

RF Test Report

FCC ID: 2AQSK-EH80

Test Report No.....: RF260226003-01-002

Product(s) Name.....: 4G AOV Dashcam, AOV Dashcam, 4G Dashcam

Model(s).....: EH80 (For details, please refer to page 6)

Trade Mark.....: BSJ

Applicant.....: HuiZhou BoShiJie Technology CO.,Ltd

Address.....: No.1, Huifeng West three road, Zhongkai Hi-tech Zone, Huizhou

Receipt Date.....: 2026.06.24

Test Date.....: 2026.08.04 ~ 2026.08.14

Issued Date.....: 2026.08.17

Standards.....: 47 CFR FCC Part 2

47 CFR FCC Part 22

47 CFR FCC Part 24

47 CFR FCC Part 27

ANSI C63.26-2015

ANSI/TIA/EIA-603-E-2016

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

Prepared By:	Checked By:	Approved By:	
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<i>Jason Huang</i>	<i>Black Ding</i>	<i>Tim Zhang</i>	

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REPORT ISSUED HISTORY

Original Report Issue Date: 2026.08.17

- No additional attachment
- Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 2 & Part 22 & Part 24 & Part 27			
Standard(s) Section	Test Item	Judgment	Remark
2.1046 22.913(a) 24.232(c) 27.50(c) 27.50(d) 27.50(h)(2) 27.50(j)	Output Power & Equivalent Isotropic Radiated Power & Equivalent Radiated Power	PASS	-----
2.1049	Occupied Bandwidth	PASS	-----
2.1051 22.917(a) 27.53(m)(4) 24.238(a) 27.53(h)	Conducted Spurious Emissions	PASS	-----
2.1051 2.1053 22.917(a) 24.238(a) 27.53(m)(4)	Radiated Spurious Emissions	PASS	-----
2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(g) 27.53(m)(4)	Band Edge	PASS	-----
22.913(d) 24.232(d) 27.50(d) 27.50(j)	Peak To Average Ratio	PASS	-----
2.1055 22.355 24.235 27.54	Frequency Stability	PASS	-----

Note:

(1) "N/A" denotes test is not applicable in this test report.

1.1 TEST FACILITY

Company:	Shenzhen Haiyun Standard Technical Co., Ltd.
Address:	No. 110, 111, 112, 113, 115, 116, Block B, Jinyuan business Building, No. 302, Xixiang Avenue, Laodong Community, Xixiang Street, Bao'an District, Shenzhen P.R.C.
CNAS Registration Number:	CNAS L18252
CAB identifier:	CN0145
Company Number	30427
A2LA Certificate Number:	6823.01

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Uncertainty	
Parameter	Uncertainty
Conducted emission(9kHz~30MHz) AC main	±2.68dB
Radiated emission(9kHz~30MHz)	±3.50dB
Radiated emission (30MHz~1GHz)	±4.20dB
Radiated emission (1GHz~18GHz)	±5.10dB
Radiated emission (18GHz~40GHz)	±5.26dB
Frequency error uncertainty	±80.66Hz
Uncertainty in power testing	±0.64dB
Phase uncertainty of transmitter	±0.35°
Uncertainty of power time relationship (-7dB~+1dB)	±0.58dB
Uncertainty of power time relationship (-20dB~-7dB)	±1.2dB
Uncertainty of power time relationship (-32dB~-20dB)	±2.3dB
Uncertainty of power time relationship (-50dB~-32dB)	±3.2dB
Uncertainty of power time relationship (-60dB~-50dB)	±3.5dB
Sensitivity	±1.24%
The transmitter conducts stray signals with uncertainty	±1.464dB

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Conducted Output Power & ERP & EIRP	23.1~24.5°C	49~55%	DC 12V	Lemon He
Occupied Bandwidth	23.1~24.5°C	49~55%	DC 12V	Lemon He
Conducted Spurious Emissions	23.1~24.5°C	49~55%	DC 12V	Lemon He
Band Edge	23.1~24.5°C	49~55%	DC 12V	Lemon He
Peak To Average Ratio	23.1~24.5°C	49~55%	DC 12V	Lemon He
Frequency Stability	23.1~24.5°C	49~55%	DC 12V	Lemon He
Radiated Spurious Emissions (9 kHz to 30 MHz)	23.8°C	54%	DC 12V	Keith Huang
Radiated Spurious Emissions (30 MHz to 1000 MHz)	23.8°C	54%	DC 12V	Keith Huang
Radiated Spurious Emissions (Above 1000 MHz)	23.8°C	54%	DC 12V	Keith Huang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Sample No.	POC260604004-S001	
Product name	4G AOV Dashcam, AOV Dashcam, 4G Dashcam	
Model name	EH80, EH81, EH82, EH83, EH84, EH85, EH86, EH87, EH88, EH89, EH90, EH23, EH24D, EH25, EH26, EH27, EH28, EH29, EH30, EH31, EH32, EH33, EH34, ED12, ED13, ED14, ED15, ED16, ED17, EH35, EH36, EH37, EH38, EH39, EH40, EH41, EH42, EH43, EH44, EH45, EH46, EH47, EH48, EH49, EH50, EH51, EH52, EH53, EH54, EH55, EH56, EH57, EH58, EH59, EH60, EH61, EH62, EH63, EH64, EH65, EH66, EH67, EH68, EH69, EH70, EH71, EH72, EH73, EH74, EH75, EH76, EH77, EH78, EH79, EH91, EH92, EH93, EH94, EH95, EH96, EH97, EH98, EH99	
Test model	EH80	
Model difference	Only the model name is different.	
Modulation Type	QPSK, 16QAM	
Operation Band	LTE Band 2 / 4 / 5 / 41 / 66	
Operate temperature	-20℃-35℃	
Frequency Range	LTE Band 2	Tx: 1850MHz–1910MHz
		Rx: 1930MHz–1990MHz
	LTE Band 4	Tx: 1710MHz–1755MHz
		Rx: 2110MHz–2155MHz
	LTE Band 5	Tx: 824MHz–849MHz
		Rx: 869MHz–894MHz
	LTE Band 41	Tx: 2496MHz -2690MHz
		Rx: 2496MHz -2690MHz
	LTE Band 66	Tx: 1710MHz–1780MHz
		Rx: 2110MHz–2200MHz
Channel Bandwidth	LTE Band 2	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 4	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 5	1.4MHz, 3MHz, 5MHz, 10MHz
	LTE Band 41	5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
Antenna Type	FPC Antenna	
Antenna Gain	LTE Band 2	3.84dBi
	LTE Band 4	2.83dBi
	LTE Band 5	1.04dBi
	LTE Band 41	3.15dBi
	LTE Band 66	3.60dBi

2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment				
No.	Equipment	Manufacturer	Model Name	Remarks
1	SIM Card	/	LTE 4G Card	/

3. TEST RESULT

3.1 CONDUCTED OUTPUT POWER MEASUREMENT

3.1.1 LIMIT

Mobile / Portable station are limited to 7 watts e.r.p.

Mobile / Portable station are limited to 1 watts e.i.r.p.

Mobile / Portable station are limited to 2 watts e.i.r.p.

Mobile / Portable station are limited to 3 watts e.r.p.

3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

EIRP:

$EIRP = \text{Output Power} + \text{Antenan gain}$

ERP:

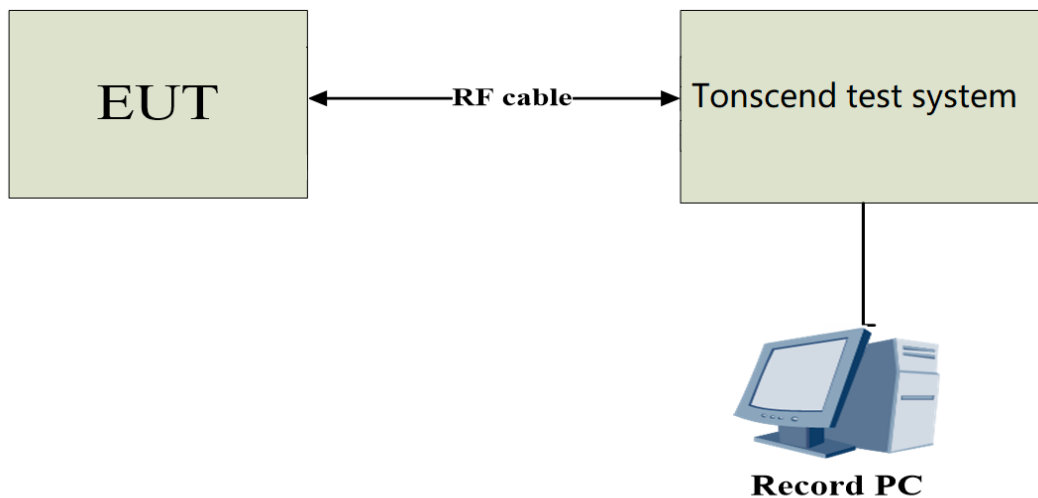
$ERP = EIRP - 2.15$

Output Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP LAYOUT

Output Power Measurement



3.1.4 TEST DEVIATION

No deviation.

3.1.5 TEST RESULTS

Please refer to the Appendix E-LTE Band2, Appendix E-LTE Band4, Appendix E-LTE Band5, Appendix E-LTE Band41, Appendix E-LTE Band66.

3.2 RADIATED SPURIOUS EMISSIONS MEASUREMENT

3.2.1 LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $55 + 10 \log(P)$ dB. The emission limit equal to -25dBm.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $60 + 10 \log(P)$ dB. The emission limit equal to -40dBm.

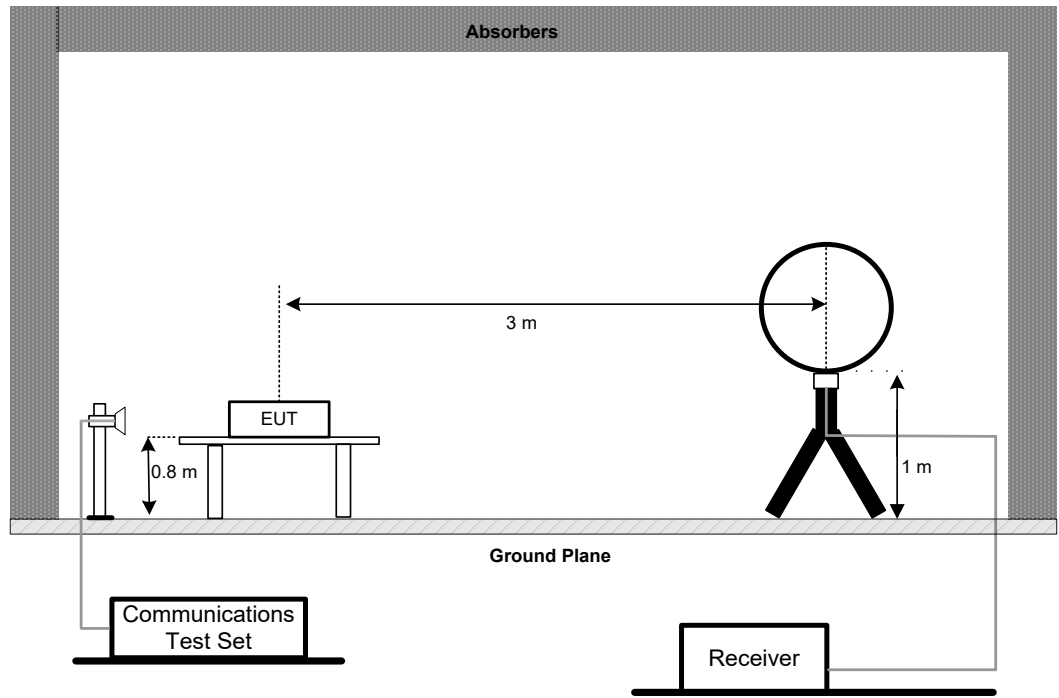
3.2.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.2.

