

ANNEX A: Test Result

1. Unwanted Emission

There is more than one Adapters, each one should be applied throughout the compliance test respectively, and however, only the worst case (Adapter 1) will be recorded in this report.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in the following table and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

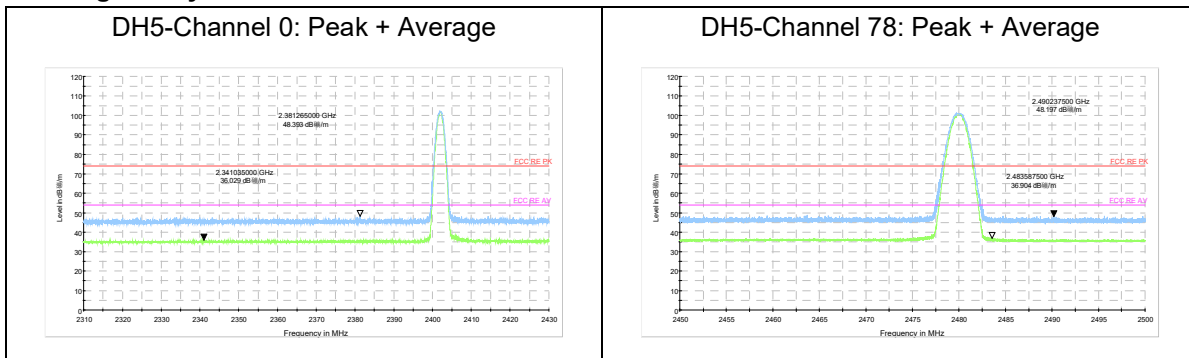
Bluetooth	X axis
-----------	--------

1.1. Bluetooth

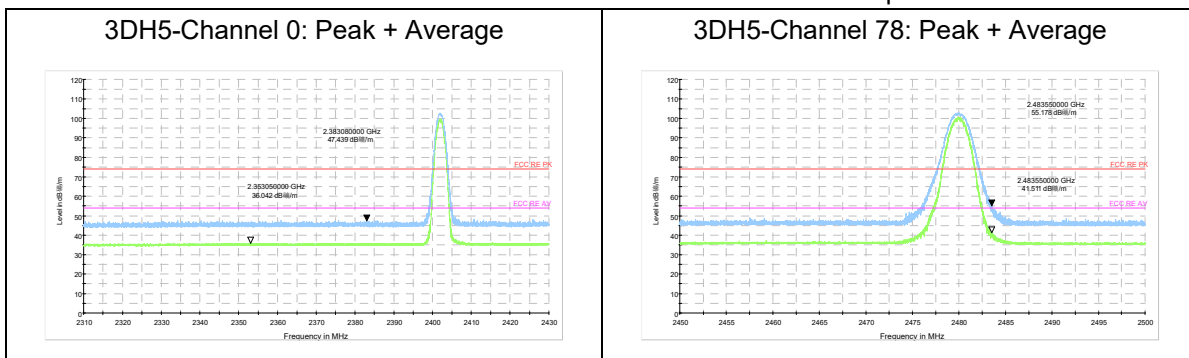
The following graphs display the maximum values of horizontal and vertical by software. Blue trace uses the peak detection, Green trace uses the average detection.

A symbol ($\text{dB}\mu\text{V/m}$) in the test plot below means ($\text{dB}\mu\text{V/m}$)

The signal beyond the limit is carrier.



The bandage was performed in all EDR mode (2DH5 and 3DH5), 3DH5 was selected as the worse condition. The test data of the worst-case condition was recorded in this report.

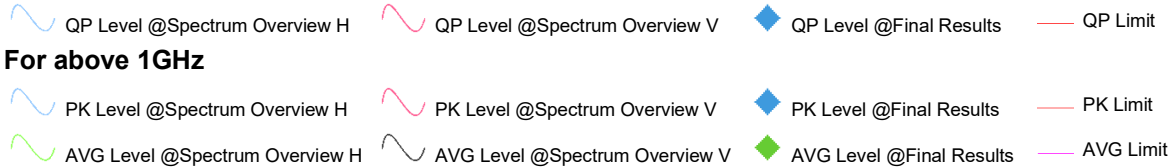


Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier. The Radiates Emission from 9kHz to 30MHz and 18GHz to 26.5GHz are more than 20dB below the limit are not reported.

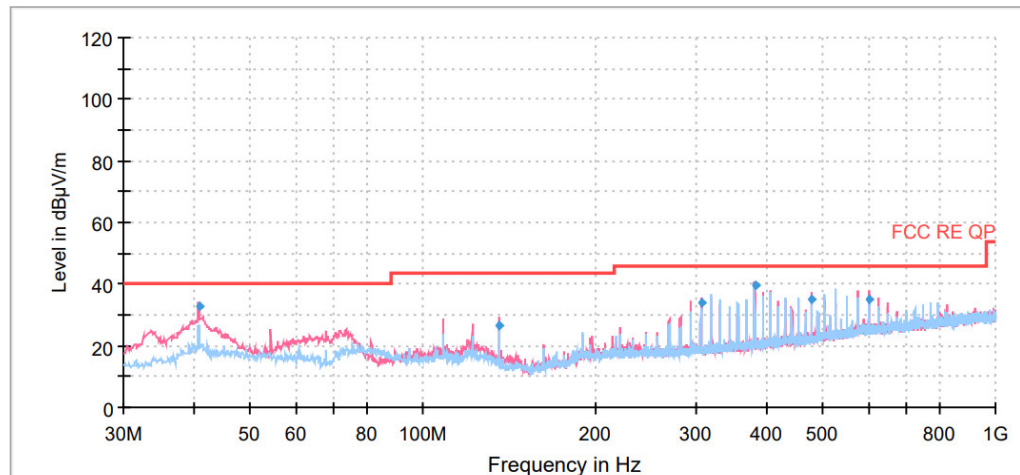
Remark:

