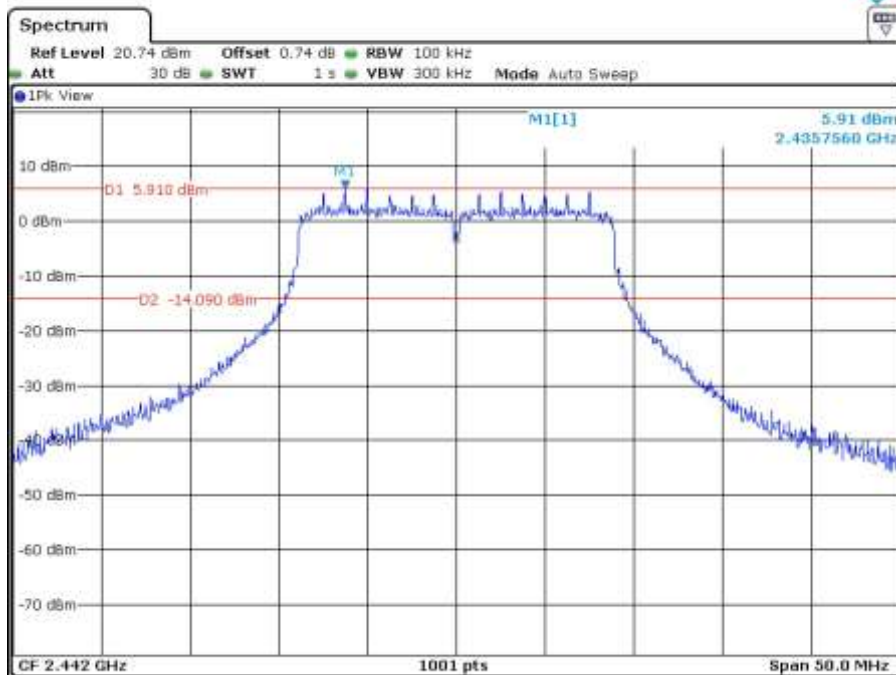
High Channel

9.5.3 Test data for 802.11n_HT20 WLAN Mode

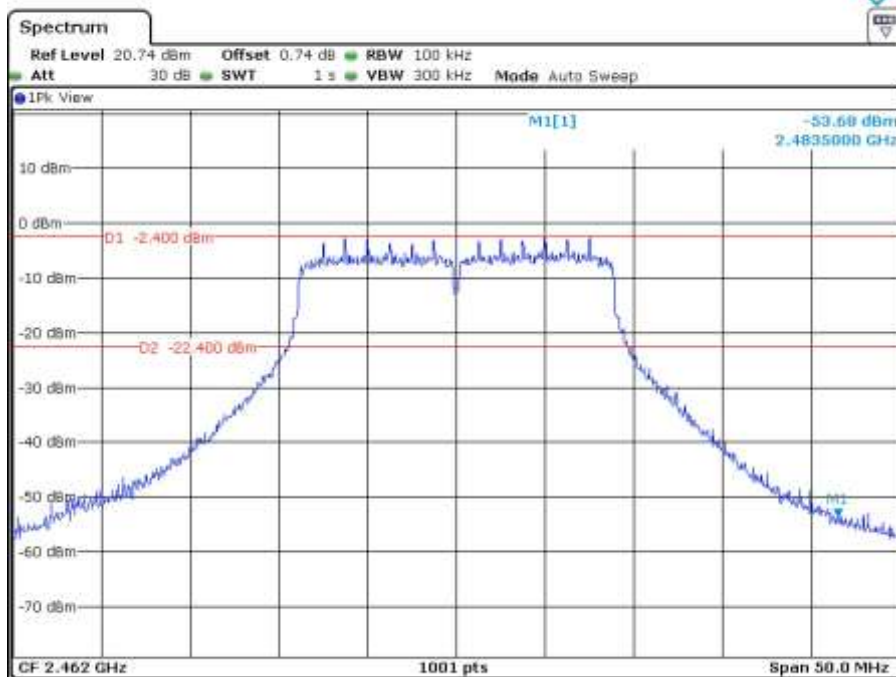
9.5.3.1 Test data for Antenna 0



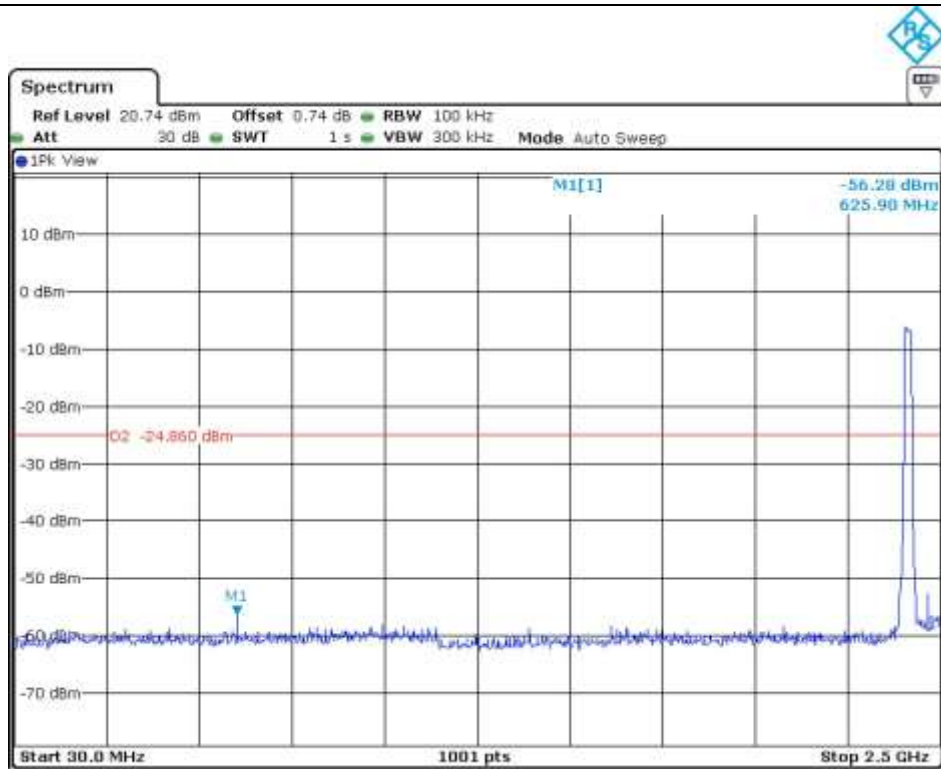
Low Channel



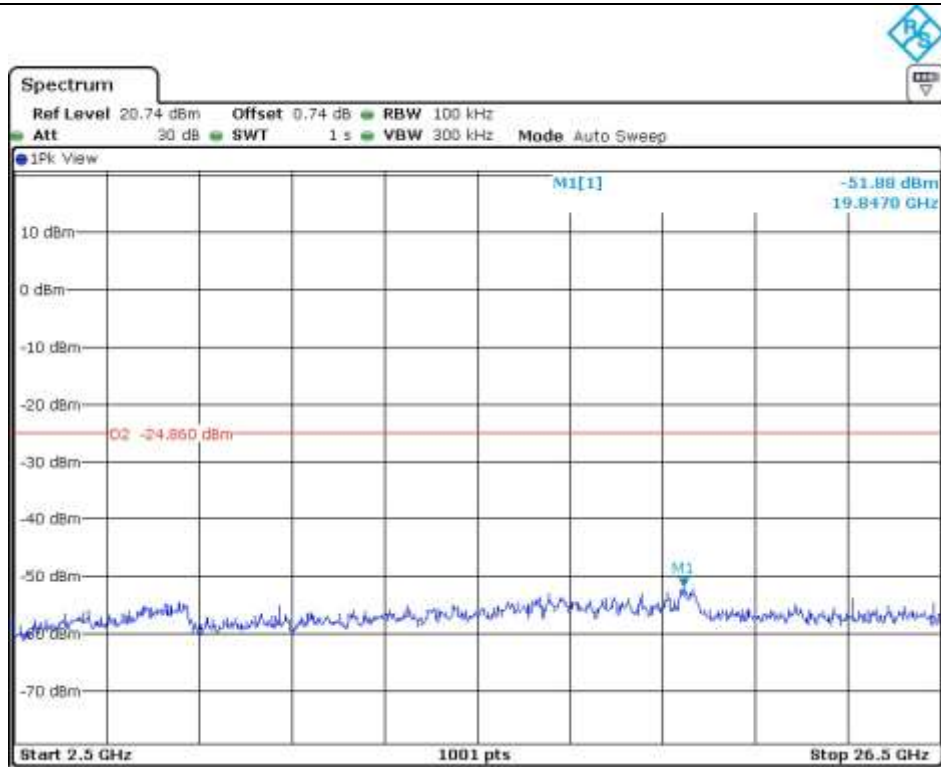
Middle Channel



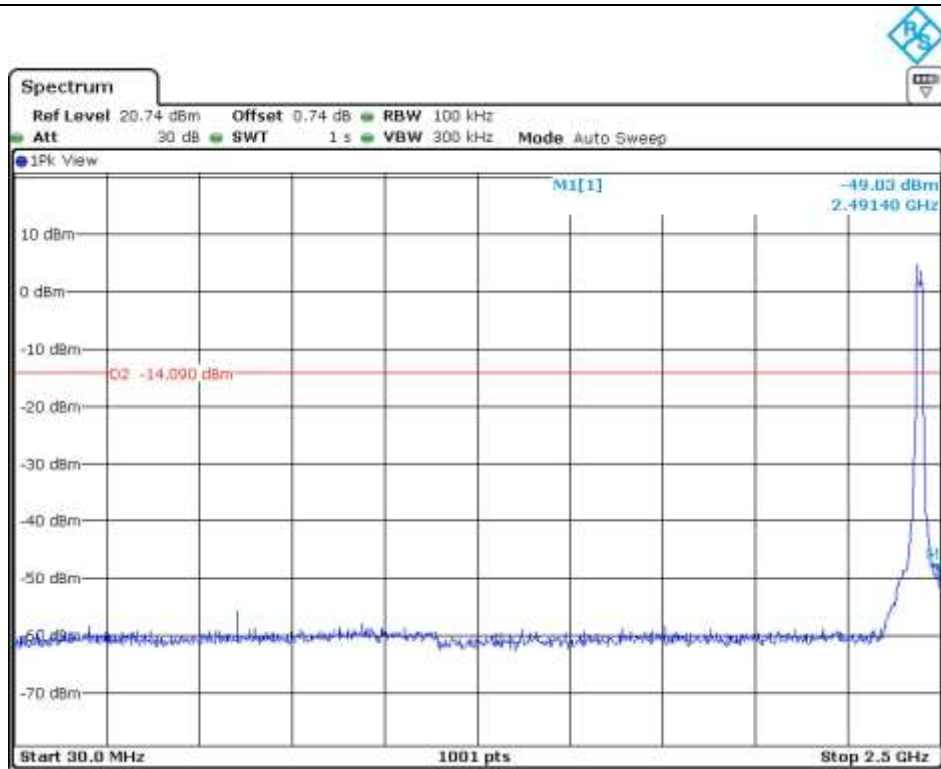
High Channel



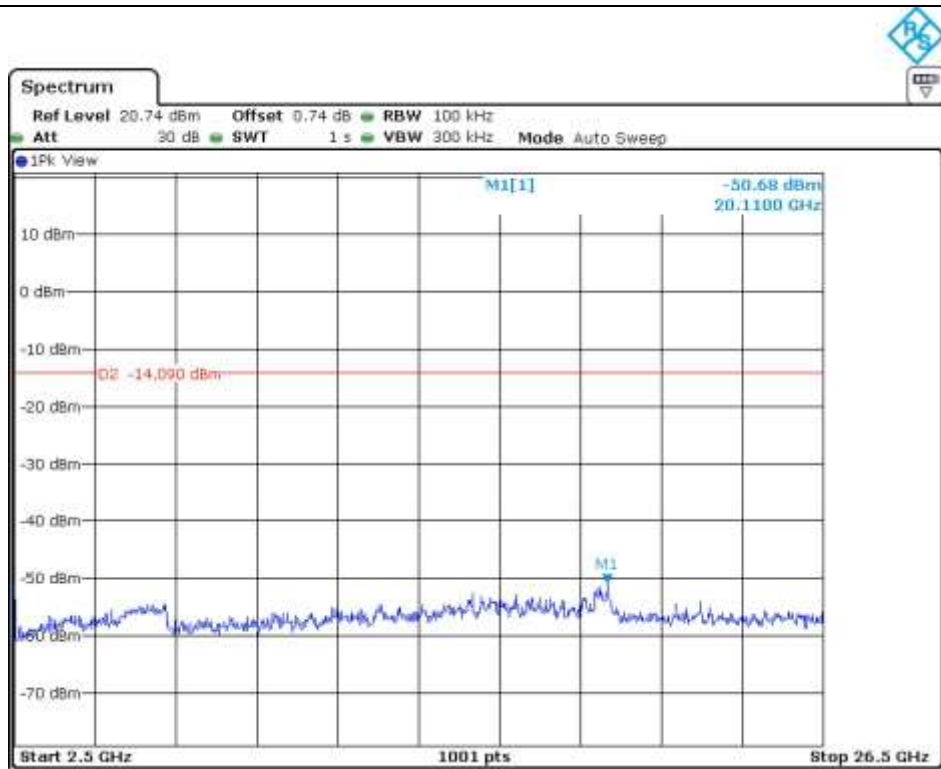
Low Channel



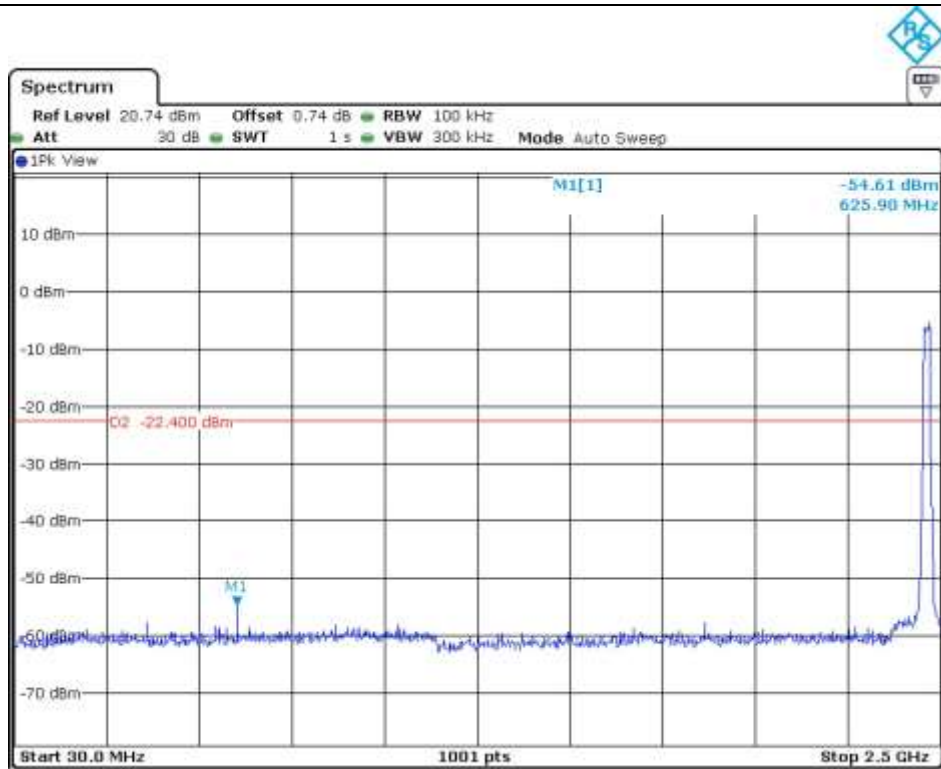
Low Channel



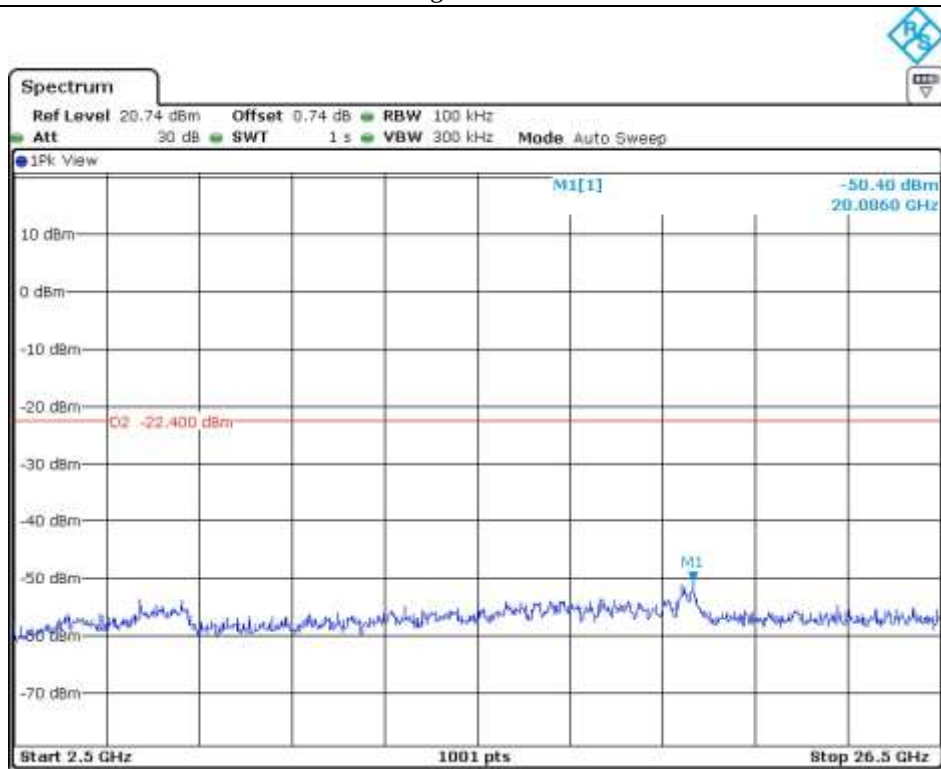
Middle Channel



Middle Channel

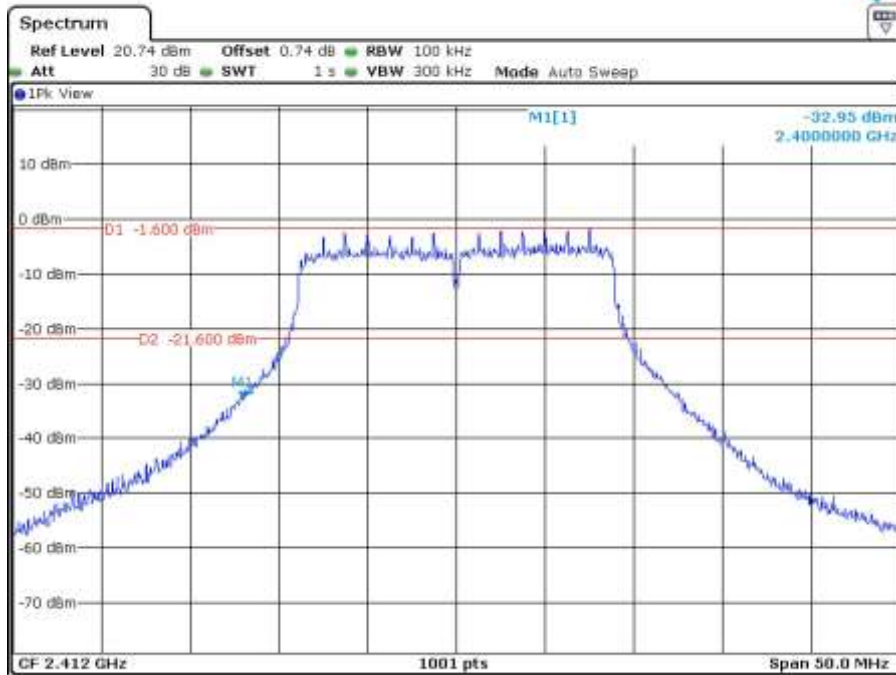


High Channel

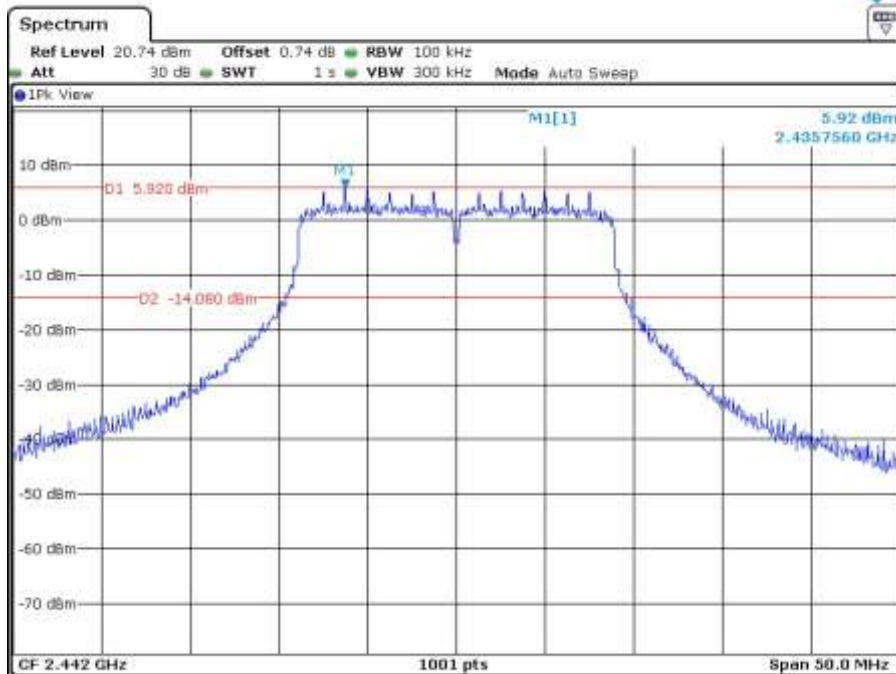


High Channel

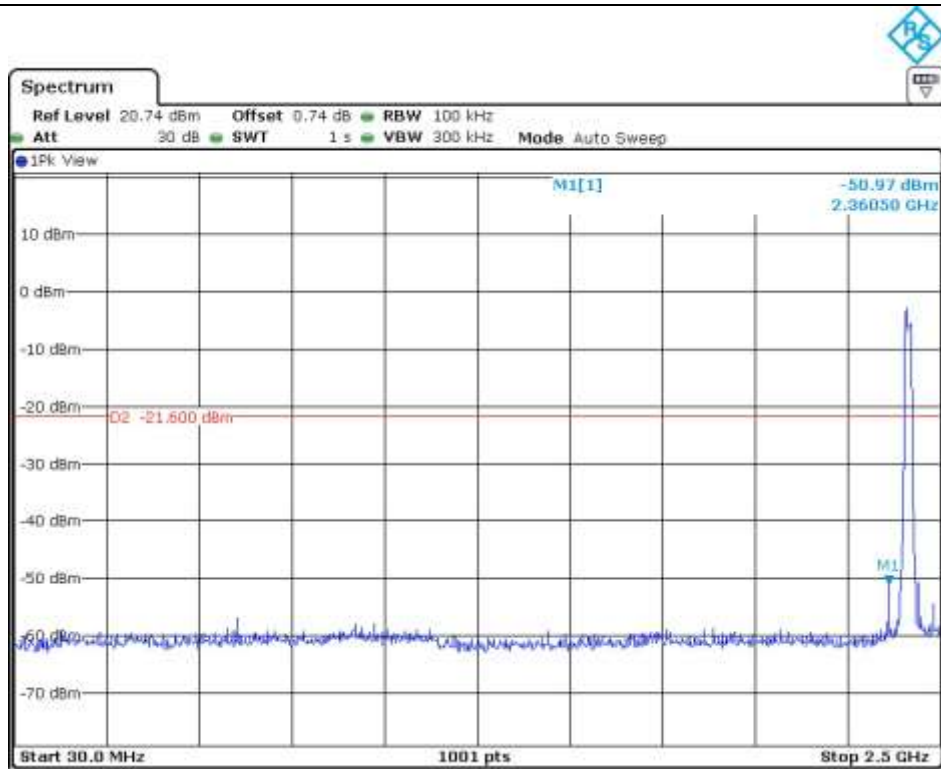
9.5.3.2 Test data for Antenna 1



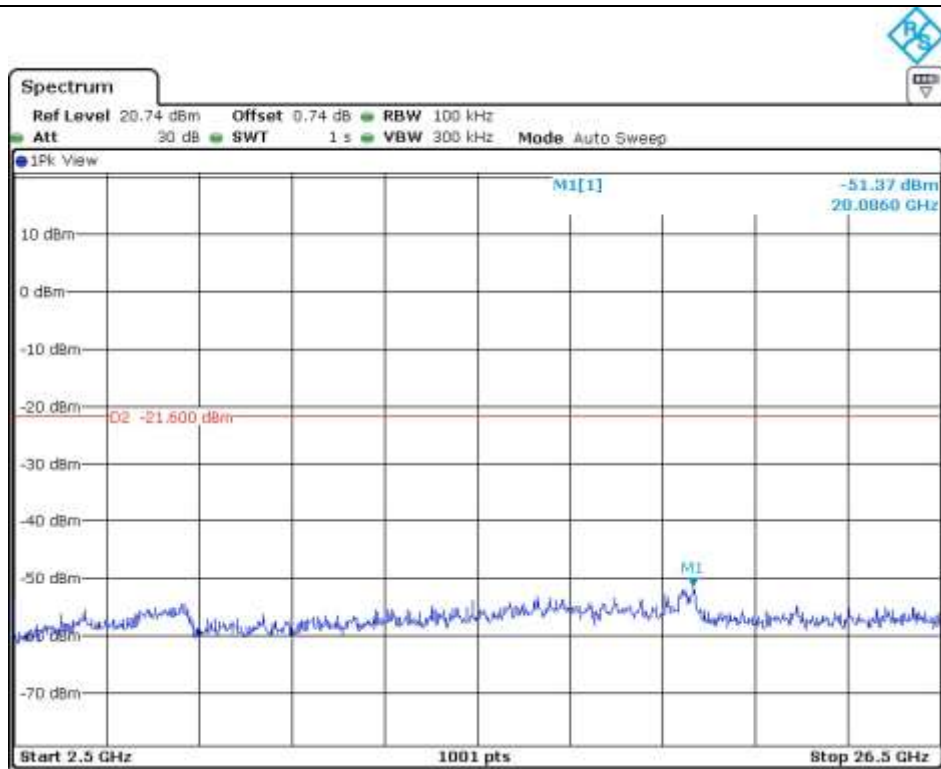
Low Channel



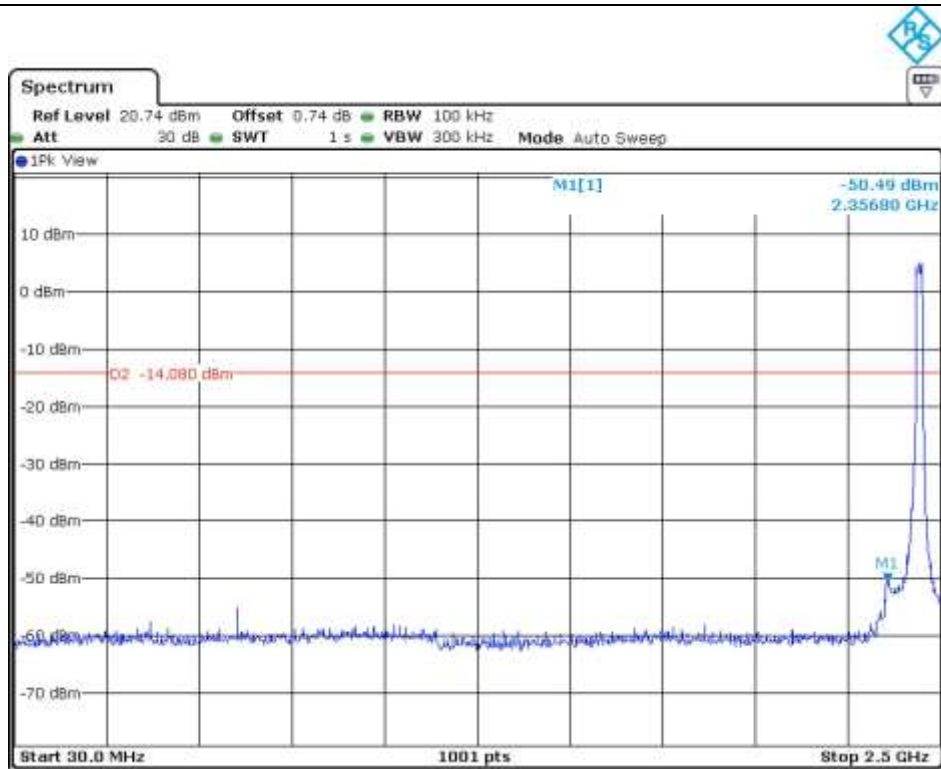
Middle Channel



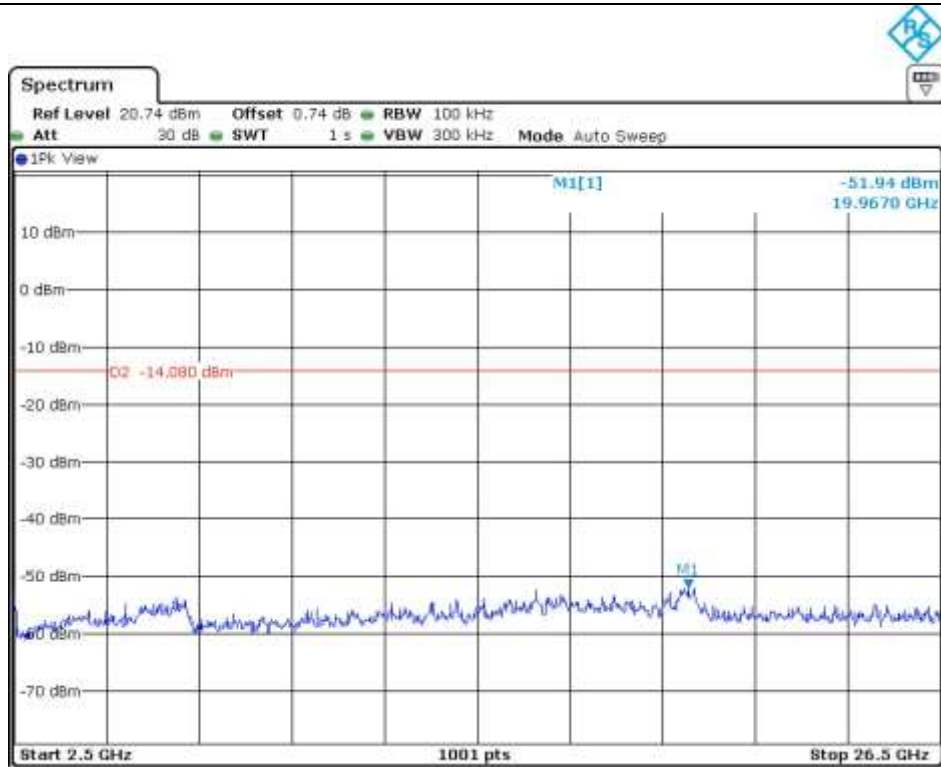
Low Channel



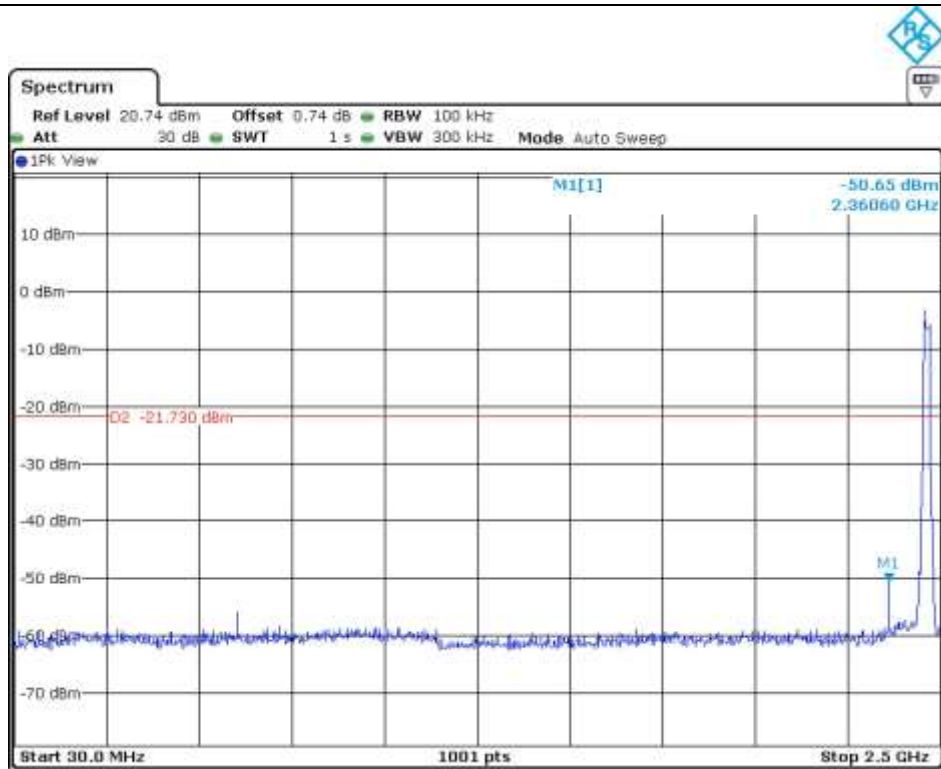
Low Channel



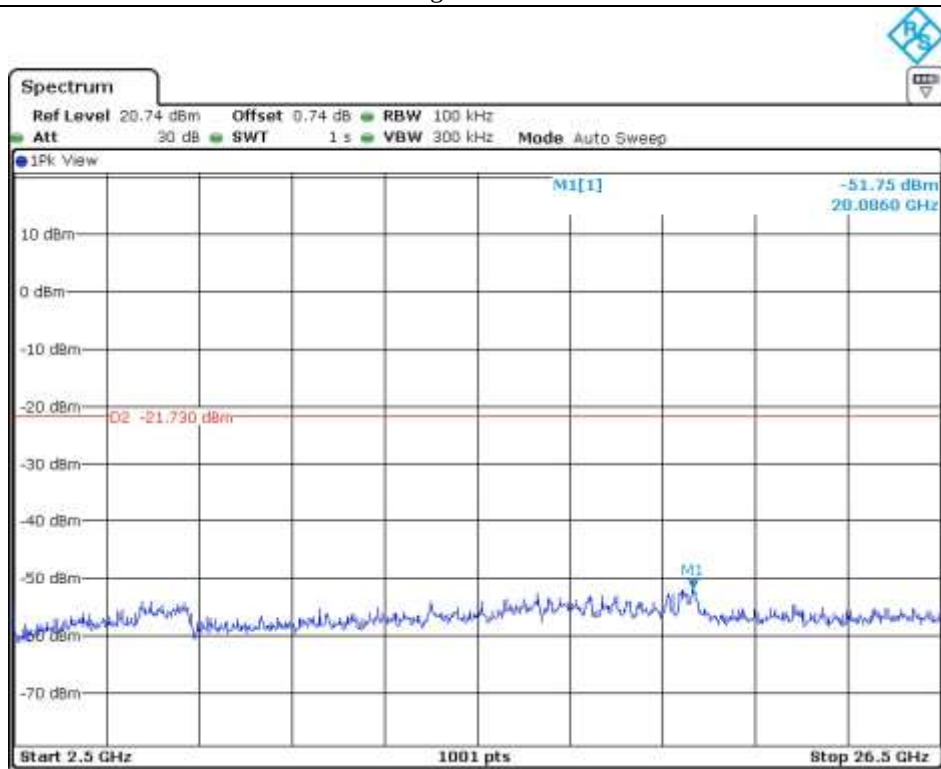
Middle Channel



Middle Channel

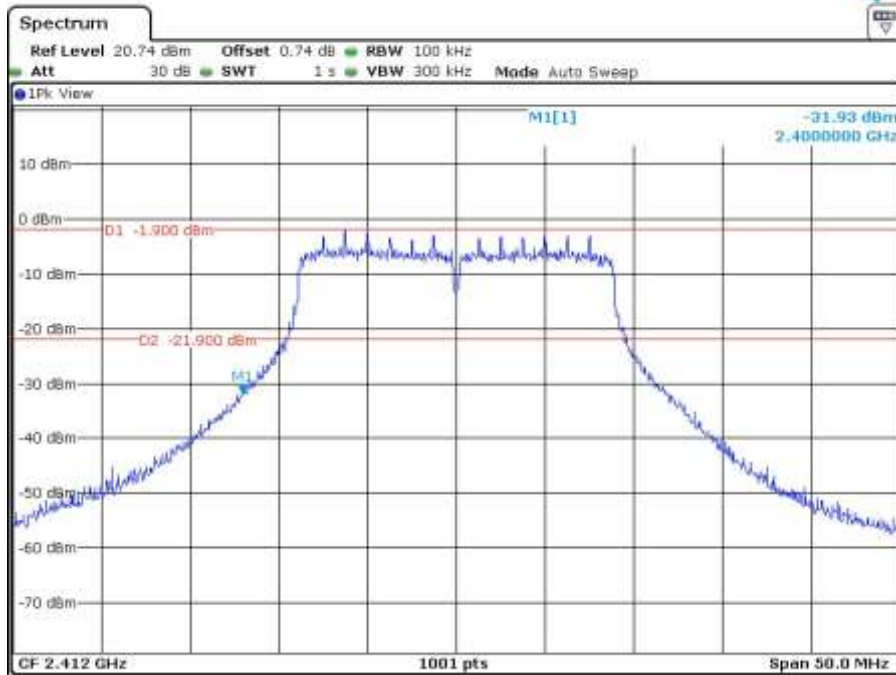


High Channel

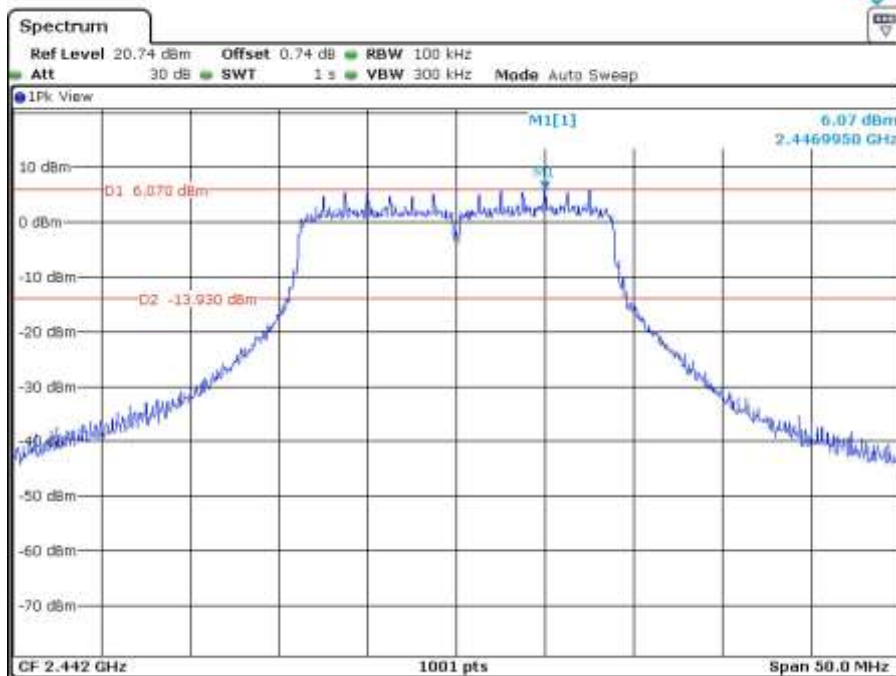


High Channel

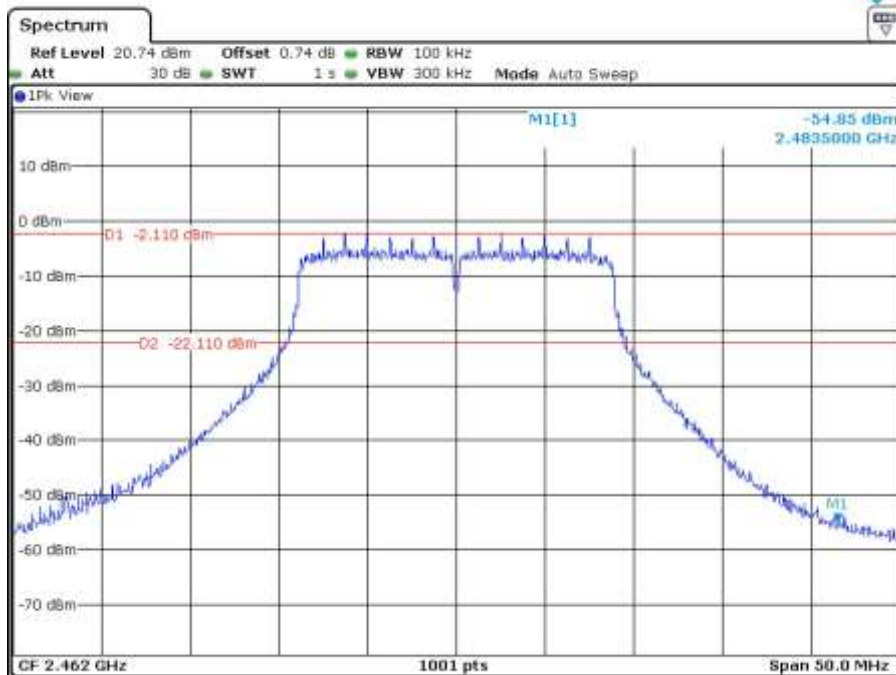
9.5.3.3 Test data for Antenna 2



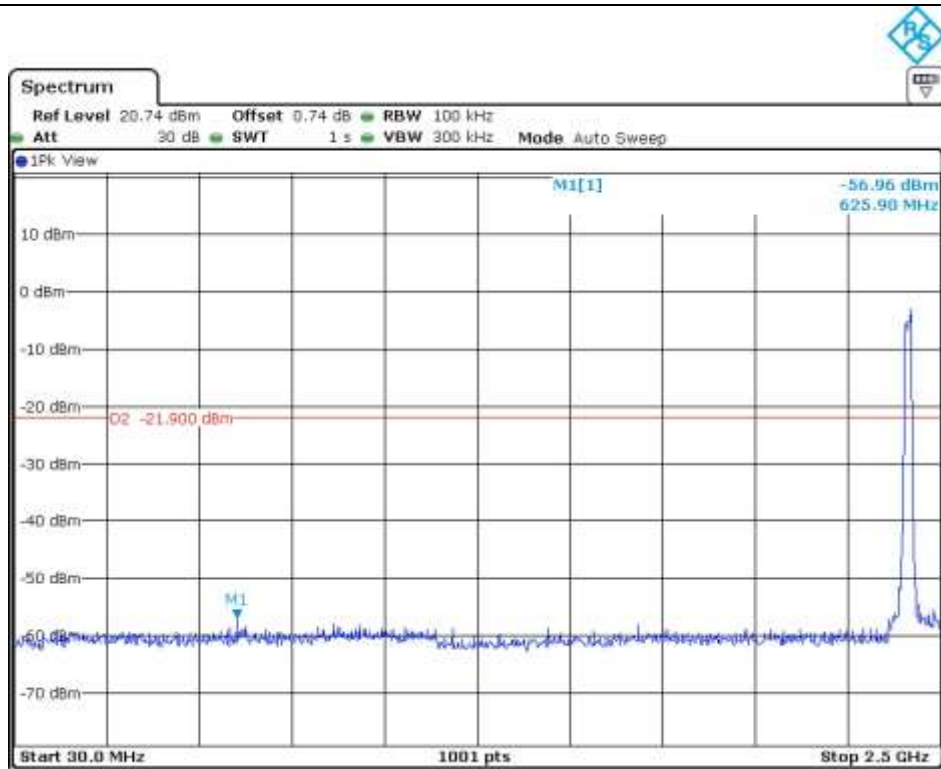
Low Channel



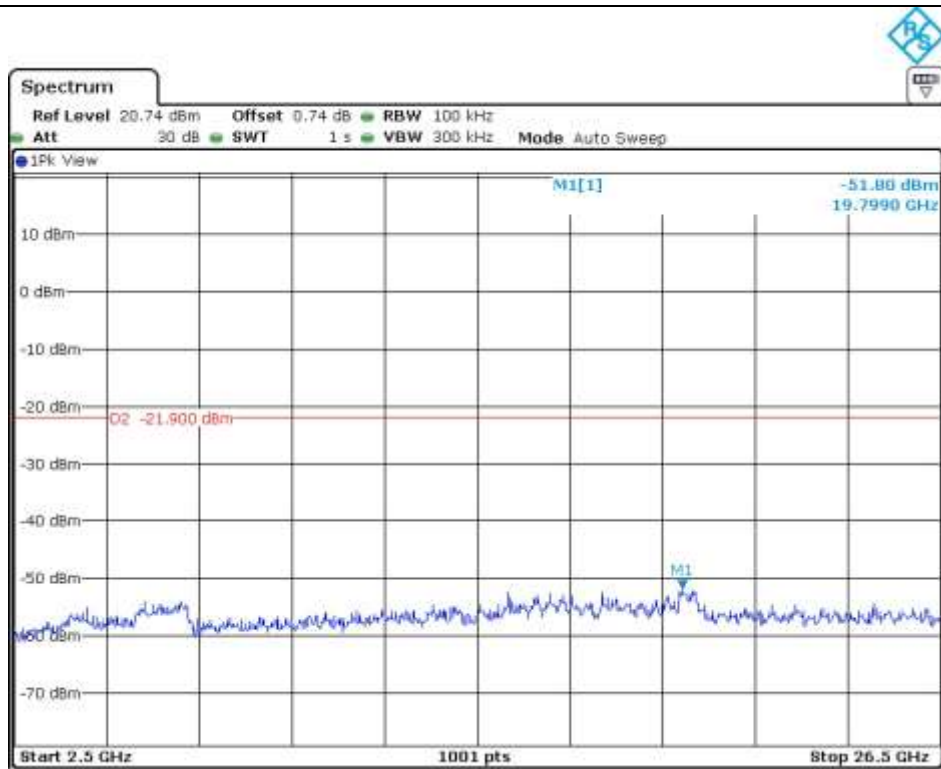
Middle Channel



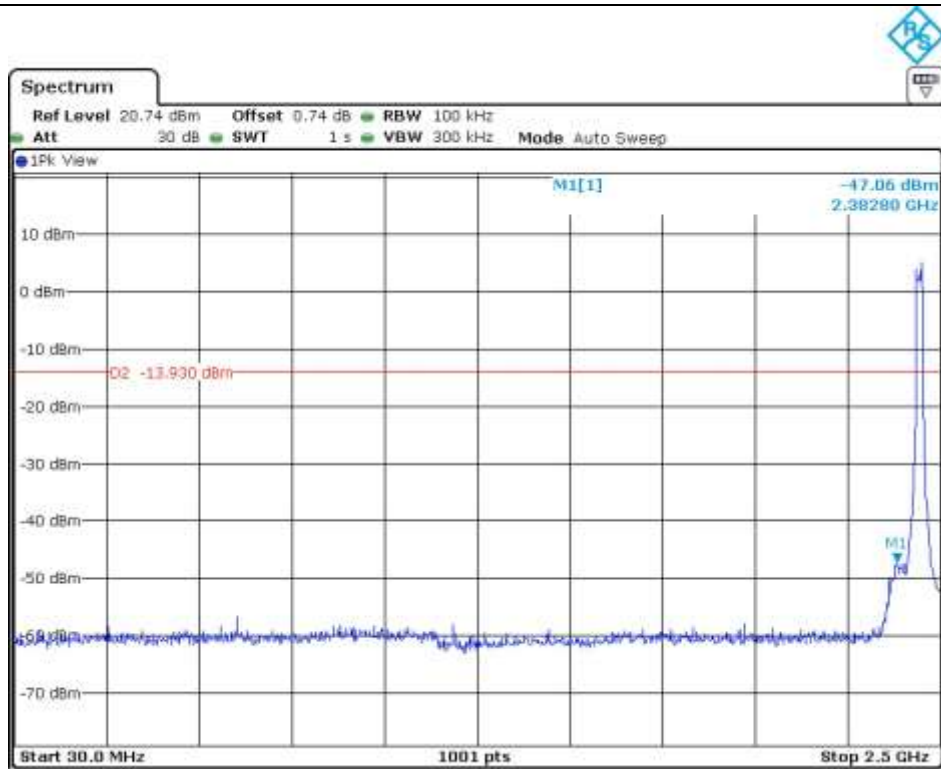
High Channel



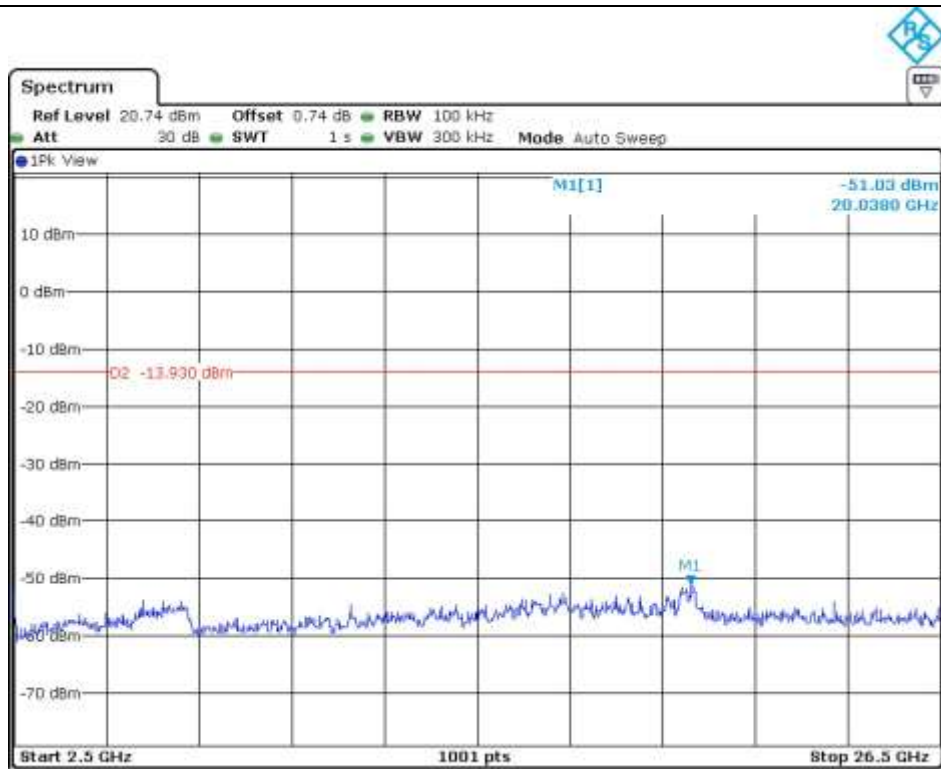
Low Channel



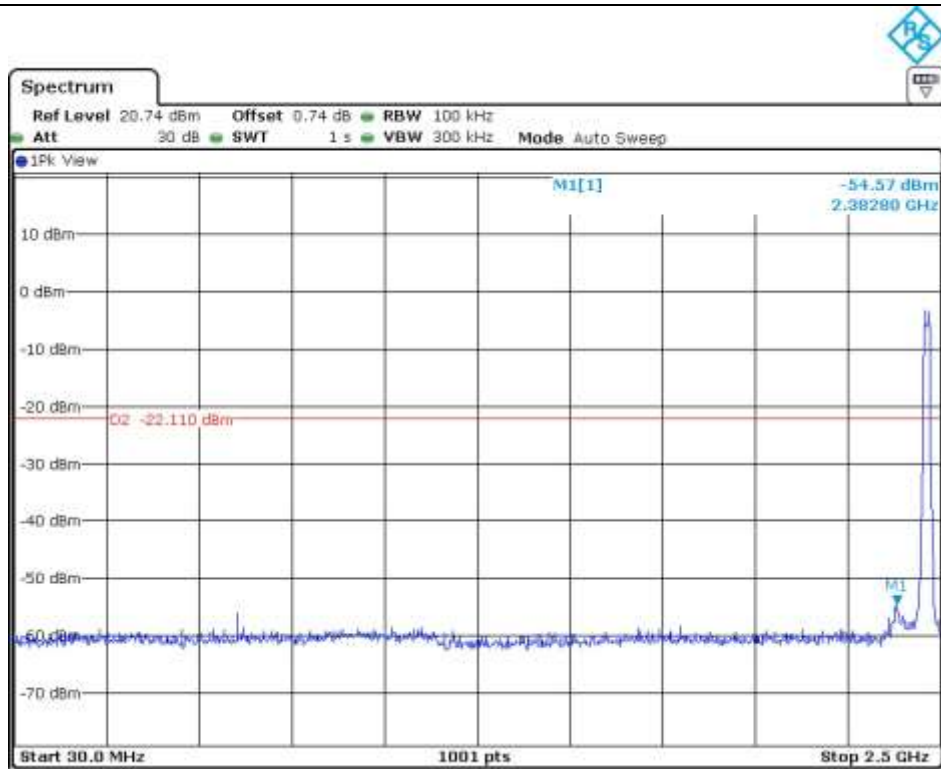
Low Channel



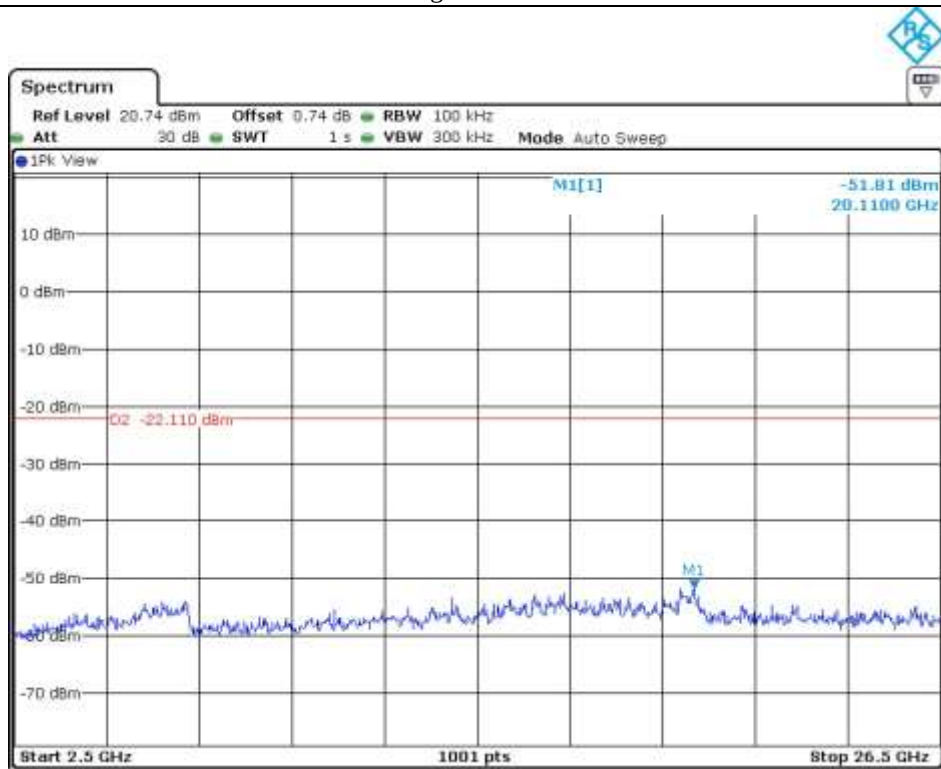
Middle Channel



Middle Channel



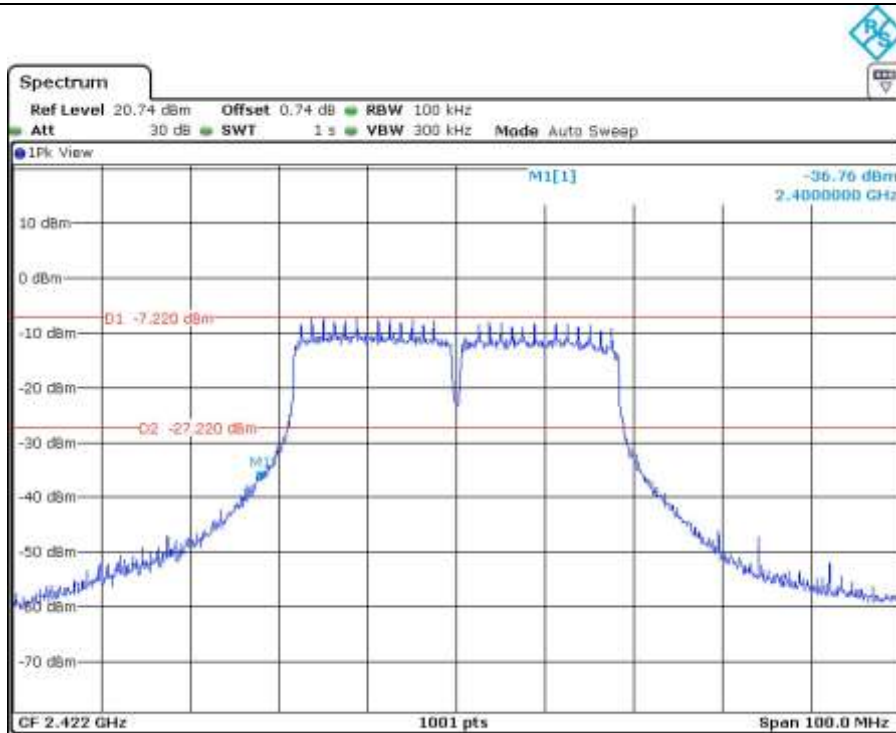
High Channel



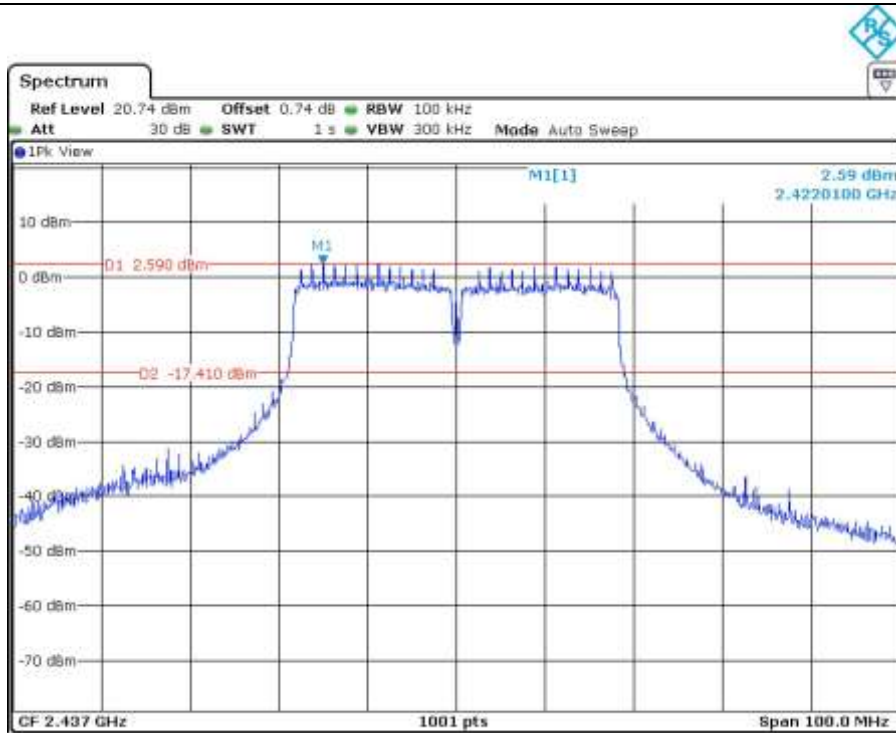
High Channel

9.5.4 Test data for 802.11n_HT40 WLAN Mode

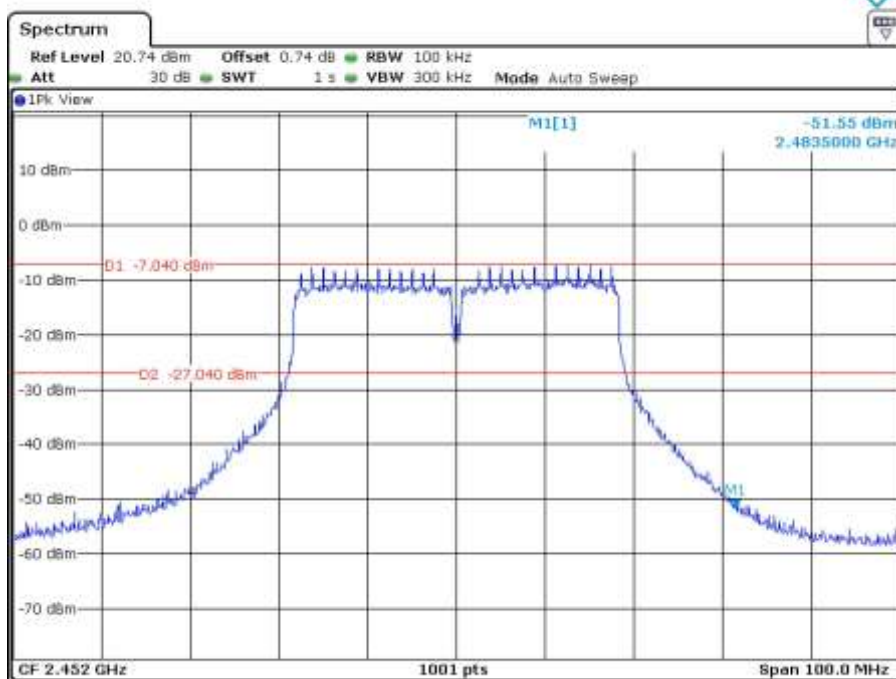
9.5.4.1 Test data for Antenna 0



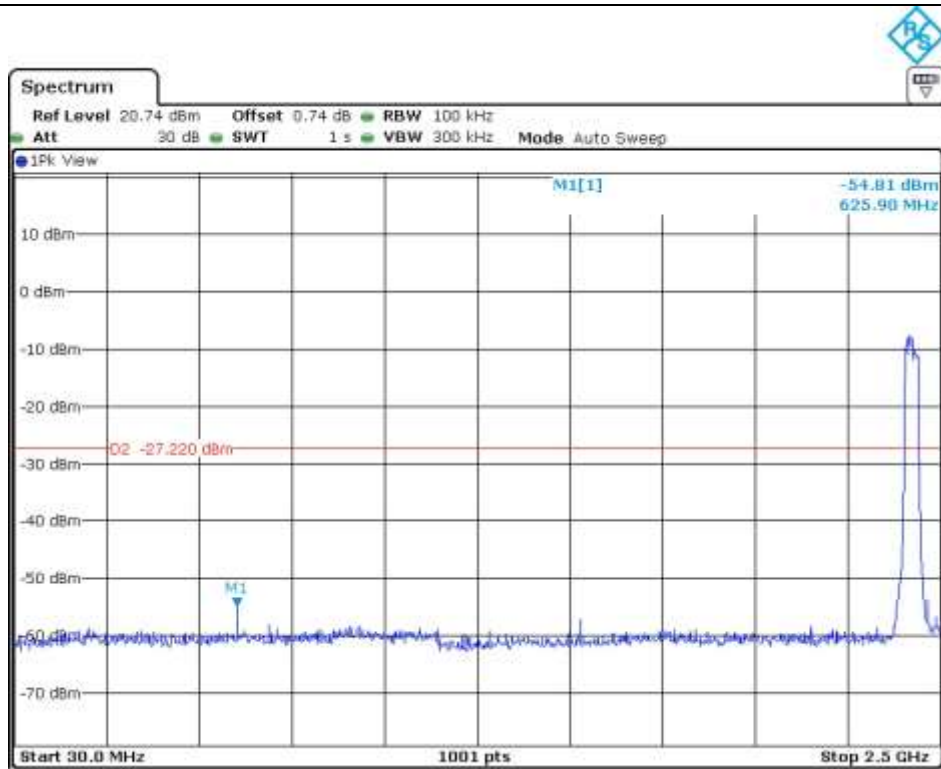
Low Channel



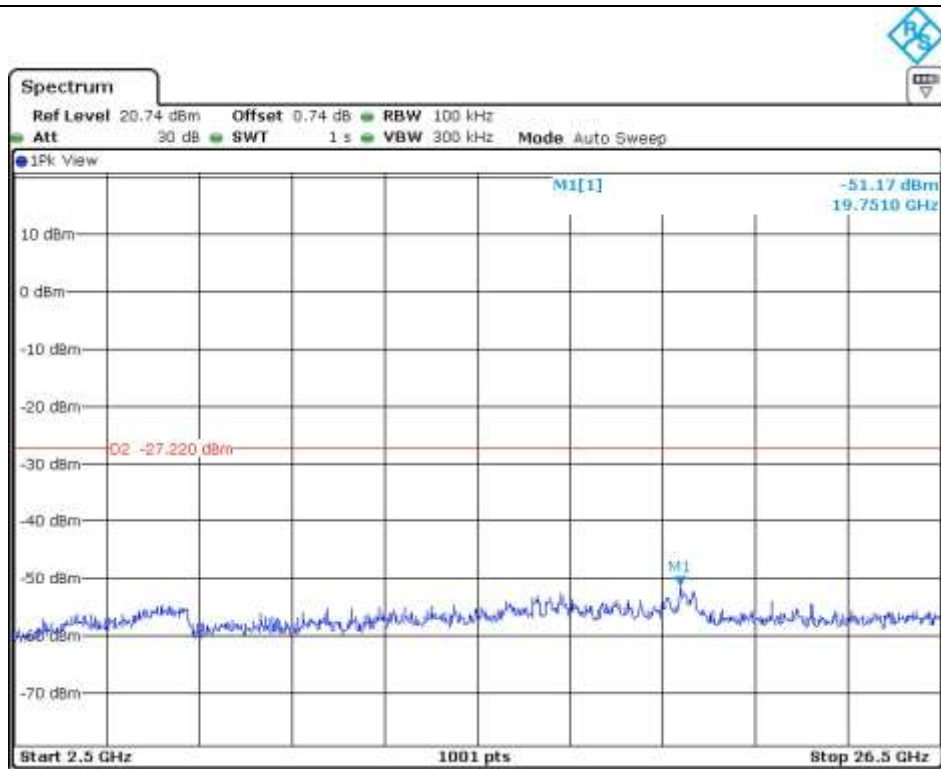
Middle Channel



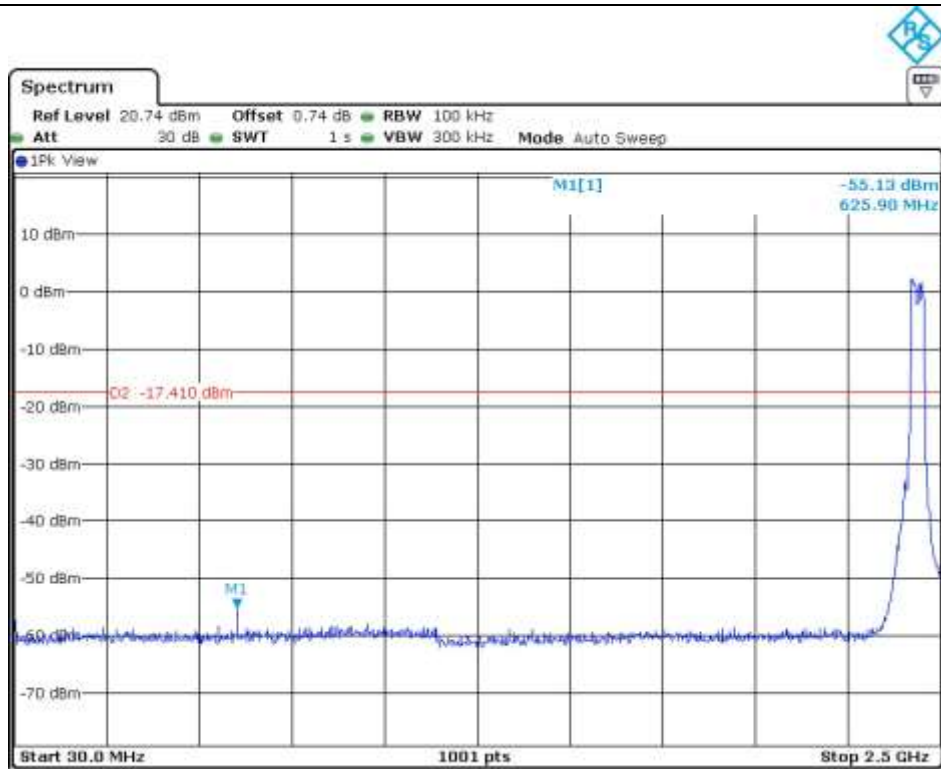
High Channel



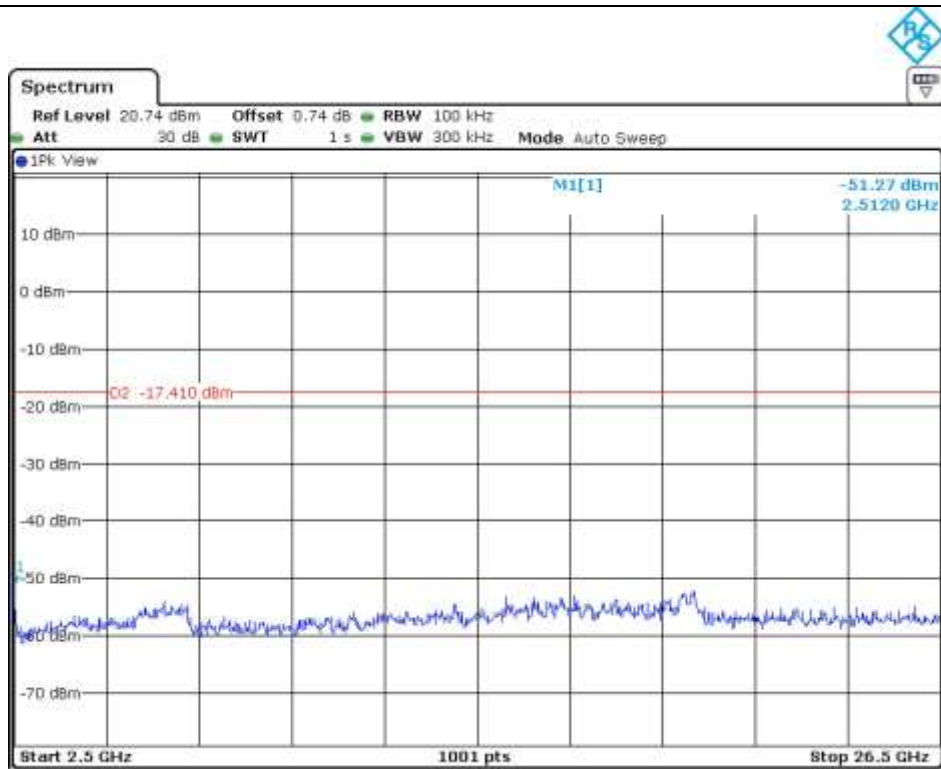
Low Channel



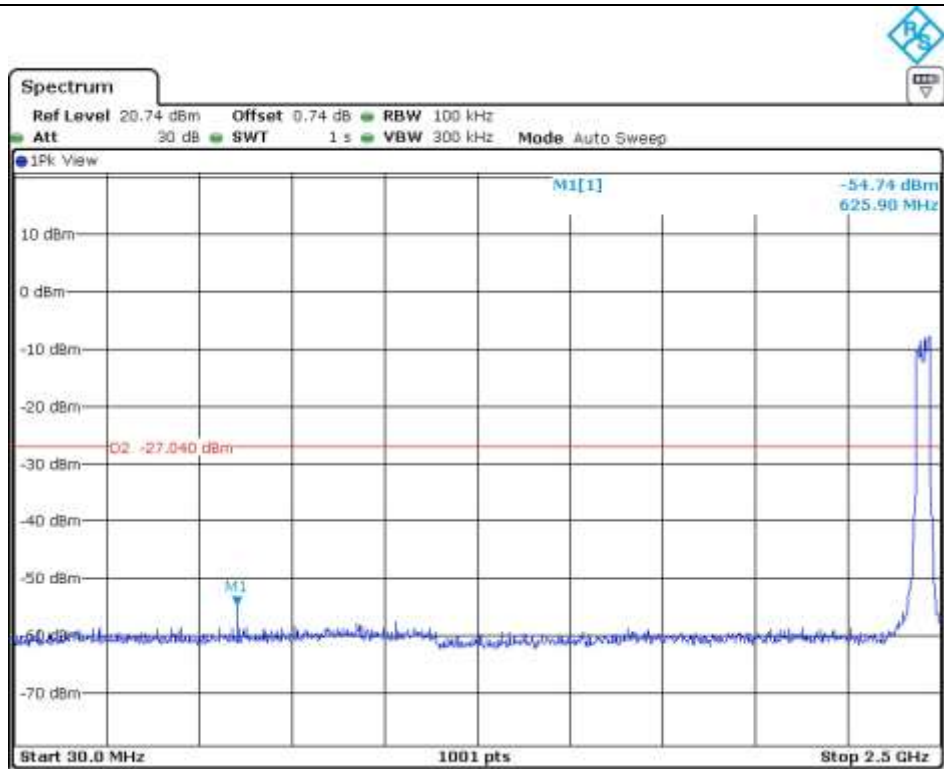
Low Channel



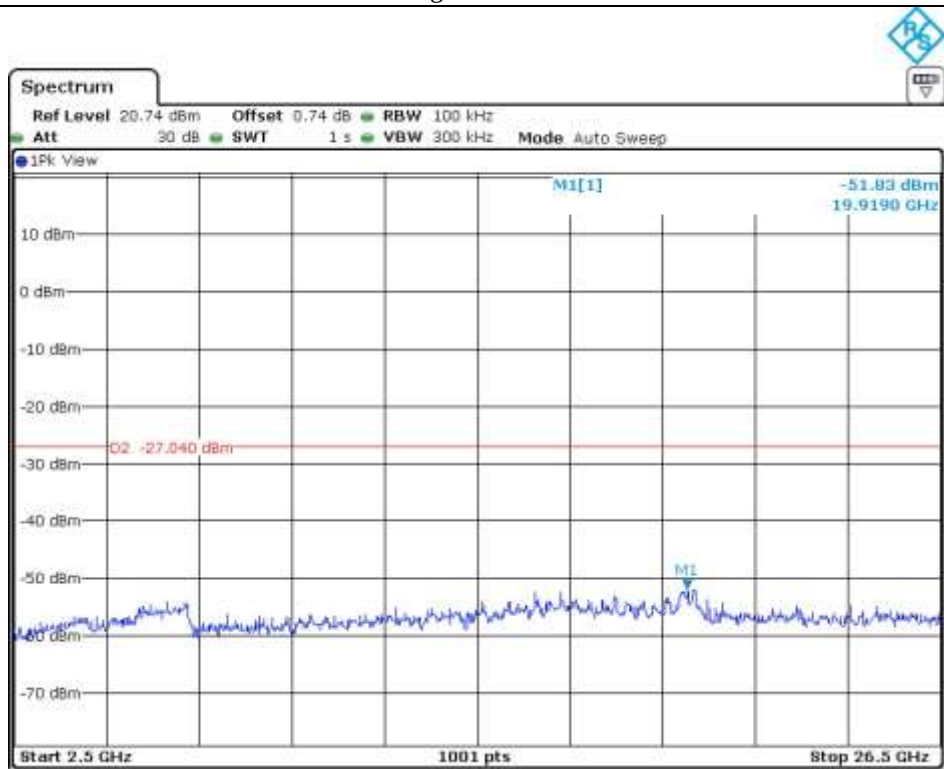
Middle Channel



Middle Channel

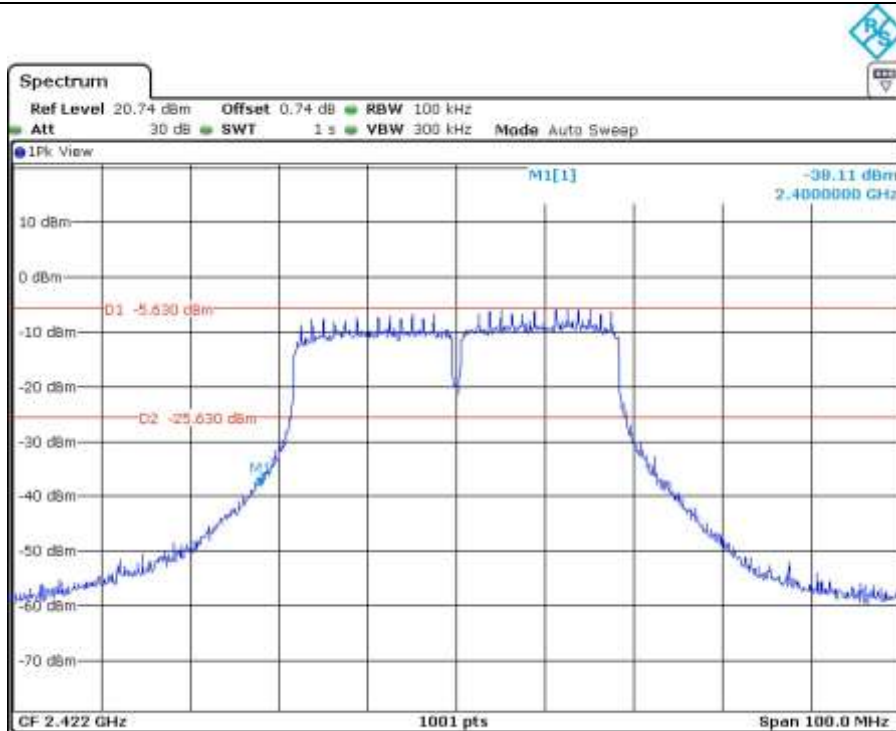


High Channel

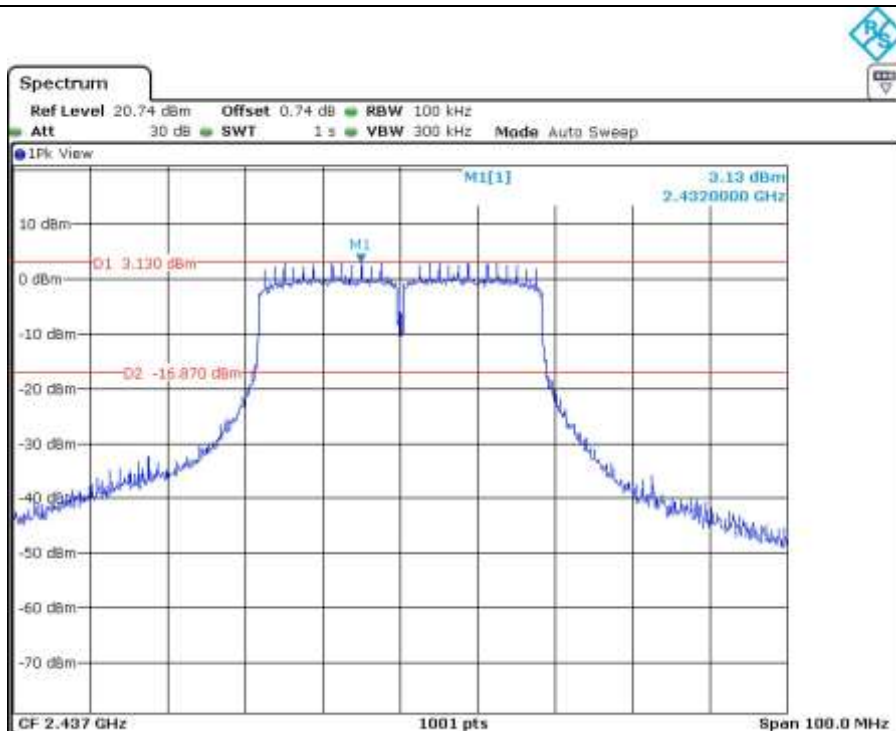


High Channel

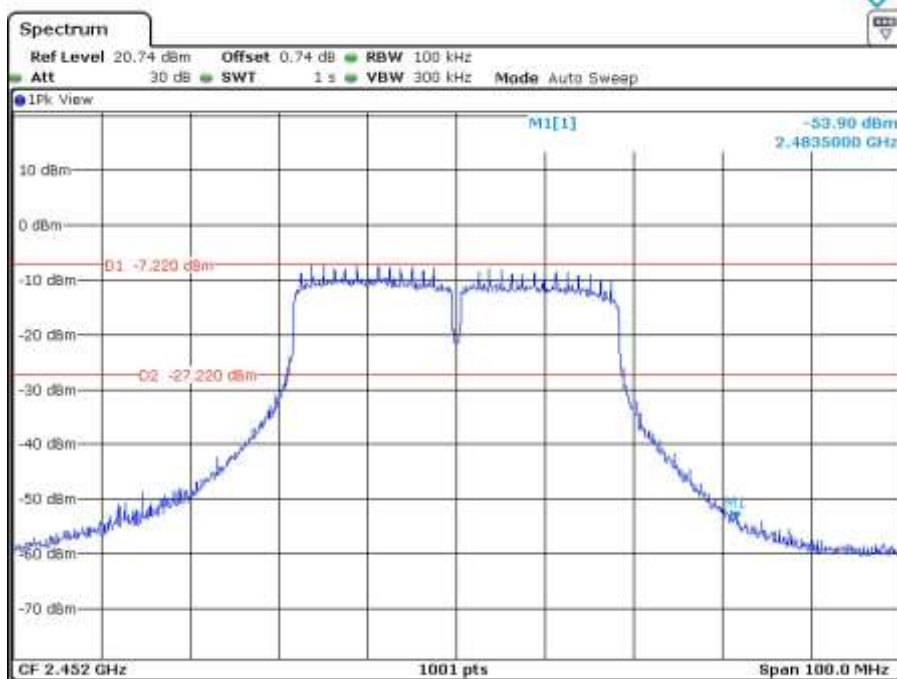
9.5.4.2 Test data for Antenna 1



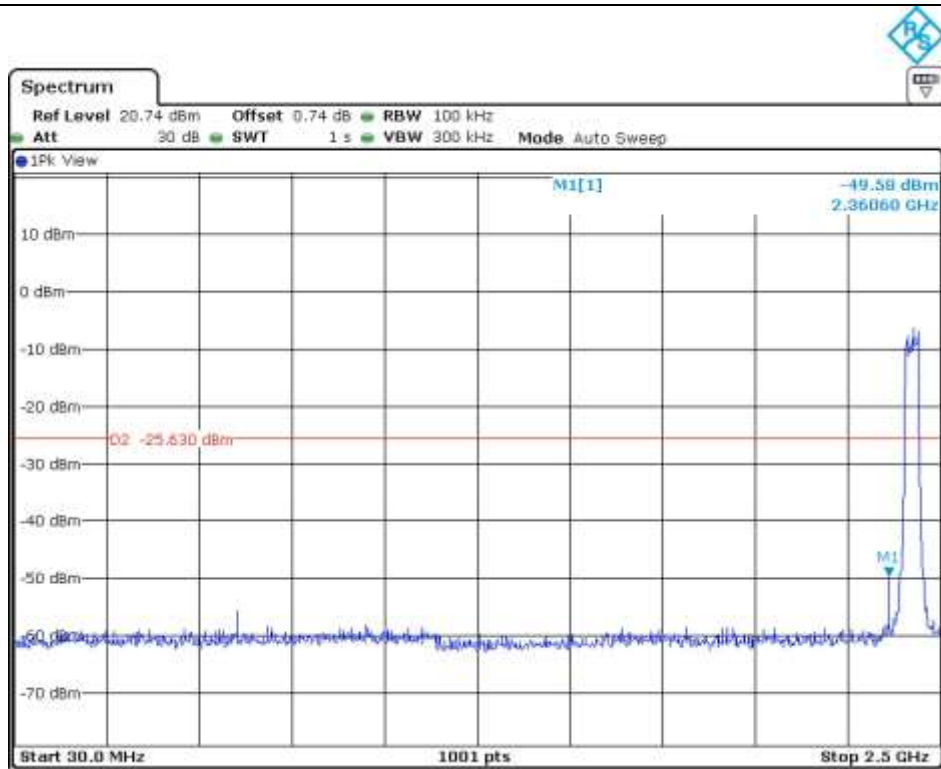
Low Channel



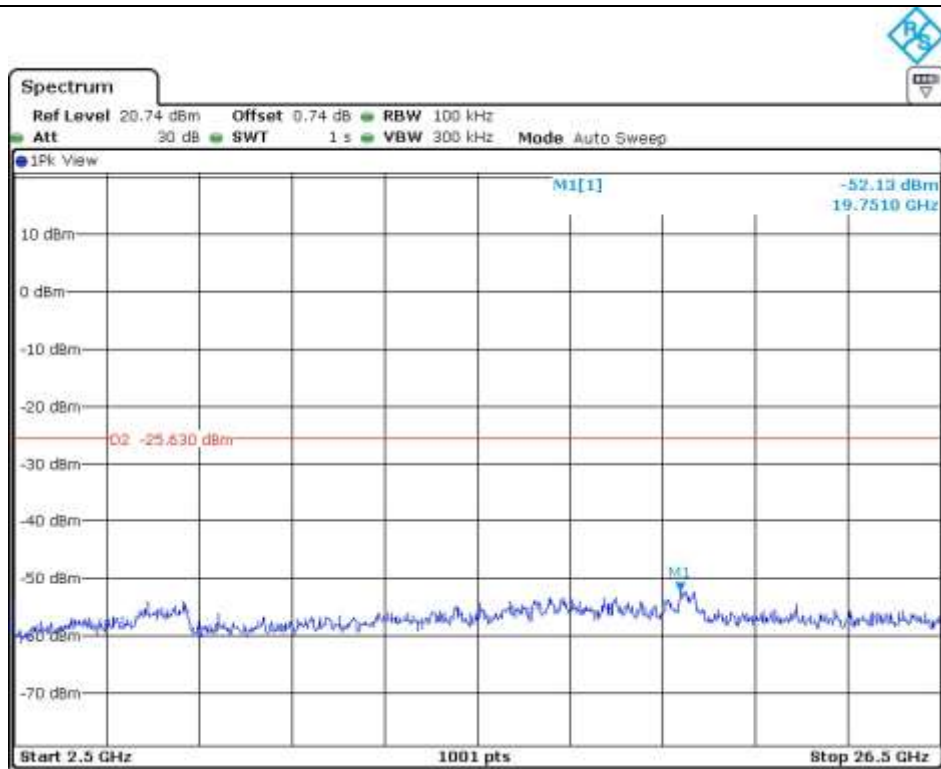
Middle Channel



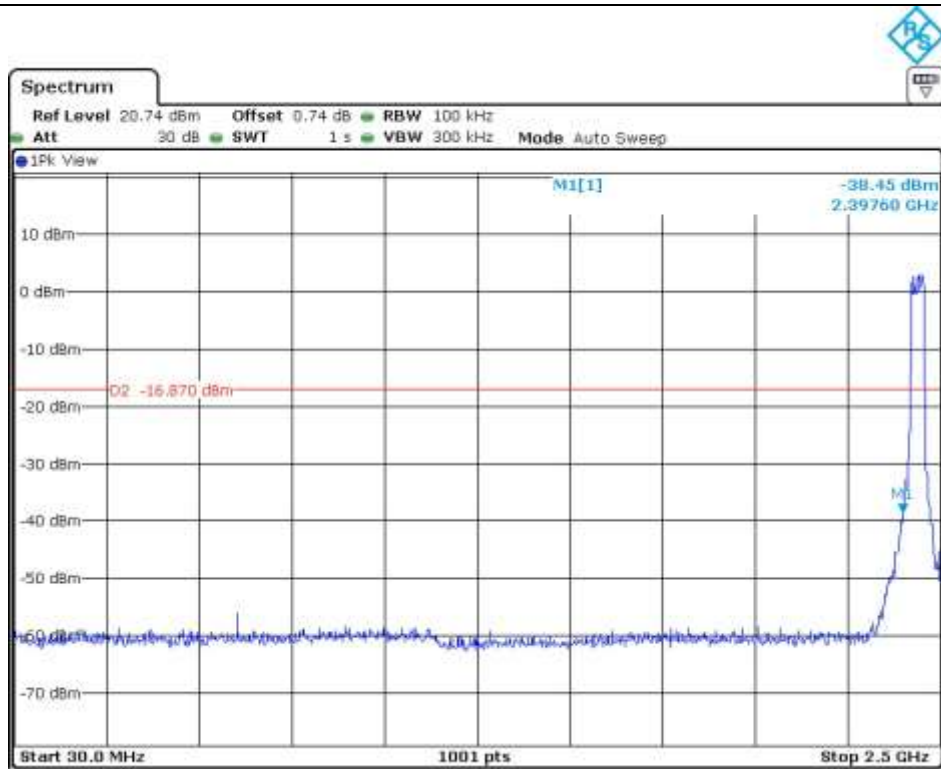
High Channel



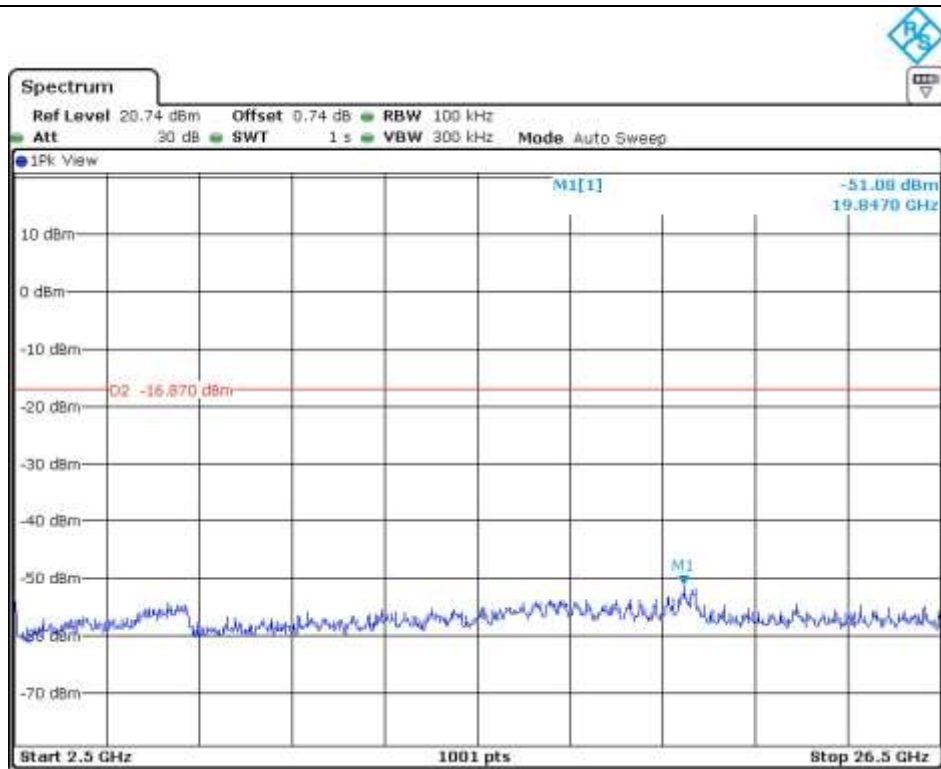
Low Channel



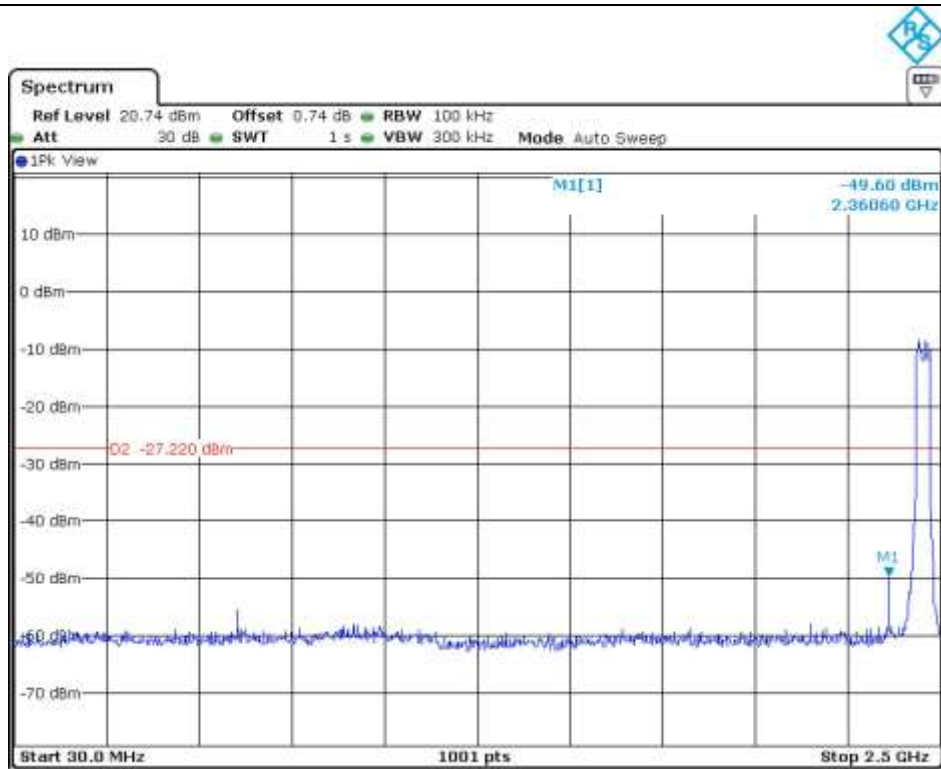
Low Channel



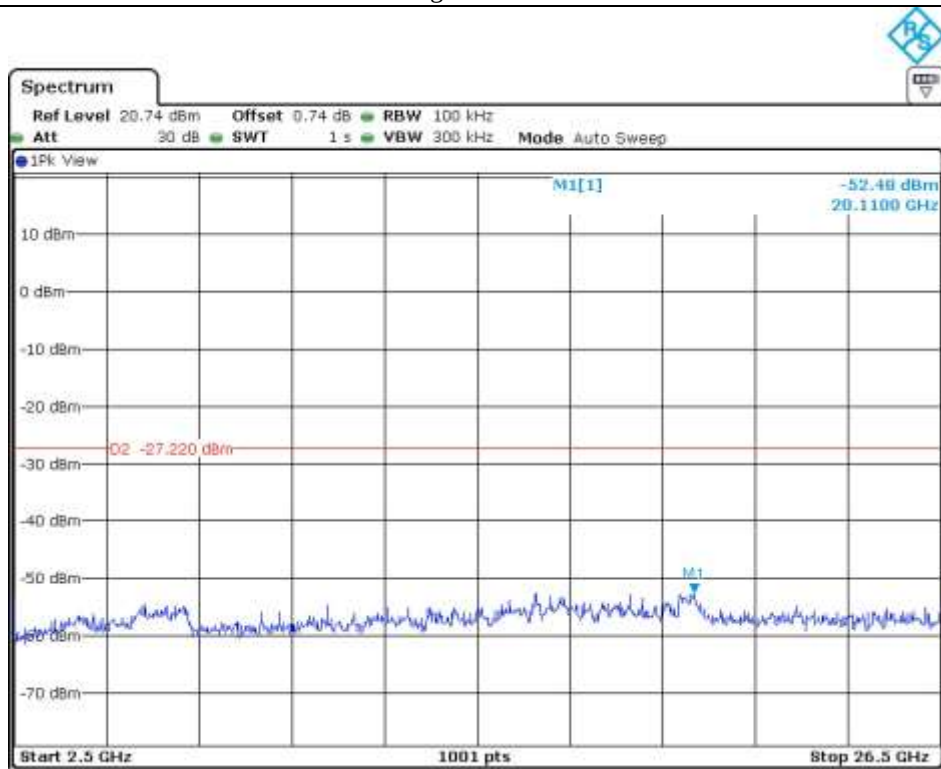
Middle Channel



Middle Channel

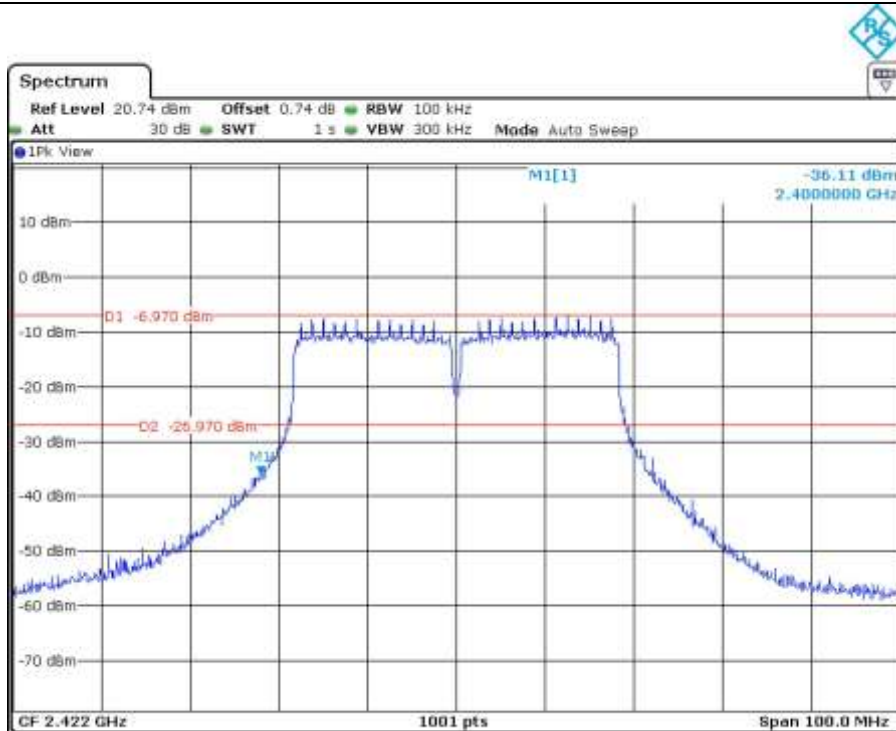


High Channel

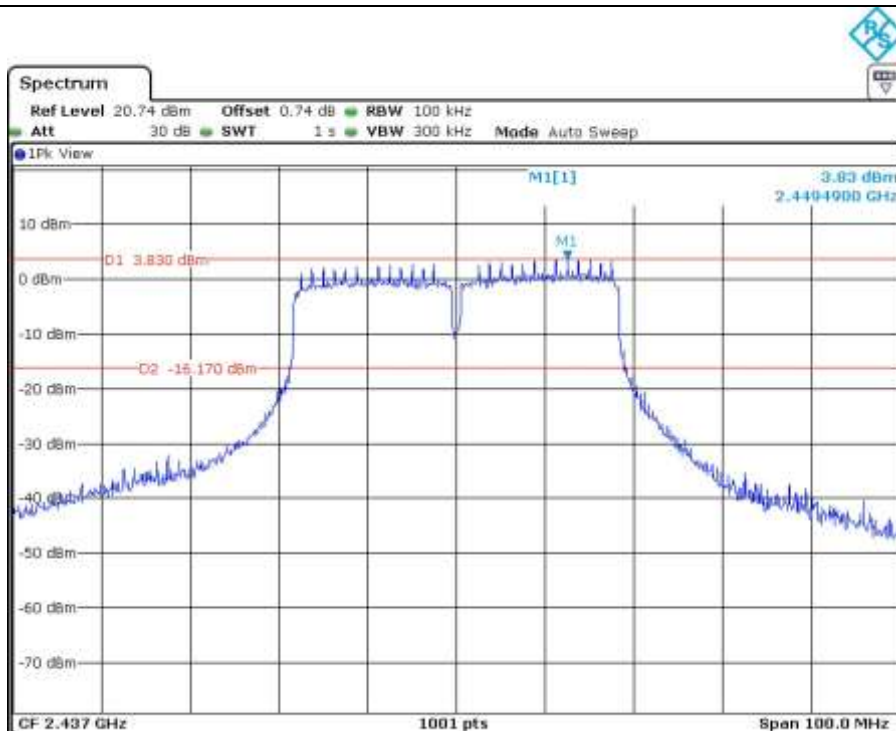


High Channel

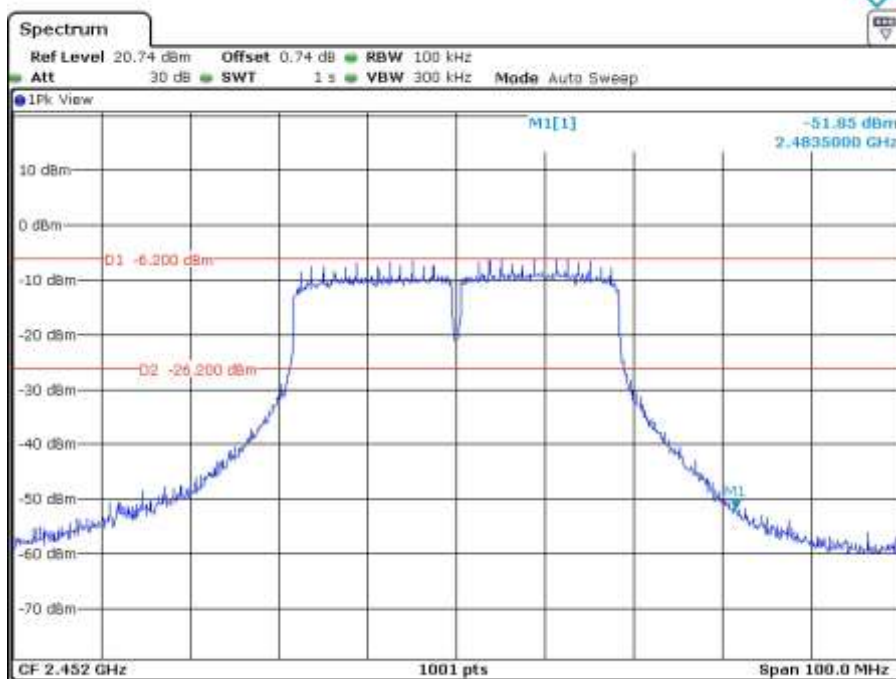
9.5.4.3 Test data for Antenna 2



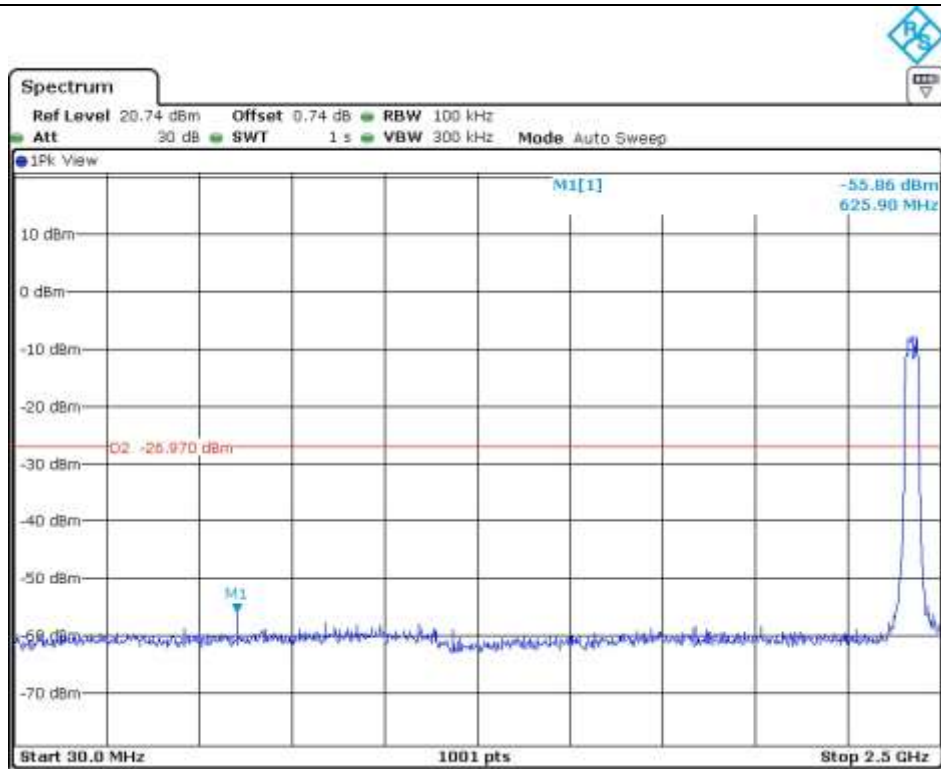
Low Channel



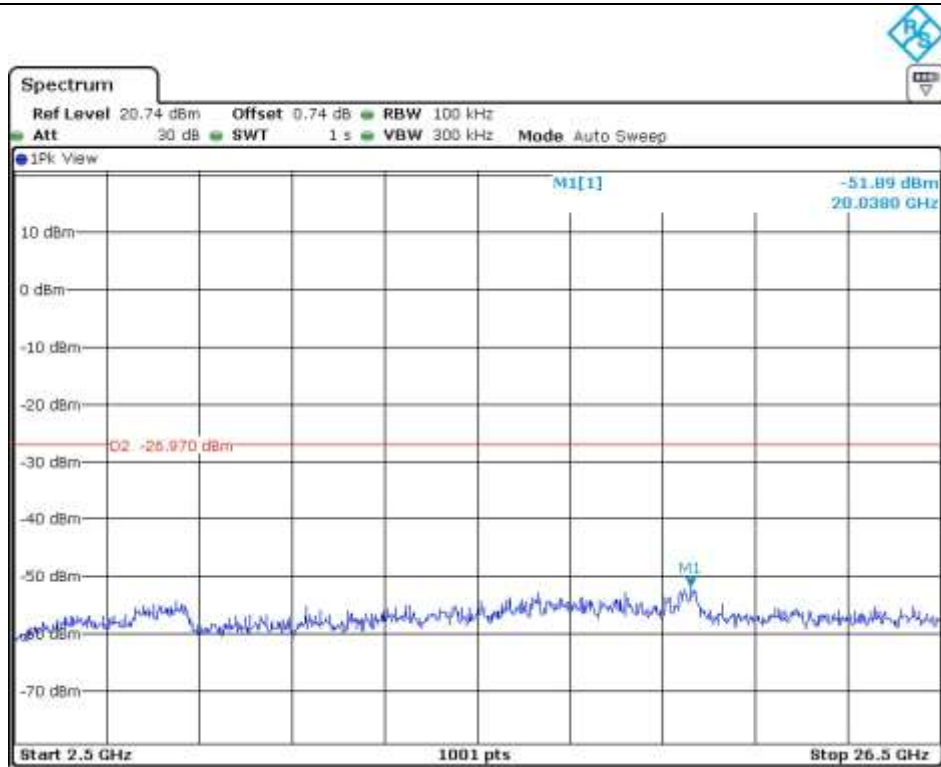
Middle Channel



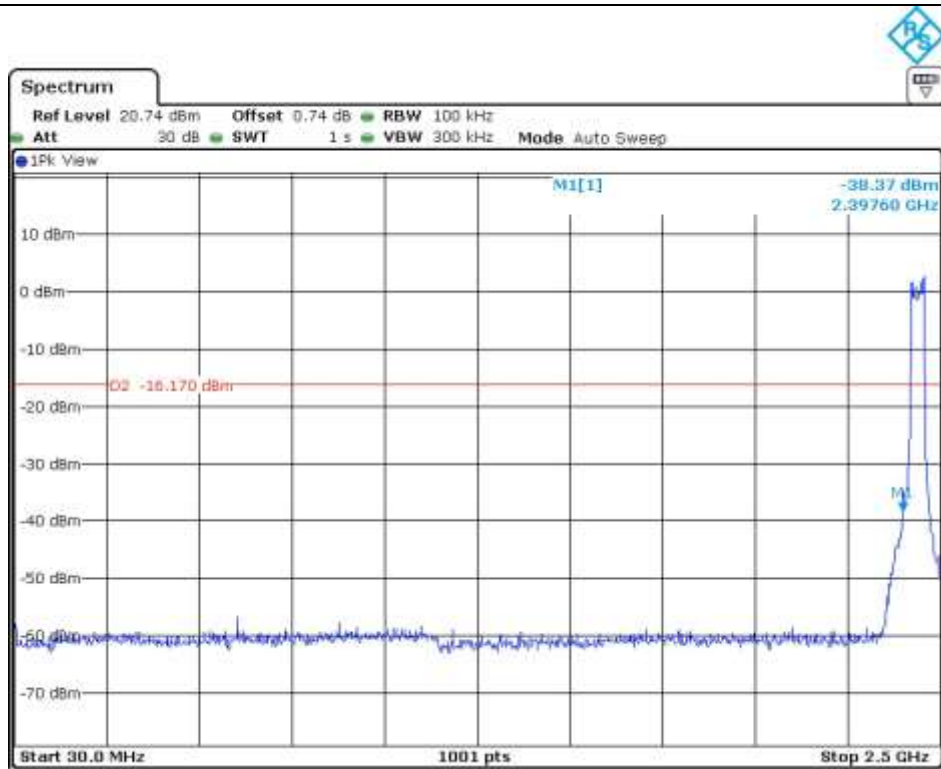
High Channel



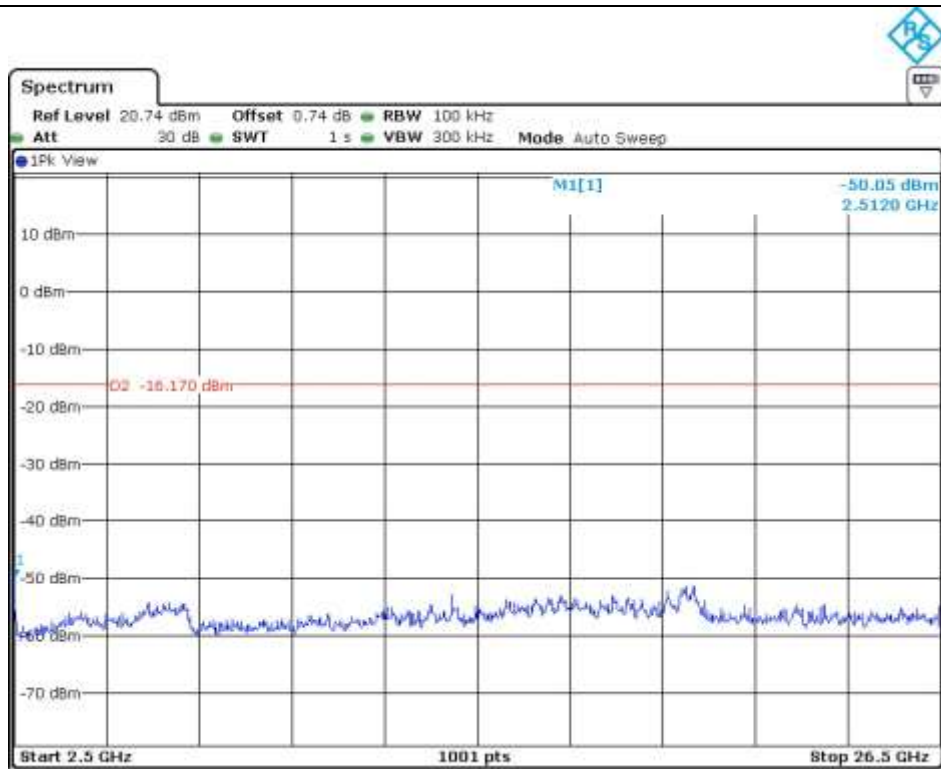
Low Channel



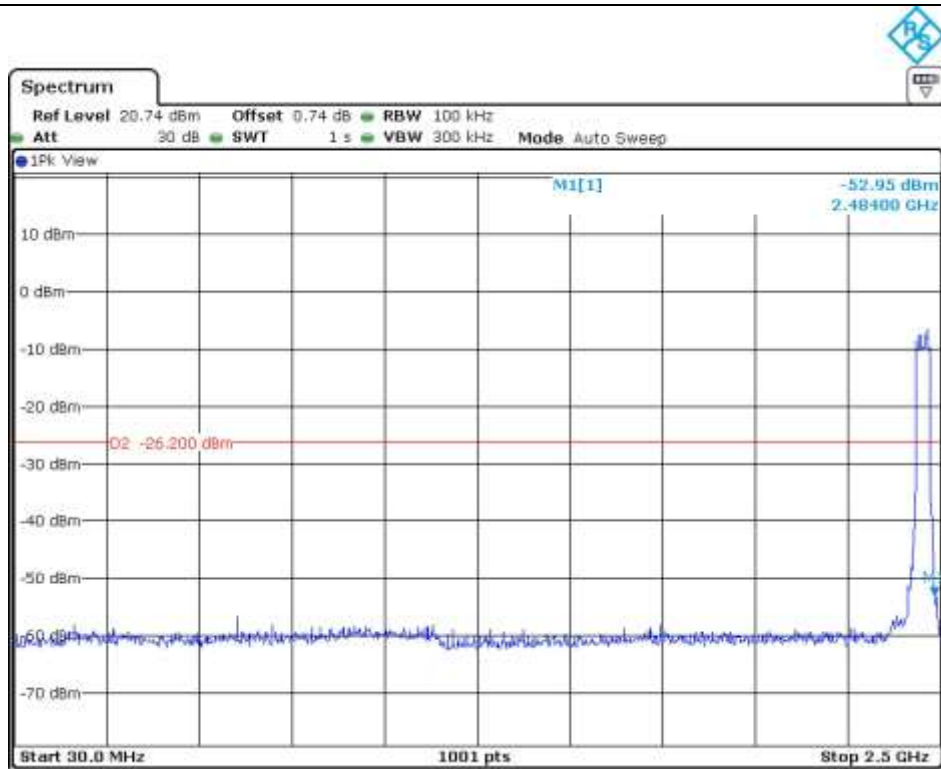
Low Channel



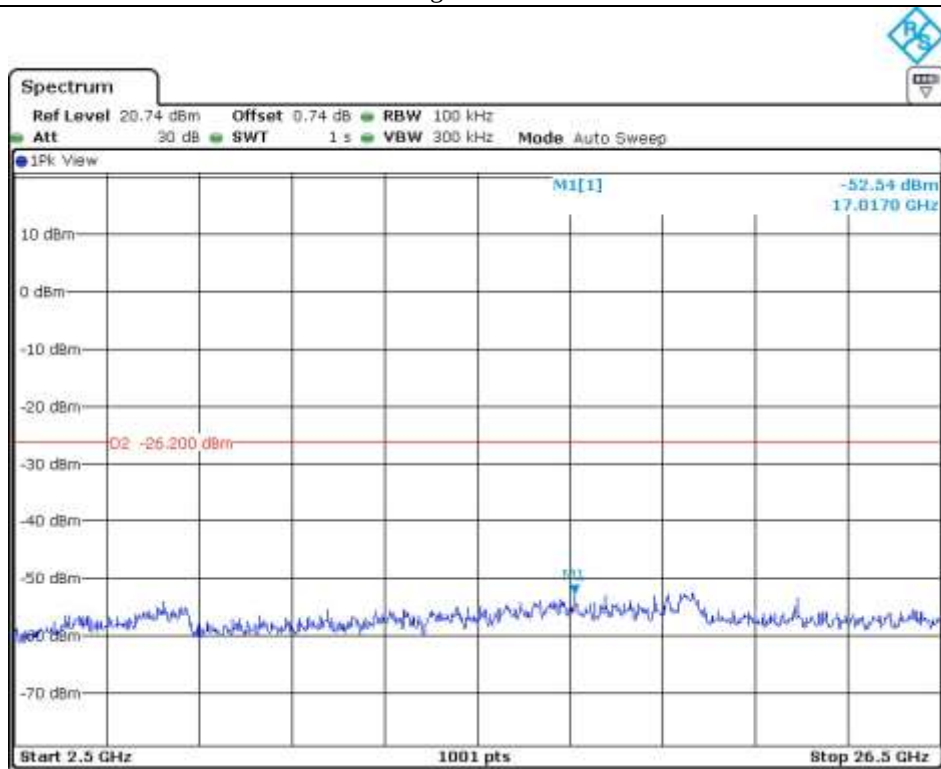
Middle Channel



Middle Channel



High Channel



High Channel

9.6 Test data for radiated emission

9.6.1 Radiated Emission which fall in the Restricted Band

9.6.1.1 Test data for 802.11b WLAN Mode

9.6.1.1.1 Test data for Antenna 1 (Worst case)

- Test Date : April 14, 2016
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 30 MHz ~ 26.5 GHz
- Measurement distance : 3 m
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 364.80	62.87	Peak	H	27.10	7.50	43.00	54.47	74.00	19.53
	52.77	Average	H				44.37	54.00	9.63
2 386.24	66.53	Peak	V				58.13	74.00	15.87
	62.17	Average	V				53.77	54.00	0.23
Test Data for High Channel									
2 484.50	57.86	Peak	H	27.10	7.50	43.00	49.46	74.00	24.54
	44.39	Average	H				35.99	54.00	18.01
2 488.04	59.31	Peak	V				50.91	74.00	23.09
	47.52	Average	V				39.12	54.00	14.88

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Jun-Hui, Lee / Senior Engineer

9.6.1.2 Test data for 802.11g WLAN Mode

9.6.1.2.1 Test data for Antenna 2 (Worst case)

- . Test Date : April 14, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 30 MHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.91	69.84	Peak	H	27.10	7.50	43.00	61.44	74.00	12.56
	51.15	Average	H				42.75	54.00	11.25
2 389.73	77.53	Peak	V				69.13	74.00	4.87
	61.83	Average	V				53.43	54.00	0.57
Test Data for High Channel									
2 483.70	60.34	Peak	H	27.10	7.50	43.00	51.94	74.00	22.06
	45.13	Average	H				36.73	54.00	17.27
2 483.62	78.06	Peak	V				69.66	74.00	4.34
	60.34	Average	V				51.94	54.00	2.06

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$


Tested by: Jun-Hui, Lee / Senior Engineer

9.6.1.3 Test data for 802.11n_HT20 WLAN Mode

9.6.1.3.1 Test data for Multiple transmit (Worst case)

- . Test Date : April 14, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 30 MHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.37	64.33	Peak	H	27.10	7.50	43.00	55.93	74.00	18.07
	48.16	Average	H				39.76	54.00	14.24
2 389.64	75.40	Peak	V				67.00	74.00	7.00
	57.28	Average	V				48.88	54.00	5.12
Test Data for High Channel									
2 484.90	57.80	Peak	H	27.10	7.50	43.00	49.40	74.00	24.60
	44.37	Average	H				35.97	54.00	18.03
2 483.52	70.84	Peak	V				62.44	74.00	11.56
	48.43	Average	V				40.03	54.00	13.97

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$



Tested by: Jun-Hui, Lee / Senior Engineer

9.6.1.4 Test data for 802.11n_HT40 WLAN Mode

9.6.1.4.1 Test data for Multiple transmit (Worst case)

- . Test Date : April 14, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 30 MHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.28	63.91	Peak	H	27.10	7.50	43.00	55.51	74.00	18.49
	45.35	Average	H				36.95	54.00	17.05
2 389.89	78.14	Peak	V				69.74	74.00	4.26
	60.34	Average	V				51.94	54.00	2.06
Test Data for High Channel									
2 488.17	55.99	Peak	H	27.10	7.50	43.00	47.59	74.00	26.41
	44.66	Average	H				36.26	54.00	17.74
2 485.12	77.47	Peak	V				69.07	74.00	4.93
	60.95	Average	V				52.55	54.00	1.45

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$



Tested by: Jun-Hui, Lee / Senior Engineer

9.6.2 Spurious & Harmonic Radiated Emission

9.6.2.1 Test data for 802.11b WLAN Mode

9.6.2.1.1 Test data for Antenna 1 (Worst case)

- Test Date : April 14, 2016
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	55.20	Peak	H	30.60	11.10	42.50	54.40	74.00	19.60
	38.37	Average	H				37.57	54.00	16.43
	58.99	Peak	V				58.19	74.00	15.81
	36.26	Average	V				35.46	54.00	18.54
Test Data for Middle Channel									
4 884.00	60.12	Peak	H	30.70	11.20	42.50	59.52	74.00	14.48
	37.49	Average	H				36.89	54.00	17.11
	58.25	Peak	V				57.65	74.00	16.35
	35.53	Average	V				34.93	54.00	19.07
Test Data for High Channel									
4 924.00	59.54	Peak	H	30.80	11.30	42.50	59.14	74.00	14.86
	36.71	Average	H				36.31	54.00	17.69
	58.11	Peak	V				57.71	74.00	16.29
	35.40	Average	V				35.00	54.00	19.00

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$

Tested by: Jun-Hui, Lee / Senior Engineer

9.6.2.2 Test data for 802.11g WLAN Mode

9.6.2.2.1 Test data for Antenna 2 (Worst case)

- Test Date : April 14, 2016
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	54.18	Peak	H	30.60	11.10	42.50	53.38	74.00	20.62
	38.34	Average	H				37.54	54.00	16.46
	57.98	Peak	V				57.18	74.00	16.82
	36.84	Average	V				36.04	54.00	17.96
Test Data for Middle Channel									
4 884.00	59.82	Peak	H	30.70	11.20	42.50	59.22	74.00	14.78
	37.51	Average	H				36.91	54.00	17.09
	58.38	Peak	V				57.78	74.00	16.22
	36.15	Average	V				35.55	54.00	18.45
Test Data for High Channel									
4 924.00	59.51	Peak	H	30.80	11.30	42.50	59.11	74.00	14.89
	36.81	Average	H				36.41	54.00	17.59
	57.63	Peak	V				57.23	74.00	16.77
	36.24	Average	V				35.84	54.00	18.16

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain


Tested by: Jun-Hui, Lee / Senior Engineer

9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 Test data for Multiple transmit (Worst case)

- Test Date : April 14, 2016
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	55.61	Peak	H	30.60	11.10	42.50	54.81	74.00	19.19
	38.15	Average	H				37.35	54.00	16.65
	58.34	Peak	V				57.54	74.00	16.46
	36.72	Average	V				35.92	54.00	18.08
Test Data for Middle Channel									
4 884.00	59.45	Peak	H	30.70	11.20	42.50	58.85	74.00	15.15
	37.81	Average	H				37.21	54.00	16.79
	58.30	Peak	V				57.70	74.00	16.30
	36.28	Average	V				35.68	54.00	18.32
Test Data for High Channel									
4 924.00	59.12	Peak	H	30.80	11.30	42.50	58.72	74.00	15.28
	37.04	Average	H				36.64	54.00	17.36
	57.37	Peak	V				56.97	74.00	17.03
	36.45	Average	V				36.05	54.00	17.95

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$

Tested by: Jun-Hui, Lee / Senior Engineer

9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 Test data for Multiple transmit (Worst case)

- Test Date : April 14, 2016
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	54.32	Peak	H	30.60	11.10	42.50	53.52	74.00	20.48
	37.56	Average	H				36.76	54.00	17.24
	57.44	Peak	V				56.64	74.00	17.36
	35.72	Average	V				34.92	54.00	19.08
Test Data for Middle Channel									
4 884.00	59.26	Peak	H	30.70	11.20	42.50	58.66	74.00	15.34
	37.52	Average	H				36.92	54.00	17.08
	58.65	Peak	V				58.05	74.00	15.95
	36.96	Average	V				36.36	54.00	17.64
Test Data for High Channel									
4 924.00	58.80	Peak	H	30.80	11.30	42.50	58.40	74.00	15.60
	37.26	Average	H				36.86	54.00	17.14
	58.20	Peak	V				57.80	74.00	16.20
	36.79	Average	V				36.39	54.00	17.61

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-Amplifier Gain}$$

Tested by: Jun-Hui, Lee / Senior Engineer

10. SPURIOUS EMISSION - RECEIVER

10.1 Operating environment

Temperature : 24 °C
Relative humidity : 45 % R.H.

10.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



10.3 Test set-up for radiated measurement

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

10.4 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Jul. 22, 2015 (1Y)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Nov. 02, 2015 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2016 (1Y)
■ -	SCU-18	Rohde & Schwarz	Pre-Amplifier	10041	Nov. 23, 2015 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Jul. 10, 2014 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 31, 2015 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Aug. 31, 2015 (2Y)

All test equipment used is calibrated on a regular basis.

10.5 Test data for 802.11b WLAN Mode

10.5.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 45 % R.H.

Temperature: 24 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

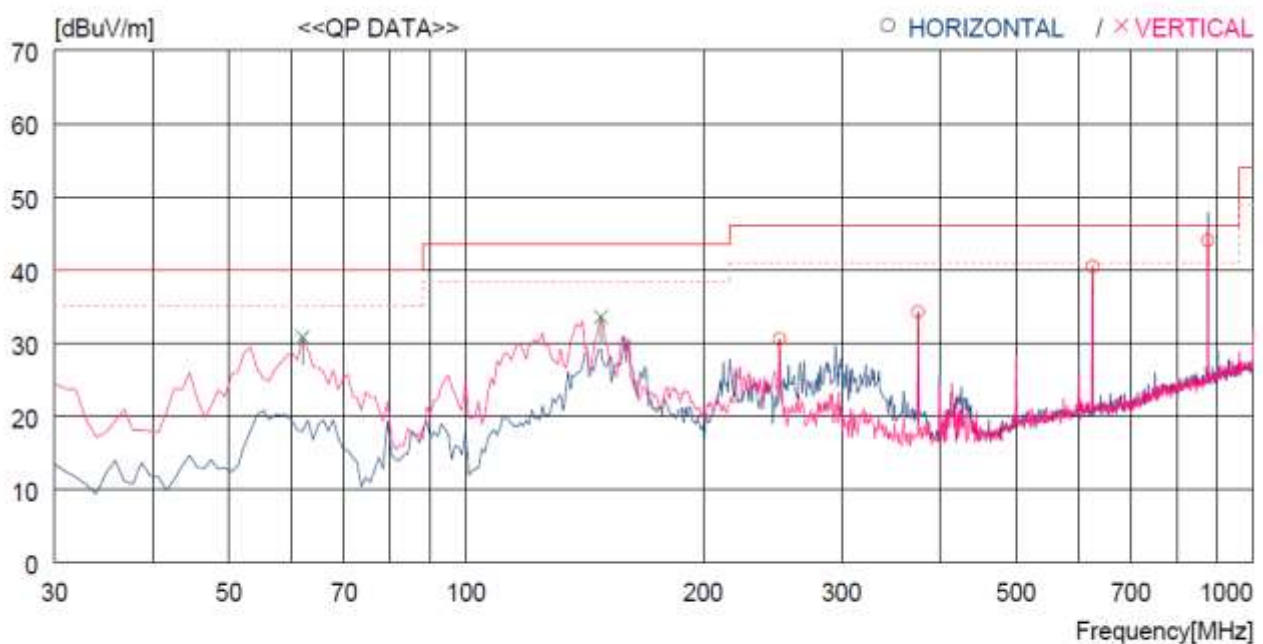
Result : PASSED

EUT : Interface Box

Date: June 03, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-Ant0, Ant1, Ant2 with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
		[dBuV]	[dB]							
----- Horizontal -----										
1	250.190	47.2	12.1	4.1	32.8	30.6	46.0	15.4	100	0
2	375.320	47.1	14.7	5.2	32.7	34.3	46.0	11.7	100	190
3	625.577	48.2	19.0	6.7	33.4	40.5	46.0	5.5	100	182
4	875.830	47.3	21.5	8.3	33.1	44.0	46.0	2.0	100	0
----- Vertical -----										
5	62.010	49.0	12.7	2.2	33.1	30.8	40.0	9.2	100	359
6	148.340	55.7	7.7	3.2	33.0	33.6	43.5	9.9	100	284

10.5.2 Test data for Below 30 MHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								

10.5.3 Test data for above 1 GHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								


 Tested by: Jun-Hui, Lee / Senior Engineer

10.6 Test data for 802.11g WLAN Mode

10.6.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 45 % R.H.

Temperature: 24 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

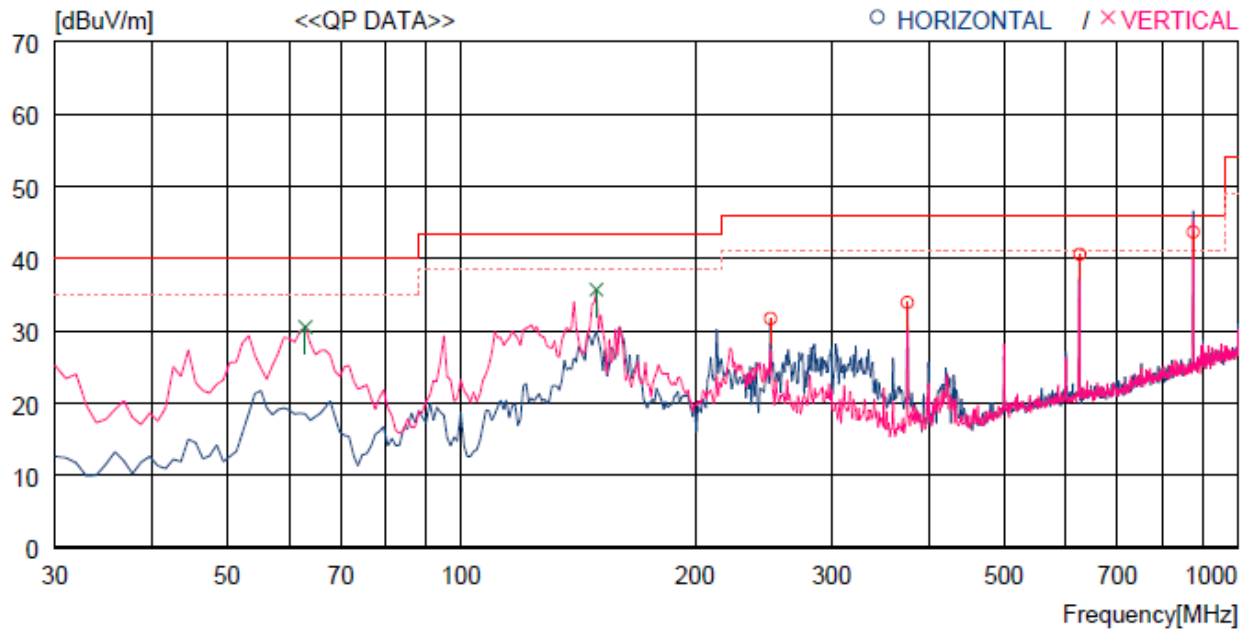
Result : PASSED

EUT : Interface Box

Date: June 03, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
		[dBuV]	[dB]							
----- Horizontal -----										
1	250.190	48.3	12.1	4.1	32.8	31.7	46.0	14.3	100	216
2	375.320	46.7	14.7	5.2	32.7	33.9	46.0	12.1	100	0
3	625.577	48.3	19.0	6.7	33.4	40.6	46.0	5.4	100	171
4	875.830	47.0	21.5	8.3	33.1	43.7	46.0	2.3	100	69
----- Vertical -----										
5	62.980	49.2	12.2	2.2	33.1	30.5	40.0	9.5	100	219
6	149.310	57.8	7.7	3.2	33.0	35.7	43.5	7.8	100	359

10.6.2 Test data for Below 30 MHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								

10.6.3 Test data for above 1 GHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								


 Tested by: Jun-Hui, Lee / Senior Engineer

10.7 Test data for 802.11n_HT20 WLAN Mode

10.7.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 45 % R.H.

Temperature: 24 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

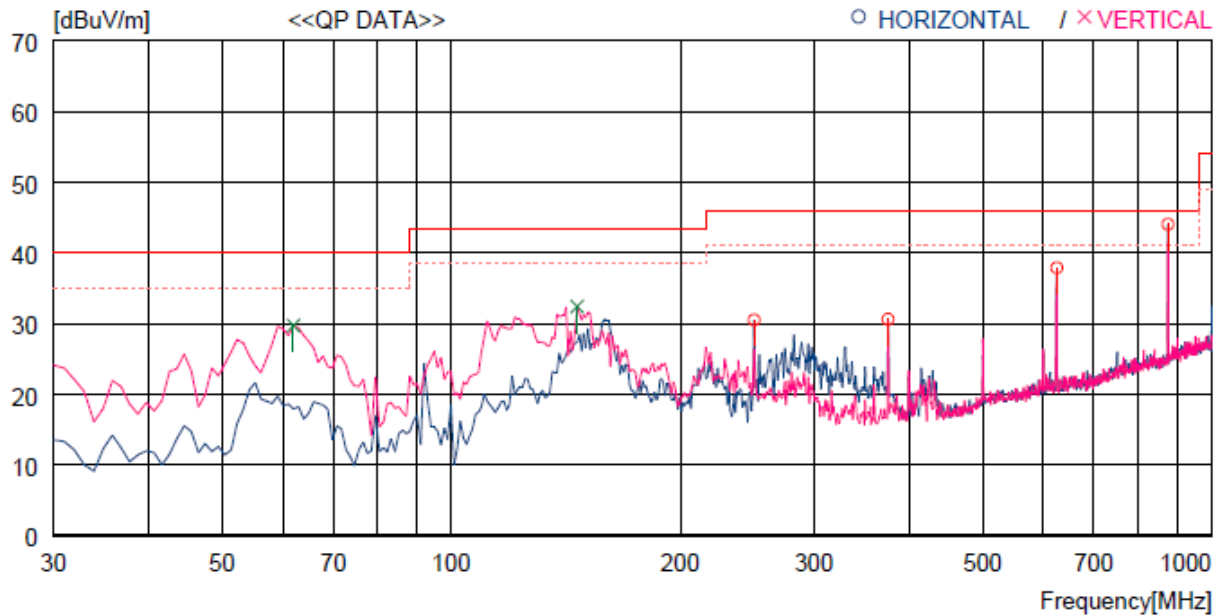
Result : PASSED

EUT : Interface Box

Date: June 03, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 and Multiple transmit with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	250.190	46.4	12.4	4.6	32.9	30.5	46.0	15.5	100	0
2	375.320	42.6	15.3	5.7	33.0	30.6	46.0	15.4	100	176
3	625.577	44.4	19.3	7.5	33.3	37.9	46.0	8.1	100	0
4	875.830	45.5	21.9	9.1	32.5	44.0	46.0	2.0	100	63
----- Vertical -----										
5	62.010	47.9	12.6	2.3	33.1	29.7	40.0	10.3	100	190
6	146.400	53.6	8.3	3.5	33.0	32.4	43.5	11.1	100	354

10.7.2 Test data for Below 30 MHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								

10.7.3 Test data for above 1 GHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.								


 Tested by: Jun-Hui, Lee / Senior Engineer

10.8 Test data for 802.11n_HT40 WLAN Mode

10.8.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 45 % R.H.

Temperature: 24 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

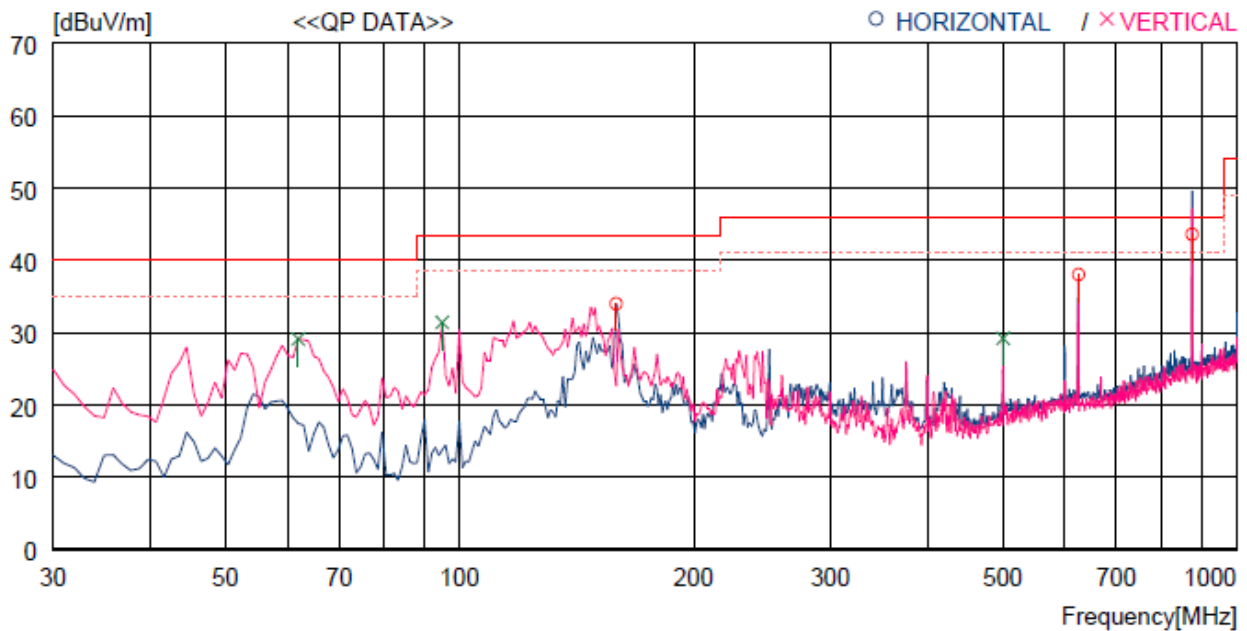
Result : PASSED

EUT : Interface Box

Date: June 03, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 and Multiple transmit with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	159.010	55.4	8.2	3.4	33.0	34.0	43.5	9.5	200	87
2	625.577	45.7	19.0	6.7	33.4	38.0	46.0	8.0	100	0
3	875.830	46.9	21.5	8.3	33.1	43.6	46.0	2.4	100	0
----- Vertical -----										
4	62.010	47.3	12.7	2.2	33.1	29.1	40.0	10.9	100	203
5	94.990	51.0	11.1	2.6	33.3	31.4	43.5	12.1	100	240
6	500.451	38.3	16.8	7.0	32.9	29.2	46.0	16.8	100	240

10.8.2 Test data for Below 30 MHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dB μ V)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
Any emissions were not observed from the EUT.								

10.8.3 Test data for above 1 GHz

- . Test Date : June 03, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m

Frequency (MHz)	Reading (dB μ V)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
Any emissions were not observed from the EUT.								



Tested by: Jun-Hui, Lee / Senior Engineer

11. PEAK POWER SPECTRUL DENSITY

11.1 Operating environment

Temperature : 23 °C
Relative humidity : 41 % R.H.

11.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 3 kHz, the video bandwidth is set to 3 times the resolution bandwidth.



11.3 Test equipment used

Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ - FSV40	Rohde & Schwarz	Signal Analyzer	101009	Jul. 22, 2015 (1Y)

All test equipment used is calibrated on a regular basis.

11.4 Test data for 802.11b WLAN Mode

11.4.1 Test data for Antenna 0

-. Test Date : April 30, 2016

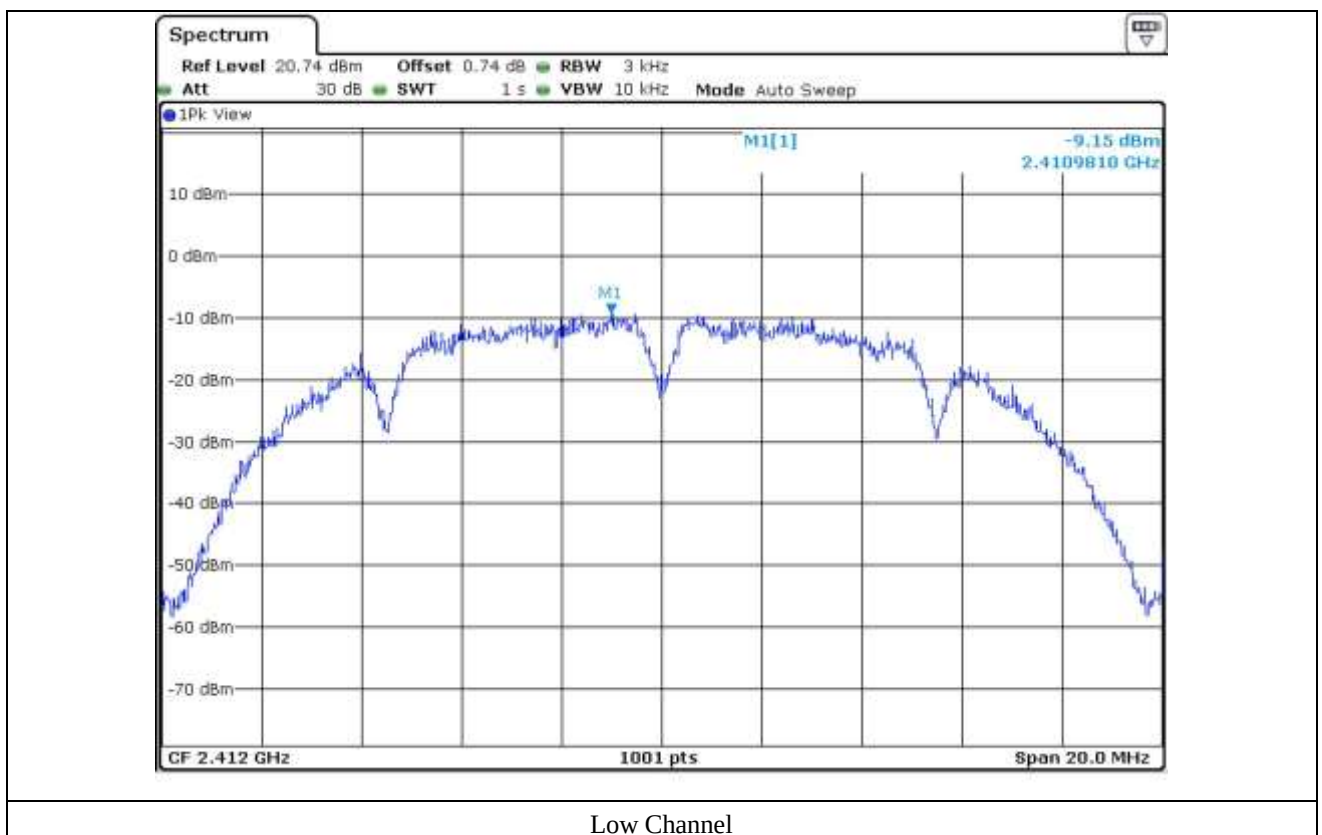
-. Test Result : Pass

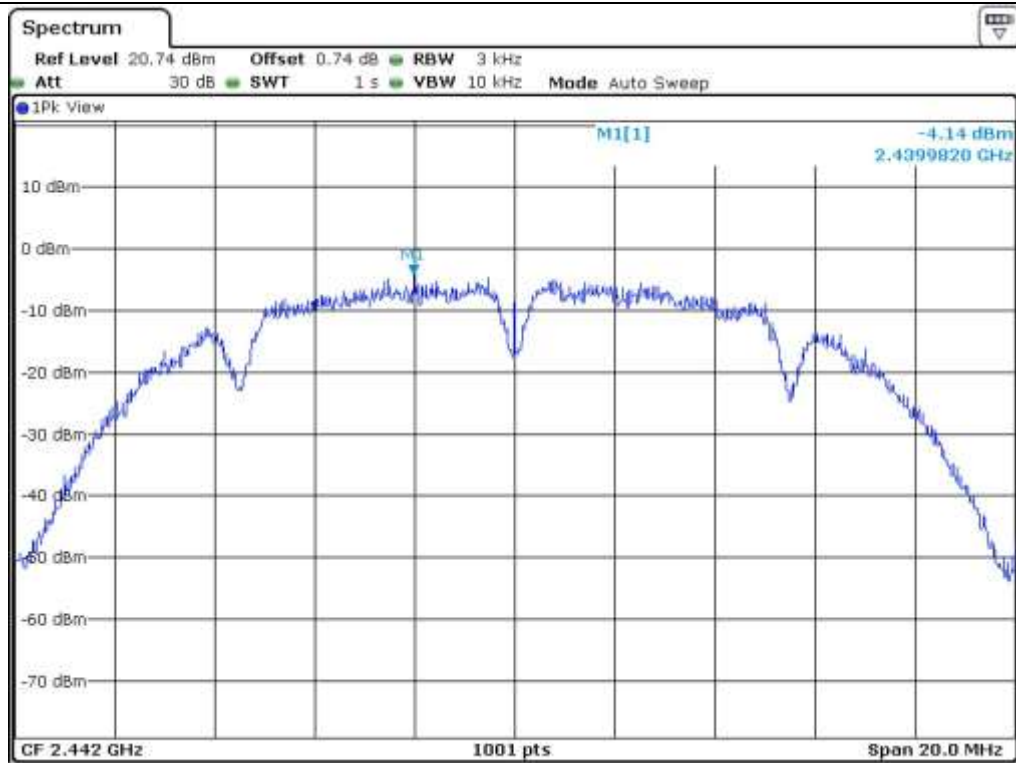
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-9.15	8.00	17.15
Middle	2 442	-4.14	8.00	12.14
High	2 462	-9.03	8.00	17.03

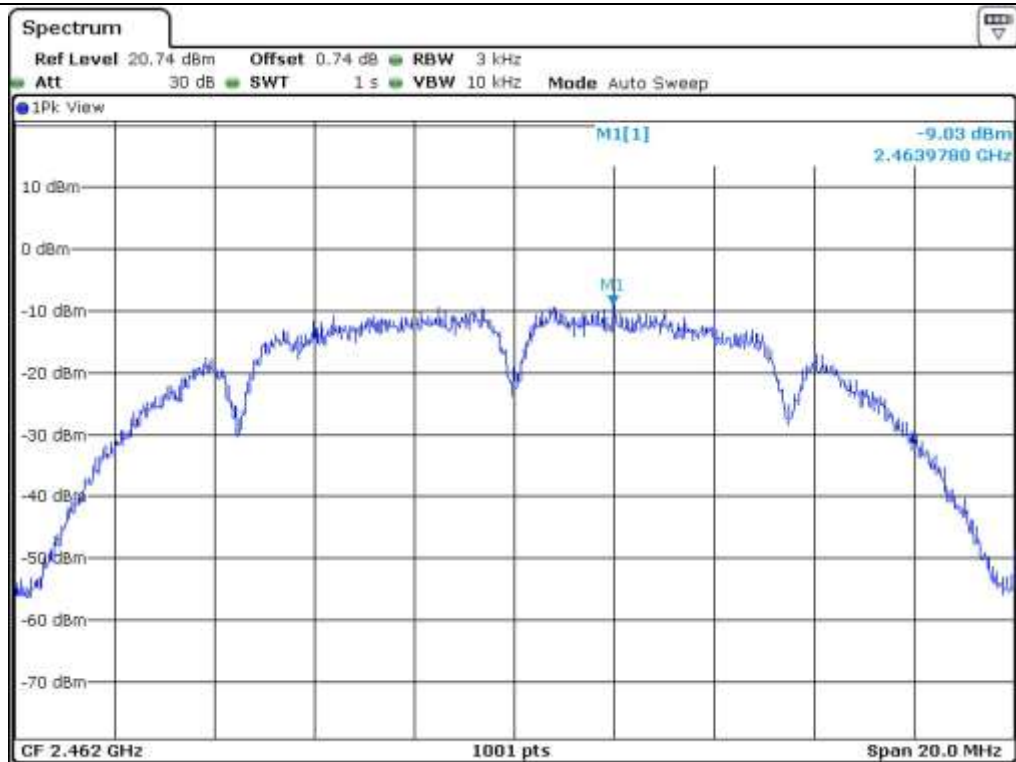
Remark. Margin = Limit – Measured value


 Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.4.2 Test data for Antenna 1

-. Test Date : April 30, 2016

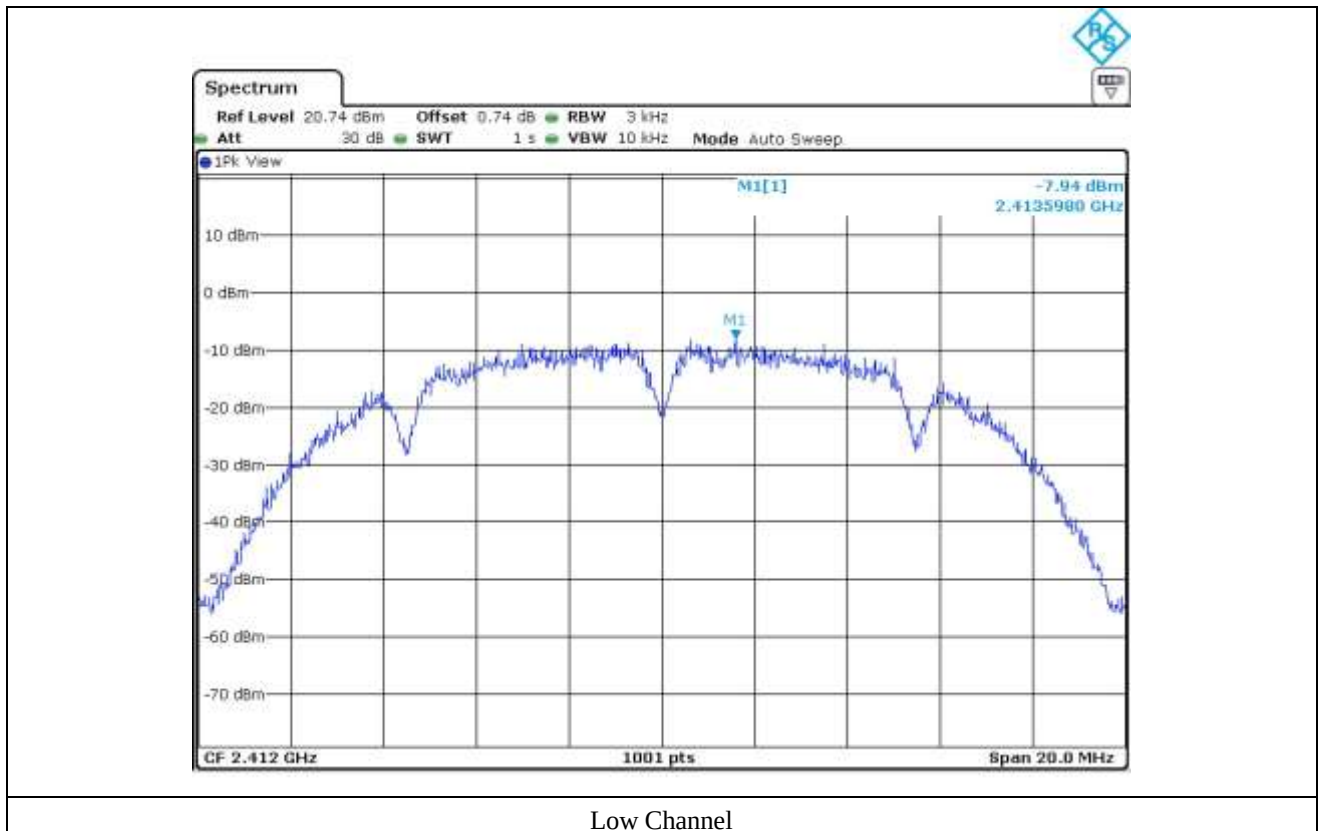
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

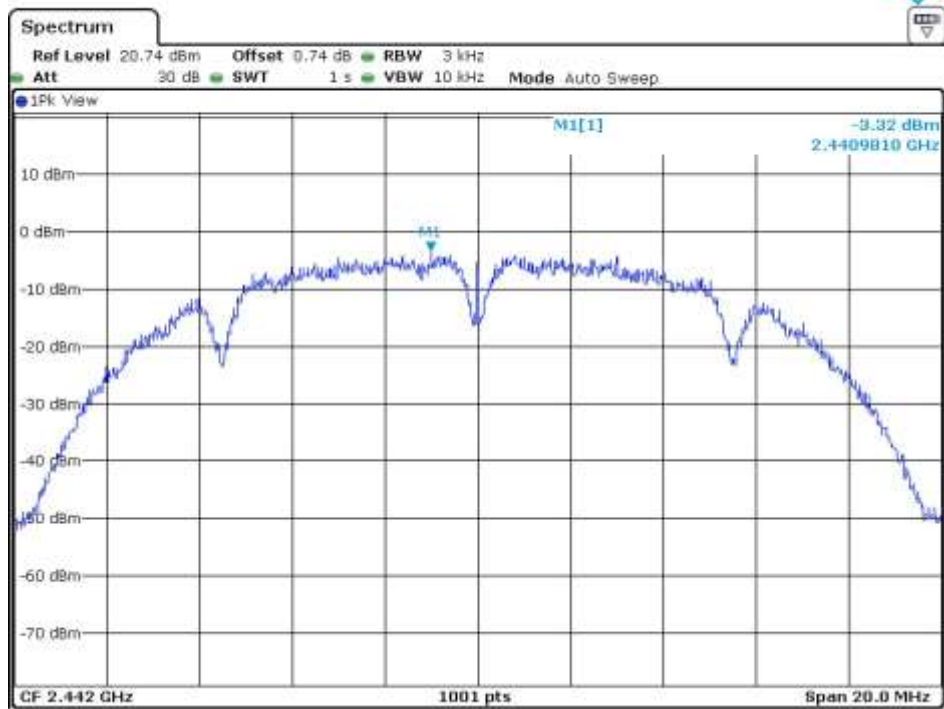
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-7.94	8.00	15.94
Middle	2 442	-3.32	8.00	11.32
High	2 462	-7.69	8.00	15.69

Remark. Margin = Limit – Measured value

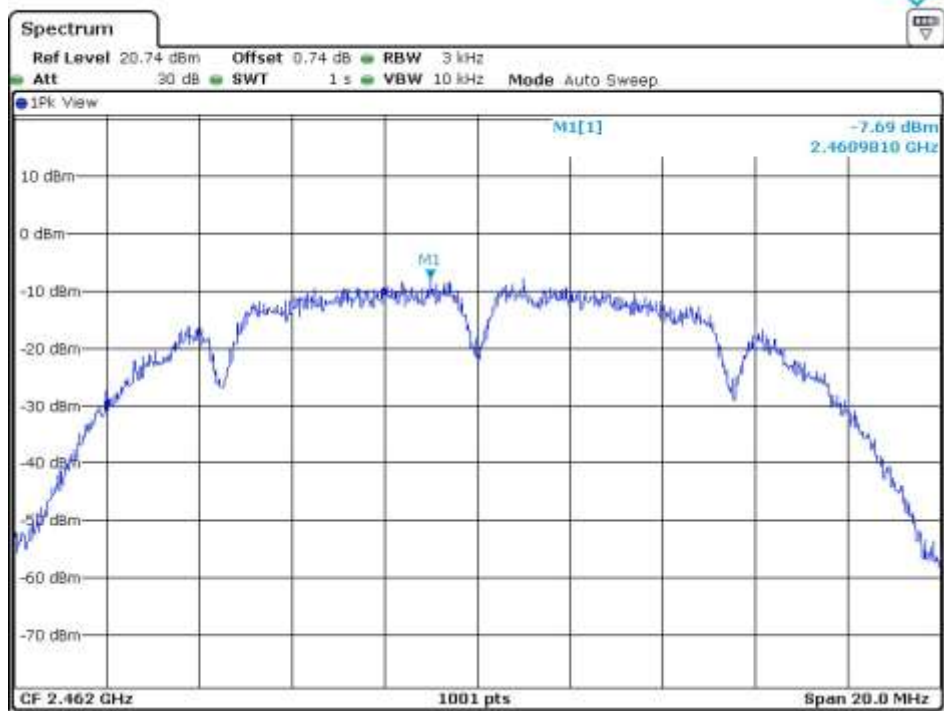
Tested by: Jun-Hui, Lee / Senior Engineer



Low Channel



Middle Channel



High Channel

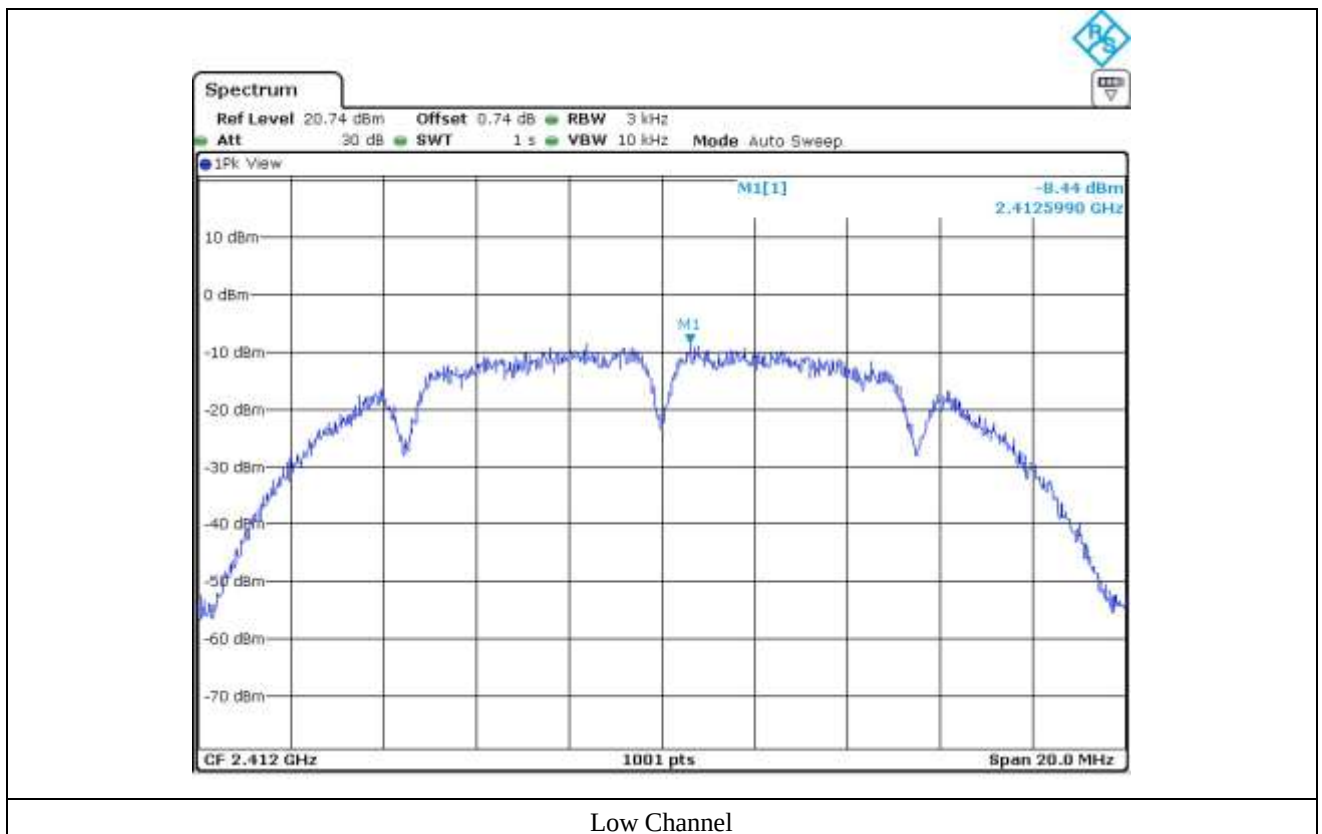
11.4.3 Test data for Antenna 2

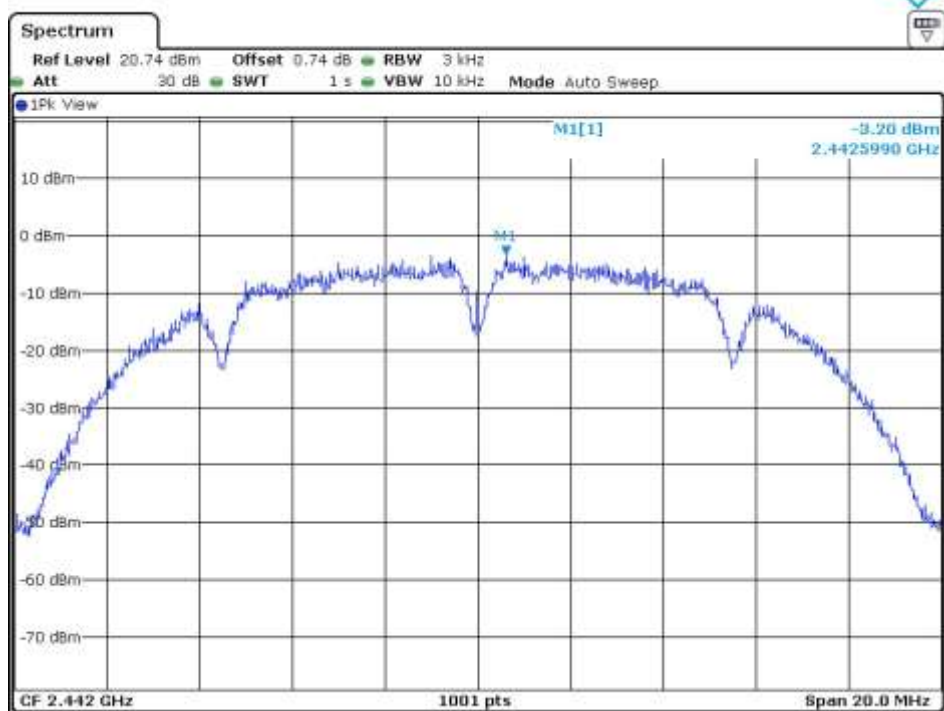
- Test Date : April 30, 2016
- Test Result : Pass
- Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-8.44	8.00	16.44
Middle	2 442	-3.20	8.00	11.20
High	2 462	-7.69	8.00	15.69

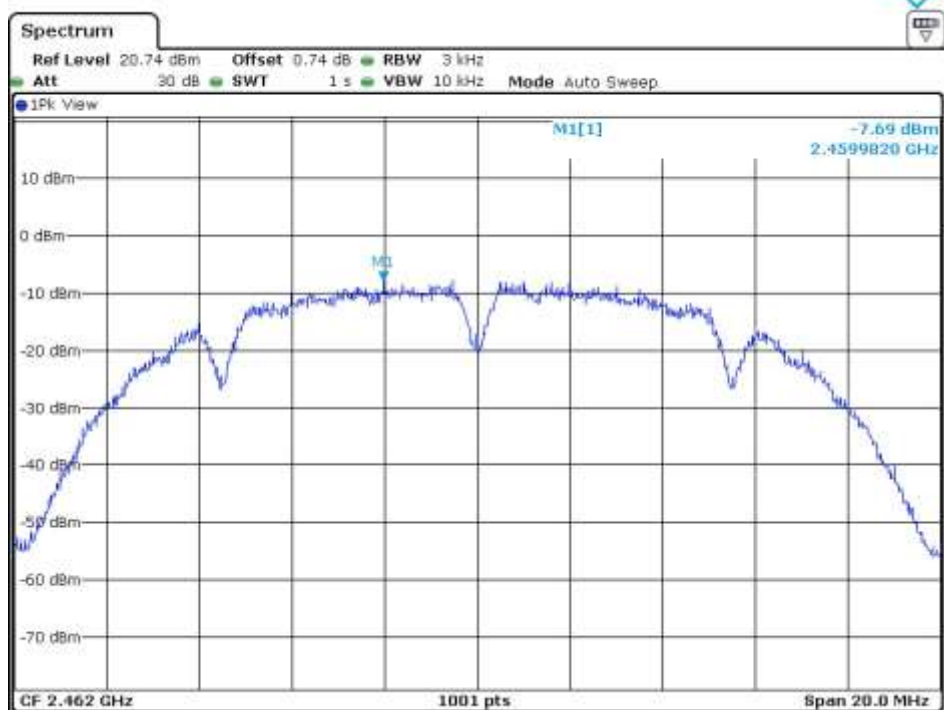
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.5 Test data for 802.11g WLAN Mode

11.5.1 Test data for Antenna 0

-. Test Date : April 30, 2016

-. Test Result : Pass

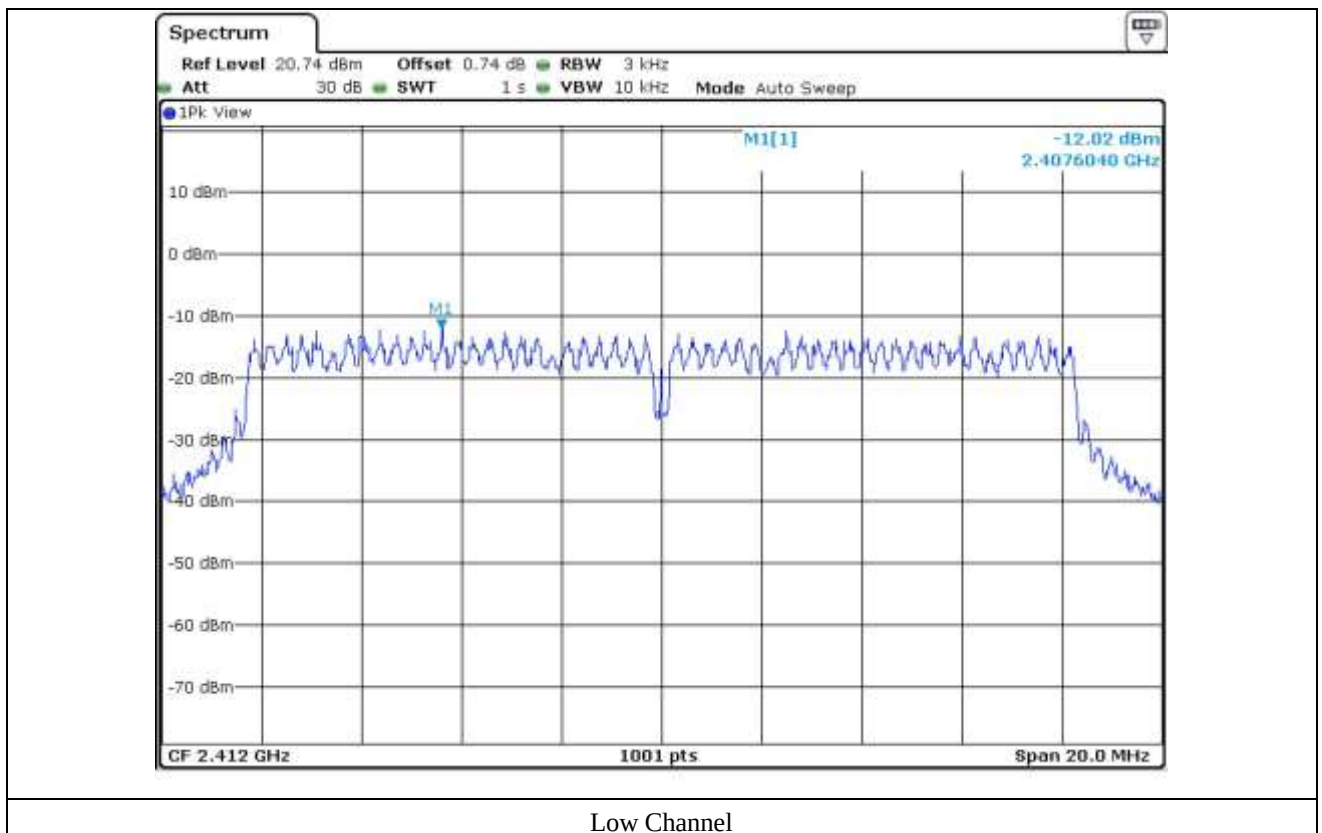
-. Operating Condition : Continuous transmitting mode

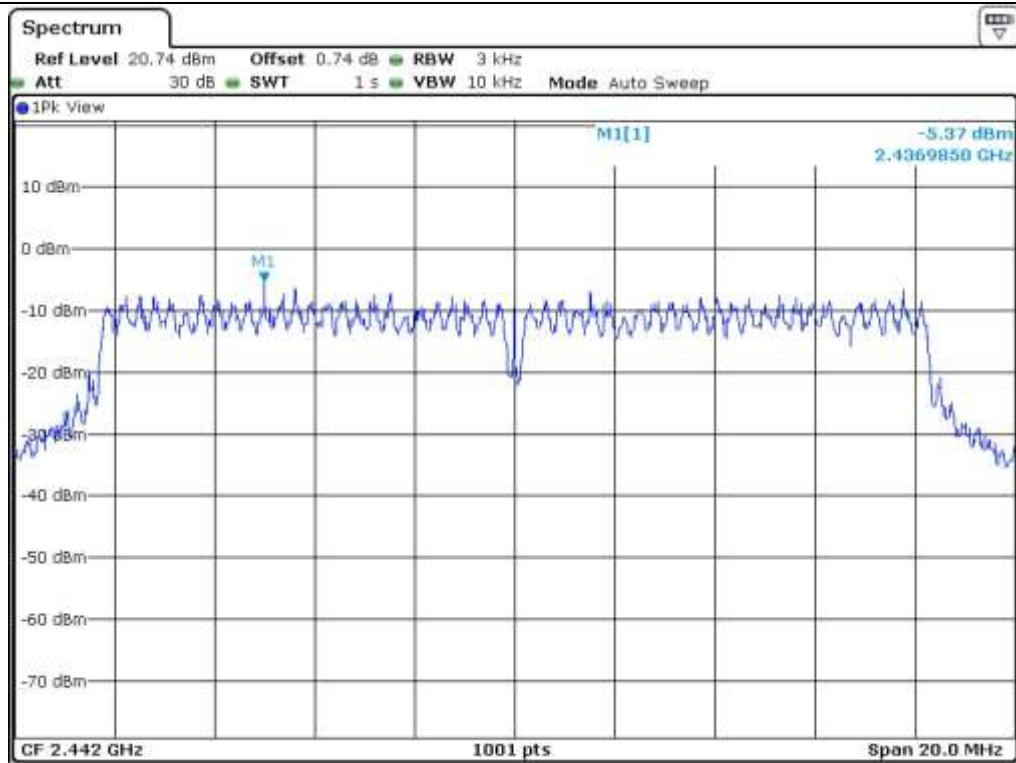
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-12.02	8.00	20.02
Middle	2 442	-5.37	8.00	13.37
High	2 462	-12.07	8.00	20.07

Remark. Margin = Limit – Measured value

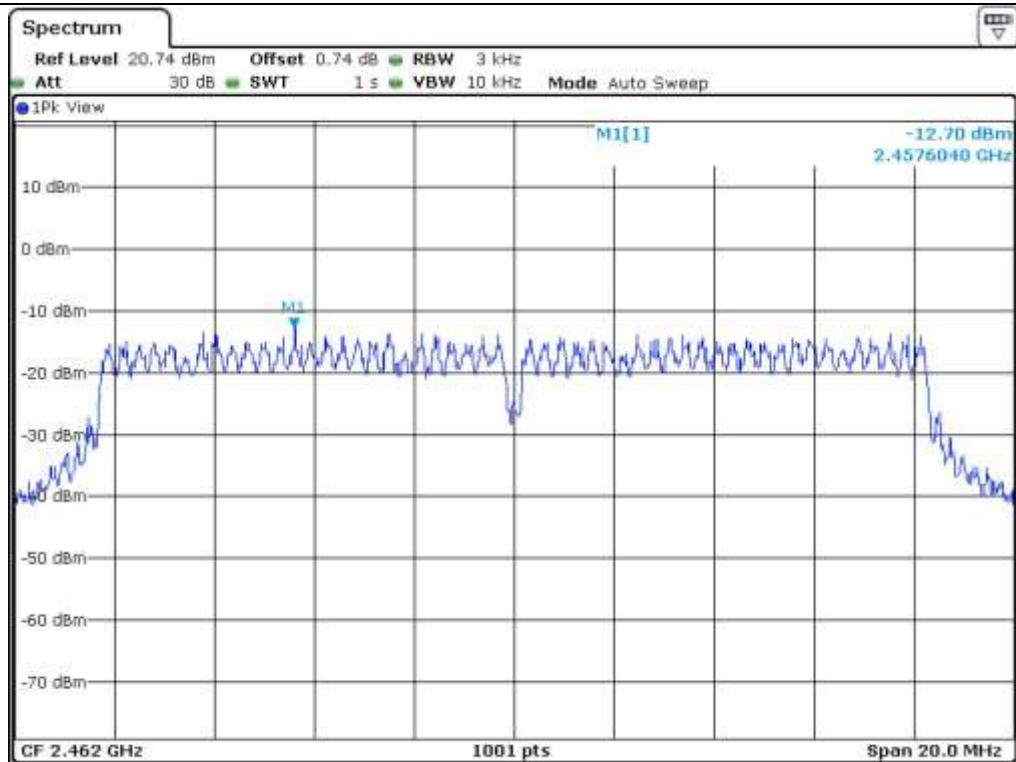


Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

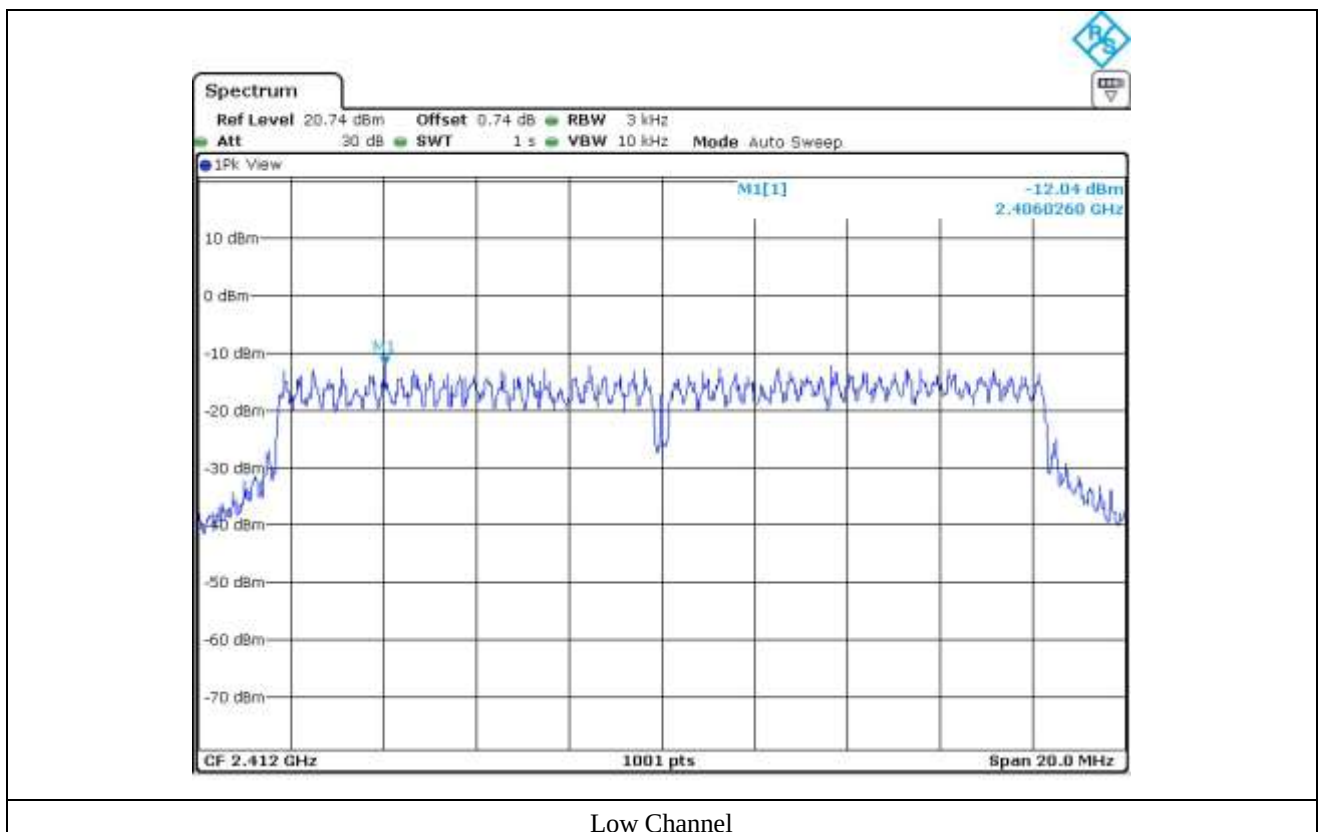
11.5.2 Test data for Antenna 1

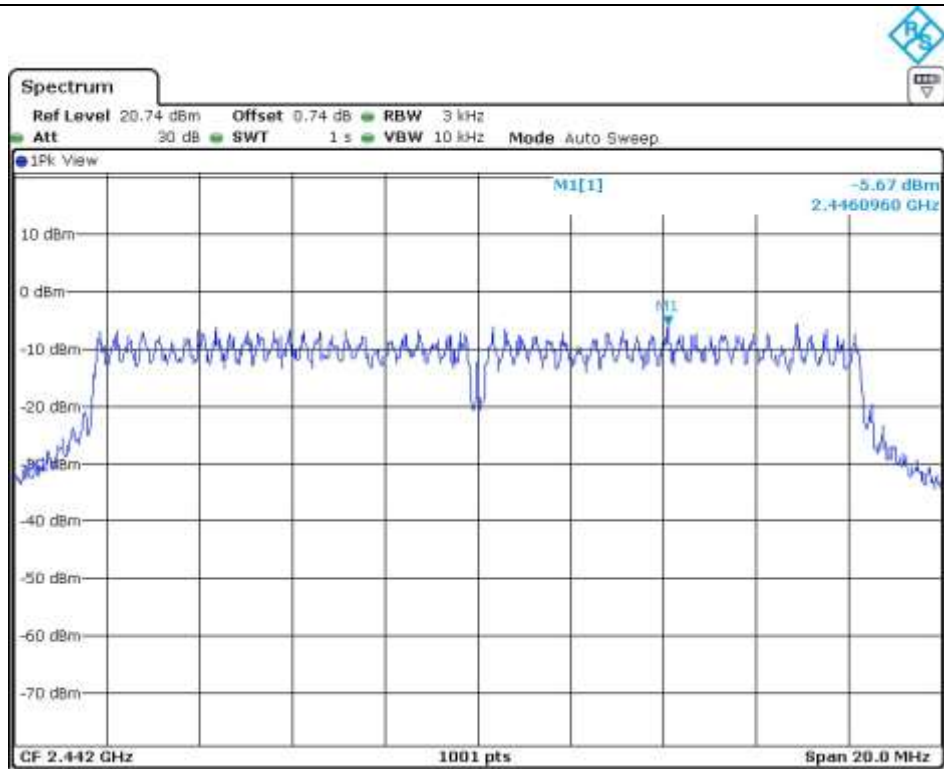
- Test Date : April 30, 2016
- Test Result : Pass
- Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-12.04	8.00	20.04
Middle	2 442	-5.67	8.00	13.67
High	2 462	-12.08	8.00	20.08

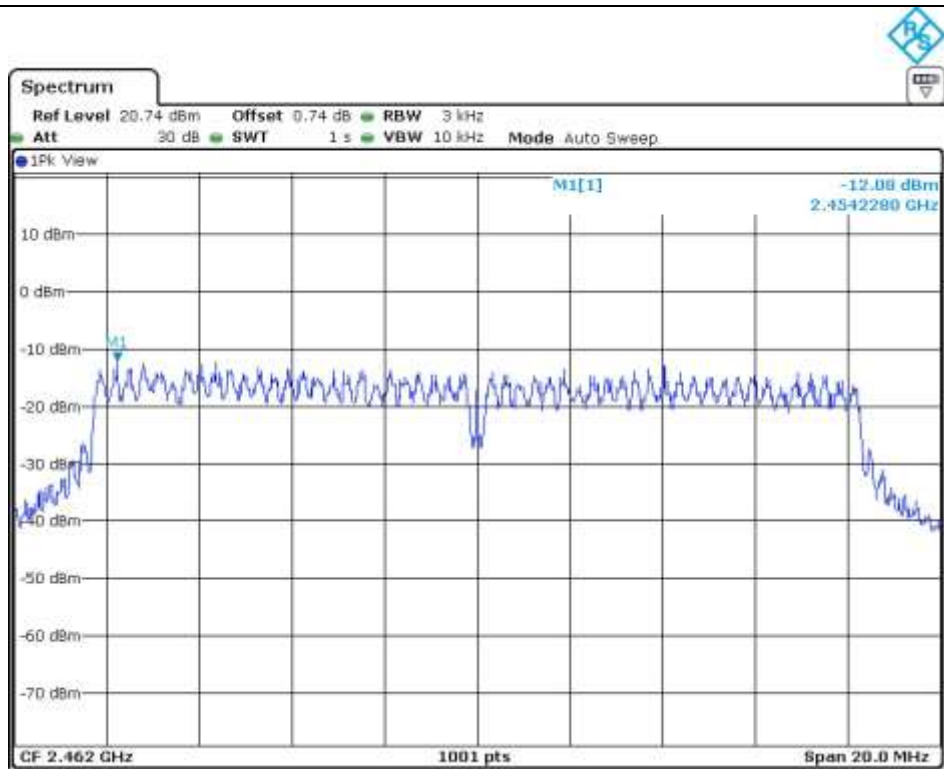
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

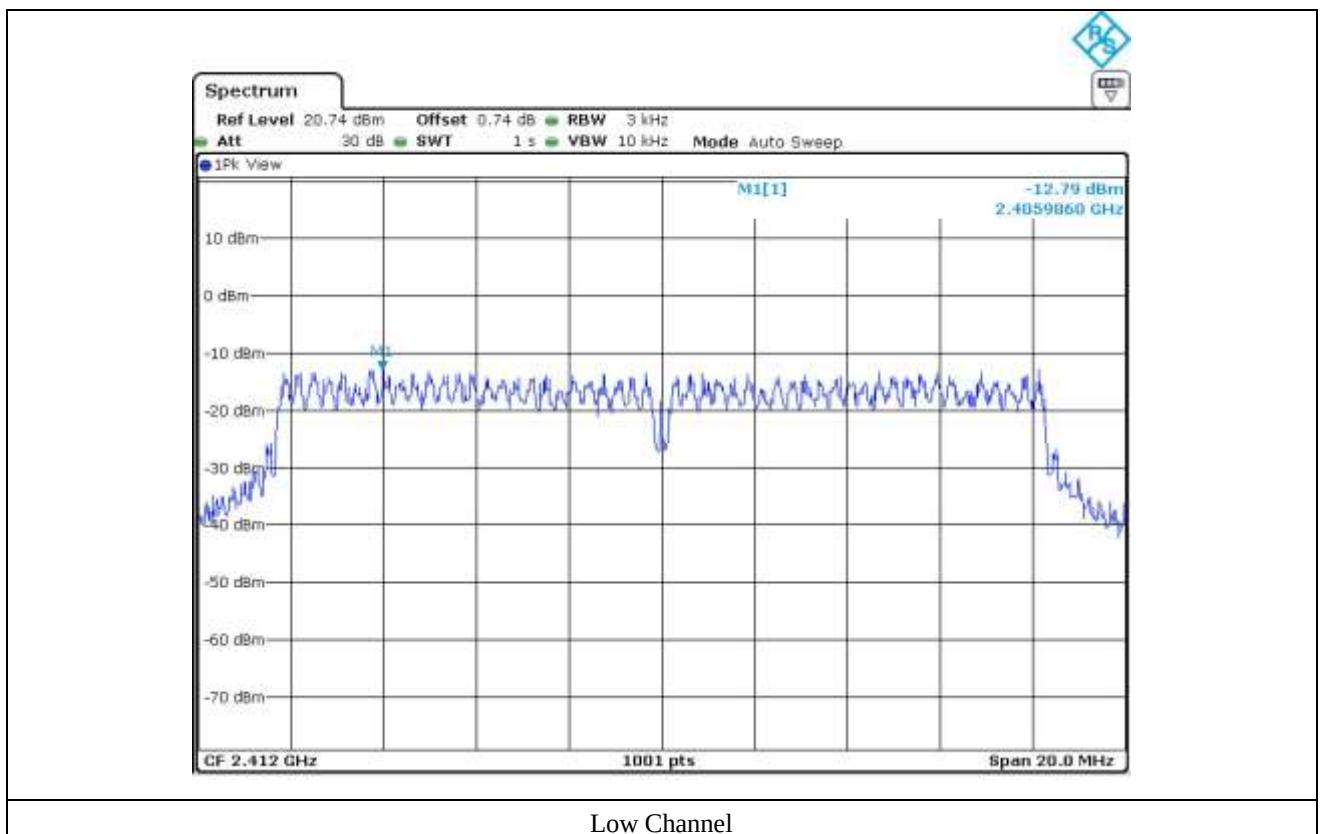
11.5.3 Test data for Antenna 2

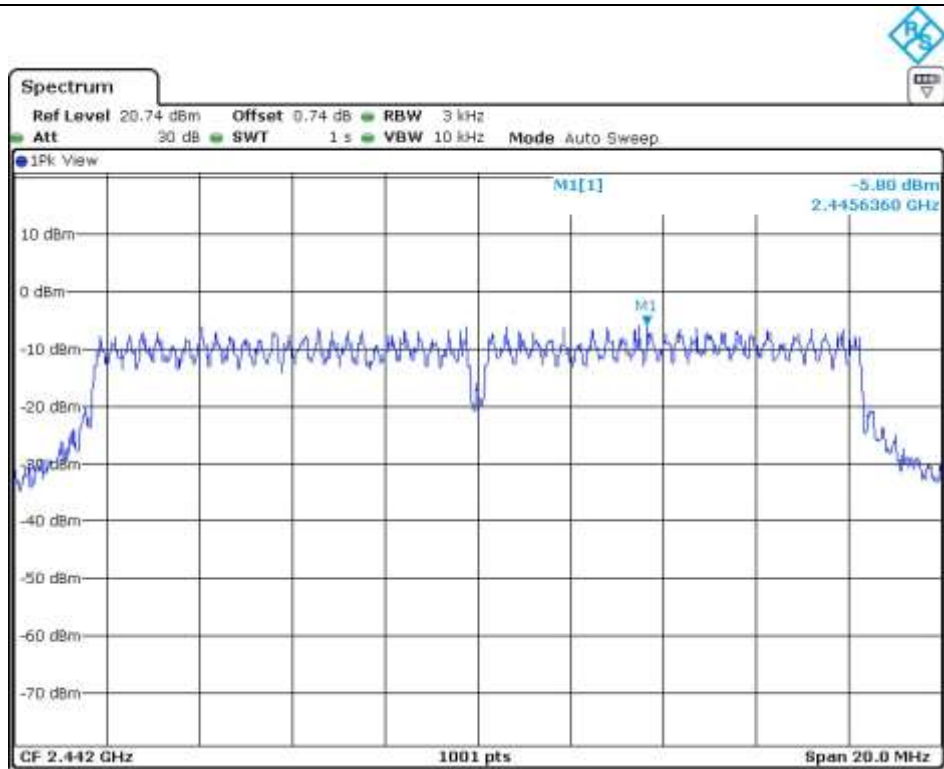
- . Test Date : April 30, 2016
- . Test Result : Pass
- . Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-12.79	8.00	20.79
Middle	2 442	-5.80	8.00	13.80
High	2 462	-10.97	8.00	18.97

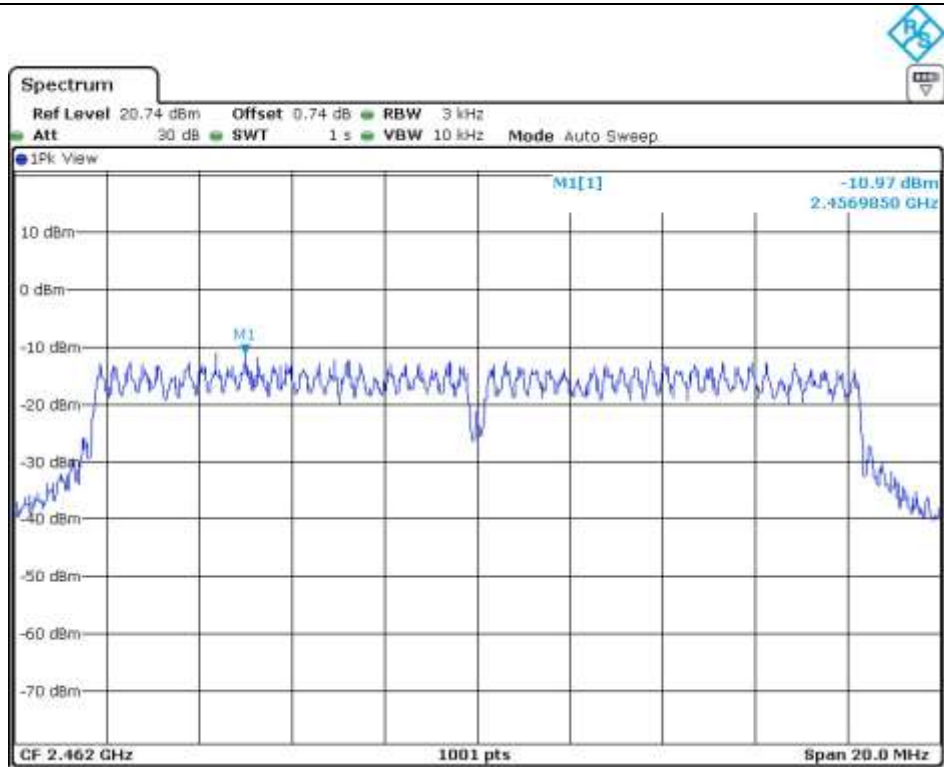
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.6 Test data for 802.11n_HT20 WLAN Mode

11.6.1 Test data for Antenna 0

-. Test Date : April 30, 2016

-. Test Result : Pass

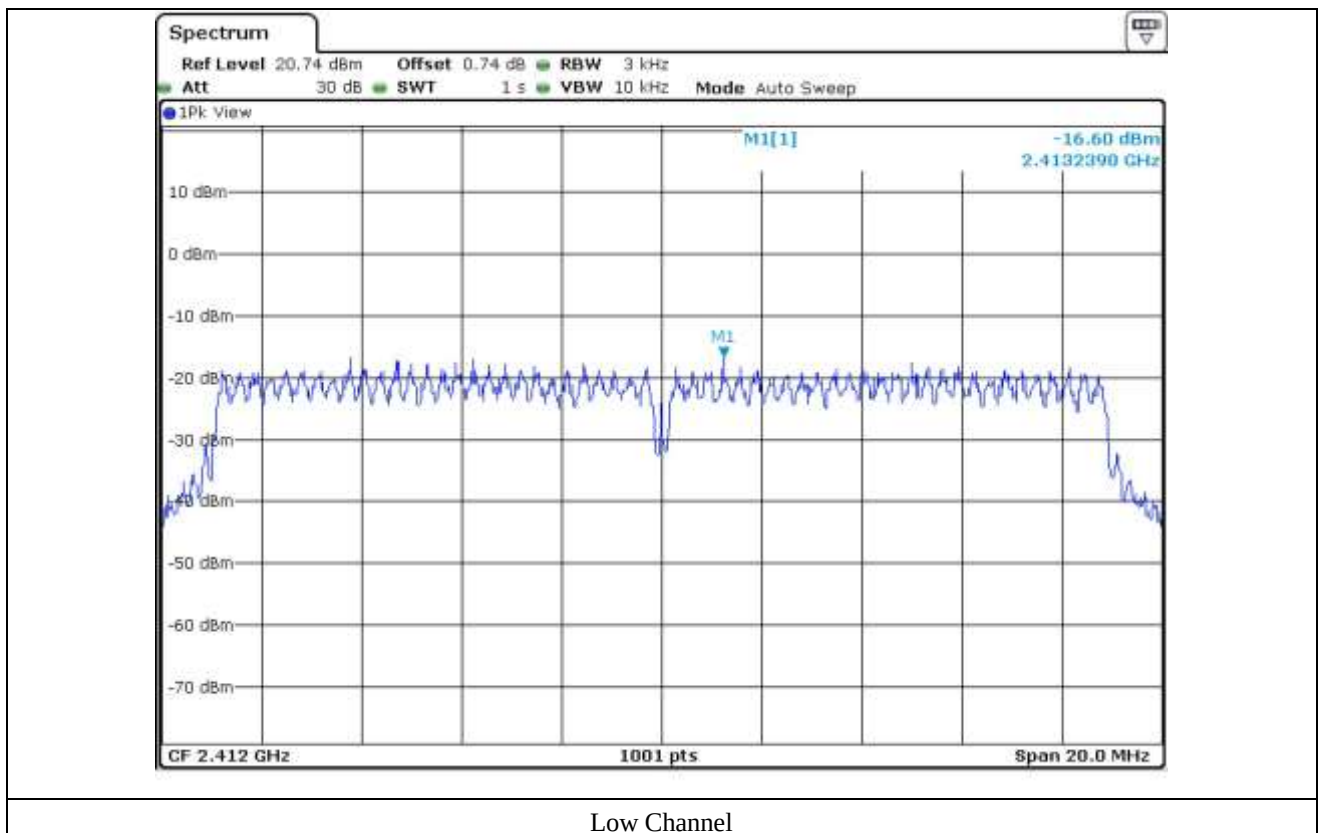
-. Operating Condition : Continuous transmitting mode

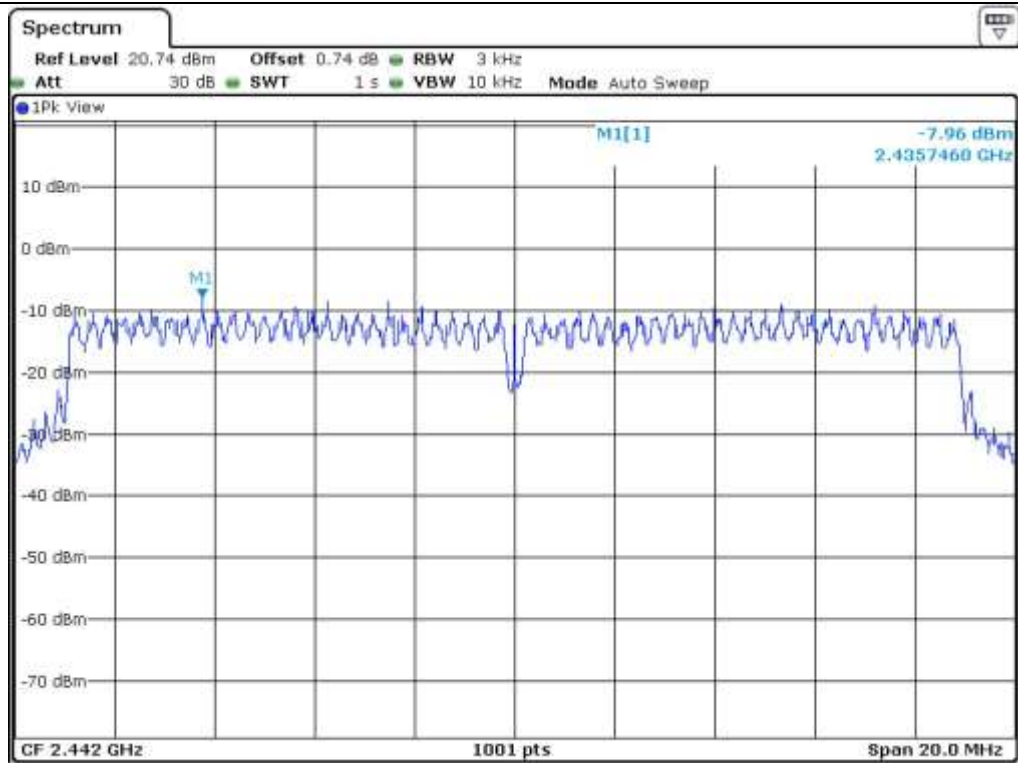
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-16.60	8.00	24.60
Middle	2 442	-7.96	8.00	15.96
High	2 462	-17.10	8.00	25.10

Remark. Margin = Limit – Measured value

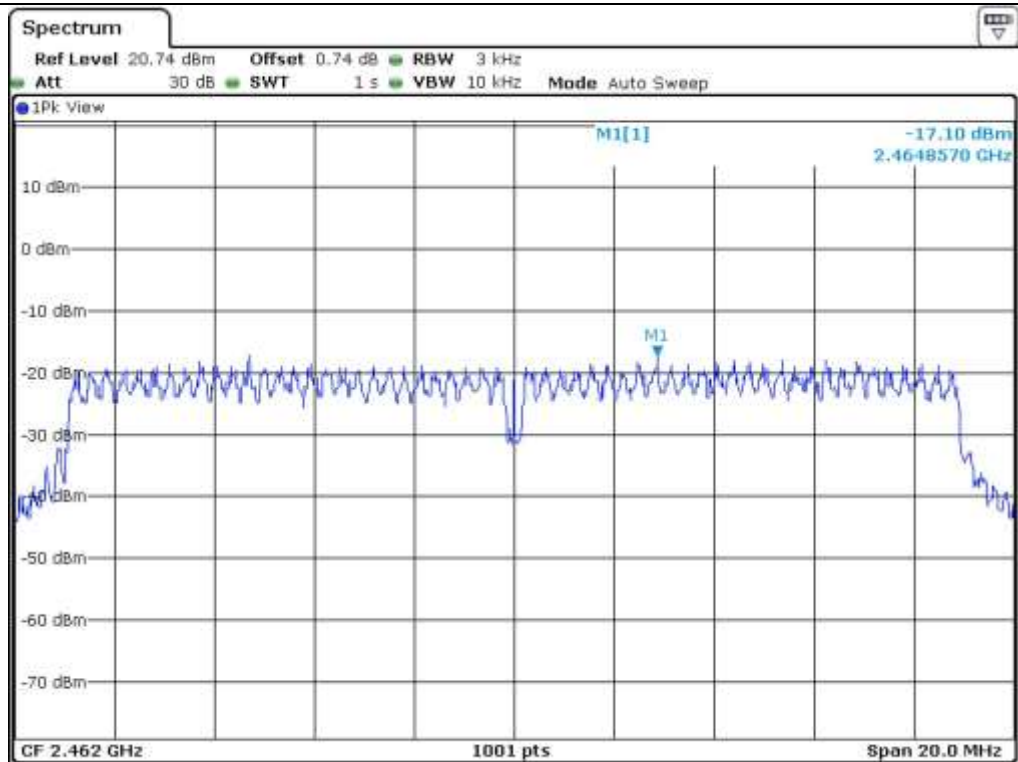


Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

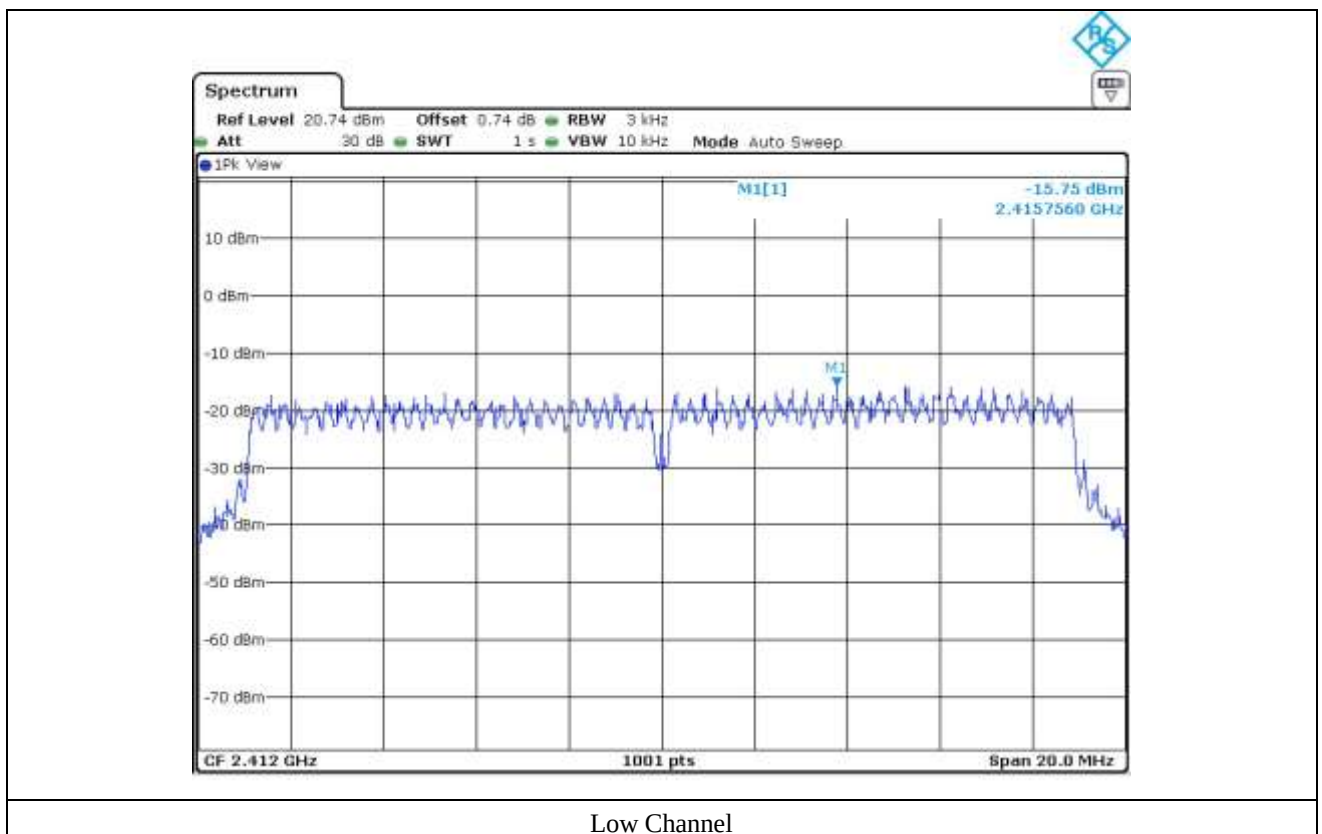
11.6.2 Test data for Antenna 1

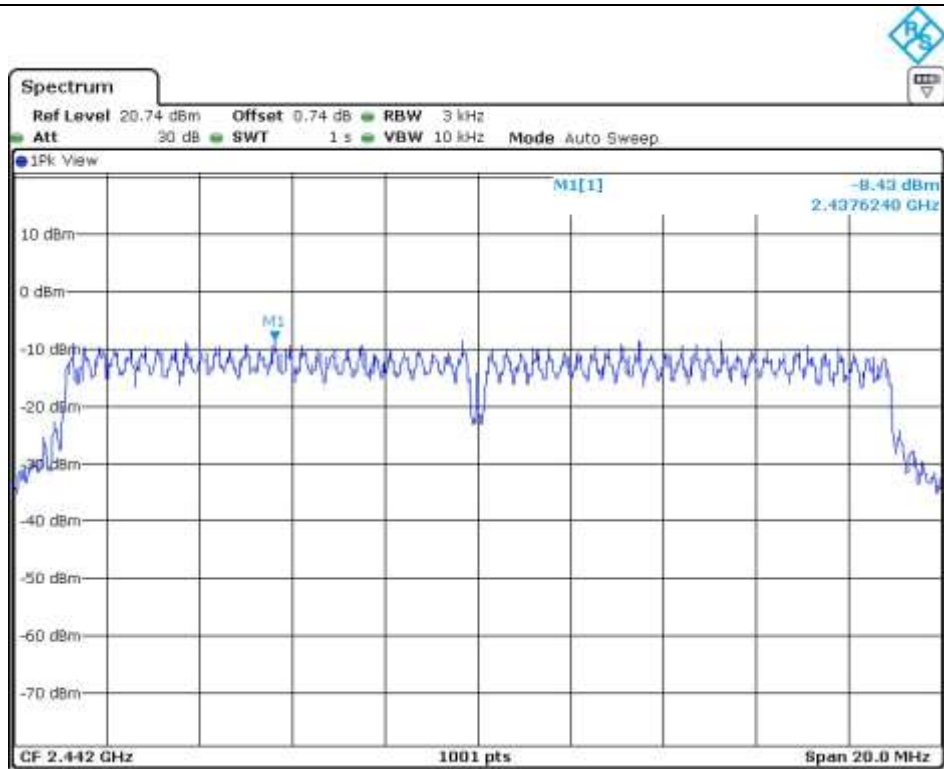
- Test Date : April 30, 2016
- Test Result : Pass
- Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-15.75	8.00	23.75
Middle	2 442	-8.43	8.00	16.43
High	2 462	-16.69	8.00	24.69

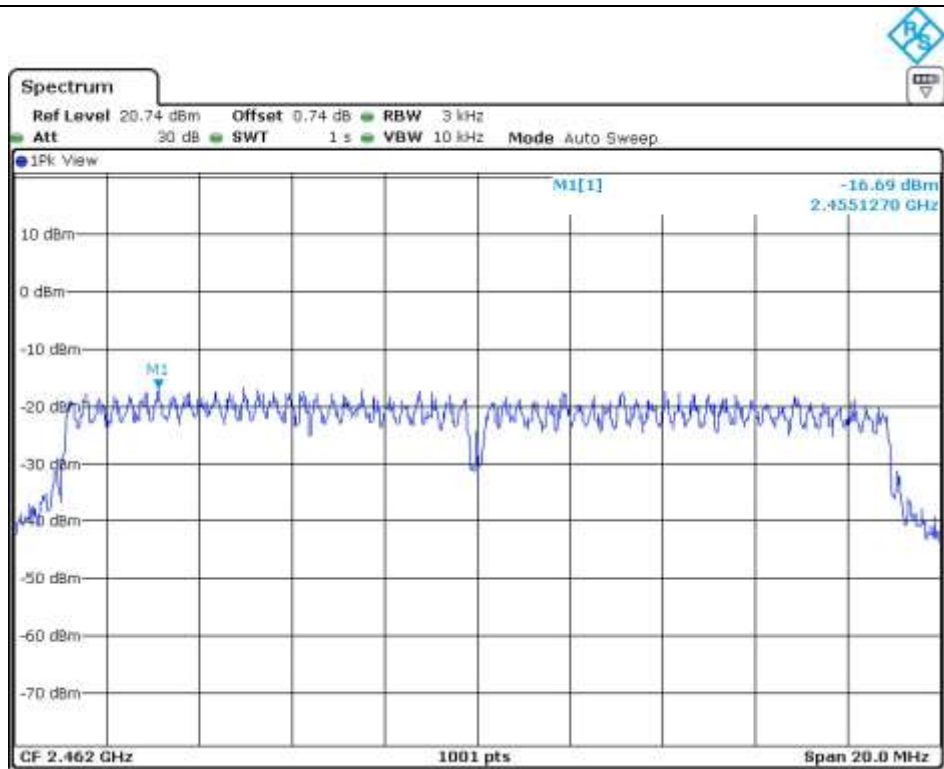
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.6.3 Test data for Antenna 2

-. Test Date : April 30, 2016

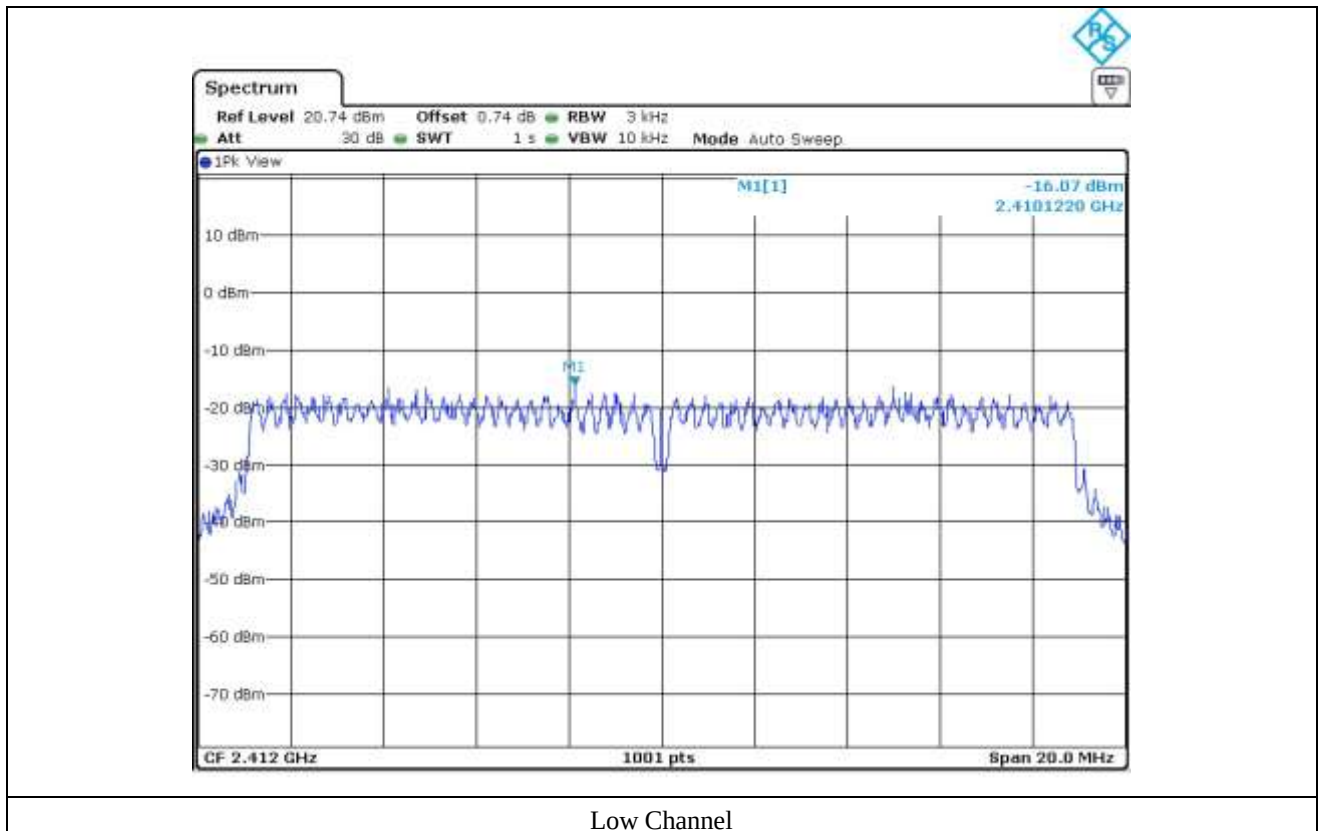
-. Test Result : Pass

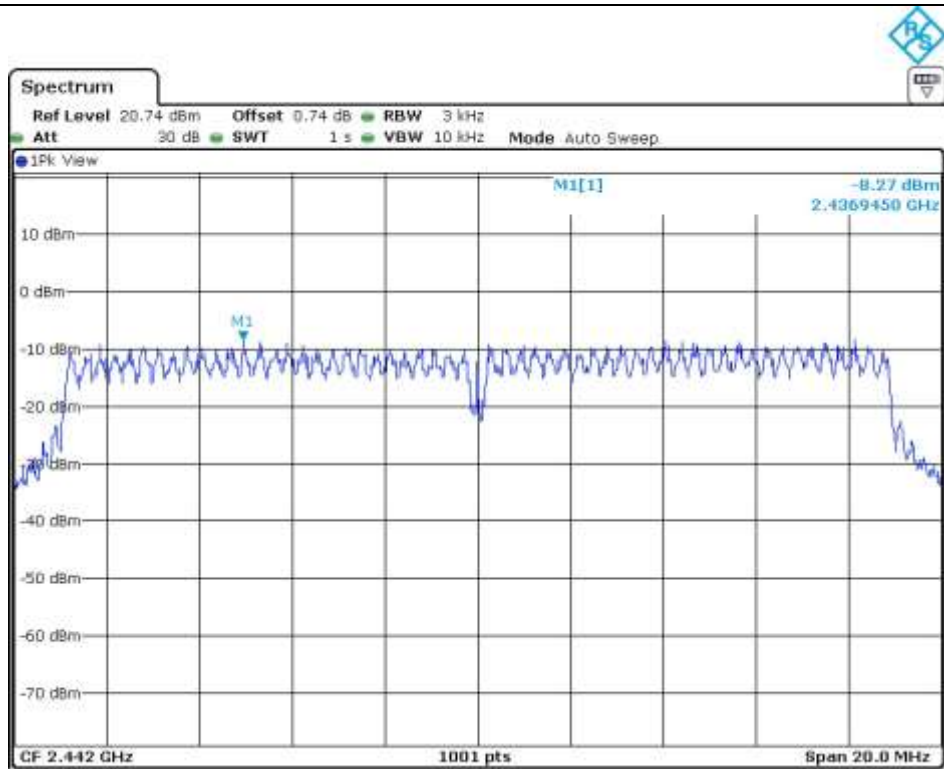
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-16.07	8.00	24.07
Middle	2 442	-8.27	8.00	16.27
High	2 462	-16.04	8.00	24.04

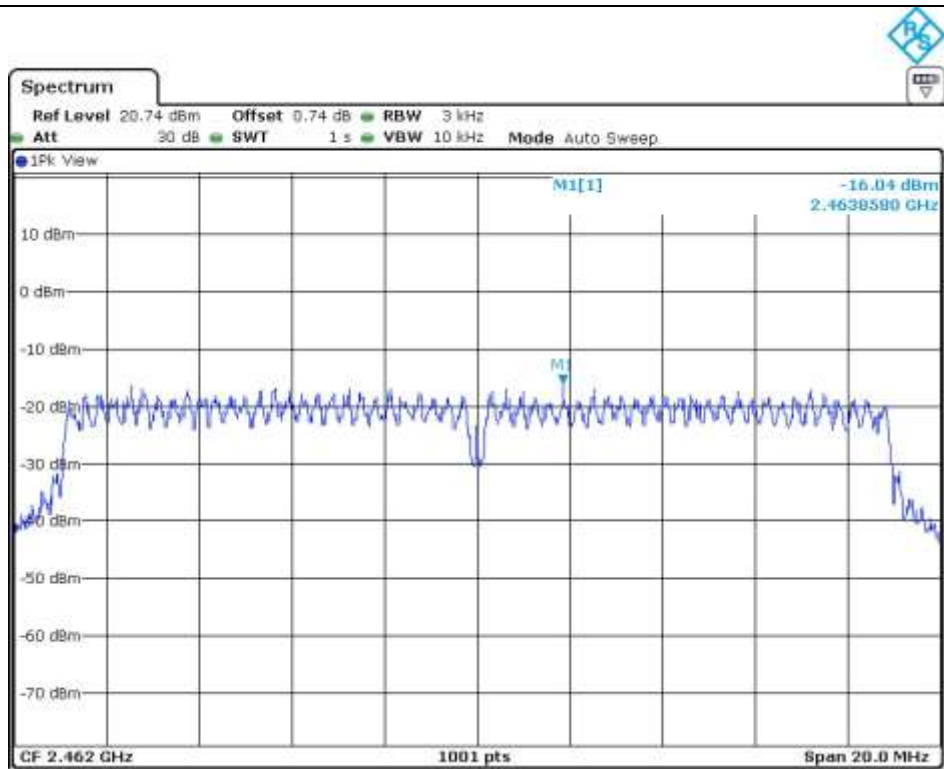
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.6.4 Test data for Multiple transmit

-. Test Date : April 30, 2016

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	CALCULATED POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412	-6.58	4.55	11.14
Middle	2 442	1.33	4.55	3.23
High	2 462	-7.05	4.55	11.60

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)} + 10^{(\text{Antenna2 Power Density}/10)})$



Tested by: Jun-Hui, Lee / Senior Engineer

11.7 Test data for 802.11n_HT40 WLAN Mode

11.7.1 Test data for Antenna 0

-. Test Date : April 30, 2016

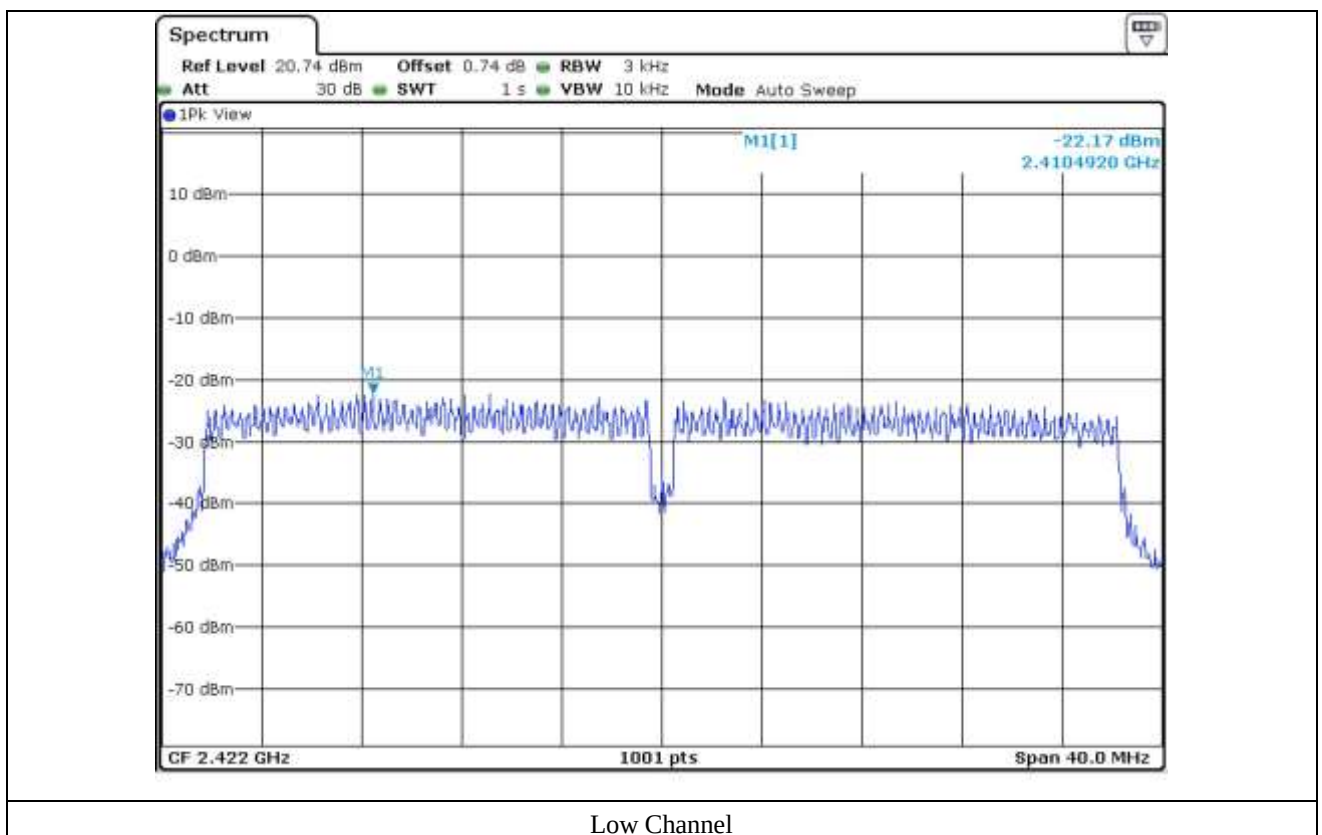
-. Test Result : Pass

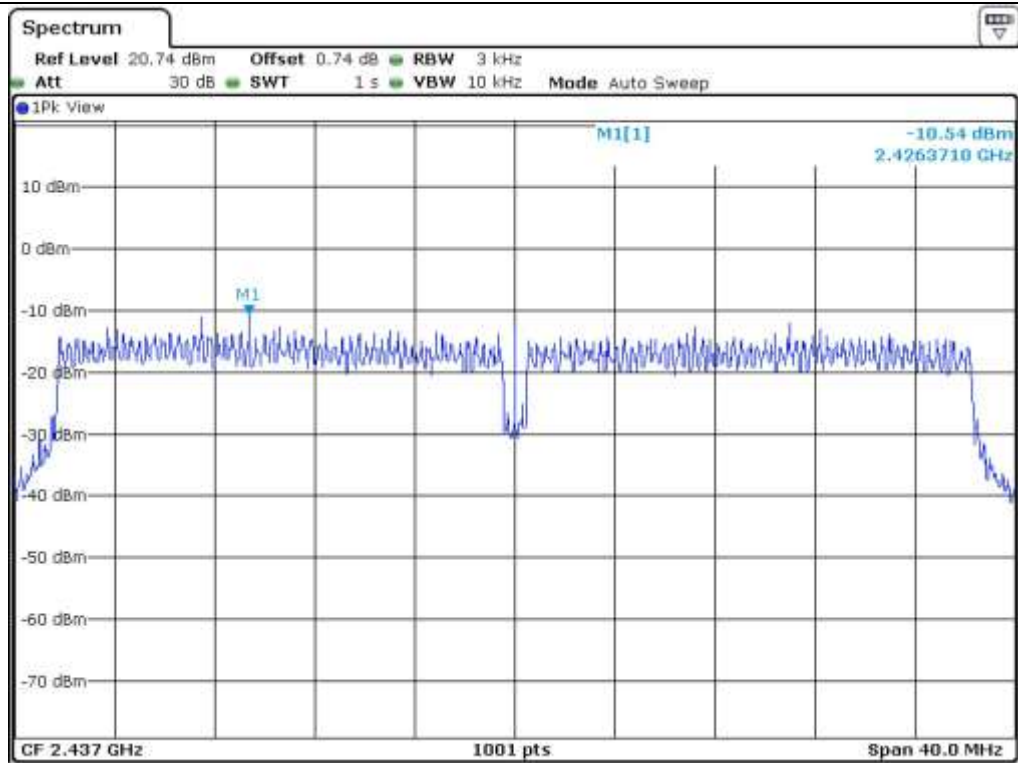
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422	-22.17	8.00	30.17
Middle	2 442	-10.54	8.00	18.54
High	2 452	-21.38	8.00	29.38

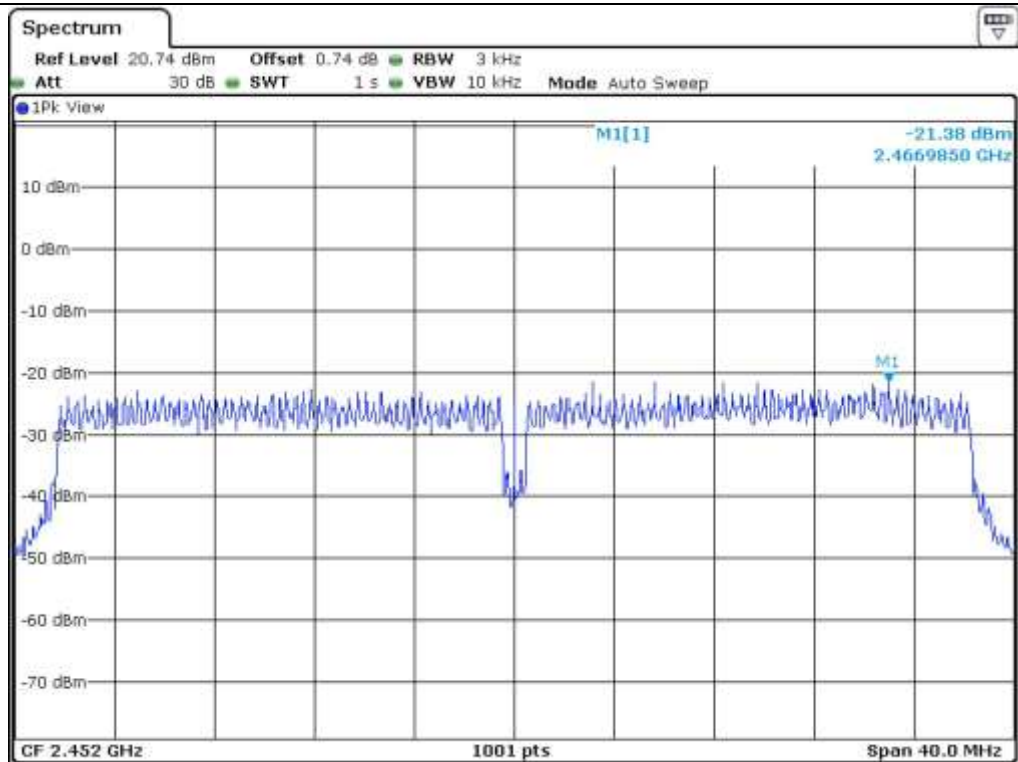
Remark. Margin = Limit – Measured value


 Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

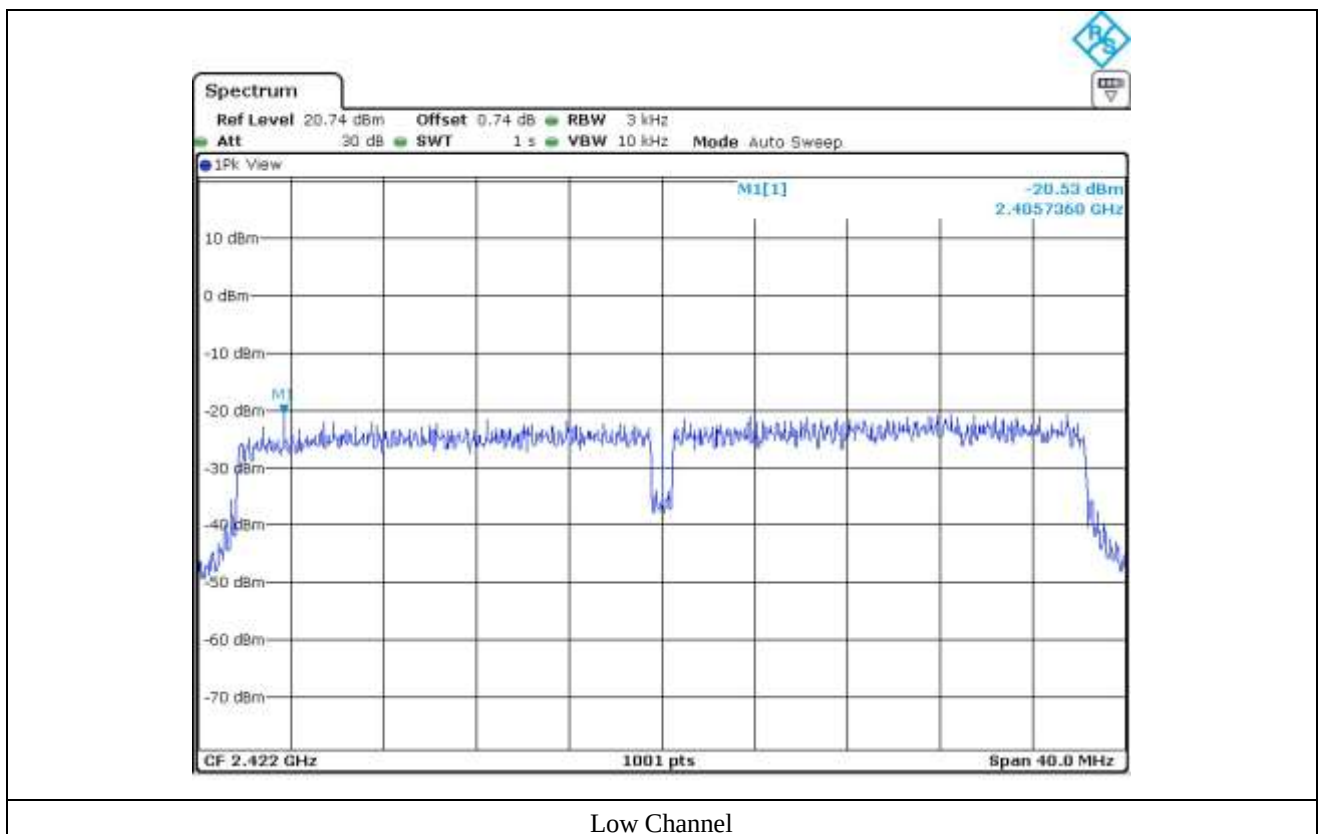
11.7.2 Test data for Antenna 1

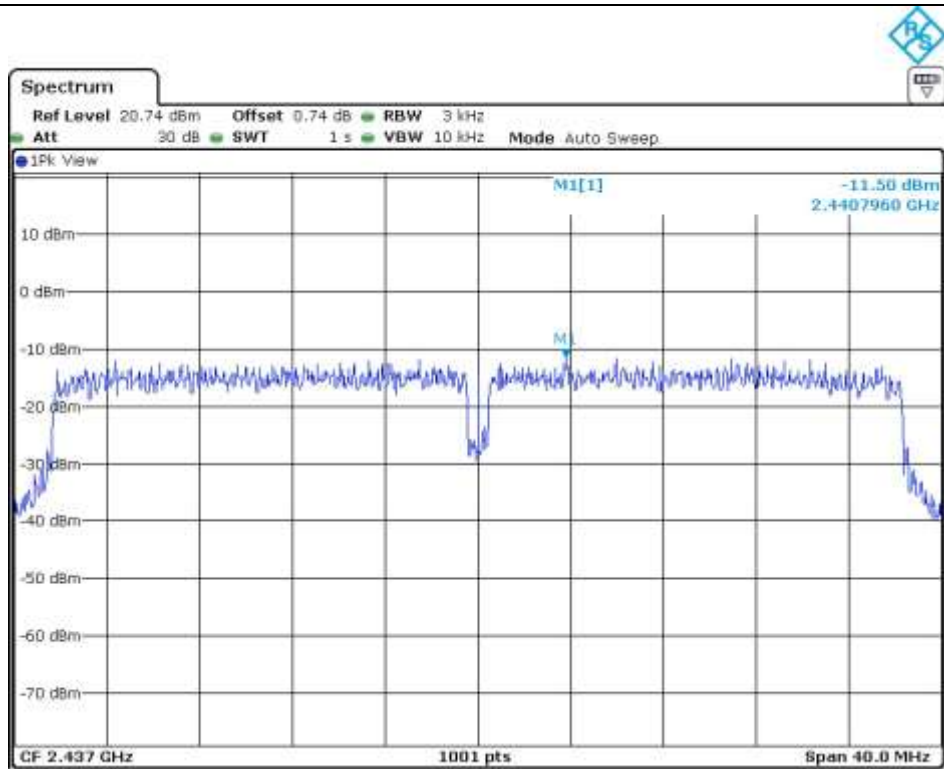
- Test Date : April 30, 2016
- Test Result : Pass
- Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422	-20.53	8.00	28.53
Middle	2 442	-11.50	8.00	19.50
High	2 452	-20.59	8.00	28.59

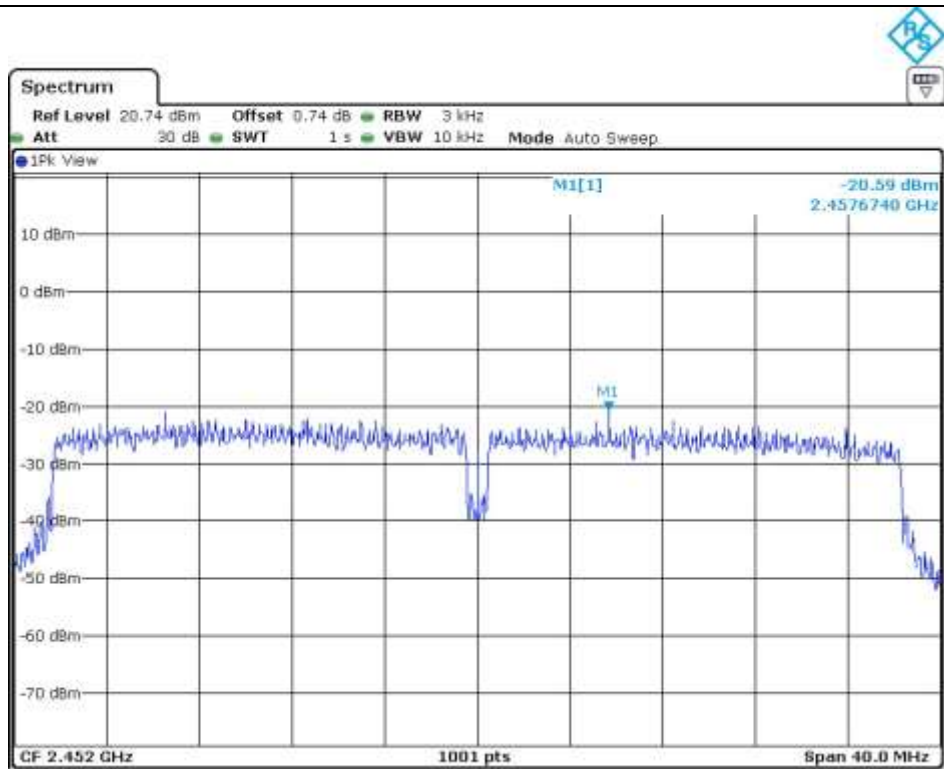
Remark. Margin = Limit – Measured value

Tested by: Jun-Hui, Lee / Senior Engineer





Middle Channel



High Channel

11.7.3 Test data for Antenna 2

-. Test Date : April 30, 2016

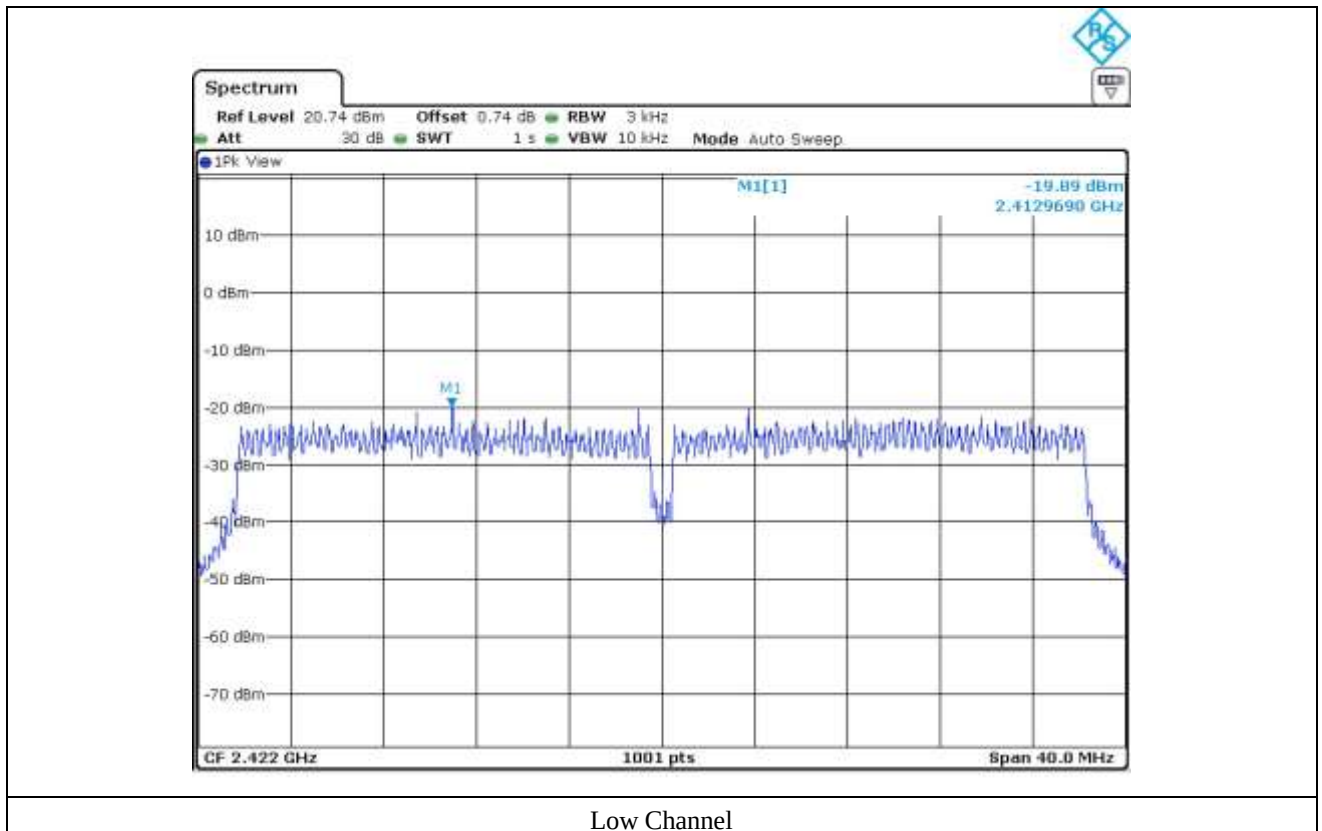
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

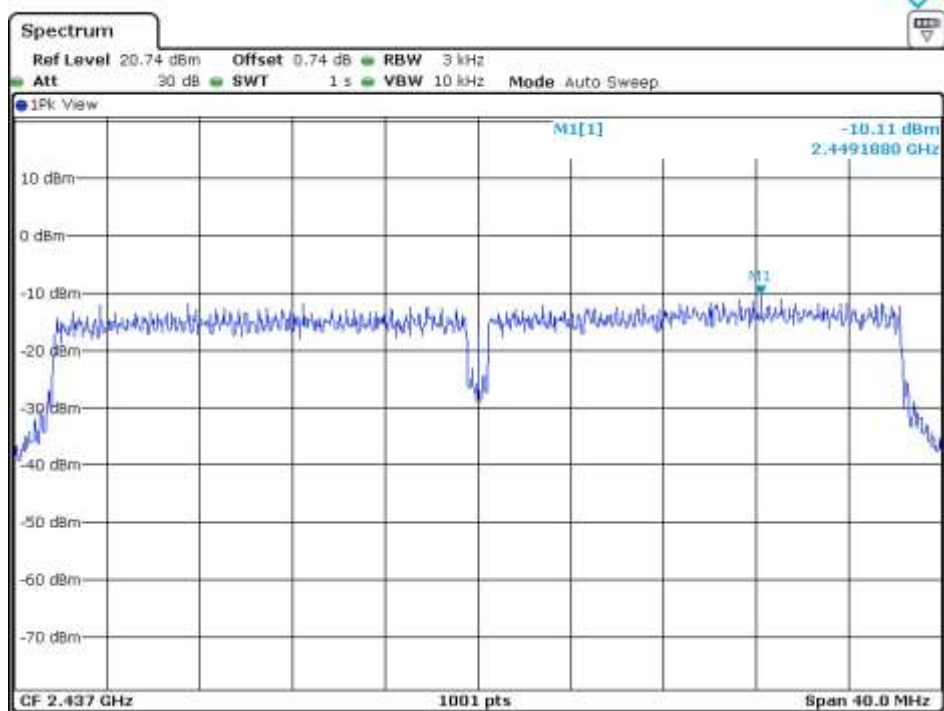
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422	-19.89	8.00	27.89
Middle	2 442	-10.11	8.00	18.11
High	2 452	-19.72	8.00	27.72

Remark. Margin = Limit – Measured value

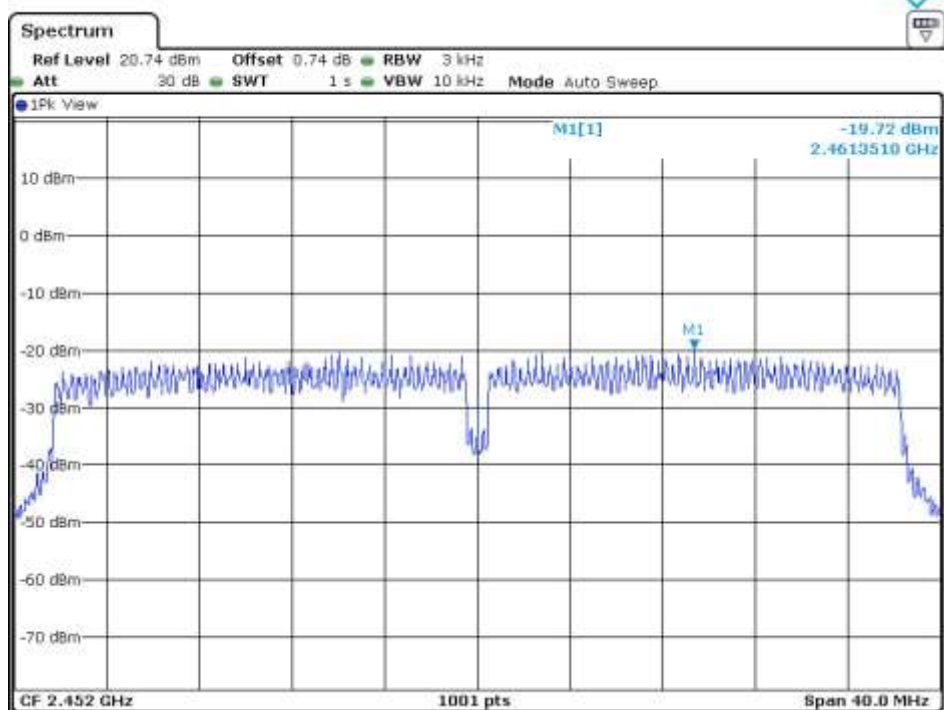
Tested by: Jun-Hui, Lee / Senior Engineer



Low Channel



Middle Channel



High Channel

11.7.4 Test data for Multiple transmit

-. Test Date : April 30, 2016

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	CALCULATED POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422	-11.22	4.55	15.77
Middle	2 442	-1.14	4.55	5.69
High	2 452	-10.97	4.55	15.52

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)} + 10^{(\text{Antenna2 Power Density}/10)})$


 Tested by: Jun-Hui, Lee / Senior Engineer

12. RADIATED EMISSION TEST

12.1 Operating environment

Temperature : (23 ~ 24) °C
Relative humidity : (46 ~ 47) % R.H.

12.2 Test set-up

The radiated emissions measurements were on the 3 m, open-field test site. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

12.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Jul. 22, 2015 (1Y)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Nov. 02, 2015 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2016 (1Y)
■ -	SCU-18	Rohde & Schwarz	Pre-Amplifier	10041	Nov. 23, 2015 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Jul. 10, 2014 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 31, 2015 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Aug. 31, 2015 (2Y)

All test equipment used is calibrated on a regular basis.

12.4 Test data for 802.11b WLAN Mode

12.4.1 Test data

12.4.1.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : (46 ~ 47) % R.H.

Temperature: (23 ~ 24) °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

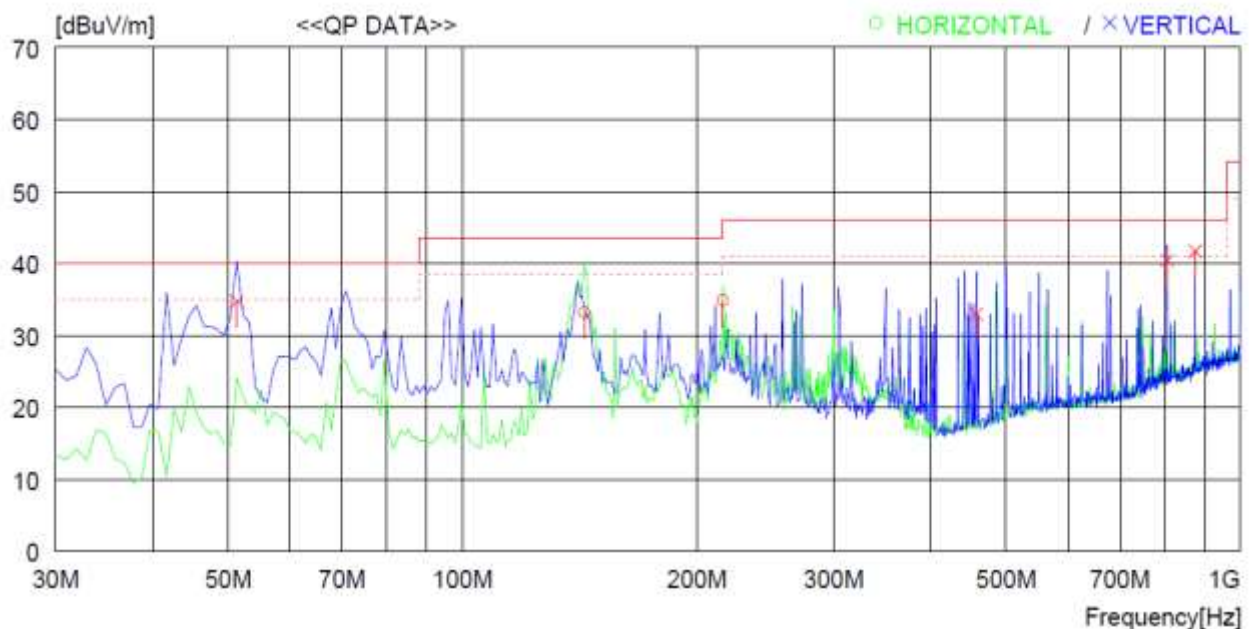
Result : PASSED

EUT : Interface Box

Date: April 26, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA TABLE	
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	143.490	54.8	8.2	3.2	33.0	33.2	43.5	10.3	300	0
2	216.240	52.4	11.3	3.9	32.8	34.8	46.0	11.2	100	0
----- Vertical -----										
3	51.340	52.1	13.6	2.0	33.0	34.7	40.0	5.3	100	359
4	457.771	43.3	16.7	5.7	32.8	32.9	46.0	13.1	100	359
5	805.022	44.8	20.9	8.0	33.3	40.4	46.0	5.6	100	340
6	875.830	44.6	21.9	8.3	33.1	41.7	46.0	4.3	100	138

12.4.1.2 Test data for Below 30 MHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									

12.4.1.3 Test data for above 1 GHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									



Tested by: Jun-Hui, Lee / Senior Engineer

12.5 Test data for 802.11g WLAN Mode

12.5.1 Test data

12.5.1.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : (46 ~ 47) % R.H.

Temperature: (23 ~ 24) °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

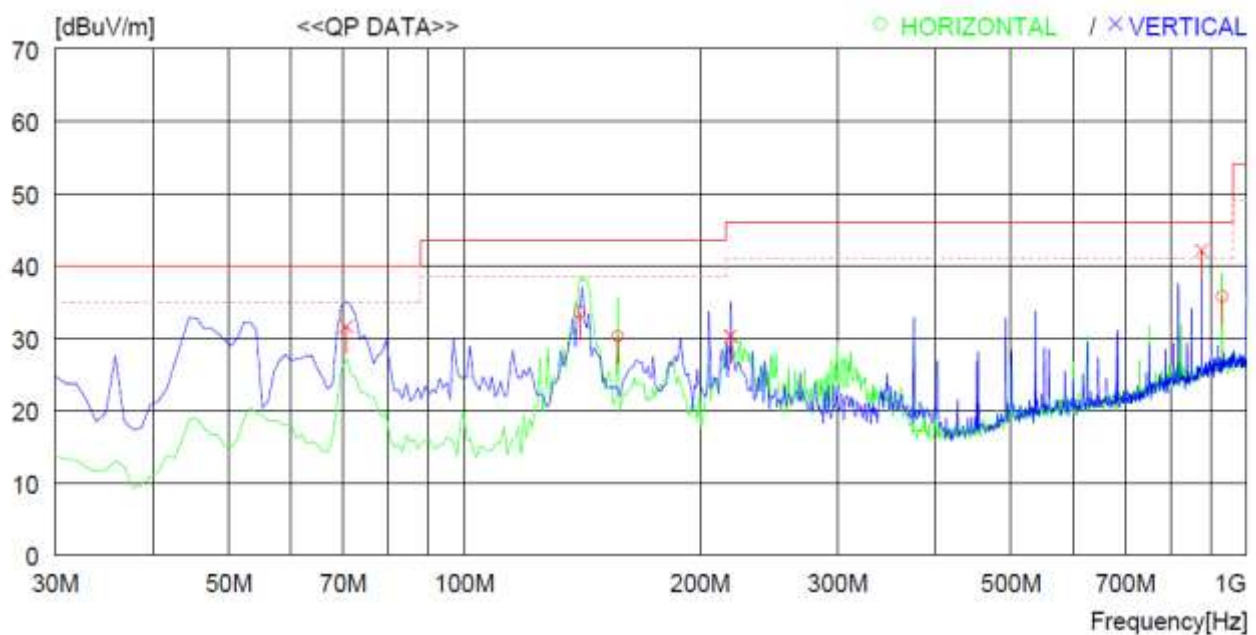
Result : PASSED

EUT : Interface Box

Date: April 26, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	140.580	55.3	8.1	3.2	33.1	33.5	43.5	10.0	200	184
2	157.070	51.3	8.6	3.3	33.0	30.2	43.5	13.3	200	359
3	930.148	37.3	22.4	8.5	32.5	35.7	46.0	10.3	400	26
----- Vertical -----										
4	70.740	52.8	9.6	2.3	33.1	31.6	40.0	8.4	200	91
5	219.150	47.7	11.4	4.0	32.8	30.3	46.0	15.7	300	6
6	875.830	45.0	21.9	8.3	33.1	42.1	46.0	3.9	100	359

12.5.1.2 Test data for Below 30 MHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									

12.4.1.3 Test data for above 1 GHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									



Tested by: Jun-Hui, Lee / Senior Engineer

12.6 Test data for 802.11n_HT20 WLAN Mode

12.6.1 Test data

12.6.1.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : (46 ~ 47) % R.H.

Temperature: (23 ~ 24) °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

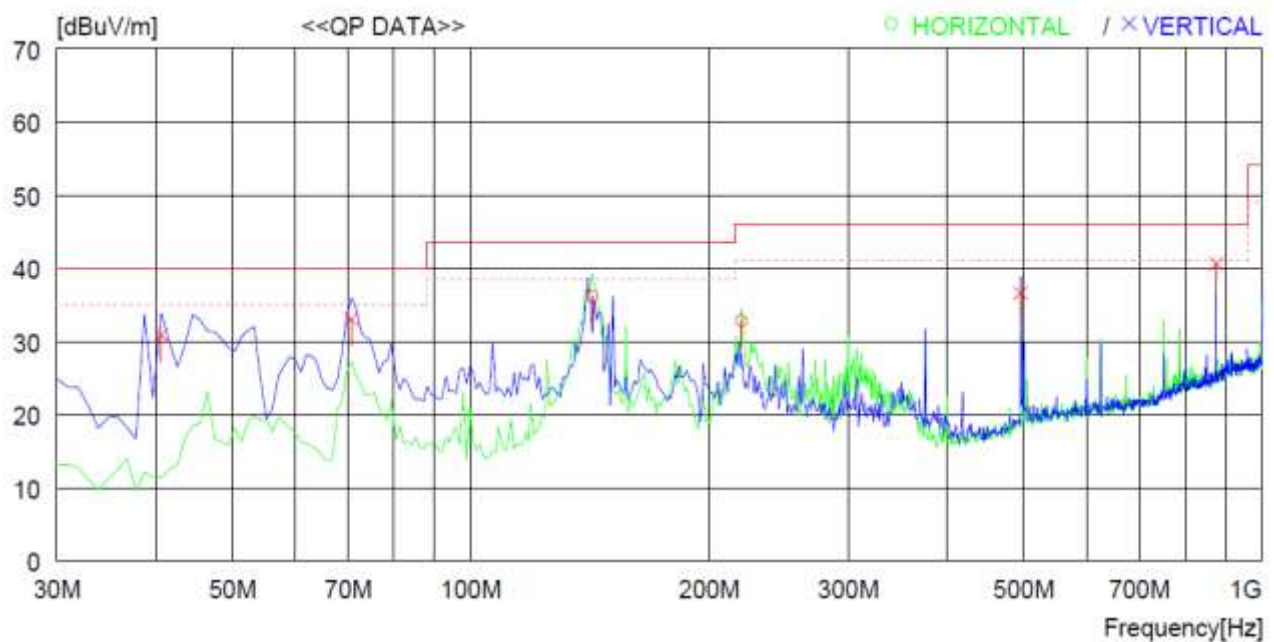
Result : PASSED

EUT : Interface Box

Date: April 26, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-.Ant0, Ant1, Ant2 and Multiple transmit with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA TABLE	
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	142.520	57.8	8.2	3.2	33.0	36.2	43.5	7.3	200	201
2	220.120	50.2	11.4	4.0	32.8	32.8	46.0	13.2	100	170
----- Vertical -----										
3	40.670	48.6	13.4	1.8	32.9	30.9	40.0	9.1	100	359
4	70.740	54.2	9.6	2.3	33.1	33.0	40.0	7.0	200	0
5	495.601	45.6	17.2	6.7	32.9	36.6	46.0	9.4	100	359
6	875.830	43.5	21.9	8.3	33.1	40.6	46.0	5.4	100	152

12.6.1.2 Test data for Below 30 MHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									

12.4.1.3 Test data for above 1 GHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									



Tested by: Jun-Hui, Lee / Senior Engineer

12.7 Test data for 802.11n_HT40 WLAN Mode

12.7.1 Test data

12.7.1.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : (46 ~ 47) % R.H.

Temperature: (23 ~ 24) °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

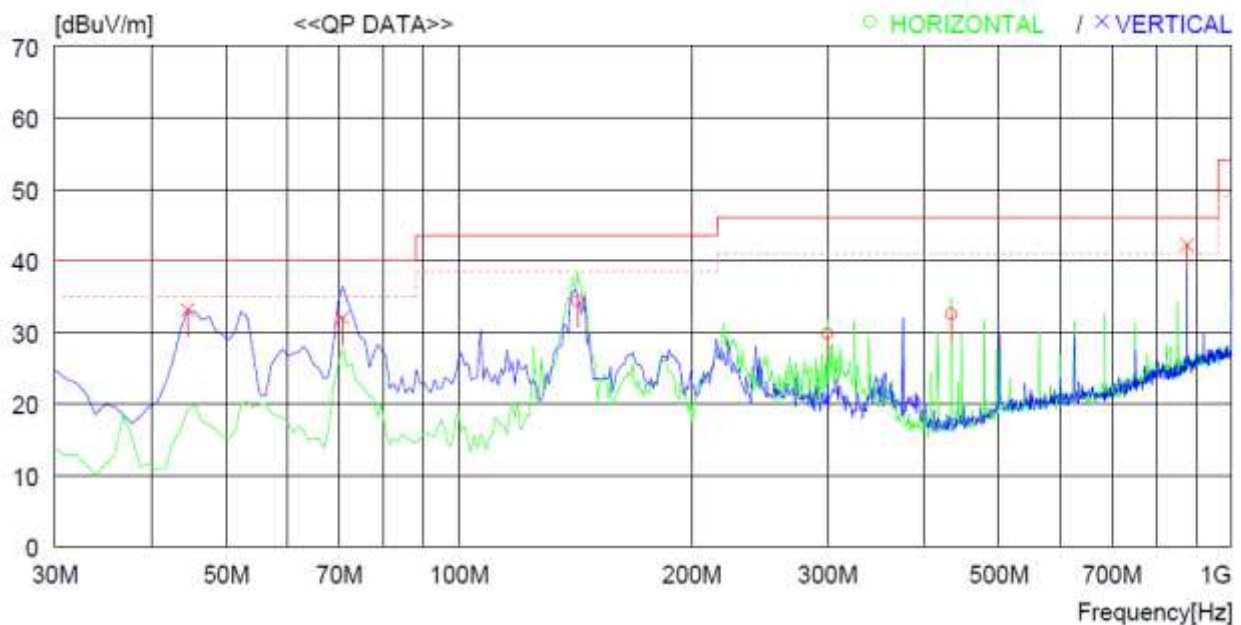
Result : PASSED

EUT : Interface Box

Date: April 26, 2016

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-Ant0, Ant1, Ant2 and Multiple transmit with Low, Middle and High Channels were tested, but the worst data were recorded.



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	142.520	56.0	8.2	3.2	33.0	34.4	43.5	9.1	200	154
2	299.660	44.3	13.6	4.6	32.7	29.8	46.0	16.2	100	0
3	433.521	43.2	16.4	5.6	32.7	32.5	46.0	13.5	100	356
----- Vertical -----										
4	44.550	50.2	13.9	1.9	32.9	33.1	40.0	6.9	100	359
5	70.740	53.2	9.6	2.3	33.1	32.0	40.0	8.0	200	118
6	875.830	45.1	21.9	8.3	33.1	42.2	46.0	3.8	100	136

12.7.1.2 Test data for Below 30 MHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									

12.4.1.3 Test data for above 1 GHz

- . Test Date : April 26, 2016
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Any emissions were not observed from the EUT.									



Tested by: Jun-Hui, Lee / Senior Engineer

13. CONDUCTED EMISSION TEST

13.1 Operating environment

Temperature : (21 ~ 23) °C
Relative humidity : (44 ~ 47) % R.H.

13.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

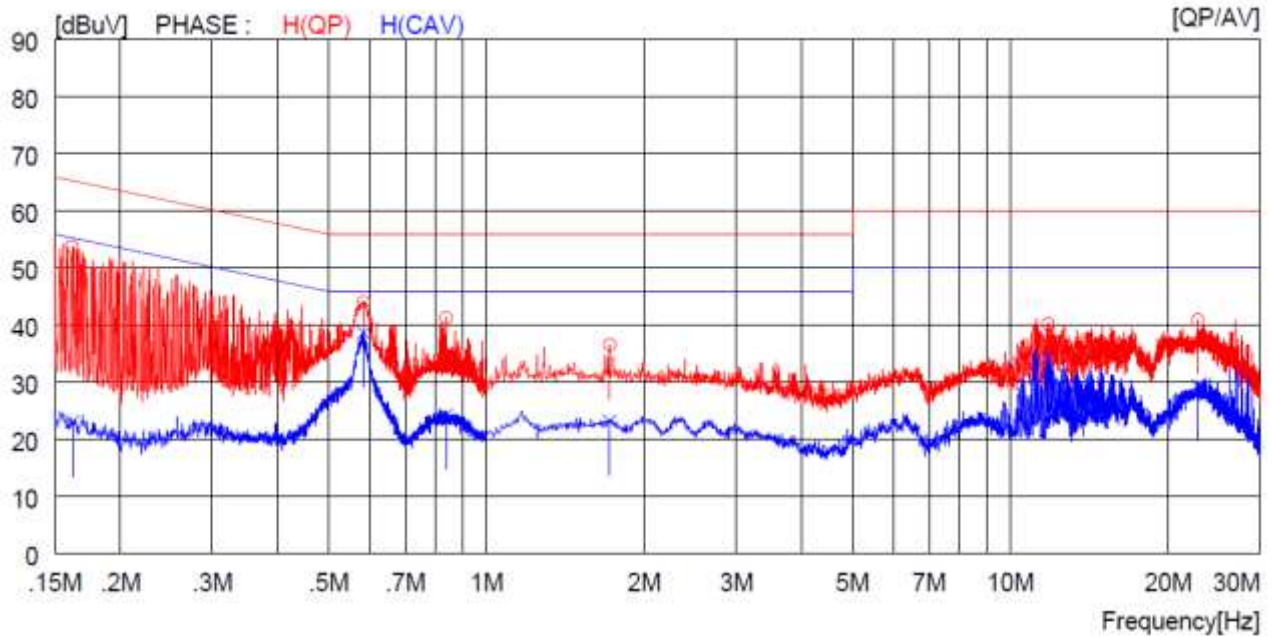
13.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	ESPI	Rohde & Schwarz	Test Receiver	101012	Nov. 02, 2015 (1Y)
□ -	ESHS10	Rohde & Schwarz	Test Receiver	834467/007	Apr. 29, 2015 (1Y)
□ -	NSLK8128	Schwarzbeck	AMN	8128-216	Apr. 06, 2015 (1Y)
■ -	NSLK8126	Schwarzbeck	AMN	8126-404	Apr. 29, 2015 (1Y)
□ -	3825/2	EMCO	AMN	9109-1869	Apr. 29, 2015 (1Y)
■ -	3825/2	EMCO	AMN	9109-1867	Apr. 29, 2015 (1Y)

All test equipment used is calibrated on a regular basis.

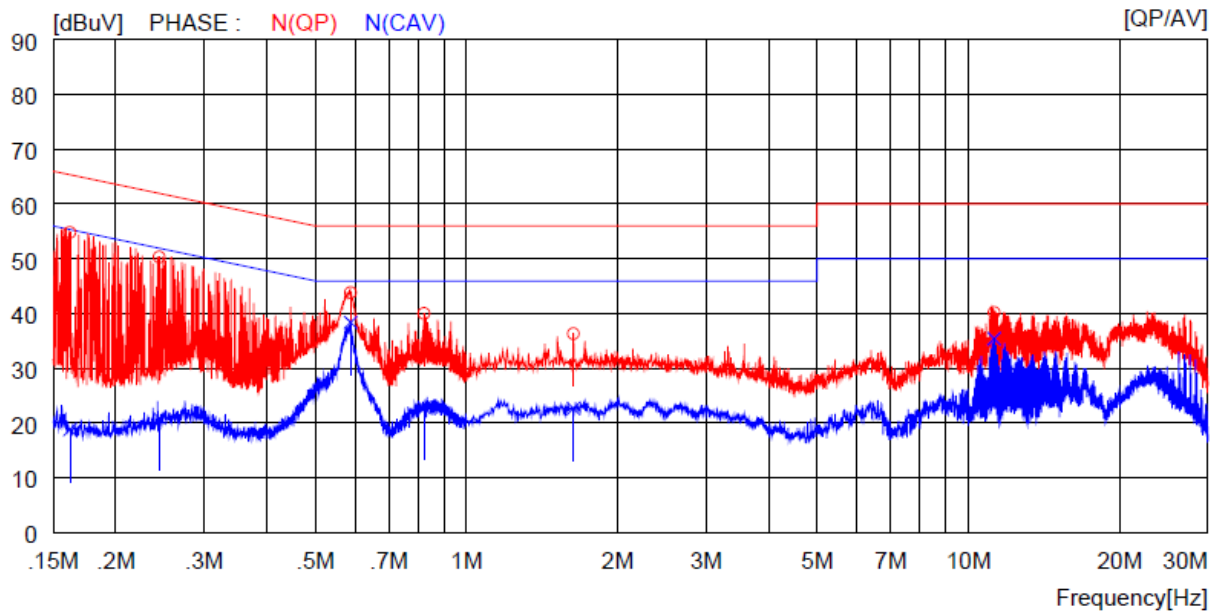
13.4 Test data for 802.11b WLAN Mode

- Test Date : April 28, 2016
- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16200	43.7	----	10.1	53.8	----	65.4	----	11.6	----	H (QP)
2	0.58300	34.0	----	10.1	44.1	----	56.0	----	11.9	----	H (QP)
3	0.83800	31.3	----	10.1	41.4	----	56.0	----	14.6	----	H (QP)
4	1.72000	26.5	----	10.1	36.6	----	56.0	----	19.4	----	H (QP)
5	11.80000	29.9	----	10.4	40.3	----	60.0	----	19.7	----	H (QP)
6	22.86000	30.4	----	10.6	41.0	----	60.0	----	19.0	----	H (QP)
7	0.16200	----	13.0	10.1	----	23.1	----	55.4	----	32.3	H (CAV)
8	0.58300	----	28.6	10.1	----	38.7	----	46.0	----	7.3	H (CAV)
9	0.83800	----	14.2	10.1	----	24.3	----	46.0	----	21.7	H (CAV)
10	1.72000	----	13.1	10.1	----	23.2	----	46.0	----	22.8	H (CAV)
11	11.80000	----	24.0	10.4	----	34.4	----	50.0	----	15.6	H (CAV)
12	22.86000	----	18.8	10.6	----	29.4	----	50.0	----	20.6	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16200	44.7	----	10.1	54.8	----	65.4	----	10.6	----	N (QP)
2	0.24400	40.2	----	10.1	50.3	----	62.0	----	11.7	----	N (QP)
3	0.58700	33.7	----	10.1	43.8	----	56.0	----	12.2	----	N (QP)
4	0.82200	29.9	----	10.1	40.0	----	56.0	----	16.0	----	N (QP)
5	1.63200	26.2	----	10.1	36.3	----	56.0	----	19.7	----	N (QP)
6	11.25000	29.8	----	10.4	40.2	----	60.0	----	19.8	----	N (QP)
7	0.16200	----	8.7	10.1	----	18.8	----	55.4	----	36.6	N (CAV)
8	0.24400	----	10.8	10.1	----	20.9	----	52.0	----	31.1	N (CAV)
9	0.58700	----	28.3	10.1	----	38.4	----	46.0	----	7.6	N (CAV)
10	0.82200	----	12.7	10.1	----	22.8	----	46.0	----	23.2	N (CAV)
11	1.63200	----	12.6	10.1	----	22.7	----	46.0	----	23.3	N (CAV)
12	11.25000	----	25.0	10.4	----	35.4	----	50.0	----	14.6	N (CAV)

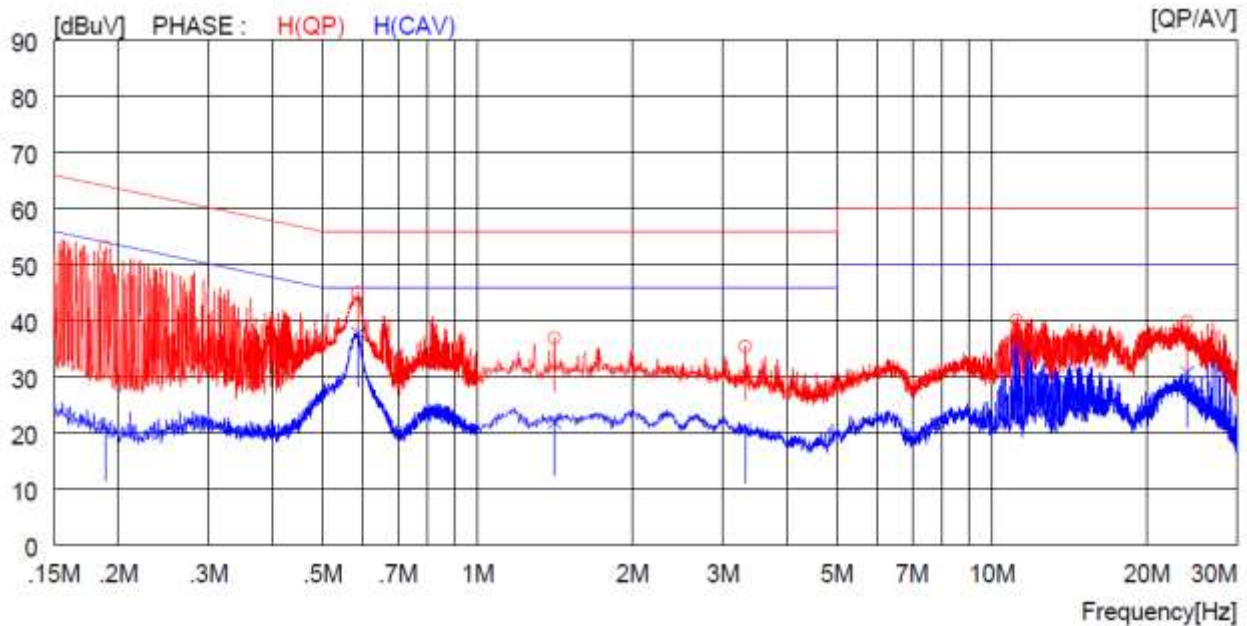
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee / Senior Engineer

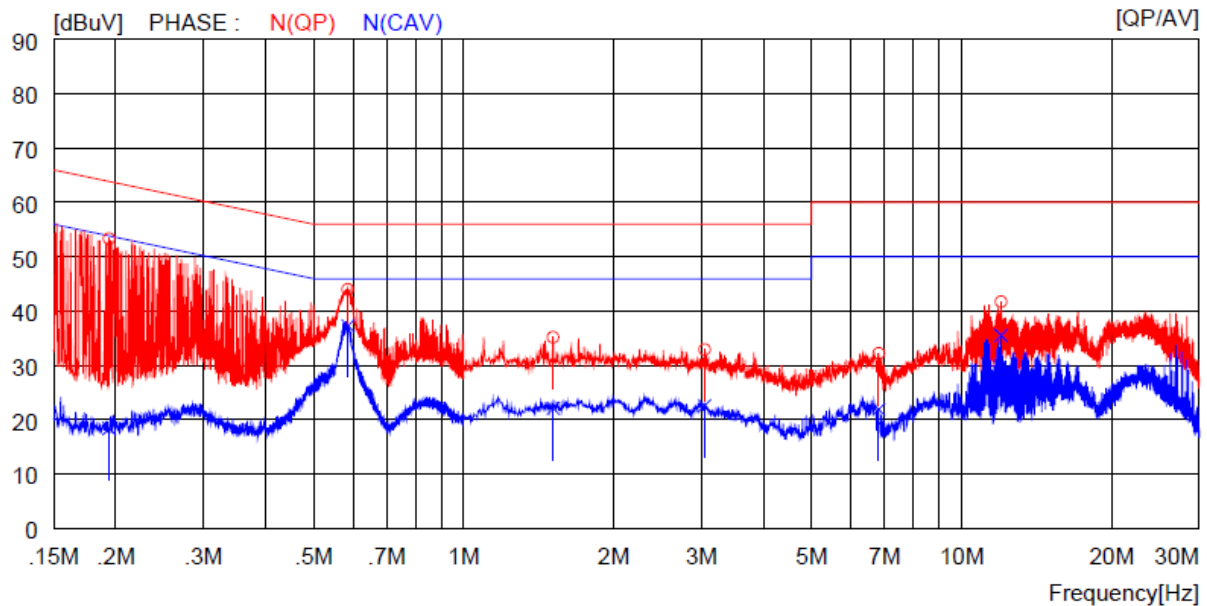
13.5 Test data for 802.11g WLAN Mode

- Test Date : April 28, 2016
- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18900	43.1	----	10.1	53.2	----	64.1	----	10.9	----	H (QP)
2	0.58500	35.0	----	10.1	45.1	----	56.0	----	10.9	----	H (QP)
3	1.41200	26.9	----	10.1	37.0	----	56.0	----	19.0	----	H (QP)
4	3.31200	25.4	----	10.1	35.5	----	56.0	----	20.5	----	H (QP)
5	11.17000	29.8	----	10.4	40.2	----	60.0	----	19.8	----	H (QP)
6	23.98000	29.3	----	10.6	39.9	----	60.0	----	20.1	----	H (QP)
7	0.18900	----	11.0	10.1	----	21.1	----	54.1	----	33.0	H (CAV)
8	0.58500	----	27.7	10.1	----	37.8	----	46.0	----	8.2	H (CAV)
9	1.41200	----	11.9	10.1	----	22.0	----	46.0	----	24.0	H (CAV)
10	3.31200	----	10.6	10.1	----	20.7	----	46.0	----	25.3	H (CAV)
11	11.17000	----	24.9	10.4	----	35.3	----	50.0	----	14.7	H (CAV)
12	23.98000	----	20.2	10.6	----	30.8	----	50.0	----	19.2	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.19400	43.2	----	10.1	53.3	----	63.9	----	10.6	----	N (QP)
2	0.58500	33.9	----	10.1	44.0	----	56.0	----	12.0	----	N (QP)
3	1.51200	25.1	----	10.1	35.2	----	56.0	----	20.8	----	N (QP)
4	3.04800	22.8	----	10.1	32.9	----	56.0	----	23.1	----	N (QP)
5	6.81000	22.0	----	10.2	32.2	----	60.0	----	27.8	----	N (QP)
6	12.00000	31.3	----	10.4	41.7	----	60.0	----	18.3	----	N (QP)
7	0.19400	----	8.3	10.1	----	18.4	----	53.9	----	35.5	N (CAV)
8	0.58500	----	27.2	10.1	----	37.3	----	46.0	----	8.7	N (CAV)
9	1.51200	----	12.0	10.1	----	22.1	----	46.0	----	23.9	N (CAV)
10	3.04800	----	12.5	10.1	----	22.6	----	46.0	----	23.4	N (CAV)
11	6.81000	----	11.7	10.2	----	21.9	----	50.0	----	28.1	N (CAV)
12	12.00000	----	25.1	10.4	----	35.5	----	50.0	----	14.5	N (CAV)

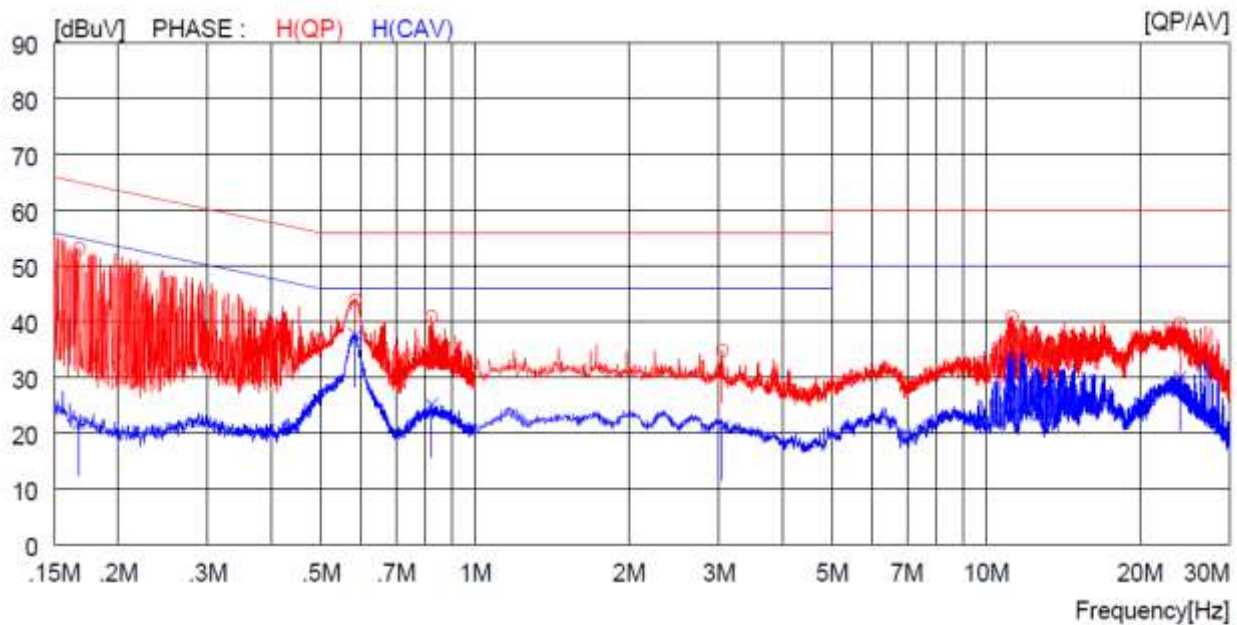
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee / Senior Engineer

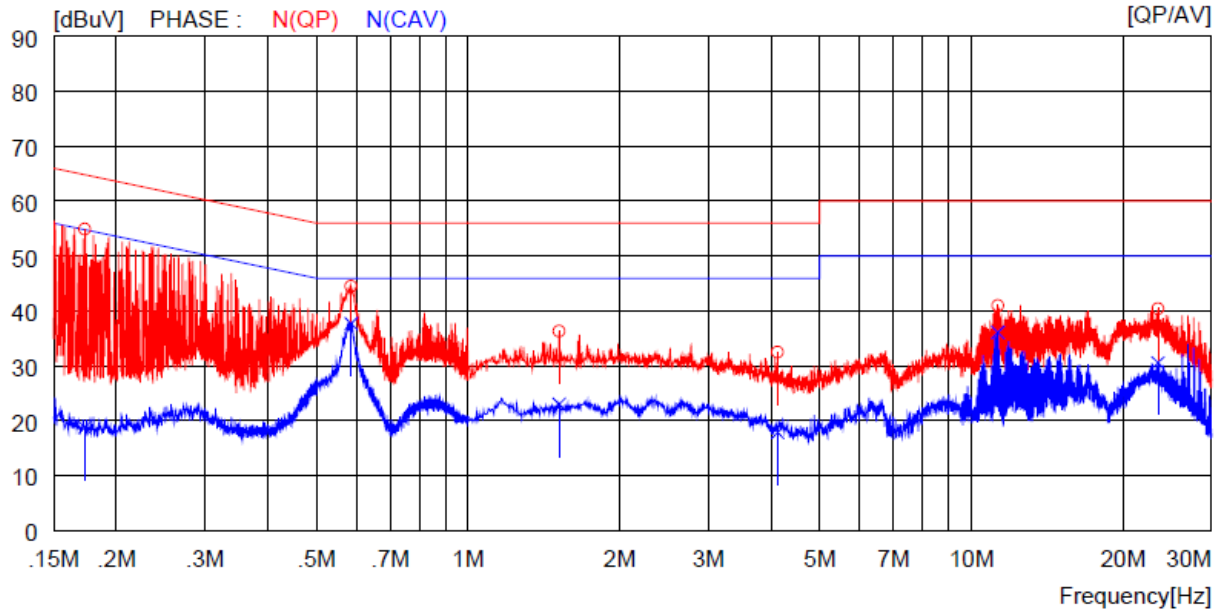
13.6 Test data for 802.11n_HT20 WLAN Mode

- . Test Date : April 28, 2016
- . Resolution bandwidth : 9 kHz
- . Frequency range : 0.15 MHz ~ 30 MHz
- . Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16800	43.1	----	10.1	53.2	----	65.1	----	11.9	----	H (QP)
2	0.58400	33.9	----	10.1	44.0	----	56.0	----	12.0	----	H (QP)
3	0.82200	30.9	----	10.1	41.0	----	56.0	----	15.0	----	H (QP)
4	3.05200	24.8	----	10.1	34.9	----	56.0	----	21.1	----	H (QP)
5	11.25000	30.5	----	10.4	40.9	----	60.0	----	19.1	----	H (QP)
6	23.99000	29.2	----	10.6	39.8	----	60.0	----	20.2	----	H (QP)
7	0.16800	----	11.9	10.1	----	22.0	----	55.1	----	33.1	H (CAV)
8	0.58400	----	27.6	10.1	----	37.7	----	46.0	----	8.3	H (CAV)
9	0.82200	----	15.1	10.1	----	25.2	----	46.0	----	20.8	H (CAV)
10	3.05200	----	11.1	10.1	----	21.2	----	46.0	----	24.8	H (CAV)
11	11.25000	----	22.1	10.4	----	32.5	----	50.0	----	17.5	H (CAV)
12	23.99000	----	19.4	10.6	----	30.0	----	50.0	----	20.0	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.17300	44.8	----	10.1	54.9	----	64.8	----	9.9	----	N (QP)
2	0.58500	34.4	----	10.1	44.5	----	56.0	----	11.5	----	N (QP)
3	1.51600	26.2	----	10.1	36.3	----	56.0	----	19.7	----	N (QP)
4	4.12000	22.4	----	10.1	32.5	----	56.0	----	23.5	----	N (QP)
5	11.28000	30.6	----	10.4	41.0	----	60.0	----	19.0	----	N (QP)
6	23.46000	29.8	----	10.6	40.4	----	60.0	----	19.6	----	N (QP)
7	0.17300	----	8.7	10.1	----	18.8	----	54.8	----	36.0	N (CAV)
8	0.58500	----	27.6	10.1	----	37.7	----	46.0	----	8.3	N (CAV)
9	1.51600	----	12.9	10.1	----	23.0	----	46.0	----	23.0	N (CAV)
10	4.12000	----	7.8	10.1	----	17.9	----	46.0	----	28.1	N (CAV)
11	11.28000	----	25.7	10.4	----	36.1	----	50.0	----	13.9	N (CAV)
12	23.46000	----	20.0	10.6	----	30.6	----	50.0	----	19.4	N (CAV)

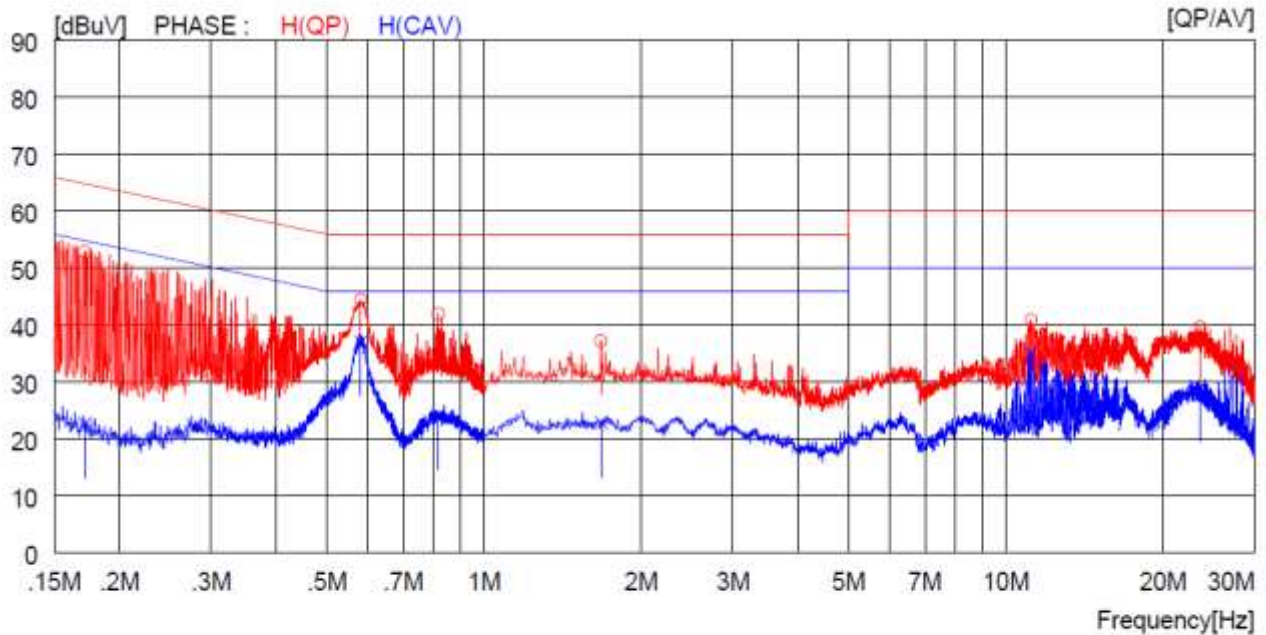
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee / Senior Engineer

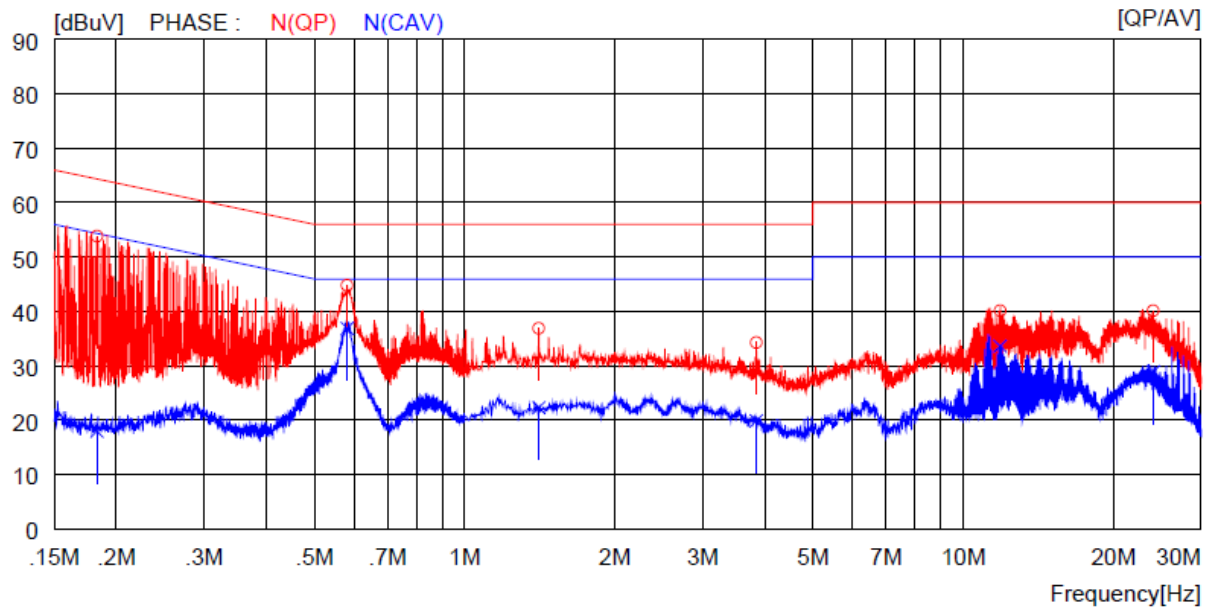
13.7 Test data for 802.11n_HT40 WLAN Mode

- . Test Date : April 28, 2016
- . Resolution bandwidth : 9 kHz
- . Frequency range : 0.15 MHz ~ 30 MHz
- . Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.17200	42.8	----	10.1	52.9	----	64.9	----	12.0	----	H (QP)
2	0.58100	34.4	----	10.1	44.5	----	56.0	----	11.5	----	H (QP)
3	0.81800	31.9	----	10.1	42.0	----	56.0	----	14.0	----	H (QP)
4	1.67600	27.2	----	10.1	37.3	----	56.0	----	18.7	----	H (QP)
5	11.18000	30.5	----	10.4	40.9	----	60.0	----	19.1	----	H (QP)
6	23.59000	29.1	----	10.6	39.7	----	60.0	----	20.3	----	H (QP)
7	0.17200	----	12.6	10.1	----	22.7	----	54.9	----	32.2	H (CAV)
8	0.58100	----	27.0	10.1	----	37.1	----	46.0	----	8.9	H (CAV)
9	0.81800	----	14.0	10.1	----	24.1	----	46.0	----	21.9	H (CAV)
10	1.67600	----	12.8	10.1	----	22.9	----	46.0	----	23.1	H (CAV)
11	11.18000	----	24.7	10.4	----	35.1	----	50.0	----	14.9	H (CAV)
12	23.59000	----	18.5	10.6	----	29.1	----	50.0	----	20.9	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18300	43.7	----	10.1	53.8	----	64.3	----	10.5	----	N (QP)
2	0.58100	34.7	----	10.1	44.8	----	56.0	----	11.2	----	N (QP)
3	1.40800	26.8	----	10.1	36.9	----	56.0	----	19.1	----	N (QP)
4	3.84400	24.2	----	10.1	34.3	----	56.0	----	21.7	----	N (QP)
5	11.86000	29.7	----	10.4	40.1	----	60.0	----	19.9	----	N (QP)
6	24.05000	29.5	----	10.6	40.1	----	60.0	----	19.9	----	N (QP)
7	0.18300	----	7.9	10.1	----	18.0	----	54.3	----	36.3	N (CAV)
8	0.58100	----	26.8	10.1	----	36.9	----	46.0	----	9.1	N (CAV)
9	1.40800	----	12.2	10.1	----	22.3	----	46.0	----	23.7	N (CAV)
10	3.84400	----	9.8	10.1	----	19.9	----	46.0	----	26.1	N (CAV)
11	11.86000	----	23.2	10.4	----	33.6	----	50.0	----	16.4	N (CAV)
12	24.05000	----	18.3	10.6	----	28.9	----	50.0	----	21.1	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee / Senior Engineer