



FCC TEST REPORT

Test report
On Behalf of
Mercury Communication Co., Ltd
For
Smart Phone
Model No.: Cirrus C2

FCC ID: 2ALAS-C2

Prepared for : Mercury Communication Co., Ltd
6F,1 Bldg, Jia'an Science&Technology Park, No.1 Liuxian Road, Bao an District,
Shenzhen, China.

Prepared By : Shenzhen HUAKE Testing Technology Co., Ltd.
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District, Shenzhen City, China

Date of Test: July 30, 2018~Aug. 22, 2018

Date of Report: Sep. 04, 2018

Report Number: HUAKE180809761E



TEST RESULT CERTIFICATION

Applicant's name : Mercury Communication Co., Ltd
Address : 6F,1 Bldg, Jia'an Science&Technology Park, No.1 Liuxian Road, Bao an District, Shenzhen, China.
Manufacture's Name : Mercury Communication Co., Ltd
Address : 6F,1 Bldg, Jia'an Science&Technology Park, No.1 Liuxian Road, Bao an District, Shenzhen, China.
Product description : Smart Phone
Brand Name : Cloud Mobile
Mode Name : Cirrus C2
Standards : FCC Rules and Regulations Part 15 Subpart C Section 15.247
KDB 558074 D01 15.247 Meas Guidance v05

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Date of Test :
Date (s) of performance of tests : July 30, 2018~Aug. 22, 2018
Date of Issue : Sep.04, 2018
Test Result : **Pass**

Testing Engineer :

(Gary Qian)

Technical Manager :

(Eden Hu)

Authorized Signatory :

(Jason Zhou)



| Revision | Issue Date | Revisions | Revised By |
|----------|--------------|---------------|------------|
| V1.0 | Sep.04, 2018 | Initial Issue | Jason Zhou |



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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The EUT is designed as “Smart Phone”. It is designed by way of utilizing the GFSK to achieve the system operation.

A major technical description of EUT is described as following:

| | |
|---------------------|--|
| Operation Frequency | 2.402 GHz to 2.480GHz |
| Bluetooth Version | V4.0 |
| Modulation | GFSK |
| Number of channels | 40 Channel(37 Hopping Channel,3 advertising Channel) |
| Antenna Designation | PIFA Antenna |
| Antenna Gain | 1.0dBi |
| Hardware Version | T52_MB_V20 |
| Software Version | Cirrus_C2_20180822 |
| Power Supply | DC3.8V by Built-in Li-ion Battery |



1.2 RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: 2ALAS-C2** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

1.3 TEST METHODOLOGY

All measurements contained in this report were conducted with KDB 558074, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions. The EUT was tested in all three orthogonal planes and the worse case was showed.

**1.4 TEST FACILITY**

| | |
|--|---|
| Site | Shenzhen HUAKE Testing Technology Co., Ltd. |
| Location | 1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China |
| Designation Number | CN1229 |
| Test Firm Registration Number : 616276 | |

1.5 SPECIAL ACCESSORIES

Refer to section 2.2.

1.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.



2. MEASUREMENT UNCERTAINTY

| Test | Measurement Uncertainty | Notes |
|---|-------------------------|-------|
| Transmitter power conducted | ± 0.57 dB | (1) |
| Transmitter power Radiated | ± 2.20 dB | (1) |
| Conducted spurious emission 9KHz-40 GHz | ± 2.20 dB | (1) |
| Occupied Bandwidth | ± 0.01 ppm | (1) |
| Radiated Emission 30~1000MHz | ± 4.10 dB | (1) |
| Radiated Emission Above 1GHz | ± 4.32 dB | (1) |
| Conducted Disturbance 0.15~30MHz | ± 3.20 dB | (1) |

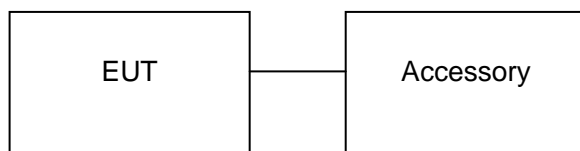
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



4. SYSTEM TEST CONFIGURATION

4.1 CONFIGURATION OF TESTED SYSTEM

Configuration:



4.2 EQUIPMENT USED IN TESTED SYSTEM

| Item | Equipment | Model No. | ID or Specification | Remark |
|------|-------------|-----------|---------------------|-----------|
| 1 | Smart Phone | Cirrus C2 | 2ALAS-C2 | EUT |
| 2 | Battery | Cirrus C2 | DC 3.8V/2100mAh | Accessory |
| 3 | USB | N/A | N/A | Accessory |

**ALL TEST EQUIPMENT LIST**

| RF Test Room | | | | |
|----------------------------|---------------------|-----------------|----------------------|------------------------|
| Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Power Sensor | Agilent | E9327A | HKE-113 | Dec. 28, 2018 |
| RF cable | Times | 1-40G | HKE-034 | Dec. 28, 2018 |
| RF automatic control unit | Tonscend | JS0806-2 | HKE-060 | Dec. 28, 2018 |
| Spectrum analyzer | Agilent | N9020A | HKE-048 | Dec. 28, 2018 |
| RF Cable (9KHz-26.5GHz) | Tonscend | 170660 | N/A | Dec. 28, 2018 |
| Signal generator | Agilent | N5183A | HKE-071 | Dec. 28, 2018 |
| Receiver | R&S | ESCI-7 | HKE-010 | Dec. 28, 2018 |
| Spectrum analyzer | Agilent | N9020A | HKE-048 | Dec. 28, 2018 |
| Preamplifier | EMCI | EMC051845SE | HKE-015 | Dec. 28, 2018 |
| Preamplifier | Agilent | 83051A | HKE-016 | Dec. 28, 2018 |
| Loop antenna | Schwarzbeck | FMZB 1519 B | HKE-014 | Dec. 28, 2018 |
| Broadband antenna | Schwarzbeck | VULB 9163 | HKE-012 | Dec. 28, 2018 |
| Horn antenna | Schwarzbeck | 9120D | HKE-013 | Dec. 28, 2018 |
| Antenna Mast | Keleto | CC-A-4M | N/A | N/A |
| Position controller | Taiwan MF | MF7802 | HKE-011 | Dec. 28, 2018 |
| Radiated test software | Tonscend | TS+ Rev 2.5.0.0 | HKE-082 | N/A |
| RF cable (9KHz-1GHz) | Times | 381806-001 | N/A | N/A |
| RF cable | Times | 1-40G | HKE-034 | Dec. 28, 2018 |



5. SUMMARY OF TEST RESULTS

| FCC RULES | DESCRIPTION OF TEST | RESULT |
|-----------------------|---|-----------|
| §15.203 | Antenna Requirement | Compliant |
| §15.209 §15.247(d) | Radiated Emission | Compliant |
| §15.247(d) | Band Edges | Compliant |
| §15.247 | 6 dB Bandwidth | Compliant |
| §15.247(b) | Conducted Power | Compliant |
| §15.247(e) | Maximum Conducted Output Power SPECTRAL Density | Compliant |
| §15.207 | Line Conduction Emission | Compliant |
| §15.207 | Conduction Emission | Compliant |



