

ANNEX A: Test Result

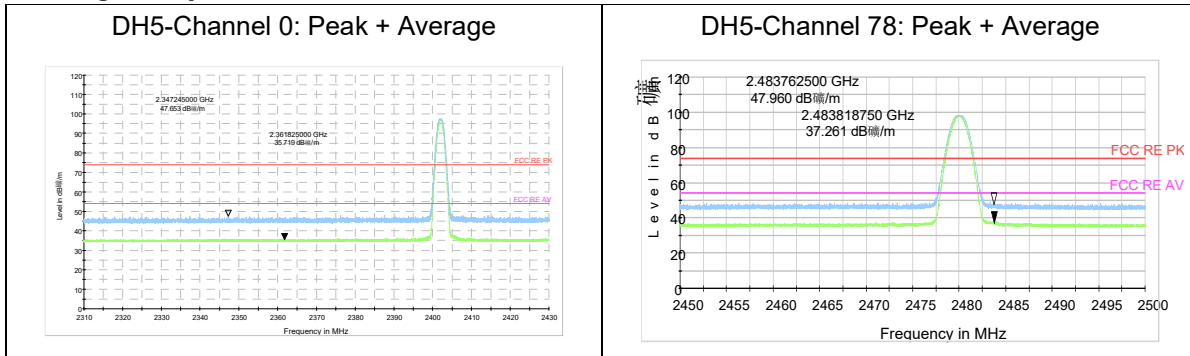
1. Unwanted Emission

1.1. Bluetooth

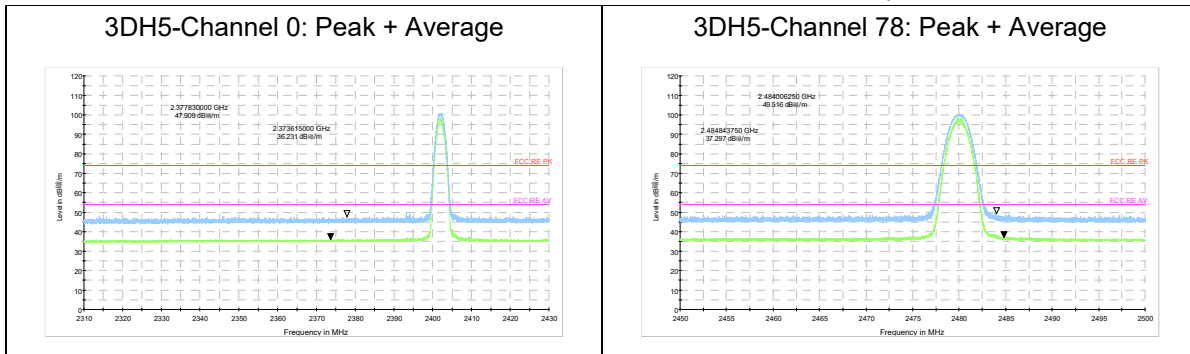
The following graphs display the maximum values of horizontal and vertical by software. Blue trace uses the peak detection, Green trace uses the average detection.

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 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. The following graphs display the maximum values of horizontal and vertical by software.
4. For below 1GHz

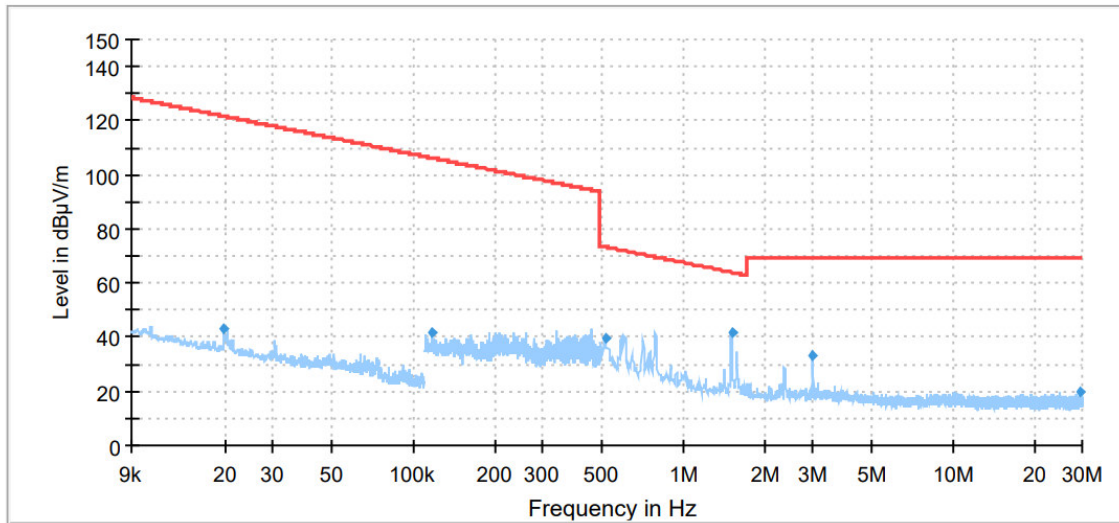
 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

For above 1GHz

 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit
 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

Continuous TX mode:

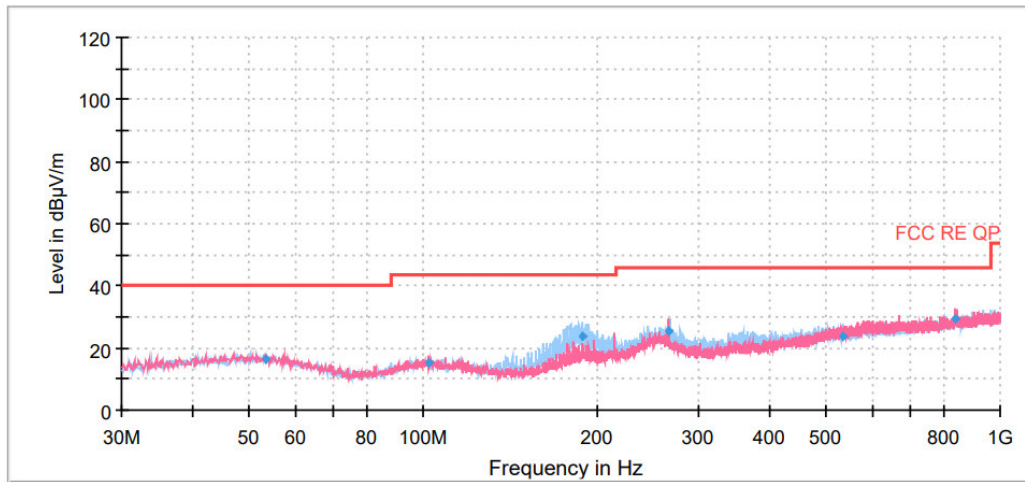
During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition (DH5-Channel 0) was recorded in this report.



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Azimuth (deg)	Corr. (dB/m)
0.02	43.23	121.69	78.46	500.00	173.00	17
0.12	41.91	106.25	64.34	150.00	29.00	17
0.51	39.43	73.42	33.99	150.00	355.00	17
1.51	41.44	64.03	22.58	150.00	187.00	17
3.02	33.04	69.50	36.46	150.00	162.00	17
29.26	20.01	69.50	49.49	150.00	338.00	17

Radiates Emission from 9kHz to 30MHz

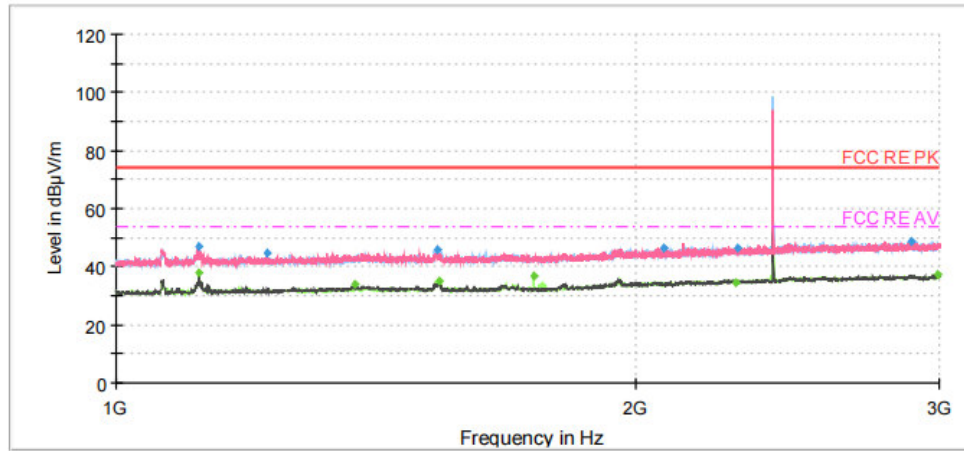


Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
53.28	16.54	---	40.00	23.46	1000.00	100.0	V	336.00	20
102.02	15.09	---	43.50	28.41	1000.00	100.0	V	250.00	19
188.96	23.52	---	43.50	19.98	1000.00	100.0	H	353.00	18
266.56	25.55	---	46.00	20.45	1000.00	176.0	V	1.00	20
531.85	23.53	---	46.00	22.47	1000.00	184.0	H	215.00	26
838.13	29.69	---	46.00	16.31	1000.00	185.0	V	20.00	30

Radiates Emission from 30MHz to 1GHz

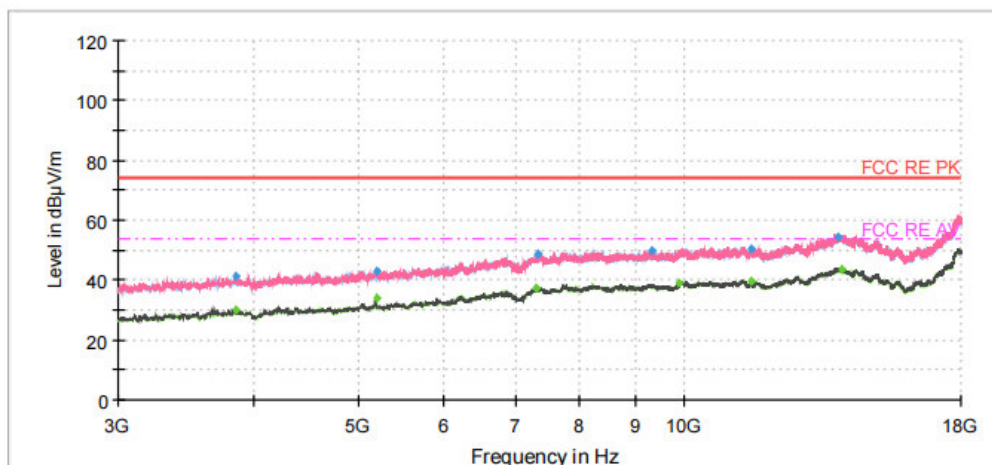
DH5-Channel 0



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.50	---	37.70	54.00	16.30	500.00	200.0	V	128.00	-4
1116.50	47.03	---	74.00	26.97	500.00	200.0	V	128.00	-4
1222.25	44.81	---	74.00	29.19	500.00	200.0	H	352.00	-4
1375.25	---	33.90	54.00	20.10	500.00	200.0	V	25.00	-3
1533.50	45.99	---	74.00	28.01	500.00	200.0	H	61.00	-2
1539.00	---	35.08	54.00	18.92	500.00	100.0	H	130.00	-2
1747.25	---	36.61	54.00	17.39	500.00	200.0	H	0.00	-2
2079.00	46.55	---	74.00	27.45	500.00	100.0	V	86.00	0
2285.00	---	34.76	54.00	19.24	500.00	200.0	H	0.00	2
2291.75	46.53	---	74.00	27.47	500.00	100.0	H	63.00	2
2892.75	48.91	---	74.00	25.09	500.00	200.0	H	308.00	3
2994.00	---	37.30	54.00	16.70	500.00	100.0	H	0.00	4

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

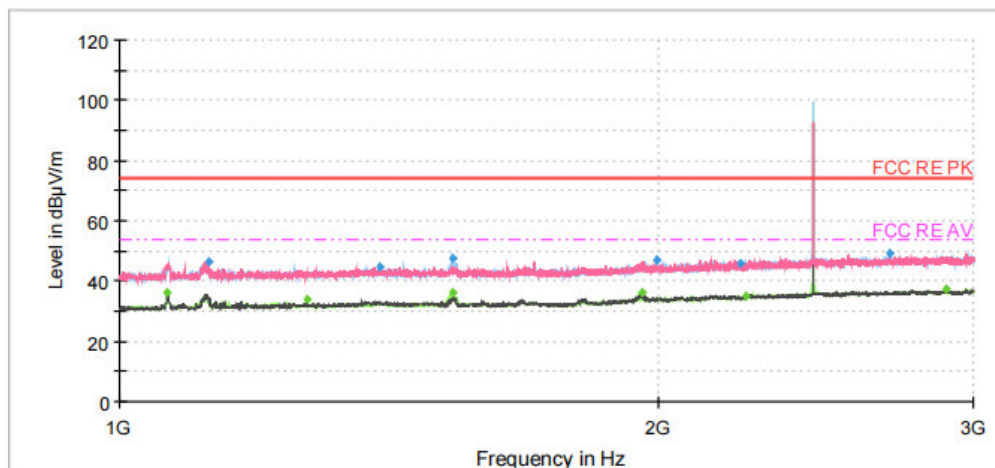


Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3849.38	---	30.22	54.00	23.78	500.00	100.0	H	90.00	-4
3856.88	41.16	---	74.00	32.84	500.00	100.0	H	122.00	-4
5190.00	---	33.73	54.00	20.27	500.00	200.0	V	199.00	0
5193.75	43.20	---	74.00	30.80	500.00	200.0	V	199.00	0
7299.38	---	37.35	54.00	16.65	500.00	200.0	H	0.00	6
7310.63	48.64	---	74.00	25.36	500.00	200.0	H	327.00	5
9311.25	49.68	---	74.00	24.32	500.00	200.0	V	8.00	7
9885.00	---	39.00	54.00	15.00	500.00	100.0	V	266.00	7
11514.38	50.53	---	74.00	23.47	500.00	200.0	V	32.00	9
11533.13	---	39.36	54.00	14.64	500.00	200.0	V	184.00	9
13869.38	54.41	---	74.00	19.59	500.00	100.0	H	90.00	12
13959.38	---	43.81	54.00	10.19	500.00	200.0	V	121.00	12

Radiates Emission from 3GHz to 18GHz

DH5-Channel 39

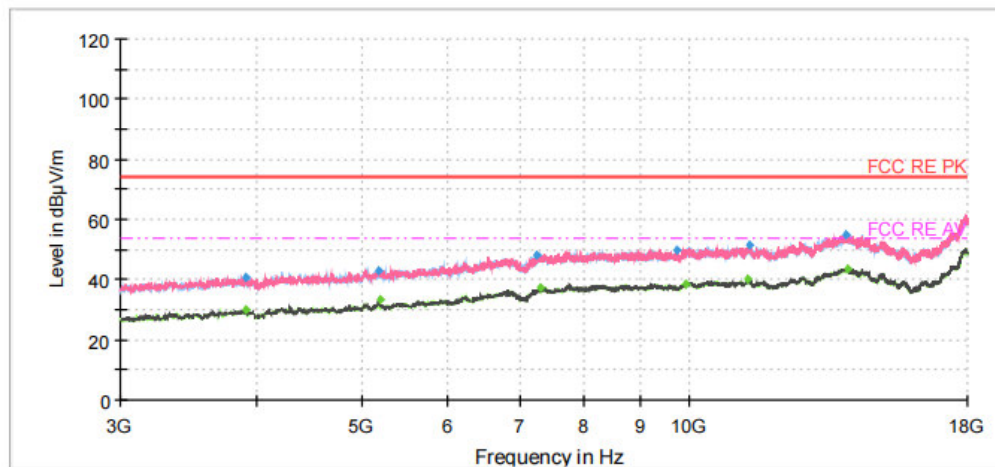


Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1064.00	---	36.12	54.00	17.88	500.00	200.0	V	217.00	-5
1121.50	46.52	---	74.00	27.48	500.00	200.0	H	169.00	-4
1272.50	---	33.80	54.00	20.20	500.00	200.0	V	117.00	-4
1397.25	44.47	---	74.00	29.53	500.00	100.0	H	79.00	-3
1534.50	---	36.05	54.00	17.95	500.00	200.0	H	57.00	-2
1537.00	47.34	---	74.00	26.66	500.00	200.0	H	57.00	-2
1957.50	---	36.17	54.00	17.83	500.00	100.0	V	161.00	0
1993.50	47.19	---	74.00	26.81	500.00	100.0	H	106.00	1
2222.50	45.80	---	74.00	28.20	500.00	100.0	H	120.00	1
2236.75	---	35.19	54.00	18.81	500.00	200.0	V	1.00	1
2696.25	49.09	---	74.00	24.91	500.00	200.0	V	15.00	3
2895.25	---	37.12	54.00	16.88	500.00	100.0	H	134.00	3

Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

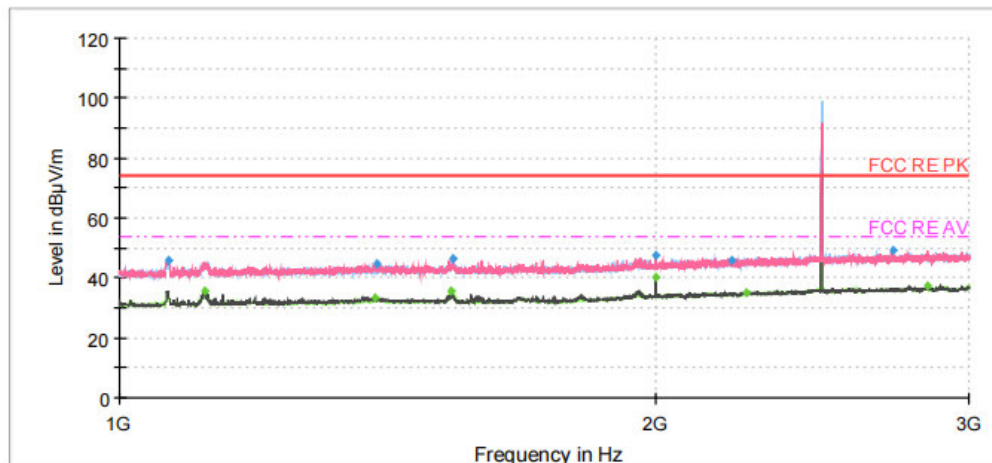


Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3905.63	40.92	---	74.00	33.08	500.00	200.0	V	122.00	-4
3909.38	---	29.83	54.00	24.17	500.00	200.0	V	63.00	-4
5175.00	43.21	---	74.00	30.79	500.00	200.0	V	199.00	0
5190.00	---	33.60	54.00	20.40	500.00	200.0	V	199.00	0
7226.25	48.22	---	74.00	25.78	500.00	100.0	V	256.00	5
7297.50	---	37.35	54.00	16.65	500.00	200.0	V	2.00	6
9740.63	50.03	---	74.00	23.97	500.00	200.0	V	17.00	7
9903.75	---	38.56	54.00	15.44	500.00	100.0	V	352.00	7
11311.88	---	40.33	54.00	13.67	500.00	100.0	H	103.00	9
11328.75	51.29	---	74.00	22.71	500.00	100.0	V	337.00	9
13895.63	54.89	---	74.00	19.11	500.00	200.0	V	0.00	12
13950.00	---	43.80	54.00	10.20	500.00	200.0	V	63.00	12

Radiates Emission from 3GHz to 18GHz

DH5-Channel 78

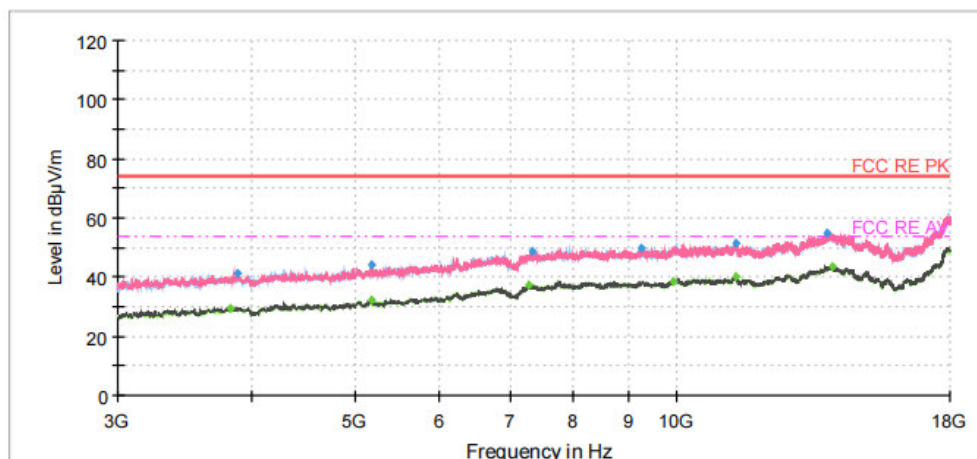


Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1064.75	45.90	---	74.00	28.10	500.00	200.0	V	210.00	-5
1116.00	---	35.80	54.00	18.20	500.00	200.0	V	71.00	-4
1391.25	---	33.47	54.00	20.53	500.00	200.0	V	83.00	-3
1393.50	44.61	---	74.00	29.39	500.00	200.0	H	84.00	-3
1536.00	---	35.78	54.00	18.22	500.00	100.0	H	69.00	-2
1540.00	46.62	---	74.00	27.38	500.00	100.0	H	123.00	-2
1999.50	47.40	---	74.00	26.60	500.00	200.0	V	181.00	1
2000.00	---	40.04	54.00	13.96	500.00	200.0	V	181.00	1
2204.75	46.12	---	74.00	27.88	500.00	100.0	V	358.00	1
2250.50	---	35.35	54.00	18.65	500.00	200.0	H	281.00	2
2717.25	49.22	---	74.00	24.78	500.00	100.0	V	73.00	3
2840.00	---	37.61	54.00	16.39	500.00	100.0	H	330.00	3

Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz



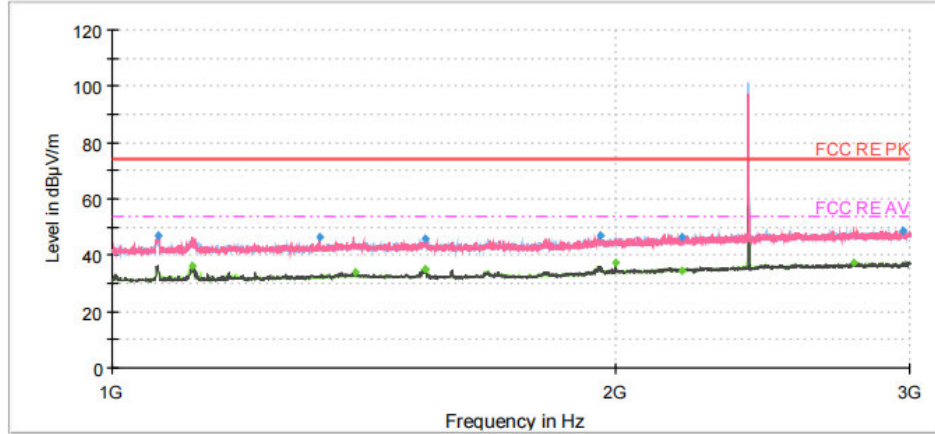
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3826.88	---	29.65	54.00	24.35	500.00	200.0	V	23.00	-5
3883.13	41.43	---	74.00	32.57	500.00	200.0	H	309.00	-4
5178.75	---	32.44	54.00	21.56	500.00	200.0	V	106.00	0
5178.75	44.22	---	74.00	29.78	500.00	200.0	V	106.00	0
7265.63	---	37.42	54.00	16.58	500.00	100.0	V	280.00	5
7308.75	48.63	---	74.00	25.37	500.00	100.0	V	357.00	5
9258.75	49.62	---	74.00	24.38	500.00	100.0	V	0.00	7
9901.88	---	38.76	54.00	15.24	500.00	100.0	H	105.00	7
11343.75	---	40.36	54.00	13.64	500.00	100.0	V	357.00	9
11345.63	51.31	---	74.00	22.69	500.00	200.0	H	237.00	9
13809.38	55.00	---	74.00	19.00	500.00	100.0	V	0.00	12
13950.00	---	43.79	54.00	10.21	500.00	200.0	V	200.00	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.

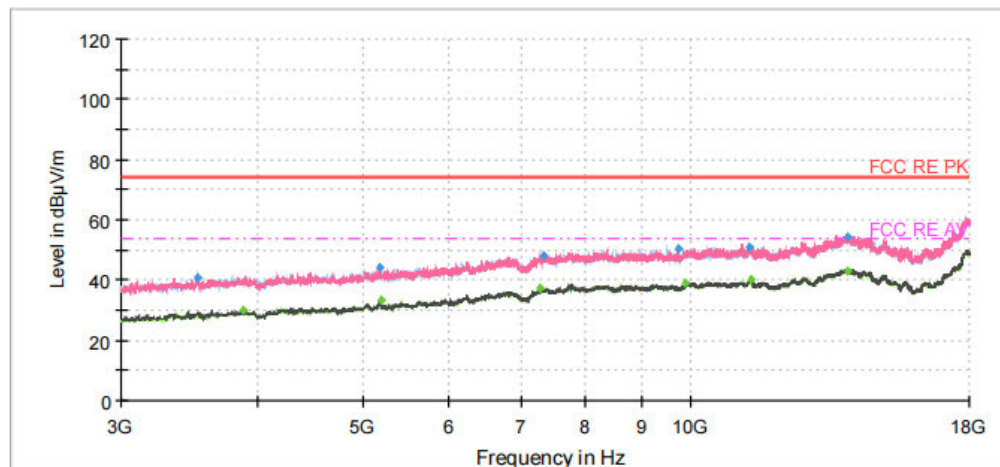
3DH5-Channel 0



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1066.25	46.86	---	74.00	27.14	500.00	200.0	V	217.00	-5
1116.25	---	36.18	54.00	17.82	500.00	200.0	V	0.00	-4
1330.00	46.25	---	74.00	27.75	500.00	100.0	V	318.00	-3
1398.00	---	33.84	54.00	20.17	500.00	200.0	H	307.00	-3
1539.25	---	35.18	54.00	18.82	500.00	100.0	H	26.00	-2
1540.00	46.06	---	74.00	27.94	500.00	200.0	H	215.00	-2
1958.25	46.72	---	74.00	27.28	500.00	200.0	H	174.00	0
2000.00	---	37.39	54.00	16.61	500.00	100.0	V	18.00	1
2191.50	---	34.77	54.00	19.23	500.00	200.0	H	339.00	1
2191.75	46.21	---	74.00	27.79	500.00	100.0	V	141.00	1
2774.50	---	37.57	54.00	16.43	500.00	200.0	H	356.00	3
2971.50	48.81	---	74.00	25.19	500.00	100.0	H	44.00	4

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

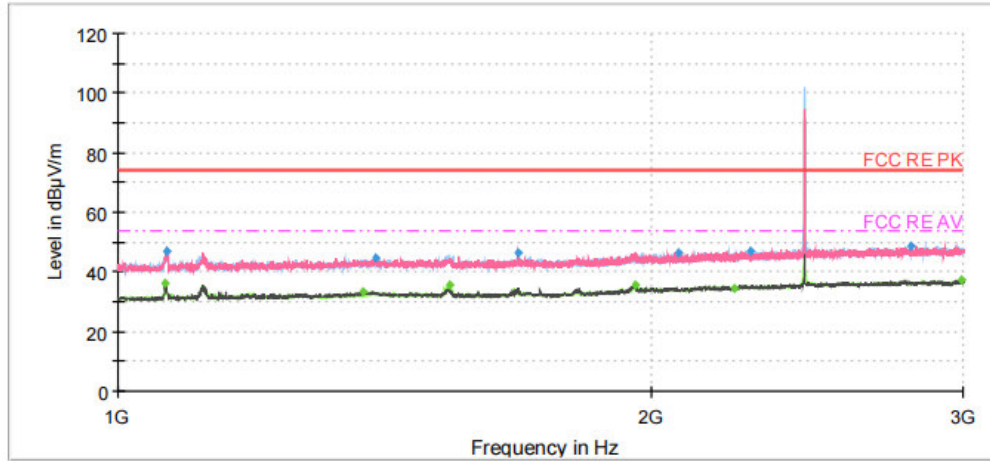


Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3532.50	40.97	---	74.00	33.03	500.00	200.0	V	184.00	-5
3877.50	---	30.07	54.00	23.93	500.00	100.0	V	153.00	-4
5178.75	43.95	---	74.00	30.05	500.00	200.0	V	199.00	0
5190.00	---	33.62	54.00	20.38	500.00	200.0	V	199.00	0
7265.63	---	37.08	54.00	16.92	500.00	200.0	V	169.00	5
7327.50	48.02	---	74.00	25.98	500.00	100.0	H	93.00	5
9740.63	50.12	---	74.00	23.88	500.00	200.0	V	137.00	7
9898.13	---	38.79	54.00	15.21	500.00	100.0	V	198.00	7
11317.50	51.09	---	74.00	22.91	500.00	200.0	V	280.00	9
11341.88	---	40.06	54.00	13.94	500.00	200.0	H	354.00	9
13929.38	---	43.20	54.00	10.80	500.00	100.0	H	2.00	12
13935.00	54.40	---	74.00	19.60	500.00	200.0	H	354.00	12

Radiates Emission from 3GHz to 18GHz

3DH5-Channel 39

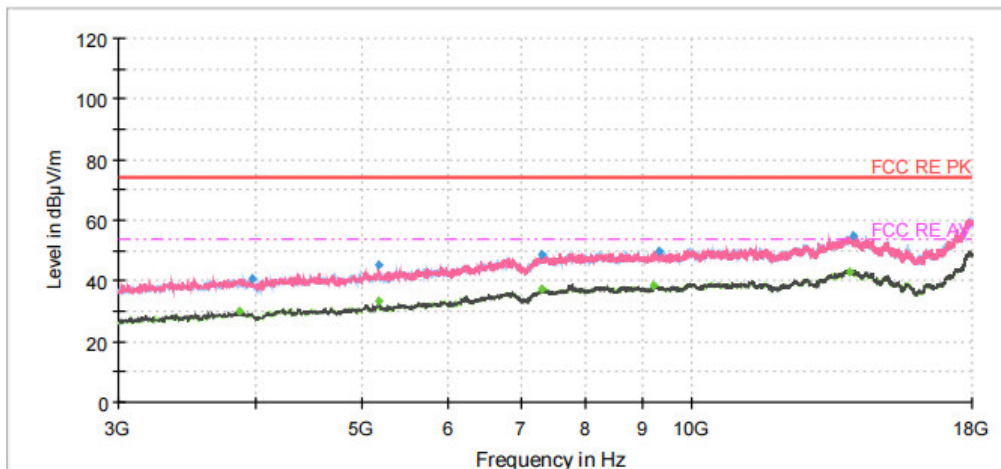


Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1063.75	---	36.35	54.00	17.65	500.00	200.0	V	217.00	-5
1064.25	46.95	---	74.00	27.05	500.00	200.0	V	217.00	-5
1375.25	---	33.39	54.00	20.61	500.00	200.0	V	74.00	-3
1398.75	44.99	---	74.00	29.01	500.00	200.0	V	189.00	-3
1537.50	---	35.56	54.00	18.44	500.00	100.0	H	120.00	-2
1684.00	46.23	---	74.00	27.77	500.00	200.0	V	202.00	-2
1959.00	---	35.93	54.00	18.07	500.00	100.0	V	170.00	0
2070.00	46.51	---	74.00	27.49	500.00	100.0	H	205.00	1
2228.00	---	34.78	54.00	19.22	500.00	200.0	V	174.00	1
2274.00	46.91	---	74.00	27.09	500.00	200.0	H	357.00	2
2805.50	48.82	---	74.00	25.18	500.00	200.0	H	359.00	3
2993.50	---	37.29	54.00	16.71	500.00	100.0	H	6.00	4

Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

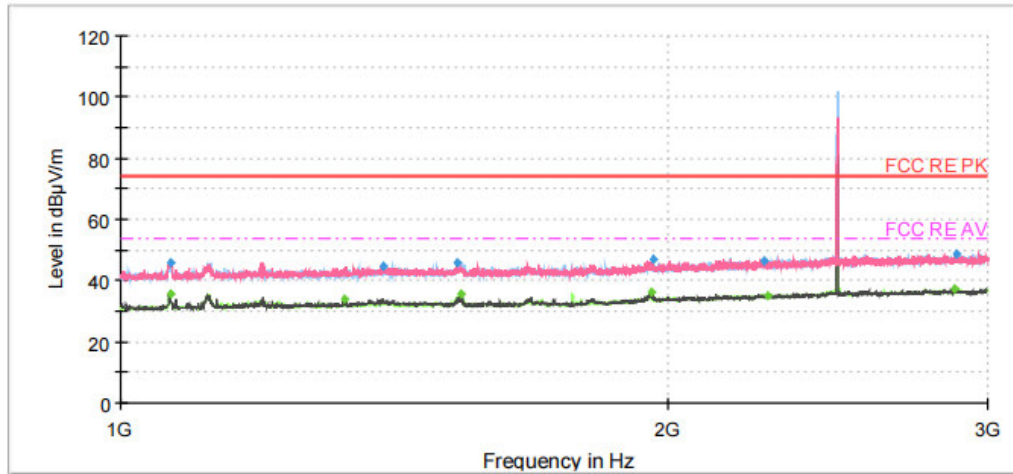


Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3866.25	---	29.80	54.00	24.20	500.00	200.0	V	9.00	-4
3967.50	40.95	---	74.00	33.05	500.00	100.0	H	15.00	-4
5178.75	---	33.64	54.00	20.36	500.00	200.0	V	198.00	0
5180.63	45.25	---	74.00	28.75	500.00	200.0	V	198.00	0
7297.50	---	37.41	54.00	16.59	500.00	100.0	H	3.00	6
7299.38	48.41	---	74.00	25.59	500.00	200.0	V	245.00	6
9228.75	---	38.60	54.00	15.40	500.00	100.0	V	268.00	7
9324.38	49.97	---	74.00	24.03	500.00	100.0	V	161.00	7
13910.63	---	43.16	54.00	10.84	500.00	200.0	H	237.00	12
14025.00	55.08	---	74.00	18.92	500.00	200.0	V	0.00	12

Radiates Emission from 3GHz to 18GHz

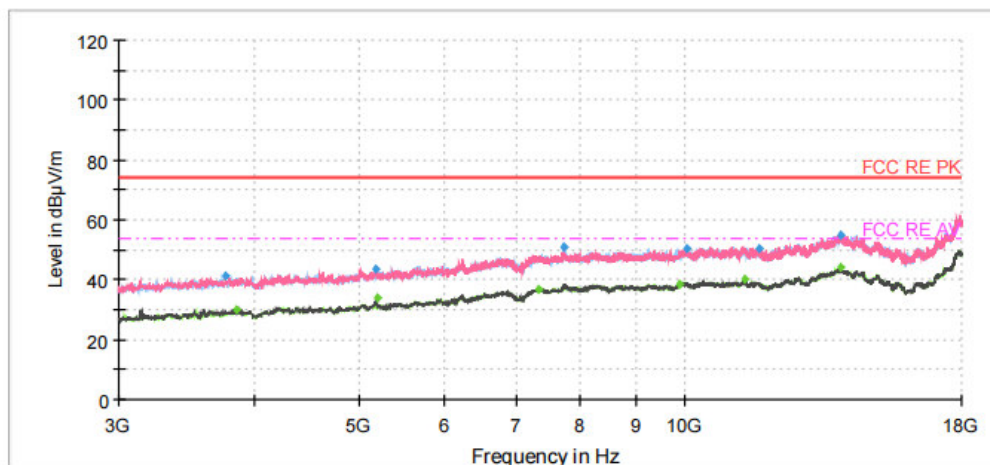
3DH5-Channel 78



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1065.50	46.11	---	74.00	27.89	500.00	200.0	V	206.00	-5
1065.75	---	35.84	54.00	18.16	500.00	200.0	V	220.00	-5
1328.75	---	34.07	54.00	19.93	500.00	200.0	V	235.00	-3
1396.00	44.84	---	74.00	29.16	500.00	100.0	V	234.00	-3
1530.25	45.90	---	74.00	28.10	500.00	100.0	H	73.00	-2
1538.00	---	35.38	54.00	18.62	500.00	200.0	H	43.00	-2
1958.00	---	36.15	54.00	17.85	500.00	100.0	V	165.00	0
1963.25	46.82	---	74.00	27.18	500.00	100.0	V	165.00	0
2261.25	46.59	---	74.00	27.41	500.00	100.0	V	234.00	2
2271.25	---	35.27	54.00	18.73	500.00	200.0	H	0.00	2
2879.00	---	37.28	54.00	16.72	500.00	200.0	V	24.00	3
2885.50	48.80	---	74.00	25.20	500.00	200.0	H	0.00	3

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



Final Result

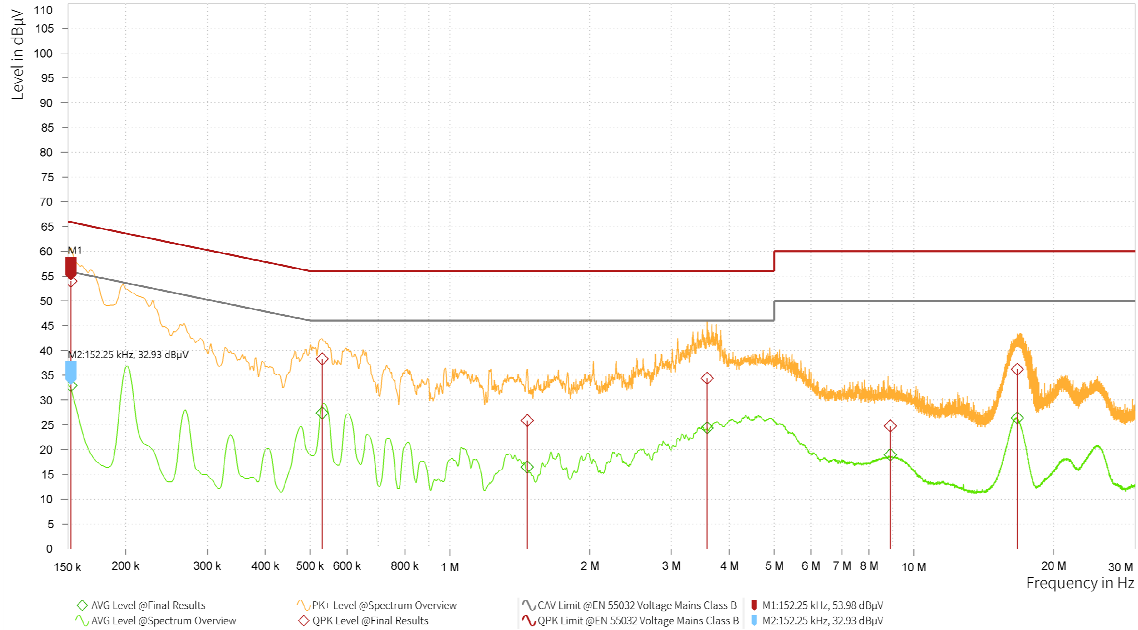
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3763.13	41.40	---	74.00	32.60	500.00	100.0	V	267.00	-5
3847.50	---	30.08	54.00	23.92	500.00	100.0	V	111.00	-4
5175.00	43.53	---	74.00	30.47	500.00	200.0	V	199.00	0
5190.00	---	33.76	54.00	20.24	500.00	200.0	V	199.00	0
7320.00	---	37.07	54.00	16.93	500.00	200.0	V	354.00	5
7732.50	51.10	---	74.00	22.90	500.00	200.0	H	252.00	6
9883.13	---	38.69	54.00	15.31	500.00	200.0	V	107.00	7
10027.50	50.49	---	74.00	23.51	500.00	200.0	V	107.00	7
11345.63	---	40.11	54.00	13.89	500.00	100.0	H	2.00	9
11722.50	50.54	---	74.00	23.46	500.00	200.0	H	0.00	9
13903.13	---	43.95	54.00	10.05	500.00	200.0	V	358.00	12
13931.25	54.87	---	74.00	19.13	500.00	100.0	V	0.00	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 (DH5-Channel 0) 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
0.152	53.98	65.88	11.89	32.93	55.88	22.94	20.90	L1
0.530	38.29	56.00	17.71	27.35	46.00	18.65	20.75	L1
1.469	25.85	56.00	30.15	16.46	46.00	29.54	19.86	L1
3.586	34.41	56.00	21.59	24.39	46.00	21.61	19.44	L1
8.898	24.75	60.00	35.25	18.95	50.00	31.05	19.41	L1
16.712	36.21	60.00	23.79	26.37	50.00	23.63	19.56	L1

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
0.152	53.18	65.88	12.69	32.85	55.88	23.03	20.91	N
0.548	37.69	56.00	18.31	26.56	46.00	19.44	20.74	N
1.361	28.75	56.00	27.25	17.81	46.00	28.19	19.93	N
3.644	35.09	56.00	20.91	24.87	46.00	21.13	19.45	N
9.733	23.12	60.00	36.88	16.71	50.00	33.29	19.43	N
17.070	34.84	60.00	25.16	24.12	50.00	25.88	19.61	N

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz