

FCC Partial Test Report

FCC ID : VQK-M02
Equipment : Mobile Phone
Model No. : M02
Brand Name : FUJITSU
Applicant : FUJITSU LIMITED
Address : 1-1, Kamikodanaka 4-chome, Nakahara-ku,
Kawasaki 211-8588, Japan
Standard : 47 CFR FCC Part 15.247
Received Date : Nov. 24, 2015
Tested Date : Nov. 24 ~ Dec. 03, 2015

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR560301-02AE	Rev. 01	Initial issue	Dec. 17, 2015

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emissions	[dBuV]: 1.037MHz 35.30 (Margin -20.70dB) - QP	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 12010.00MHz 43.63 (Margin -10.37dB) - AV	Pass
15.247(b)(3)	Maximum Output Power	Power [dBm]: 1.75	Pass

1 General Description

1.1 Information

This report is issued as a supplementary report to original ICC report no. FR560301AE. PCB/trace layouts, product form factor and antenna are identical except following items:

✧ Wi-Fi:

5GHz function is removed by software setting and hardware modification. Hardware modification-Remove components of 5GHz transmission path to cancel 5GHz function that will not affect 2.4GHz function since 2.4GHz and 5GHz transmission path is separately.

✧ LTE: B26 814 ~849 MHz: Activated by software.

✧ Without Fingerprint: Remove components.

✧ Change AC adapter.

✧ Same cradle as original report, change model name from F-51 to FAR-CR105.

In this report, AC power line conducted emission, radiated emission and conducted power had been re-tested and only its data was presented in the following sections.

1.1.1 Product Details

Product Name	Mobile Phone
Brand Name	FUJITSU
Model Name	M02
IMEI Code	353546070006049 / 353546070006353
H/W Version	v3.0.0
S/W Version	R021.3

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Freq. (MHz)	Channel Number	Data Rate
2400-2483.5	V4.1 LE	2402-2480	0-39 [40]	1 Mbps
Note 1: Bluetooth LE (Low energy) uses GFSK modulation.				

1.1.3 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	$\lambda/4$ Monopole	N/A	-0.63	---

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5.0Vdc from AC adapter 3.8Vdc from Battery
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1.1.5 Accessories

No.	Equipment	Description
1	Adapter	Brand Name: Fujitsu Limited Model Name: FMV-AC346 Input rating: 100-240Vac, 50/60Hz, 0.3A Output rating: 5.0Vdc, 2A 1.1m USB shielded cable without core (for charging use)
2	Cradle	Brand Name: Fujitsu Limited Model Name: FAR-CR105 Input rating: 5Vdc, 1.5A Output rating: 5.0Vdc, 1.5A
3	Battery (Unremovable)	Brand Name: Fujitsu Limited Model Name: CA54310-0064 Power Rating: 3.8Vdc, 2330mAh, 8.9Wh

1.1.6 Channel List

Frequency band (MHz)				2400~2483.5			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
37	2402	9	2422	18	2442	28	2462
0	2404	10	2424	19	2444	29	2464
1	2406	38	2426	20	2446	30	2466
2	2408	11	2428	21	2448	31	2468
3	2410	12	2430	22	2450	32	2470
4	2412	13	2432	23	2452	33	2472
5	2414	14	2434	24	2454	34	2474
6	2416	15	2436	25	2456	35	2476
7	2418	16	2438	26	2458	36	2478
8	2420	17	2440	27	2460	39	2480

