

BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



7.3. Output Power Measurement

7.3.1. Test Limit

The maximum permissible conducted output power is 1 Watt (30dBm). And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.3.2. Test Procedure Used

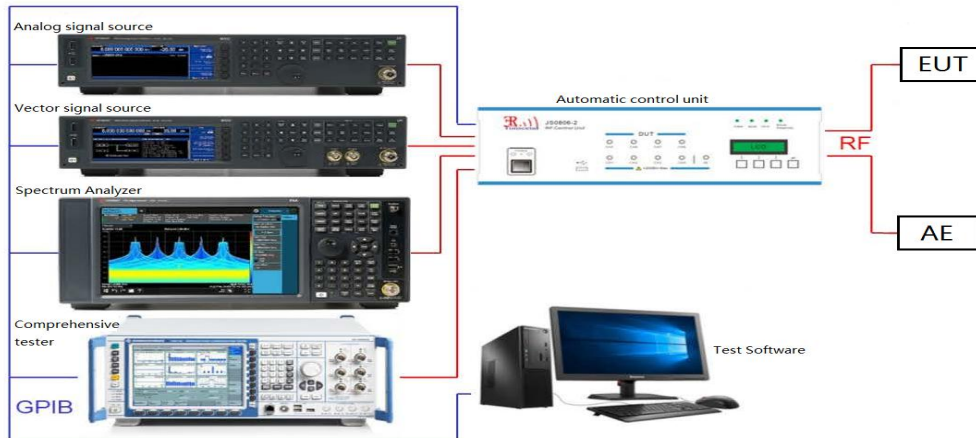
ANSI C63.10-2020 – Section 11.9.1.1

KDB 558074 D01 v05r02 – Section 8.3.1.2

7.3.3. Test Setting

- 1.Set the RBW $\geq$ DTS bandwidth.
- 2.Set the VBW $\geq$ $[3 \times \text{RBW}]$.
- 3.Set the span $\geq$ $[3 \times \text{RBW}]$.
- 4.Detector = peak.
- 5.Sweep time = auto couple.
- 6.Trace mode = max hold.
- 7.Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.

7.3.4. Test Setup



7.3.5. Test Result

Temperature:	24.7 °C
Relative Humidity:	60 %
ATM Pressure:	101.5 kPa
Test Date:	2025-10-09
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	8.05	≤30	PASS
		2440	7.35	≤30	PASS
		2480	7.08	≤30	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2. Test Procedure Used

KDB 558074 D01 v05r02 - Section 8.4

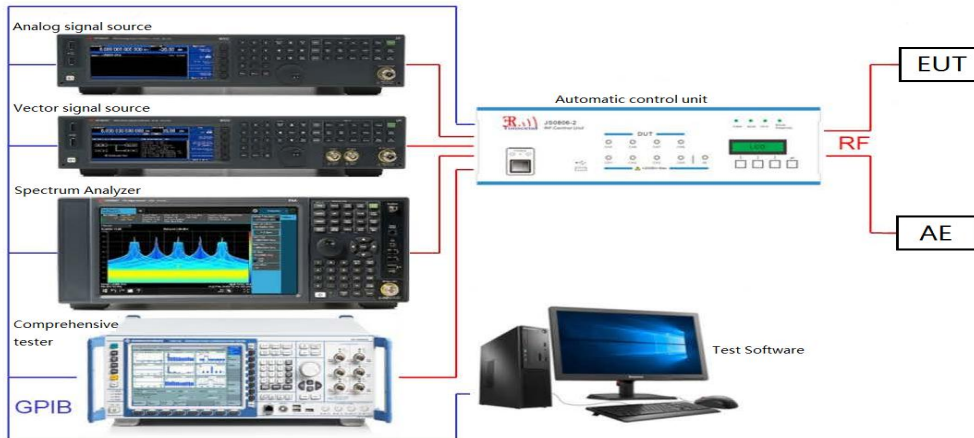
ANSI C63.10 – Section 11.10.2

7.4.3. Test Setting

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq [3 \times \text{RBW}]$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.



7.4.4. Test Setup



7.4.5. Test Result

Temperature:	24.7 °C
Relative Humidity:	60 %
ATM Pressure:	101.5 kPa
Test Date:	2025-10-09
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.16	≤8.00	PASS
		2440	-6.75	≤8.00	PASS
		2480	-8.19	≤8.00	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

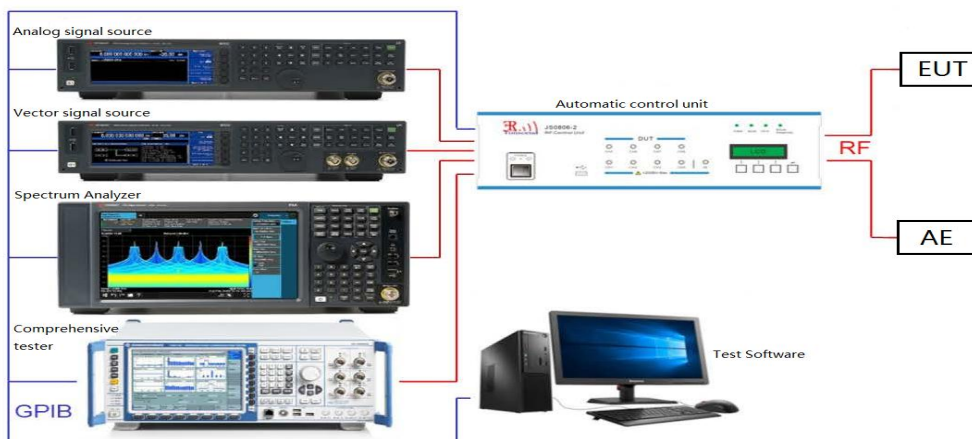
KDB 558074 D01 v05r02 - Section 8.5 & Section 8.6

ANSI C63.10 – Section 11.11&11.12

7.5.3. Test Setting

- (a) Set the center frequency and span to encompass frequency range to be measured
- (b) RBW = 100kHz
- (c) VBW = 300kHz
- (d) Detector = Peak
- (e) Trace mode = max hold
- (f) Sweep time = auto couple
- (g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

Temperature:	24.7 °C
Relative Humidity:	60 %
ATM Pressure:	101.5 kPa
Test Date:	2025-10-09
Test Engineer:	Stone Zhang

Band edge

Test Mode	Antenna	ChName	Frequency (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	8.10	-47.13	≤-11.90	PASS
		High	2480	7.02	-48.71	≤-12.98	PASS

Conducted Spurious Emission

Test Mode	Antenna	Frequency (MHz)	Frequency Range [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	Reference	7.95	7.95	---	PASS
			30~1000	7.95	-40.19	≤-12.05	PASS
			1000~26500	7.95	-31.21	≤-12.05	PASS
		2440	Reference	7.24	7.24	---	PASS
			30~1000	7.24	-40.63	≤-12.76	PASS
			1000~26500	7.24	-30.75	≤-12.76	PASS
		2480	Reference	6.91	6.91	---	PASS
			30~1000	6.91	-40.54	≤-13.09	PASS
			1000~26500	6.91	-31.4	≤-13.09	PASS

Test Graphs of Band Edge

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



Test Graphs of Out-of-Band Emissions

BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



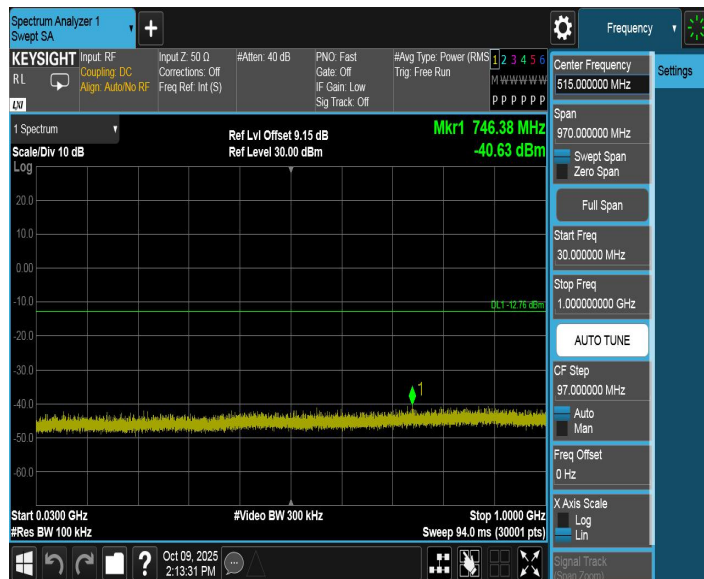
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



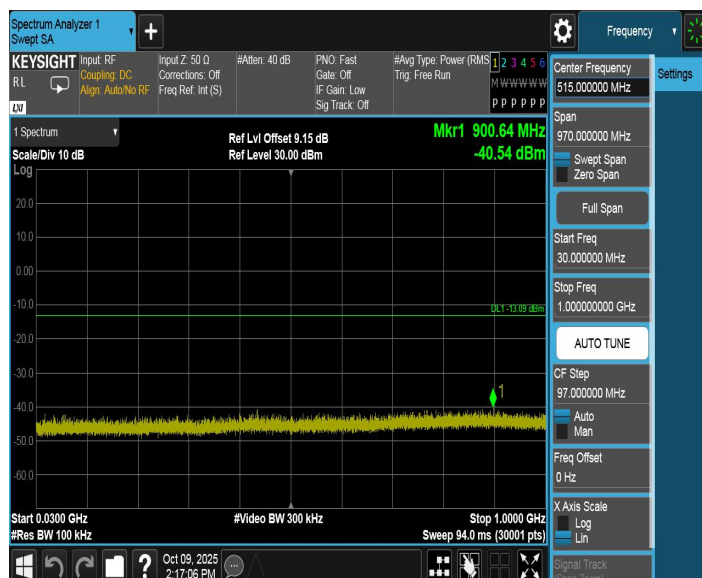
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

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

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

7.6.2. Test Procedure Used

ANSI C63.10-2020 – Section 6.6.4.3

7.6.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

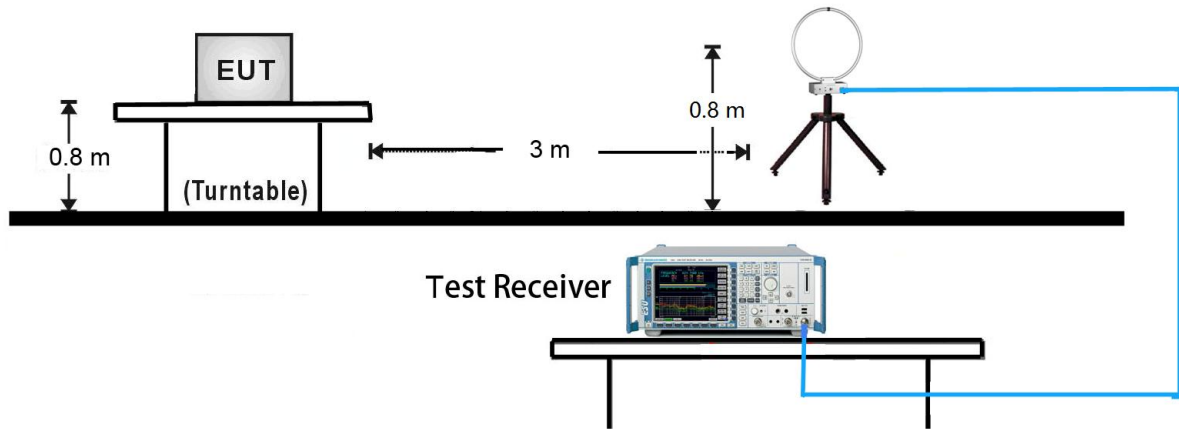
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

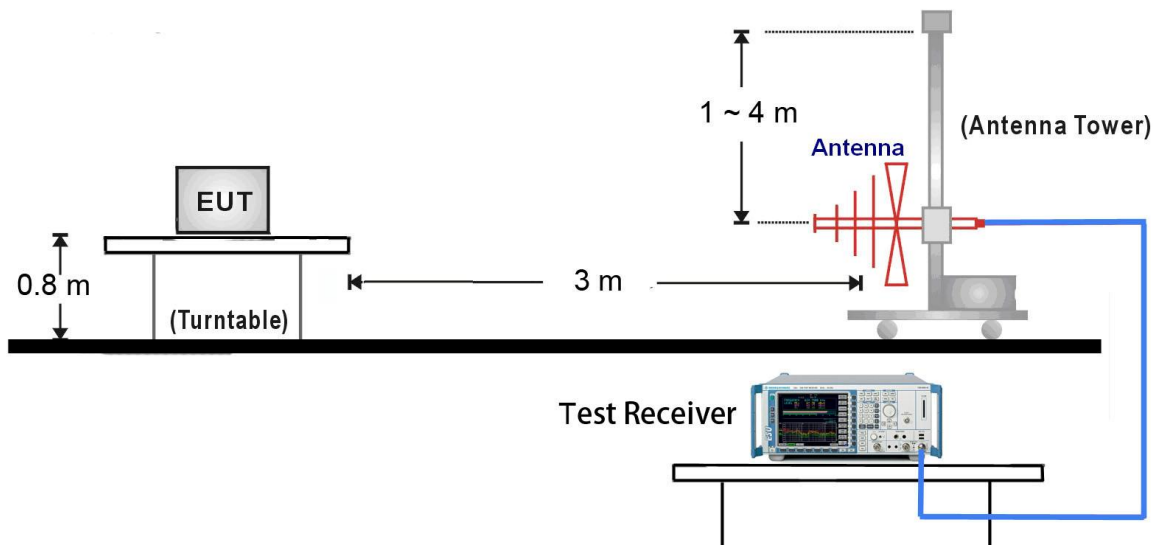
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.6.4. Test Setup

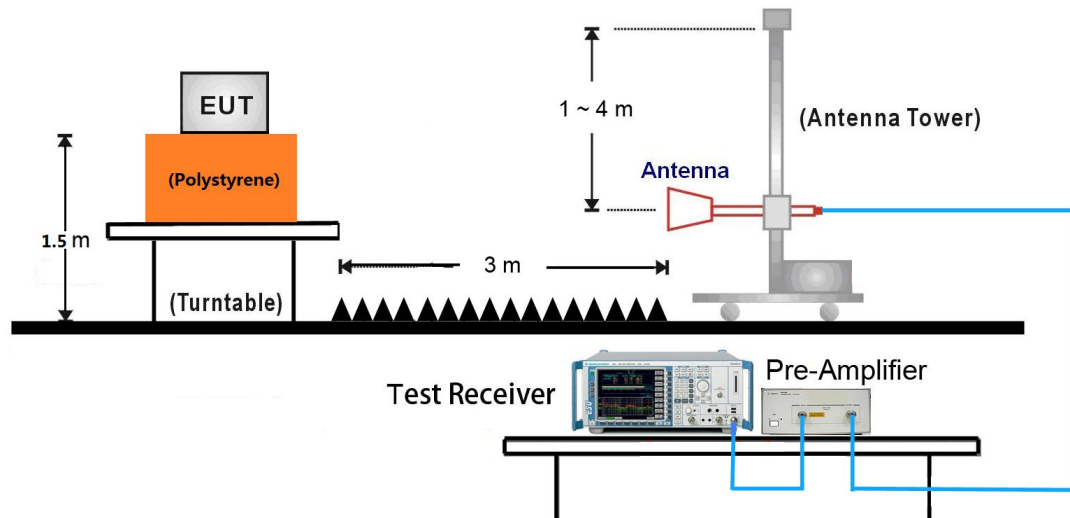
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 26.5GHz Test Setup:

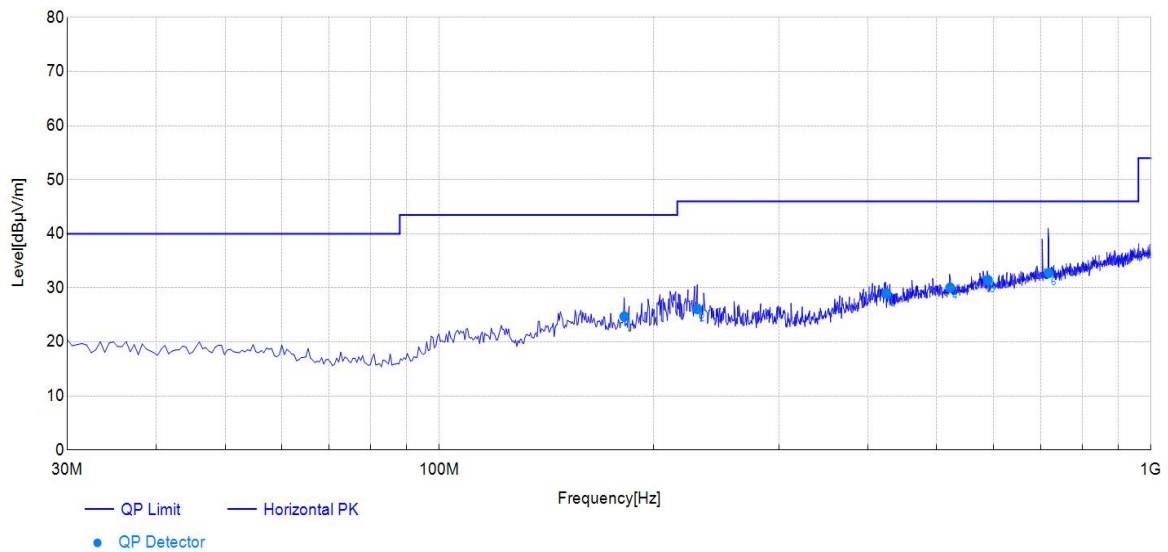


7.6.5. Test Result

The worst case of Radiated Emission below 1GHz:

30MHz – 1GHz Test Data

EUT:	Embedded Wi-Fi/BLE Module	Polarity:	Horizontal
Model:	EMC3091-P	Test Date:	2025-10-14
Mode:	Transmit at BLE Channel 00	Voltage:	DC 3.3V
Environment:	Temp: 22.3°C; Humi:55%	Engineer:	Stone Zhang



Final Data List										
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading [dBμV]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pol	Verdict
1	181.88	16.19	8.51	24.70	43.50	18.80	100	94	Horizontal	PASS
2	230.41	15.77	10.32	26.09	46.00	19.91	100	360	Horizontal	PASS
3	424.50	20.04	8.97	29.01	46.00	16.99	100	358	Horizontal	PASS
4	522.04	22.42	7.64	30.06	46.00	15.94	100	154	Horizontal	PASS
5	589.97	23.29	8.15	31.44	46.00	14.56	100	194	Horizontal	PASS
6	718.07	25.08	7.68	32.76	46.00	13.24	100	292	Horizontal	PASS

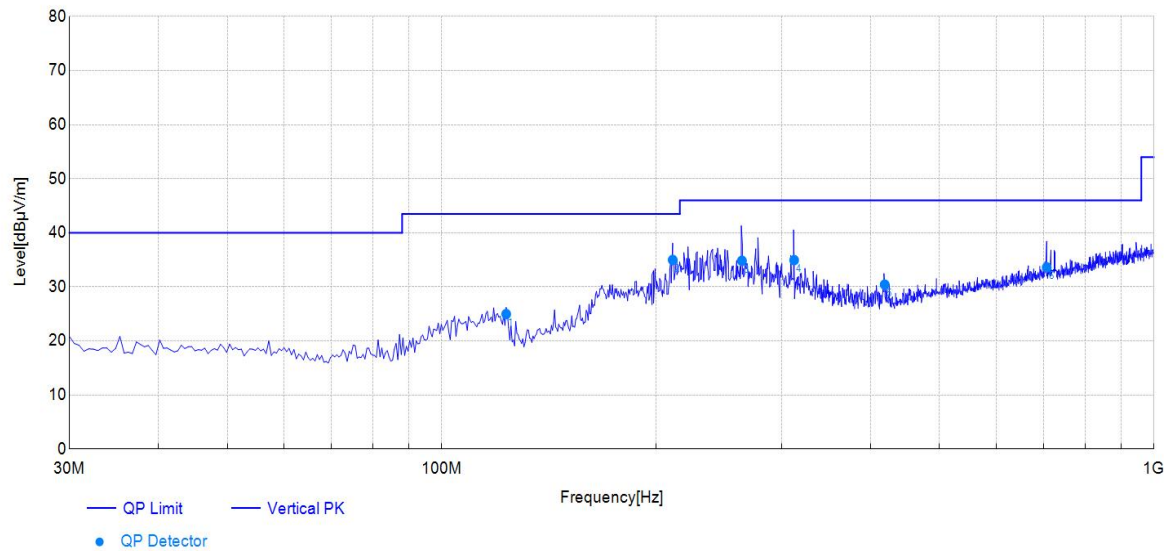
Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

(3) The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	Embedded Wi-Fi/BLE Module	Polarity:	Vertical
Model:	EMC3091-P	Test Date:	2025-10-14
Mode:	Transmit at BLE Channel 00	Voltage:	DC 3.3V
Environment:	Temp: 22.3°C; Humi:55%	Engineer:	Stone Zhang



Final Data List										
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading [dBμV]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pol	Verdict
1	123.17	14.41	10.56	24.97	43.50	18.53	100	70	Vertical	PASS
2	211.00	15.35	19.64	34.99	43.50	8.51	100	83	Vertical	PASS
3	263.89	16.07	18.77	34.84	46.00	11.16	100	328	Vertical	PASS
4	312.41	17.03	17.92	34.95	46.00	11.05	100	166	Vertical	PASS
5	418.68	19.86	10.56	30.42	46.00	15.58	100	281	Vertical	PASS
6	706.91	24.90	8.71	33.61	46.00	12.39	100	298	Vertical	PASS

Note:

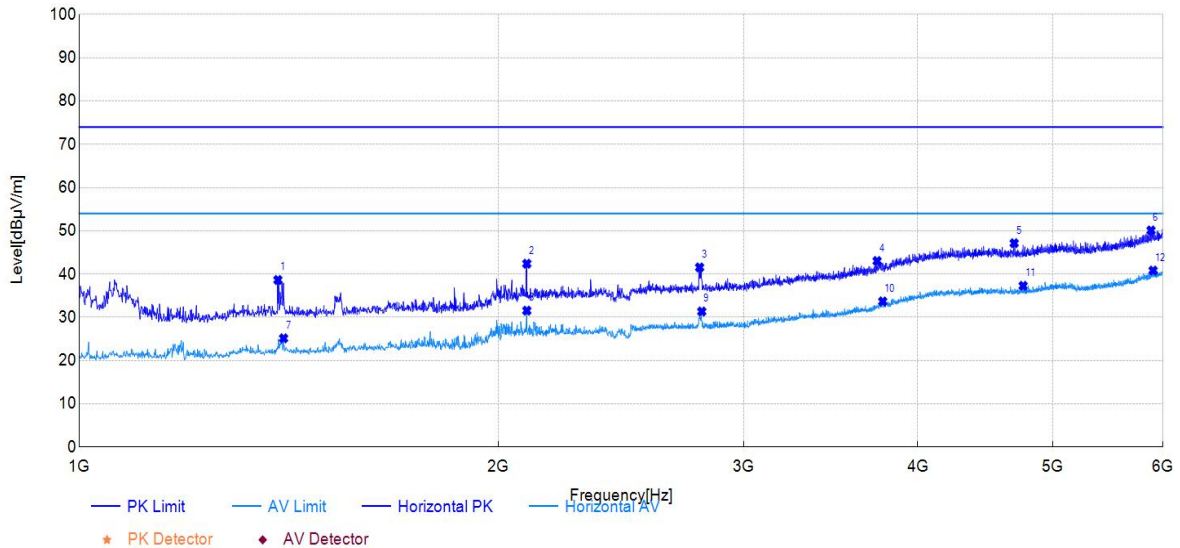
(1) Level=Reading + Factor

(2) Margin=Limit-Level

(3) The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

1GHz-6GHz

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	00	Test Engineer:	Stone Zhang



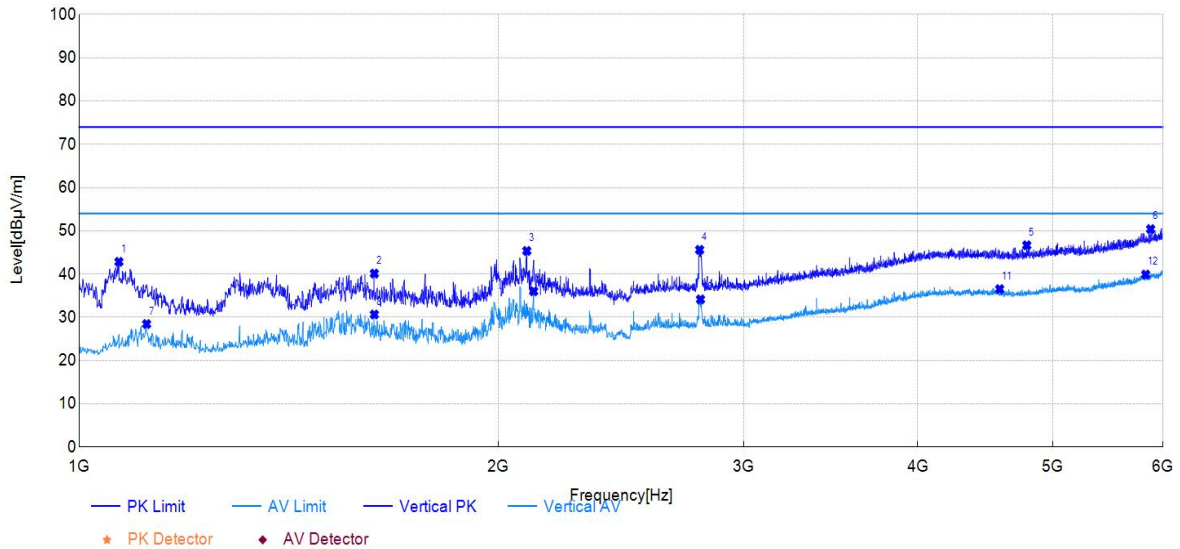
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1389.00	60.90	38.63	-22.27	74.00	35.37	150	47	PK	Horizontal	PASS
2	2096.00	60.07	42.40	-17.67	74.00	31.60	150	122	PK	Horizontal	PASS
3	2789.00	56.71	41.54	-15.17	74.00	32.46	150	118	PK	Horizontal	PASS
4	3740.00	53.73	43.02	-10.71	74.00	30.98	150	95	PK	Horizontal	PASS
5	4691.00	54.15	47.14	-7.01	74.00	26.86	150	212	PK	Horizontal	PASS
6	5882.00	55.19	50.09	-5.10	74.00	23.91	150	233	PK	Horizontal	PASS
7	1402.00	47.32	25.14	-22.18	54.00	28.86	150	162	AV	Horizontal	PASS
8	2096.00	49.21	31.54	-17.67	54.00	22.46	150	122	AV	Horizontal	PASS
9	2799.00	46.51	31.34	-15.17	54.00	22.66	150	125	AV	Horizontal	PASS
10	3775.00	44.07	33.67	-10.40	54.00	20.33	150	24	AV	Horizontal	PASS
11	4761.00	44.16	37.28	-6.88	54.00	16.72	150	328	AV	Horizontal	PASS
12	5902.00	45.88	40.81	-5.07	54.00	13.19	150	279	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	00	Test Engineer:	Stone Zhang



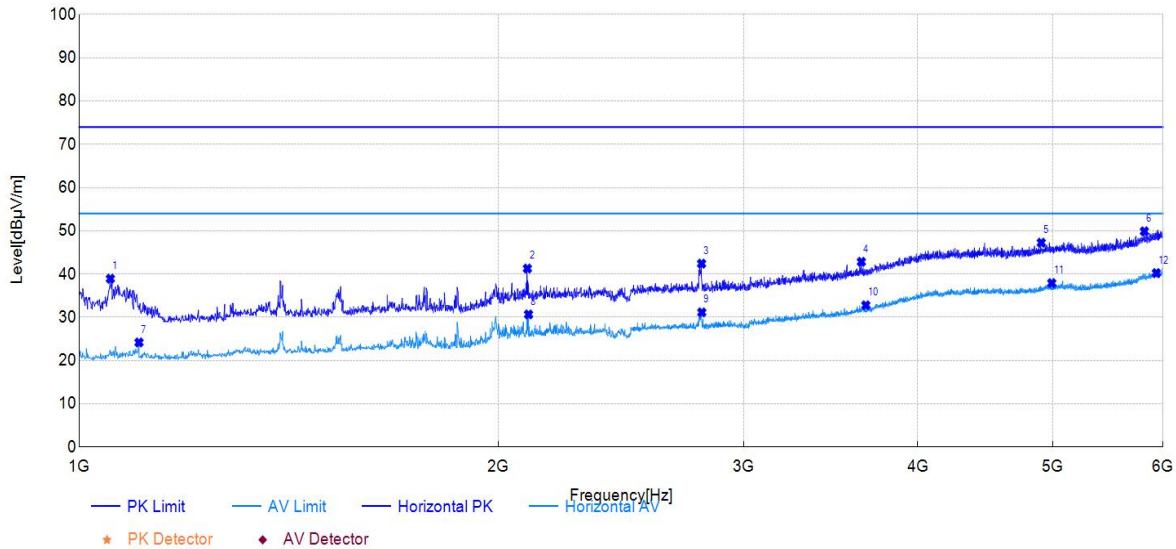
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1068.00	65.76	42.84	-22.92	74.00	31.16	150	98	PK	Vertical	PASS
2	1629.00	60.28	40.11	-20.17	74.00	33.89	150	90	PK	Vertical	PASS
3	2096.00	62.75	45.35	-17.40	74.00	28.65	150	0	PK	Vertical	PASS
4	2789.00	60.79	45.61	-15.18	74.00	28.39	150	94	PK	Vertical	PASS
5	4790.00	54.00	46.65	-7.35	74.00	27.35	150	277	PK	Vertical	PASS
6	5878.00	55.59	50.40	-5.19	74.00	23.60	150	42	PK	Vertical	PASS
7	1118.00	51.18	28.44	-22.74	54.00	25.56	150	79	AV	Vertical	PASS
8	1629.00	50.82	30.65	-20.17	54.00	23.35	150	90	AV	Vertical	PASS
9	2120.00	53.35	36.02	-17.33	54.00	17.98	150	79	AV	Vertical	PASS
10	2793.00	49.32	34.14	-15.18	54.00	19.86	150	98	AV	Vertical	PASS
11	4580.00	43.94	36.52	-7.42	54.00	17.48	150	179	AV	Vertical	PASS
12	5830.00	45.17	39.89	-5.28	54.00	14.11	150	128	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	19	Test Engineer:	Stone Zhang



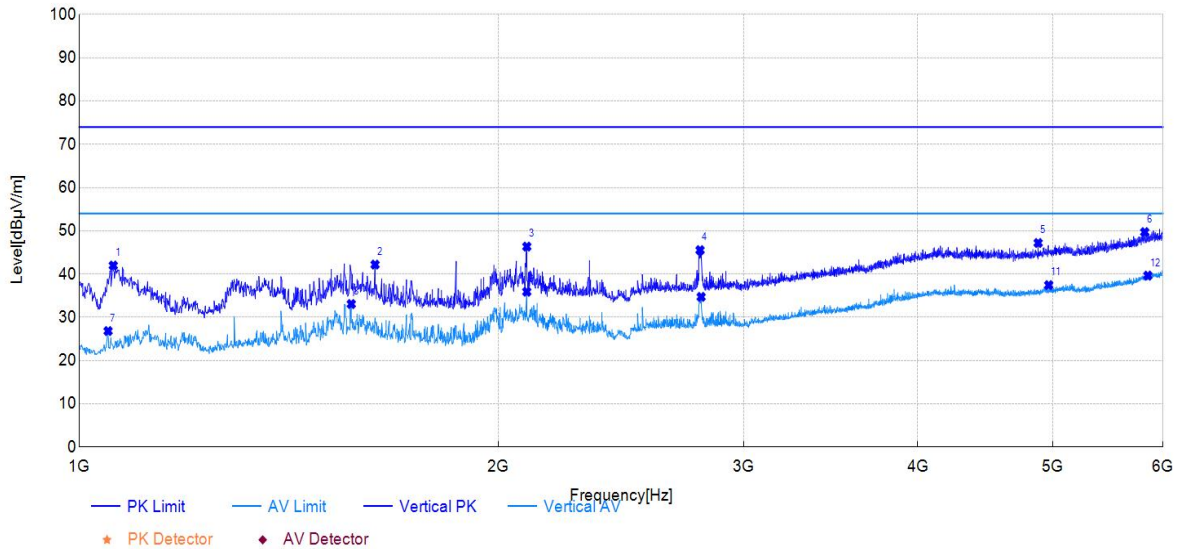
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1053.00	62.97	38.93	-24.04	74.00	35.07	150	52	PK	Horizontal	PASS
2	2098.00	58.94	41.28	-17.66	74.00	32.72	150	126	PK	Horizontal	PASS
3	2798.00	57.58	42.41	-15.17	74.00	31.59	150	126	PK	Horizontal	PASS
4	3644.00	54.13	42.83	-11.30	74.00	31.17	150	360	PK	Horizontal	PASS
5	4906.00	53.72	47.25	-6.47	74.00	26.75	150	223	PK	Horizontal	PASS
6	5818.00	55.14	49.89	-5.25	74.00	24.11	150	360	PK	Horizontal	PASS
7	1104.00	48.00	24.18	-23.82	54.00	29.82	150	123	AV	Horizontal	PASS
8	2102.00	48.32	30.67	-17.65	54.00	23.33	150	134	AV	Horizontal	PASS
9	2799.00	46.31	31.14	-15.17	54.00	22.86	150	123	AV	Horizontal	PASS
10	3671.00	43.96	32.78	-11.18	54.00	21.22	150	118	AV	Horizontal	PASS
11	4992.00	43.96	37.90	-6.06	54.00	16.10	150	293	AV	Horizontal	PASS
12	5934.00	45.24	40.23	-5.01	54.00	13.77	150	15	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	19	Test Engineer:	Stone Zhang



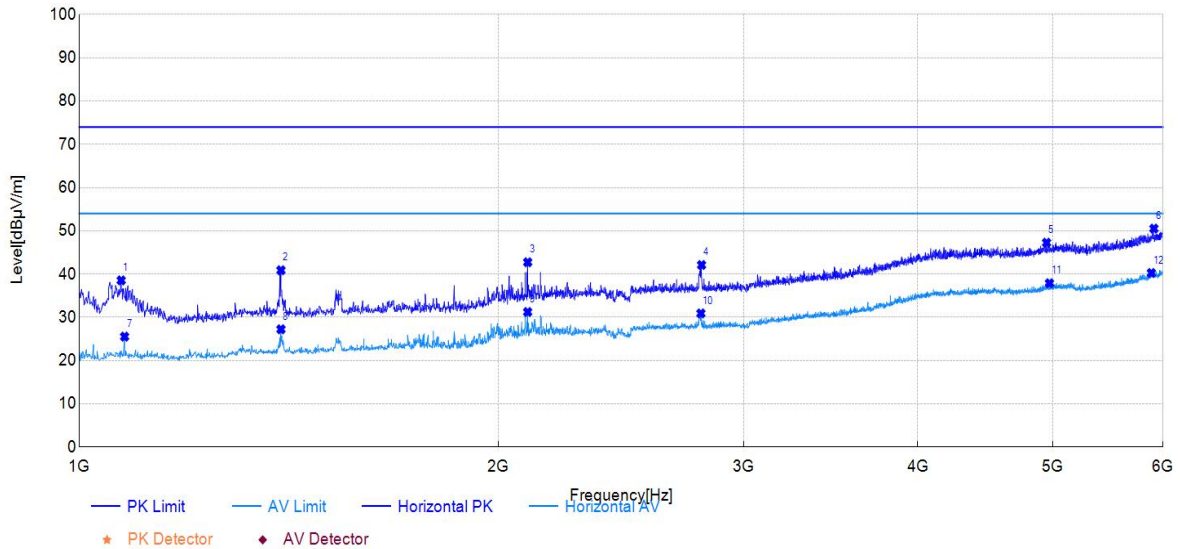
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1058.00	64.92	41.97	-22.95	74.00	32.03	150	102	PK	Vertical	PASS
2	1631.00	62.35	42.19	-20.16	74.00	31.81	150	97	PK	Vertical	PASS
3	2096.00	63.75	46.35	-17.40	74.00	27.65	150	0	PK	Vertical	PASS
4	2791.00	60.71	45.53	-15.18	74.00	28.47	150	102	PK	Vertical	PASS
5	4881.00	54.35	47.19	-7.16	74.00	26.81	150	191	PK	Vertical	PASS
6	5821.00	55.00	49.70	-5.30	74.00	24.30	150	216	PK	Vertical	PASS
7	1049.00	49.80	26.82	-22.98	54.00	27.18	150	63	AV	Vertical	PASS
8	1568.00	53.63	33.07	-20.56	54.00	20.93	150	105	AV	Vertical	PASS
9	2096.00	53.31	35.91	-17.40	54.00	18.09	150	0	AV	Vertical	PASS
10	2796.00	49.91	34.73	-15.18	54.00	19.27	150	102	AV	Vertical	PASS
11	4967.00	44.29	37.44	-6.85	54.00	16.56	150	327	AV	Vertical	PASS
12	5851.00	44.88	39.64	-5.24	54.00	14.36	150	82	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	39	Test Engineer:	Stone Zhang



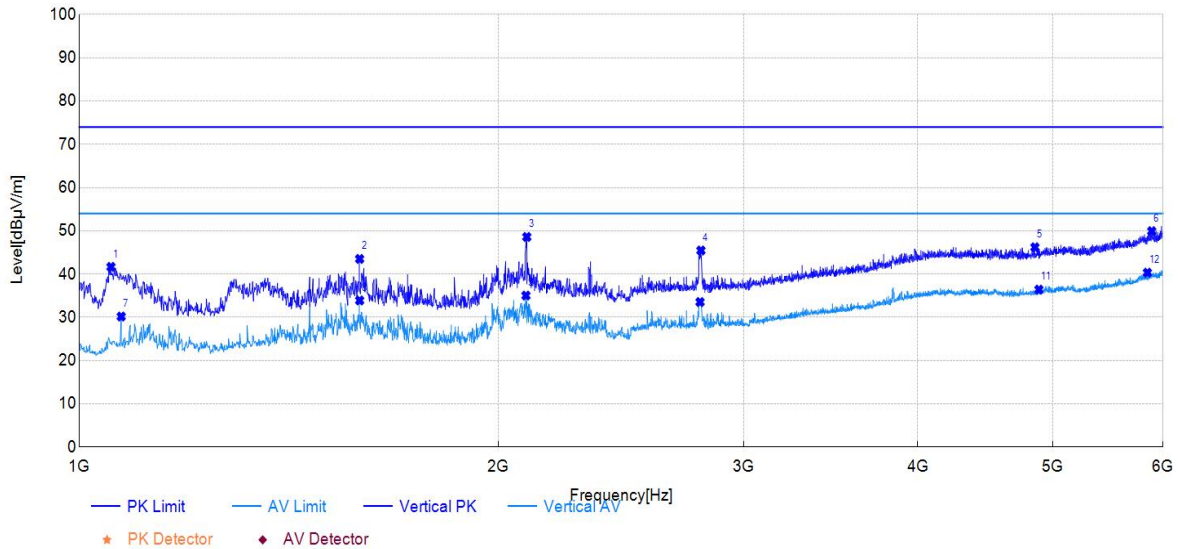
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1072.00	62.50	38.54	-23.96	74.00	35.46	150	122	PK	Horizontal	PASS
2	1396.00	63.10	40.88	-22.22	74.00	33.12	150	130	PK	Horizontal	PASS
3	2099.00	60.38	42.73	-17.65	74.00	31.27	150	130	PK	Horizontal	PASS
4	2798.00	57.27	42.10	-15.17	74.00	31.90	150	59	PK	Horizontal	PASS
5	4949.00	53.51	47.25	-6.26	74.00	26.75	150	33	PK	Horizontal	PASS
6	5910.00	55.56	50.51	-5.05	74.00	23.49	150	267	PK	Horizontal	PASS
7	1078.00	49.46	25.53	-23.93	54.00	28.47	150	208	AV	Horizontal	PASS
8	1396.00	49.45	27.23	-22.22	54.00	26.77	150	125	AV	Horizontal	PASS
9	2099.00	48.88	31.23	-17.65	54.00	22.77	150	130	AV	Horizontal	PASS
10	2795.00	46.08	30.90	-15.18	54.00	23.10	150	125	AV	Horizontal	PASS
11	4973.00	44.02	37.87	-6.15	54.00	16.13	150	188	AV	Horizontal	PASS
12	5885.00	45.35	40.25	-5.10	54.00	13.75	150	148	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	39	Test Engineer:	Stone Zhang



Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1054.00	64.62	41.66	-22.96	74.00	32.34	150	75	PK	Vertical	PASS
2	1590.00	63.93	43.50	-20.43	74.00	30.50	150	109	PK	Vertical	PASS
3	2096.00	65.99	48.59	-17.40	74.00	25.41	150	0	PK	Vertical	PASS
4	2795.00	60.63	45.45	-15.18	74.00	28.55	150	98	PK	Vertical	PASS
5	4855.00	53.40	46.19	-7.21	74.00	27.81	150	146	PK	Vertical	PASS
6	5889.00	55.09	49.92	-5.17	74.00	24.08	150	276	PK	Vertical	PASS
7	1072.00	53.08	30.18	-22.90	54.00	23.82	150	75	AV	Vertical	PASS
8	1590.00	54.33	33.90	-20.43	54.00	20.10	150	109	AV	Vertical	PASS
9	2093.00	52.44	35.02	-17.42	54.00	18.98	150	87	AV	Vertical	PASS
10	2791.00	48.71	33.53	-15.18	54.00	20.47	150	105	AV	Vertical	PASS
11	4887.00	43.54	36.40	-7.14	54.00	17.60	150	13	AV	Vertical	PASS
12	5847.00	45.57	40.32	-5.25	54.00	13.68	150	360	AV	Vertical	PASS

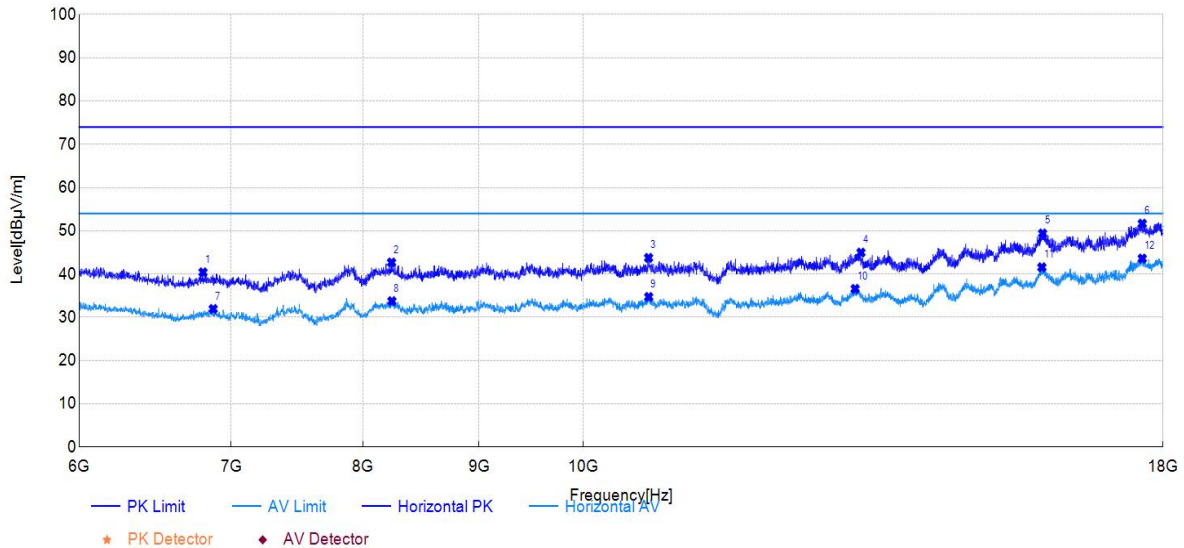
Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

6GHz-18GHz

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	00	Test Engineer:	Stone Zhang



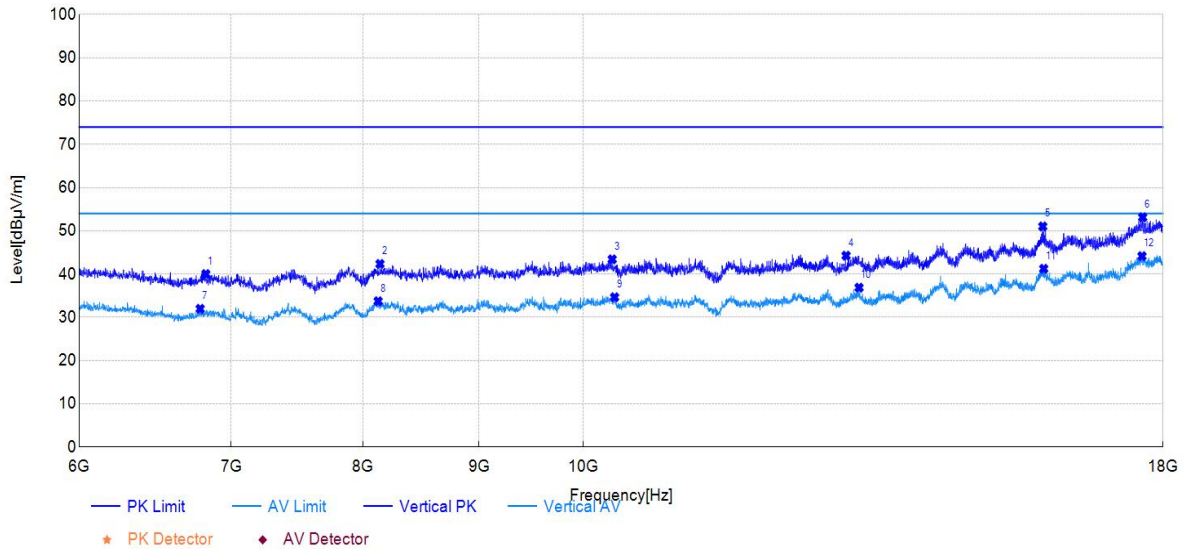
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	6802.50	45.30	40.40	-4.90	74.00	33.60	150	154	PK	Horizontal	PASS
2	8235.00	44.03	42.68	-1.35	74.00	31.32	150	99	PK	Horizontal	PASS
3	10686.00	43.25	43.75	0.50	74.00	30.25	150	256	PK	Horizontal	PASS
4	13252.50	41.95	44.97	3.02	74.00	29.03	150	134	PK	Horizontal	PASS
5	15931.50	39.61	49.39	9.78	74.00	24.61	150	209	PK	Horizontal	PASS
6	17625.00	37.83	51.66	13.83	74.00	22.34	150	359	PK	Horizontal	PASS
7	6873.00	36.46	31.93	-4.53	54.00	22.07	150	232	AV	Horizontal	PASS
8	8238.00	35.09	33.74	-1.35	54.00	20.26	150	356	AV	Horizontal	PASS
9	10687.50	34.20	34.71	0.51	54.00	19.29	150	130	AV	Horizontal	PASS
10	13174.50	33.27	36.58	3.31	54.00	17.42	150	51	AV	Horizontal	PASS
11	15919.50	31.78	41.56	9.78	54.00	12.44	150	360	AV	Horizontal	PASS
12	17625.00	29.76	43.59	13.83	54.00	10.41	150	32	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	00	Test Engineer:	Stone Zhang



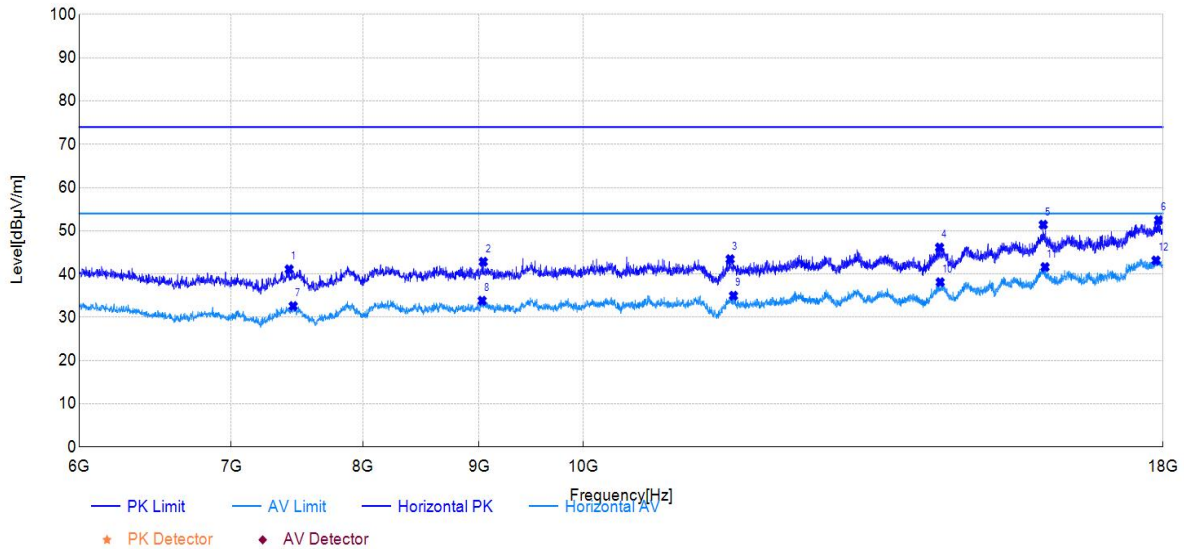
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	6822.00	44.69	40.00	-4.69	74.00	34.00	150	44	PK	Vertical	PASS
2	8139.00	43.53	42.34	-1.19	74.00	31.66	150	197	PK	Vertical	PASS
3	10299.00	42.97	43.40	0.43	74.00	30.60	150	188	PK	Vertical	PASS
4	13054.50	41.86	44.25	2.39	74.00	29.75	150	279	PK	Vertical	PASS
5	15934.50	41.72	51.01	9.29	74.00	22.99	150	68	PK	Vertical	PASS
6	17632.50	38.81	53.12	14.31	74.00	20.88	150	271	PK	Vertical	PASS
7	6783.00	36.89	31.96	-4.93	54.00	22.04	150	1	AV	Vertical	PASS
8	8124.00	34.85	33.72	-1.13	54.00	20.28	150	333	AV	Vertical	PASS
9	10324.50	34.19	34.64	0.45	54.00	19.36	150	1	AV	Vertical	PASS
10	13227.00	34.12	36.86	2.74	54.00	17.14	150	286	AV	Vertical	PASS
11	15949.50	31.93	41.22	9.29	54.00	12.78	150	68	AV	Vertical	PASS
12	17620.50	29.76	44.14	14.38	54.00	9.86	150	161	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	19	Test Engineer:	Stone Zhang



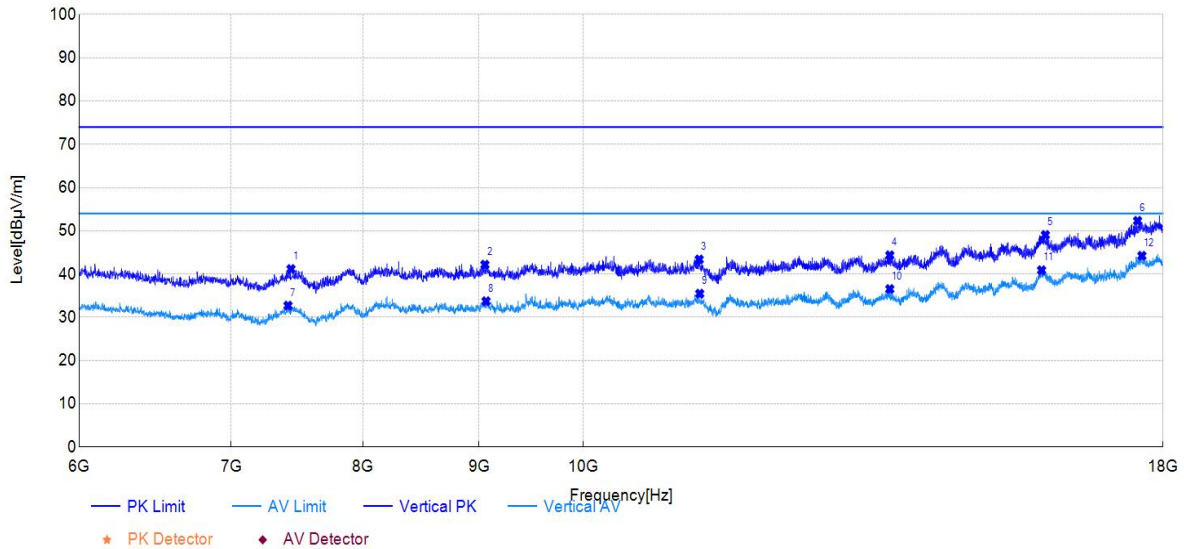
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	7423.50	43.90	41.10	-2.80	74.00	32.90	150	291	PK	Horizontal	PASS
2	9037.50	43.60	42.83	-0.77	74.00	31.17	150	260	PK	Horizontal	PASS
3	11607.00	42.01	43.44	1.43	74.00	30.56	150	31	PK	Horizontal	PASS
4	14352.00	41.17	46.14	4.97	74.00	27.86	150	359	PK	Horizontal	PASS
5	15942.00	41.63	51.41	9.78	74.00	22.59	150	113	PK	Horizontal	PASS
6	17920.50	38.19	52.48	14.29	74.00	21.52	150	288	PK	Horizontal	PASS
7	7453.50	35.48	32.59	-2.89	54.00	21.41	150	288	AV	Horizontal	PASS
8	9027.00	34.60	33.83	-0.77	54.00	20.17	150	360	AV	Horizontal	PASS
9	11646.00	33.93	34.98	1.05	54.00	19.02	150	157	AV	Horizontal	PASS
10	14361.00	33.12	38.12	5.00	54.00	15.88	150	58	AV	Horizontal	PASS
11	15970.50	31.84	41.62	9.78	54.00	12.38	150	58	AV	Horizontal	PASS
12	17871.00	28.87	43.14	14.27	54.00	10.86	150	50	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	19	Test Engineer:	Stone Zhang



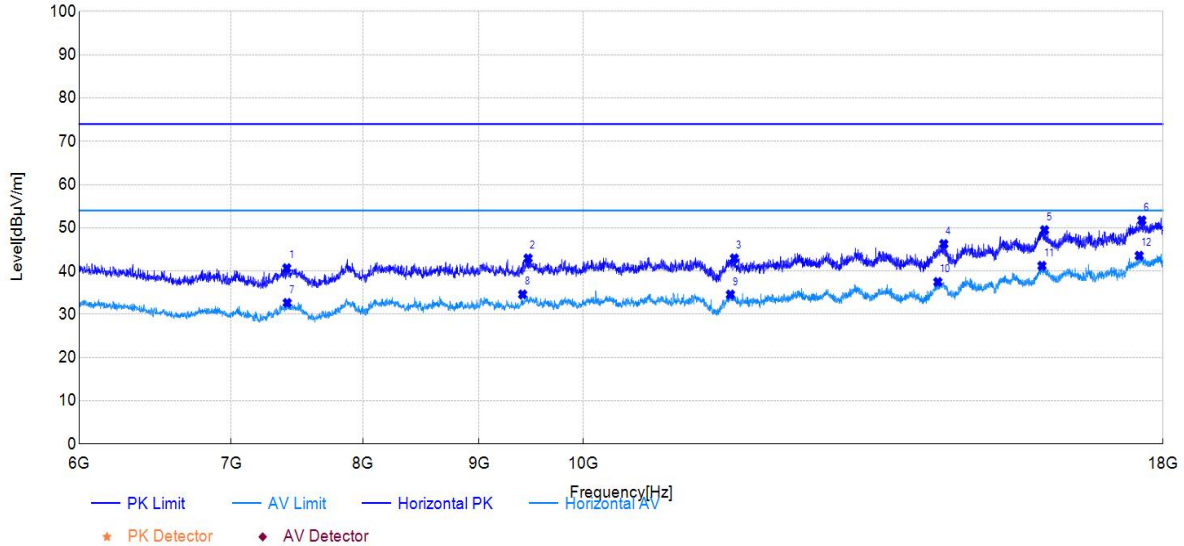
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	7437.00	43.99	41.16	-2.83	74.00	32.84	150	4	PK	Vertical	PASS
2	9052.50	42.94	42.16	-0.78	74.00	31.84	150	0	PK	Vertical	PASS
3	11248.50	42.30	43.36	1.06	74.00	30.64	150	193	PK	Vertical	PASS
4	13645.50	41.33	44.34	3.01	74.00	29.66	150	87	PK	Vertical	PASS
5	15976.50	39.75	49.03	9.28	74.00	24.97	150	56	PK	Vertical	PASS
6	17541.00	38.36	52.30	13.94	74.00	21.70	150	22	PK	Vertical	PASS
7	7414.50	35.47	32.70	-2.77	54.00	21.30	150	80	AV	Vertical	PASS
8	9063.00	34.49	33.71	-0.78	54.00	20.29	150	56	AV	Vertical	PASS
9	11254.50	34.39	35.46	1.07	54.00	18.54	150	174	AV	Vertical	PASS
10	13645.50	33.52	36.53	3.01	54.00	17.47	150	307	AV	Vertical	PASS
11	15915.00	31.58	40.88	9.30	54.00	13.12	150	287	AV	Vertical	PASS
12	17619.00	29.83	44.22	14.39	54.00	9.78	150	307	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	39	Test Engineer:	Stone Zhang



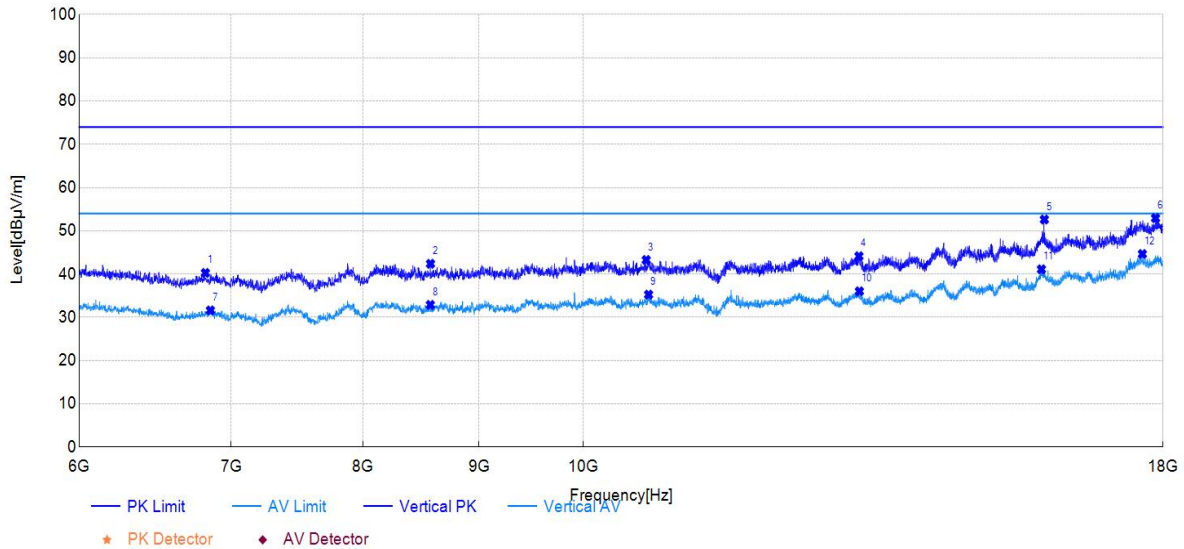
Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	7405.50	43.42	40.67	-2.75	74.00	33.33	150	112	PK	Horizontal	PASS
2	9457.50	43.21	42.93	-0.28	74.00	31.07	150	18	PK	Horizontal	PASS
3	11656.50	41.98	42.93	0.95	74.00	31.07	150	352	PK	Horizontal	PASS
4	14413.50	41.20	46.26	5.06	74.00	27.74	150	248	PK	Horizontal	PASS
5	15963.00	39.69	49.47	9.78	74.00	24.53	150	260	PK	Horizontal	PASS
6	17617.50	37.85	51.72	13.87	74.00	22.28	150	303	PK	Horizontal	PASS
7	7408.50	35.39	32.63	-2.76	54.00	21.37	150	298	AV	Horizontal	PASS
8	9405.00	35.28	34.59	-0.69	54.00	19.41	150	112	AV	Horizontal	PASS
9	11610.00	33.15	34.56	1.41	54.00	19.44	150	0	AV	Horizontal	PASS
10	14326.50	32.62	37.48	4.86	54.00	16.52	150	263	AV	Horizontal	PASS
11	15921.00	31.43	41.21	9.78	54.00	12.79	150	360	AV	Horizontal	PASS
12	17571.00	29.84	43.55	13.71	54.00	10.45	150	217	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Test Mode:	BLE	Test Date:	2025-10-14
Test Channel:	39	Test Engineer:	Stone Zhang



Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	6819.00	44.96	40.26	-4.70	74.00	33.74	150	303	PK	Vertical	PASS
2	8566.50	43.76	42.37	-1.39	74.00	31.63	150	142	PK	Vertical	PASS
3	10660.50	42.44	43.25	0.81	74.00	30.75	150	151	PK	Vertical	PASS
4	13225.50	41.38	44.13	2.75	74.00	29.87	150	314	PK	Vertical	PASS
5	15960.00	43.33	52.61	9.28	74.00	21.39	150	37	PK	Vertical	PASS
6	17863.50	38.12	52.92	14.80	74.00	21.08	150	135	PK	Vertical	PASS
7	6853.50	36.15	31.60	-4.55	54.00	22.40	150	92	AV	Vertical	PASS
8	8565.00	34.27	32.88	-1.39	54.00	21.12	150	360	AV	Vertical	PASS
9	10686.00	34.51	35.24	0.73	54.00	18.76	150	37	AV	Vertical	PASS
10	13231.50	33.31	36.01	2.70	54.00	17.99	150	9	AV	Vertical	PASS
11	15912.00	31.80	41.10	9.30	54.00	12.90	150	84	AV	Vertical	PASS
12	17626.50	30.30	44.64	14.34	54.00	9.36	150	1	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

7.7. Radiated Restricted Band Edge Measurement

7.7.1. Test Limit

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 (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (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	156.52480 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

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

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

7.7.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

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

7.7.3. Test Setting

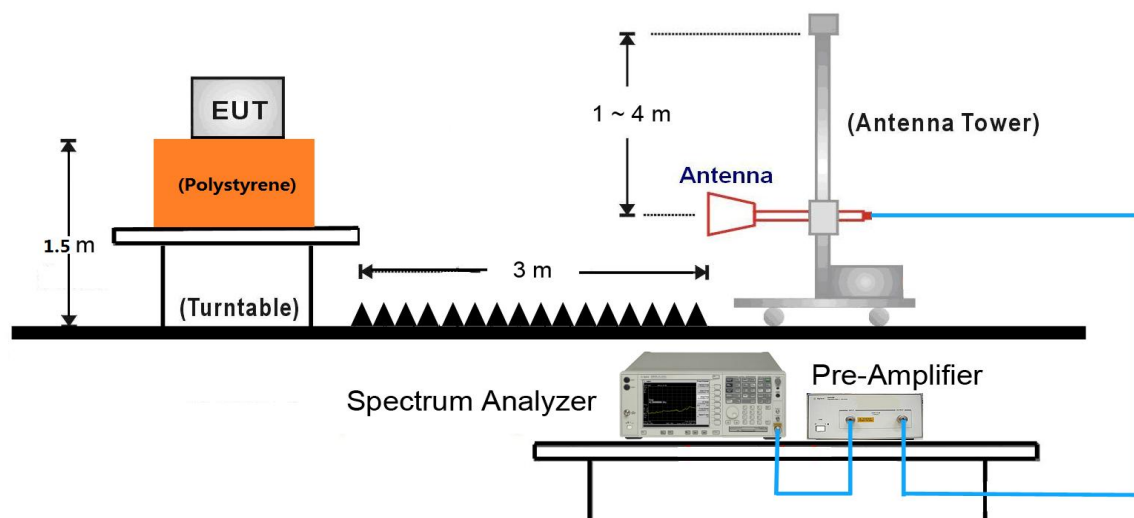
Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Field Strength Measurements

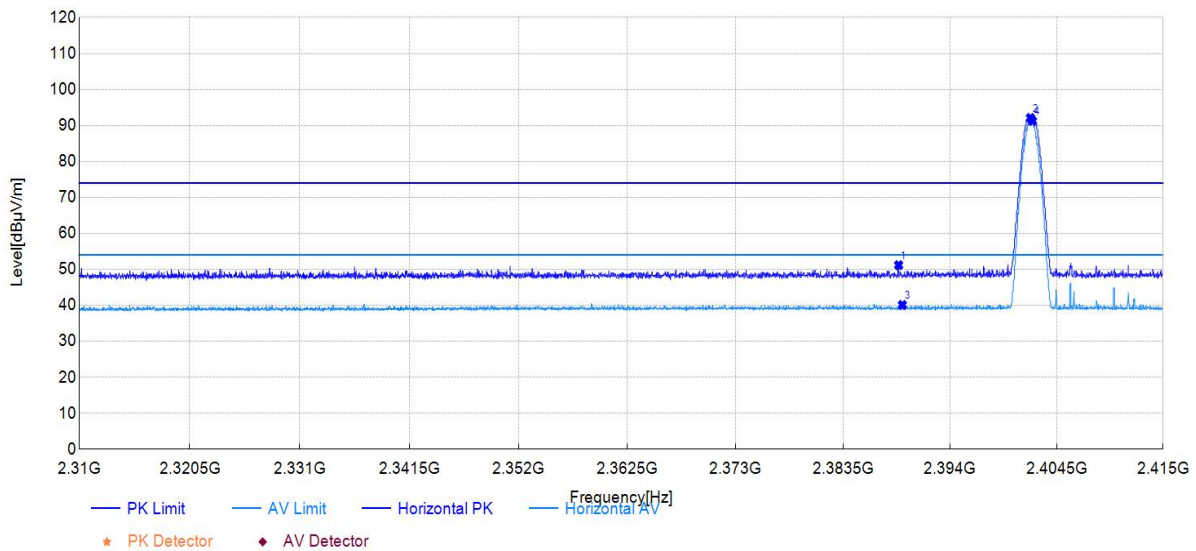
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Power Average (RMS)
5. Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

7.7.4. Test Setup



7.7.5. Test Result

Project Information			
EUT:	Embedded Wi-Fi/BLE Module	Model:	EMC3091-P
Test Date:	2025-10-14	Voltage:	DC 3.3V
Environment:	Temp: 22.3°C; Humi:55%	Engineer:	Stone Zhang
Remark:	Transmit by BLE at Channel 2402MHz		

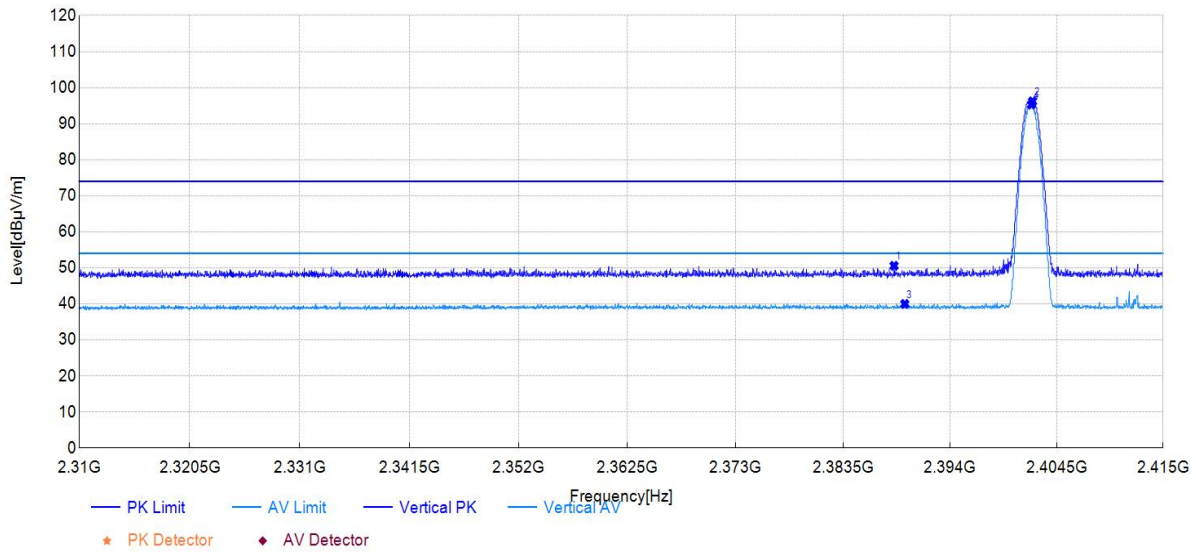


Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	2388.95	15.69	51.17	35.48	74.00	22.83	150	128	PK	Horizontal	PASS
2	2401.90	56.62	92.09	35.47	/	/	150	94	PK	Horizontal	PASS
3	2389.32	4.64	40.12	35.48	54.00	13.88	150	351	AV	Horizontal	PASS
4	2402.11	55.74	91.23	35.49	/	/	150	94	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level



Suspected Data List

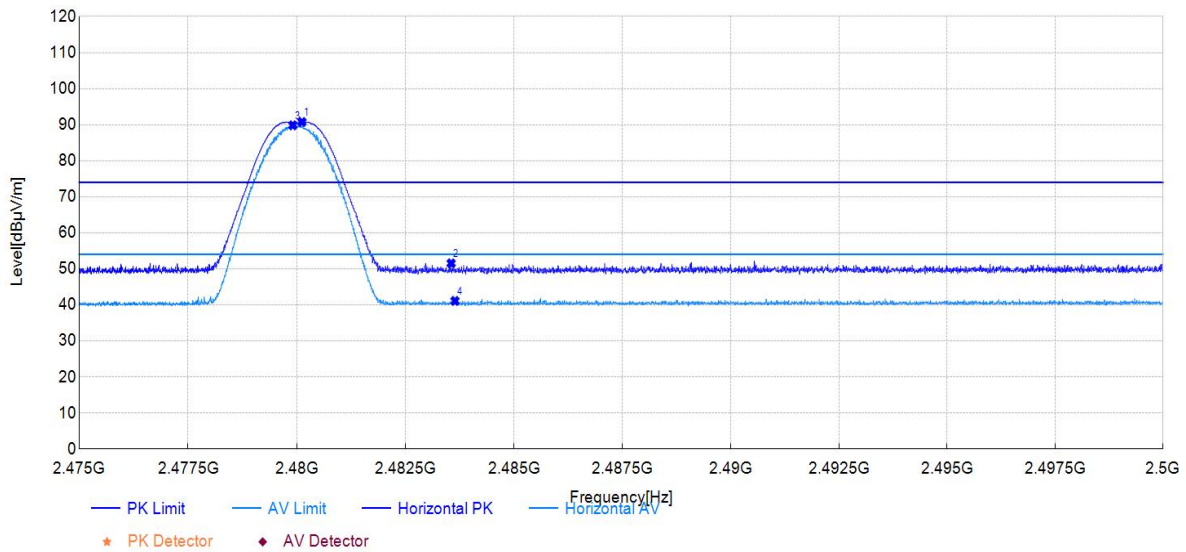
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	2388.51	15.23	50.57	35.34	74.00	23.43	150	146	PK	Vertical	PASS
2	2402.11	60.88	96.20	35.32	/	/	150	58	PK	Vertical	PASS
3	2389.56	4.65	39.99	35.34	54.00	14.01	150	135	AV	Vertical	PASS
4	2402.00	59.98	95.30	35.32	/	/	150	58	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

Project Information			
EUT:	Embedded Wi-Fi/BLE Module	Model:	EMC3091-P
Test Date:	2025-10-14	Voltage:	DC 3.3V
Environment:	Temp: 22.3°C; Humi:55%	Engineer:	Stone Zhang
Remark:	Transmit by BLE at Channel 2480MHz		

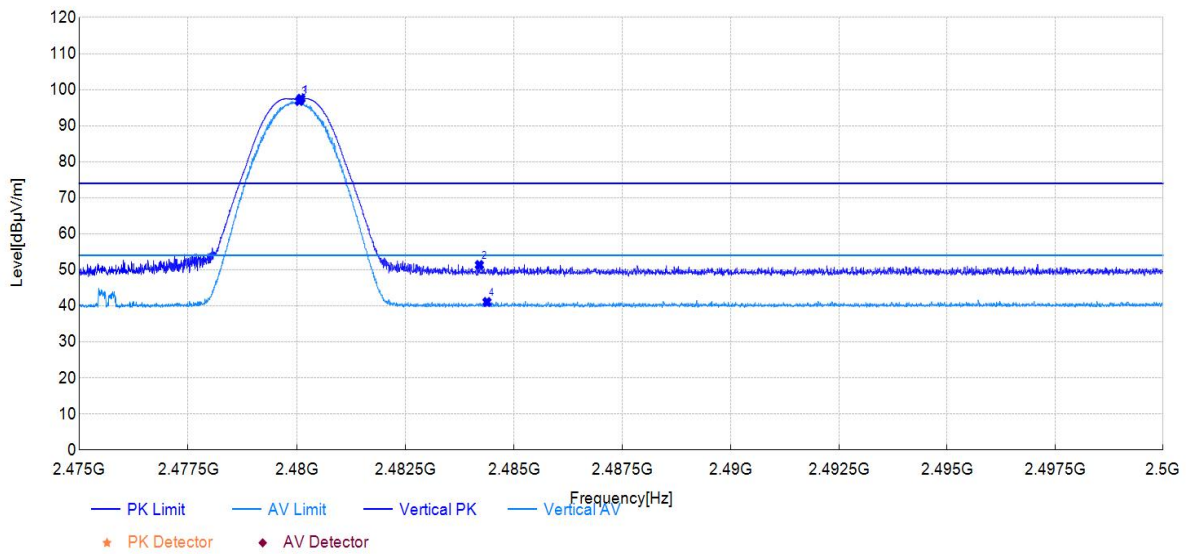


Suspected Data List											
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	2480.12	54.48	90.74	36.26	/	/	150	75	PK	Horizontal	PASS
2	2483.55	15.24	51.53	36.29	74.00	22.47	150	29	PK	Horizontal	PASS
3	2479.91	53.57	89.83	36.26	/	/	150	75	AV	Horizontal	PASS
4	2483.64	4.80	41.10	36.30	54.00	12.90	150	156	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level



Suspected Data List

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	2480.10	61.51	97.50	35.99	/	/	150	65	PK	Vertical	PASS
2	2484.20	15.33	51.35	36.02	74.00	22.65	150	57	PK	Vertical	PASS
3	2480.06	60.86	96.85	35.99	/	/	150	65	AV	Vertical	PASS
4	2484.38	5.06	41.08	36.02	54.00	12.92	150	57	AV	Vertical	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

7.8. AC Conducted Emissions Measurement

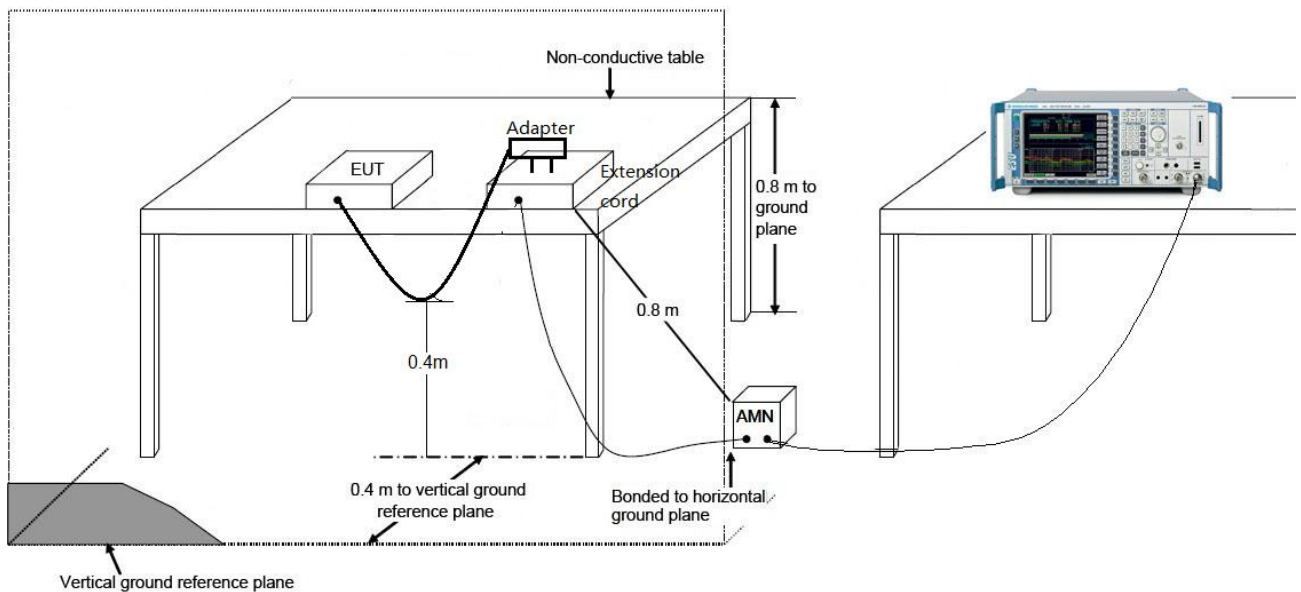
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
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.

7.8.2. Test Setup



7.8.3. Test Result

The EUT is DC 3.3V supply, this item only for the EUT is designed to be connected to the public utility (AC) power line. Not applicable.

8. Conclusion

The data collected relate only the item(s) tested and show that the **Embedded Wi-Fi/BLE Module (Model: EMC3091-P)** is compliance with Part 15C of the FCC Rules.

Statement

1. 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.
3. The client shall provide the test sample(s) and commission information and be responsible for their authenticity.
4. The report content is only applicable to the tested sample(s) this time.
5. If there are any objections to the report content, please submit them to our company in writing within 15 days from the date of receiving the report.
6. If the reports include both Chinese and English versions, when there are any inconsistencies caused by language, the Chinese version shall prevail.
7. This report is issued by the following laboratory premises:

No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China

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