



7.8. Radiated Spurious Emission Measurement

7.8.1. Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required.

Frequency (MHz)	Quasi-peak(μV/m)	Measurement distance(m)	Quasi-peak(dBµV/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(kHz)	30	73.8~63
1.705-30.0	30	30	69.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

NOTE:

- (1) The emission limits for the ranges 9-90kHz and 110-490kHz are based on measurements employing a linear average detector.
- (2) The lower limit shall apply at the transition frequencies.
- (3) Above 18GHz test distance is 1m, so the Peak Limit= $74+20*\log(3/1)=83.54$ (dB μ V/m). The Avg Limit= $54+20*\log(3/1)=63.54$ (dB μ V/m).



7.8.2. Test Setting

1) Sequence of testing 9kHz to 30MHz

Setup:

- --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- --- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- --- If the EUT is a floor standing device, it is placed on the ground.
- --- Set the EUT transmit continuously with maximum output power.
- --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- --- The measurement distance is 3 meter.
- --- The EUT was set into operation.

Pre measurement:

- --- The turntable rotates from 0° to 360°.
- --- The antenna height is 1.0 meter.
- --- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

- --- Identified emissions during the pre measurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).
- --- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.
- --- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

2) Sequence of testing 30MHz to 1GHz

Setup:

- --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- --- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- --- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.



- --- Set the EUT transmit continuously with maximum output power.
- --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- --- The measurement distance is 3 meter.
- --- The EUT was set into operation.

Pre measurement:

- --- The turntable rotates from 0° to 360°.
- --- The antenna is polarized vertical and horizontal.
- --- The antenna height changes from 1 to 4 meter.
- --- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

- --- The final measurement will be performed with minimum the six highest peaks.
- --- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0° to 360° and antenna movement between 1 and 4 meter.
- --- The final measurement will be done with QP detector with an EMI receiver.
- --- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1GHz to 18GHz

Setup:

- --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- --- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- --- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- --- Set the EUT transmit continuously with maximum output power.
- --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- --- The measurement distance is 3 meter.
- --- The EUT was set into operation.



Pre measurement:

- --- The turntable rotates from 0° to 360°.
- --- The antenna is polarized vertical and horizontal.
- --- The antenna height scan range is 1 meter to 4 meter.
- --- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- --- The final measurement will be performed with minimum the six highest peaks.
- --- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0° to 360° and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- --- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- --- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement with marked maximum final measurements and the limit will be stored.

4) Sequence of testing above 18GHz Setup:

- --- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- --- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- --- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- --- Set the EUT transmit continuously with maximum output power.
- --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- --- The measurement distance is 1 meter.
- --- The EUT was set into operation.



Pre measurement:

--- The antenna is moved spherical over the EUT in different polarisations of the antenna.

Final measurement:

- --- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.
- --- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

NOTE:

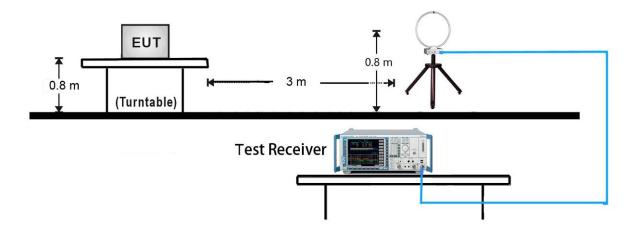
- (a). The frequency from 9kHz to 150kHz, Set RBW=300Hz(for Peak&AVG), RBW=300Hz(for Peak&AVG). the frequency from 150kHz to 30MHz, Set RBW=9kHz, RBW=9kHz, (for QP Detector).
- (b). The frequency from 30MHz to 1GHz, Set RBW=120kHz, RBW=300kHz, (for QP Detector).
- (c). The frequency above 1GHz, for Peak detector: Set RBW=1MHz, RBW=3MHz.
- (d). The frequency above 1GHz, for Avg detector: Set RBW=1MHz, if the EUT is configured to transmit with duty cycle ≥98%, set VBW≤RBW/100 (i.e.,10kHz) but not less than 10 Hz. if the EUT duty cycle is < 98%, set VBW≥1/T, Where T is defined in section 2.5.

Page Number: 77 of 122

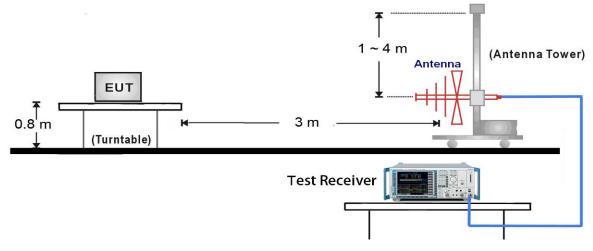


7.8.3. Test Setup

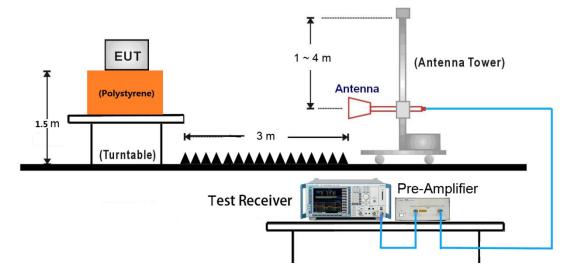
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:

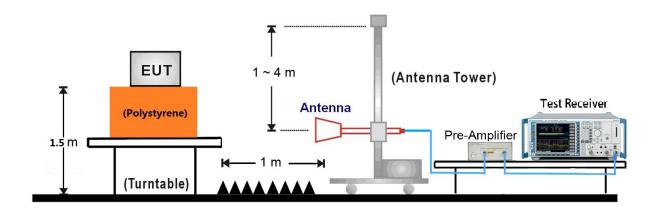


1GHz ~18GHz Test Setup:





18GHz ~26.5GHz Test Setup:





7.8.4. Data Sample

Below 1GHz

	Suspected Data List											
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Trace	Height	Angle	Dolority		
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	Trace	[cm]	[°]	Polarity		
xxxx	xxxx	66.85	31.09	-35.76	40.00	8.91	PK	200	351	Horizontal		

	Final Data List											
NO.	Freq.	Factor	QP Reading	Level	QP Limit	QP Margin	Height	Angle	Polarity			
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity			
xxxx	xxxx	-31.57	71.28	39.71	46.00	6.29	100	196	Horizontal			

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV/m) = Uncorrected Analyzer / Receiver reading

Factor (dB) = Antenna factor + Cable loss – Amplifier gain

Level (dBuV/m) = Reading (dBuV/m) + Factor (dB)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Limit (dBuV/m) – Level (dBuV/m)

Polarity = Antenna polarization

Peak = Peak Reading

QP = Quasi-peak Reading



1GHz-18GHz

No.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Remark
xxx	xxxx	78.01	55.30	-22.71	74.00	18.70	100	50	Horizontal	Peak
xxx	xxxx	66.37	43.66	-22.71	54.00	10.34	100	50	Horizontal	AVG

Above 18GHz

Susp	ected Da	ata List									
NO.	Freq.	Reading [dBµV/m]	Level for 1m [dBµV/m]	Level for 3m [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Remark
xxx	xxxx	53.84	59.73	50.19	5.89	74.00	23.81	100	48	Vertical	Peak
xxx	xxxx	44.22	46.83	37.29	2.61	54.00	16.71	100	279	Vertical	AVG

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV/m) = Uncorrected Analyzer / Receiver reading Factor (dB) = Antenna factor + Cable loss – Amplifier gain

Level (dBuV/m) = Reading (dBuV/m) + Factor (dB)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Limit (dBuV/m) – Level (dBuV/m)

Polarity = Antenna polarization

Peak = Peak Reading
AVG = Average Reading

Date: 2025-04-26



7.8.5. Test Result

Below 1GHz

All models were pretested and only the worst modes and channels were recorded in this report (3DH5-2402MHz).

The chart below shows the highest readings taken from the final data.

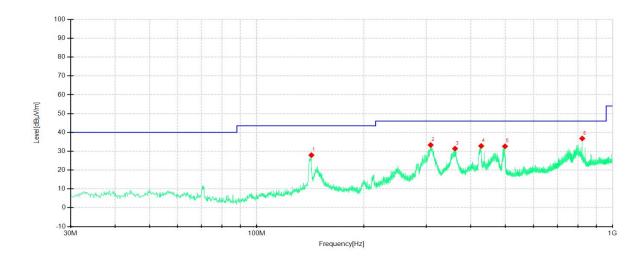
Mode: 3DH5

Lowest Frequency (2402MHz)

Environment: 22.2 °C/31%RH/101.7kPa Test Voltage: DC 12V

Test Engineer: Stone Zhang Probe : Horizontal

Test Graph



				Suspec	ted Data List	t				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Trace	Height	Angle	Dolority
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	Trace	[cm]	[°]	Polarity
1	142.5341	56.38	27.91	-28.47	43.50	15.59	PK	200	123	Horizontal
2	308.3035	60.67	33.31	-27.36	46.00	12.69	PK	100	290	Horizontal
3	361.0539	56.89	31.38	-25.51	46.00	14.62	PK	100	315	Horizontal
4	427.5072	55.96	32.79	-23.17	46.00	13.21	PK	100	131	Horizontal
5	498.8111	54.31	32.60	-21.71	46.00	13.40	PK	200	72	Horizontal
6	822.1040	53.28	36.77	-16.51	46.00	9.23	PK	100	249	Horizontal

Page Number: 82 of 122

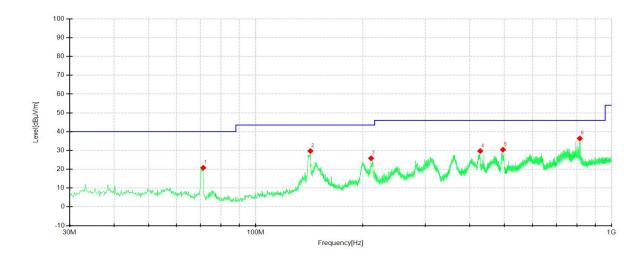


Lowest Frequency (2402MHz) Date: 2025-04-26

Environment: 22.2 °C/31%RH/101.7kPa Test Voltage: DC 12V

Test Engineer: Stone Zhang Probe : Vertical

Test Graph



				Suspecte	ed Data List					
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Trace	Height	Angle	Dolority
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	Trace	[cm]	[°]	Polarity
1	71.2302	52.40	20.76	-31.64	40.00	19.24	PK	100	217	Vertical
2	142.5341	58.18	29.71	-28.47	43.50	13.79	PK	100	101	Vertical
3	211.0489	57.06	25.82	-31.24	43.50	17.68	PK	100	111	Vertical
4	427.7497	52.87	29.70	-23.17	46.00	16.30	PK	100	203	Vertical
5	495.4157	52.09	30.39	-21.70	46.00	15.61	PK	200	3	Vertical
6	814.3430	52.99	36.38	-16.61	46.00	9.62	PK	100	166	Vertical



Remark:

- 1 No emission found between lowest internal used/generated frequency to 30MHz.
- 2 Pre-scan all mode and recorded the worst case results in this report (TX-Lowest Channel(3DH5))
- 3 Measuring frequencies from 9kHz to the 1GHz.
- 4 Radiated emissions measured in frequency range from 30MHz to 1GHz were made with an instrument usi ng Peak/Quasi-peak detector mode.
- Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 6 The IF bandwidth of SPA between 30MHz to 1GHz was 120kHz.

Page Number: 84 of 122



1GHz to 18GHz

All models were pretested and only the worst modes and channels were recorded in this report (DH5&3DH5).

Mode: DH5

Lowest Frequency (2402MHz) Date: 2025-05-07 Environment: 26.1° C/42%RH/101.4kPa Test Voltage: DC 12V

Test Engineer: Stone Zhang

				Suspec	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality
1	1313.2000	50.03	41.90	-8.13	74.00	32.10	200	323	Horizontal
2	2498.6000	47.58	47.39	-0.19	74.00	26.61	200	63	Horizontal
3	3990.0000	53.55	42.78	-10.77	74.00	31.22	100	324	Horizontal
4	5516.0000	47.95	42.41	-5.54	74.00	31.59	100	249	Horizontal
5	9956.0000	39.82	48.50	8.68	74.00	25.50	100	294	Horizontal
6	14629.0000	37.71	50.80	13.09	74.00	23.20	100	294	Horizontal

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBμV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	9956.6103	8.68	31.52	40.20	54.00	13.80	100	249	Horizontal			
2	14648.2650	13.09	24.04	37.13	54.00	16.87	182	290.7	Horizontal			

Page Number: 85 of 122



				Suspec	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Polatity
1	1233.2000	54.22	45.52	-8.70	74.00	28.48	200	20	Vertical
2	2378.2000	50.94	47.93	-3.01	74.00	26.07	200	20	Vertical
3	3975.0000	54.65	44.40	-10.25	74.00	29.60	200	310	Vertical
4	7050.0000	43.75	44.81	1.06	74.00	29.19	100	130	Vertical
5	12645.0000	37.65	49.20	11.55	74.00	24.80	100	40	Vertical
6	15284.0000	36.10	49.83	13.73	74.00	24.17	200	205	Vertical

	AV Final Data List										
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dΒμV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	12681.7850	11.55	24.47	36.02	54.00	17.98	169	142.4	Vertical		
2	15261.0000	13.73	24.14	37.87	54.00	16.13	198	182.5	Vertical		



Middle Frequency (2441MHz) Date: 2025-05-07

Environment: 26.1°C/42%RH/101.4kPa Test Voltage: DC 12V

				Suspec	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	1199.2000	52.72	42.53	-10.19	74.00	31.47	100	286	Horizontal
2	2379.2000	50.21	46.75	-3.46	74.00	27.25	200	125	Horizontal
3	2501.0000	47.39	47.16	-0.23	74.00	26.84	200	176	Horizontal
4	3985.0000	53.76	42.96	-10.80	74.00	31.04	100	123	Horizontal
5	4882.0000	50.64	43.43	-7.21	74.00	30.57	200	150	Horizontal
6	12809.0000	37.73	50.74	13.01	74.00	23.26	100	79	Horizontal

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	12809.1154	13.04	23.28	36.32	54.00	17.68	100	286	12809.1154			



	Suspected Data List												
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity				
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality				
1	1195.4000	55.32	46.24	-9.08	74.00	27.76	100	312	Vertical				
2	2500.0000	48.15	47.68	-0.47	74.00	26.32	100	326	Vertical				
3	4008.0000	55.33	45.23	-10.10	74.00	28.77	100	212	Vertical				
4	4882.0000	49.84	42.77	-7.07	74.00	31.23	100	197	Vertical				
5	6865.0000	46.35	45.83	-0.52	74.00	28.17	200	123	Vertical				
6	15284.0000	36.54	50.27	13.73	74.00	23.73	200	197	Vertical				

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dΒμV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	15284.5104	13.73	25.16	38.89	54.00	15.11	100	95	Vertical			



Highest Frequency (2480MHz) Date: 2025-05-07

Environment: 26.1°C/42%RH/101.4kPa Test Voltage: DC 12V

	Suspected Data List											
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity			
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Polarity			
1	1272.4000	50.76	42.01	-8.75	74.00	31.99	200	108	Horizontal			
2	2381.0000	50.41	47.02	-3.39	74.00	26.98	200	108	Horizontal			
3	3958.0000	54.03	43.10	-10.93	74.00	30.90	200	275	Horizontal			
4	4852.0000	51.40	43.93	-7.47	74.00	30.07	200	157	Horizontal			
5	7310.0000	45.26	46.27	1.01	74.00	27.73	200	20	Horizontal			
6	13269.0000	37.19	51.28	14.09	74.00	22.72	100	110	Horizontal			

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	13269.0000	14.09	23.87	37.96	54.00	16.04	100	110	Horizontal			



	Suspected Data List												
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity				
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Polatity				
1	1197.8000	51.22	42.18	-9.04	74.00	31.82	100	93	Vertical				
2	2380.0000	50.82	47.85	-2.97	74.00	26.15	200	120	Vertical				
3	3966.0000	56.62	46.29	-10.33	74.00	27.71	100	305	Vertical				
4	4852.0000	50.49	43.40	-7.09	74.00	30.60	200	137	Vertical				
5	7921.0000	42.96	46.23	3.27	74.00	27.77	100	36	Vertical				
6	14698.0000	36.85	50.16	13.31	74.00	23.84	100	36	Vertical				

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	14698.0746	13.33	23.84	37.17	54.00	16.83	100	20	Vertical			



Lowest Frequency (2402MHz) Date: 2025-05-07

Environment: 26.1°C/42%RH/101.4kPa Test Voltage: DC 12V

	Suspected Data List												
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity				
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality				
1	1203.0000	50.86	40.73	-10.13	74.00	33.27	100	163	Horizontal				
2	1999.4000	48.69	43.72	-4.97	74.00	30.28	100	245	Horizontal				
3	2379.6000	51.05	47.60	-3.45	74.00	26.40	100	109	Horizontal				
4	3994.0000	57.85	47.10	-10.75	74.00	26.90	200	65	Horizontal				
5	6840.0000	45.74	45.34	-0.40	74.00	28.66	100	78	Horizontal				
6	14628.0000	37.51	50.60	13.09	74.00	23.40	200	124	Horizontal				

	AV Final Data List											
N	O.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	1	14628.4512	13.09	23.16	36.25	54.00	17.75	100	108	Horizontal		



	Suspected Data List												
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity				
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality				
1	1201.6000	55.22	46.24	-8.98	74.00	27.76	100	327	Vertical				
2	2382.8000	50.72	47.79	-2.93	74.00	26.21	100	178	Vertical				
3	2880.2000	49.01	47.84	-1.17	74.00	26.16	100	151	Vertical				
4	3962.0000	56.39	46.03	-10.36	74.00	27.97	100	136	Vertical				
5	8720.0000	41.75	47.53	5.78	74.00	26.47	100	299	Vertical				
6	15256.0000	37.16	50.86	13.70	74.00	23.14	200	228	Vertical				

	AV Final Data List											
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBμV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	1 15256.2361 13.70 25.31 39.01 54.00 14.99 200 259 Vertical											



Middle Frequency (2441MHz) Date: 2025-04-29

Environment: 26.1°C/42%RH/101.4kPa Test Voltage: DC 12V

	Suspected Data List											
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity			
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Polatily			
1	1312.4000	51.84	43.70	-8.14	74.00	30.30	200	139	Horizontal			
2	2381.0000	50.45	47.06	-3.39	74.00	26.94	200	113	Horizontal			
3	3983.0000	53.54	42.73	-10.81	74.00	31.27	100	124	Horizontal			
4	4881.0000	49.44	42.21	-7.23	74.00	31.79	100	213	Horizontal			
5	6055.0000	46.48	42.43	-4.05	74.00	31.57	200	53	Horizontal			
6	13116.0000	35.76	50.15	14.39	74.00	23.85	100	240	Horizontal			

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13115.9881	14.39	23.39	37.78	54.00	16.22	100	240	Horizontal



				Suspec	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality
1	1204.2000	53.85	44.90	-8.95	74.00	29.10	100	325	Vertical
2	2381.8000	50.27	47.33	-2.94	74.00	26.67	100	175	Vertical
3	2880.4000	48.66	47.49	-1.17	74.00	26.51	100	204	Vertical
4	3972.0000	56.94	46.67	-10.27	74.00	27.33	200	140	Vertical
5	8724.0000	41.54	47.27	5.73	74.00	26.73	100	360	Vertical
6	14731.0000	37.33	50.51	13.18	74.00	23.49	100	350	Vertical

	AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dΒμV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	14731.2633	13.16	25.64	38.80	54.00	15.20	100	242	Vertical	



Highest Frequency (2480MHz) Date: 2025-04-29

Environment: 23.1°C/46%RH/101.6kPa Test Voltage: DC 12V

				Suspect	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	1 Glarity
1	1195.2000	51.91	41.67	-10.24	74.00	32.33	100	285	Horizontal
2	2382.2000	50.11	46.76	-3.35	74.00	27.24	100	120	Horizontal
3	2496.6000	47.54	47.33	-0.21	74.00	26.67	100	341	Horizontal
4	3985.0000	56.47	45.67	-10.80	74.00	28.33	100	50	Horizontal
5	9258.0000	40.48	47.77	7.29	74.00	26.23	100	360	Horizontal
6	14674.0000	36.99	50.54	13.55	74.00	23.46	100	220	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	14674.1386	13.58	25.47	39.05	54.00	14.95	100	159	Horizontal



				Suspec	ted Data List				
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Polarity
NO.	[MHz]	[dBµV/m]	[dBµV/m]	[dB]	[dBµV/m]	[dB]	[cm]	[°]	Folality
1	1203.4000	55.95	46.99	-8.96	74.00	27.01	100	324	Vertical
2	2380.0000	50.31	47.34	-2.97	74.00	26.66	100	170	Vertical
3	2880.2000	48.68	47.51	-1.17	74.00	26.49	200	152	Vertical
4	3980.0000	56.30	46.10	-10.20	74.00	27.90	100	128	Vertical
5	6237.0000	47.89	44.37	-3.52	74.00	29.63	100	188	Vertical
6	15137.0000	37.71	51.18	13.47	74.00	22.82	100	82	Vertical

	AV Final Data List										
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dΒμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	15137.3387	13.47	25.49	38.96	54.00	15.04	100	292	Vertical		



Remark:

- 1 Measuring frequencies from 1 GHz to 18GHz harmonic of highest fundamental frequency.
- 2 Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3 Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4 Spectrum setting:
 - a. Peak Setting 1GHz–26.5GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = auto.
 - b. AV Setting 1GHz–26.5GHz, Set RBW=1MHz, if the EUT is configured to transmit with duty cycle ≥98%, set VBW≤RBW/100 (i.e.,10kHz) but not less than 10 Hz. if the EUT duty cycle is <98%, set VBW≥1/T, Where T is defined in section 2.5.



18GHz to 26.5GHz

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

All models were pretested and only the worst mode was recorded in this report(3DH5-2402MHz).

Mode: 3DH5

Lowest Frequency (2402MHz) Date: 2025-05-10 Environment: 24.8 ℃/42%RH/100.4kPa Test Voltage: DC 12V

Test Engineer: Stone Zhang

Suspect	Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Level for 1m [dBµV/m]	Level for 3m [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	19003.8500	47.45	50.45	40.91	3.00	74	33.09	100	341	Horizontal	
2	20728.5000	46.39	50.42	40.88	4.03	74	33.12	100	112	Horizontal	
3	23024.7750	44.69	49.24	39.70	4.55	74	34.30	100	195	Horizontal	
4	23337.5750	44.46	49.14	39.60	4.68	74	34.40	100	174	Horizontal	
5	24832.3000	43.00	48.52	38.98	5.52	74	35.02	100	112	Horizontal	
6	26043.9750	43.11	48.29	38.75	5.18	74	35.25	100	70	Horizontal	

Suspect	Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Level for 1m [dBµV/m]	Level for 3m [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	18523.6000	48.24	51.05	41.51	2.81	74	32.49	100	5	Vertical	
2	19502.8000	48.40	52.14	42.60	3.74	74	31.40	100	128	Vertical	
3	21483.7250	46.19	50.52	40.98	4.33	74	33.02	100	44	Vertical	
4	23862.8750	43.93	49.24	39.70	5.31	74	34.30	100	66	Vertical	
5	25029.9250	43.24	49.30	39.76	6.06	74	34.24	100	214	Vertical	
6	26251.3750	43.17	49.08	39.54	5.91	74	34.46	100	87	Vertical	

Page Number: 98 of 122



Remark:

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4 Above 18G test distance is 1m, so the Level for 3m= Level for 1m + 20*log(1/3)

Page Number: 99 of 122



7.9. Radiated Restricted Band Edge Measurement

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

		•	()
Frequency	Frequency	Frequency	Frequency
(MHz)	(MHz)	(MHz)	(GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 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	8.25 - 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.

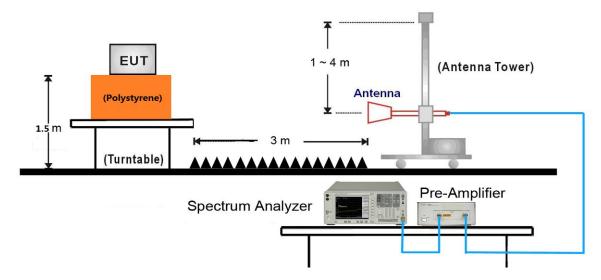
Frequency (MHz)	Quasi-peak(μV/m)	Measurement distance(m)	Quasi-peak(dBµV/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(kHz)	30	73.8~63
1.705-30.0	30	30	69.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

7.9.1. Test Setting

- 1) The EUT is placed on a turntable, which is 1.5m above the ground plane.
- 2) The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4) Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - a) PEAK: RBW=1MHz / VBW=1MHz / Sweep=AUTO.
 - b) AVERAGE: RBW=1MHz / VBW=1/T / Sweep=AUTO.Where T is defined in section 2.5. Repeat the procedures until all the PEAK and AVERAGE versus polarization are measured.



7.9.2. Test Setup





7.9.3. Test Result

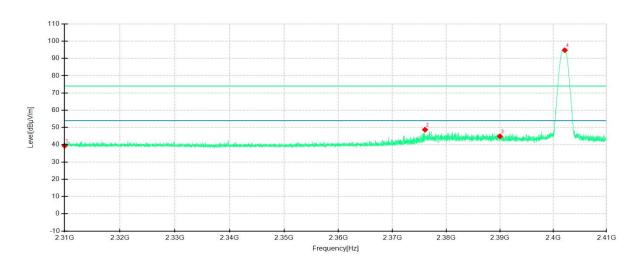
Project Information								
EUT:	MONITOR WITH RECEIVER	Model:	DMX8710S					
Test Date:	2025-04-26	Voltage:	DC 12V					
Environment:	Environment: Temp: 25.0°C; Humi:35%		Stone Zhang					

All models were pretested and only the worst modes and channels were recorded in this report (DH5&3DH5).

DH5
Lowest Channel

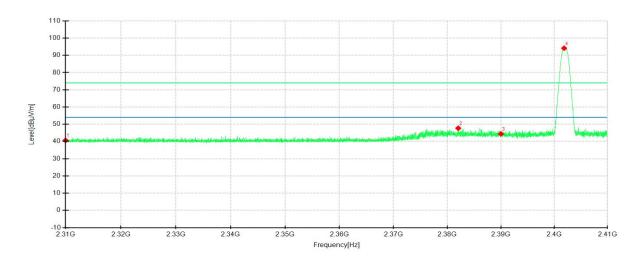
Frequency 2402MHz

Detector mode: Peak Polarity: Horizontal





Detector mode: Peak Polarity: Vertical



No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	٥		
1	2310.0000	45.32	39.42	-5.90	74.00	34.58	200	270	Horizontal	1
2	2376.0375	54.66	48.71	-5.95	74.00	25.29	100	288	Horizontal	1
3	2390.0000	50.63	44.90	-5.73	74.00	29.10	100	288	Horizontal	1
4	2402.1500	100.31	94.79	-5.52	74.00	-20.79	100	301	Horizontal	No limit
1	2310.0000	45.94	40.64	-5.30	74.00	33.36	200	24	Vertical	1
2	2382.0375	53.13	47.70	-5.43	74.00	26.30	100	334	Vertical	1
3	2390.0000	49.86	44.41	-5.45	74.00	29.59	100	0	Vertical	1
4	2401.8375	99.63	94.17	-5.46	74.00	-20.17	100	308	Vertical	No limit

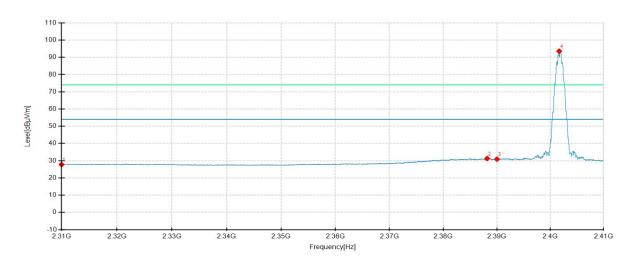
Polarity: Vertical



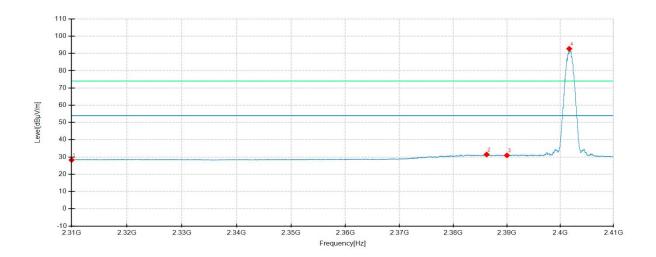
Lowest Channel

Frequency 2402MHz

Detector mode: Average Polarity: Horizontal



Detector mode: Average



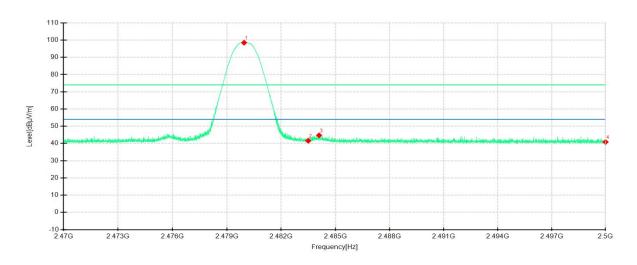


No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2310.0000	33.66	27.76	-5.90	54.00	26.24	100	143	Horizontal	1
2	2388.1750	37.02	31.26	-5.76	54.00	22.74	100	287	Horizontal	1
3	2390.0000	36.63	30.90	-5.73	54.00	23.10	100	287	Horizontal	1
4	2401.6625	99.12	93.58	-5.54	54.00	-39.58	100	299	Horizontal	No limit
1	2310.0000	33.55	28.25	-5.30	54.00	25.75	100	281	Vertical	1
2	2386.2125	36.87	31.43	-5.44	54.00	22.57	100	333	Vertical	1
3	2390.0000	36.40	30.95	-5.45	54.00	23.05	100	333	Vertical	1
4	2401.6750	98.19	92.72	-5.47	54.00	-38.72	100	294	Vertical	No limit

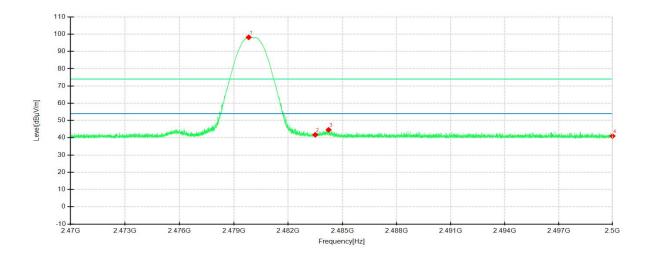


Frequency 2480MHz

Detector mode: Peak Polarity: Horizontal



Detector mode: Peak Polarity: Vertical



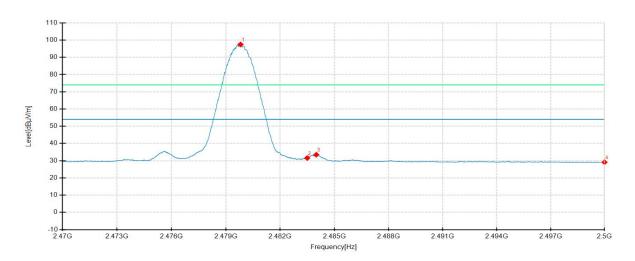


No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2479.9525	103.14	98.49	-4.65	74.00	-24.49	100	299	Horizontal	No limit
2	2483.5000	46.22	41.55	-4.67	74.00	32.45	200	48	Horizontal	1
3	2484.1000	49.40	44.73	-4.67	74.00	29.27	100	299	Horizontal	1
4	2500.0000	45.66	40.87	-4.79	74.00	33.13	100	234	Horizontal	1
1	2479.8213	103.34	98.19	-5.15	74.00	-24.19	100	335	Vertical	No limit
2	2483.5000	46.83	41.70	-5.13	74.00	32.30	100	335	Vertical	1
3	2484.2388	49.70	44.57	-5.13	74.00	29.43	100	335	Vertical	1
4	2500.0000	46.09	41.00	-5.09	74.00	33.00	100	9	Vertical	1

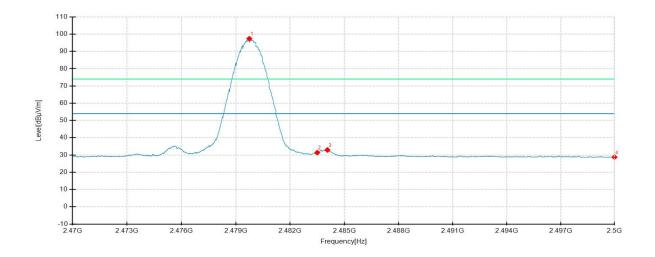


Frequency 2480MHz

Detector mode: Average Polarity: Horizontal



Detector mode: Average Polarity: Vertical





No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2479.8138	102.14	97.49	-4.65	54.00	-43.49	100	287	Horizontal	No limit
2	2483.5000	36.23	31.56	-4.67	54.00	22.44	100	300	Horizontal	1
3	2483.9988	38.14	33.47	-4.67	54.00	20.53	100	300	Horizontal	1
4	2500.0000	33.90	29.11	-4.79	54.00	24.89	200	294	Horizontal	1
1	2479.7463	102.55	97.40	-5.15	54.00	-43.40	100	336	Vertical	No limit
2	2483.5000	36.48	31.35	-5.13	54.00	22.65	100	22	Vertical	1
3	2484.0625	38.05	32.92	-5.13	54.00	21.08	100	336	Vertical	1
4	2500.0000	33.86	28.77	-5.09	54.00	25.23	200	39	Vertical	1

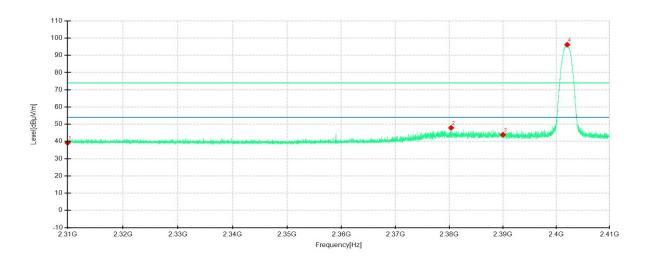


3DH5

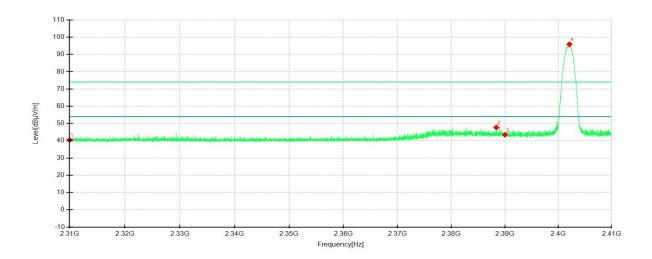
Lowest Channel

Frequency 2402MHz

Detector mode: Peak Polarity: Horizontal



Detector mode: Peak Polarity: Vertical





No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	٥		
1	2310.0000	45.12	39.22	-5.90	74.00	34.78	100	78	Horizontal	1
2	2380.3375	53.81	47.93	-5.88	74.00	26.07	100	287	Horizontal	1
3	2390.0000	49.63	43.90	-5.73	74.00	30.10	100	312	Horizontal	1
4	2402.0500	101.71	96.19	-5.52	74.00	-22.19	100	300	Horizontal	No limit
1	2310.0000	45.71	40.41	-5.30	74.00	33.59	200	272	Vertical	1
2	2388.3875	53.14	47.69	-5.45	74.00	26.31	100	333	Vertical	1
3	2390.0000	48.90	43.45	-5.45	74.00	30.55	100	203	Vertical	1
4	2402.0875	101.34	95.88	-5.46	74.00	-21.88	100	309	Vertical	No limit

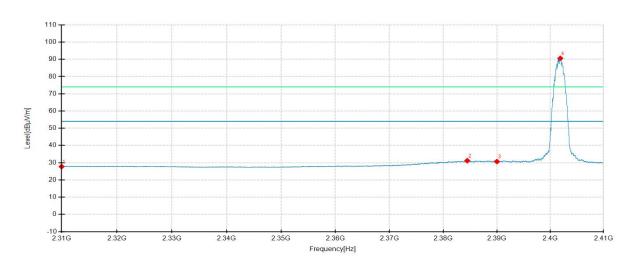
Polarity: Vertical



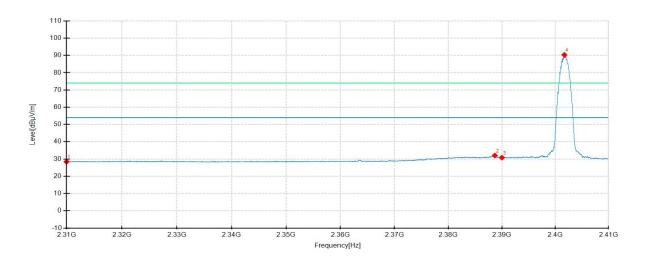
Lowest Channel

Frequency 2402MHz

Detector mode: Average Polarity: Horizontal



Detector mode: Average



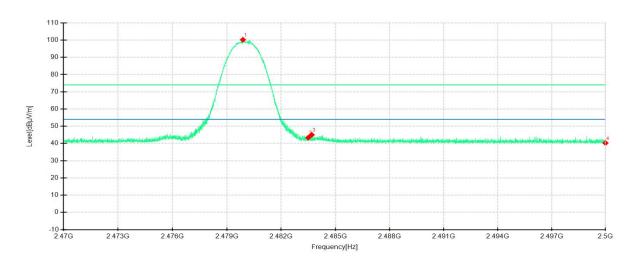


No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2310.0000	33.64	27.74	-5.90	54.00	26.26	100	26	Horizontal	1
2	2384.4625	37.00	31.18	-5.82	54.00	22.82	100	285	Horizontal	1
3	2390.0000	36.39	30.66	-5.73	54.00	23.34	100	285	Horizontal	1
4	2401.8750	96.11	90.59	-5.52	54.00	-36.59	100	297	Horizontal	No limit
1	2310.0000	33.72	28.42	-5.30	54.00	25.58	100	334	Vertical	1
2	2388.6750	37.45	32.00	-5.45	54.00	22.00	100	334	Vertical	1
3	2390.0000	36.25	30.80	-5.45	54.00	23.20	100	334	Vertical	1
4	2401.7000	95.80	90.33	-5.47	54.00	-36.33	100	294	Vertical	No limit

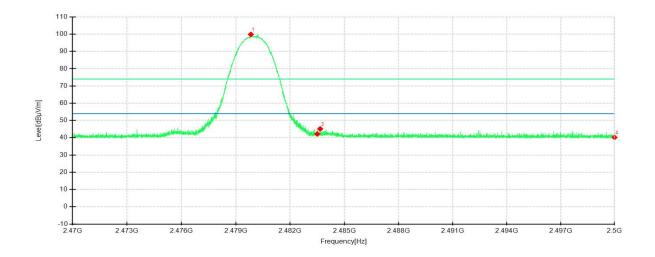


Frequency 2480MHz

Detector mode: Peak Polarity: Horizontal



Detector mode: Peak Polarity: Vertical



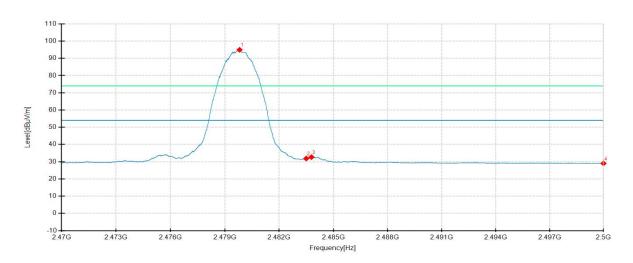


No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	٥		
1	2479.8888	104.86	100.21	-4.65	74.00	-26.21	100	296	Horizontal	No limit
2	2483.5000	48.05	43.38	-4.67	74.00	30.62	100	309	Horizontal	1
3	2483.6913	49.67	45.00	-4.67	74.00	29.00	100	296	Horizontal	1
4	2500.0000	45.04	40.25	-4.79	74.00	33.75	100	103	Horizontal	1
1	2479.8288	105.02	99.87	-5.15	74.00	-25.87	100	333	Vertical	No limit
2	2483.5000	47.36	42.23	-5.13	74.00	31.77	200	353	Vertical	1
3	2483.6650	50.25	45.12	-5.13	74.00	28.88	100	229	Vertical	1
4	2500.0000	45.27	40.18	-5.09	74.00	33.82	100	125	Vertical	1

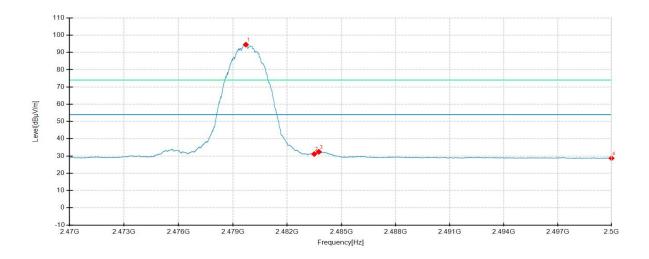


Frequency 2480MHz

Detector mode: Average Polarity: Horizontal



Detector mode: Average Polarity: Vertical





No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2479.8138	99.62	94.97	-4.65	54.00	-40.97	100	299	Horizontal	No limit
2	2483.5000	36.53	31.86	-4.67	54.00	22.14	100	286	Horizontal	1
3	2483.7888	37.34	32.67	-4.67	54.00	21.33	100	299	Horizontal	1
4	2500.0000	33.80	29.01	-4.79	54.00	24.99	100	299	Horizontal	1
1	2479.7200	99.68	94.53	-5.15	54.00	-40.53	100	335	Vertical	No limit
2	2483.5000	36.28	31.15	-5.13	54.00	22.85	100	335	Vertical	1
3	2483.7550	37.55	32.42	-5.13	54.00	21.58	100	335	Vertical	1
4	2500.0000	33.79	28.70	-5.09	54.00	25.30	200	342	Vertical	1

Remark:

1) Max field strength in 3m distance. No any other emission which falls in restricted bands can be detected and be reported.



7.10. AC Conducted Emissions Measurement

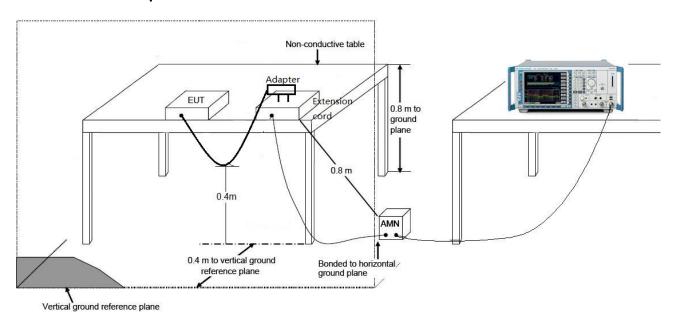
7.10.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits									
Frequency (MHz)	QP (dBµV)	Average (dBµV)							
0.15 - 0.50	66 - 56	56 - 46							
0.50 - 5.0	56	46							
5.0 - 30	60	50							

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.10.2. Test Setup





7.10.3. Test Result

Note: Test is not applicable to this Equipment. This EUT is no AC mains power ports.



8. Conclusion

The data collected relate only the item(s) tested and show that the **MONITOR WITH RECEIVER** is in compliance with Part 15C of the FCC Rules.



Statement

- This report is invalid for the following states: without the special inspection and testing stamp or the official stamp of our institution; without the signature of the report authorized officer; if the report is altered.
- 2. It is forbidden to copy partial contents of the report except in full without the approval of our institution.
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