6. DESCRIPTION OF TEST MODES

The EUT has been operated in three modulations: GFSK independently.

| NO. | TEST MODE DESCRIPTION |
|-----|-----------------------|
| 1 | Low channel TX |
| 2 | Middle channel TX |
| 3 | High channel TX |
| 4 | Normal Operating (BT) |

Note:

1. All the test modes can be supply by Built-in Li-ion battery, only the result of the worst case was recorded in the report if no any records.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
3. EUT is operating at its maximum duty cycle>or equal 98%



7. RADIATED EMISSION

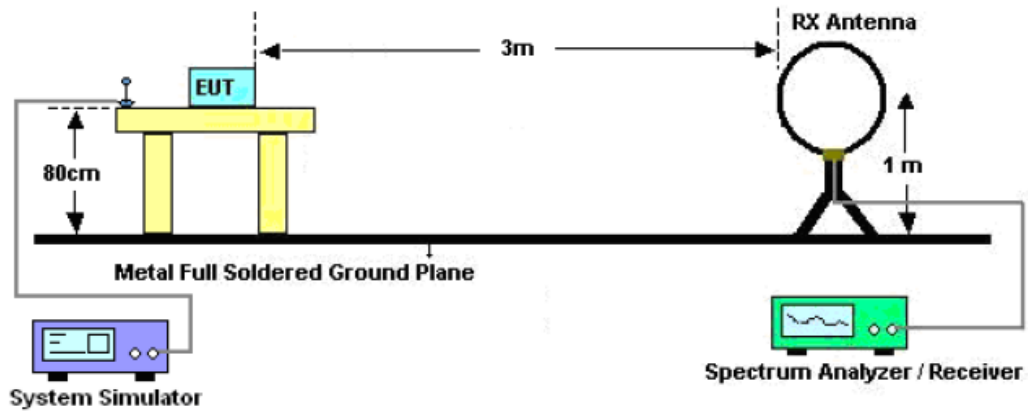
7.1 MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

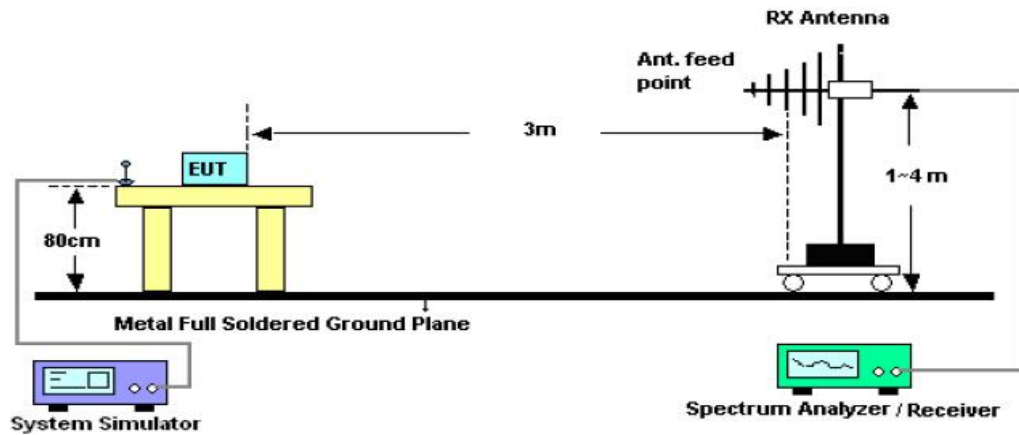


7.2 TEST SETUP

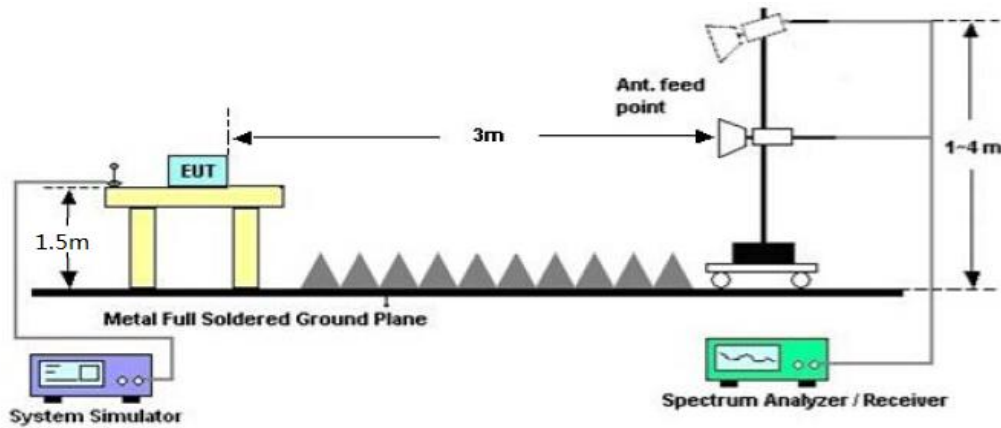
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz





7.3 LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|----------------------|--------------------------------------|----------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.



7.4 TEST RESULT

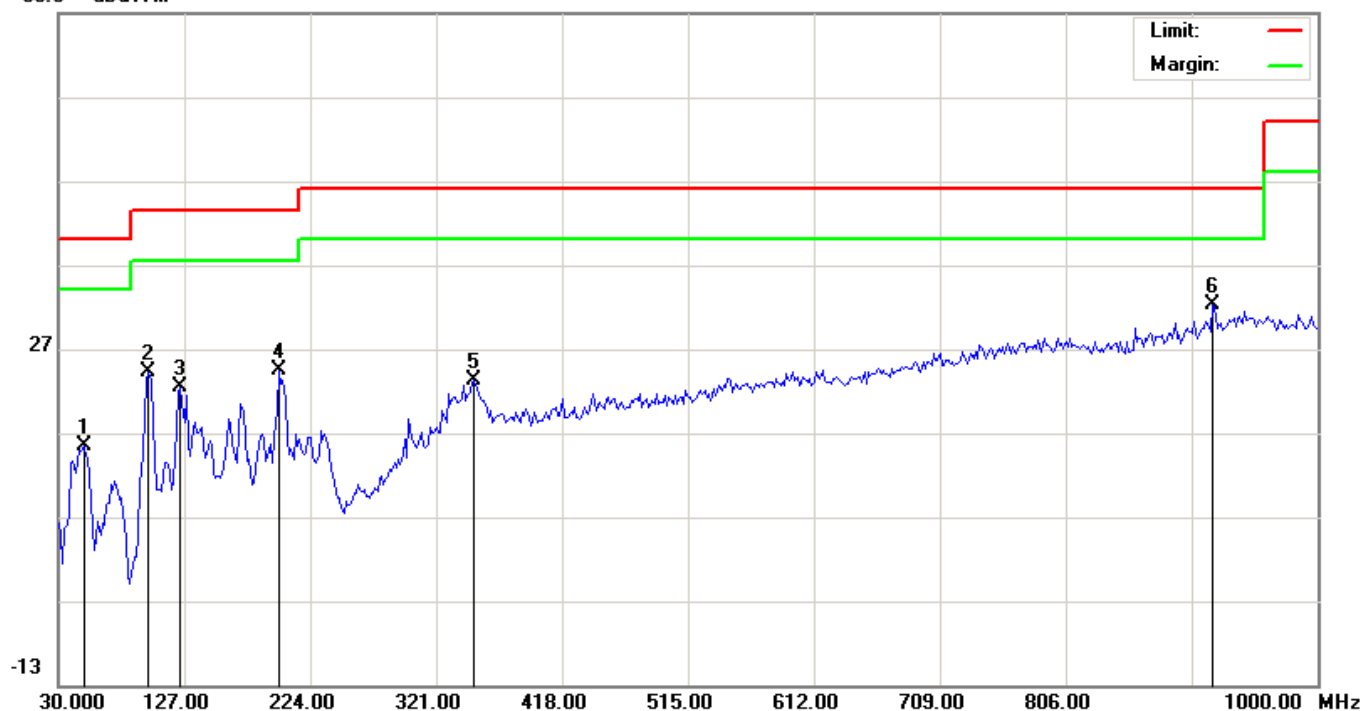
RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