1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit – Quasi-Peak/ MAX Peak/ Average**
3. **A symbol (dB μ V/m) in the test plot below means (dB μ V/m)**
4. **The following graphs display the maximum values of horizontal and vertical by software.**
5. **For below 1GHz**



Continuous TX mode:

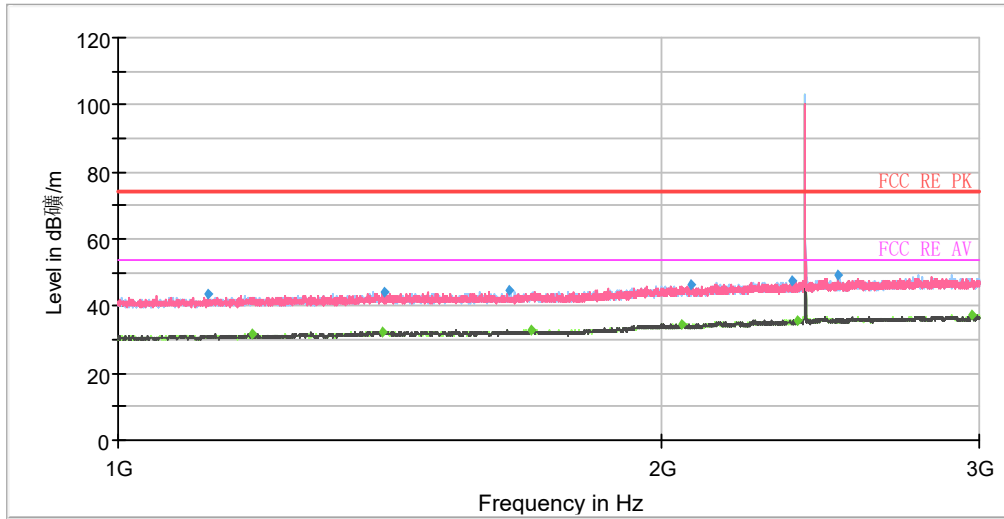
During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
38.73	24.99	40.00	15.01	102.0	V	338.00	19
108.49	25.89	43.50	17.61	101.0	V	230.00	18
135.61	26.59	43.50	16.91	101.0	V	242.00	15
306.53	32.85	46.00	13.15	101.0	V	280.00	21
380.21	40.00	46.00	6.00	124.0	V	132.00	23
551.82	35.19	46.00	10.81	183.0	H	212.00	26

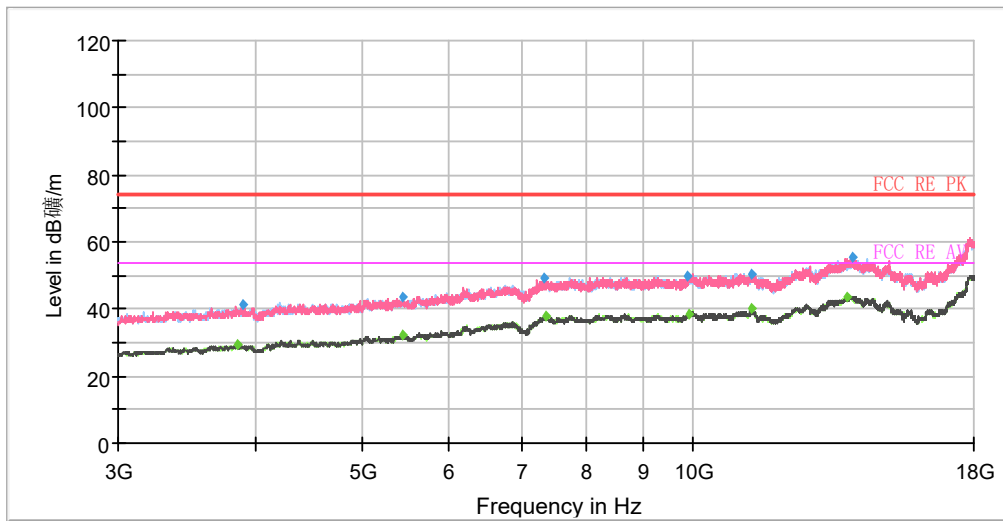
DH5-Channel 0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