1.1.7 Test Tool

Test tool	QRCT, Version: 3.0.54.0
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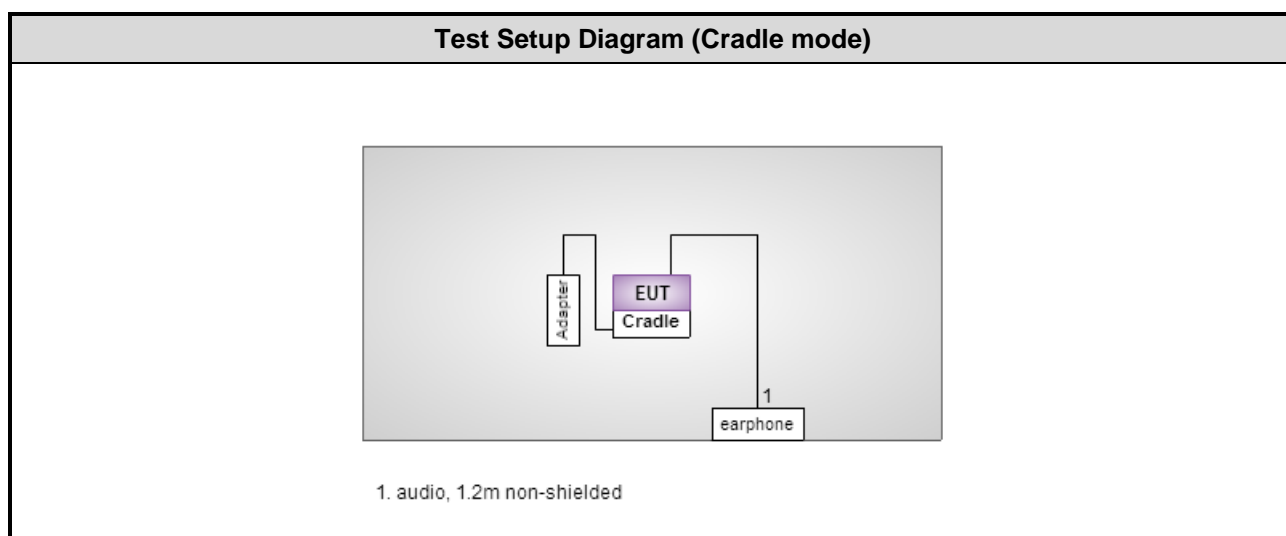
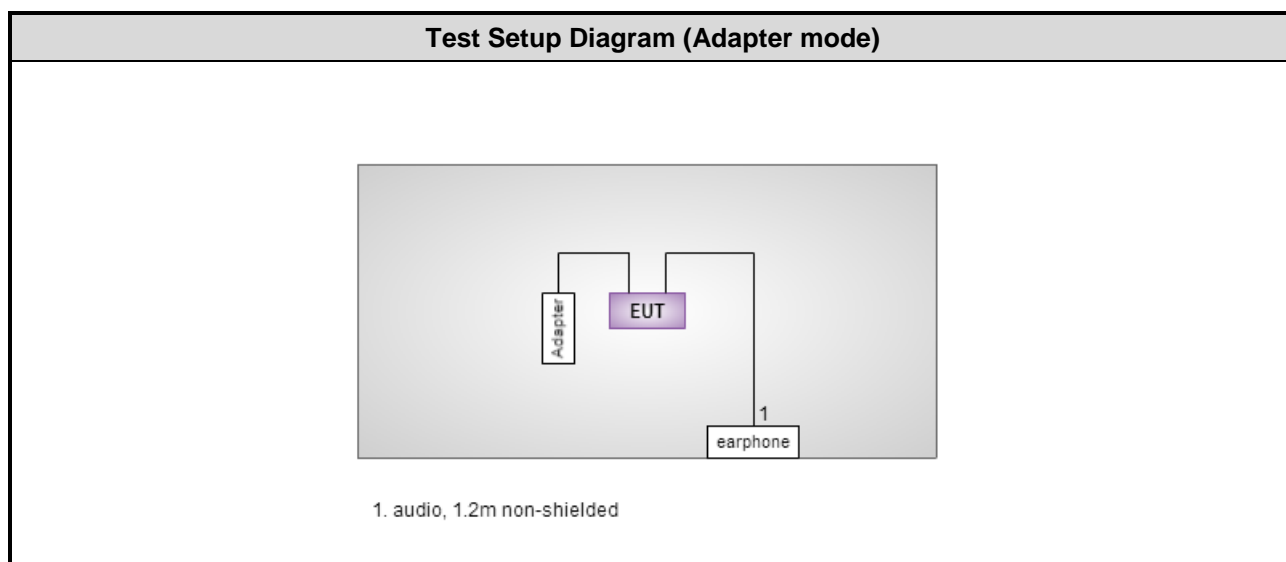
1.1.8 Power Setting

Modulation Mode	Test Frequency (MHz)		
	2402	2440	2480
GFSK/1Mbps	Default	Default	Default

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	S/N	Signal cable / Length (m)
1	Earphone	APPLE	MD827FE/A	6	1.2m non-shielded.

1.3 Test Setup Chart



1.4 Test Equipment List and Calibration Data

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2015	Nov. 12, 2016
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 31, 2014	Dec. 30, 2015
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 2 / (03CH02-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Dec. 31, 2014	Dec. 30, 2015
Receiver	R&S	ESR3	101657	Jan. 15, 2015	Jan. 14, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-523	Nov. 09, 2015	Nov. 08, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Oct. 07, 2015	Oct. 06, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 16, 2015	Nov. 15, 2016
Preamplifier	Burgeon	BPA-530	100218	Nov. 03, 2015	Nov. 02, 2016
Preamplifier	Agilent	83017A	MY39501309	Sep. 22, 2015	Sep. 21, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16140/4	Dec. 16, 2014	Dec. 15, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16018/4	Dec. 16, 2014	Dec. 15, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16015/4	Dec. 16, 2014	Dec. 15, 2015
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-003	Dec. 16, 2014	Dec. 15, 2015
LF cable 10M	EMCC	CFD400-E	CFD400-001	Jun. 17, 2015	Jun. 16, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
AC POWER SOURCE	APC	AFC-500W	F312060012	Oct. 26, 2015	Oct. 25, 2016
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247

ANSI C63.10-2013

FCC KDB 558074 D01 DTS Meas Guidance v03r03

1.6 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 ($k=2$))

Measurement Uncertainty	
Parameters	Uncertainty
Conducted power	± 0.808 dB
AC conducted emission	± 2.90 dB
Radiated emission ≤ 1 GHz	± 3.62 dB
Radiated emission > 1 GHz	± 5.60 dB

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	20°C / 61%	Peter Lin
Radiated Emissions	03CH02-WS	21°C / 62%	Anderson Hung Warren Lee
RF Conducted	TH01-WS	23°C / 65%	Felix Sung

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-2

2.2 The Worst Test Modes and Channel Details

The tests reported herein were performed according to the original worst case conditions in original report no. FR560301AE.

Test item	Mode	Test Frequency (MHz)	Data Rate
AC Power Line Conducted Emissions	BT LE	2440	1Mbps
Radiated Emissions ≤ 1GHz	BT LE	2440	1Mbps
Radiated Emissions > 1GHz	BT LE	2402	1Mbps
Maximum Output Power	BT LE	2402	1Mbps
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Z-plane results were found as the worst case and were shown in this report. 2. The EUT had been tested by following test configurations for spurious emission below 1GHz. 1) Configuration 1 : Adapter mode 2) Configuration 2 : Cradle mode			

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

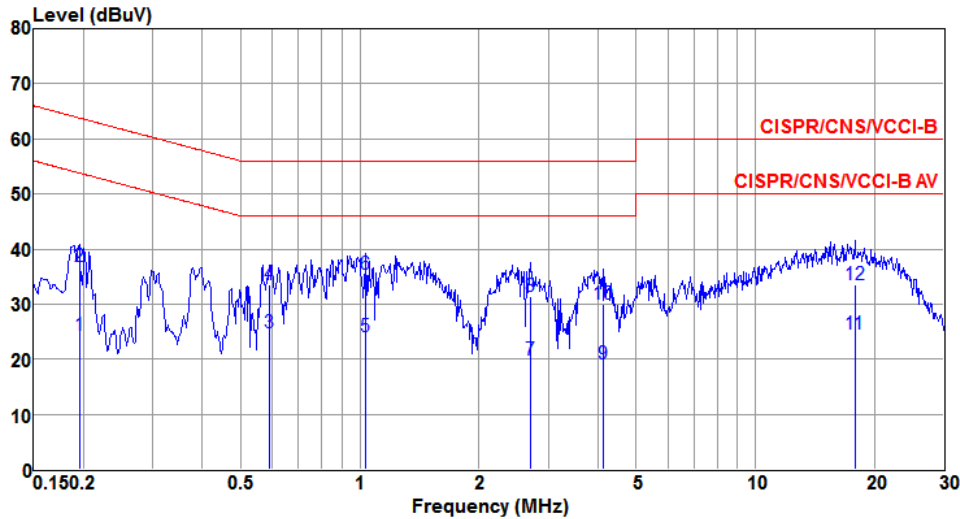
3.1.3 Test Setup



- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

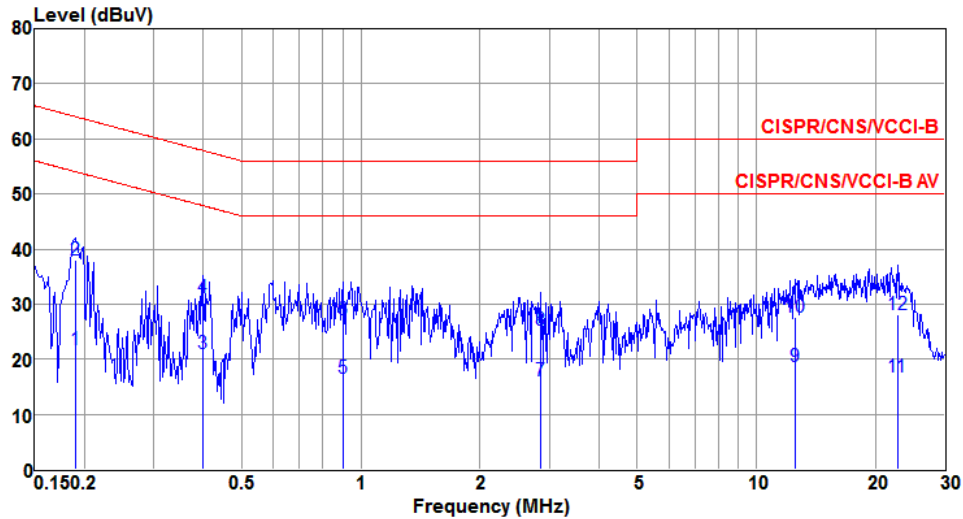
Modulation Mode	GFSK	Test Freq. (MHz)	2440
Power Phase	Line	Test Configuration	1



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.195	24.43	53.80	-29.37	24.23	0.11	0.09	Average
2	0.195	36.93	63.80	-26.87	36.73	0.11	0.09	QP
3	0.592	24.78	46.00	-21.22	24.52	0.13	0.13	Average
4	0.592	33.56	56.00	-22.44	33.30	0.13	0.13	QP
5	1.037	23.99	46.00	-22.01	23.70	0.13	0.16	Average
6	1.037	35.30	56.00	-20.70	35.01	0.13	0.16	QP
7	2.692	19.86	46.00	-26.14	19.42	0.17	0.27	Average
8	2.692	31.49	56.00	-24.51	31.05	0.17	0.27	QP
9	4.114	19.06	46.00	-26.94	18.56	0.19	0.31	Average
10	4.114	30.06	56.00	-25.94	29.56	0.19	0.31	QP
11	17.849	24.62	50.00	-25.38	24.18	0.35	0.09	Average
12	17.849	33.44	60.00	-26.56	33.00	0.35	0.09	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

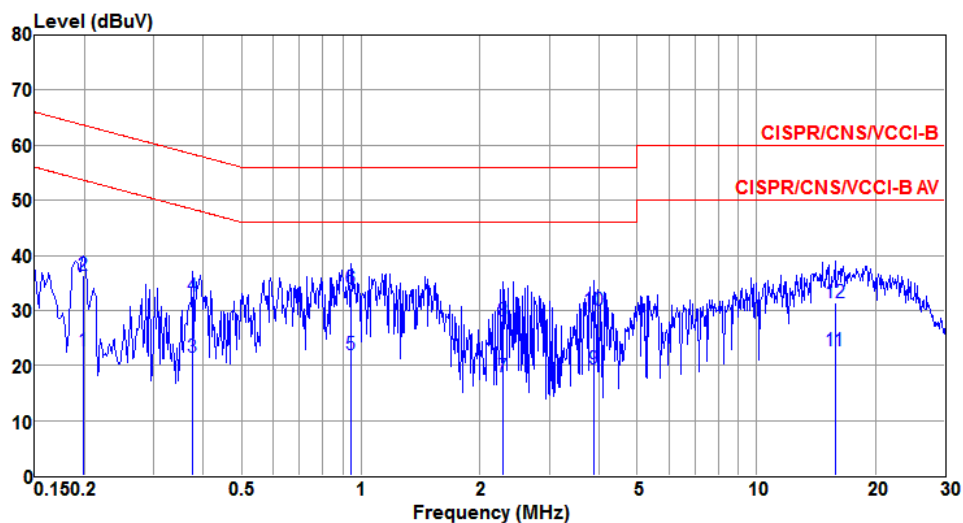
Modulation Mode	GFSK	Test Freq. (MHz)	2440
Power Phase	Neutral	Test Configuration	1



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.189	21.68	54.06	-32.38	21.48	0.11	0.09	Average
2@	0.189	38.06	64.06	-26.00	37.86	0.11	0.09	QP
3	0.398	20.96	47.90	-26.94	20.71	0.14	0.11	Average
4	0.398	31.18	57.90	-26.72	30.93	0.14	0.11	QP
5	0.899	16.56	46.00	-29.44	16.28	0.13	0.15	Average
6	0.899	27.16	56.00	-28.84	26.88	0.13	0.15	QP
7	2.839	16.11	46.00	-29.89	15.66	0.17	0.28	Average
8	2.839	25.19	56.00	-30.81	24.74	0.17	0.28	QP
9	12.582	18.62	50.00	-31.38	18.07	0.31	0.24	Average
10	12.582	27.62	60.00	-32.38	27.07	0.31	0.24	QP
11	22.775	16.71	50.00	-33.29	16.22	0.43	0.06	Average
12	22.775	28.15	60.00	-31.85	27.66	0.43	0.06	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

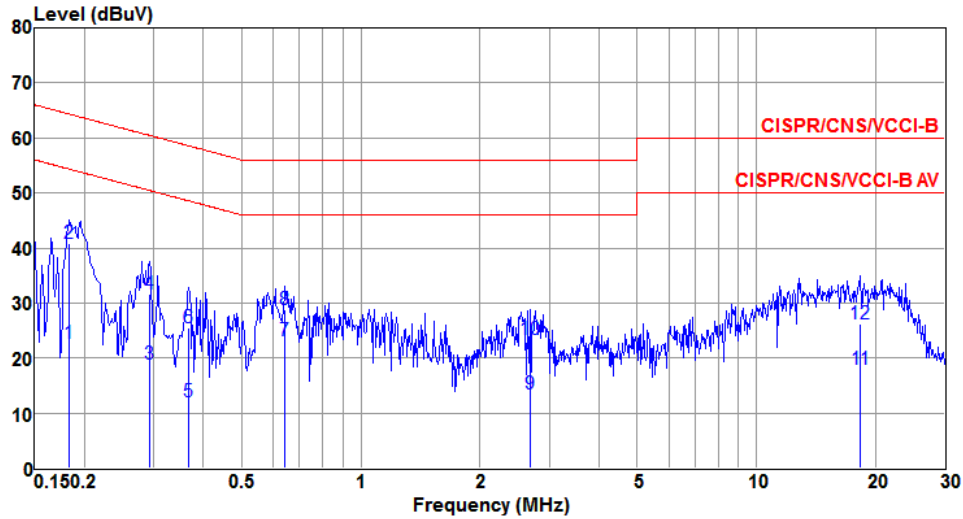
Modulation Mode	GFSK	Test Freq. (MHz)	2440
Power Phase	Line	Test Configuration	2



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	LISN factor dB	cable loss dB	Remark
1	0.199	22.73	53.67	-30.94	22.53	0.11	0.09	Average
2	0.199	36.42	63.67	-27.25	36.22	0.11	0.09	QP
3	0.375	21.47	48.39	-26.92	21.23	0.13	0.11	Average
4	0.375	32.51	58.39	-25.88	32.27	0.13	0.11	QP
5	0.943	21.95	46.00	-24.05	21.66	0.13	0.16	Average
6	0.943	33.93	56.00	-22.07	33.64	0.13	0.16	QP
7	2.285	17.93	46.00	-28.07	17.51	0.17	0.25	Average
8	2.285	28.13	56.00	-27.87	27.71	0.17	0.25	QP
9	3.881	19.32	46.00	-26.68	18.82	0.19	0.31	Average
10	3.881	30.02	56.00	-25.98	29.52	0.19	0.31	QP
11	15.801	22.73	50.00	-27.27	22.23	0.33	0.17	Average
12	15.801	31.28	60.00	-28.72	30.78	0.33	0.17	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

Modulation Mode	GFSK	Test Freq. (MHz)	2440
Power Phase	Neutral	Test Configuration	2



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.183	22.58	54.33	-31.75	22.38	0.11	0.09	Average
2	0.183	40.85	64.33	-23.48	40.65	0.11	0.09	QP
3	0.292	18.89	50.46	-31.57	18.67	0.12	0.10	Average
4	0.292	31.60	60.46	-28.86	31.38	0.12	0.10	QP
5	0.367	11.98	48.56	-36.58	11.74	0.13	0.11	Average
6	0.367	25.53	58.56	-33.03	25.29	0.13	0.11	QP
7@	0.644	23.10	46.00	-22.90	22.83	0.13	0.14	Average
8	0.644	28.85	56.00	-27.15	28.58	0.13	0.14	QP
9	2.678	13.57	46.00	-32.43	13.13	0.17	0.27	Average
10	2.678	23.38	56.00	-32.62	22.94	0.17	0.27	QP
11	18.328	17.96	50.00	-32.04	17.50	0.38	0.08	Average
12	18.328	26.31	60.00	-33.69	25.85	0.38	0.08	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 RF Output Power

3.2.1 Limit of RF Output Power

Conducted power shall not exceed 1Watt.

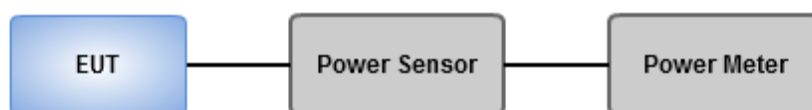
- ☒ Antenna gain $\leq 6\text{dBi}$, no any corresponding reduction is in output power limit.
- ☐ Antenna gain $> 6\text{dBi}$
 - ☐ Non Fixed, point to point operations.
The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB
 - ☐ Fixed, point to point operations
Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations ,no any corresponding reduction is in transmitter peak output power

3.2.2 Test Procedures

- ☒ Maximum Peak Conducted Output Power
 - ☐ **Spectrum analyzer**
 1. Set RBW = 1MHz, VBW = 3MHz, Detector = Peak.
 2. Sweep time = auto, Trace mode = max hold, Allow trace to fully stabilize.
 3. Use the spectrum analyzer channel power measurement function with the band limits set equal to the DTS bandwidth edges.
 - ☒ **Power meter**
 1. A broadband Peak RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.
- ☒ Maximum Conducted Average Output Power (For reference only)
 - ☒ **Power meter**
 1. A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.2.3 Test Setup



3.2.4 Test Result of Maximum Output Power

Mode	Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)
BT LE	2402	1.202	0.80	30
BT LE	2440	1.496	1.75	30
BT LE	2480	1.245	0.95	30

Mode	Freq. (MHz)	AV Power (mW)	AV Power (dBm)	Limit (dBm)
BT LE	2402	1.138	0.56	30
BT LE	2440	1.413	1.50	30
BT LE	2480	1.178	0.71	30

Note: Average power is for reference only

3.3 Emissions in Restricted Frequency Bands

3.3.1 Limit of Emissions in Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.3.2 Test Procedures

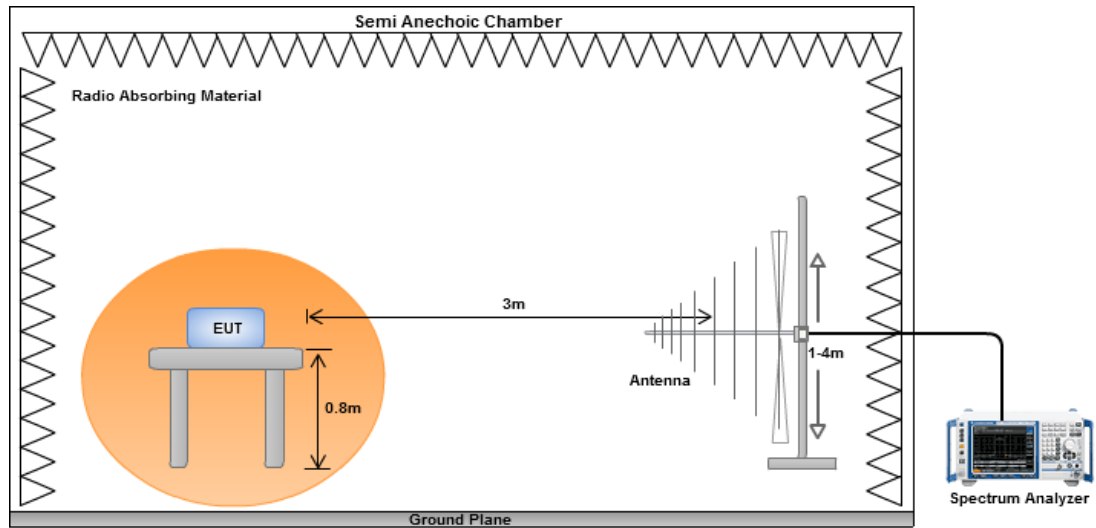
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

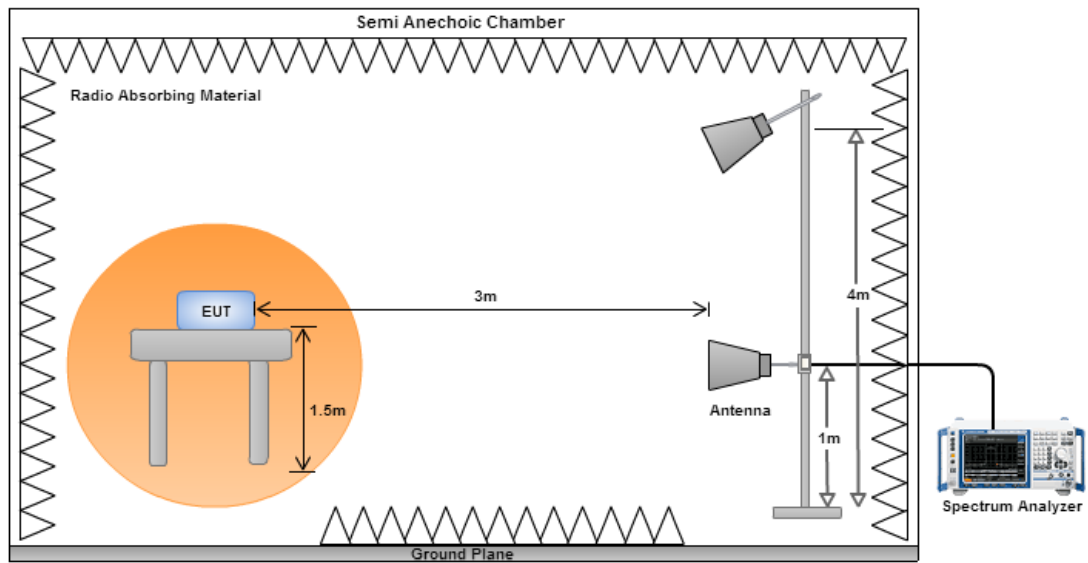
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.3.3 Test Setup

Radiated Emissions below 1 GHz

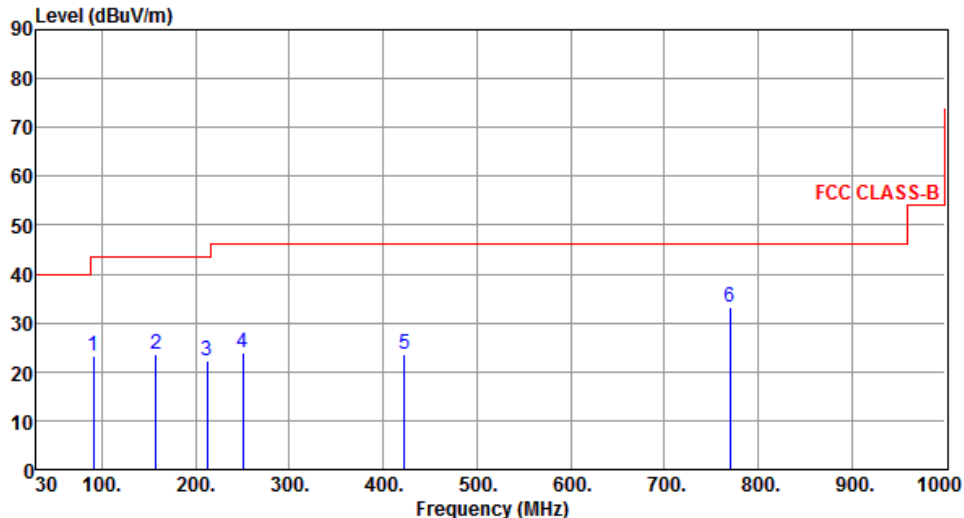


Radiated Emissions above 1 GHz



3.3.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)_Adapter mode

Modulation	GFSK	Test Freq. (MHz)	2440
Polarization	Horizontal	Test Configuration	1

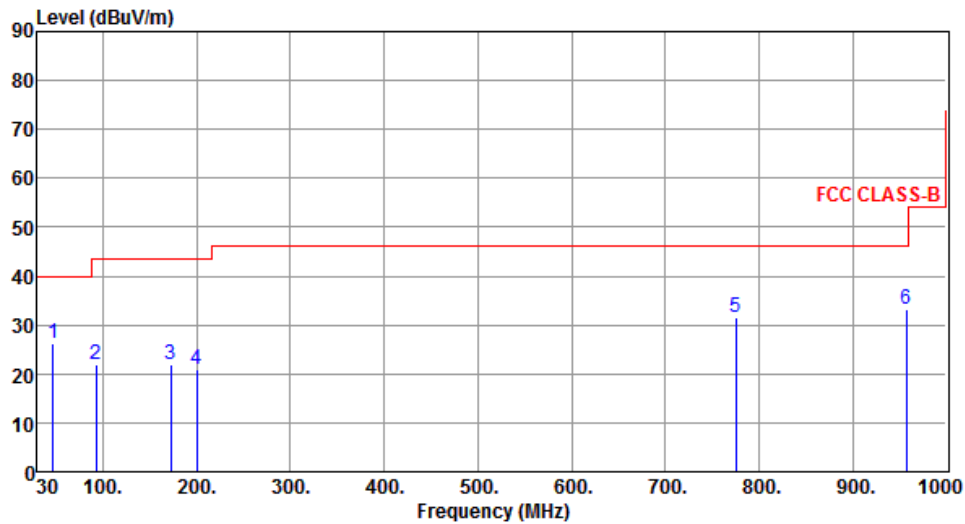


The graph displays the radiated unwanted emissions for an adapter in GFSK modulation mode. The y-axis represents the emission level in dBuV/m, ranging from 0 to 90. The x-axis represents the frequency in MHz, ranging from 30 to 1000. A red line indicates the FCC CLASS-B limit, which is 40 dBuV/m from 30 to 100 MHz, 45 dBuV/m from 100 to 1000 MHz, and 55 dBuV/m from 1000 to 10000 MHz. Six measured peaks are labeled with numbers 1 through 6. The peak levels are: 1 (91.11 MHz, 23.15 dBuV/m), 2 (158.04 MHz, 23.50 dBuV/m), 3 (212.36 MHz, 22.39 dBuV/m), 4 (250.19 MHz, 23.93 dBuV/m), 5 (422.85 MHz, 23.74 dBuV/m), and 6 (770.11 MHz, 33.27 dBuV/m). All measured peaks are well below the FCC CLASS-B limit.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	91.11	23.15	43.50	-20.35	41.06	-17.91	Peak	---	---
2	158.04	23.50	43.50	-20.00	35.21	-11.71	Peak	---	---
3	212.36	22.39	43.50	-21.11	36.78	-14.39	Peak	---	---
4	250.19	23.93	46.00	-22.07	36.72	-12.79	Peak	---	---
5	422.85	23.74	46.00	-22.26	31.88	-8.14	Peak	---	---
6	770.11	33.27	46.00	-12.73	35.59	-2.32	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2440
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.49	26.20	40.00	-13.80	37.80	-11.60	Peak	---	---
2	93.05	21.94	43.50	-21.56	39.57	-17.63	Peak	---	---
3	172.59	21.76	43.50	-21.74	34.03	-12.27	Peak	---	---
4	199.75	20.85	43.50	-22.65	35.49	-14.64	Peak	---	---
5	774.96	31.66	46.00	-14.34	33.94	-2.28	Peak	---	---
6	957.32	33.15	46.00	-12.85	33.11	0.04	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

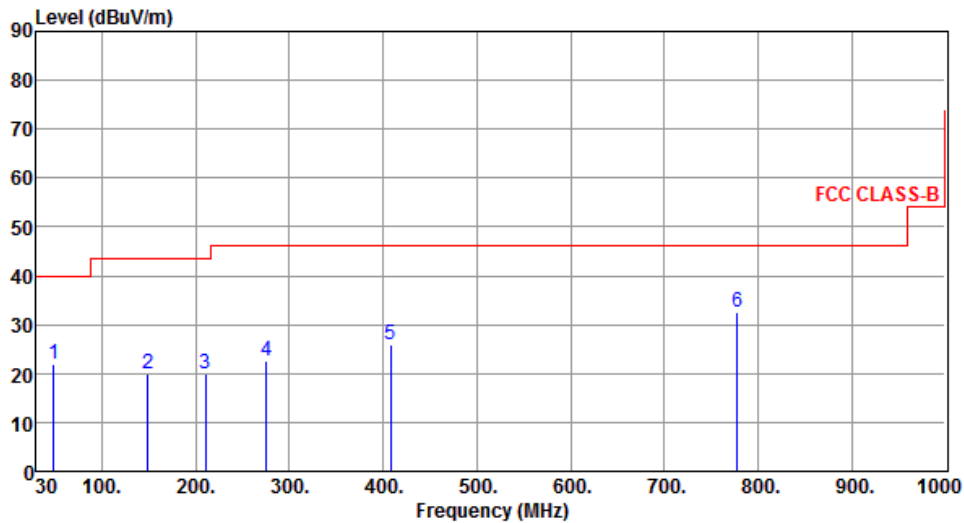
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.3.5 Transmitter Radiated Unwanted Emissions (Below 1GHz)_Cradle mode

Modulation	GFSK	Test Freq. (MHz)	2440
Polarization	Horizontal	Test Configuration	2

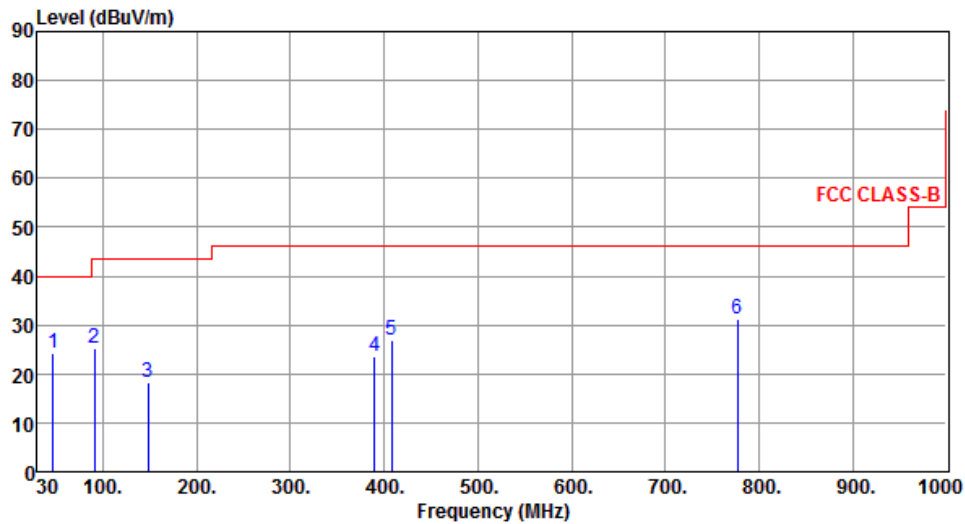


The graph displays the radiated unwanted emissions for a transmitter in Cradle mode. The y-axis represents the Level in dBuV/m, ranging from 0 to 90. The x-axis represents the Frequency in MHz, ranging from 30 to 1000. A red line indicates the FCC CLASS-B limit, which is 40 dBuV/m from 30 to 100 MHz, 45 dBuV/m from 100 to 1000 MHz, and 55 dBuV/m from 1000 to 10000 MHz. Six measured peaks are labeled with numbers 1 through 6. The data for these peaks is provided in the table below.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	22.05	40.00	-17.95	33.69	-11.64	Peak	---	---
2	149.31	19.89	43.50	-23.61	31.81	-11.92	Peak	---	---
3	210.42	19.80	43.50	-23.70	34.21	-14.41	Peak	---	---
4	275.41	22.44	46.00	-23.56	34.21	-11.77	Peak	---	---
5	408.30	25.93	46.00	-20.07	34.40	-8.47	Peak	---	---
6	777.87	32.69	46.00	-13.31	34.94	-2.25	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2440
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.49	24.39	40.00	-15.61	35.99	-11.60	QP	100	340
2	91.11	25.29	43.50	-18.21	43.20	-17.91	Peak	---	---
3	148.34	18.22	43.50	-25.28	30.17	-11.95	Peak	---	---
4	389.87	23.47	46.00	-22.53	32.41	-8.94	Peak	---	---
5	408.30	26.87	46.00	-19.13	35.34	-8.47	Peak	---	---
6	776.90	31.31	46.00	-14.69	33.56	-2.25	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

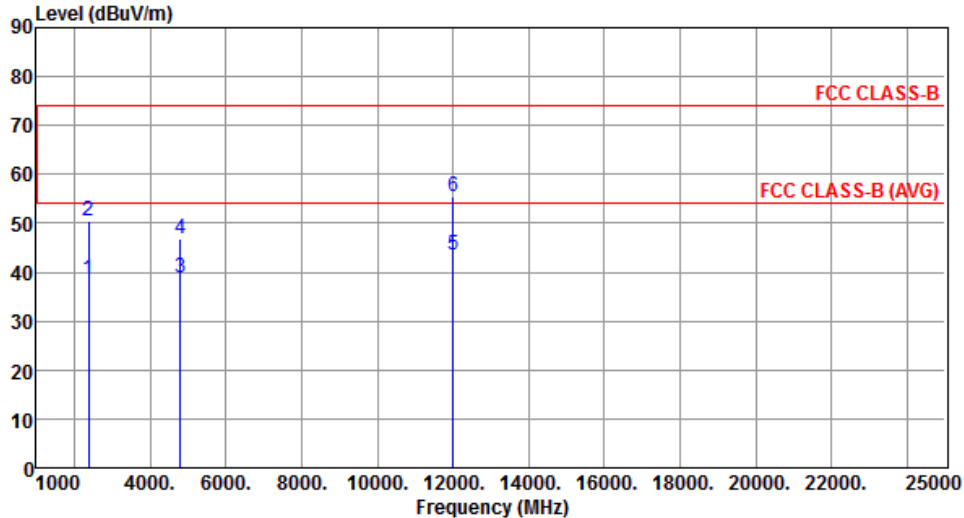
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.3.6 Transmitter Radiated Unwanted Emissions (Above 1GHz)

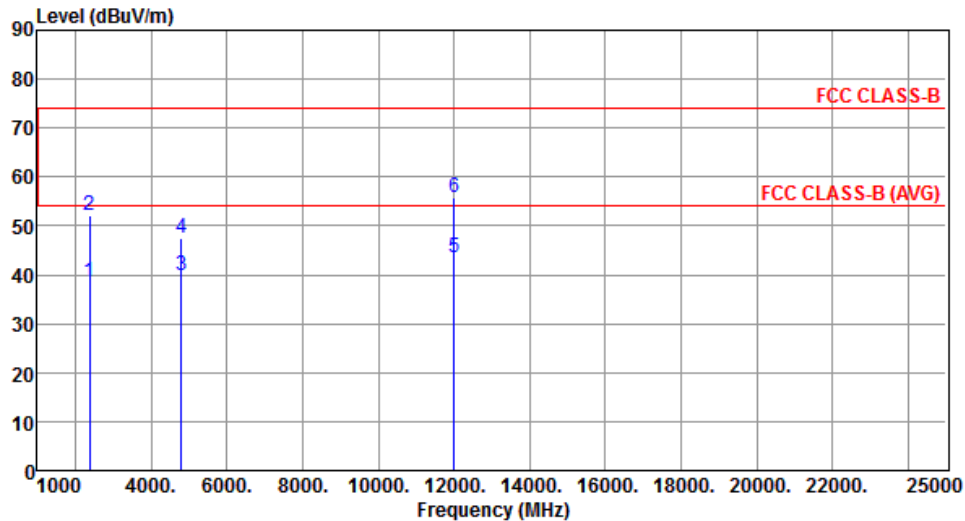
Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	38.58	54.00	-15.42	41.28	-2.70	Average	267	229
2	2390.00	50.42	74.00	-23.58	53.12	-2.70	Peak	267	229
3	4804.00	39.00	54.00	-15.00	34.07	4.93	Average	252	239
4	4804.00	46.97	74.00	-27.03	42.04	4.93	Peak	252	239
5	12010.00	43.45	54.00	-10.55	28.21	15.24	Average	207	319
6	12010.00	55.33	74.00	-18.67	40.09	15.24	Peak	207	319

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	38.54	54.00	-15.46	41.24	-2.70	Average	150	227
2	2390.00	52.19	74.00	-21.81	54.89	-2.70	Peak	150	227
3	4804.00	39.71	54.00	-14.29	34.78	4.93	Average	161	288
4	4804.00	47.58	74.00	-26.42	42.65	4.93	Peak	161	288
5	12010.00	43.63	54.00	-10.37	28.39	15.24	Average	187	6
6	12010.00	55.70	74.00	-18.30	40.46	15.24	Peak	187	6

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan,
R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd
St., Kwei Shan Hsiang, Tao Yuan
Hsien 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan Hsiang, Tao Yuan
Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

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