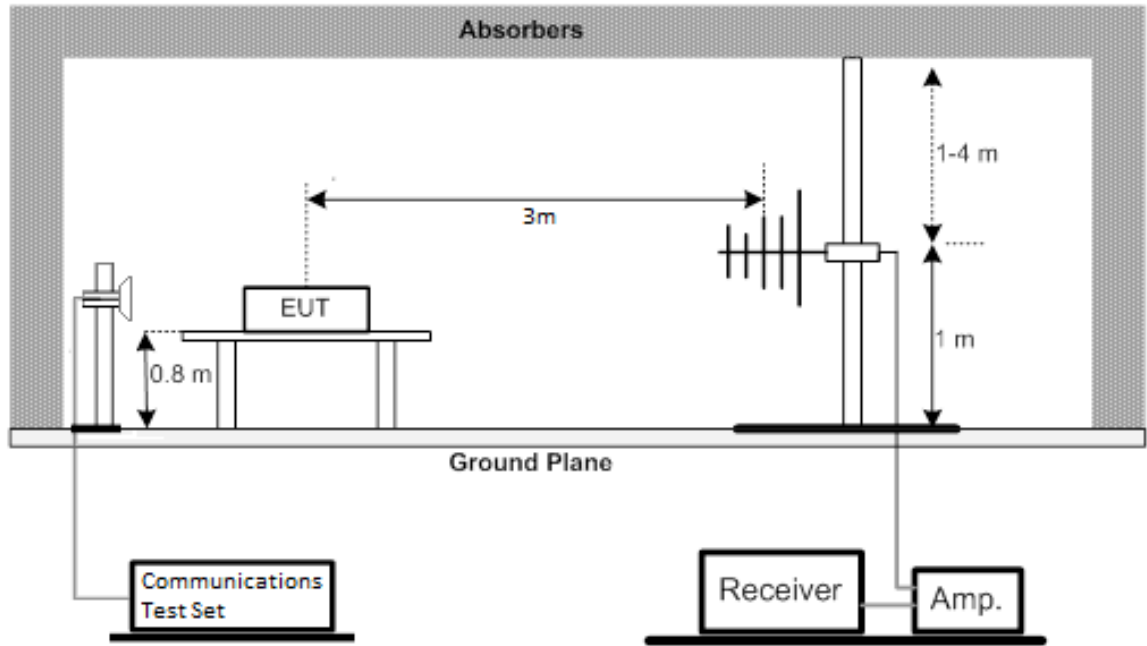
1. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
2. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
3. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
4. ERP can be calculated form EIRP by subtracting the gain of dipole, $ERP = EIPR - 2.15\text{dBi}.$
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.2.3 TEST SETUP LAYOUT

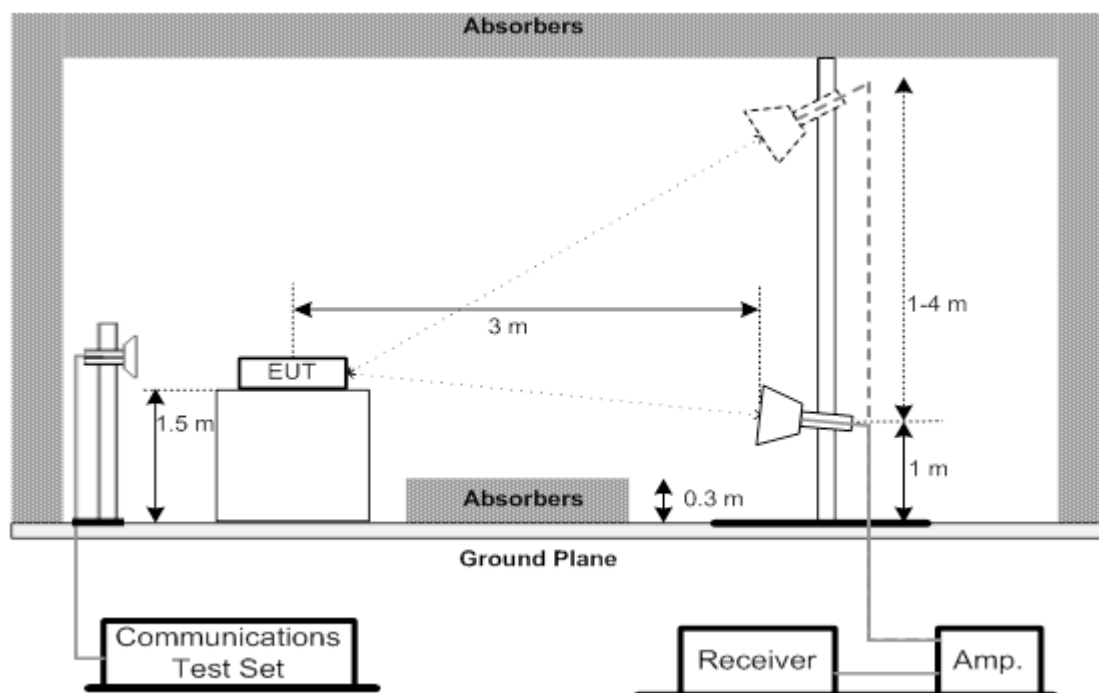
Below 30MHz



30MHz to 1GHz



Above 1GHz



3.2.4 TEST RESULTS (9KHZ TO 30MHZ)

Radiated emission: 9KHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

Radiated emission: Above 30MHz

Frequency (MHz)	Read Level (dBm)	Polarization	Factor (dB)	Measurement (dBm)	Limit (dBm)	Margin (dB)	Detector
LTE TX BAND2 Low CH							
3701.40	-53.60	H	3.95	-49.65	-13.00	36.65	peak
5552.10	-59.73	H	6.80	-52.93	-13.00	39.93	peak
3701.40	-50.58	V	4.11	-46.47	-13.00	33.47	peak
5552.10	-58.93	V	8.15	-50.78	-13.00	37.78	peak
LTE TX BAND2 Mid CH							
152.13	-67.47	H	-5.05	-72.52	-13.00	59.52	peak
281.99	-73.61	H	-1.14	-74.75	-13.00	61.75	peak
860.03	-75.53	H	11.24	-64.29	-13.00	51.29	peak
48.50	-63.01	V	-4.48	-67.49	-13.00	54.49	peak
98.49	-53.23	V	-3.93	-57.16	-13.00	44.16	peak

180.65	-61.39	V	-0.52	-61.91	-13.00	48.91	peak
3760.00	-53.70	H	4.18	-49.52	-13.00	36.52	peak
5640.00	-60.08	H	7.24	-52.84	-13.00	39.84	peak
3760.00	-50.54	V	4.28	-46.26	-13.00	33.26	peak
5640.00	-58.97	V	8.31	-50.66	-13.00	37.66	peak
LTE TX BAND2 High CH							
3818.60	-54.09	H	4.42	-49.67	-13.00	36.67	peak
5727.90	-60.55	H	7.66	-52.89	-13.00	39.89	peak
3818.60	-50.98	V	4.47	-46.51	-13.00	33.51	peak
5727.90	-58.90	V	8.15	-50.75	-13.00	37.75	peak
LTE TX BAND4 Low CH							
3421.40	-52.70	H	2.45	-50.25	-13.00	37.25	peak
5132.10	-60.94	H	7.27	-53.67	-13.00	40.67	peak
3421.40	-51.46	V	2.73	-48.73	-13.00	35.73	peak
5132.10	-58.32	V	6.53	-51.79	-13.00	38.79	peak
LTE TX BAND4 Mid CH							
99.53	-63.49	H	-10.42	-73.91	-13.00	60.91	peak
151.07	-67.07	H	-5.03	-72.10	-13.00	59.10	peak
860.04	-75.53	H	11.24	-64.29	-13.00	51.29	peak
48.50	-63.13	V	-4.48	-67.61	-13.00	54.61	peak
99.18	-52.84	V	-3.85	-56.69	-13.00	43.69	peak
182.56	-58.63	V	-0.92	-59.55	-13.00	46.55	peak
3465.00	-52.85	H	2.72	-50.13	-13.00	37.13	peak
5197.50	-60.80	H	7.28	-53.52	-13.00	40.52	peak
3465.00	-51.67	V	2.99	-48.68	-13.00	35.68	peak
5197.50	-58.03	V	6.31	-51.72	-13.00	38.72	peak
LTE TX BAND4 High CH							
3508.60	-53.28	H	2.99	-50.29	-13.00	37.29	peak
5262.90	-60.59	H	6.88	-53.71	-13.00	40.71	peak
3508.60	-52.08	V	3.26	-48.82	-13.00	35.82	peak
5262.90	-58.49	V	6.64	-51.85	-13.00	38.85	peak
LTE TX BAND5 Low CH							
1649.40	-46.82	H	-3.70	-50.52	-13.00	37.52	peak
2474.10	-52.75	H	-0.42	-53.17	-13.00	40.17	peak
1649.40	-45.05	V	-3.38	-48.43	-13.00	35.43	peak
2474.10	-51.58	V	-0.40	-51.98	-13.00	38.98	peak
LTE TX BAND5 Mid CH							
94.43	-66.12	H	-9.58	-75.70	-13.00	62.70	peak
239.99	-75.25	H	0.00	-75.25	-13.00	62.25	peak
684.75	-77.07	H	7.91	-69.16	-13.00	56.16	peak

48.50	-63.13	V	-4.48	-67.61	-13.00	54.61	peak
97.46	-52.13	V	-4.05	-56.18	-13.00	43.18	peak
179.39	-58.33	V	-0.34	-58.67	-13.00	45.67	peak
1673.00	-46.80	H	-3.65	-50.45	-13.00	37.45	peak
2509.50	-52.81	H	-0.25	-53.06	-13.00	40.06	peak
1673.00	-44.87	V	-3.40	-48.27	-13.00	35.27	peak
2509.50	-51.70	V	-0.22	-51.92	-13.00	38.92	peak
LTE TX BAND5 High CH							
1696.60	-46.98	H	-3.61	-50.59	-13.00	37.59	peak
2544.90	-53.19	H	-0.07	-53.26	-13.00	40.26	peak
1696.60	-45.02	V	-3.43	-48.45	-13.00	35.45	peak
2544.90	-52.00	V	-0.04	-52.04	-13.00	39.04	peak
LTE TX BAND12 Low CH							
1399.40	-47.80	H	-3.18	-50.98	-13.00	37.98	peak
2099.10	-52.28	H	-1.07	-53.35	-13.00	40.35	peak
1399.40	-45.65	V	-3.08	-48.73	-13.00	35.73	peak
2099.10	-50.79	V	-1.03	-51.82	-13.00	38.82	peak
LTE TX BAND12 Mid CH							
152.13	-67.51	H	-5.05	-72.56	-13.00	59.56	peak
654.23	-76.43	H	7.88	-68.55	-13.00	55.55	peak
881.41	-76.22	H	11.25	-64.97	-13.00	51.97	peak
37.81	-63.15	V	-4.32	-67.47	-13.00	54.47	peak
97.80	-50.71	V	-4.01	-54.72	-13.00	41.72	peak
180.65	-59.47	V	-0.52	-59.99	-13.00	46.99	peak
1415.00	-47.69	H	-3.23	-50.92	-13.00	37.92	peak
2122.50	-52.51	H	-0.77	-53.28	-13.00	40.28	peak
1415.00	-45.56	V	-3.10	-48.66	-13.00	35.66	peak
2122.50	-50.98	V	-0.77	-51.75	-13.00	38.75	peak
LTE TX BAND12 High CH							
1430.60	-47.69	H	-3.27	-50.96	-13.00	37.96	peak
2145.90	-52.91	H	-0.47	-53.38	-13.00	40.38	peak
1430.60	-45.69	V	-3.12	-48.81	-13.00	35.81	peak
2145.90	-51.37	V	-0.50	-51.87	-13.00	38.87	peak
LTE TX BAND13 Low CH							
1559.00	-44.49	H	-3.66	-48.15	-40.00	8.15	peak
2338.50	-52.59	H	-0.48	-53.07	-13.00	40.07	peak
1559.00	-43.24	V	-3.27	-46.51	-40.00	6.51	peak
2338.50	-51.25	V	-0.51	-51.76	-13.00	38.76	peak
LTE TX BAND13 Mid CH							
152.13	-69.09	H	-5.05	-74.14	-13.00	61.14	peak

682.35	-77.15	H	8.29	-68.86	-13.00	55.86	peak
866.09	-75.98	H	11.33	-64.65	-13.00	51.65	peak
48.50	-61.44	V	-4.48	-65.92	-13.00	52.92	peak
97.80	-50.71	V	-4.01	-54.72	-13.00	41.72	peak
184.49	-56.78	V	-1.33	-58.11	-13.00	45.11	peak
1564.00	-44.20	H	-3.68	-47.88	-40.00	7.99	peak
2346.00	-52.43	H	-0.52	-52.95	-13.00	39.95	peak
1564.00	-43.15	V	-3.28	-46.43	-40.00	6.43	peak
2346.00	-51.16	V	-0.55	-51.71	-13.00	38.71	peak
LTE TX BAND13 High CH							
1569.00	-44.41	H	-3.7	-48.11	-40.00	8.11	peak
2353.50	-52.48	H	-0.56	-53.04	-13.00	40.04	peak
1569.00	-43.29	V	-3.28	-46.57	-40.00	6.57	peak
2353.50	-51.25	V	-0.58	-51.83	-13.00	38.83	peak
LTE TX BAND66 Low CH							
3421.40	-48.28	H	2.45	-45.83	-13.00	32.83	peak
5132.10	-56.86	H	7.27	-49.59	-13.00	36.59	peak
3421.40	-45.65	V	2.73	-42.92	-13.00	29.92	peak
5132.10	-52.69	V	6.53	-46.16	-13.00	33.16	peak
LTE TX BAND66 Mid CH							
180.01	-63.17	H	-5.78	-68.95	-13.00	55.95	peak
640.61	-76.64	H	7.61	-69.03	-13.00	56.03	peak
875.25	-76.70	H	11.45	-65.25	-13.00	52.25	peak
38.75	-61.02	V	-4.27	-65.29	-13.00	52.29	peak
98.14	-52.57	V	-3.97	-56.54	-13.00	43.54	peak
180.02	-60.03	V	-0.38	-60.41	-13.00	47.41	peak
3490.00	-48.64	H	2.88	-45.76	-13.00	32.76	peak
5235.00	-56.58	H	7.06	-49.52	-13.00	36.52	peak
3490.00	-46.02	V	3.14	-42.88	-13.00	29.88	peak
5235.00	-52.61	V	6.49	-46.12	-13.00	33.12	peak
LTE TX BAND66 High CH							
3558.60	-49.17	H	3.30	-45.87	-13.00	32.87	peak
5337.90	-56.04	H	6.40	-49.64	-13.00	36.64	peak
3558.60	-46.51	V	3.56	-42.95	-13.00	29.95	peak
5337.90	-53.25	V	7.04	-46.21	-13.00	33.21	peak
LTE TX BAND71 Low CH							
1331.00	-50.58	H	-3.16	-53.74	-13.00	40.74	peak
1996.50	-53.10	H	-2.36	-55.46	-13.00	42.46	peak
1331.00	-46.15	V	-2.74	-48.89	-13.00	35.89	peak
1996.50	-50.75	V	-2.17	-52.92	-13.00	39.92	peak

LTE TX BAND71 Mid CH							
184.49	-61.34	H	-6.10	-67.44	-13.00	54.44	peak
665.80	-76.01	H	8.19	-67.82	-13.00	54.82	peak
875.25	-76.67	H	11.45	-65.22	-13.00	52.22	peak
48.50	-63.69	V	-4.48	-68.17	-13.00	55.17	peak
97.11	-53.20	V	-4.08	-57.28	-13.00	44.28	peak
184.49	-59.41	V	-1.33	-60.74	-13.00	47.74	peak
1361.00	-50.49	H	-3.17	-53.66	-13.00	40.66	peak
2041.50	-53.56	H	-1.81	-55.37	-13.00	42.37	peak
1361.00	-45.93	V	-2.89	-48.82	-13.00	35.82	peak
2041.50	-51.19	V	-1.68	-52.87	-13.00	39.87	peak
LTE TX BAND71 High CH							
1391.00	-50.59	H	-3.18	-53.77	-13.00	40.77	peak
2086.50	-54.26	H	-1.23	-55.49	-13.00	42.49	peak
1391.00	-45.89	V	-3.04	-48.93	-13.00	35.93	peak
2086.50	-51.90	V	-1.06	-52.96	-13.00	39.96	peak

- Note:** 1. The other emission levels were very low against the limit.
2. Measurement = Reading Level+ Correct Factor, Margin = Limit- Measurement
3. The high frequency, which started from 18GHz to 26.5GHz, was pre-scanned and the result which was 20dB lower than the limit line was not recorded in this report.
4. Worst case for minimum bandwidth mode was recorded.
5. For below 1GHz, worst case for middle channel was recorded.

3.3 CONDUCTED SPURIOUS EMISSIONS

3.3.1 LIMIT

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

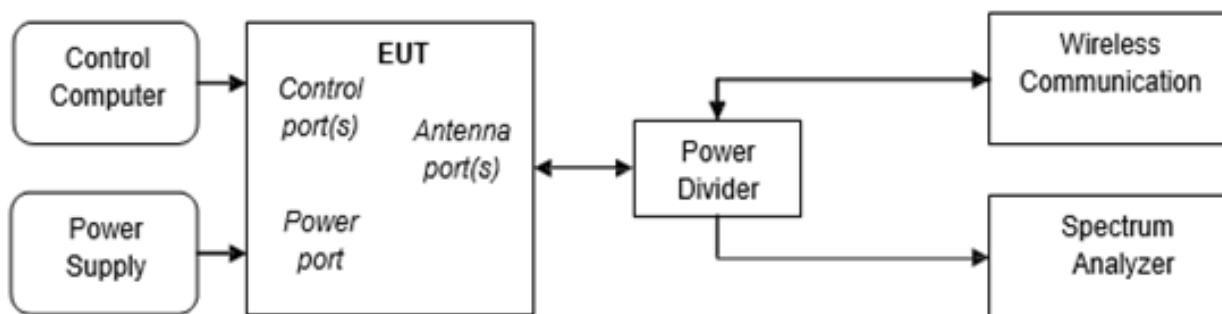
3.3.2 TEST PROCEDURES USED

KDB 971168 v03r01-Section 6.1

3.3.3 TEST SETTINGS

1. 9kHz~150kHz, RBW = 1kHz, VBW $\geq 3 \times$ RBW,
150kHz~30MHz, RBW = 10kHz, VBW $\geq 3 \times$ RBW,
30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz.
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.
2. Detector: Peak
3. Trace mode= max hold.

3.3.4 TEST SETUP LAYOUT



3.3.5 TEST RESULTS

Please refer to the AppendixA , Appendix B , Appendix D.

3.4 OCCUPIED BANDWIDTH

3.4.1 LIMIT

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

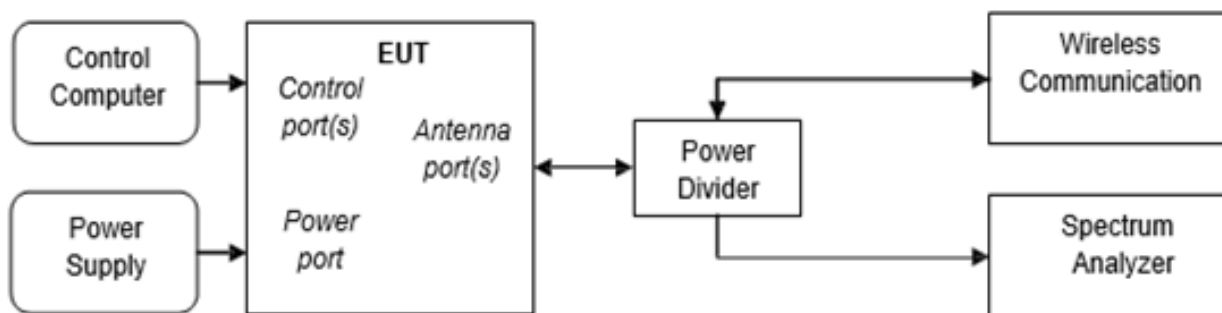
3.4.2 TEST PROCEDURES USED

KDB 971168 v03r01-Section 4

3.4.3 TEST SETTINGS

1. SET RBW=1-5% of OBW
2. SET VBW $\geq$ 3*RBW
3. Detector: Peak
4. Trace mode= max hold.
5. Sweep= auto couple
6. Steps 1-5 were repeated after it is stable

3.4.4 TEST SETUP LAYOUT



3.4.5 TEST RESULTS

Please refer to the Appendix E-LTE Band2, Appendix E-LTE Band4, Appendix E-LTE Band5, Appendix E-LTE Band41, Appendix E-LTE Band66.

3.5 BAND EDGE MEASUREMENTS

The 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission power must be attenuated below the transmitting power (P) by a factor of at least $43+10\log_{10}P$ dB.

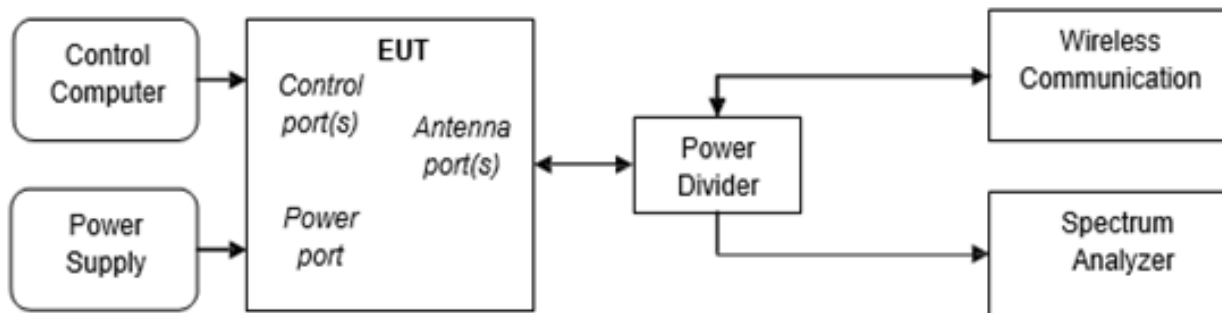
3.5.1 TEST PROCEDURES USED

KDB 971168 v03r01-Section 6

3.5.2 TEST SETTINGS

1. SET RBW $\geq$ 1% of Emission BW.
2. SET VBW about three times of RBW
3. Detector: RMS
4. Trace mode= max hold.
5. Span= 2MHz

3.5.3 TEST SETUP LAYOUT



3.5.4 TEST RESULTS

Please refer to the Appendix E-LTE Band2, Appendix E-LTE Band4, Appendix E-LTE Band5, Appendix E-LTE Band41, Appendix E-LTE Band66.

3.6 PEAK TO AVERAGE RATIO

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

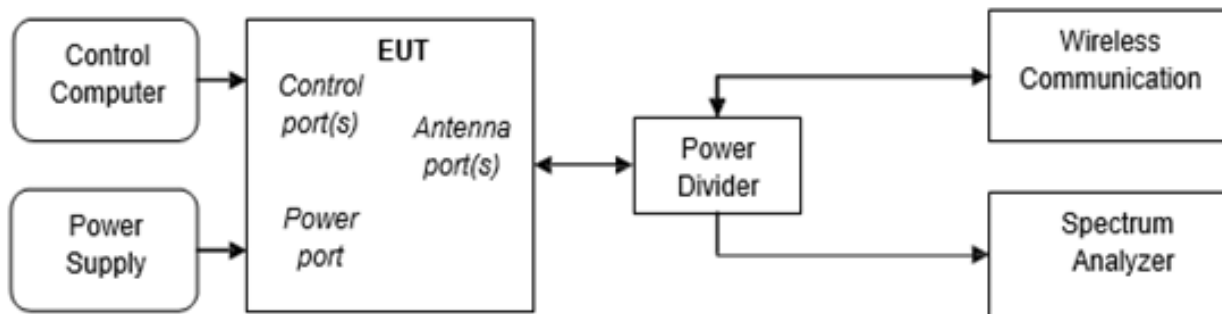
3.6.1 TEST PROCEDURES USED

KDB 971168 v03r01-Section 5.7

3.6.2 TEST SETTINGS

1. The signal analyzer's CCDF measurement profile enabled
2. Frequency= carrier center frequency
3. Measurement BW > EBW of signal
4. for continuous transmissions, set to 1ms
5. Record the maximum PAPR level associated with a probability of 0.1%.

3.6.3 TEST SETUP LAYOUT



3.6.4 TEST RESULTS

Please refer to the Appendix E-LTE Band2, Appendix E-LTE Band4, Appendix E-LTE Band5, Appendix E-LTE Band41, Appendix E-LTE Band66.

3.7 FREQUENCY STABILITY

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a. Temperature: The temperature is varied from -30°C to +65°C in 10°C increments using an environmental chamber.
- b. Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

3.7.1 TIME PERIOD AND PROCEDURE:

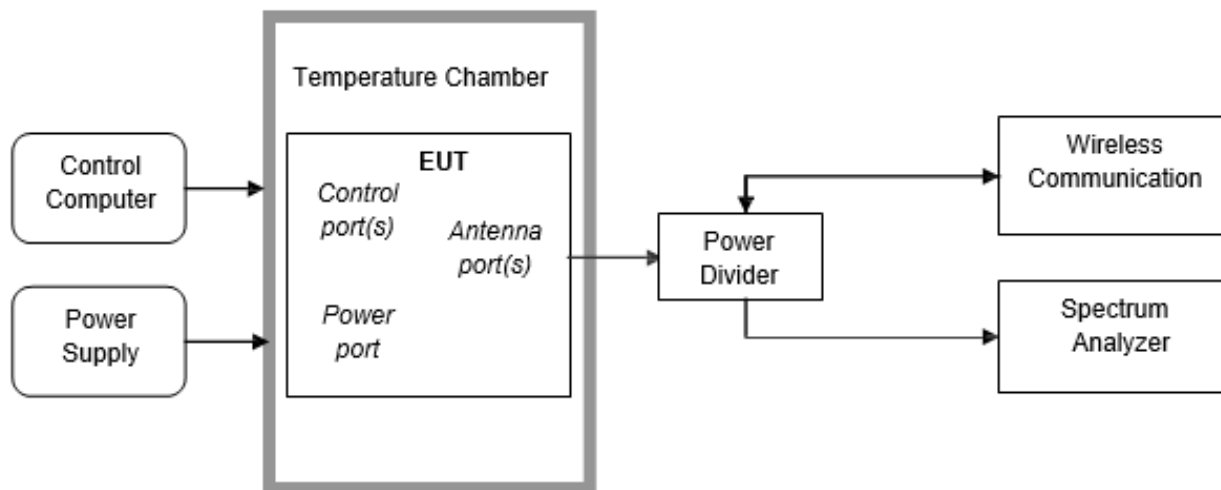
The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference). The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.7.2 TEST PROCEDURES USED

KDB 971168 v03r01-Section 9

3.7.3 TEST SETUP LAYOUT



3.7.4 TEST RESULTS

Please refer to the Appendix E-LTE Band2, Appendix E-LTE Band4, Appendix E-LTE Band5, Appendix E-LTE Band41, Appendix E-LTE Band66.

4. LIST OF MEASUREMENT EQUIPMENTS

No.	Name of Equipment	Manufacturer	Model Number	Serial Number	Inventory No.	Last Calibration	Due Calibration
Radiated Emission							
1	Test receiver	Rohde&Schwarz	ESU	100184	JLE011	2026/2/27	2027/2/26
2	Log periodic antenna	Schwarzbeck	VULB 9168	1151	JLE012	2025/4/12	2028/4/11
3	Low frequency amplifier	/	LNA 0920N	2014	JLE023	2026/2/27	2027/2/26
4	High frequency amplifier	Schwarzbeck	BBV 9718	9718-284	JLE024	2026/2/27	2027/2/26
5	Horn Antenna	SCHWARZBECK	BBHA 9120 D	02670	JLE028	2025/4/12	2028/4/11
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE021	2026/4/8	2027/4/7
7	Horn Antenna	SCHWARZBECK	BBHA 9170	9170#685	JLE029	2024/7/15	2027/7/14
8	Loop Antenna	SCHWARZBECK	FMZB1519B	00029	JLE030	2024/7/15	2027/7/14
9	Broadband preamplifier	Schwarzbeck	BBV9721	9721-019	JLE025	2026/2/27	2027/2/26
10	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
RF Conducted Emissions							
1	Spectrum Analvzer	Rohde&Schwarz	FSV40-N	6625-01-588-5515	JLE120	2026/1/19	2027/1/18
2	Spectrum Analyzer	Rohde&Schwarz	FSP	6625-01-522-9603	JLE121	2026/1/19	2027/1/18
3	RF Control Unit	dsusoft	JS0806-2	21G8060449	JLE053	2026/2/27	2027/2/26
4	power supply unit	dsusoft	JS0806-4ADC	N/A	JLE055	2026/2/27	2027/2/26
5	VXG Signal Generator	Keysight	N5182B	MY59100855	JLE068	2025/4/15	2026/4/14
6	EXG Analog Signal Generator	Keysight	N5173B	MY59101282	JLE052	2026/2/27	2027/2/26
7	Wideband Radio Communication Tester	Rohde&Schwarz	CMW500	1201.0002K5 0-116064-Dt	JLE054	2026/2/27	2027/2/26
8	Test software	dsusoft	JS1120-3 Ver.3.2.22.0				

APPENDIX A - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)

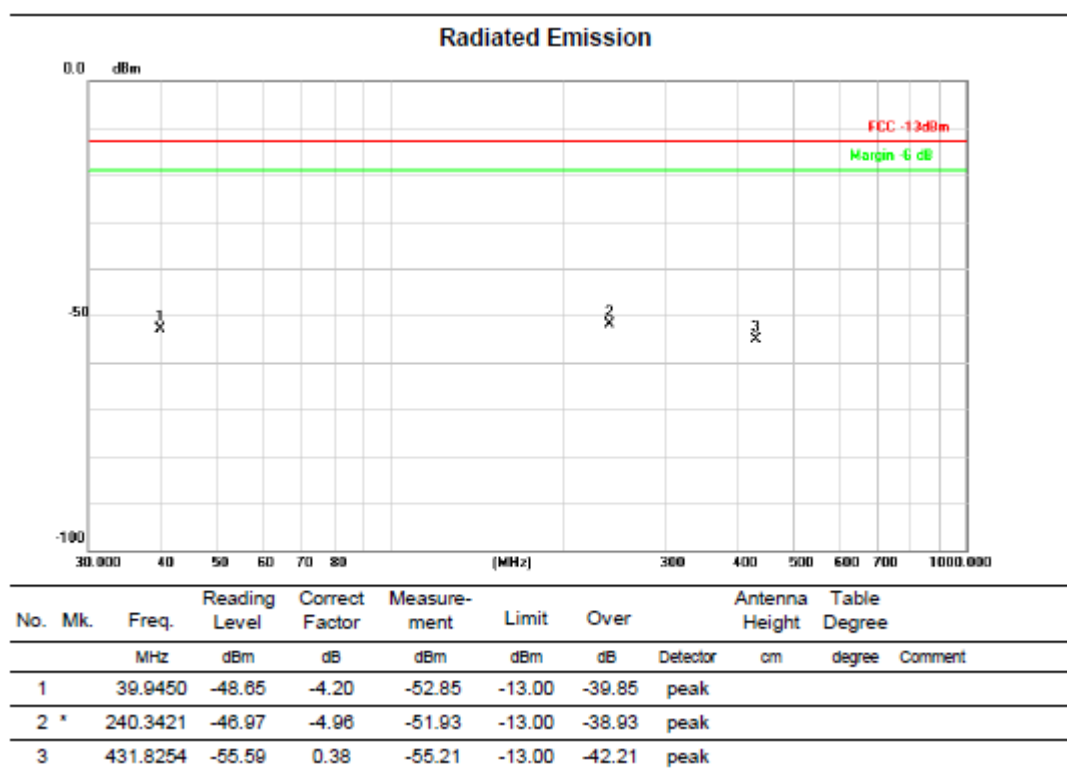
Radiated emission: 9KHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

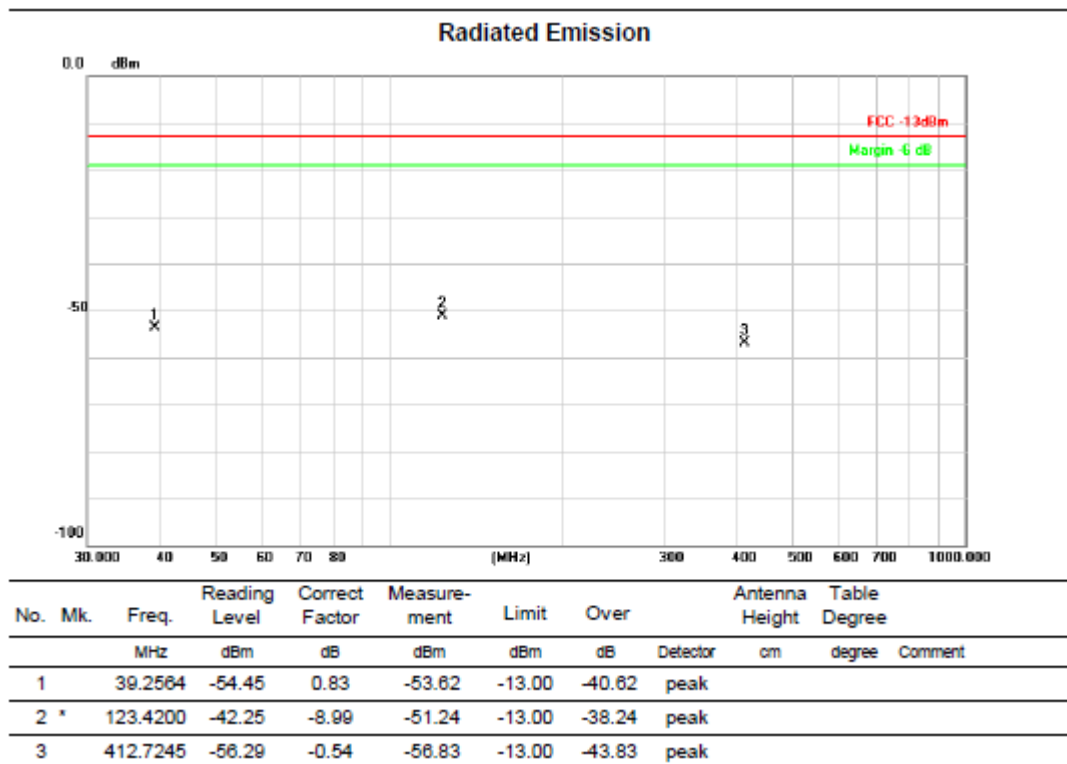
There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

APPENDIX B - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1GHZ)

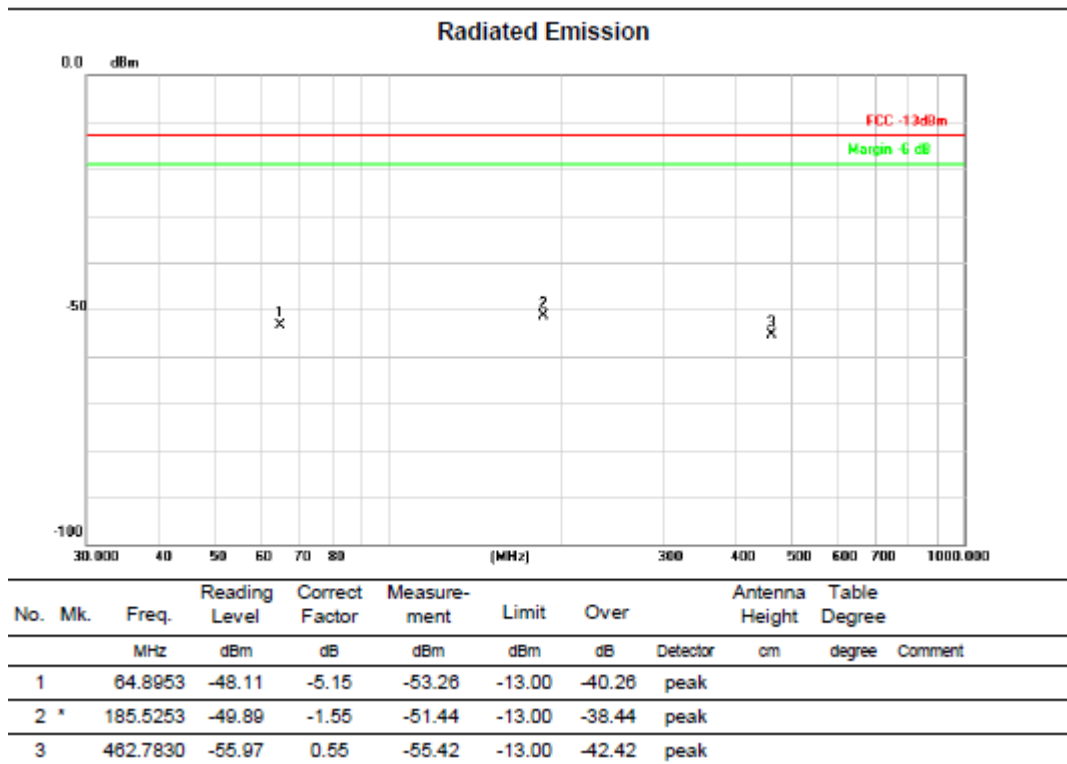
Test Mode	Band 2_TX Mid CH	Polarization	Vertical
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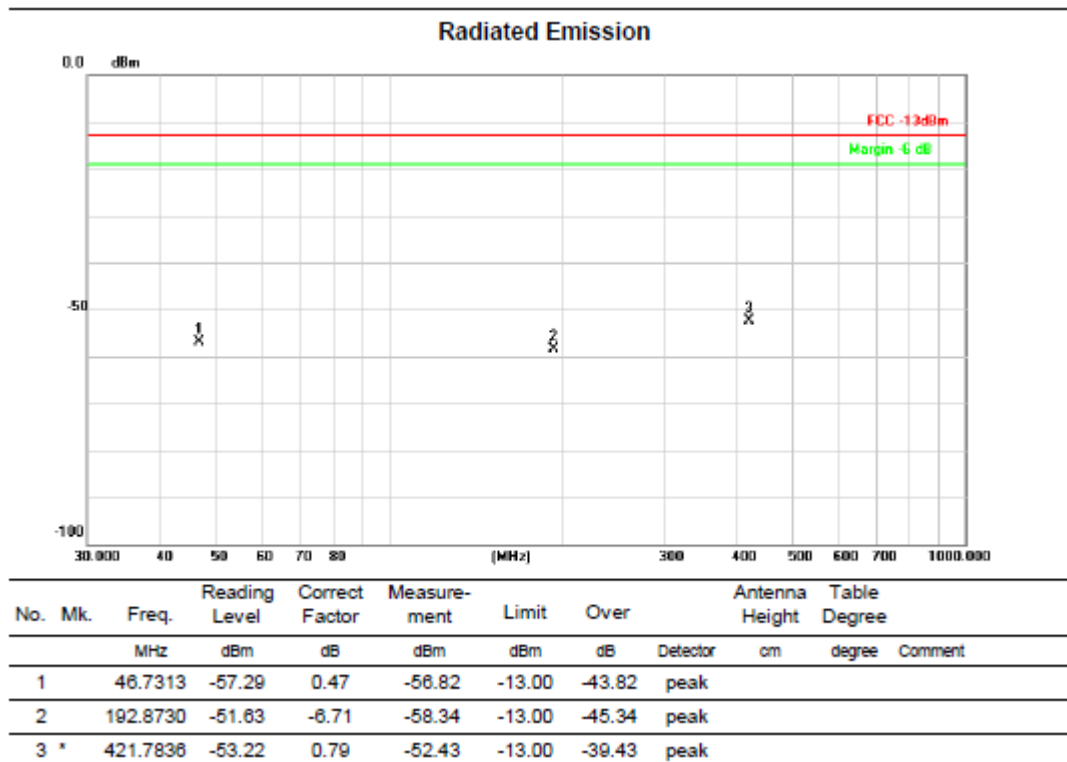
Test Mode	NB IoT Band 2_TX Mid CH	Polarization	Horizontal
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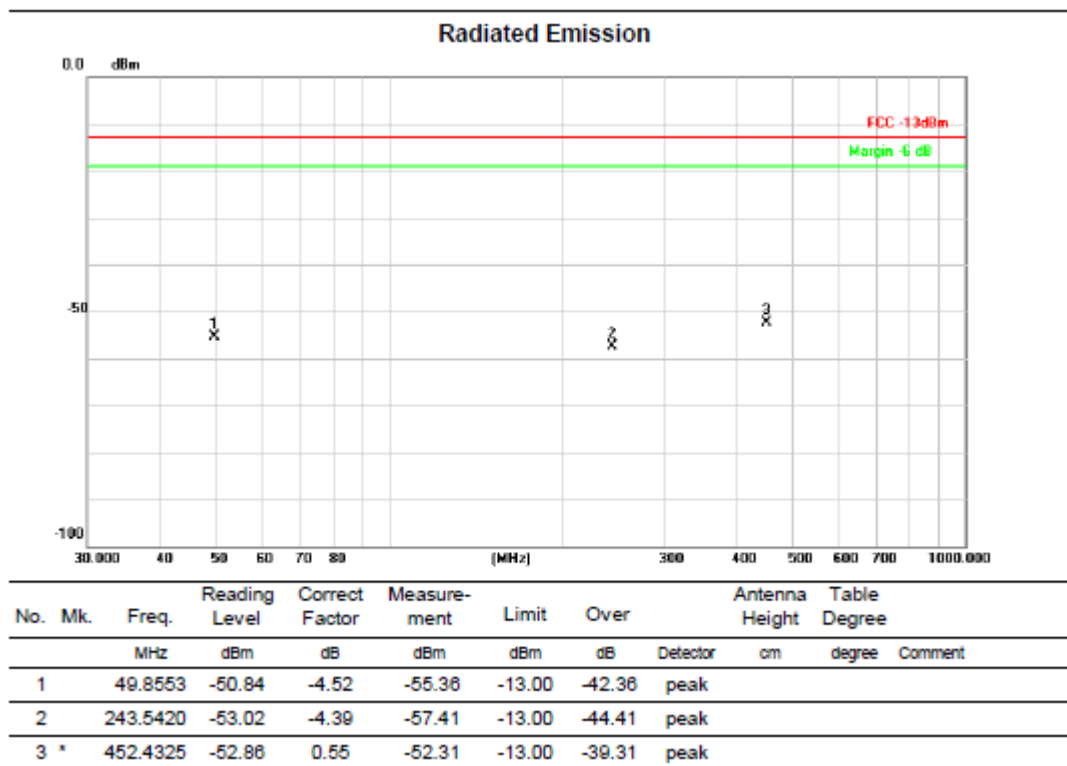
Test Mode	Band 4_TX Mid CH	Polarization	Vertical
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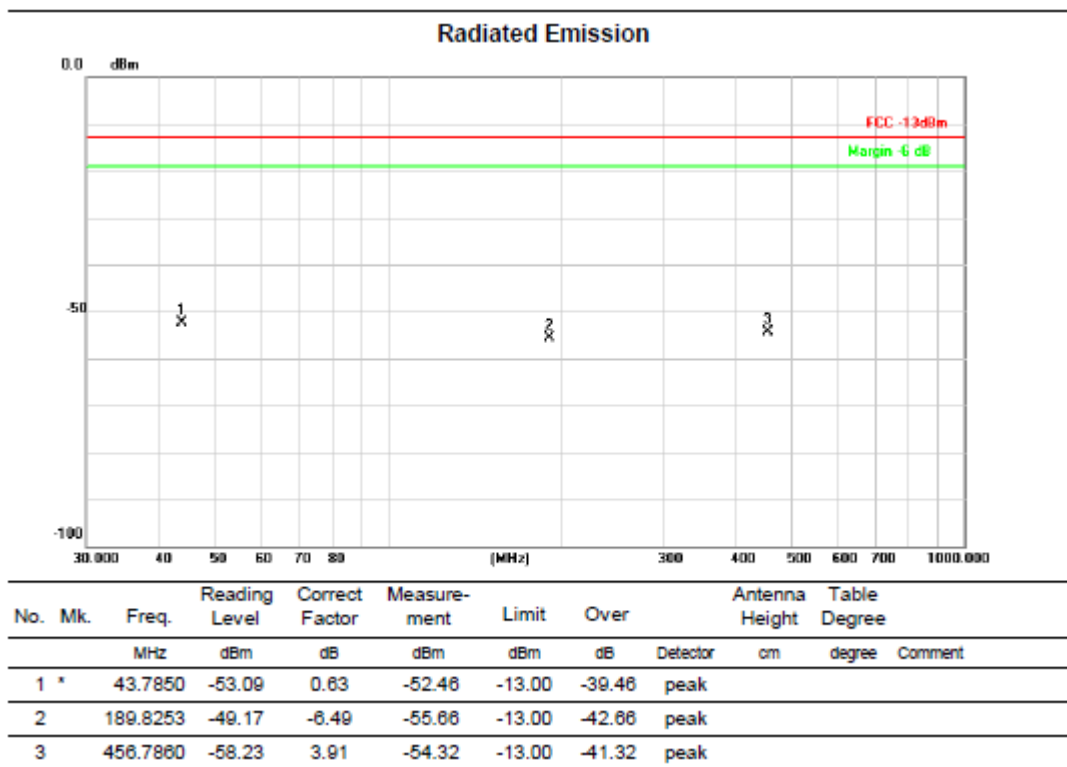
Test Mode	Band 4_TX Mid CH	Polarization	Horizontal
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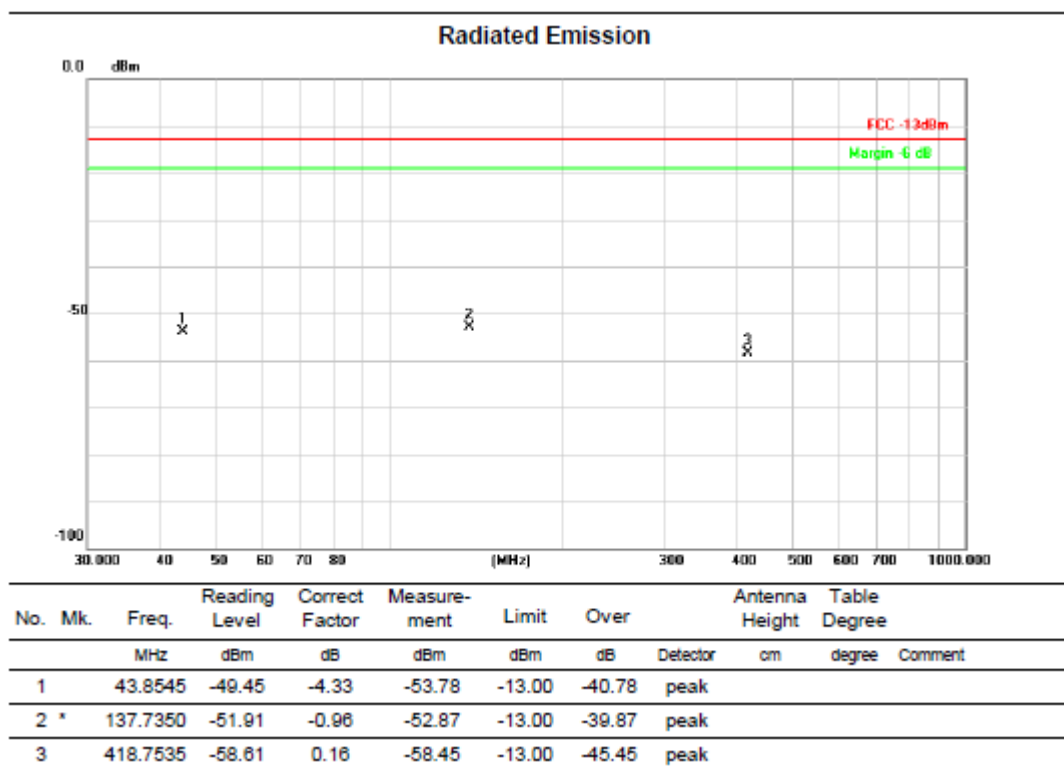
Test Mode	Band 5_TX Mid CH	Polarization	Vertical
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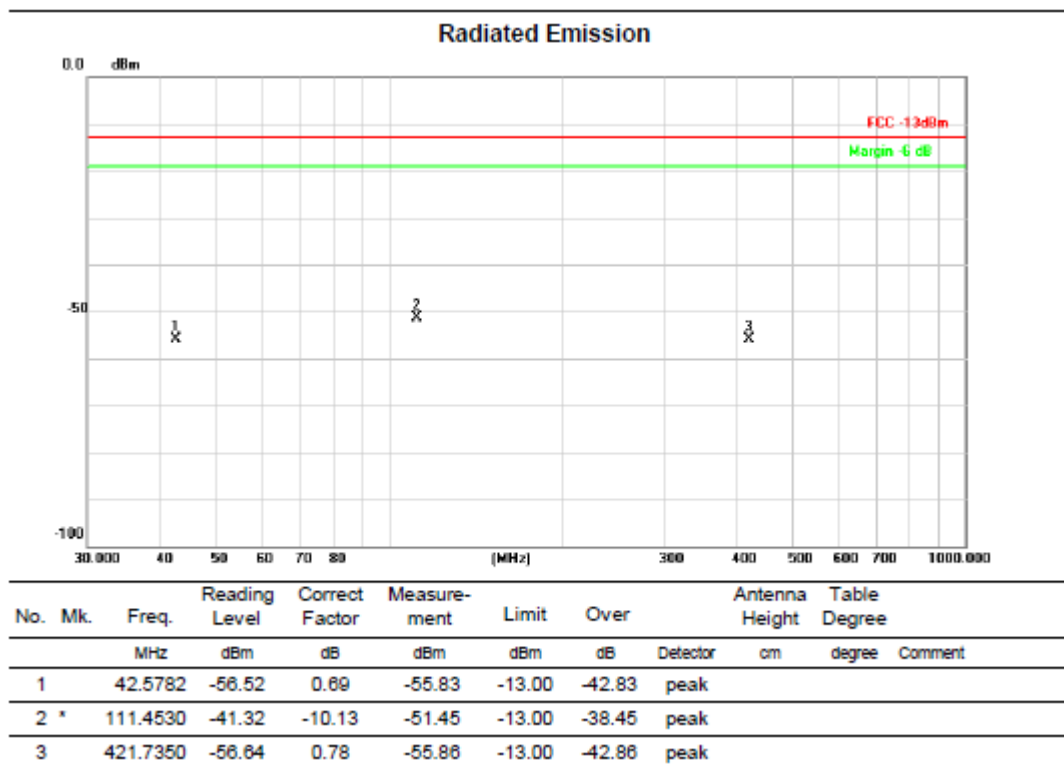
Test Mode	Band 5_TX Mid CH	Polarization	Horizontal
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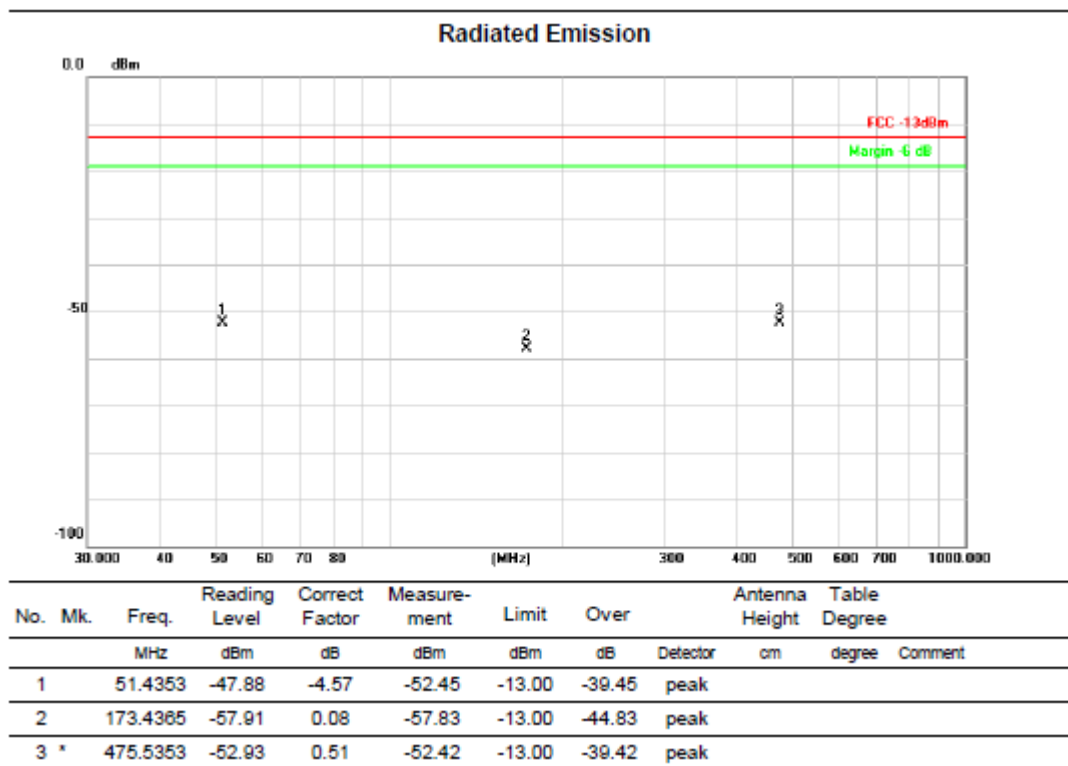
Test Mode	Band 41_TX Mid CH	Polarization	Vertical
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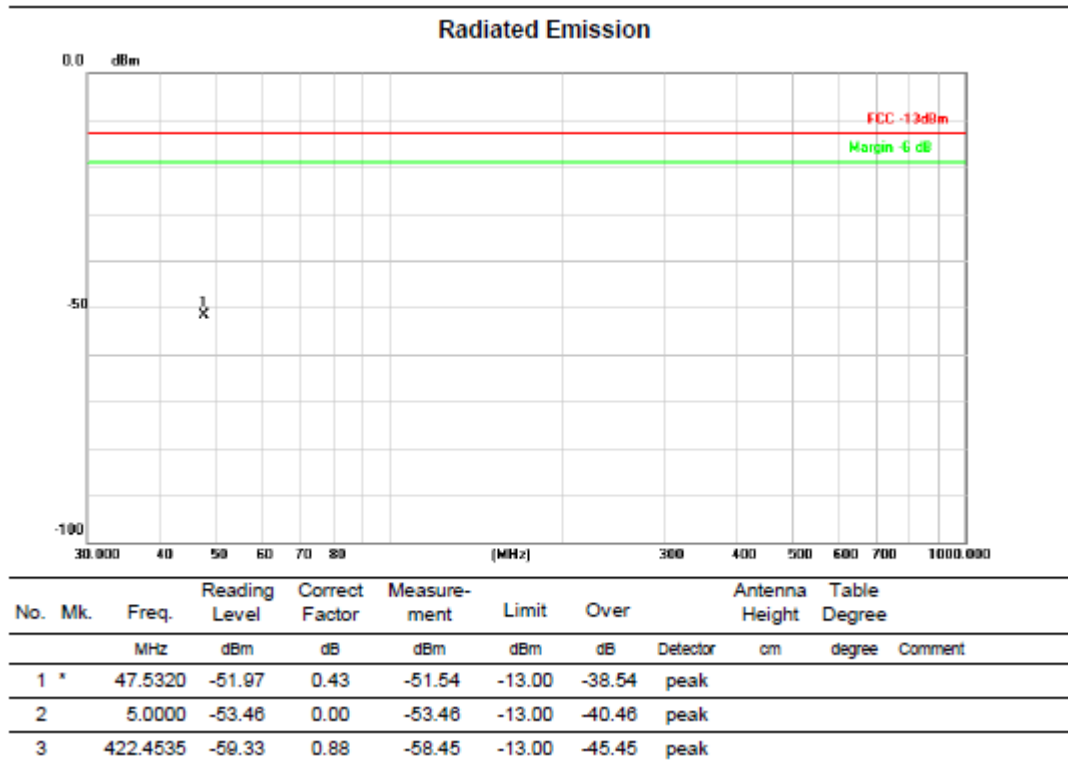
Test Mode	Band 41_TX Mid CH	Polarization	Horizontal
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Test Mode	Band 66_TX Mid CH	Polarization	Vertical
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Test Mode	Band 66_TX Mid CH	Polarization	Horizontal
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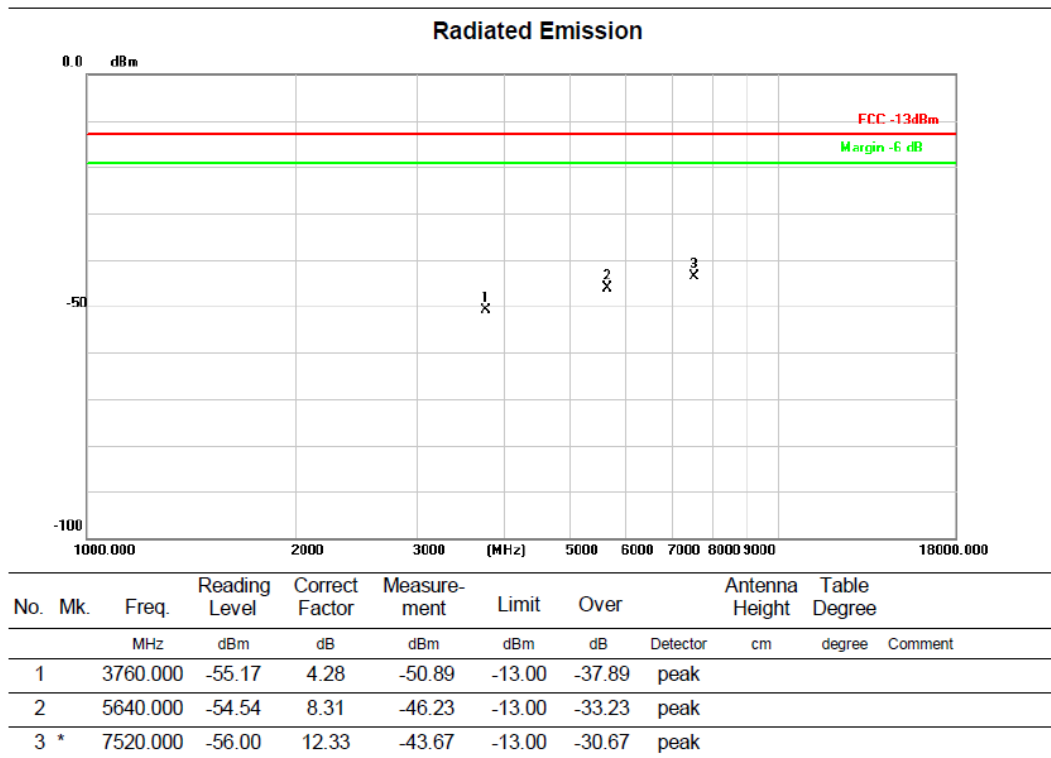
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

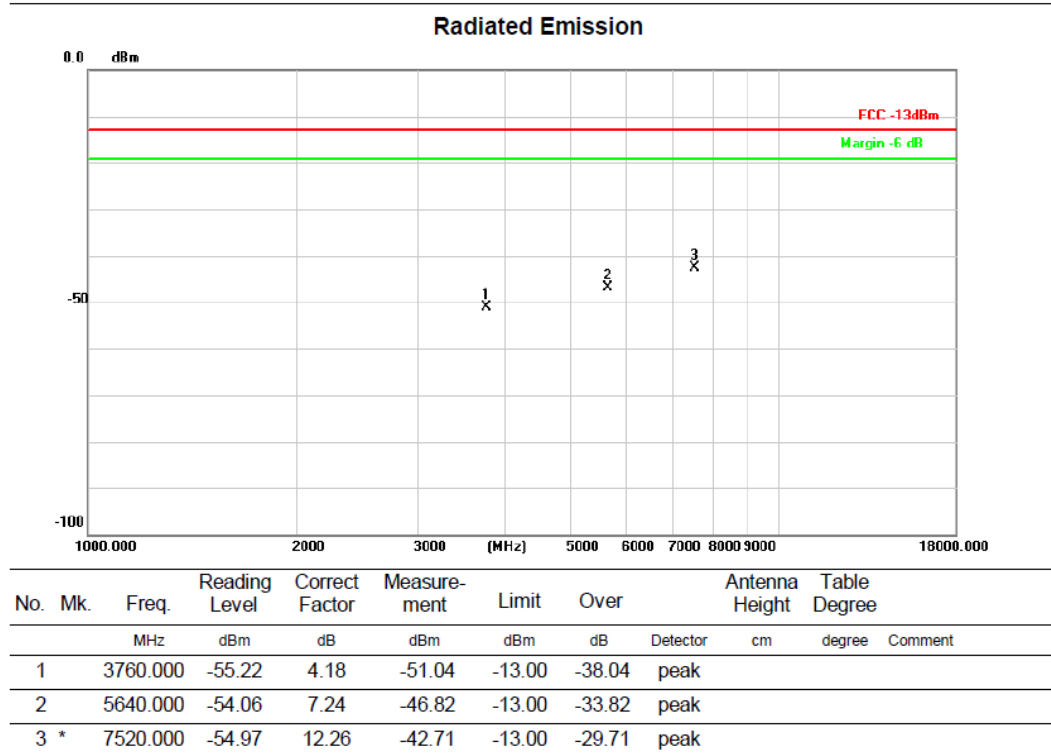
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED SPURIOUS EMISSIONS (ABOVE 1GHZ)

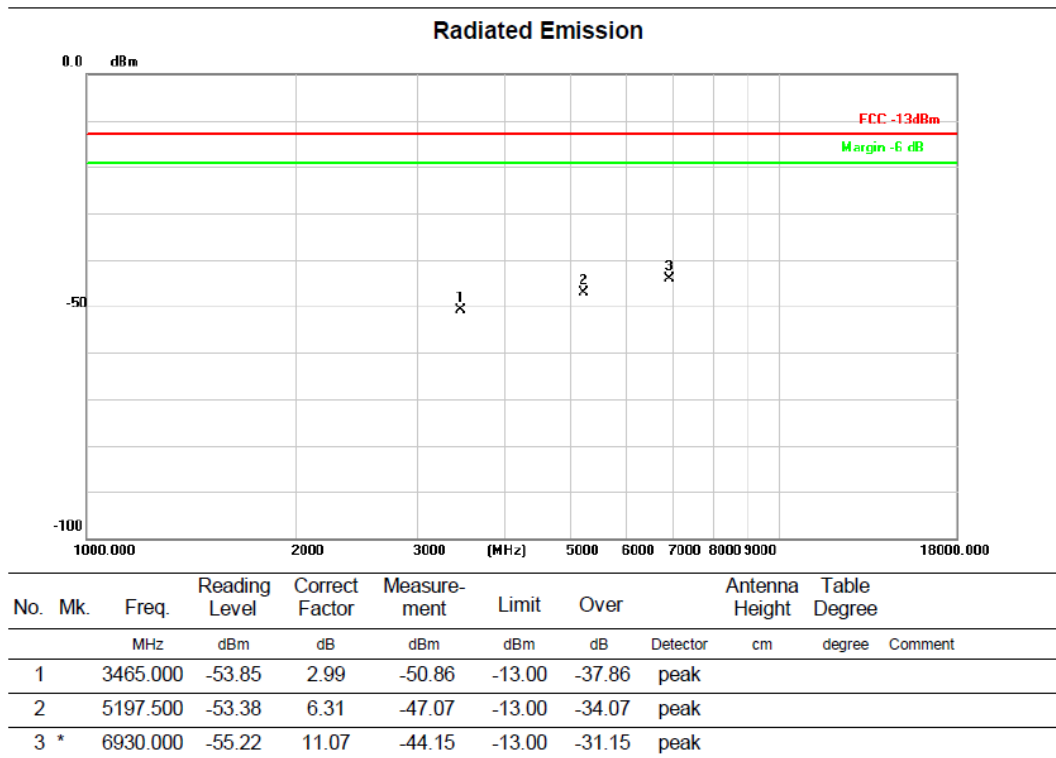
Test Mode	Band 2_TX Mid CH	Polarization	Vertical
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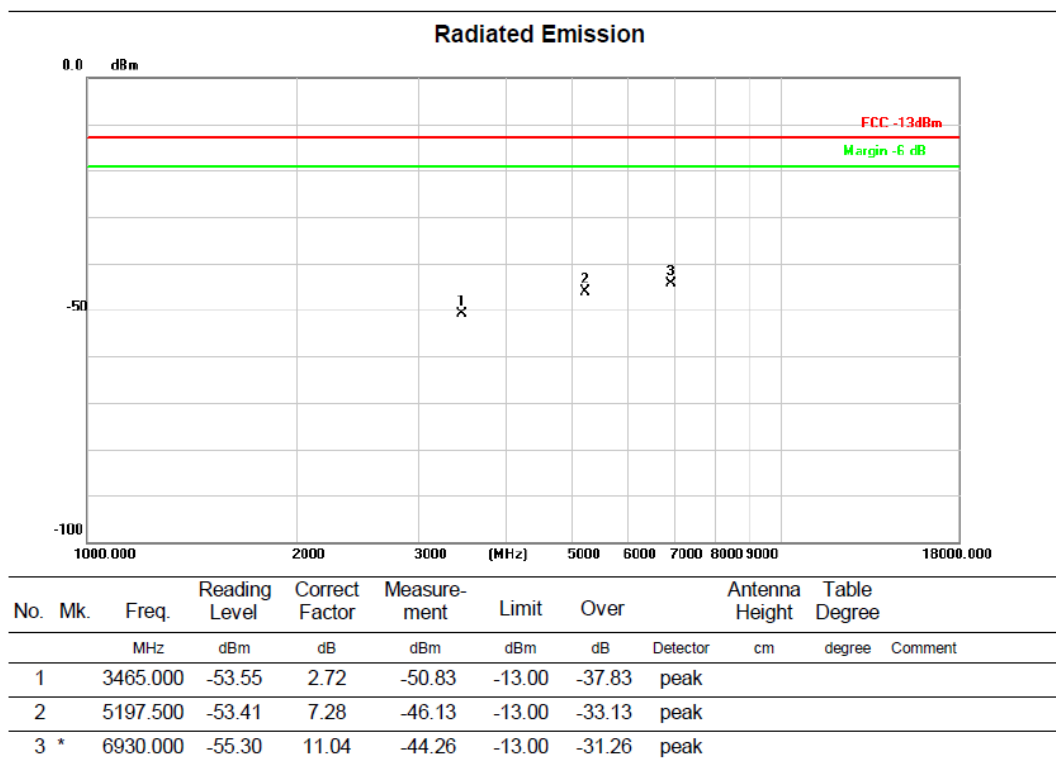
Test Mode	NBLoT Band 2_TX Mid CH	Polarization	Horizontal
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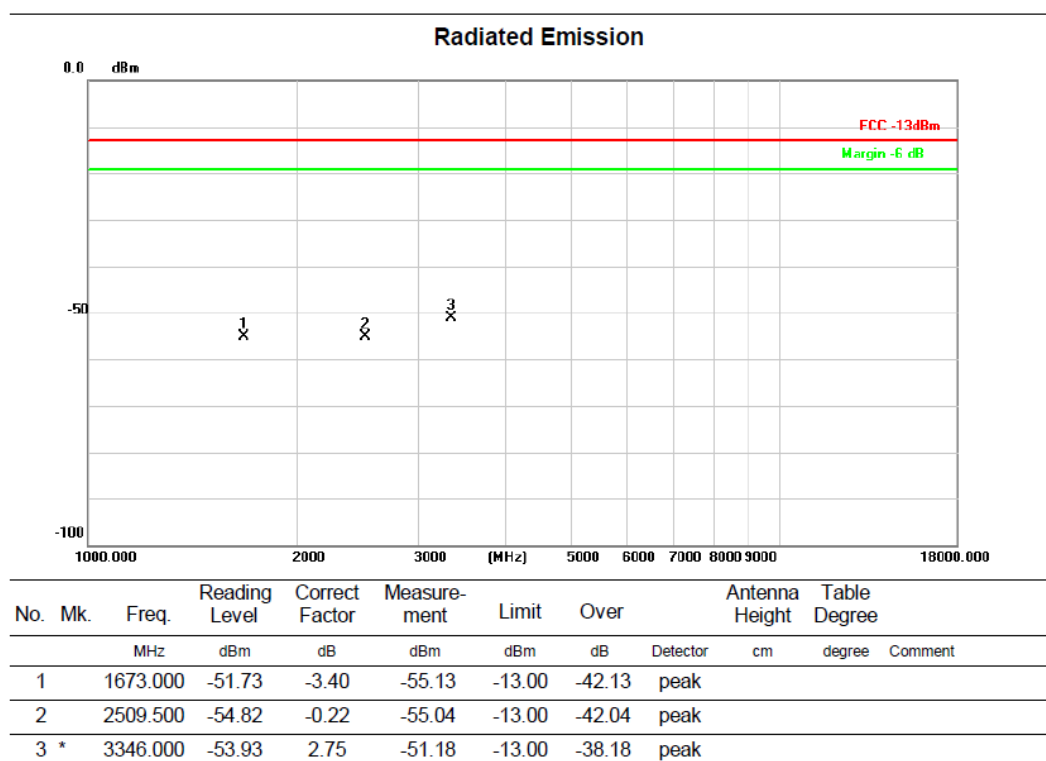
Test Mode	Band 4_TX Mid CH	Polarization	Vertical
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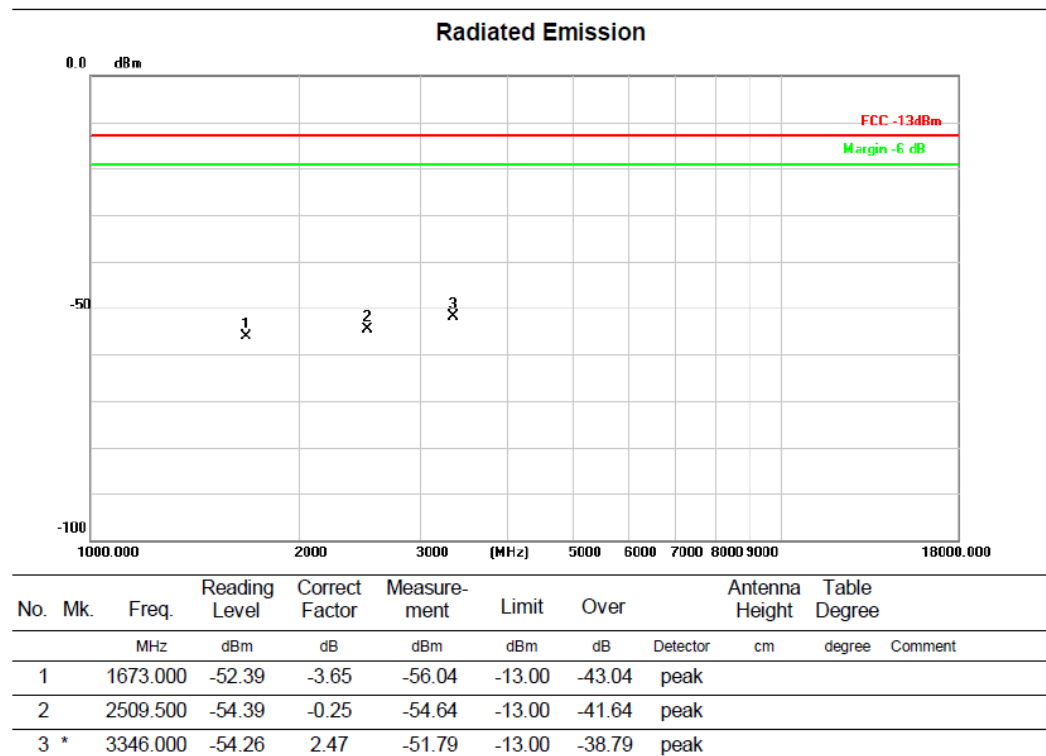
Test Mode	Band 4_TX Mid CH	Polarization	Horizontal
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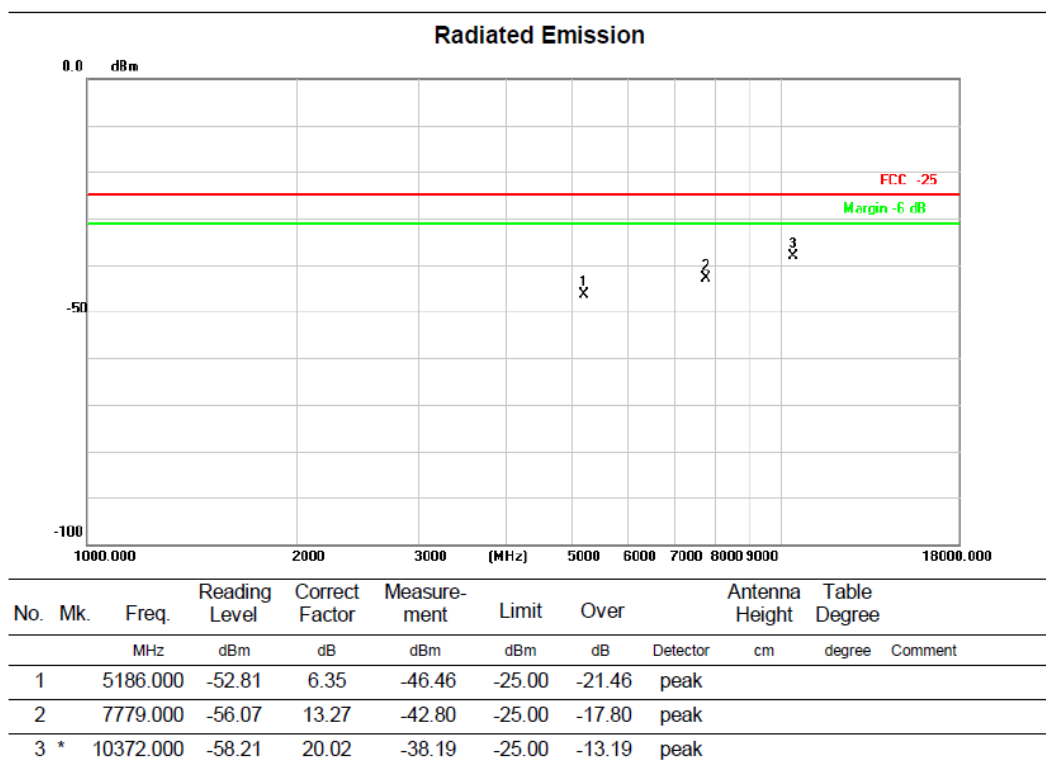
Test Mode	Band 5_TX Mid CH	Polarization	Vertical
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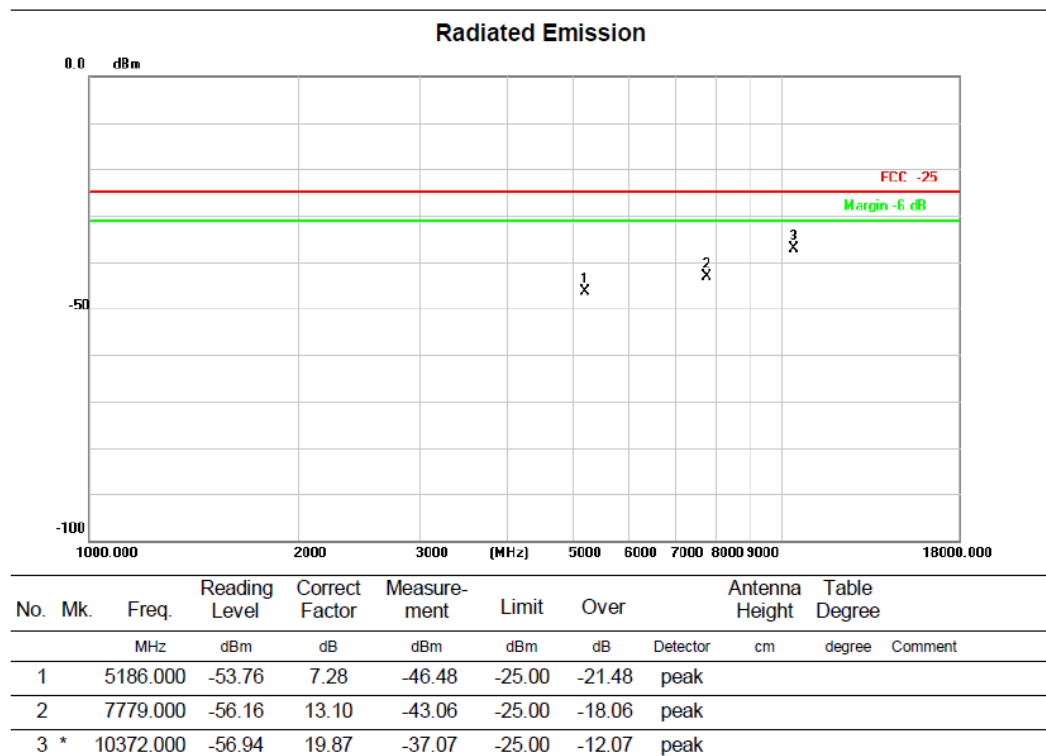
Test Mode	Band 5_TX Mid CH	Polarization	Horizontal
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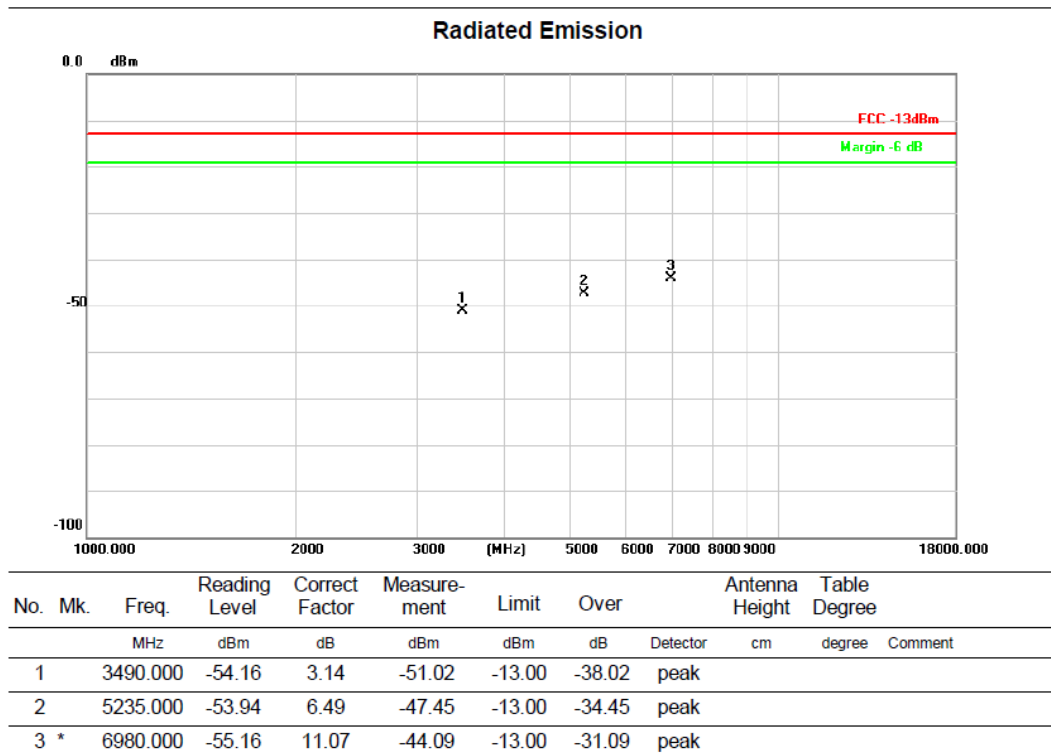
Test Mode	Band 41_TX Mid CH	Polarization	Vertical
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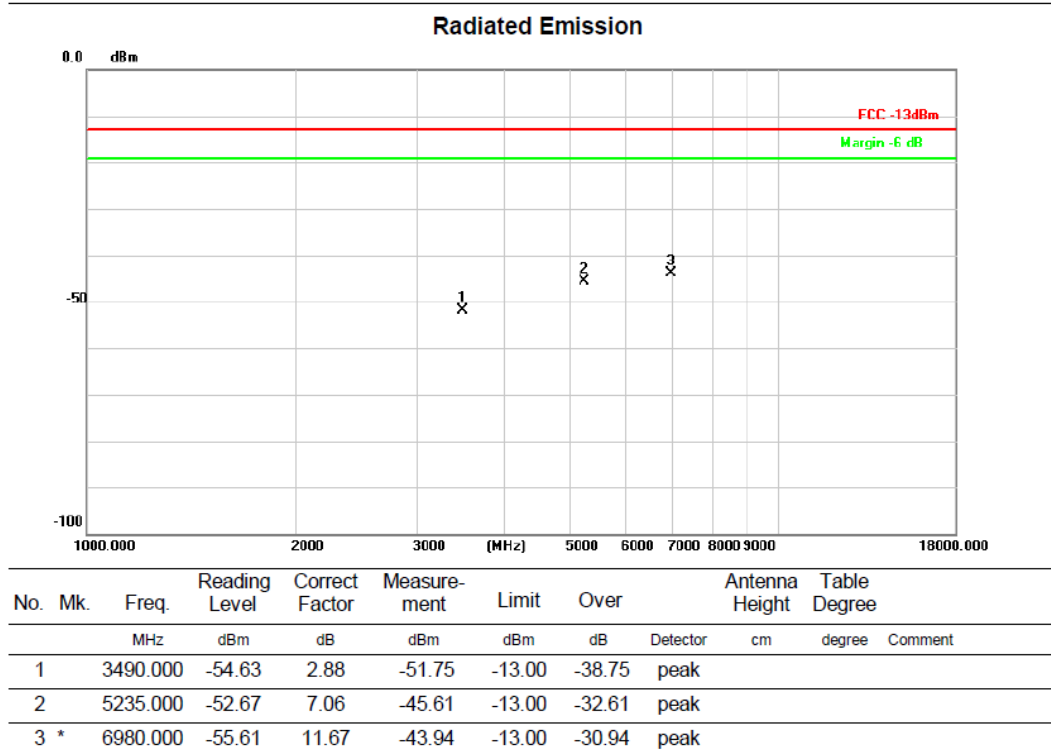
Test Mode	Band 41_TX Mid CH	Polarization	Horizontal
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Test Mode	Band 66_TX Mid CH	Polarization	Vertical
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Test Mode	Band 66_TX Mid CH	Polarization	Horizontal
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REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technical Co., Ltd.

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End of Test Report