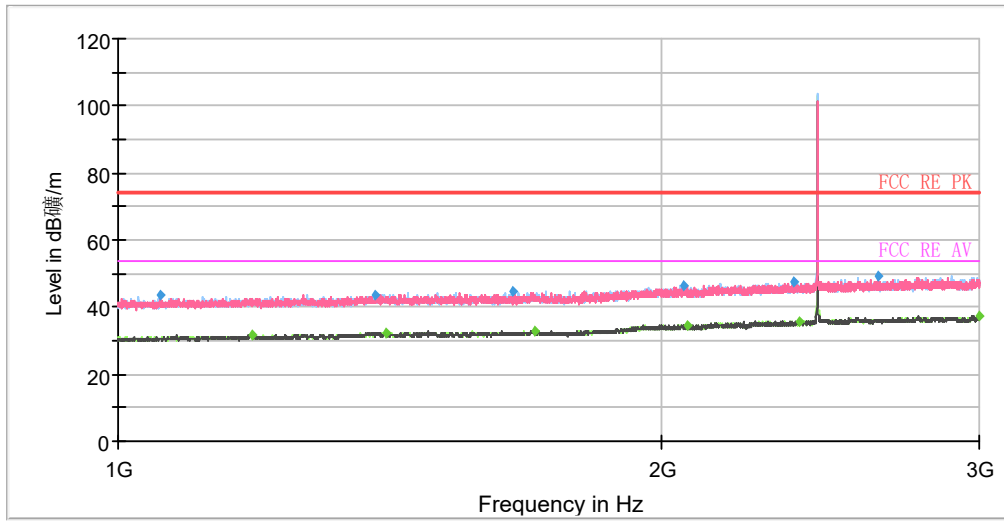
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1122.00	43.69	---	74.00	30.31	500.00	100.0	V	8.00	-4
1186.75	---	31.60	54.00	22.40	500.00	100.0	V	4.00	-4
1402.25	---	32.39	54.00	21.61	500.00	200.0	H	8.00	-3
1404.75	44.16	---	74.00	29.84	500.00	100.0	V	187.00	-3
1645.50	44.70	---	74.00	29.30	500.00	100.0	H	353.00	-2
1692.75	---	32.74	54.00	21.26	500.00	100.0	H	0.00	-2
2052.25	---	34.67	54.00	19.33	500.00	200.0	H	0.00	1
2076.00	46.21	---	74.00	27.79	500.00	200.0	V	334.00	0
2359.75	47.45	---	74.00	26.55	500.00	200.0	V	358.00	2
2377.75	---	35.88	54.00	18.12	500.00	200.0	V	84.00	2
2506.00	49.50	---	74.00	24.50	500.00	200.0	V	358.00	2
2972.00	---	37.34	54.00	16.66	500.00	100.0	H	196.00	4



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3851.25	---	29.23	54.00	24.77	500.00	100.0	H	96.00	-4
3898.13	41.28	---	74.00	32.72	500.00	200.0	H	234.00	-4
5441.25	43.49	---	74.00	30.51	500.00	100.0	H	355.00	0
5445.00	---	32.08	54.00	21.92	500.00	200.0	V	341.00	0
7308.75	49.03	---	74.00	24.97	500.00	100.0	H	35.00	5
7340.63	---	37.71	54.00	16.29	500.00	100.0	H	346.00	5
9883.13	50.02	---	74.00	23.98	500.00	200.0	H	3.00	7
9903.75	---	38.67	54.00	15.33	500.00	100.0	H	359.00	7
11295.00	50.47	---	74.00	23.53	500.00	200.0	H	337.00	9
11315.63	---	39.91	54.00	14.09	500.00	200.0	H	172.00	9
13809.38	---	43.37	54.00	10.63	500.00	200.0	H	0.00	12
13942.50	55.46	---	74.00	18.54	500.00	200.0	V	0.00	12

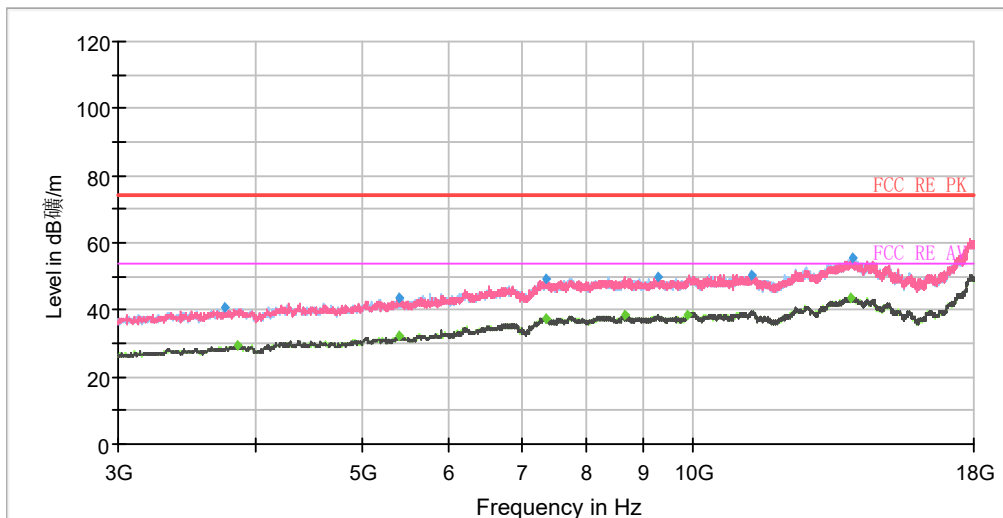
DH5-Channel 39



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1056.00	43.64	---	74.00	30.36	500.00	200.0	V	0.00	-5
1187.50	---	31.58	54.00	22.42	500.00	200.0	H	283.00	-4
1388.50	43.79	---	74.00	30.21	500.00	200.0	H	211.00	-3
1408.75	---	32.48	54.00	21.52	500.00	100.0	V	7.00	-3
1655.00	44.67	---	74.00	29.33	500.00	200.0	H	143.00	-2
1703.00	---	32.81	54.00	21.19	500.00	100.0	H	12.00	-2
2057.25	46.38	---	74.00	27.62	500.00	100.0	V	7.00	1
2065.50	---	34.63	54.00	19.37	500.00	200.0	H	311.00	1
2369.75	47.55	---	74.00	26.45	500.00	200.0	H	10.00	2
2384.25	---	35.65	54.00	18.35	500.00	200.0	V	342.00	2
2635.75	49.17	---	74.00	24.83	500.00	100.0	V	354.00	2
2999.75	---	37.23	54.00	16.77	500.00	200.0	V	20.00	4

Note: The signal beyond the limit is carrier.

