Test Setup:	

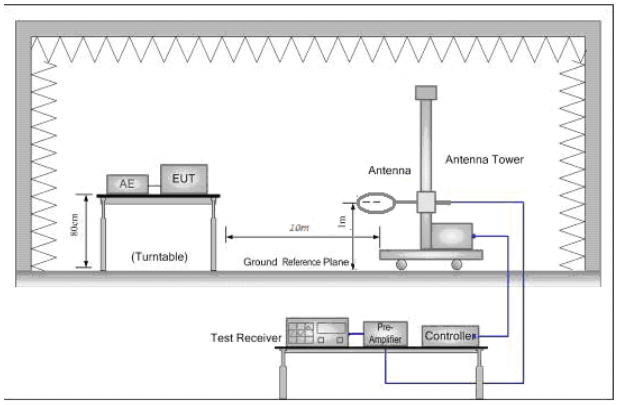


Figure 1. Below 30MHz

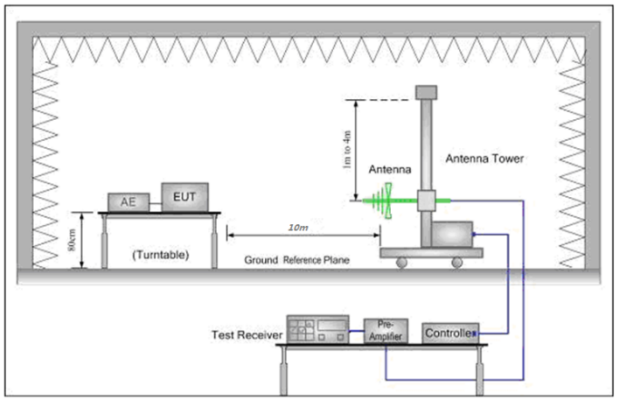


Figure 2. 30MHz to 1GHz

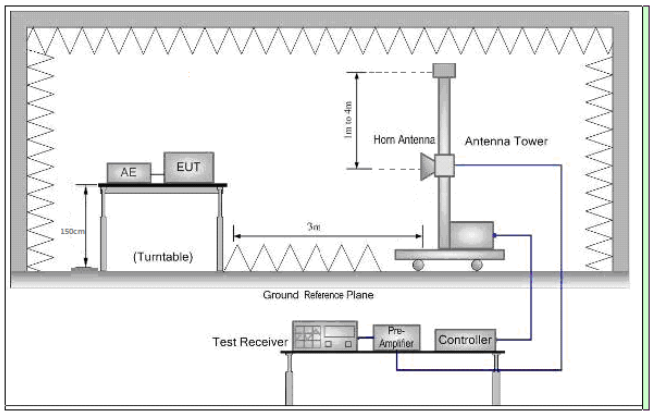


Figure 3. Above 1 GHz

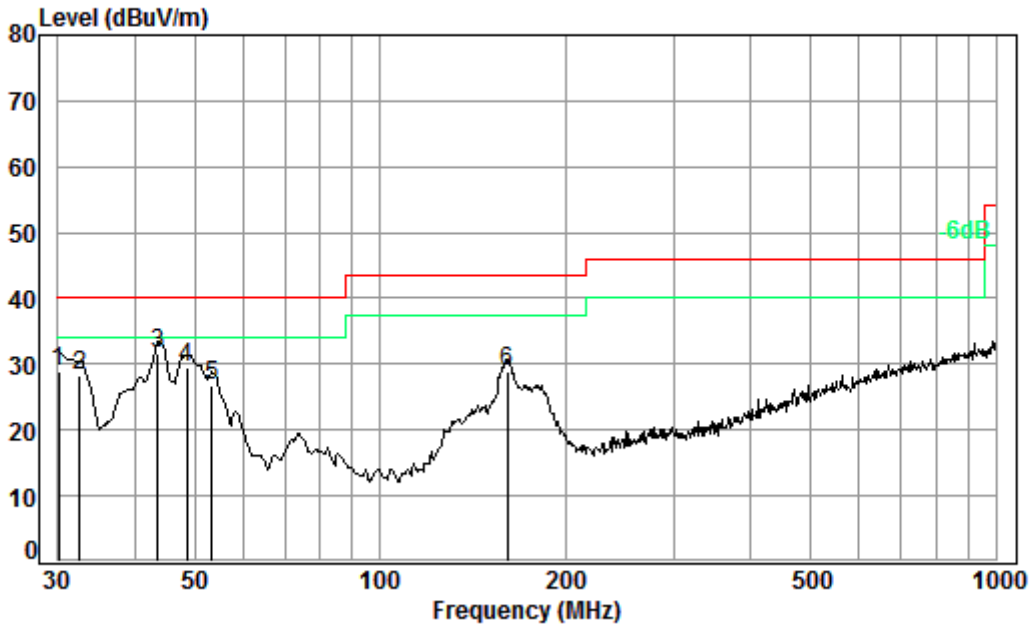
Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height 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. e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. h. Test the EUT in the lowest channel (2402MHz),the middle channel (2441MHz),the Highest channel (2480MHz) i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of data type Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the DH1 of data type and GFSK modulation is the worst case. Pretest the EUT at Charge + Transmitting mode For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

4.10.1 Radiated Emission below 1GHz

Note1:Mode j=BT RSE from 30MHz-1GHz

Note2: The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worse test data had been displayed.

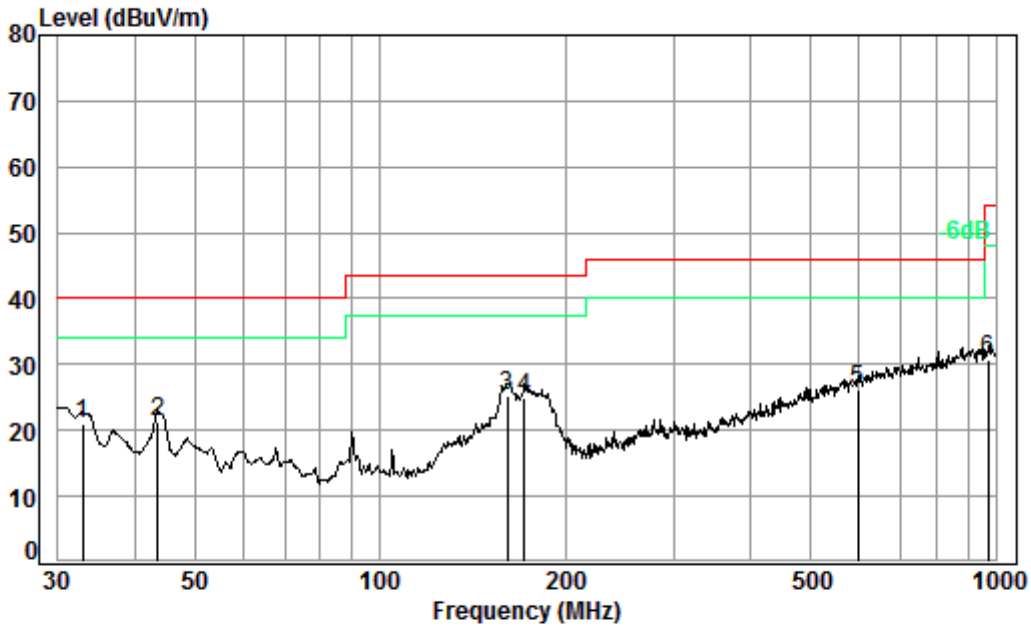
30MHz~1GHz (QP)		
Test mode:	Charge + Transmitting	Vertical



Condition: 3m VERTICAL
Job No. : 06244RG
Test mode: j

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	30.11	0.60	22.44	27.67	33.67	29.04	40.00	-10.96
2	32.52	0.60	21.10	27.66	34.36	28.40	40.00	-11.60
3 pp	43.51	0.68	16.26	27.62	42.26	31.58	40.00	-8.42
4	48.50	0.77	14.65	27.60	41.59	29.41	40.00	-10.59
5	53.32	0.80	13.85	27.59	39.69	26.75	40.00	-13.25
6	160.91	1.34	15.52	27.52	39.50	28.84	43.50	-14.66

Test mode:	Charge + Transmitting	Horizontal

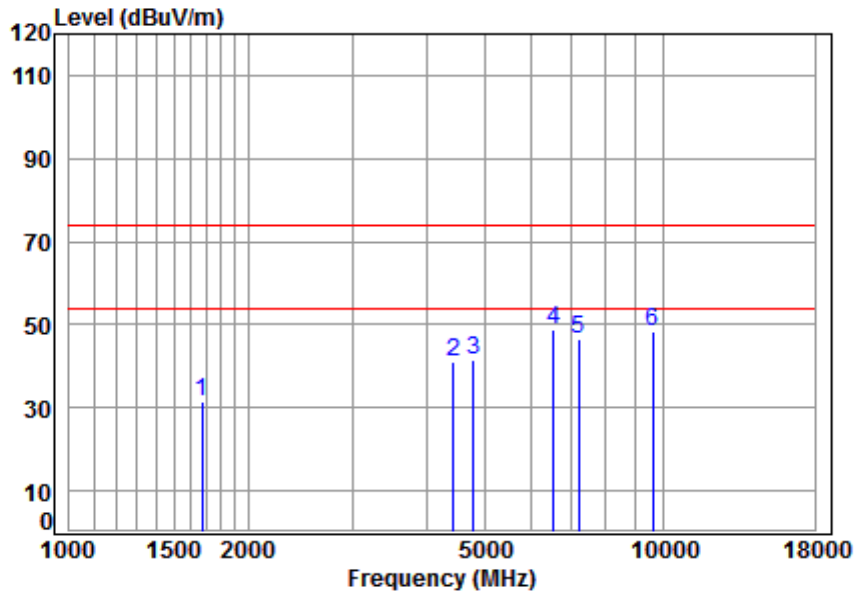


Condition: 3m HORIZONTAL
Job No. : 06244RG
Test mode: j

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	32.86	0.60	20.92	27.66	26.98	20.84	40.00	-19.16
2	43.51	0.68	16.26	27.62	31.90	21.22	40.00	-18.78
3 pp	160.91	1.34	15.52	27.52	35.83	25.17	43.50	-18.33
4	171.39	1.36	15.73	27.52	35.43	25.00	43.50	-18.50
5	597.22	2.70	26.55	27.71	24.75	26.29	46.00	-19.71
6	972.34	3.67	30.17	26.85	23.77	30.76	54.00	-23.24

4.10.2 Transmitter Emission above 1GHz

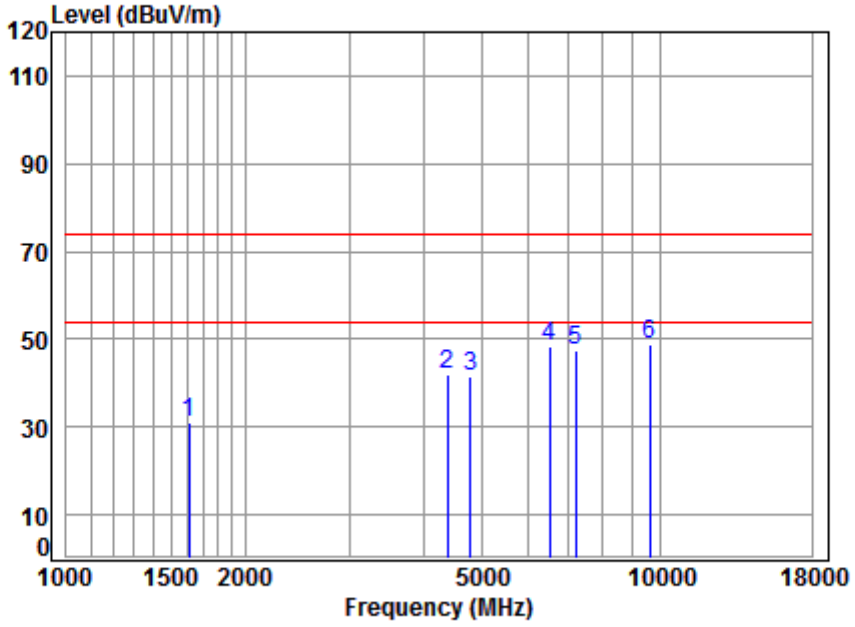
Test mode:	GFSK(DH5)	Test channel:	Lowest	Remark:	Peak	Vertical



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 2402 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	5.26	26.56	41.52	41.09	31.39	74.00	-42.61	peak
2	4443.453	7.50	33.50	42.41	42.53	41.12	74.00	-32.88	peak
3	4804.000	7.89	33.97	42.47	42.13	41.52	74.00	-32.48	peak
4 pp	6545.263	11.41	35.63	41.18	42.75	48.61	74.00	-25.39	peak
5	7206.000	10.08	36.07	40.71	41.31	46.75	74.00	-27.25	peak
6	9608.000	10.75	37.67	37.74	37.58	48.26	74.00	-25.74	peak

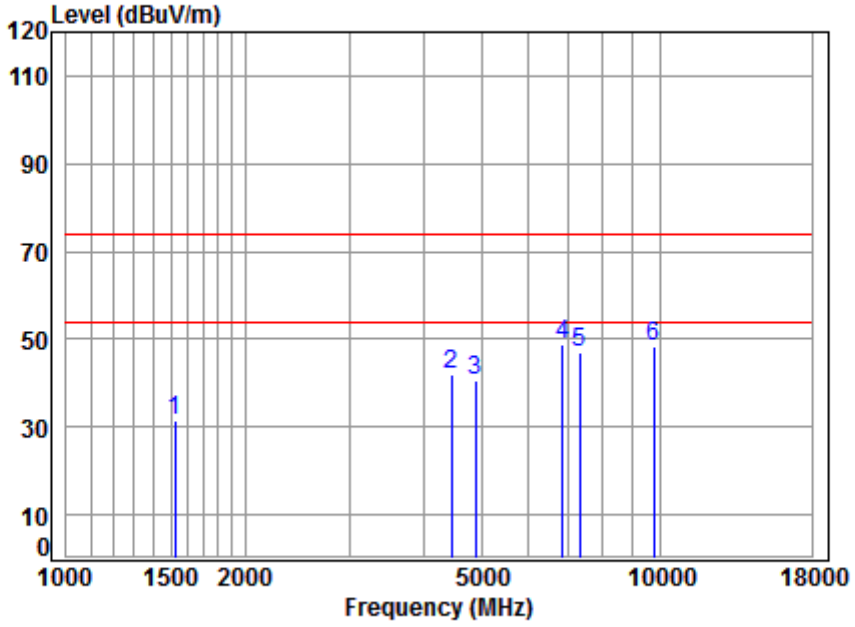
Test mode:	GFSK(DH5)	Test channel:	Lowest	Remark:	Peak	Horizontal



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 2402 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1611.091	5.34	26.30	41.48	40.78	30.94	74.00	-43.06	peak
2	4379.699	7.43	33.39	42.40	43.64	42.06	74.00	-31.94	peak
3	4804.000	7.89	33.97	42.47	42.08	41.47	74.00	-32.53	peak
4	6507.536	11.52	35.60	41.21	42.59	48.50	74.00	-25.50	peak
5	7206.000	10.08	36.07	40.71	42.04	47.48	74.00	-26.52	peak
6 pp	9608.000	10.75	37.67	37.74	38.14	48.82	74.00	-25.18	peak

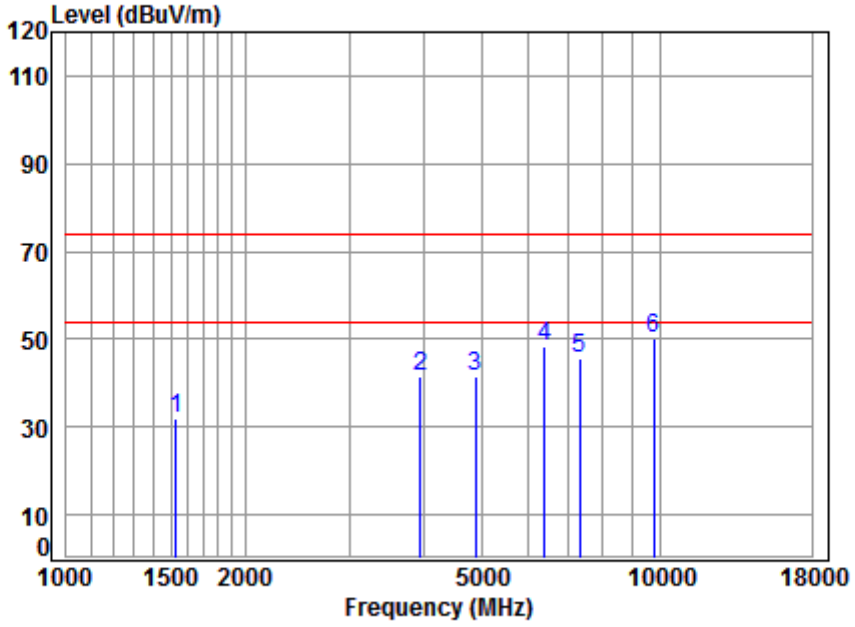
Test mode:	GFSK(DH5)	Test channel:	Middle	Remark:	Peak	Vertical



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 2441 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1525.000	5.45	25.91	41.42	41.51	31.45	74.00	-42.55	peak
2	4456.315	7.51	33.53	42.41	43.16	41.79	74.00	-32.21	peak
3	4882.000	7.97	34.06	42.48	41.22	40.77	74.00	-33.23	peak
4 pp	6855.063	10.53	35.82	40.96	43.33	48.72	74.00	-25.28	peak
5	7323.000	10.05	36.16	40.63	41.42	47.00	74.00	-27.00	peak
6	9764.000	10.82	37.76	37.52	37.39	48.45	74.00	-25.55	peak

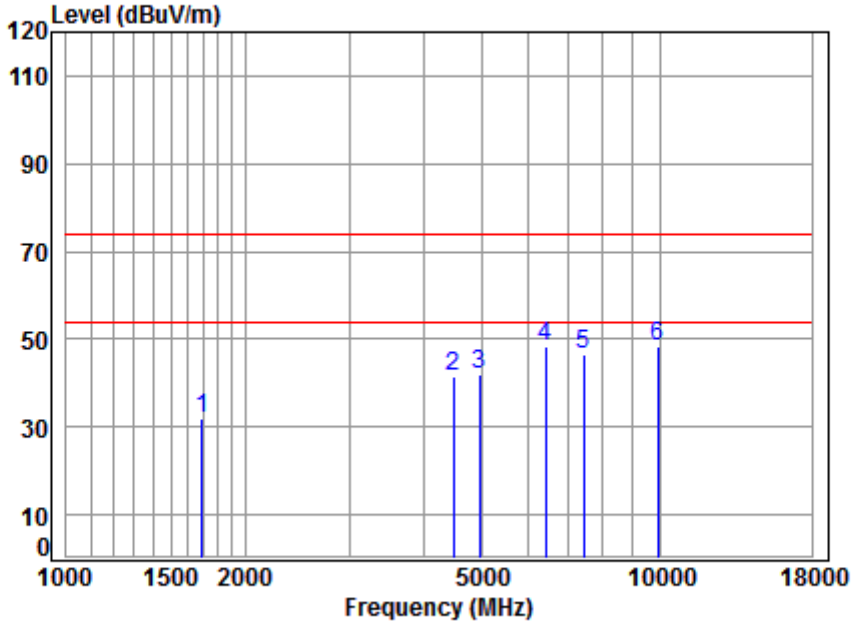
Test mode:	GFSK(DH5)	Test channel:	Middle	Remark:	Peak	Horizontal



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 2441 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1529.414	5.44	25.94	41.43	42.12	32.07	74.00	-41.93	peak
2	3946.885	6.93	32.60	42.31	44.42	41.64	74.00	-32.36	peak
3	4882.000	7.97	34.06	42.48	41.82	41.37	74.00	-32.63	peak
4	6395.654	11.34	35.50	41.30	42.85	48.39	74.00	-25.61	peak
5	7323.000	10.05	36.16	40.63	40.26	45.84	74.00	-28.16	peak
6 pp	9764.000	10.82	37.76	37.52	38.95	50.01	74.00	-23.99	peak

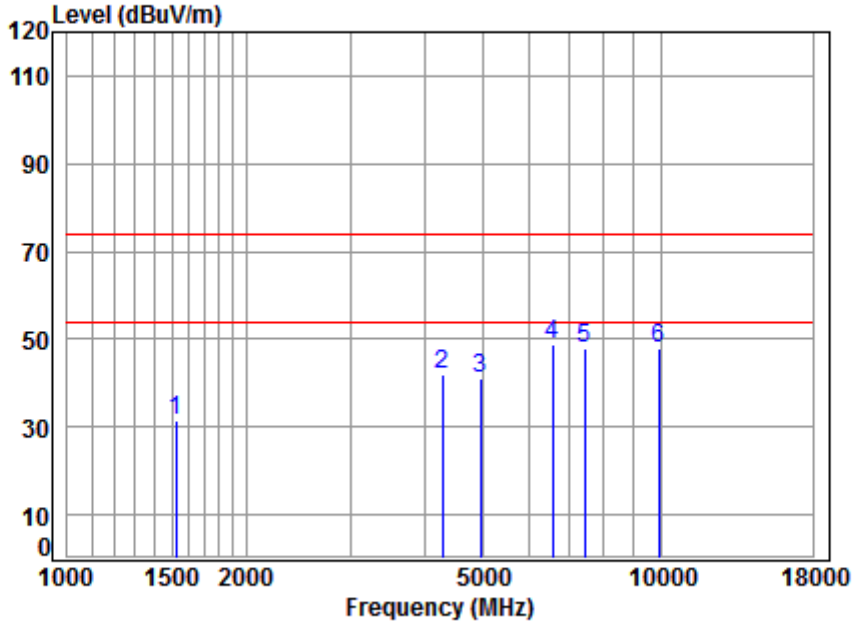
Test mode:	GFSK(DH5)	Test channel:	Highest	Remark:	Peak	Vertical



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 2480 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	5.24	26.64	41.53	41.61	31.96	74.00	-42.04	peak
2	4495.125	7.55	33.59	42.42	42.70	41.42	74.00	-32.58	peak
3	4960.000	8.05	34.15	42.49	42.26	41.97	74.00	-32.03	peak
4 pp	6414.167	11.38	35.52	41.28	42.75	48.37	74.00	-25.63	peak
5	7440.000	10.02	36.25	40.56	40.92	46.63	74.00	-27.37	peak
6	9920.000	10.90	37.85	37.31	36.92	48.36	74.00	-25.64	peak

Test mode:	GFSK(DH5)	Test channel:	Highest	Remark:	Peak	Horizontal



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 2480 RSE
Note : BT

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1525.000	5.45	25.91	41.42	41.55	31.49	74.00	-42.51	peak
2	4291.977	7.33	33.24	42.38	43.84	42.03	74.00	-31.97	peak
3	4960.000	8.05	34.15	42.49	41.30	41.01	74.00	-32.99	peak
4 pp	6564.209	11.35	35.64	41.17	42.88	48.70	74.00	-25.30	peak
5	7440.000	10.02	36.25	40.56	42.19	47.90	74.00	-26.10	peak
6	9920.000	10.90	37.85	37.31	36.41	47.85	74.00	-26.15	peak

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. 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. So, only the peak measurements were shown in the report.

4.11 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)
Limit:	

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test Setup:

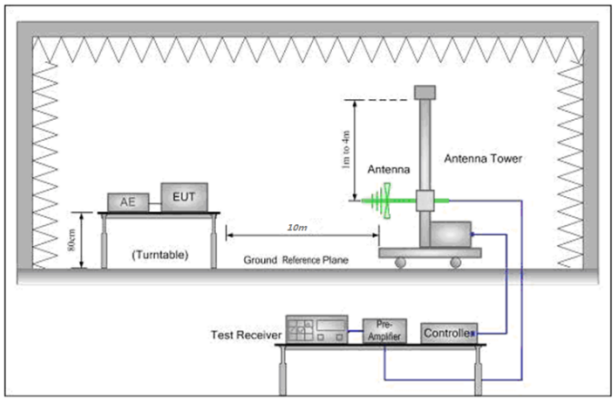


Figure 1. 30MHz to 1GHz

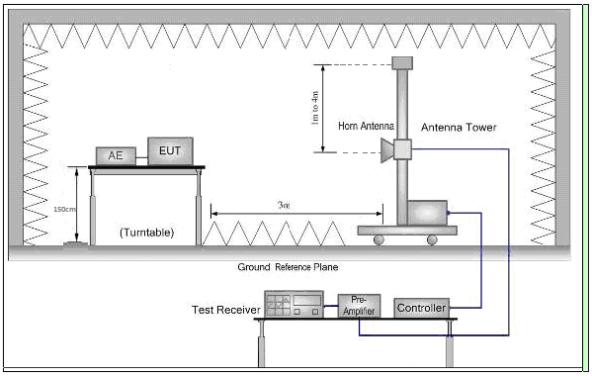


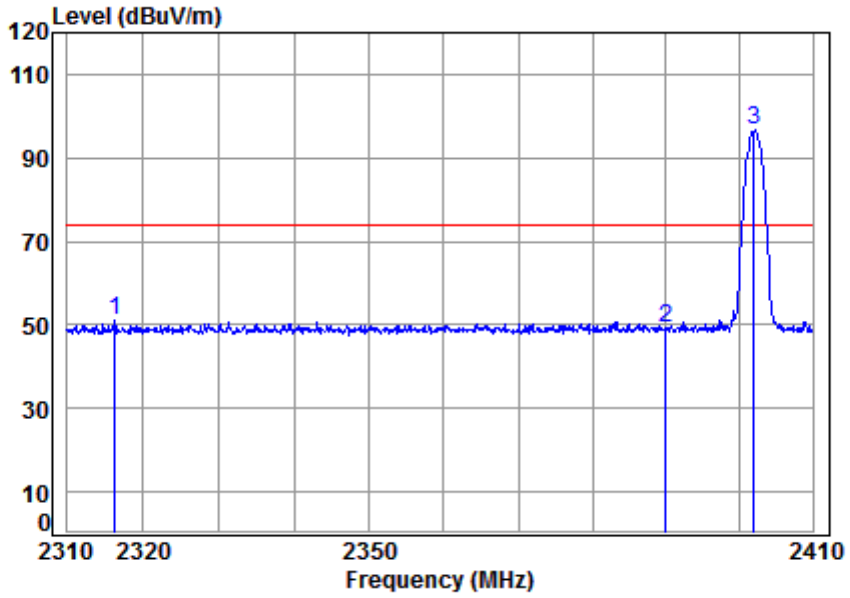
Figure 2. Above 1 GHz

Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height 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. e. 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. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of data type Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the DH5 of data type and GFSK modulation is the worst case. Pretest the EUT at Charge + Transmitting mode, Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

Test plot as follows:

Note： All modulations have been tested, but only the worst data showed in this report.

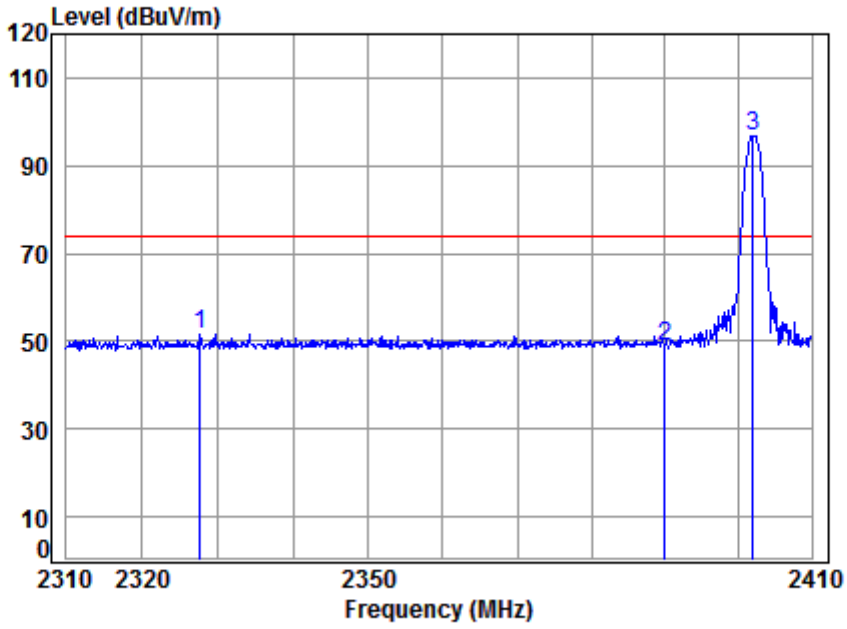
Worse case mode:	GFSK (DH5)	Test channel:	Lowest	Remark:	Peak	Vertical



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 2402 Band edge
Note : BT
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2316.274	5.37	28.39	41.84	59.23	51.15	74.00	-22.85	peak
2	2390.000	5.47	28.52	41.87	57.06	49.18	74.00	-24.82	peak
3 pp	2402.000	5.49	28.54	41.88	104.37	96.52	74.00	22.52	peak

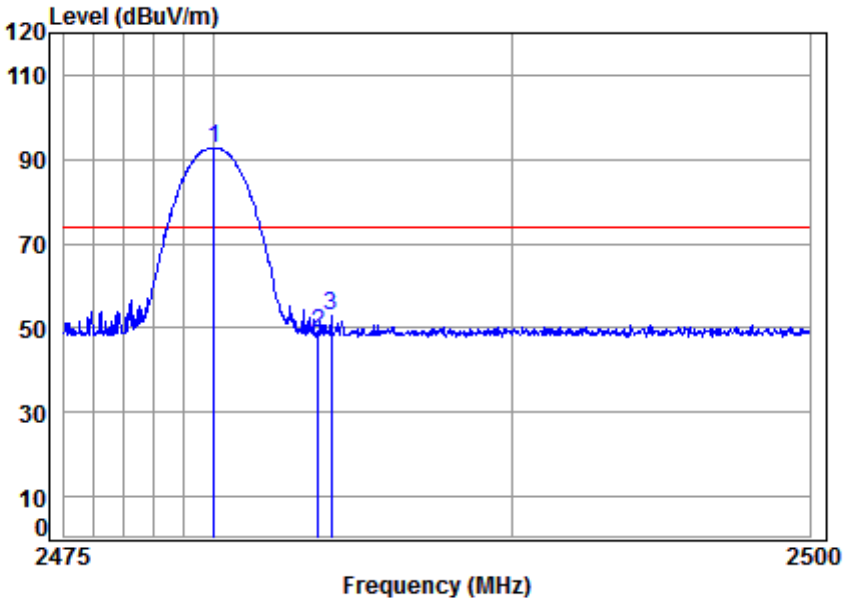
Worse case mode:	GFSK (DH5)	Test channel:	Lowest	Remark:	Peak	Horizontal



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 2402 Band edge
Note : BT
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2327.590	5.39	28.41	41.85	59.78	51.73	74.00	-22.27	peak
2	2390.000	5.47	28.52	41.87	56.68	48.80	74.00	-25.20	peak
3 pp	2402.000	5.49	28.54	41.88	104.70	96.85	74.00	22.85	peak

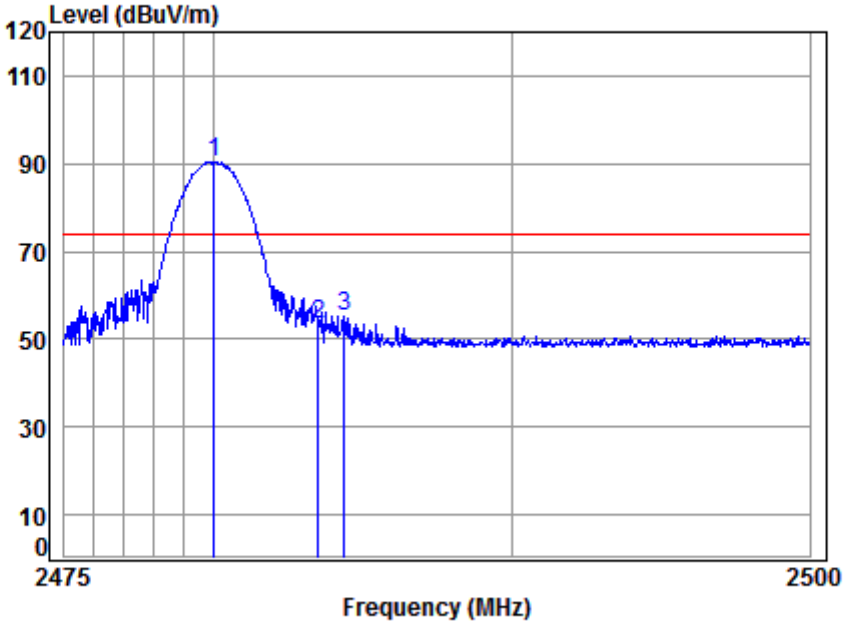
Worse case mode:	GFSK (DH5)	Test channel:	Highest	Remark:	Peak	Vertical



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 2480 Band edge
Note : BT
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	2480.000	5.59	28.67	41.91	100.29	92.64	74.00	18.64	peak
2	2483.500	5.60	28.67	41.91	56.50	48.86	74.00	-25.14	peak
3	2483.921	5.60	28.67	41.91	60.47	52.83	74.00	-21.17	peak

Worse case mode:	GFSK(DH5)	Test channel:	Highest	Remark:	Peak	Horizontal



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 2480 Band edge
Note : BT
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	2480.000	5.59	28.67	41.91	98.12	90.47	74.00	16.47	peak
2	2483.500	5.60	28.67	41.91	60.84	53.20	74.00	-20.80	peak
3	2484.371	5.60	28.67	41.91	63.00	55.36	74.00	-18.64	peak

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

5 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1807006244RG.

The End