

Test Report No:
2450487R-RFUSV01S-A

TEST REPORT

FCC Rules&Regulations

Product Name	Collection ECU
Brand Name	Bosch
Model No.	7 507650 603
FCC ID	2AMJS-VDC01
Applicant's Name / Address	Robert Bosch LLC 15000 N Haggerty Rd, Plymouth, MI 48170 United States of America
Manufacturer's Name / Address	Chicony Electronics Co., Ltd 36F., No.69, Sec. 2, Guangfu Rd., Sanchong Dist., New Taipei City 241, Taiwan
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented By	<i>Vera Hsu</i> Vera Hsu
Approved By	<i>Allen Lin</i> Allen Lin
Date of Receipt	May 21, 2024
Date of Issue	Mar. 17, 2025
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Mar. 17, 2025

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
-	AC Power Line Conducted Emission	N/A	Note 1
3	Occupied Bandwidth & DTS Bandwidth	PASS	-
4	Maximum Conducted Output Power	PASS	-
5	Maximum Power Spectral Density	PASS	-
6	Antenna Port Conducted Emission	PASS	-
7	Transmitter Radiated Spurious Emission	PASS	-

Note:

1. It was supplied power by DC-Powered for EUT. It's not necessary to apply to AC Power Line Conducted Emission test.
2. The EUT contains a certified WWAN module (brand name: Quectel, model: EG25-G, FCC ID: XMR201903EG25G).

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	2400 ~ 2483.5 MHz
Operating Frequency	1 Mbps: 2402 ~ 2480 MHz
Channel Number	1 Mbps: 40 Channels
Mode	Bluetooth LE
Type of Modulation	GFSK

Accessories Information				
No.	Equipment Name	Brand Name	Model No.	Rating
1	Car Charger	Bosch	SYD1226	12-24VDC, 5A MAX
No.	Equipment Name		Description	
2	Double shield Fakra cable		Shielded, 4500mm	

Antenna Information				
Ant.	Brand Name	Model No.	Type	Gain (dBi)
1	Speed	0790A2219L B02	Dipole	1.83

1.2. EUT Information

EUT Power Type	From DC power supply			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point

1.3. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.4. Testing Location Information

Testing Location Information		
Test Laboratory : DEKRA Testing and Certification Co., Ltd.		
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
Test site number for address 1 includes HC-SR02 and HC-CB10. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.		

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted Emission	HC-SR12	Scott Chang	21.5~25.5 / 55~61	2024/07/23~2024/07/30
Radiated Emission	HC-CB04	Cyril Chen	23~24.5 / 42~45, 22 / 66	2024/07/17~2024/07/22, 2024/12/23

1.5. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document 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)).

Test item	Uncertainty
Occupied Bandwidth & DTS Bandwidth	± 282.55 Hz
Maximum Conducted Output Power	± 1.16 dB
Maximum Power Spectral Density	± 2.47 dB
Antenna Port Conducted Emission	± 2.47 dB
Transmitter Radiated Spurious Emission	± 3.52 dB below 1 GHz ± 3.56 dB above 1 GHz

1.6. List of Test Equipment

HC-SR12

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531043	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531044	0.3-40 GHz	2023/10/25	2024/10/24
Signal & Spectrum Analyzer	R&S	FSV40	101869	10Hz-40GHz	2024/06/20	2025/06/19

HC-CB04

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Signal and Spectrum Analyzer	R&S	FSVA40	101435	10 Hz-40 GHz	2024/05/17	2025/05/16
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1209	30 MHz-2 GHz	2024/06/11	2025/06/10
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211212A18EN	1G-18GHz	2023/11/17	2024/11/16
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211212A18EN	1G-18GHz	2024/11/26	2025/11/25
Horn Antenna	Schwarzbeck	BBHA 9170	203	18G-40GHz	2024/02/02	2025/02/01
Pre-Amplifier	EMCI	EMC01820I	980364	30M-8 GHz,20 dB	2024/06/04	2025/06/03
Pre-Amplifier	EMEC	EM01G18GA	060835	1-18 GHz,50 dB	2024/07/16	2025/07/15
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2023/10/03	2024/10/02
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2024/10/15	2025/10/14
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2023/11/27	2024/11/26
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2024/11/15	2025/11/14
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2023/10/13	2024/10/12
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2024/10/17	2025/10/16
Coaxial Cable(11m)	Suhner	SF102_SF104	HC-CB04	30M-18 GHz	2023/08/08	2024/08/07
Coaxial Cable	Huber+Suhner	SF104	HC-CB04	30 MHz-18 GHz, 11m	2024/08/07	2025/08/06
Coaxial Cable(3m)	Suhner,Rosnol	SF102_UP0264	HC-CB04-1	18G-40 GHz	2023/08/14	2024/08/13
Coaxial Cable	Huber+Suhner , Rosnol	SF102_UP0264	HC-CB04-1	18-40 GHz, 3m	2024/08/13	2025/08/12
DEKRA Testing System	DEKRA	Version 2.0	HC-CB04	N/A	N/A	N/A
Radiated Software	Audix	e3 V9	HC-CB04_1	N/A	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	DC 12V

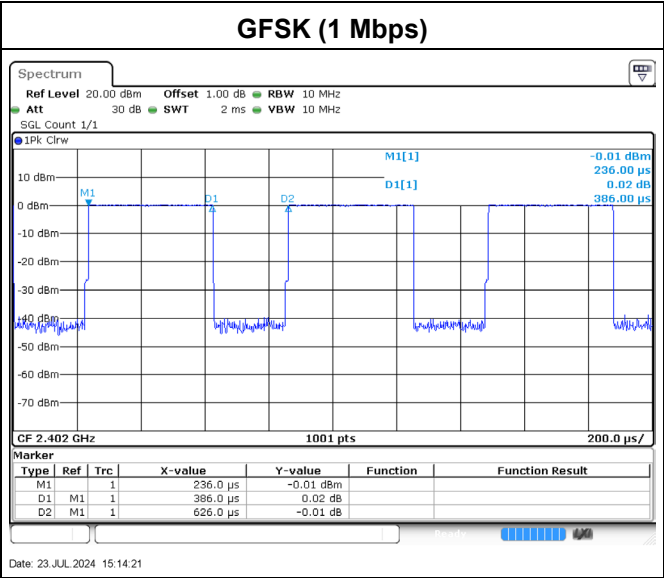
2.2. Test Frequency Mode

Test Software Version	Tera Term 4.106
-----------------------	-----------------

Modulation	Frequency (MHz)	Power Setting
GFSK (1 Mbps)	2402	Default
	2440	Default
	2480	Default

2.3. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
GFSK (1 Mbps)	0.386	0.626	61.66%	2.10	2.591



2.4. The Worst Case Measurement Configuration

Tests Item	Occupied Bandwidth & DTS Bandwidth Maximum Conducted Output Power Maximum Power Spectral Density Antenna Port Conducted Emission
Test Condition	Conducted measurement at transmit chains

Tests Item	Transmitter Radiated Spurious Emission
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Transmit
Operating Mode > 1GHz	Transmit
The EUT was performed at X axis, Y axis and Z axis position for radiated spurious emission test. The worst case was found at X axis, so the measurement will follow this same test configuration.	

Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Transmit
1	WiFi 2.4 GHz + WWAN
2	Bluetooth + WWAN
Refer to Appendix G for Radiated Emission Co-location.	

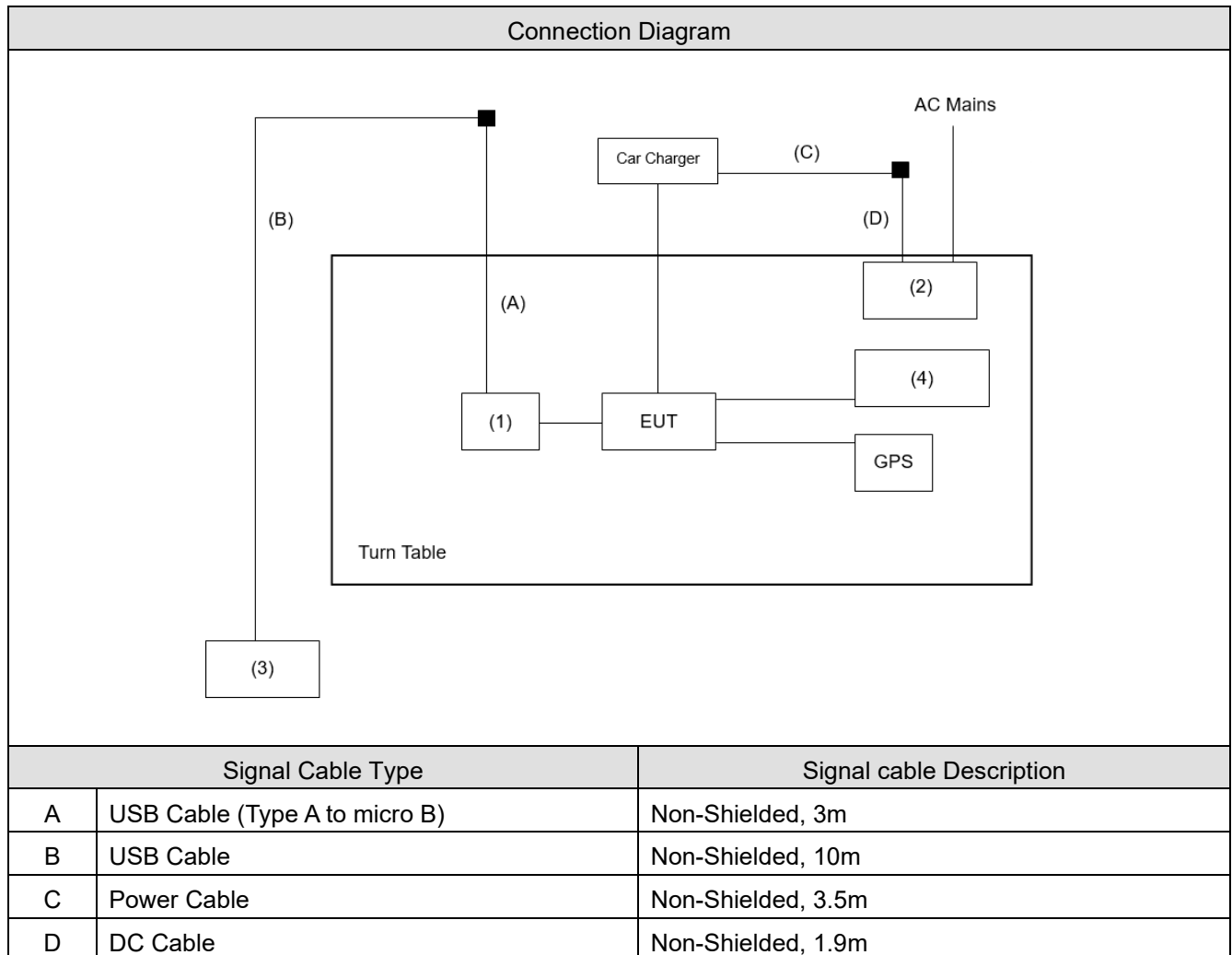
Note:

1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated spurious emission below 1 GHz has performed all modes of operation were investigated and the worst-case emissions are reported.

2.5. Tested System Details

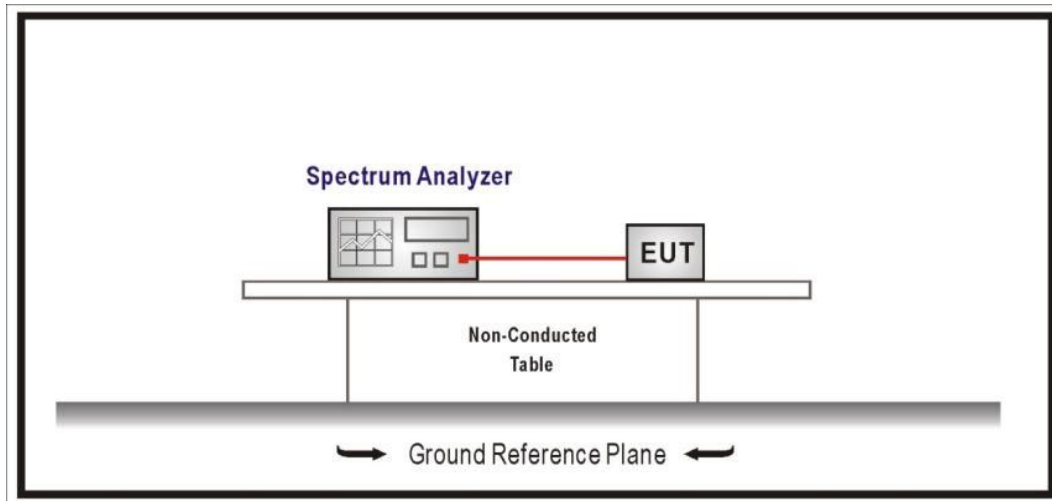
No.	Equipment	Brand Name	Model No.	Serial No.
1	Debug board	Chicony	N/A	N/A
2	Power supply	Topward	6030D	809501
3	Notebook	ASUS	E402S	GBN0CV14W050478
4	Collection cam	Bosch	0 220 M00 095 – 01	N/A

2.6. Configuration of Tested System



3. Occupied Bandwidth & DTS Bandwidth

3.1. Test Setup



3.2. Test Limit

The 6 dB bandwidth: ≥ 500 kHz.

Occupied Bandwidth: N/A

3.3. Test Procedures

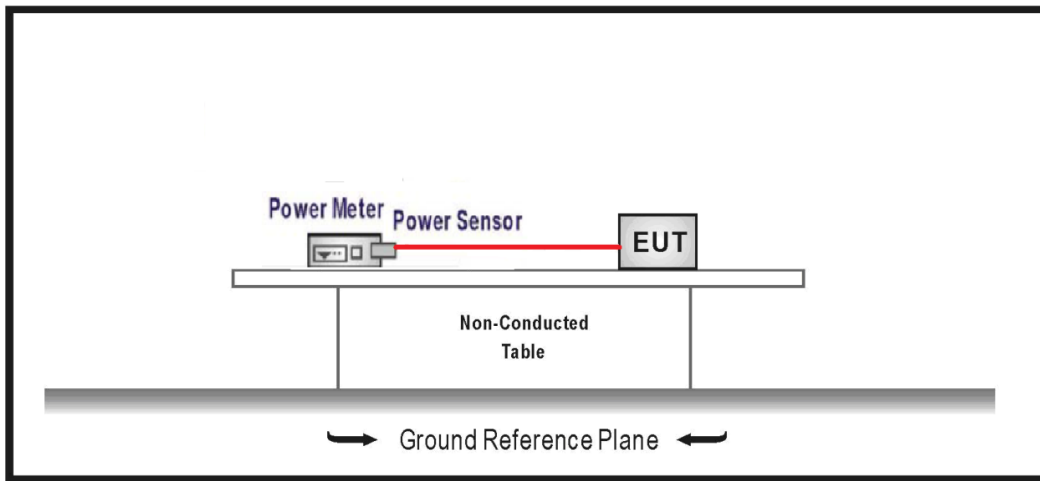
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

3.4. Test Result of Occupied Bandwidth & DTS Bandwidth

Refer as Appendix A

4. Maximum Conducted Output Power

4.1. Test Setup



4.2. Test Limit

The Maximum Conducted Output Power shall be less 1 Watt.

4.3. Test Procedures

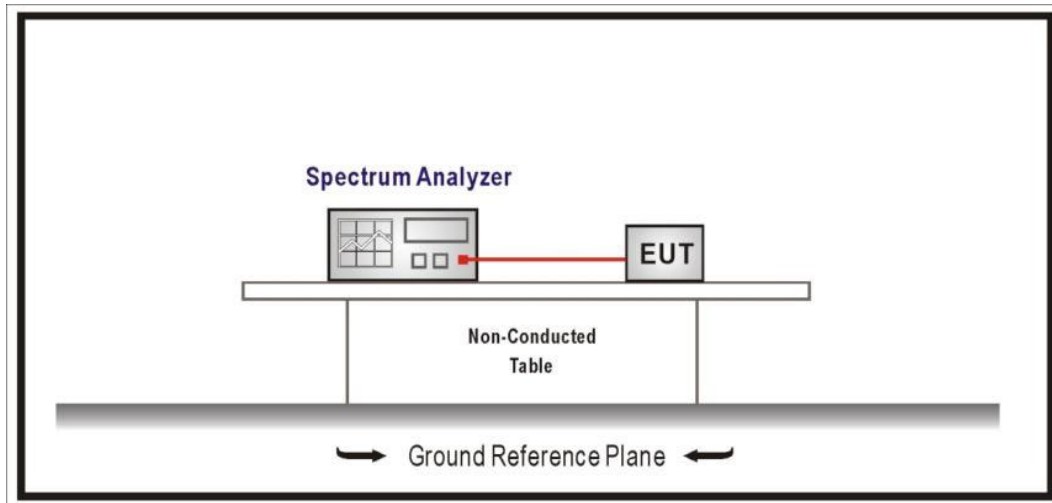
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

4.4. Test Result of Maximum Conducted Output Power

Refer as Appendix B

5. Maximum Power Spectral Density

5.1. Test Setup



5.2. Test Limit

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.3. Test Procedures

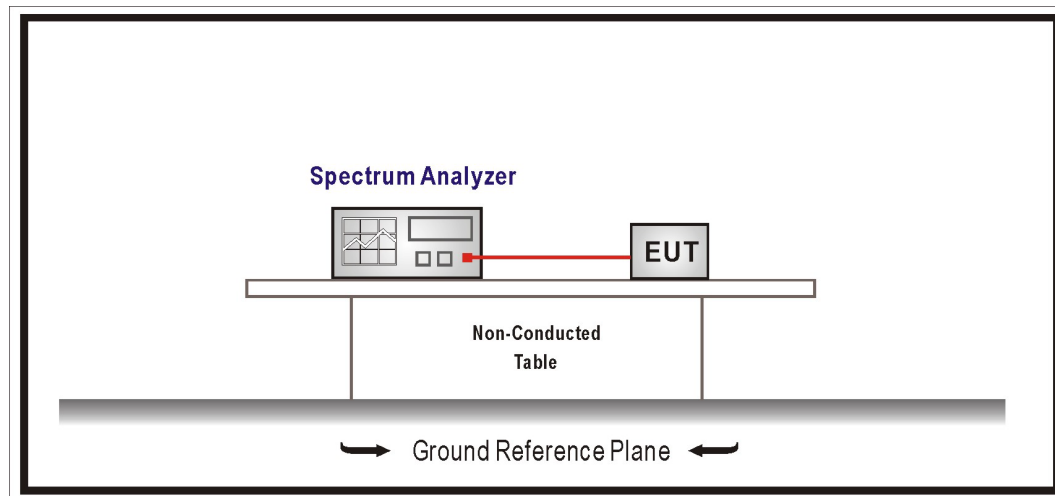
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

5.4. Test Result of Maximum Power Spectral Density

Refer as Appendix C

6. Antenna Port Conducted Emission

6.1. Test Setup



6.2. Test Limit

RF output power procedure	Limit (dBc)
Peak output power procedure	20
Average output power procedure	30

Remarks:

1. In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limit.
2. If the transmitter complies with the conducted power limit based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

6.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074.

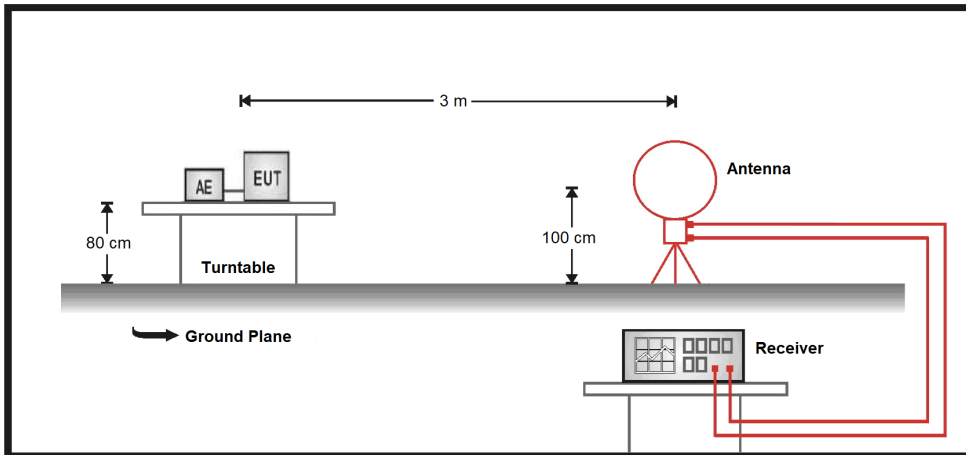
6.4. Test Result of Antenna Port Conducted Emission

Refer as Appendix D

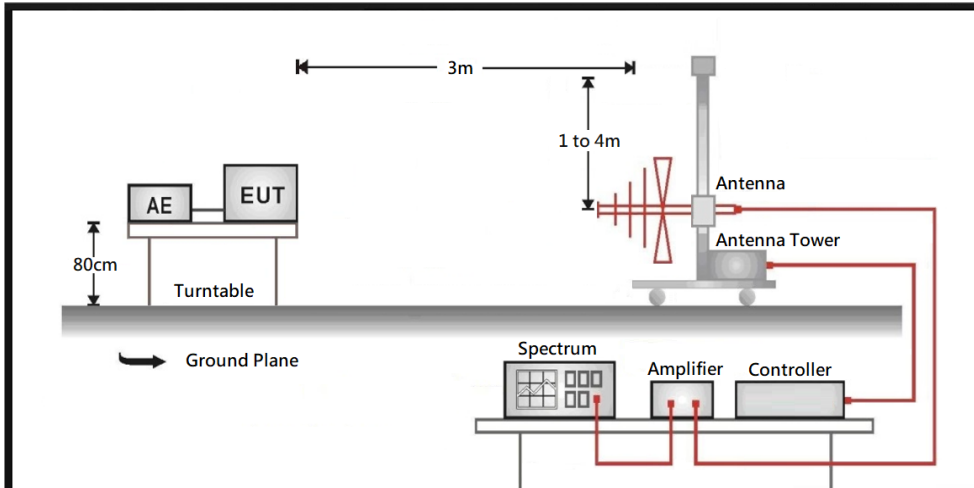
7. Transmitter Radiated Spurious Emission

7.1. Test Setup

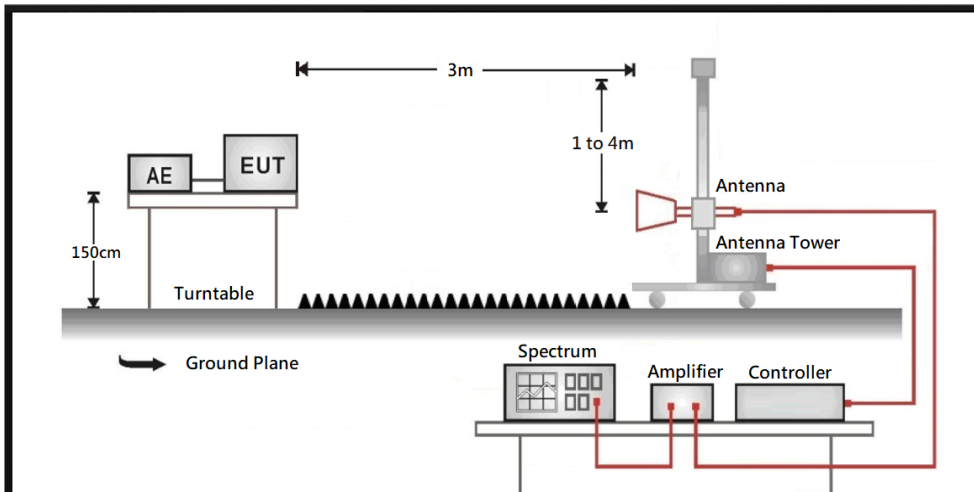
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



7.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

7.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074.

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

On any frequency or frequencies from 9 kHz(include The the lowest oscillator frequency generated within the device up to the 10th harmonic) to 1000 MHz, the limit shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limit shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.

7.4. Test Result of Transmitter Radiated Spurious Emission (Below 30 MHz)

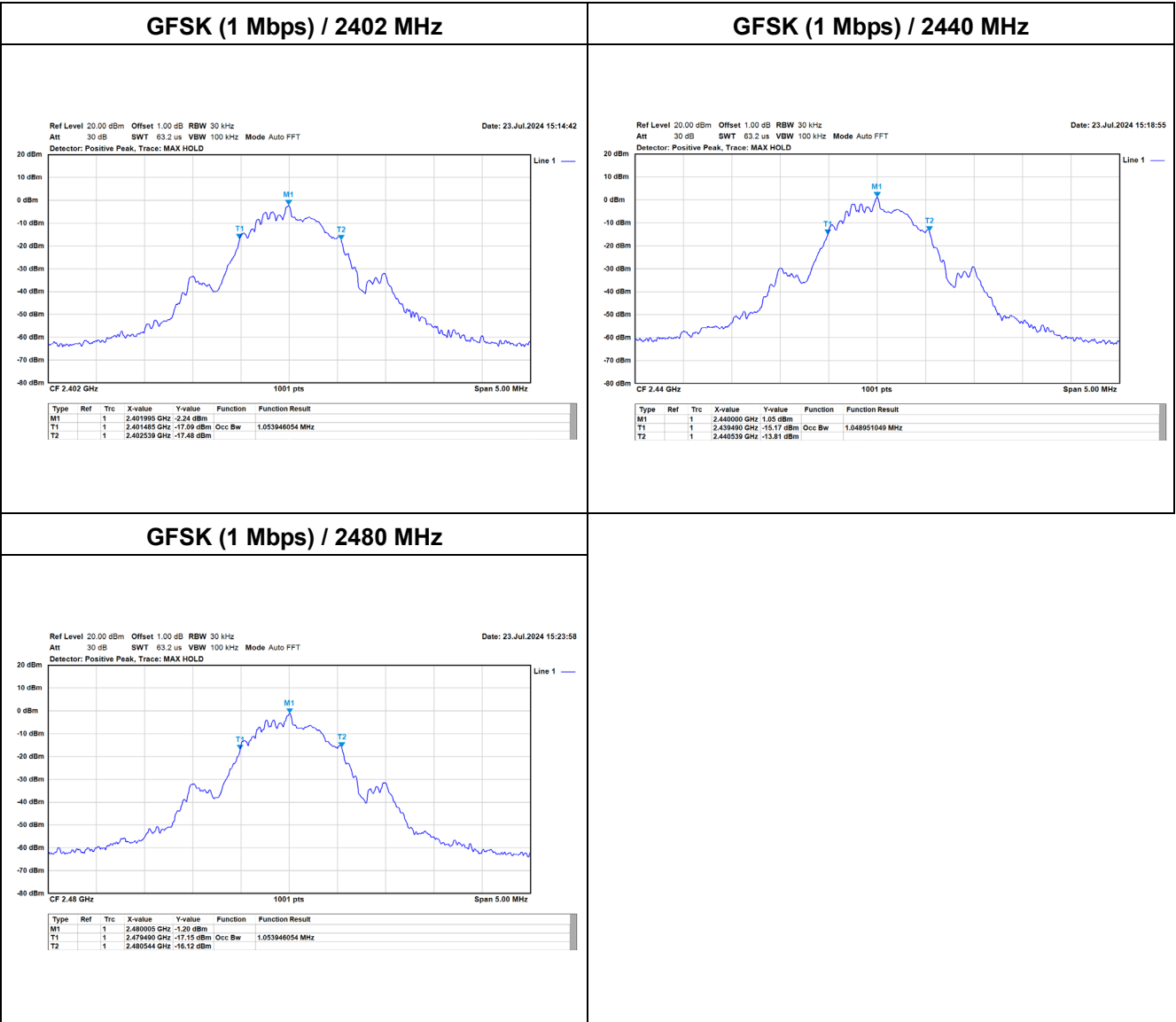
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

7.5. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix E

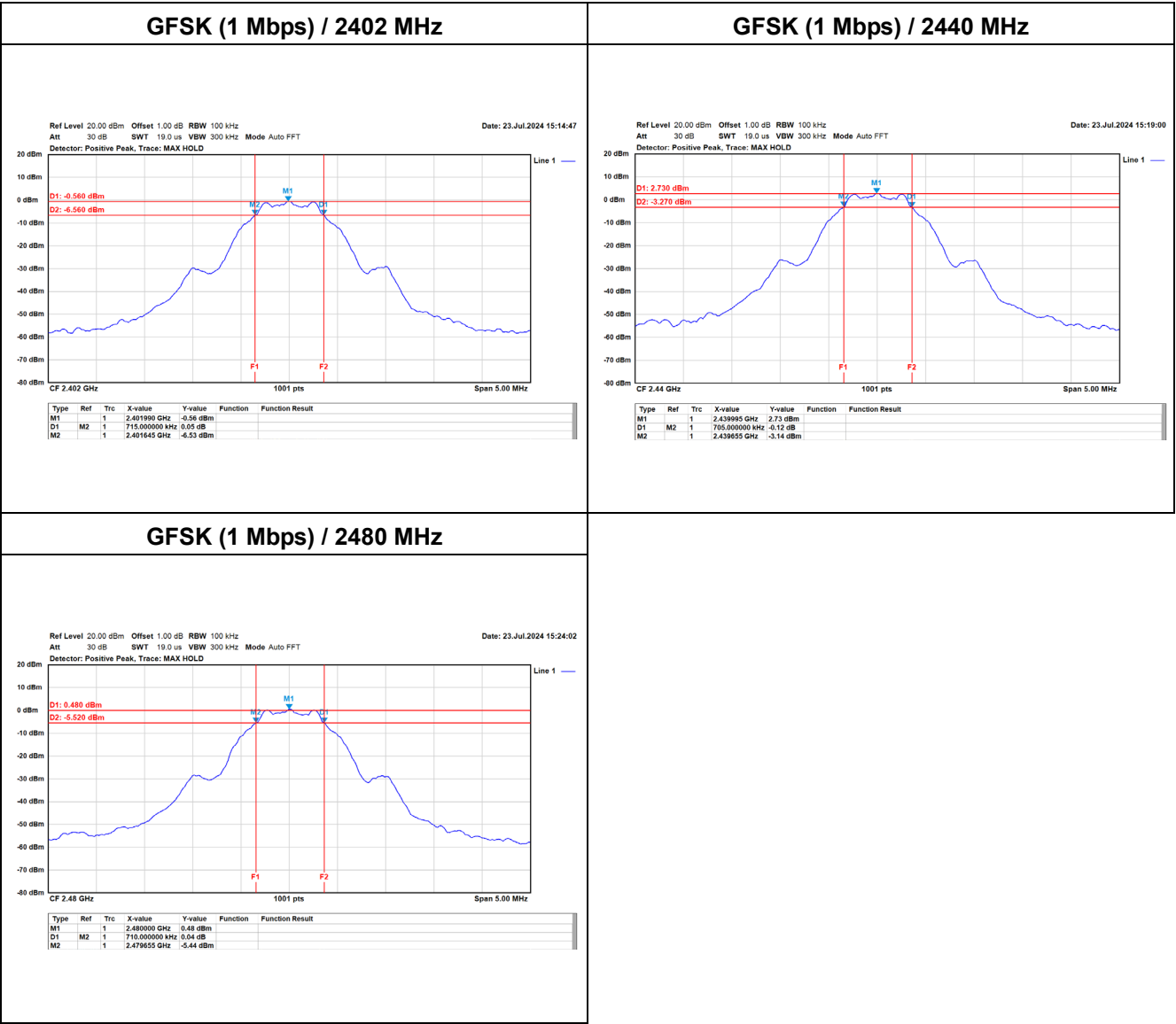
Appendix A.1 Test Result of Occupied Bandwidth

Modulation	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
GFSK (1 Mbps)	2402	1.05	-
	2440	1.05	-
	2480	1.05	-



Appendix A.2 Test Result of DTS Bandwidth

Modulation	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
GFSK (1 Mbps)	2402	0.72	0.50	Pass
	2440	0.71	0.50	Pass
	2480	0.71	0.50	Pass

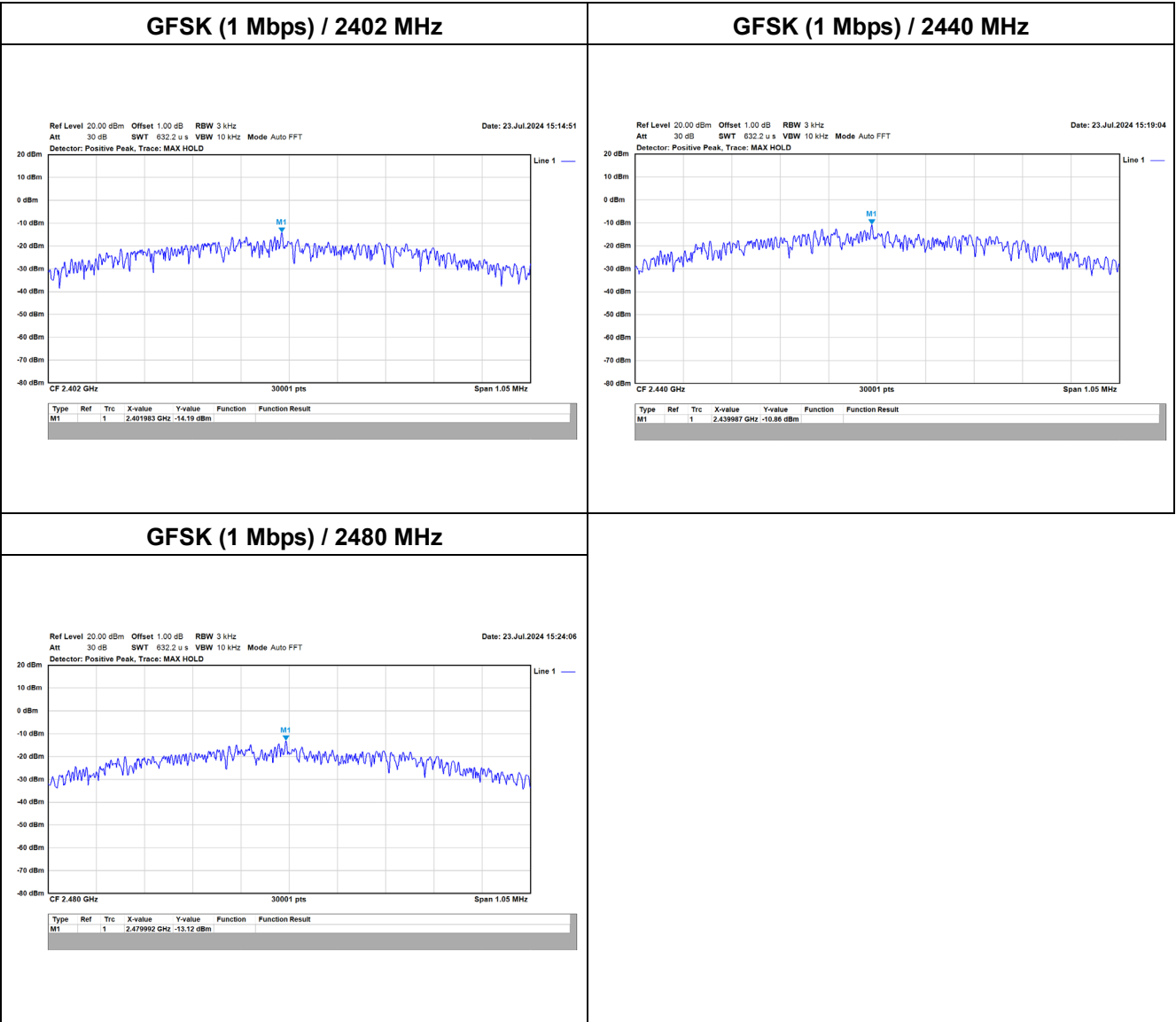


Appendix B. Test Result of Maximum Conducted Output Power

Modulation	Frequency (MHz)	Maximum Conducted Peak Output Power (dBm)	Limit (dBm)	Result
GFSK (1 Mbps)	2402	0.690	30.00	Pass
	2440	3.810	30.00	Pass
	2480	2.120	30.00	Pass

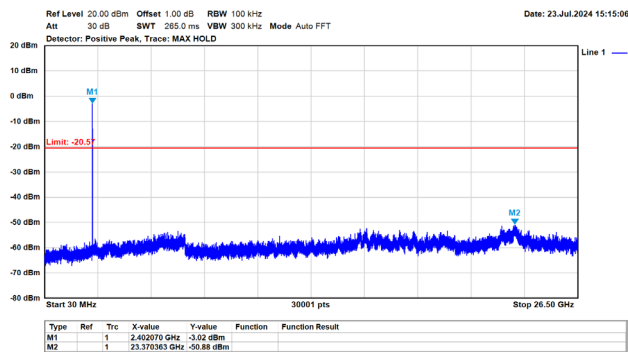
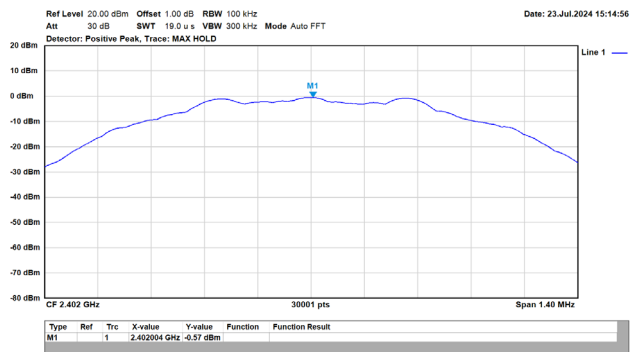
Appendix C. Test Result of Maximum Power Spectral Density

Modulation	Frequency (MHz)	Measure Value (dBm/3kHz)	Limit (dBm/3kHz)	Result
GFSK (1 Mbps)	2402	-14.19	8.00	Pass
	2440	-10.86	8.00	Pass
	2480	-13.12	8.00	Pass

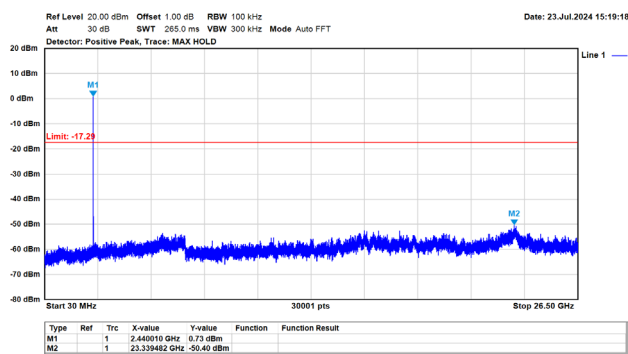
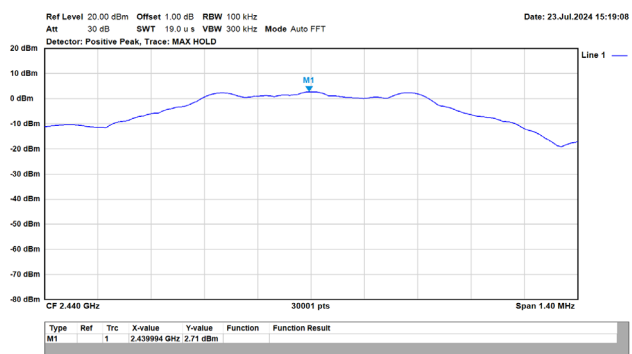


Appendix D. Test Result of Antenna Port Conducted Emission

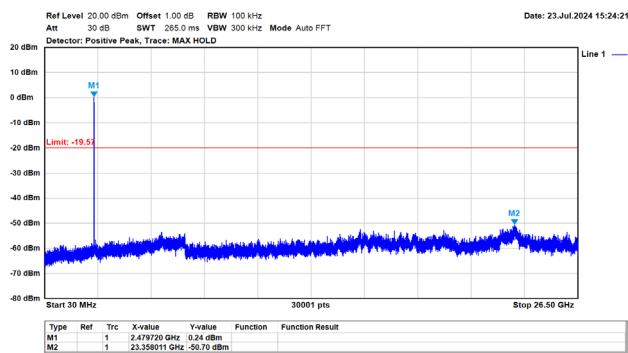
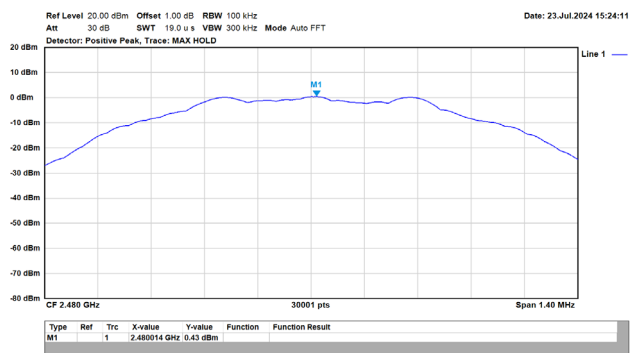
GFSK (1 Mbps) / 2402 MHz

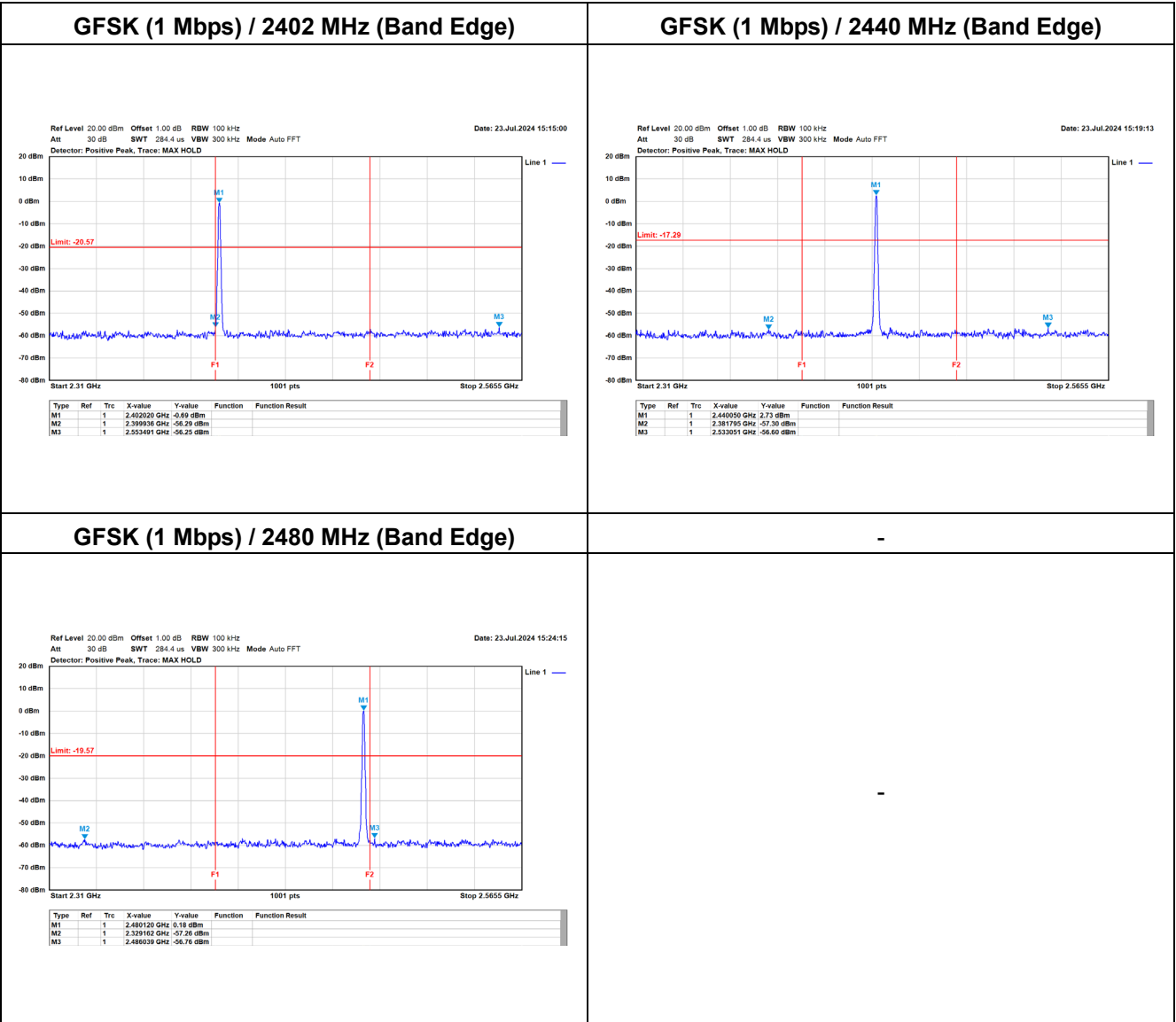


GFSK (1 Mbps) / 2440 MHz



GFSK (1 Mbps) / 2480 MHz

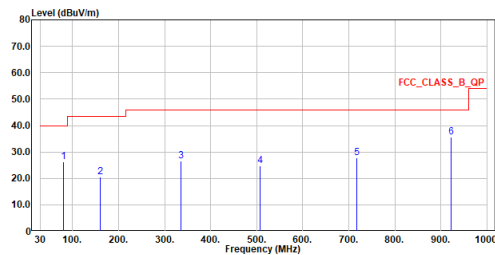




Appendix E. Test Result of Transmitter Radiated Spurious Emission

30 MHz ~ 1 GHz

Site :HC-CB04
Condition :3m Horizontal
Mode :LF_BLE_TX_2440MHz
Test By :Cyril Chen

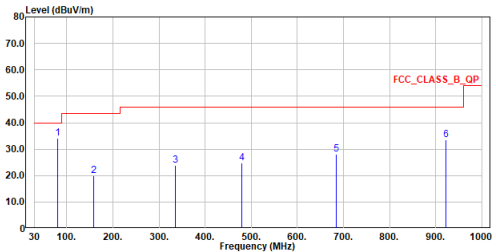


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level	dB	
1	79.955	26.28	40.00	-13.72	33.87	-7.59	QP
2	159.980	20.50	43.50	-23.00	23.58	-3.08	QP
3	335.938	26.43	46.00	-19.57	28.08	-1.65	QP
4	479.983	24.69	46.00	-21.31	22.34	2.35	QP
5	716.566	27.65	46.00	-18.35	21.35	6.30	QP
6	921.527	35.73	46.00	-10.27	26.52	9.21	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m Vertical
Mode :LF_BLE_TX_2440MHz
Test By :Cyril Chen



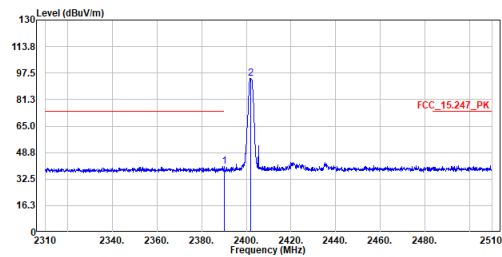
No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level	dB	
1	79.955	34.11	40.00	-5.89	41.70	-7.59	QP
2	158.234	19.86	43.50	-23.64	22.85	-2.99	QP
3	335.938	23.78	46.00	-22.22	25.43	-1.65	QP
4	479.983	24.89	46.00	-21.11	23.11	1.78	QP
5	684.459	27.97	46.00	-18.03	22.13	5.84	QP
6	921.527	33.53	46.00	-12.47	24.32	9.21	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Above 1 GHz

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

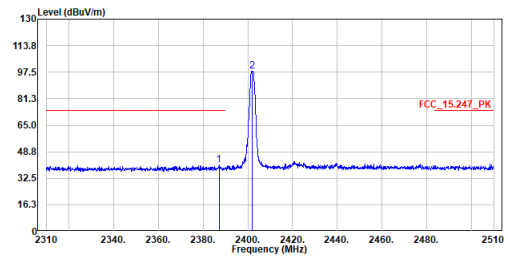


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level		
1	2390.000	40.15	74.00	-33.85	29.74	10.41	Peak
2	2401.800	94.06	-----	-----	83.62	10.44	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

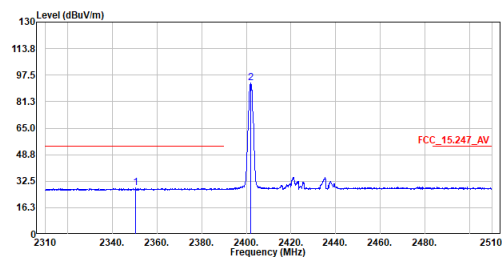


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level		
1	2387.100	40.55	74.00	-33.45	30.15	10.40	Peak
2	2401.800	98.27	-----	-----	87.83	10.44	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

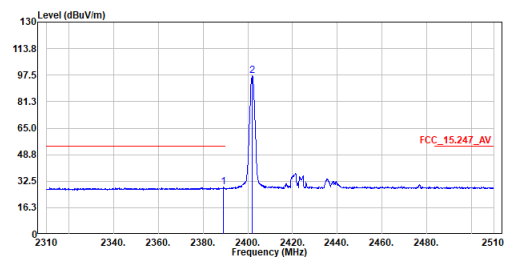


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level		
1	2350.500	28.29	54.00	-25.71	17.98	10.31	Average
2	2402.000	92.80	-----	-----	82.36	10.44	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

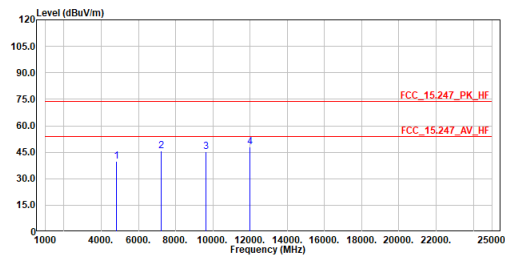


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	Limit	Level		
1	2389.100	28.80	54.00	-25.20	18.40	10.40	Average
2	2402.000	97.14	-----	-----	86.70	10.44	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

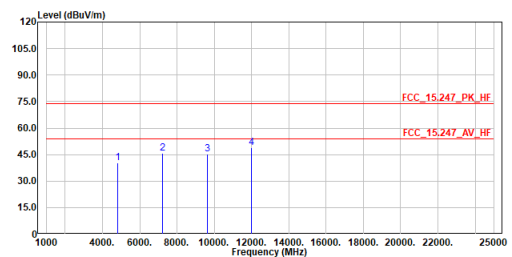


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4804.000	40.04	74.00	-33.96	57.86	-17.82	Peak
2	7206.000	45.76	74.00	-28.24	58.59	-12.83	Peak
3	9608.000	45.49	74.00	-28.51	54.64	-9.15	Peak
4	12010.000	47.78	74.00	-26.22	53.62	-5.84	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2402MHz
Test By :Cyril Chen

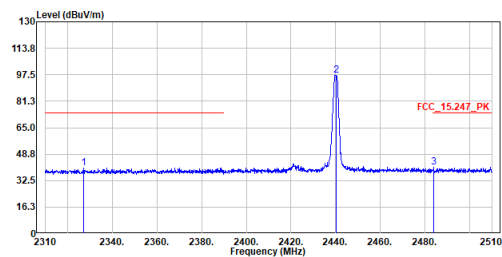


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4804.000	40.17	74.00	-33.83	57.99	-17.82	Peak
2	7206.000	45.56	74.00	-28.44	58.39	-12.83	Peak
3	9608.000	45.36	74.00	-28.64	54.51	-9.15	Peak
4	12010.000	48.80	74.00	-25.20	54.64	-5.84	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

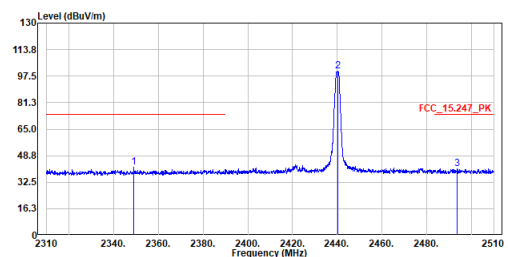


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2327.000	40.43	74.00	-33.57	30.17	10.26	Peak
2	2440.300	97.15	-----	-----	86.61	10.54	Peak
3	2484.000	40.79	74.00	-33.21	30.14	10.65	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

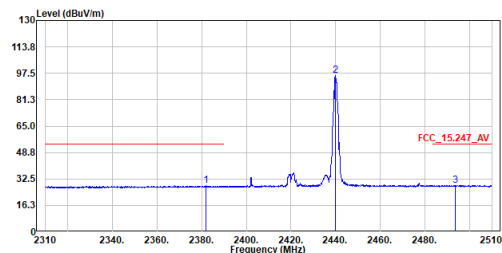


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2349.100	41.50	74.00	-32.50	31.19	10.31	Peak
2	2440.300	100.35	-----	-----	89.81	10.54	Peak
3	2493.600	40.56	74.00	-33.44	29.90	10.66	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

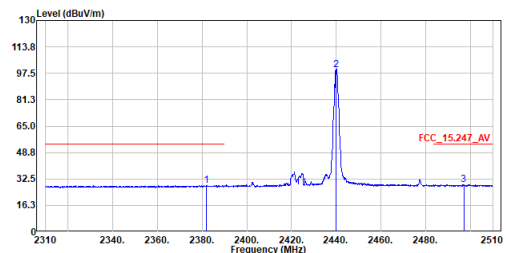


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	2382.000	28.34	54.00	-25.66	17.96	10.38	Average
2	2440.000	96.19	-----	-----	85.66	10.53	Average
3	2493.700	28.63	54.00	-25.37	17.97	10.66	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

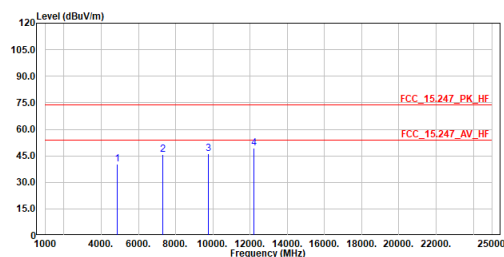


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	2381.900	28.59	54.00	-25.41	18.21	10.38	Average
2	2440.000	99.80	-----	-----	89.27	10.53	Average
3	2497.000	28.98	54.00	-25.02	18.30	10.68	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

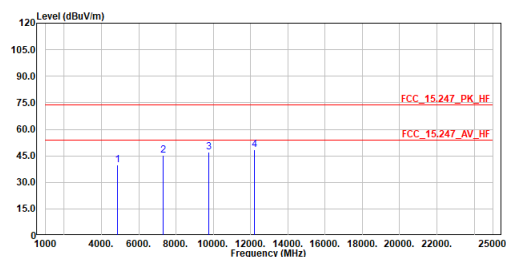


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	4880.000	40.30	74.00	-33.70	57.91	-17.61	Peak
2	7320.000	45.63	74.00	-28.37	58.27	-12.64	Peak
3	9760.000	46.28	74.00	-27.72	55.23	-8.95	Peak
4	12280.000	49.17	74.00	-24.83	54.81	-5.64	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2440MHz
Test By :Cyril Chen

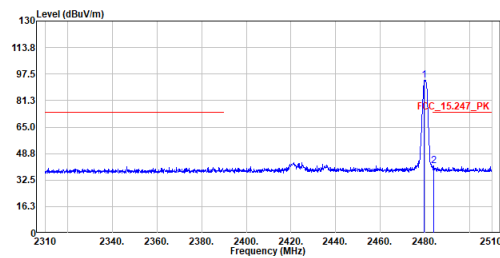


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	4880.000	39.80	74.00	-34.20	57.41	-17.61	Peak
2	7320.000	45.32	74.00	-28.68	57.96	-12.64	Peak
3	9760.000	47.23	74.00	-26.77	56.18	-8.95	Peak
4	12280.000	48.37	74.00	-25.63	54.01	-5.64	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2480MHz
Test By :Cyril Chen

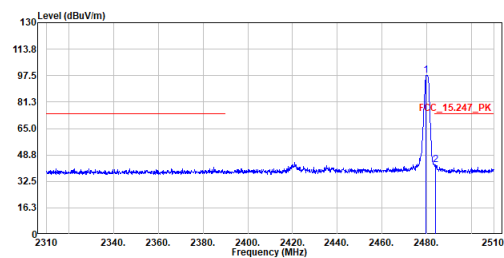


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2479.800	93.61	-----	-----	82.98	10.63	Peak
2	2483.900	41.10	74.00	-32.90	30.45	10.65	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2480MHz
Test By :Cyril Chen

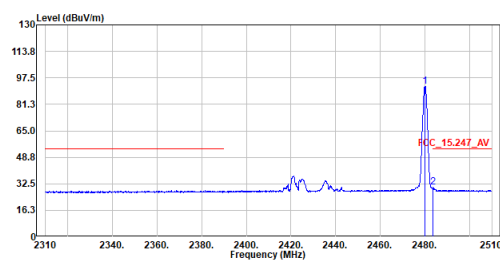


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2479.800	97.84	-----	-----	87.21	10.63	Peak
2	2483.900	42.52	74.00	-31.48	31.87	10.65	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2480MHz
Test By :Cyril Chen

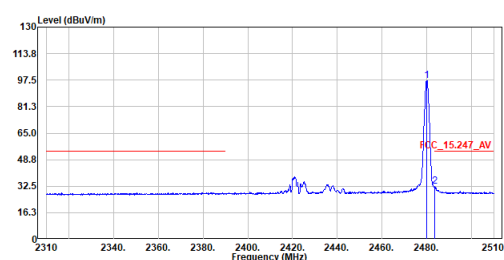


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2480.100	92.33	-----	-----	81.70	10.63	Average
2	2483.600	30.41	54.00	-23.59	19.77	10.64	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2480MHz
Test By :Cyril Chen

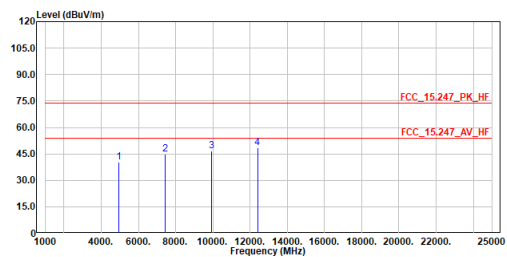


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2480.000	97.25	-----	-----	86.62	10.63	Average
2	2483.600	32.26	54.00	-21.74	21.62	10.64	Average

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Horizontal
Mode :BLE_TX_2480MHz
Test By :Cyril Chen

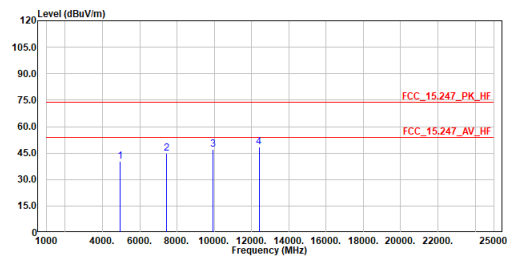


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4960.000	40.18	74.00	-33.82	57.58	-17.40	Peak
2	7440.000	44.81	74.00	-29.19	57.25	-12.44	Peak
3	9920.000	46.81	74.00	-27.19	55.58	-8.77	Peak
4	12400.000	48.41	74.00	-25.59	53.84	-5.43	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m ,Vertical
Mode :BLE_TX_2480MHz
Test By :Cyril Chen



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4960.000	40.16	74.00	-33.84	57.56	-17.40	Peak
2	7440.000	44.70	74.00	-29.30	57.14	-12.44	Peak
3	9920.000	46.96	74.00	-27.04	55.73	-8.77	Peak
4	12400.000	48.66	74.00	-25.34	54.09	-5.43	Peak

Note:

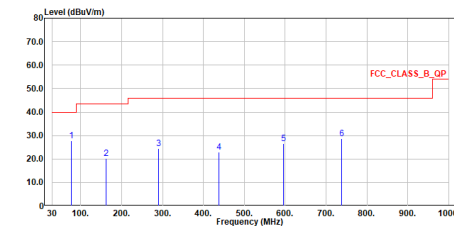
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Appendix F. Test Result of Radiated Emissions Co-location

Test Mode: Mode 1

30 MHz ~ 1 GHz:

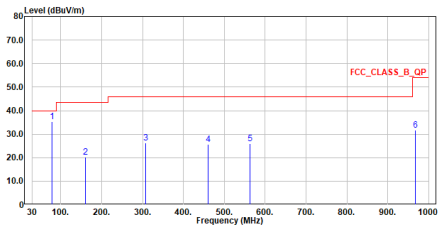
Site :HC-CB04
Condition :3m Horizontal
Mode :Co-location_LTE+WiFi 2.4G
Test By :Ling Chen



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	77.336	27.71	40.00	-12.29	34.62	-6.91	QP
2	162.405	20.12	43.50	-23.38	23.29	-3.17	QP
3	290.154	24.59	46.00	-21.41	27.48	-2.89	QP
4	437.109	22.83	46.00	-23.17	21.82	1.01	QP
5	595.808	26.64	46.00	-19.36	22.22	4.42	QP
6	738.003	28.72	46.00	-17.28	21.72	7.00	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m Vertical
Mode :Co-location_LTE+WiFi 2.4G
Test By :Ling Chen

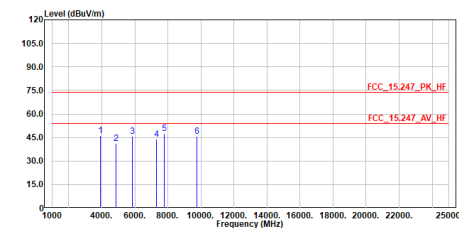


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	78.209	35.18	40.00	-4.82	42.39	-7.21	QP
2	159.689	20.15	43.50	-23.35	23.20	-3.05	QP
3	308.002	26.17	46.00	-19.83	28.65	-2.48	QP
4	459.516	25.55	46.00	-20.45	24.02	1.53	QP
5	562.827	25.96	46.00	-20.04	22.61	3.35	QP
6	966.535	31.66	54.00	-22.34	21.85	9.81	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Above 1 GHz:

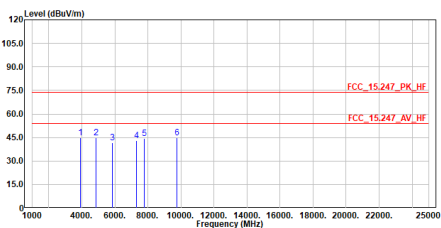
Site :HC-CB04
Condition :3m Horizontal
Mode :Co-location_LTE+WiFi 2.4G
Test By :Cyril Chen



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	3900.000	46.10	74.00	-27.90	66.18	-20.08	Peak
2	4874.000	41.16	74.00	-32.84	58.78	-17.62	Peak
3	5850.000	45.53	74.00	-28.47	61.97	-16.44	Peak
4	7311.000	43.98	74.00	-30.02	56.64	-12.66	Peak
5	7800.000	47.61	74.00	-26.39	59.80	-12.19	Peak
6	9748.000	45.67	74.00	-28.33	54.65	-8.98	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m Vertical
Mode :Co-location_LTE+WiFi 2.4G
Test By :Cyril Chen

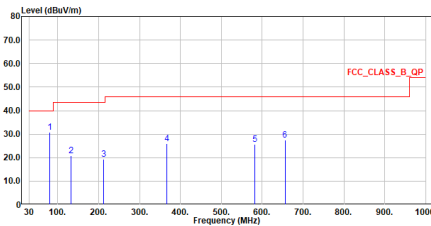


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	3900.000	44.82	74.00	-29.18	64.90	-20.08	Peak
2	4874.000	44.88	74.00	-29.12	62.50	-17.62	Peak
3	5850.000	41.64	74.00	-32.36	58.08	-16.44	Peak
4	7311.000	43.14	74.00	-30.86	55.80	-12.66	Peak
5	7800.000	44.28	74.00	-29.72	56.47	-12.19	Peak
6	9748.000	44.91	74.00	-29.09	53.89	-8.98	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Test Mode: Mode 2**30 MHz ~ 1 GHz:**

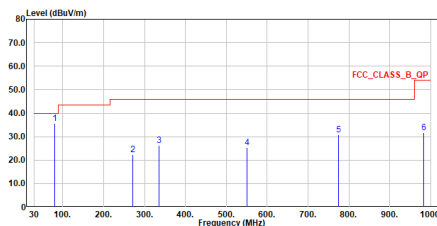
Site :HC-CB04
Condition :3m Horizontal
Mode :Co-location_LTE+BLE
Test By :Ling Chen



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	79.955	38.80	40.00	-9.20	38.39	-7.59	QP
2	132.529	28.71	43.50	-22.79	25.18	-4.47	QP
3	212.069	19.25	43.50	-24.25	25.98	-6.73	QP
4	366.396	26.09	46.00	-19.91	27.28	-1.19	QP
5	582.318	25.72	46.00	-20.28	21.78	3.94	QP
6	655.650	27.44	46.00	-18.56	21.98	5.46	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m Vertical
Mode :Co-location_LTE+BLE
Test By :Ling Chen

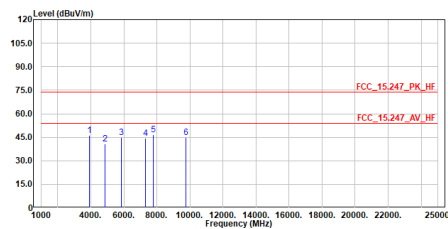


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	79.955	35.52	40.00	-4.48	43.11	-7.59	QP
2	271.530	22.46	46.00	-23.54	26.04	-3.58	QP
3	335.938	26.35	46.00	-19.65	28.00	-1.65	QP
4	550.599	25.40	46.00	-20.60	22.41	2.99	QP
5	775.348	30.66	46.00	-15.34	23.13	7.53	QP
6	983.316	31.74	54.00	-22.26	21.89	9.85	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Above 1 GHz:

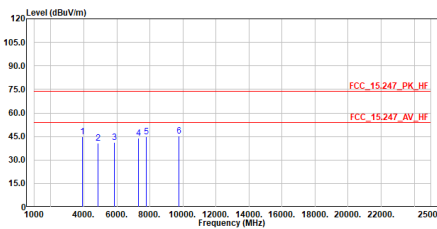
Site :HC-CB04
Condition :3m Horizontal
Mode :Co-location_LTE+BLE
Test By :Cyril Chen



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	3900.000	46.38	74.00	-27.62	66.46	-20.08	Peak
2	4880.000	48.64	74.00	-33.36	58.25	-17.61	Peak
3	5850.000	44.94	74.00	-29.06	61.38	-16.44	Peak
4	7320.000	44.44	74.00	-29.56	57.08	-12.64	Peak
5	7800.000	46.83	74.00	-27.17	59.02	-12.19	Peak
6	9760.000	45.05	74.00	-28.95	54.00	-8.95	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB04
Condition :3m Vertical
Mode :Co-location_LTE+BLE
Test By :Cyril Chen



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	3900.000	44.76	74.00	-29.24	64.84	-20.08	Peak
2	4880.000	40.87	74.00	-33.13	58.48	-17.61	Peak
3	5850.000	41.05	74.00	-32.95	57.49	-16.44	Peak
4	7320.000	43.82	74.00	-30.18	56.46	-12.64	Peak
5	7800.000	44.89	74.00	-29.11	57.08	-12.19	Peak
6	9760.000	45.39	74.00	-28.61	54.34	-8.95	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.