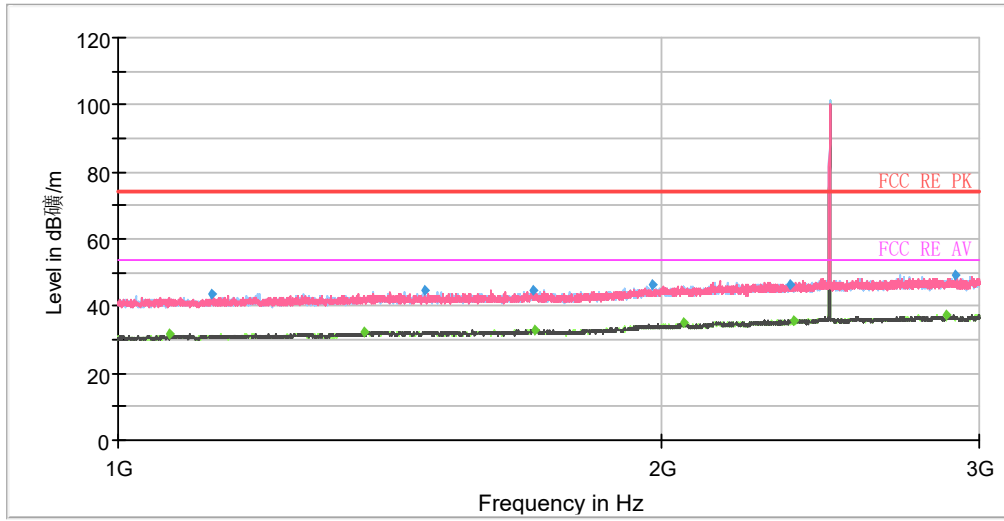
Radiates Emission from 1GHz to 3GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3753.75	40.50	---	74.00	33.50	500.00	100.0	V	1.00	-5
3855.00	---	29.60	54.00	24.40	500.00	100.0	V	169.00	-4
5411.25	43.51	---	74.00	30.49	500.00	200.0	V	191.00	0
5411.25	---	32.24	54.00	21.76	500.00	100.0	H	357.00	0
7344.38	---	37.51	54.00	16.49	500.00	200.0	V	96.00	5
7344.38	49.17	---	74.00	24.83	500.00	200.0	H	249.00	5
8656.88	---	38.25	54.00	15.75	500.00	200.0	H	295.00	7
9300.00	50.00	---	74.00	24.00	500.00	200.0	V	295.00	7
9896.25	---	38.75	54.00	15.25	500.00	200.0	V	266.00	7
11315.63	50.38	---	74.00	23.62	500.00	200.0	H	34.00	9
13903.13	---	43.80	54.00	10.20	500.00	100.0	H	204.00	12
13981.88	55.36	---	74.00	18.65	500.00	100.0	V	78.00	12

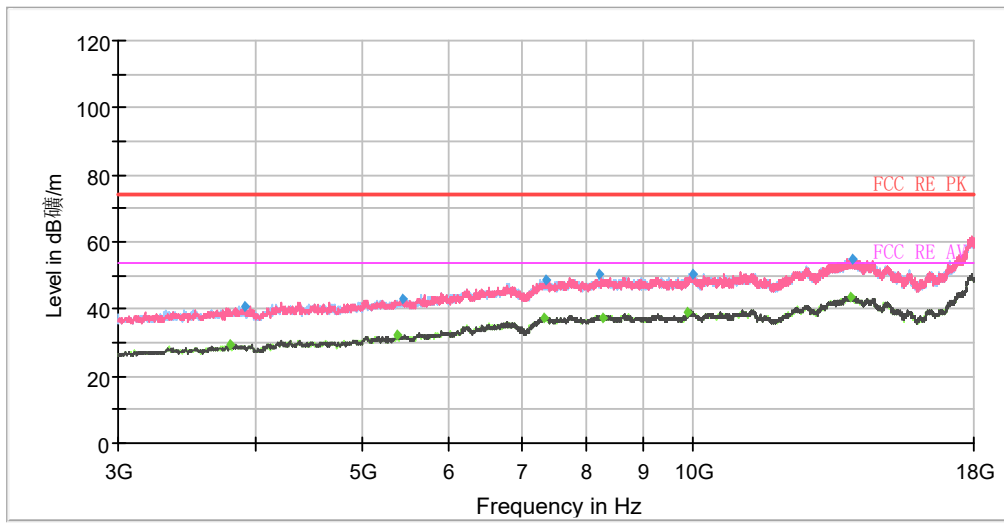
Radiates Emission from 3GHz to 18GHz

DH5-Channel 78



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1068.75	---	31.70	54.00	22.30	500.00	200.0	V	331.00	-5
1126.50	43.55	---	74.00	30.45	500.00	100.0	H	344.00	-4
1368.00	---	32.46	54.00	21.54	500.00	200.0	H	47.00	-3
1478.25	44.87	---	74.00	29.13	500.00	100.0	H	0.00	-3
1697.00	44.71	---	74.00	29.29	500.00	200.0	V	292.00	-2
1702.50	---	32.95	54.00	21.05	500.00	100.0	V	217.00	-2
1978.50	46.15	---	74.00	27.85	500.00	100.0	H	338.00	0
2059.25	---	35.04	54.00	18.96	500.00	100.0	H	344.00	1
2356.00	46.64	---	74.00	27.36	500.00	100.0	V	104.00	2
2370.50	---	35.73	54.00	18.27	500.00	200.0	V	354.00	2
2879.00	---	37.34	54.00	16.66	500.00	100.0	H	225.00	3
2912.25	49.20	---	74.00	24.80	500.00	100.0	V	3.00	3

Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

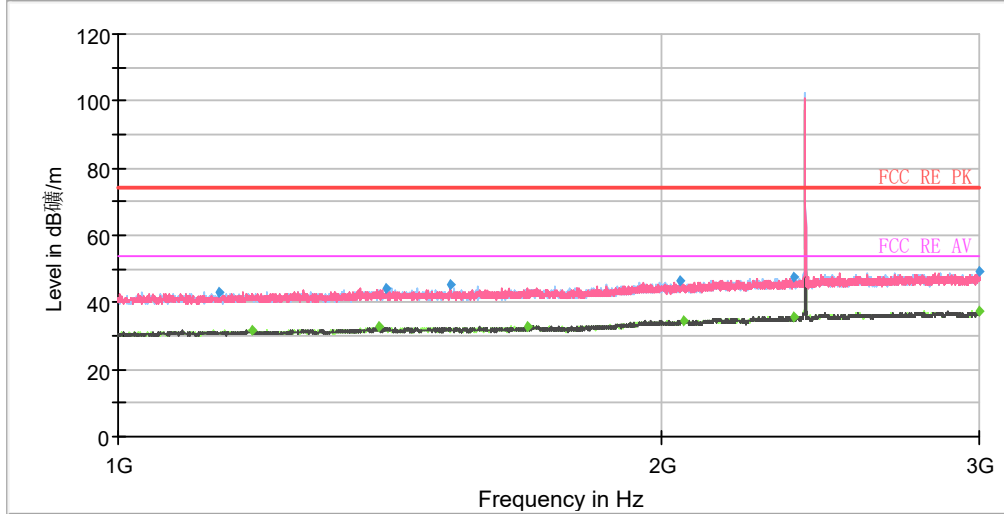


Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3795.00	---	29.37	54.00	24.63	500.00	100.0	H	354.00	-5
3907.50	40.88	---	74.00	33.12	500.00	100.0	V	116.00	-4
5373.75	---	31.98	54.00	22.02	500.00	100.0	H	0.00	0
5441.25	42.74	---	74.00	31.26	500.00	200.0	V	50.00	0
7325.63	---	37.64	54.00	16.36	500.00	200.0	V	0.00	5
7340.63	48.89	---	74.00	25.11	500.00	100.0	V	37.00	5
8210.63	50.28	---	74.00	23.72	500.00	100.0	H	351.00	7
8281.88	---	37.59	54.00	16.41	500.00	100.0	H	100.00	6
9890.63	---	38.81	54.00	15.19	500.00	100.0	V	0.00	7
10008.75	50.36	---	74.00	23.64	500.00	200.0	V	0.00	7
13927.50	---	43.85	54.00	10.15	500.00	100.0	H	336.00	12
13951.88	55.14	---	74.00	18.86	500.00	200.0	H	42.00	12

Radiates Emission from 3GHz to 18GHz

The Radiates Emission was performed in all EDR mode (2DH5 and 3DH5), 3DH5 was selected as the worse condition. The test data of the worst-case condition was recorded in this report.

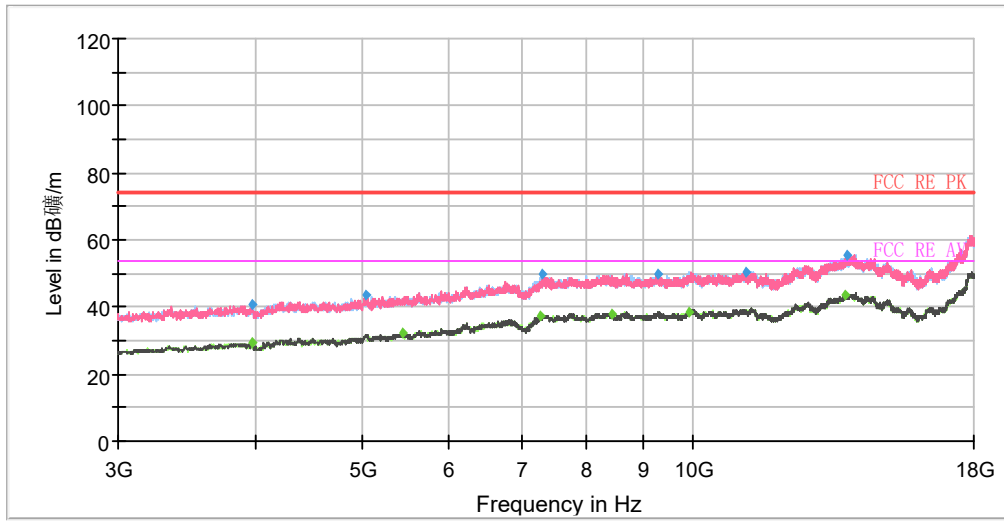
3DH5-Channel 0



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1136.25	43.01	---	74.00	30.99	500.00	200.0	H	286.00	-4
1186.25	---	31.71	54.00	22.29	500.00	100.0	H	248.00	-4
1394.25	---	32.63	54.00	21.37	500.00	100.0	H	320.00	-3
1407.50	44.04	---	74.00	29.96	500.00	100.0	V	10.00	-3
1526.50	45.00	---	74.00	29.00	500.00	100.0	V	202.00	-2
1686.00	---	32.97	54.00	21.03	500.00	200.0	H	3.00	-2
2045.50	46.29	---	74.00	27.71	500.00	200.0	H	0.00	1
2059.50	---	34.73	54.00	19.27	500.00	100.0	H	355.00	1
2366.00	---	35.70	54.00	18.30	500.00	100.0	V	104.00	2
2367.75	47.55	---	74.00	26.45	500.00	200.0	V	0.00	2
2997.50	---	37.50	54.00	16.50	500.00	100.0	V	53.00	4
2997.75	49.09	---	74.00	24.91	500.00	100.0	H	0.00	4

Note: The signal beyond the limit is carrier.

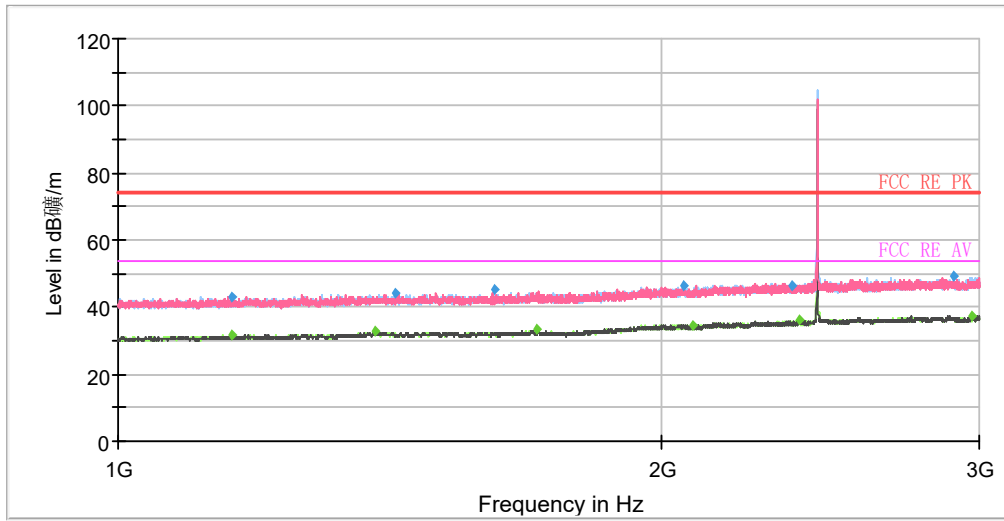
Radiates Emission from 1GHz to 3GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3965.63	---	29.45	54.00	24.55	500.00	100.0	V	9.00	-4
3978.75	40.56	---	74.00	33.44	500.00	200.0	H	151.00	-4
5036.25	43.43	---	74.00	30.57	500.00	100.0	H	192.00	0
5441.25	---	32.02	54.00	21.98	500.00	200.0	H	295.00	0
7267.50	---	37.45	54.00	16.55	500.00	200.0	H	3.00	5
7305.00	49.53	---	74.00	24.47	500.00	200.0	H	6.00	6
8439.38	---	37.94	54.00	16.06	500.00	100.0	V	126.00	6
9298.13	49.85	---	74.00	24.15	500.00	200.0	V	347.00	7
9905.63	---	38.76	54.00	15.24	500.00	200.0	H	0.00	7
11156.25	50.40	---	74.00	23.60	500.00	200.0	V	80.00	9
13741.88	---	43.55	54.00	10.45	500.00	200.0	V	358.00	12
13788.75	55.44	---	74.00	18.56	500.00	200.0	V	297.00	12

Radiates Emission from 3GHz to 18GHz

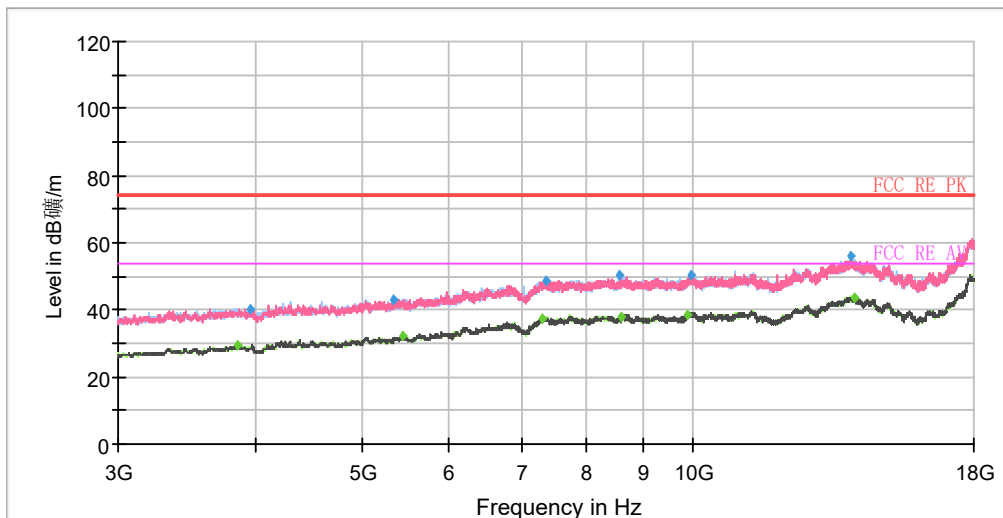
3DH5-Channel 39



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1155.75	---	31.58	54.00	22.42	500.00	200.0	H	45.00	-4
1157.25	43.26	---	74.00	30.74	500.00	100.0	V	9.00	-4
1388.50	---	32.57	54.00	21.43	500.00	100.0	H	356.00	-3
1422.75	43.88	---	74.00	30.12	500.00	200.0	H	22.00	-3
1617.50	45.17	---	74.00	28.83	500.00	200.0	H	0.00	-2
1704.00	---	33.21	54.00	20.79	500.00	100.0	H	306.00	-2
2057.75	46.21	---	74.00	27.79	500.00	100.0	V	233.00	1
2079.75	---	34.54	54.00	19.46	500.00	100.0	H	324.00	0
2363.75	46.57	---	74.00	27.43	500.00	200.0	V	59.00	2
2385.75	---	36.01	54.00	17.99	500.00	100.0	V	1.00	2
2905.50	49.25	---	74.00	24.75	500.00	100.0	H	20.00	3
2974.00	---	37.32	54.00	16.68	500.00	100.0	H	282.00	4

Note: The signal beyond the limit is carrier.

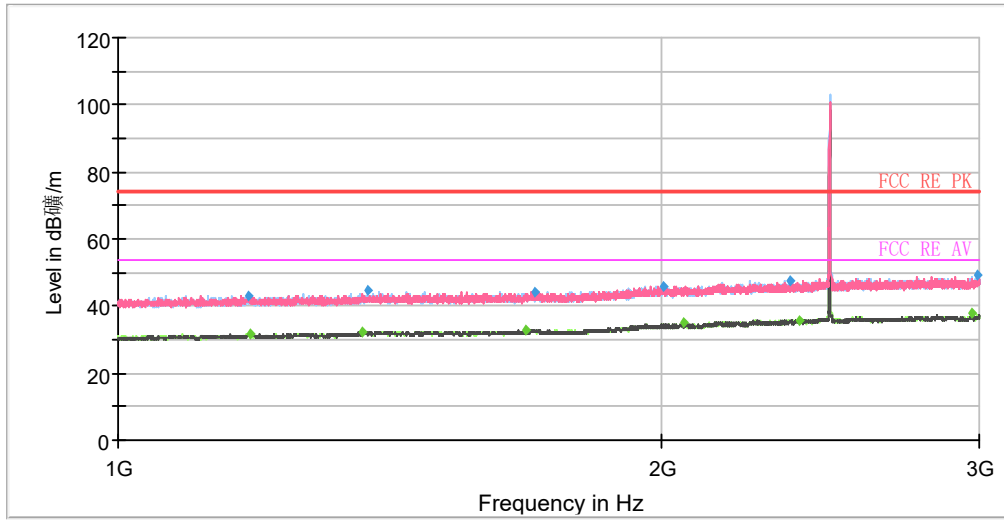
Radiates Emission from 1GHz to 3GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3845.63	---	29.62	54.00	24.38	500.00	100.0	H	202.00	-4
3960.00	40.45	---	74.00	33.55	500.00	200.0	V	82.00	-4
5343.75	43.04	---	74.00	30.96	500.00	200.0	H	14.00	0
5445.00	---	32.08	54.00	21.92	500.00	200.0	H	44.00	0
7297.50	---	37.50	54.00	16.50	500.00	200.0	V	265.00	6
7340.63	48.73	---	74.00	25.27	500.00	100.0	V	338.00	5
8553.75	50.18	---	74.00	23.82	500.00	100.0	H	50.00	6
8613.75	---	37.68	54.00	16.32	500.00	200.0	H	4.00	7
9898.13	---	38.77	54.00	15.23	500.00	100.0	V	55.00	7
9961.88	50.41	---	74.00	23.59	500.00	200.0	V	305.00	7
13933.13	56.08	---	74.00	17.92	500.00	100.0	V	0.00	12
14026.88	---	43.38	54.00	10.62	500.00	200.0	V	353.00	12

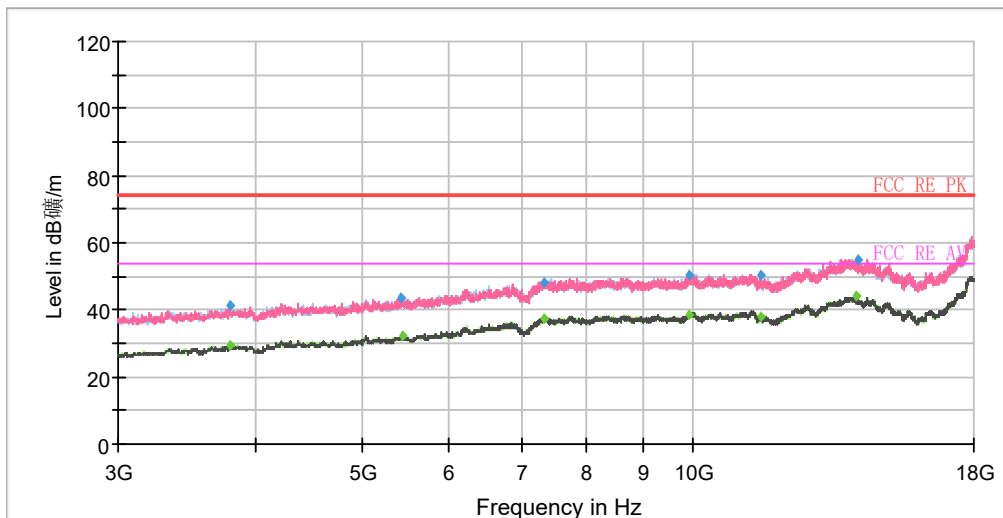
Radiates Emission from 3GHz to 18GHz

3DH5-Channel 78



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1180.50	43.26	---	74.00	30.74	500.00	100.0	V	4.00	-4
1183.50	---	31.73	54.00	22.27	500.00	200.0	V	20.00	-4
1365.75	---	32.35	54.00	21.65	500.00	100.0	H	292.00	-3
1375.75	44.75	---	74.00	29.25	500.00	100.0	H	5.00	-3
1680.25	---	32.97	54.00	21.03	500.00	100.0	H	356.00	-2
1701.50	44.35	---	74.00	29.65	500.00	200.0	H	214.00	-2
2003.50	46.05	---	74.00	27.95	500.00	200.0	H	2.00	1
2057.50	---	34.81	54.00	19.19	500.00	100.0	H	358.00	1
2357.50	47.27	---	74.00	26.73	500.00	200.0	V	142.00	2
2383.25	---	35.84	54.00	18.16	500.00	100.0	V	91.00	2
2971.25	---	37.69	54.00	16.31	500.00	100.0	V	12.00	4
2993.50	49.01	---	74.00	24.99	500.00	100.0	H	304.00	4

Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3795.00	41.17	---	74.00	32.83	500.00	200.0	V	13.00	-5
3796.88	---	29.23	54.00	24.77	500.00	100.0	H	347.00	-5
5420.63	43.40	---	74.00	30.60	500.00	100.0	V	17.00	0
5443.13	---	32.31	54.00	21.69	500.00	200.0	H	103.00	0
7310.63	48.19	---	74.00	25.81	500.00	100.0	V	4.00	5
7325.63	---	37.61	54.00	16.39	500.00	200.0	V	342.00	5
9903.75	---	38.64	54.00	15.36	500.00	100.0	H	269.00	7
9937.50	50.25	---	74.00	23.75	500.00	200.0	H	73.00	7
11503.13	---	38.17	54.00	15.83	500.00	100.0	H	319.00	9
11505.00	50.30	---	74.00	23.70	500.00	200.0	V	328.00	9
14068.13	---	44.10	54.00	9.90	500.00	200.0	V	269.00	12
14115.00	55.01	---	74.00	18.99	500.00	200.0	V	359.00	12

Radiates Emission from 3GHz to 18GHz

2. Conducted Emission

2.1. Bluetooth

During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	AVG Level [dBμV]	AVG: CAV Limit [dBμV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.191				30.53	54.01	23.48	21.02	L1	9.000	1.000
0.287	44.75	60.60	15.85				20.95	L1	9.000	1.000
0.476	40.52	56.40	15.88				20.80	L1	9.000	1.000
0.769				24.43	46.00	21.57	20.36	L1	9.000	1.000
1.536				23.72	46.00	22.28	19.82	L1	9.000	1.000
1.928	39.32	56.00	16.68				19.67	L1	9.000	1.000
2.198				22.08	46.00	23.92	19.60	L1	9.000	1.000
2.202	37.40	56.00	18.60				19.60	L1	9.000	1.000
9.026	35.51	60.00	24.49				19.41	L1	9.000	1.000
9.143				24.01	50.00	25.99	19.41	L1	9.000	1.000
13.376				20.90	50.00	29.10	19.46	L1	9.000	1.000
24.891	26.47	60.00	33.53				19.80	L1	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.283				25.62	50.73	25.11	20.96	N	9.000	1.000
0.310	39.99	59.98	19.98				20.94	N	9.000	1.000
0.501	38.13	56.00	17.87				20.79	N	9.000	1.000
0.566				24.49	46.00	21.51	20.72	N	9.000	1.000
1.824				22.97	46.00	23.03	19.71	N	9.000	1.000
1.826	37.45	56.00	18.55				19.71	N	9.000	1.000
2.123				21.22	46.00	24.78	19.63	N	9.000	1.000
2.130	34.91	56.00	21.09				19.63	N	9.000	1.000
8.745				22.99	50.00	27.01	19.42	N	9.000	1.000
8.786	34.11	60.00	25.89				19.42	N	9.000	1.000
24.495				19.03	50.00	30.97	19.85	N	9.000	1.000
25.564	28.62	60.00	31.38				19.87	N	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz