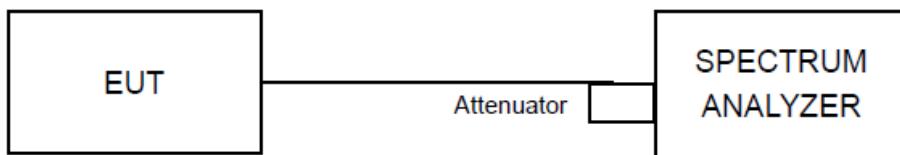


4.7 Conducted Band Edges Measurement

4.7.1 Limit

Below -20dB of the highest emission level of operating band (in 100kHz RBW).

4.7.2 Test Setup



4.7.3 Test Procedures

Compliance with a relative limit at the band-edges (e.g., -20 dBc) shall be made on the lowest and on the highest channels with frequency hopping disabled and repeated with frequency hopping enabled. For the latter test the hopping sequence shall include the lowest and highest channels.

For measurements with the hopping disabled the analyzer screen shall clearly show compliance with the requirement within 10 MHz of the allocated band-edge.

For measurements with the hopping enabled the analyzer screen shall clearly show compliance with the requirement within 10 MHz of both of the allocated band-edges. This could require separate spectral plots for each band-edge.

4.7.4 Deviation of Test Standard

No deviation.

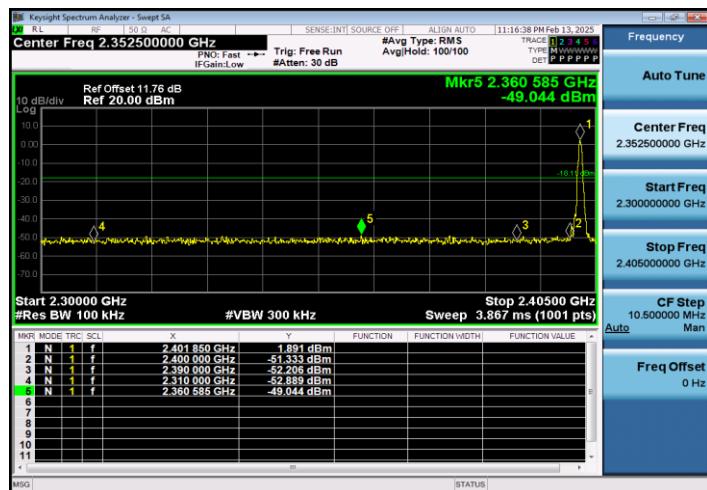
4.7.5 Test Result

Test Mode	Antenna	ChName	Channel [MHz]	RefLevel [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	1.89	-49.04	≤-18.11	PASS
		High	2480	1.97	-46.73	≤-18.03	PASS
		Low	Hop_2402	-0.50	-48.33	≤-20.5	PASS
		High	Hop_2480	1.17	-47.95	≤-18.83	PASS
2DH5	Ant1	Low	2402	1.21	-48.73	≤-18.79	PASS
		High	2480	2.04	-47.07	≤-17.96	PASS
		Low	Hop_2402	-1.64	-48.22	≤-21.64	PASS
		High	Hop_2480	0.49	-45.93	≤-19.51	PASS
3DH5	Ant1	Low	2402	1.58	-48.53	≤-18.42	PASS
		High	2480	2.35	-48.28	≤-17.65	PASS
		Low	Hop_2402	-1.29	-48.78	≤-21.29	PASS
		High	Hop_2480	-1.27	-47.63	≤-21.27	PASS

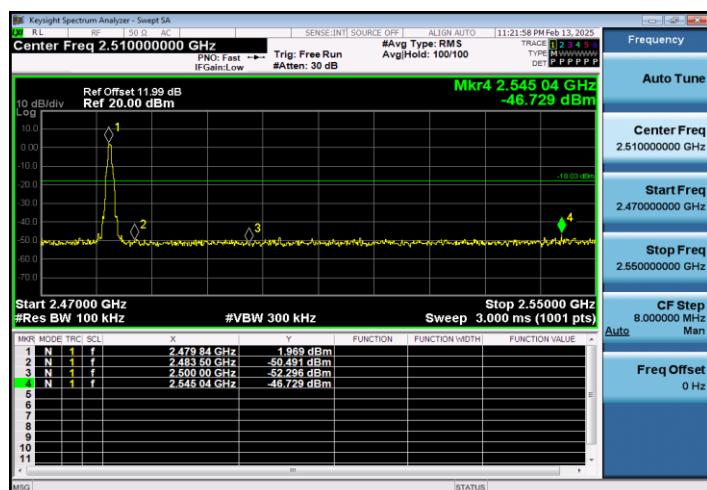


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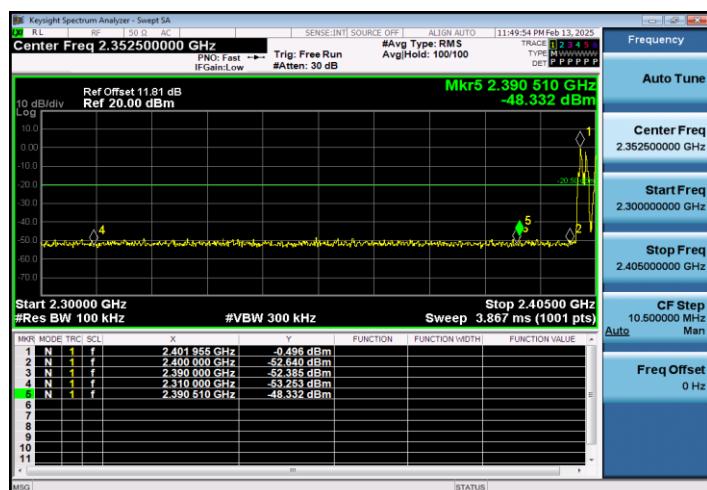
DH5_Ant1_Low_2402



DH5_Ant1_High_2480



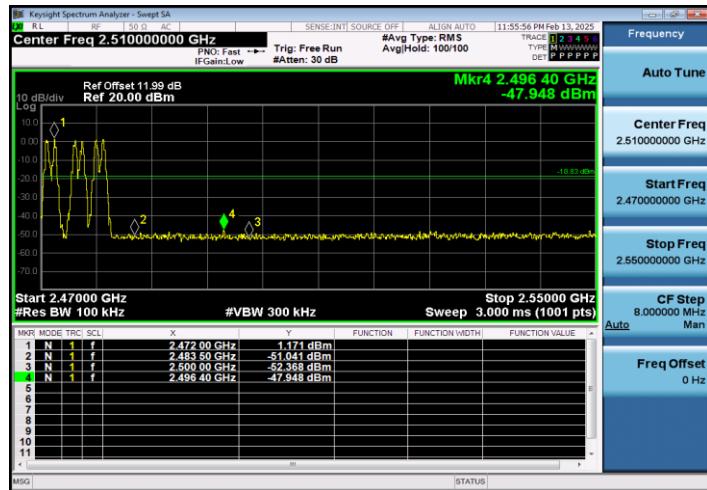
DH5_Ant1_Low_Hop_2402



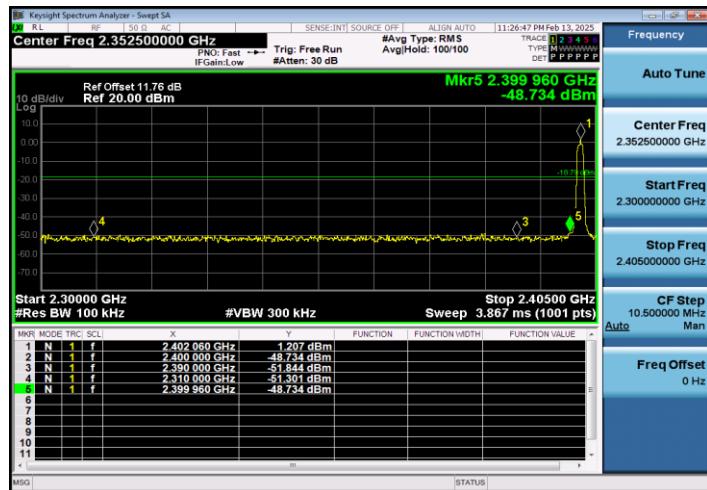


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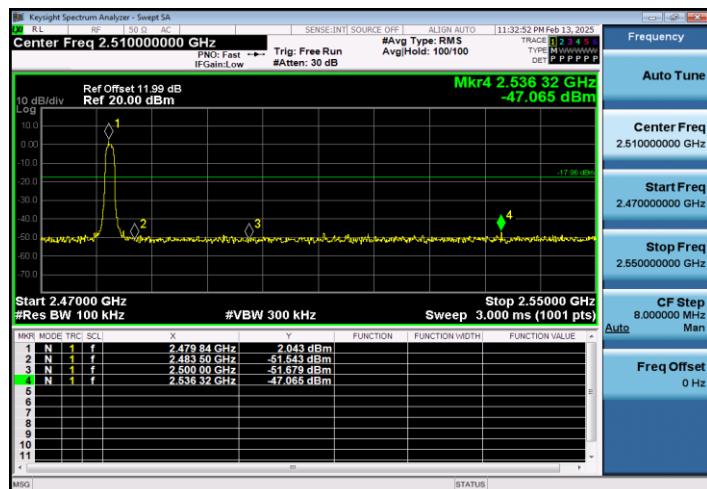
DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402



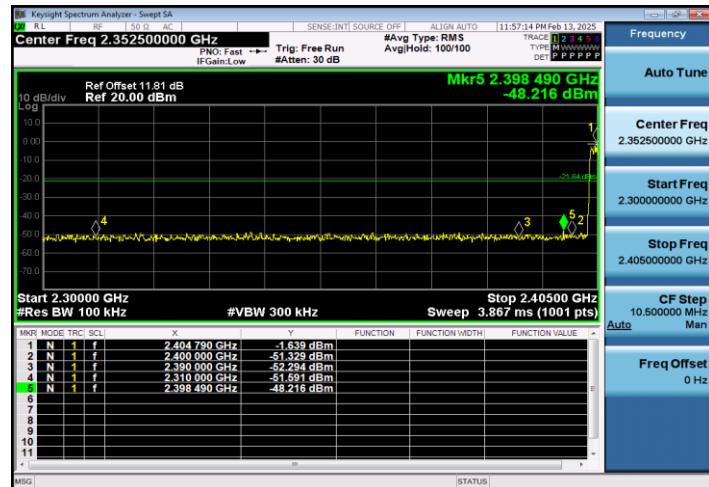
2DH5_Ant1_High_2480



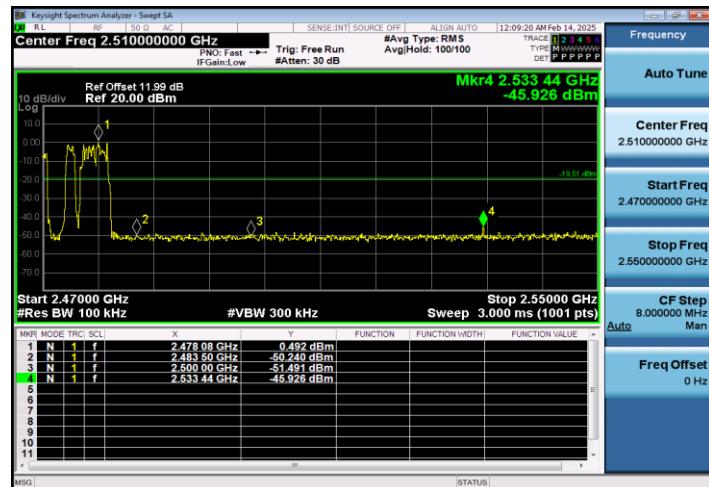


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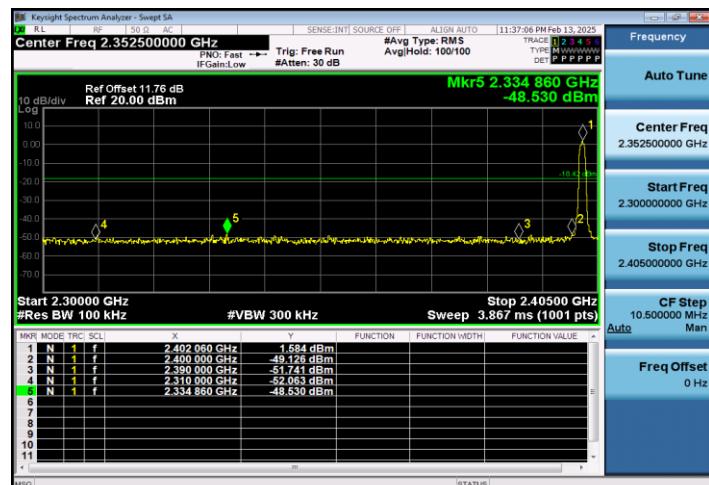
2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



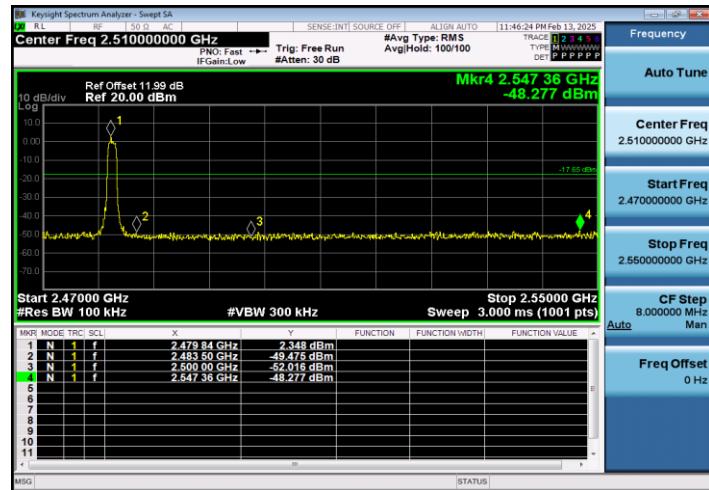
3DH5_Ant1_Low_2402



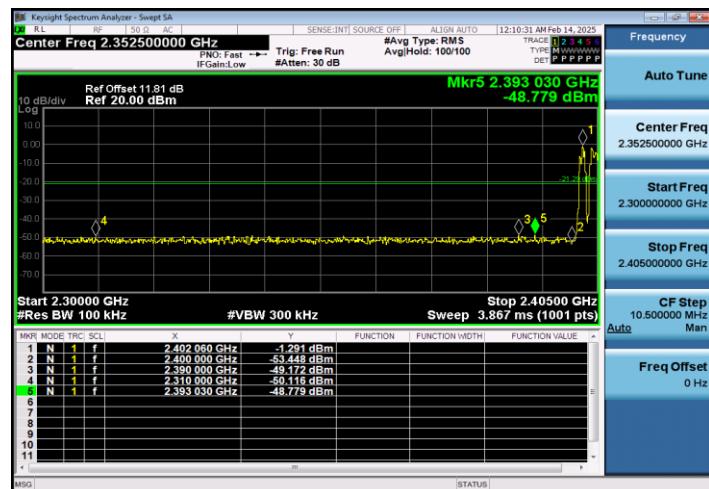


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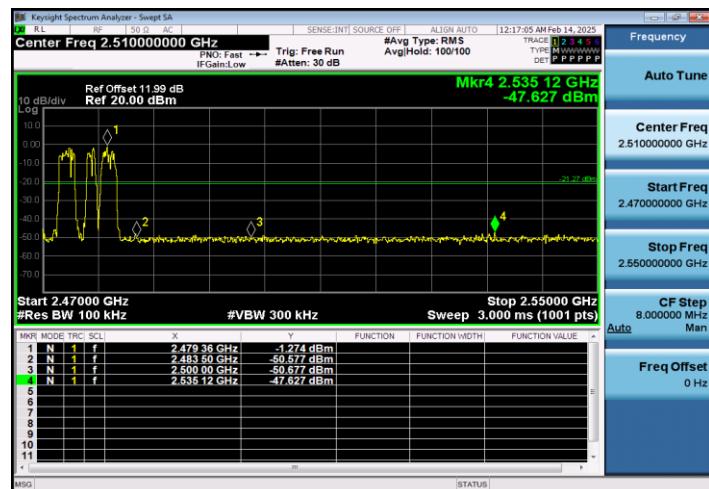
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5 Ant1 High Hop 2480

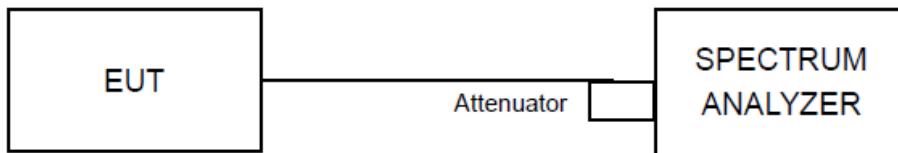


4.8 Conducted Spurious Emissions

4.8.1 Limit

Below –20dB of the highest emission level of operating band (in 100kHz RBW).

4.8.2 Test Setup



4.8.3 Test Procedures

To demonstrate compliance with the relative out-of-band emissions requirements conducted spurious emissions shall be measured for the transmit frequencies, per 5.5 and 5.6, and at the maximum transmit powers. Frequency hopping shall be disabled for this test with the exception of measurements at the allocated band-edges which shall be repeated with hopping enabled.

Connect the primary antenna port through an attenuator to the spectrum analyzer input; in the results, account for all losses between the unlicensed wireless device output and the spectrum analyzer. The frequency range of testing shall span 30 MHz to 10 times the operating frequency and this may be done in a single sweep or, to aid resolution, across a number of sweeps. The resolution bandwidth shall be 100 kHz, video bandwidth 300 kHz, and a coupled sweep time with a peak detector.

The limit is based on the highest in-band level across all channels measured using the same instrument settings (resolution bandwidth of 100 kHz, video bandwidth of 300 kHz, and a coupled sweep time with a peak detector). To help clearly demonstrate compliance a display line may be set at the required offset (typically 20 dB) below the highest in-band level. Where the highest in-band level is not clearly identified in the out-of-band measurements a separate spectral plot showing the in-band level shall be provided.

When conducted measurements cannot be made (for example a device with integrated, non-removable antenna) radiated measurements shall be used. The reference level for determining the limit shall be established by maximizing the field strength from the highest power channel and measuring using the resolution and video bandwidth settings and peak detector as described above. The field strength limit for spurious emissions outside of restricted-bands shall then be set at the required offset (typically 20 dB) below the highest in-band level. Radiated measurements will follow the standards measurement procedures described in Clause 6 with the exception that the resolution bandwidth shall be 100 kHz, video bandwidth 300 kHz, and a coupled sweep time with a peak detector. Note that use of wider measurement bandwidths are acceptable for measuring the spurious emissions provided that the peak detector is used and that the measured value of spurious emissions are compared to the highest in-band level measured with the 100 kHz / 300 kHz bandwidth settings to determine compliance.

4.8.4 Deviation of Test Standard

No deviation.

4.8.5 Test Result

Test Mode	Antenna	Channel [MHz]	FreqRange [MHz]	RefLevel [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	1.30	1.30	---	PASS
			30~1000	1.30	-51.57	≤-18.7	PASS
			1000~26500	1.30	-33.65	≤-18.7	PASS
		2441	Reference	1.45	1.45	---	PASS
			30~1000	1.45	-52.12	≤-18.55	PASS
			1000~26500	1.45	-33.12	≤-18.55	PASS
		2480	Reference	1.60	1.60	---	PASS
			30~1000	1.60	-51.8	≤-18.4	PASS
			1000~26500	1.60	-29.13	≤-18.4	PASS
2DH5	Ant1	2402	Reference	-0.46	-0.46	---	PASS
			30~1000	-0.46	-51.89	≤-20.46	PASS
			1000~26500	-0.46	-31.75	≤-20.46	PASS
		2441	Reference	1.45	1.45	---	PASS
			30~1000	1.45	-51.12	≤-18.55	PASS
			1000~26500	1.45	-32.22	≤-18.55	PASS
		2480	Reference	2.16	2.16	---	PASS
			30~1000	2.16	-51.92	≤-17.84	PASS
			1000~26500	2.16	-28.84	≤-17.84	PASS
3DH5	Ant1	2402	Reference	-0.36	-0.36	---	PASS
			30~1000	-0.36	-51.37	≤-20.36	PASS
			1000~26500	-0.36	-35.65	≤-20.36	PASS
		2441	Reference	0.60	0.60	---	PASS
			30~1000	0.60	-51.28	≤-19.4	PASS
			1000~26500	0.60	-31.52	≤-19.4	PASS
		2480	Reference	0.87	0.87	---	PASS
			30~1000	0.87	-51.18	≤-19.13	PASS
			1000~26500	0.87	-29.64	≤-19.13	PASS

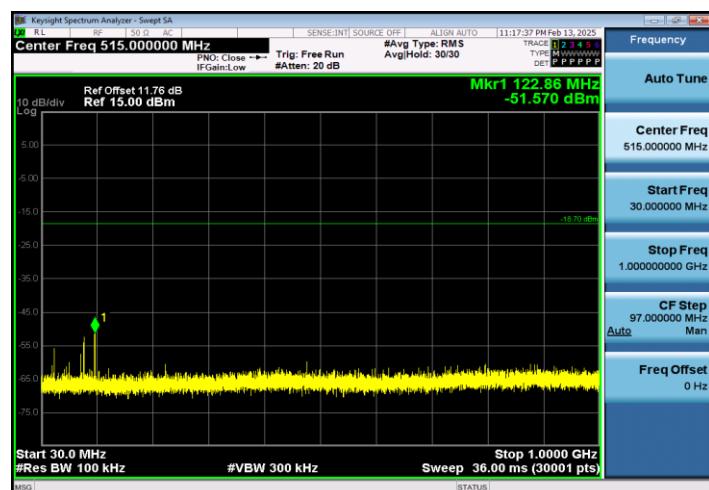


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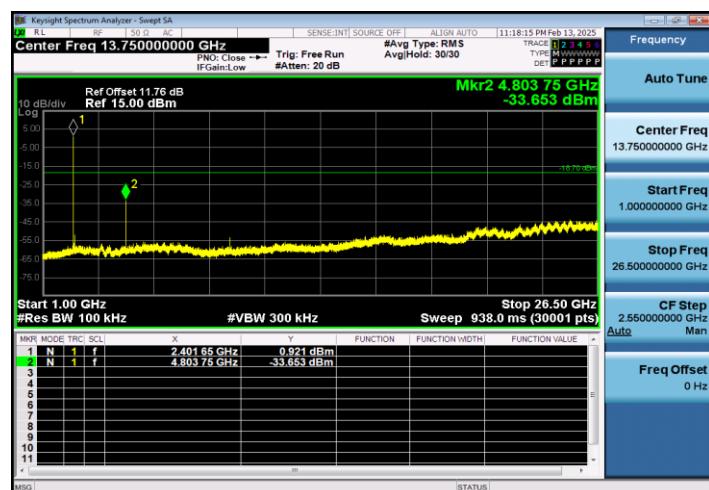
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



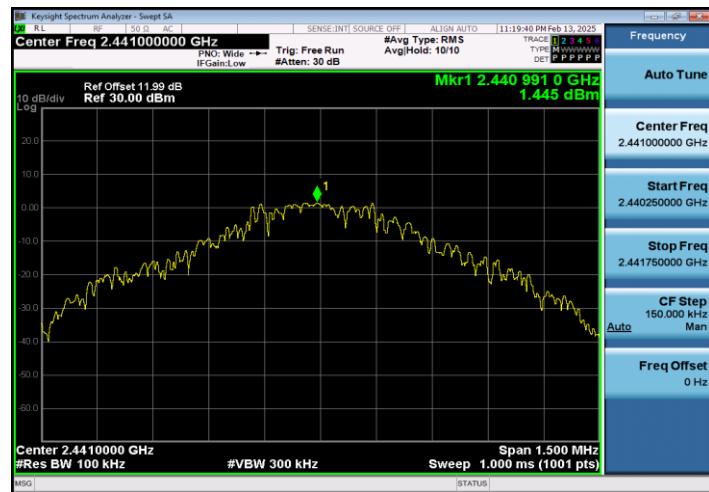
DH5_Ant1_2402_1000~26500



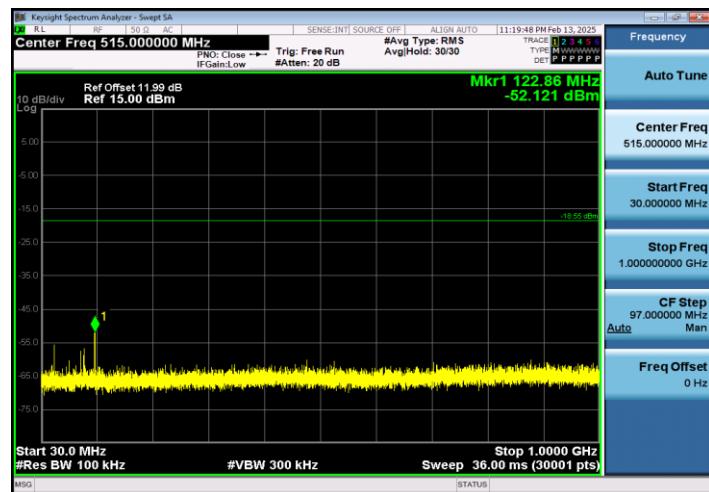


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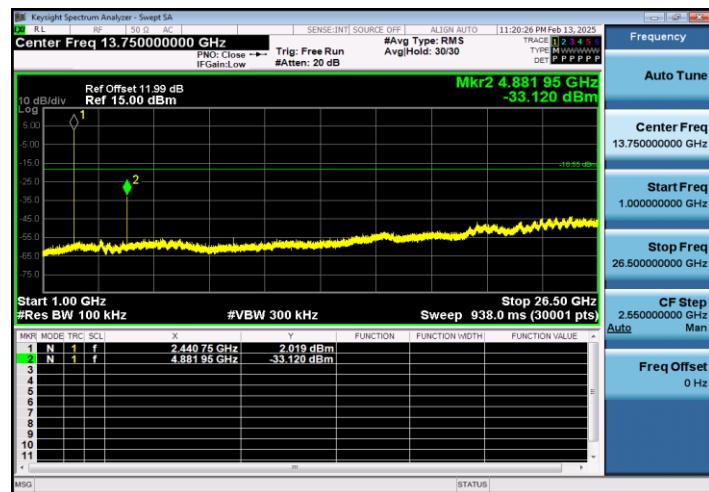
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



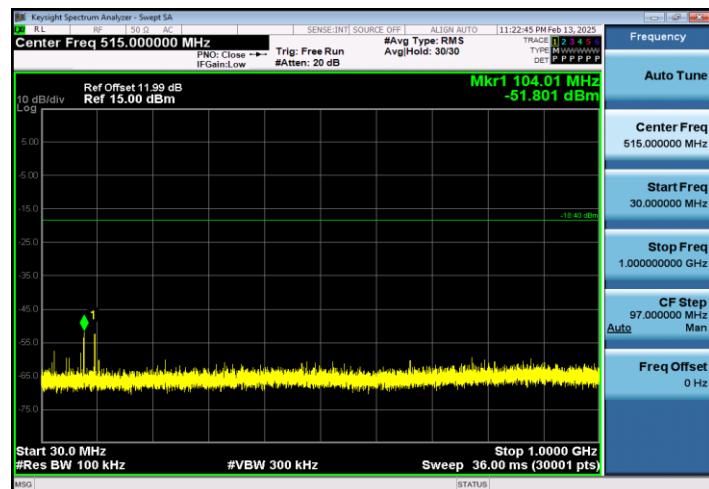


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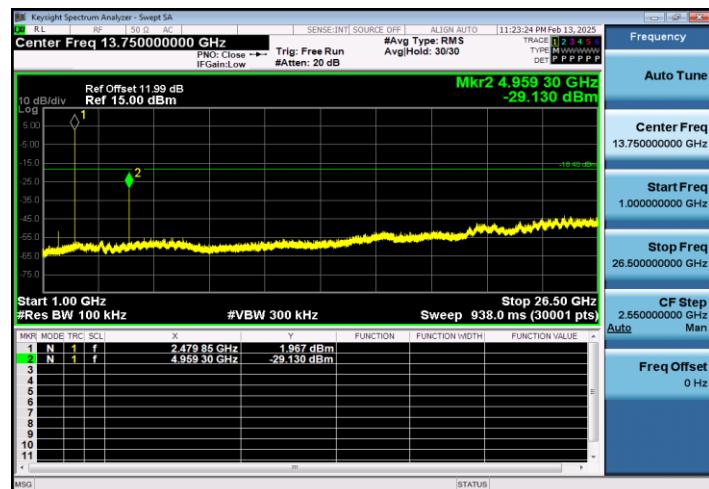
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500



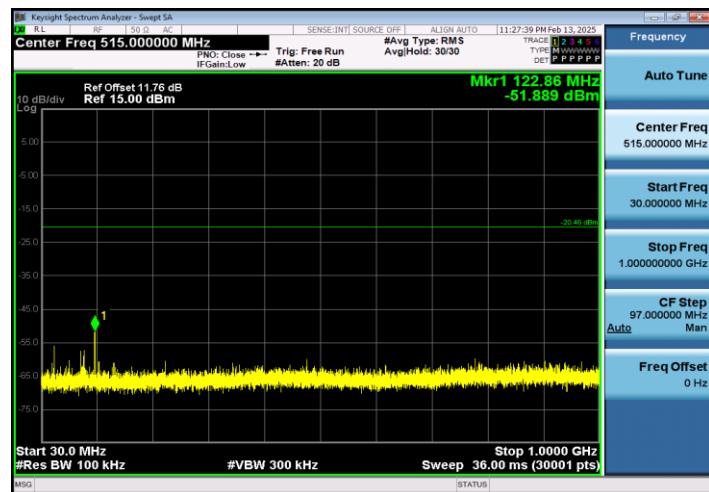


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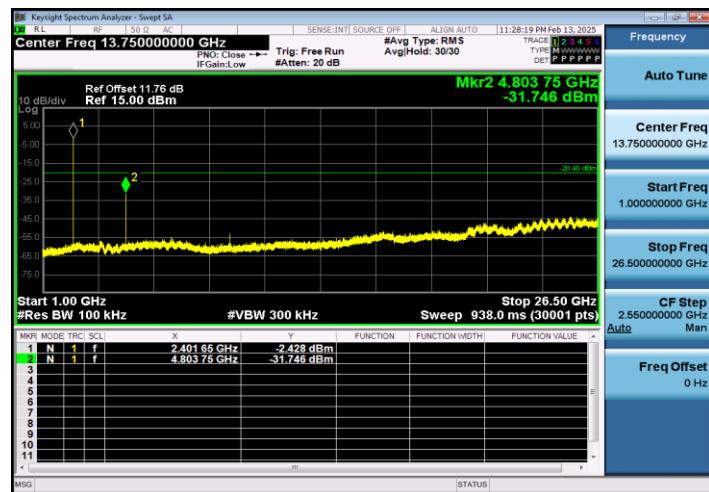
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



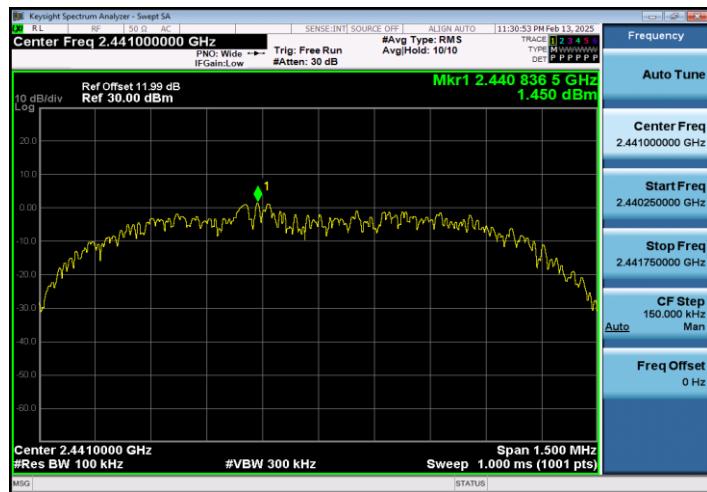
2DH5_Ant1_2402_1000~26500



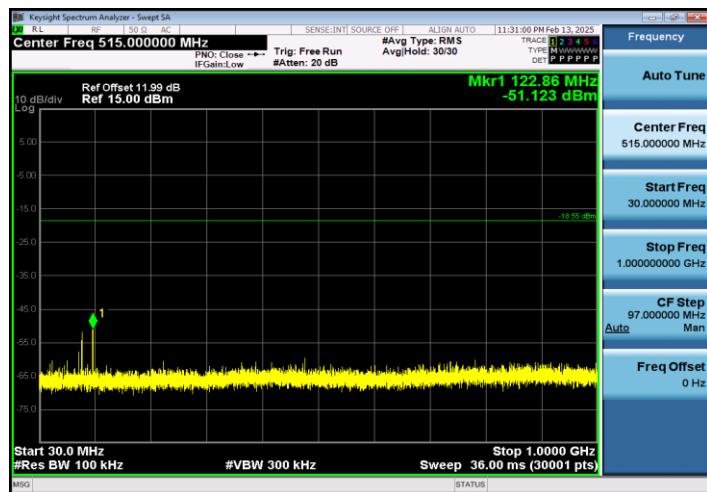


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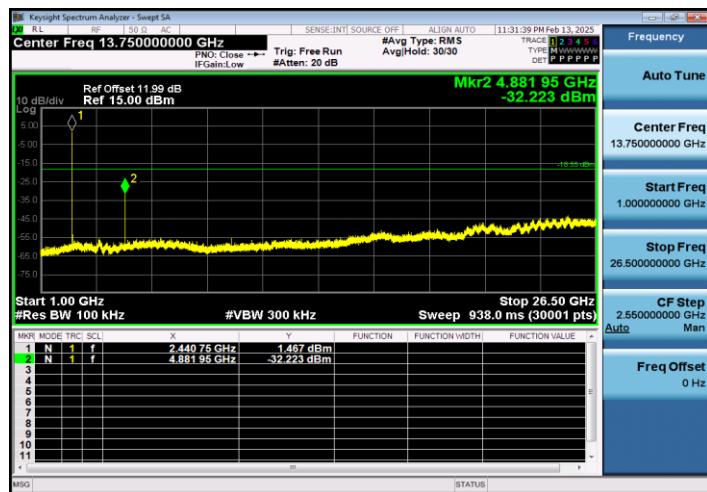
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



2DH5_Ant1_2441_1000~26500



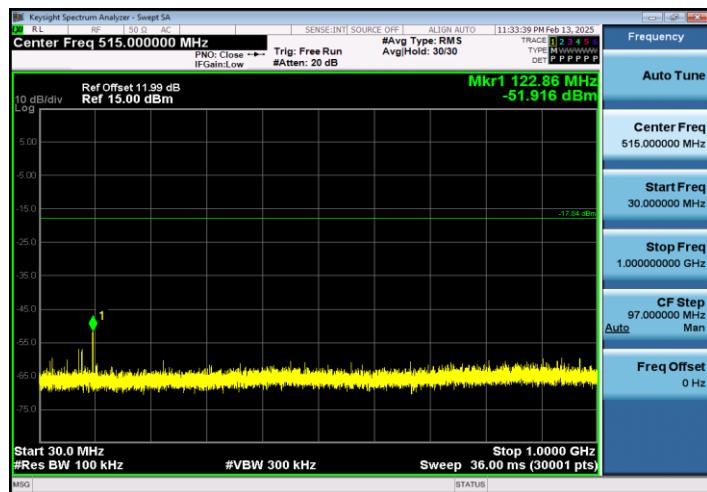


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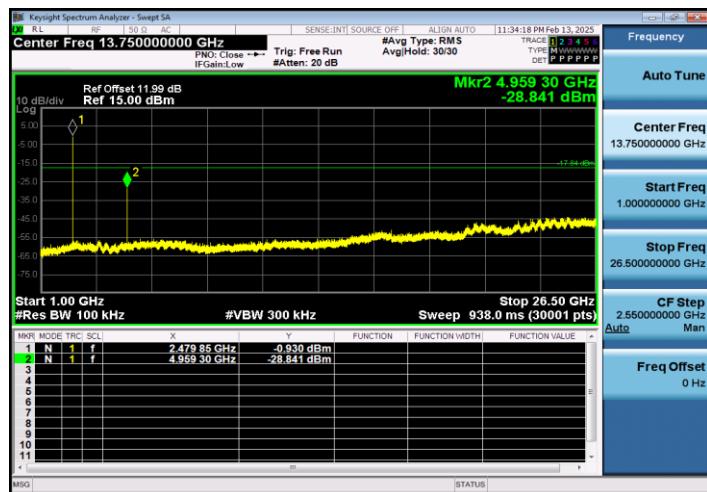
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



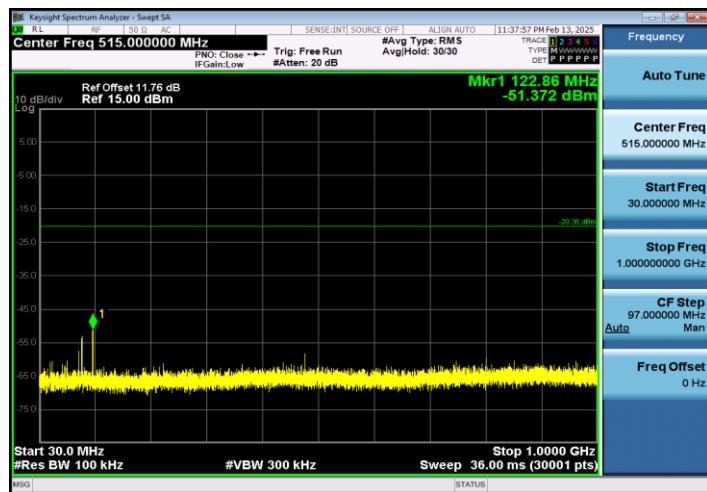


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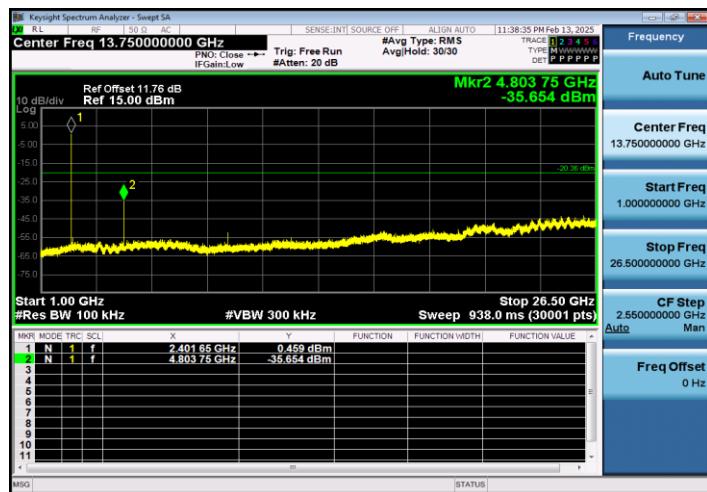
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



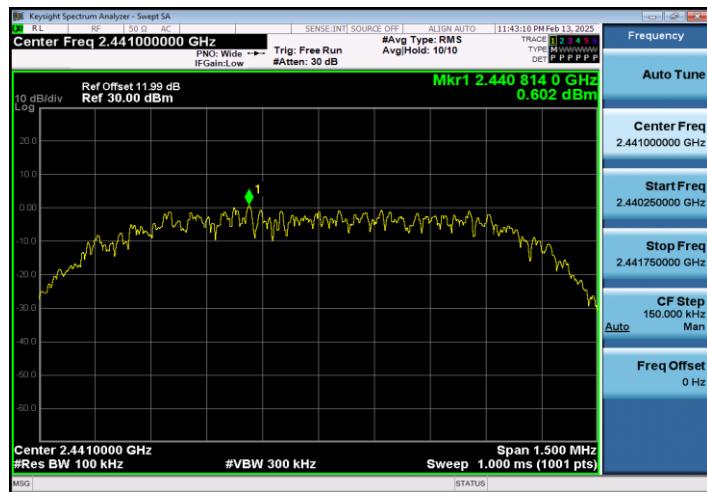
3DH5_Ant1_2402_1000~26500



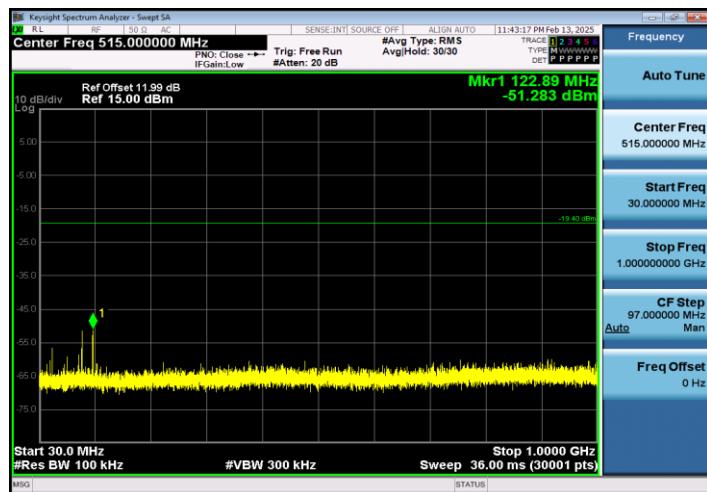


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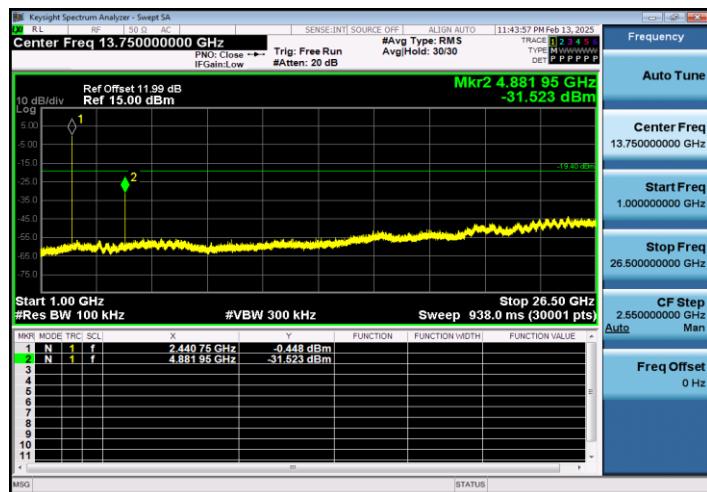
3DH5_Ant1_2441_0~Reference



3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500



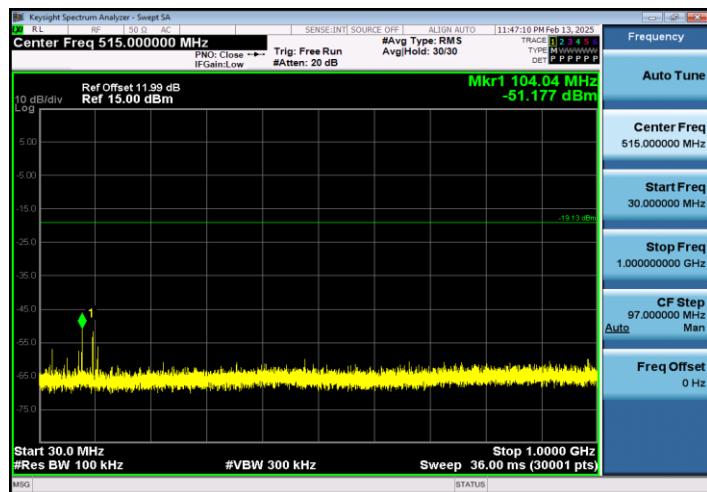


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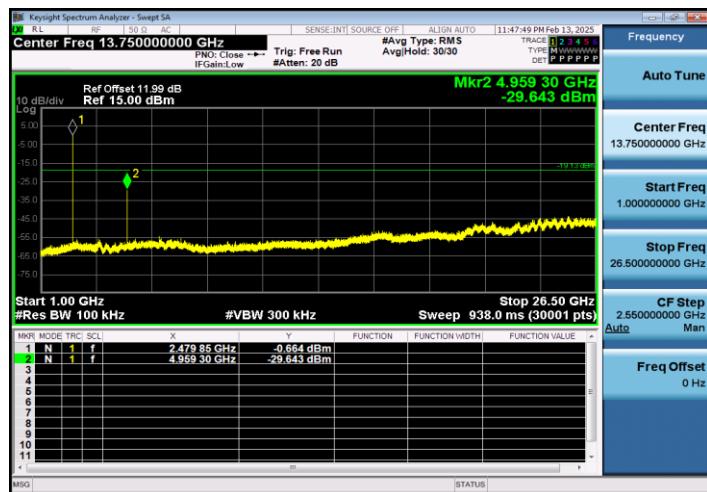
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



4.9 Emissions in restricted frequency bands

4.9.1 Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
1.0495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)
13.36 - 13.41	--	--	--



All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

4.9.2 Test Procedure Reference

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

4.9.3 Test Procedures

Peak Field Strength Measurements

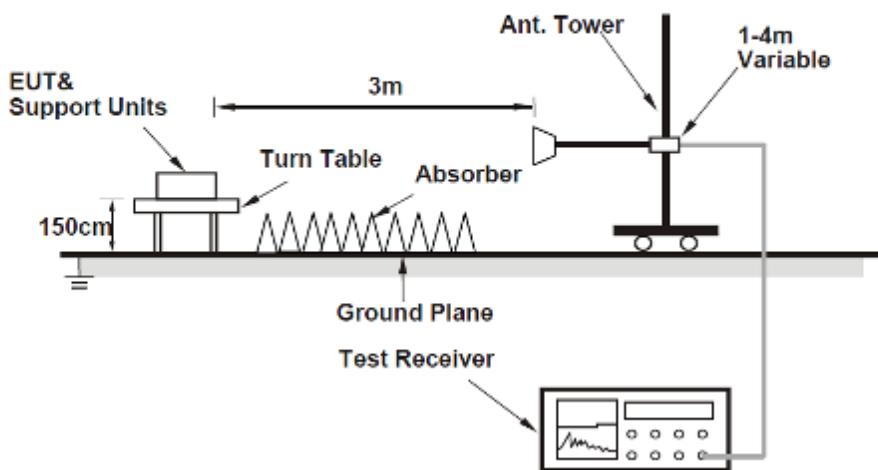
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = No faster than coupled (auto) time
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = No faster than coupled (auto) time
6. Trace mode = max hold
7. Allow max-hold to run for at least $[50 \times (1 / D)]$ traces

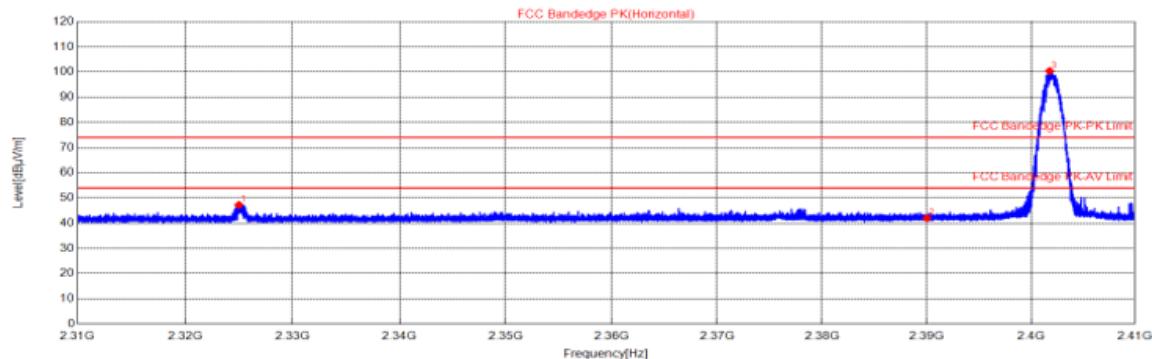
4.9.4 Test Setup

For Radiated emission above 1GHz



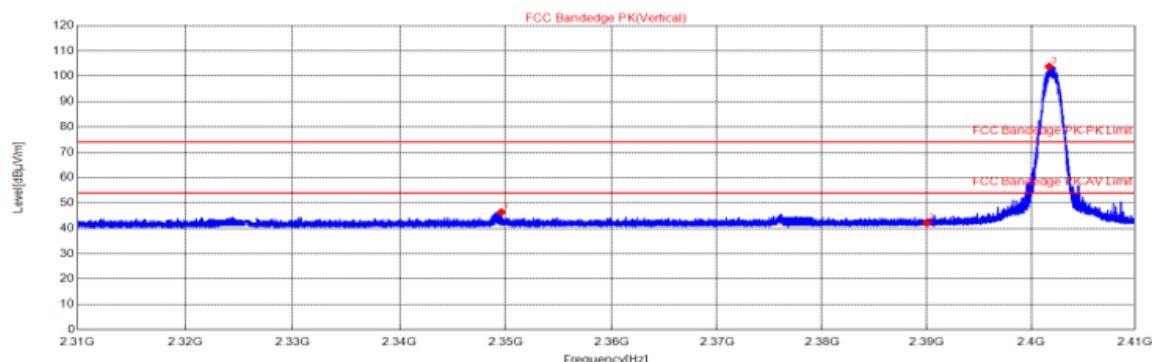
4.9.5 Test Results

DH5-2402MHz/ Horizontal

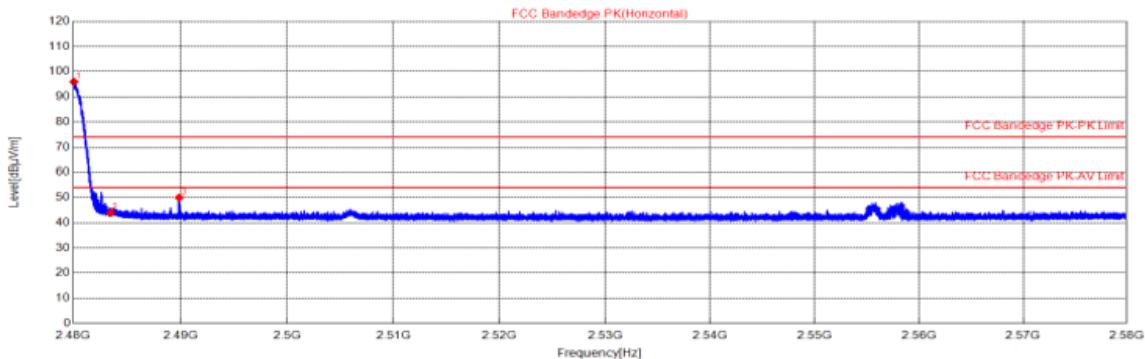


NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2325.0	-10.37	47.20	74.00	26.80	PK	155	263	Horizontal
2	2390.0	-10.26	41.95	74.00	32.05	PK	155	195	Horizontal
3	2401.7	-10.24	100.38	74.00	-26.38	PK	155	202	Horizontal

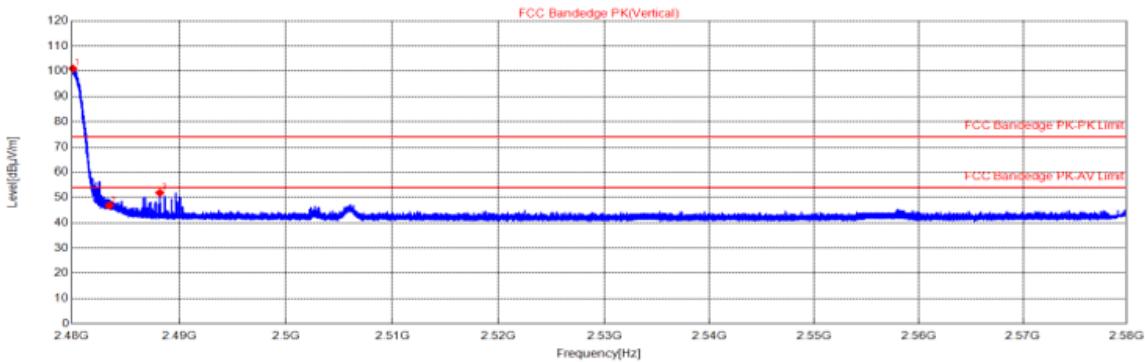
DH5-2402MHz/ Vertical



NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2349.5	-10.34	46.34	74.00	27.66	PK	155	326	Vertical
2	2390.0	-10.26	42.05	74.00	31.95	PK	155	188	Vertical
3	2401.7	-10.24	103.81	74.00	-29.81	PK	155	188	Vertical

DH5-2480MHz/ Horizontal


NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2480.0	-10.52	95.94	74.00	-21.94	PK	155	196	Horizontal
2	2483.5	-10.53	43.85	74.00	30.15	PK	155	138	Horizontal
3	2489.8	-10.55	49.95	74.00	24.05	PK	155	205	Horizontal

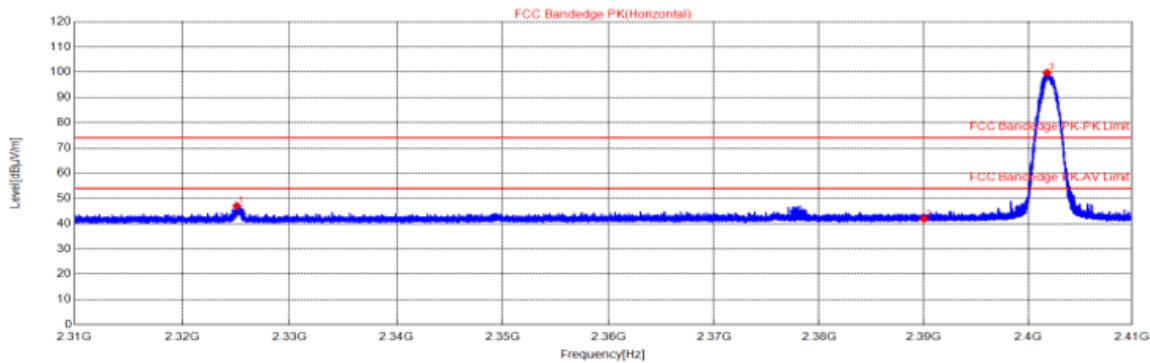
DH5-2480MHz/ Vertical


NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2480.1	-10.52	101.06	74.00	-27.06	PK	155	202	Vertical
2	2483.5	-10.53	46.80	74.00	27.20	PK	155	189	Vertical
3	2488.2	-10.55	51.87	74.00	22.13	PK	155	199	Vertical



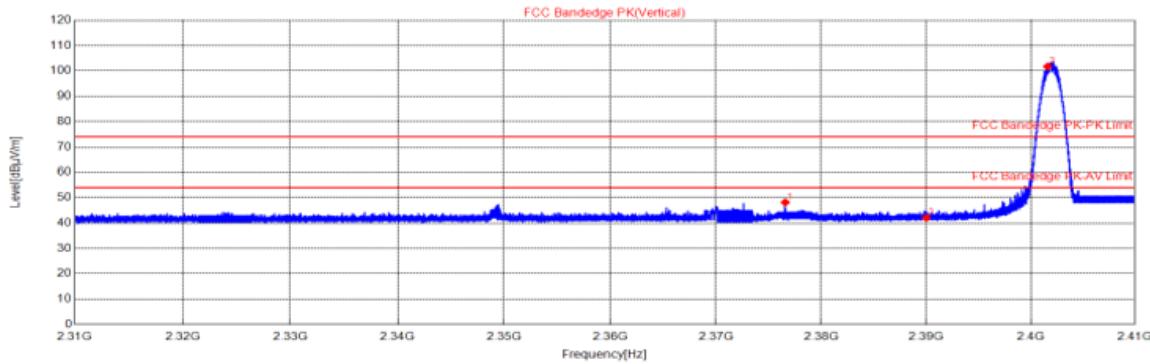
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2DH5-2402MHz/ Horizontal



NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2325.0	-10.38	46.99	74.00	27.01	PK	155	35	Horizontal
2	2390.0	-10.26	41.87	74.00	32.13	PK	155	349	Horizontal
3	2401.8	-10.24	99.73	74.00	-25.73	PK	155	256	Horizontal

2DH5-2402MHz/ Vertical

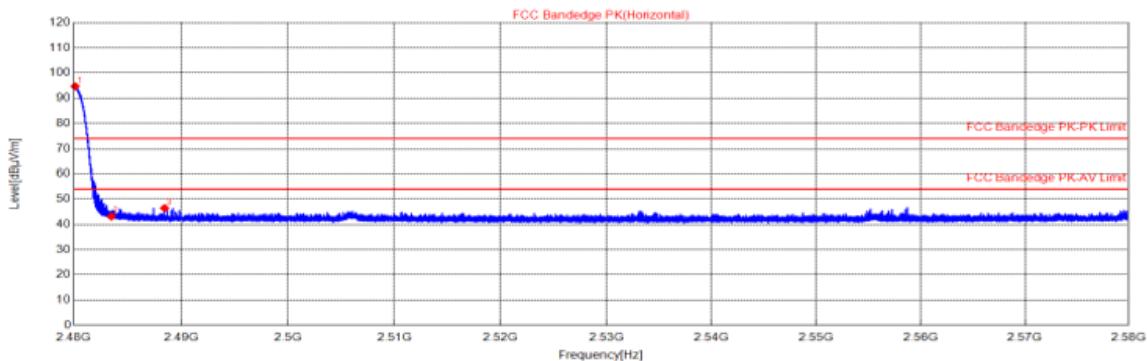


NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2376.5	-10.29	48.11	74.00	25.89	PK	155	162	Vertical
2	2390.0	-10.26	42.01	74.00	31.99	PK	155	136	Vertical
3	2401.6	-10.24	101.71	74.00	-27.71	PK	155	293	Vertical



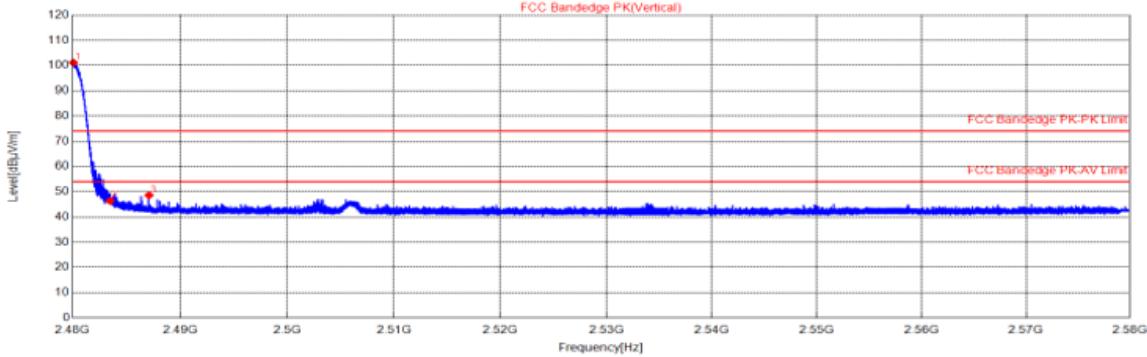
BUREAU
VERITAS

2DH5-2480MHz/ Horizontal



NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	2480.1	-10.52	94.70	74.00	-20.70	PK	155	69	Horizontal
2	2483.5	-10.53	43.08	74.00	30.92	PK	155	358	Horizontal
3	2488.4	-10.55	46.41	74.00	27.59	PK	155	143	Horizontal

2DH5-2480MHz/ Vertical

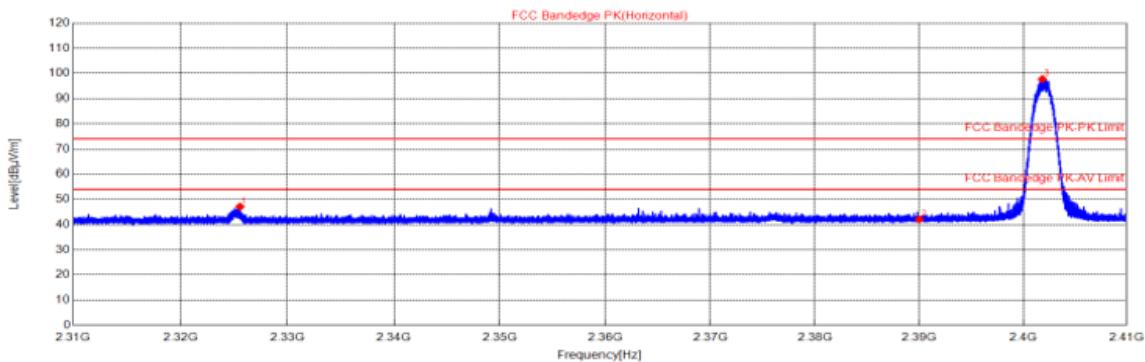


NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	2480.0	-10.52	101.13	74.00	-27.13	PK	155	188	Vertical
2	2483.5	-10.53	46.33	74.00	27.67	PK	155	324	Vertical
3	2487.11	-10.55	48.56	74.00	25.44	PK	155	23	Vertical



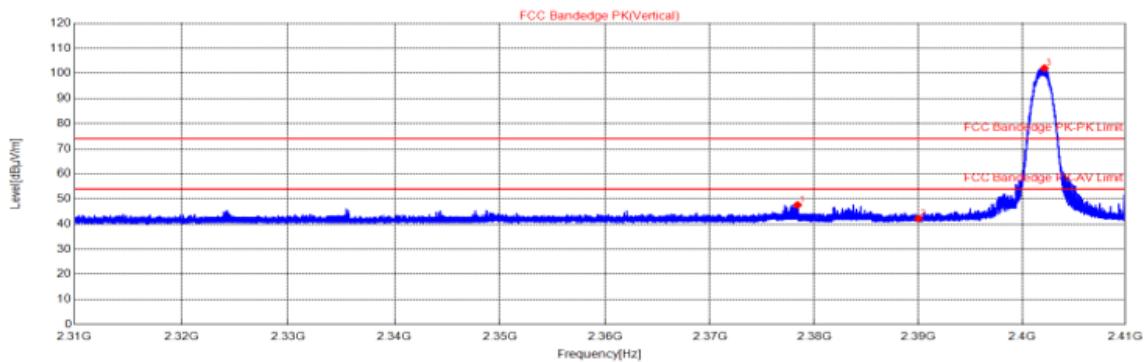
BUREAU
VERITAS

3DH5-2402MHz/ Horizontal



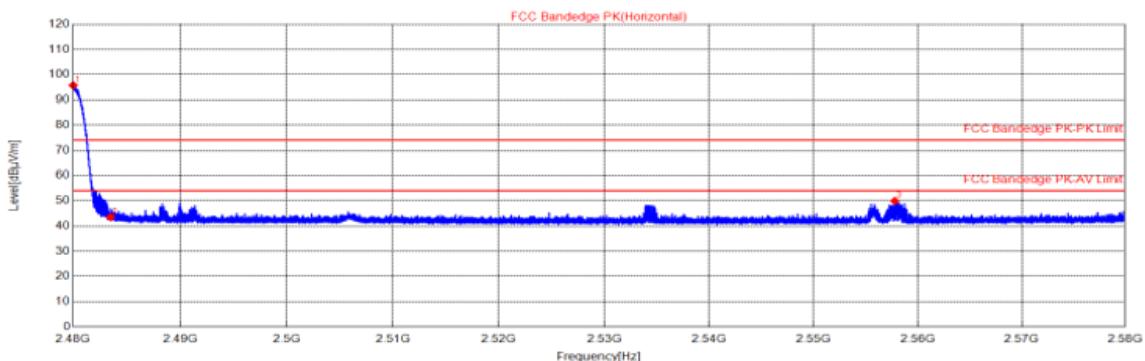
NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2325.5	-10.37	47.06	74.00	26.94	PK	155	28	Horizontal
2	2390.0	-10.26	42.00	74.00	32.00	PK	155	239	Horizontal
3	2401.8	-10.24	97.75	74.00	-23.75	PK	155	86	Horizontal

3DH5-2402MHz/ Vertical



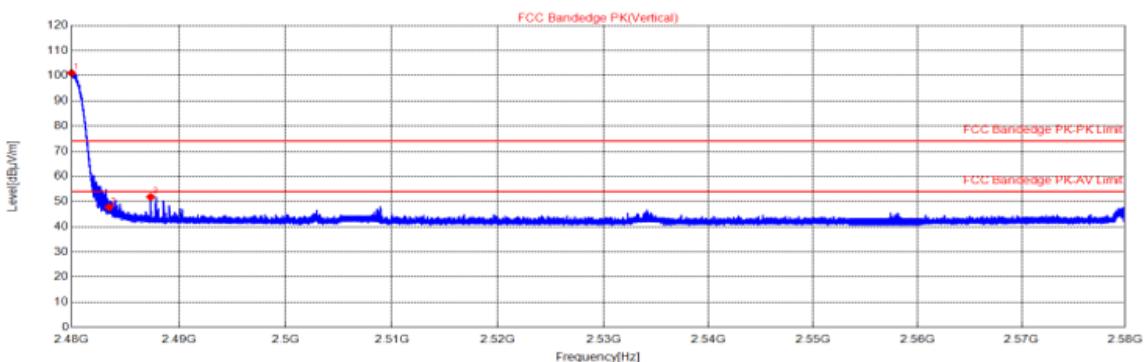
NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2378.3	-10.29	47.56	74.00	26.44	PK	155	134	Vertical
2	2390.0	-10.26	42.15	74.00	31.85	PK	155	107	Vertical
3	2402.1	-10.24	102.03	74.00	-28.03	PK	155	309	Vertical

3DH5-2480MHz/ Horizontal



NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2480.0	-10.52	95.75	74.00	-21.75	PK	155	277	Horizontal
2	2483.5	-10.53	43.47	74.00	30.53	PK	155	168	Horizontal
3	2557.7	-10.38	49.89	74.00	24.11	PK	155	85	Horizontal

3DH5-2480MHz/ Vertical



NO.	Freq. [MHz]	Factor [dB]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	2480.0	-10.52	101.03	74.00	-27.03	PK	155	188	Vertical
2	2483.5	-10.53	47.72	74.00	26.28	PK	155	131	Vertical
3	2487.3	-10.55	51.81	74.00	22.19	PK	155	213	Vertical

4.10 Radiated Emission Measurement

4.10.1 Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dB_uV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

4.10.2 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on a 80cm height table above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotate table was turned from 0 degree to 360 degree to find the maximum reading.



- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a The EUT was placed on a 80cm height(above 1GHz is 1.5m height) table above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle \geq 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

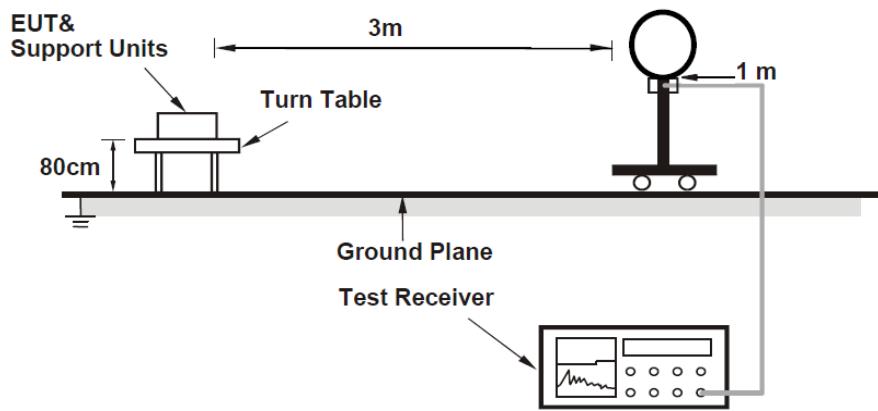
4.10.3

4.10.4 Deviation from Test Standard

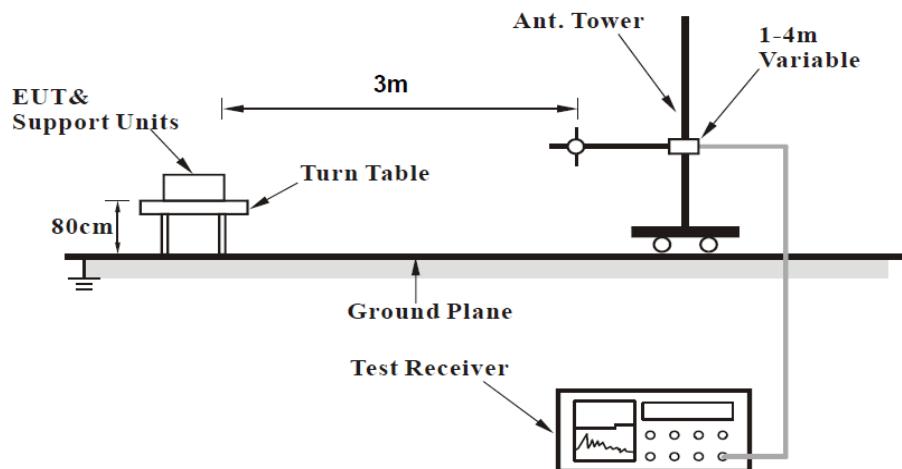
No deviation.

4.10.5 Test Setup

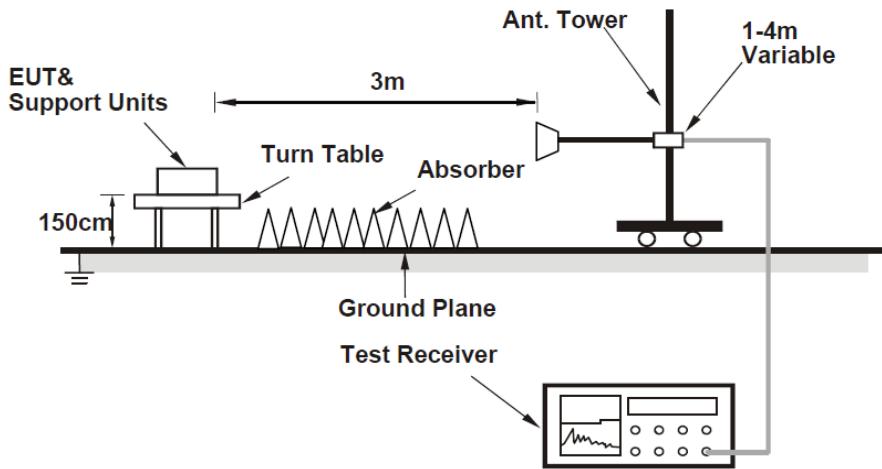
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.10.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

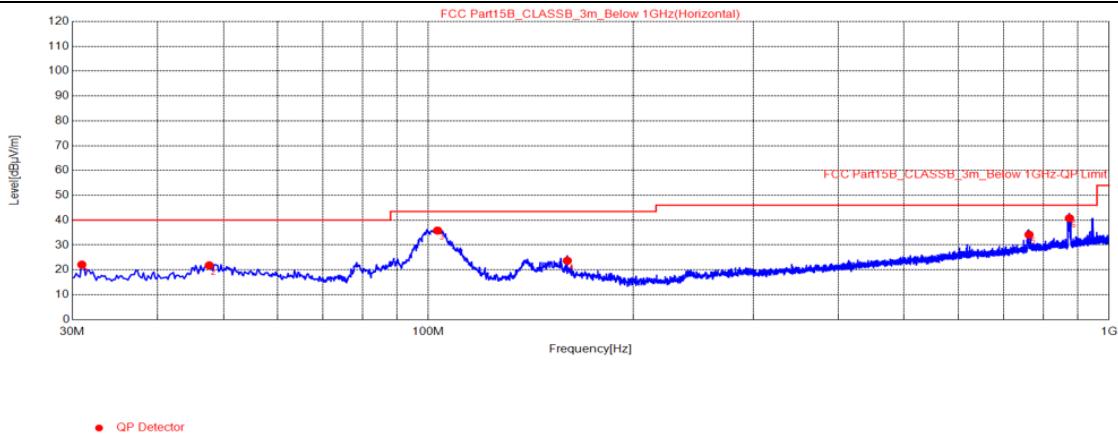
4.10.7 Test Results

Radiated Emissions Range 9kHz~30MHz

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Radiated Emissions Range 30MHz~1GHz

Channel	DH5_2402_Ant1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz	Antenna Polarity	Horizontal
Power supply	AC 120V, 60Hz		

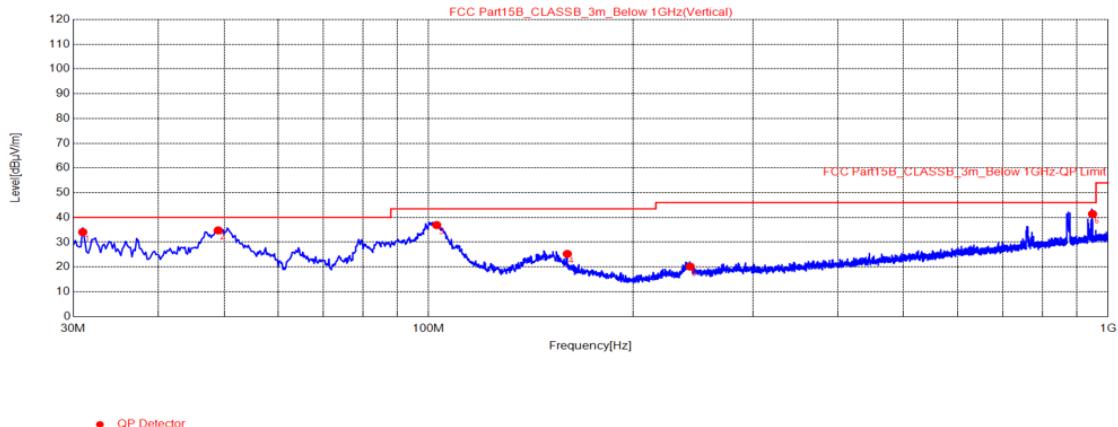


Final Data List										
NO.	Freq.[MHz]	Reading [dBμV]	Factor [dB]	Value [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	30.97	34.16	-12.05	22.11	40.00	17.89	QP	200	189	Horizontal
2	47.65	32.38	-10.56	21.82	40.00	18.18	QP	200	124	Horizontal
3	103.14	50.14	-14.30	35.84	43.50	7.66	QP	200	214	Horizontal
4	159.98	33.44	-9.77	23.67	43.50	19.83	QP	200	70	Horizontal
5	762.54	32.88	1.29	34.17	46.00	11.83	QP	200	111	Horizontal
6	874.29	37.78	3.02	40.80	46.00	5.20	QP	200	280	Horizontal

REMARKS:

1. Emission Level(dBuV/m) = Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Channel	DH5_2402_Ant1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz	Antenna Polarity	Vertical
Power supply	AC 120V, 60Hz		



Final Data List										
NO.	Freq.[MHz]	Reading [dB μ V]	Factor [dB]	Value [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Detector	Height [cm]	Angle[°]	Polarity
1	30.97	46.15	-12.05	34.10	40.00	5.90	QP	185	123	Vertical
2	49.01	45.24	-10.46	34.78	40.00	5.22	QP	100	280	Vertical
3	102.75	51.32	-14.38	36.94	43.50	6.56	QP	162	180	Vertical
4	159.98	35.06	-9.77	25.29	43.50	18.21	QP	120	167	Vertical
5	242.62	30.56	-10.41	20.15	46.00	25.85	QP	131	239	Vertical
6	948.40	37.19	4.23	41.42	46.00	4.58	QP	119	98	Vertical

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Radiated Emission Range 1GHz~10th Harmonic
GFSK

Channel	TX Channel 0	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4804.60	52.80	74.00	21.20	-3.03	H	PK
2	4804.60	46.21	54.00	7.79	-3.03	H	AV
3	4804.60	56.86	74.00	17.14	-3.03	V	PK
4	4804.60	48.20	54.00	5.80	-3.03	V	AV
5	9608.80	49.83	74.00	24.17	10.01	H	PK
6	9608.80	43.47	54.00	10.53	10.01	H	AV
7	9608.80	49.36	74.00	24.64	10.01	V	PK
8	9608.80	42.50	54.00	11.50	10.01	V	AV

Channel	TX Channel 39	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4879.40	54.44	74.00	19.56	-2.87	H	PK
2	4879.40	50.75	54.00	3.25	-2.87	H	AV
3	4879.40	58.14	74.00	15.86	-2.87	V	PK
4	4879.40	51.36	54.00	2.64	-2.87	V	AV
5	9760.10	48.98	74.00	25.02	9.27	H	PK
6	9760.10	39.79	54.00	14.21	9.27	H	AV
7	9760.10	46.68	74.00	27.32	9.27	V	PK
8	9760.10	43.30	54.00	10.70	9.27	V	AV

Channel	TX Channel 78	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4959.30	53.67	74.00	20.33	-2.57	H	PK
2	4959.30	49.82	54.00	4.18	-2.57	H	AV
3	4959.30	57.36	74.00	16.64	-2.57	V	PK
4	4959.30	53.24	54.00	0.76	-2.57	V	AV
5	7441.30	47.20	74.00	26.80	3.94	H	PK
6	7441.30	39.45	54.00	14.55	3.94	H	AV
7	7441.30	44.31	74.00	29.69	3.94	V	PK
8	7441.30	38.29	54.00	15.71	3.94	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value =Limit value – Emission Level

π/4-DQPSK

Channel	TX Channel 0	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4804.60	54.11	74.00	19.89	-3.03	H	PK
2	4804.60	45.52	54.00	8.48	-3.03	H	AV
3	4804.60	58.52	74.00	15.48	-3.03	V	PK
4	4804.60	48.98	54.00	5.02	-3.03	V	AV
5	9608.80	48.62	74.00	25.38	10.01	H	PK
6	9608.80	41.41	54.00	12.59	10.01	H	AV
7	9608.80	49.71	74.00	24.29	10.01	V	PK
8	9608.80	42.82	54.00	11.18	10.01	V	AV

Channel	TX Channel 39	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4879.40	57.05	74.00	16.95	-2.87	H	PK
2	4879.40	48.53	54.00	5.47	-2.87	H	AV
3	4879.40	60.29	74.00	13.71	-2.87	V	PK
4	4879.40	51.06	54.00	2.94	-2.87	V	AV
5	9760.10	49.16	74.00	24.84	9.27	H	PK
6	9760.10	43.83	54.00	10.17	9.27	H	AV
7	9760.10	46.96	74.00	27.04	9.27	V	PK
8	9760.10	42.47	54.00	11.53	9.27	V	AV

Channel	TX Channel 78	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4959.30	53.87	74.00	20.13	-2.57	H	PK
2	4959.30	48.40	54.00	5.60	-2.57	H	AV
3	4959.30	58.32	74.00	15.68	-2.57	V	PK
4	4959.30	52.68	54.00	1.32	-2.57	V	AV
5	9919.90	50.22	74.00	23.78	9.13	H	PK
6	9919.90	44.14	54.00	9.86	9.13	H	AV
7	9919.90	47.64	74.00	26.36	9.13	V	PK
8	9919.90	40.88	54.00	13.12	9.13	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value =Limit value – Emission Level

8DPSK

Channel	TX Channel 0	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4804.60	54.87	74.00	19.13	-3.03	H	PK
2	4804.60	47.25	54.00	6.75	-3.03	H	AV
3	4804.60	59.11	74.00	14.89	-3.03	V	PK
4	4804.60	50.28	54.00	3.72	-3.03	V	AV
5	9608.80	50.13	74.00	23.87	10.01	H	PK
6	9608.80	41.38	54.00	12.62	10.01	H	AV
7	9608.80	49.73	74.00	24.27	10.01	V	PK
8	9608.80	41.37	54.00	12.63	10.01	V	AV

Channel	TX Channel 39	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4879.40	54.92	74.00	19.08	-2.87	H	PK
2	4879.40	50.33	54.00	3.67	-2.87	H	AV
3	4879.40	59.38	74.00	14.62	-2.87	V	PK
4	4879.40	52.82	54.00	1.18	-2.87	V	AV
5	9760.10	49.12	74.00	24.88	9.27	H	PK
6	9760.10	43.74	54.00	10.26	9.27	H	AV
7	9760.10	46.35	74.00	27.65	9.27	V	PK
8	9760.10	41.92	54.00	12.08	9.27	V	AV



Channel	TX Channel 78	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	4959.30	53.68	74.00	20.32	-2.57	H	PK
2	4959.30	48.76	54.00	5.24	-2.57	H	AV
3	4959.30	57.39	74.00	16.61	-2.57	V	PK
4	4959.30	51.44	54.00	2.56	-2.57	V	AV
5	9919.90	49.30	74.00	24.70	9.13	H	PK
6	9919.90	42.56	54.00	11.44	9.13	H	AV
7	9919.90	46.32	74.00	27.68	9.13	V	PK
8	9919.90	39.15	54.00	14.85	9.13	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value =Limit value – Emission Level



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

--- END ---