RADIATED EMISSION TEST- (30MHZ-1GHZ) -HORIZONTAL

66.9 dBuV/m



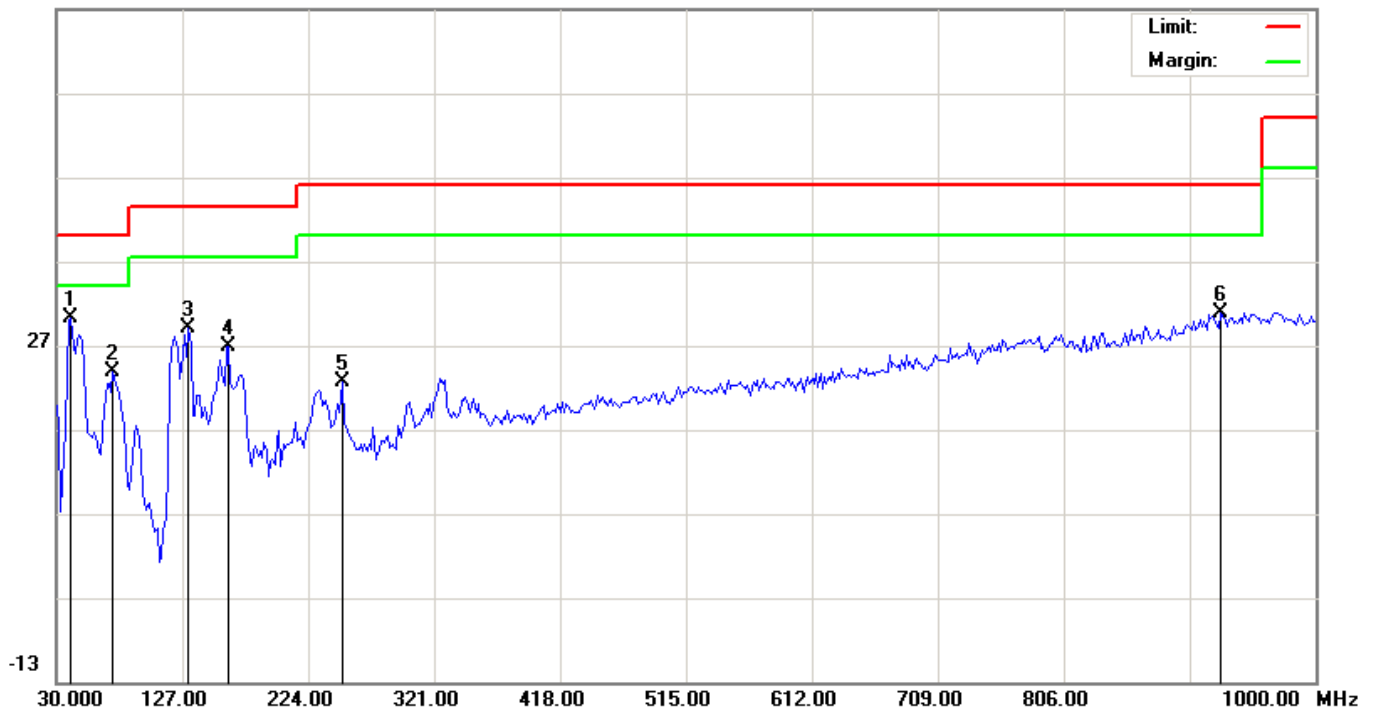
| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | | 49.4000 | 4.08 | 11.28 | 15.36 | 40.00 | -24.64 | peak | | | |
| 2 | | 99.5167 | 14.27 | 10.00 | 24.27 | 43.50 | -19.23 | peak | | | |
| 3 | | 123.7667 | 14.70 | 7.62 | 22.32 | 43.50 | -21.18 | peak | | | |
| 4 | | 199.7500 | 12.47 | 11.99 | 24.46 | 43.50 | -19.04 | peak | | | |
| 5 | | 350.1000 | 4.43 | 18.74 | 23.17 | 46.00 | -22.83 | peak | | | |
| 6 | * | 919.1667 | 3.16 | 29.14 | 32.30 | 46.00 | -13.70 | peak | | | |

RESULT: PASS



RADIATED EMISSION TEST- (30MHZ-1GHZ) -VERTICAL

66.9 dBuV/m



| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 41.3167 | 21.37 | 8.81 | 30.18 | 40.00 | -9.82 | peak | | | |
| 2 | | 73.6500 | 20.37 | 3.36 | 23.73 | 40.00 | -16.27 | peak | | | |
| 3 | | 131.8500 | 17.24 | 11.80 | 29.04 | 43.50 | -14.46 | peak | | | |
| 4 | | 162.5667 | 11.69 | 15.17 | 26.86 | 43.50 | -16.64 | peak | | | |
| 5 | | 249.8667 | 8.70 | 13.89 | 22.59 | 46.00 | -23.41 | peak | | | |
| 6 | | 927.2500 | 1.40 | 29.37 | 30.77 | 46.00 | -15.23 | peak | | | |

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

3. All test modes for different EUT are pre-tested. The low channel for GFSK mode is the worst case and recorded in the report.

**RADIATED EMISSION ABOVE 1GHZ**

| Frequency | Emission Level | Limits | Margin | Detector | Comment |
|-------------------------|----------------|----------|--------|----------|------------|
| (MHz) | (dBμV/m) | (dBμV/m) | (dB) | Type | |
| Low Channel (2402 MHz) | | | | | |
| 4804 | 50.58 | 74 | -23.42 | Pk | Vertical |
| 4804 | 40.11 | 54 | -13.89 | AV | Vertical |
| 4804 | 53.16 | 74 | -20.84 | Pk | Horizontal |
| 4804 | 37.49 | 54 | -16.51 | AV | Horizontal |
| Mid Channel (2440 MHz) | | | | | |
| 4880 | 51.21 | 74 | -22.79 | Pk | Vertical |
| 4880 | 39.17 | 54 | -14.83 | AV | Vertical |
| 4880 | 49.85 | 74 | -24.15 | Pk | Horizontal |
| 4880 | 38.46 | 54 | -15.54 | AV | Horizontal |
| High Channel (2480 MHz) | | | | | |
| 4960 | 49.85 | 74 | -24.15 | pk | Vertical |
| 4960 | 39.44 | 54 | -14.56 | AV | Vertical |
| 4960 | 48.18 | 74 | -25.82 | pk | Horizontal |
| 4960 | 39.09 | 54 | -14.91 | AV | Horizontal |

RESULT: PASS

Note: 1~25GHz scan with GFSK. No recording in the test report at least have 20dB margin.

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Meter Reading + Factor

Margin = Emission - Level Limit



8. BAND EDGE EMISSION

8.1. MEASUREMENT PROCEDURE

1) Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

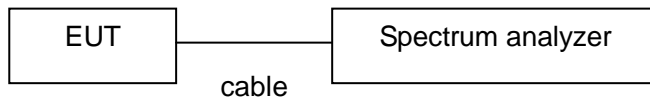
2) Conducted Emissions at the band edge

- a) The transmitter output was connected to the spectrum analyzer
- b) Set RBW=100kHz, VBW=300kHz
- c) Suitable frequency span including 100kHz bandwidth from band edge

8.2. TEST SET-UP

Radiated same as 6.2

Conducted set up



**8.3. RADIATED TEST RESULT**

| Frequency | Emission Level | Limits | Margin | Detector | Comment |
|-----------|----------------|----------|--------|----------|------------|
| (MHz) | (dBμV/m) | (dBμV/m) | (dB) | Type | |
| GFSK | | | | | |
| 2399.9 | 52.24 | 74 | -21.76 | peak | Vertical |
| 2399.9 | 39.26 | 54 | -14.74 | AVG | Vertical |
| 2399.9 | 49.42 | 74 | -24.58 | peak | Horizontal |
| 2399.9 | 38.12 | 54 | -15.88 | AVG | Horizontal |
| 2483.6 | 50.32 | 74 | -23.68 | peak | Vertical |
| 2483.6 | 39.19 | 54 | -14.81 | AVG | Vertical |
| 2483.6 | 49.37 | 74 | -24.63 | peak | Horizontal |
| 2483.6 | 37.53 | 54 | -16.47 | AVG | Horizontal |

RESULT: PASS

Note: Factor=Antenna Factor + Cable loss - Amplifier gain,

Emission Level = Meter Reading + Factor

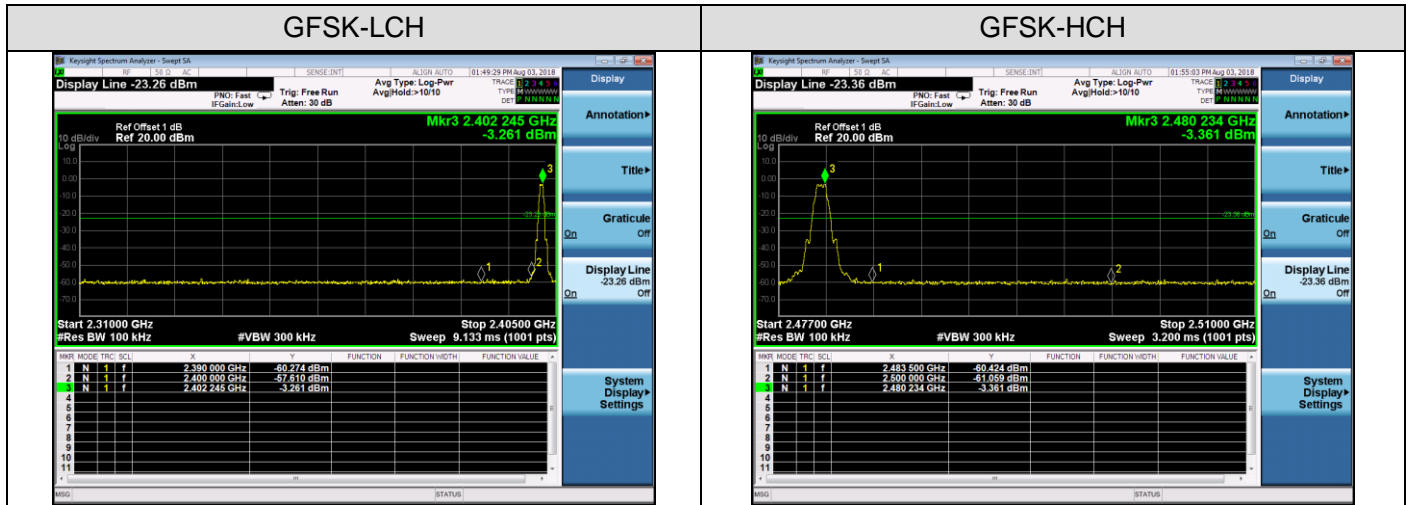
Margin= Emission Level -Limit.

The "Factor" value can be calculated automatically by software of measurement system.



8.4. CONDUCTED TEST RESULT

Test Graph





9.6DB BANDWIDTH

9.1. TEST PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW \geq RBW.
4. Set SPA Trace 1 Max hold, then View.

9.2. SUMMARY OF TEST RESULTS/PLOTS

| Mode | Channel | 6dB Bandwidth [KHz] | Verdict |
|------|---------|---------------------|---------|
| BLE | LCH | 715.2 | PASS |
| BLE | MCH | 714.1 | PASS |
| BLE | HCH | 714.9 | PASS |

Test Graph



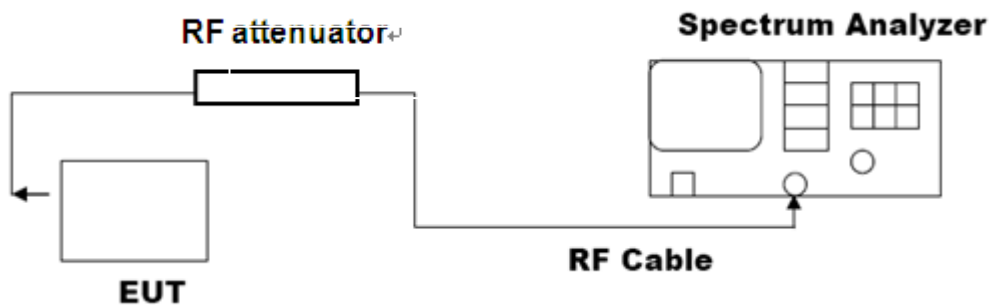


10. CONDUCTED OUTPUT POWER

10.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
 2. Set the EUT Work on the top, middle and the bottom operation frequency individually.
 3. Use the following spectrum analyzer settings:
 - Set the RBW \geq DTS bandwidth
 - Set the VBW \geq 3 x RBW
 - Set the span \geq 3 x RBW
 - Detector = peak
 - Sweep time = auto couple
 - Trace mode = max hold
 4. Allow the trace to stabilize. Use peak marker function to determine the peak amplitude level
 5. Record the result form the Spectrum Analyzer.
- Note:** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

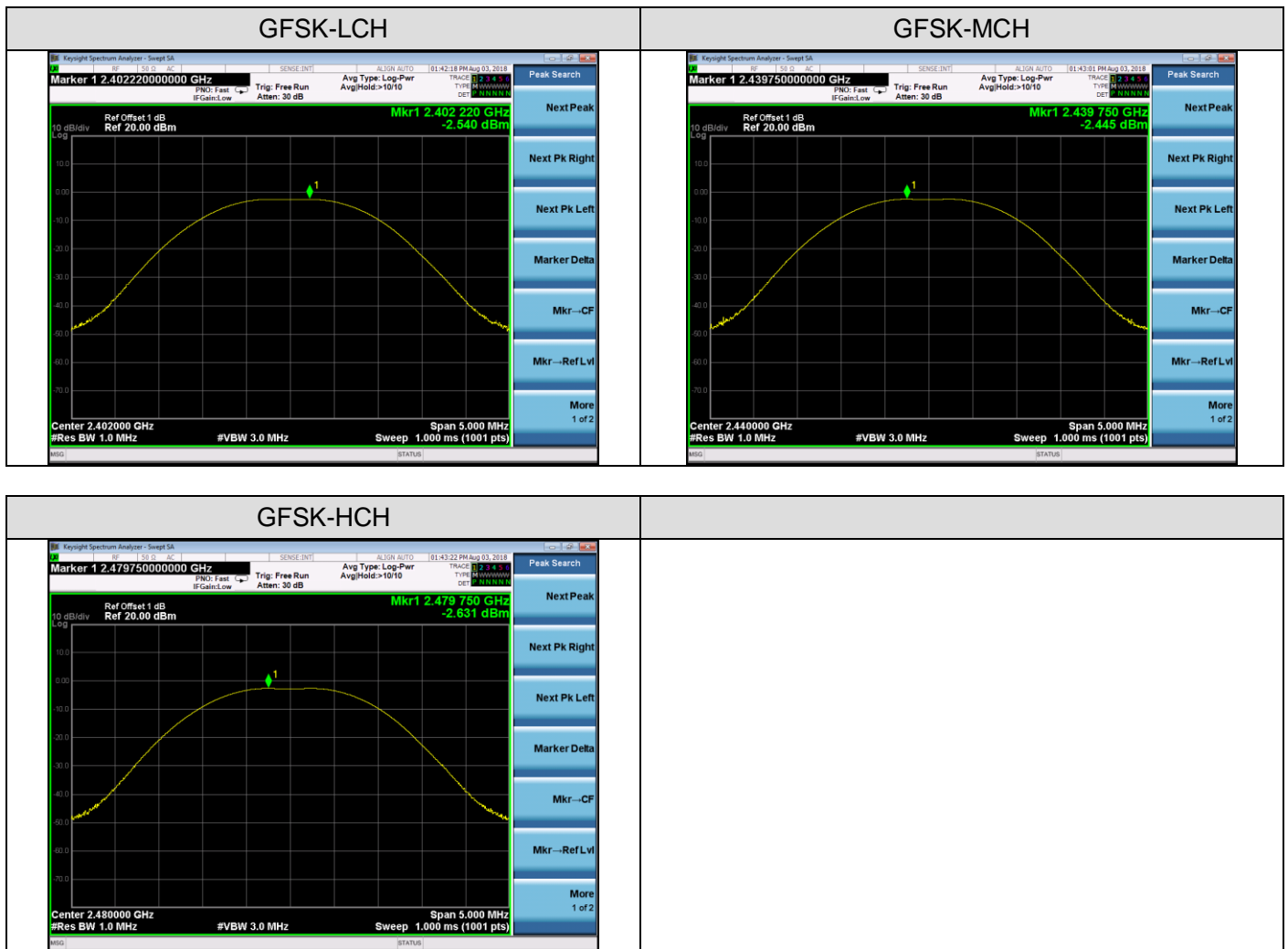




10.3. LIMITS AND MEASUREMENT RESULT

| Channel | Peak Power (dBm) | Applicable Limits (dBm) | Pass/Fail |
|----------------|------------------|-------------------------|-----------|
| Low Channel | -2.540 | 30 | Pass |
| Middle Channel | -2.445 | 30 | Pass |
| High Channel | -2.631 | 30 | Pass |

Test Graph





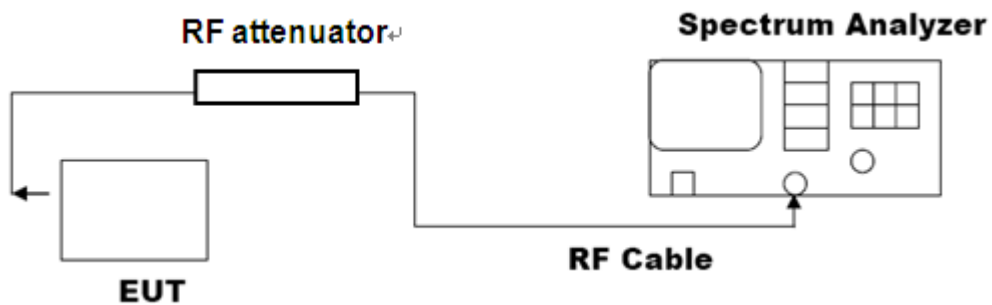
11. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

11.1 MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

11.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

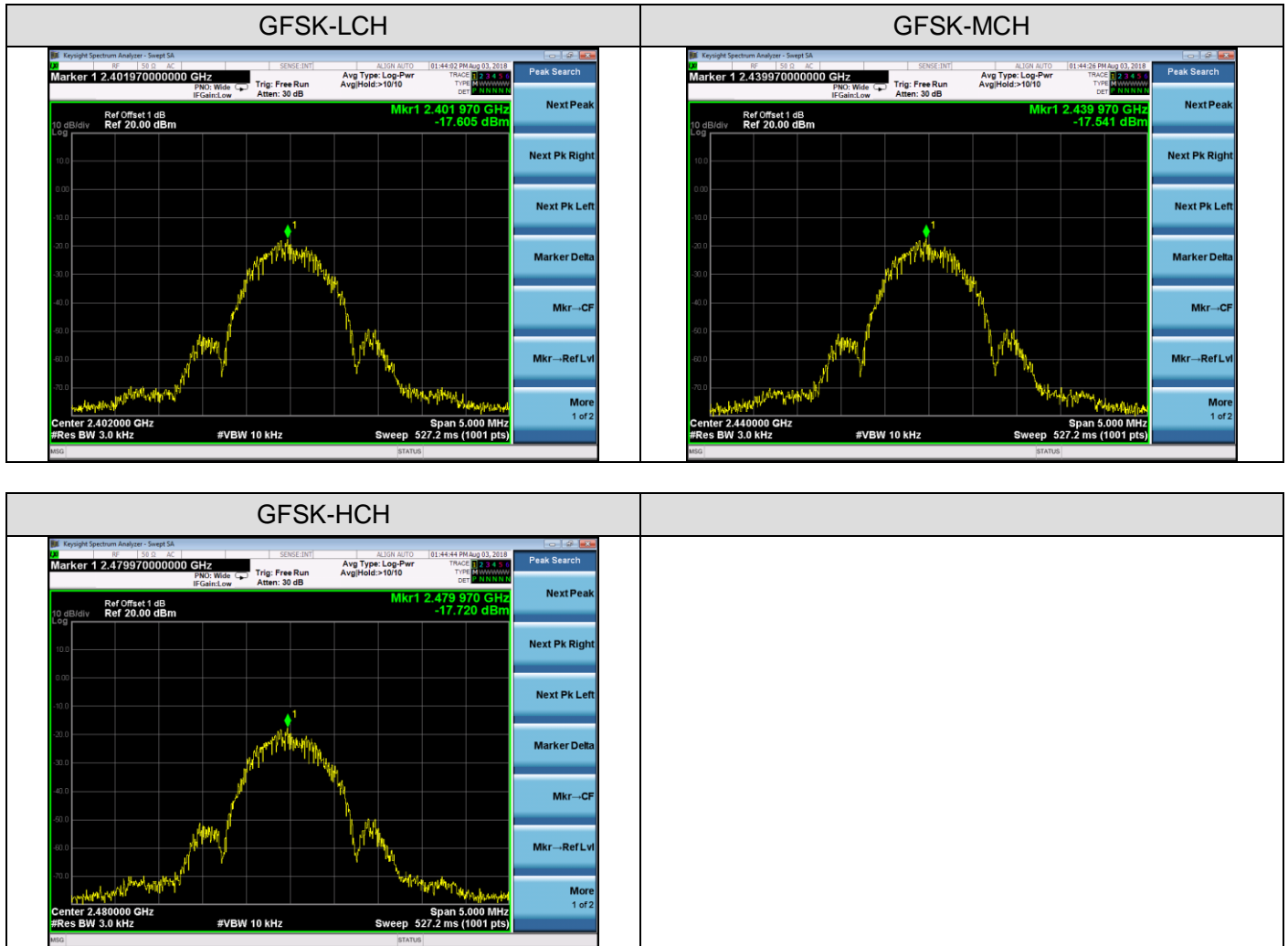




11.3 LIMITS AND MEASUREMENT RESULT

| Mode | Channel | PSD [dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|------|---------|----------------|-----------------|---------|
| BLE | LCH | -17.605 | 8 | PASS |
| BLE | MCH | -17.541 | 8 | PASS |
| BLE | HCH | -17.720 | 8 | PASS |

Test Graph





12. FCC LINE CONDUCTED EMISSION TEST

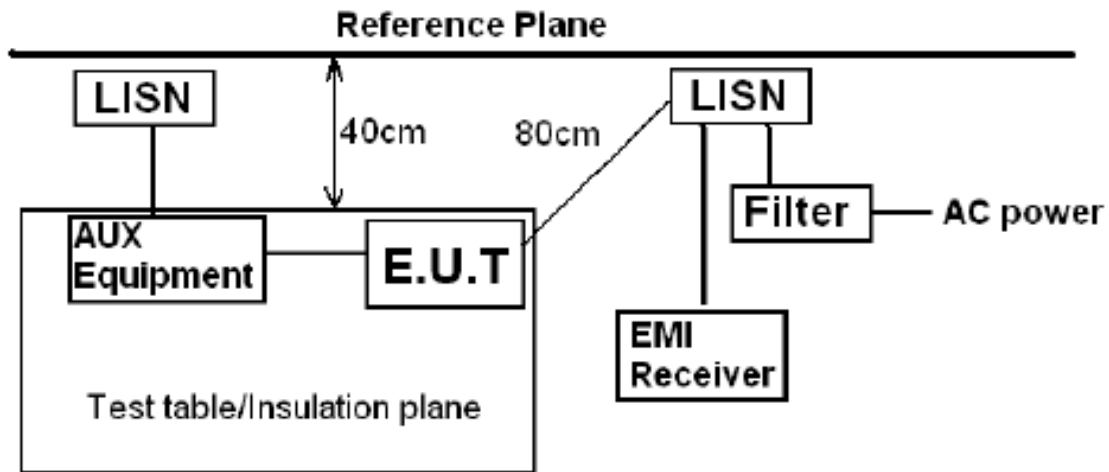
12.1 LIMITS

| Frequency | Maximum RF Line Voltage | |
|---------------|-------------------------|----------------|
| | Q.P.(dBuV) | Average(dBuV) |
| 150kHz~500kHz | 66-56 | 56-46 |
| 500kHz~5MHz | 56 | 46 |
| 5MHz~30MHz | 60 | 50 |

****Note:** 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

12.2 TEST SETUP



Remark:

E.U.T: Equipment Under Test

LISN: Line Impedance Stabilization Network

Test table height=0.8m



12.3 PRELIMINARY PROCEDURE

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.10.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4) All support equipments received AC120V/60Hz power from a LISN, if any.
- 5) The EUT received power by adapter which received power by a LISN.
- 6) The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test.
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

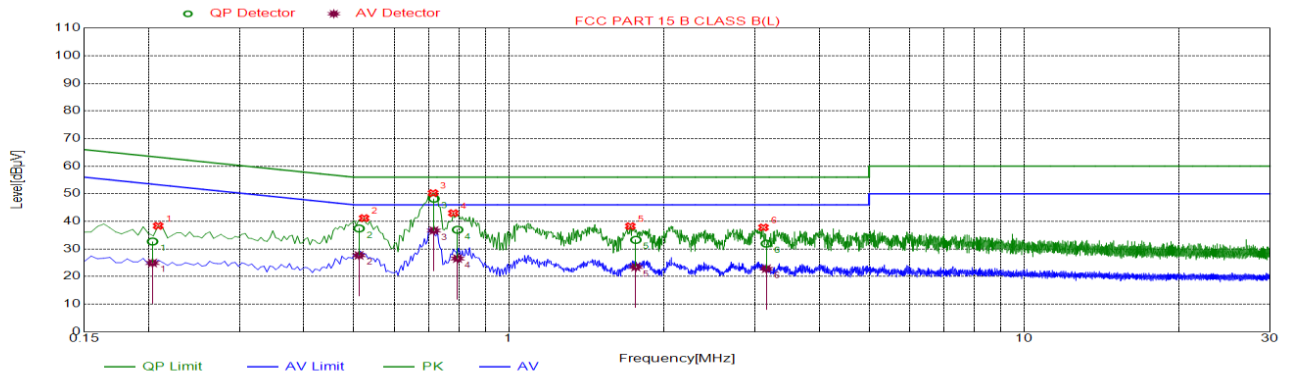
12.4 FINAL TEST PROCEDURE

- 1) EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3) The test data of the worst case condition(s) was reported on the Summary Data page.



12.5 TEST RESULT OF POWER LINE

Line Conducted Emission Test Line 1-L



Suspected List

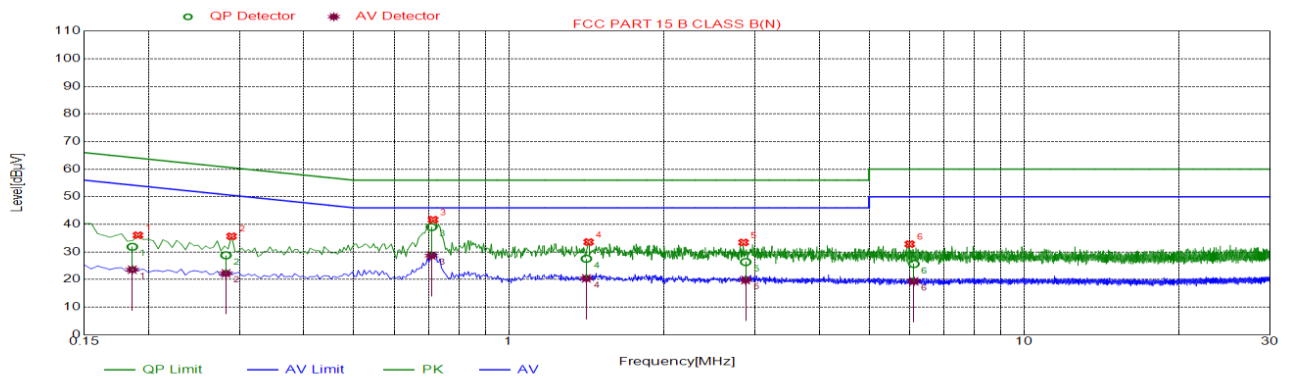
| NO. | Freq. [MHz] | Level [dBμV] | Factor [dB] | Limit [dBμV] | Margin [dB] | Detector |
|-----|----------------|-----------------|----------------|-----------------|----------------|----------|
| 1 | 0.2085 | 38.36 | 10.04 | 63.27 | 24.91 | PK |
| 2 | 0.5235 | 41.17 | 10.04 | 56.00 | 14.83 | PK |
| 3 | 0.7125 | 50.24 | 10.05 | 56.00 | 5.76 | PK |
| 4 | 0.7800 | 42.97 | 10.05 | 56.00 | 13.03 | PK |
| 5 | 1.7205 | 38.24 | 10.13 | 56.00 | 17.76 | PK |
| 6 | 3.1200 | 37.79 | 10.23 | 56.00 | 18.21 | PK |

Final Data List

| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBμV] | QP Limit [dBμV] | QP Margin [dB] | AV Value [dBμV] | AV Limit [dBμV] | AV Margin [dB] |
|-----|----------------|----------------|--------------------|--------------------|-------------------|--------------------|--------------------|-------------------|
| 1 | 0.2033 | 10.04 | 32.69 | 63.47 | 30.78 | 24.92 | 53.47 | 28.55 |
| 2 | 0.5116 | 10.04 | 37.42 | 56.00 | 18.58 | 27.67 | 46.00 | 18.33 |
| 3 | 0.7151 | 10.05 | 48.22 | 56.00 | 7.78 | 36.66 | 46.00 | 9.34 |
| 4 | 0.7947 | 10.05 | 36.95 | 56.00 | 19.05 | 26.53 | 46.00 | 19.47 |
| 5 | 1.7632 | 10.14 | 33.29 | 56.00 | 22.71 | 23.43 | 46.00 | 22.57 |
| 6 | 3.1597 | 10.23 | 31.92 | 56.00 | 24.08 | 22.80 | 46.00 | 23.20 |



Line Conducted Emission Test Line 1-N



Suspected List

| NO. | Freq. [MHz] | Level [dBμV] | Factor [dB] | Limit [dBμV] | Margin [dB] | Detector |
|-----|-------------|--------------|-------------|--------------|-------------|----------|
| 1 | 0.1905 | 36.04 | 10.04 | 64.02 | 27.98 | PK |
| 2 | 0.2895 | 35.67 | 10.03 | 60.54 | 24.87 | PK |
| 3 | 0.7125 | 41.68 | 10.05 | 56.00 | 14.32 | PK |
| 4 | 1.4280 | 33.57 | 10.11 | 56.00 | 22.43 | PK |
| 5 | 2.8545 | 33.44 | 10.21 | 56.00 | 22.56 | PK |
| 6 | 6.0000 | 32.81 | 10.23 | 60.00 | 27.19 | PK |

Final Data List

| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBμV] | QP Limit [dBμV] | QP Margin [dB] | AV Value [dBμV] | AV Limit [dBμV] | AV Margin [dB] |
|-----|-------------|-------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|
| 1 | 0.1857 | 10.05 | 31.86 | 64.22 | 32.36 | 23.56 | 54.22 | 30.66 |
| 2 | 0.2823 | 10.04 | 28.78 | 60.75 | 31.97 | 22.21 | 50.75 | 28.54 |
| 3 | 0.7072 | 10.05 | 39.00 | 56.00 | 17.00 | 28.64 | 46.00 | 17.36 |
| 4 | 1.4134 | 10.11 | 27.53 | 56.00 | 28.47 | 20.40 | 46.00 | 25.60 |
| 5 | 2.8805 | 10.21 | 26.34 | 56.00 | 29.66 | 19.79 | 46.00 | 26.21 |
| 6 | 6.1103 | 10.23 | 25.65 | 60.00 | 34.35 | 19.33 | 50.00 | 30.67 |



13. CONDUCTED SPURIOUS EMISSION

13.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
RBW = 100 kHz; VBW \geq RBW; Sweep = auto; Detector function = peak.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to DA000705 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW > RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW > RBW) are conform to the requirement.

**13.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)**

The same as described in section 8.2

13.3. MEASUREMENT EQUIPMENT USED

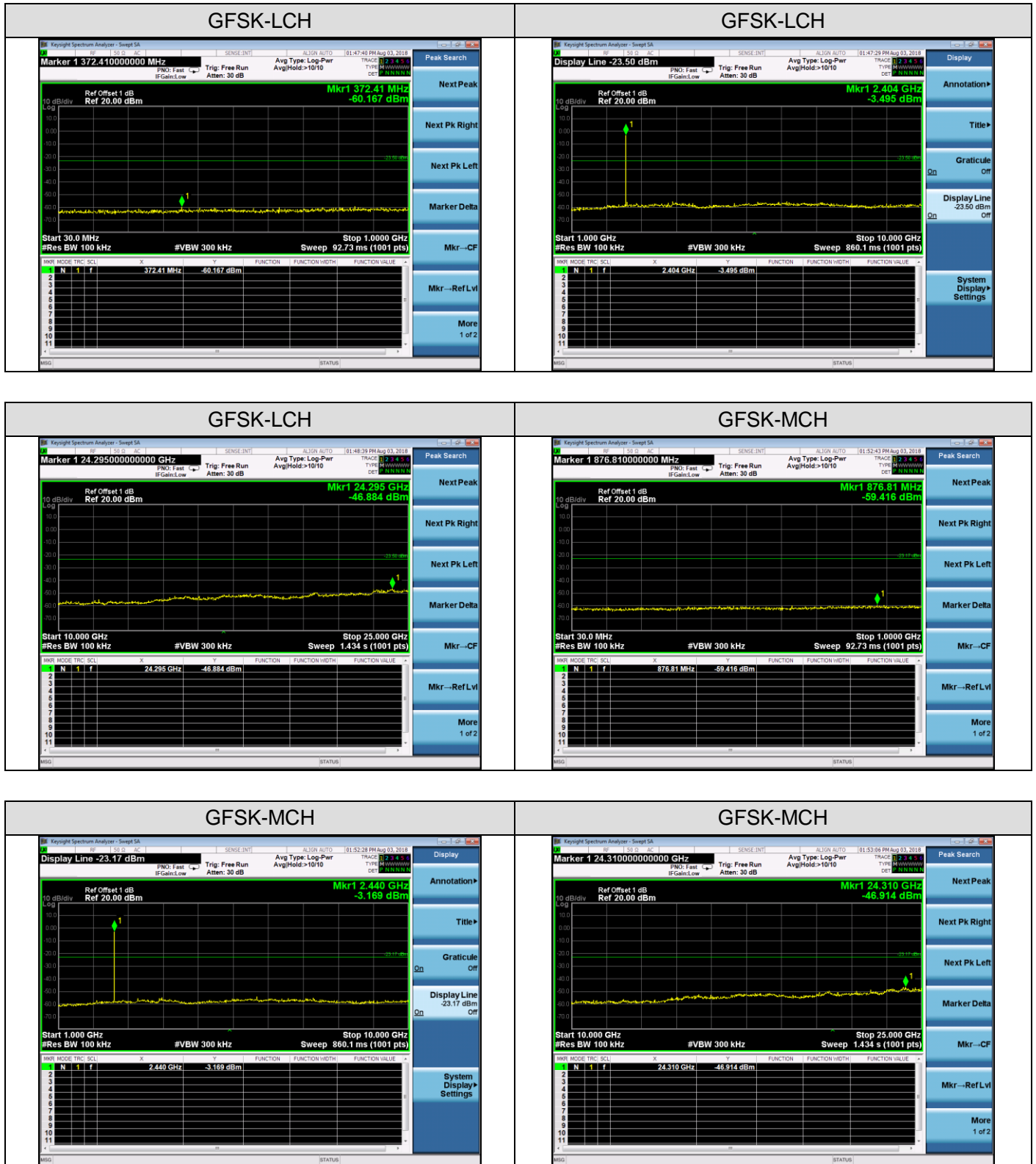
The same as described in section 6

13.4. LIMITS AND MEASUREMENT RESULT

| LIMITS AND MEASUREMENT RESULT | | |
|---|--|----------|
| Applicable Limits | Measurement Result | |
| | Test Data | Criteria |
| In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a)) | At least -20dBc than the limit Specified on the BOTTOM Channel | PASS |
| | At least -20dBc than the limit Specified on the TOP Channel | PASS |

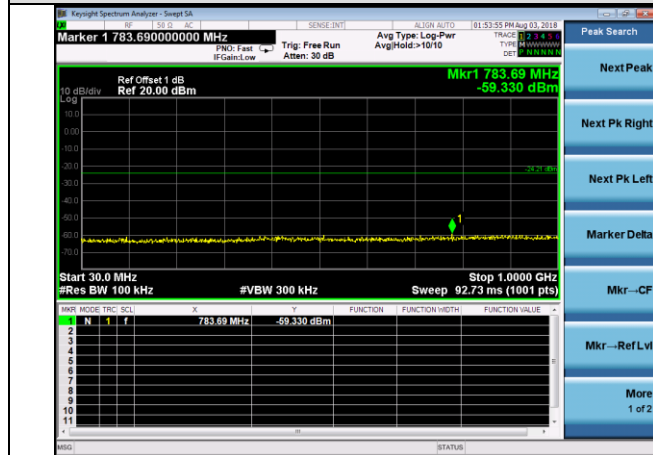


Test Graph

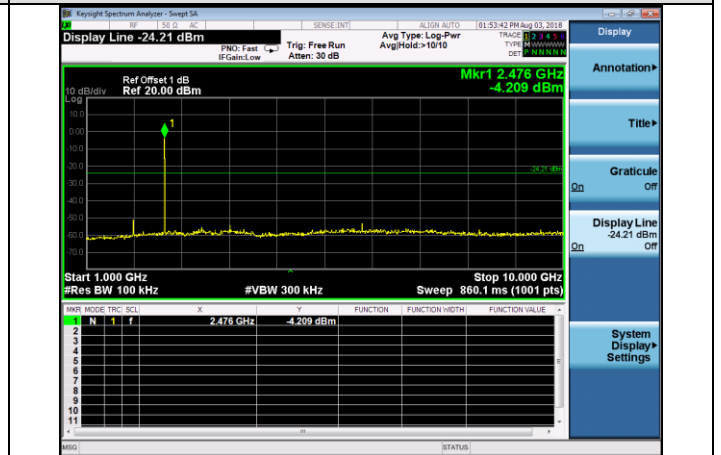




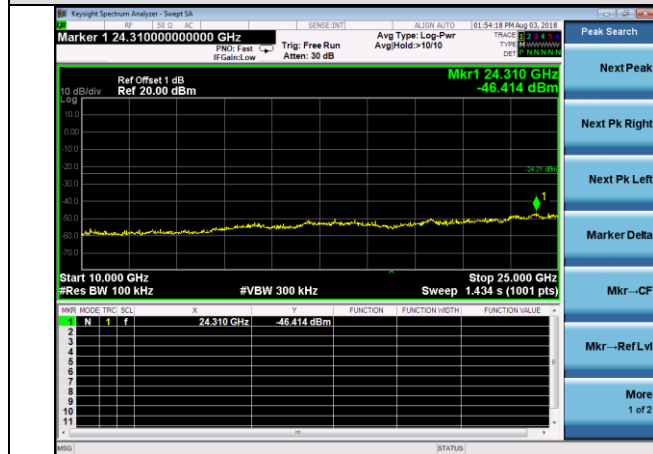
GFSK-HCH



GFSK-HCH



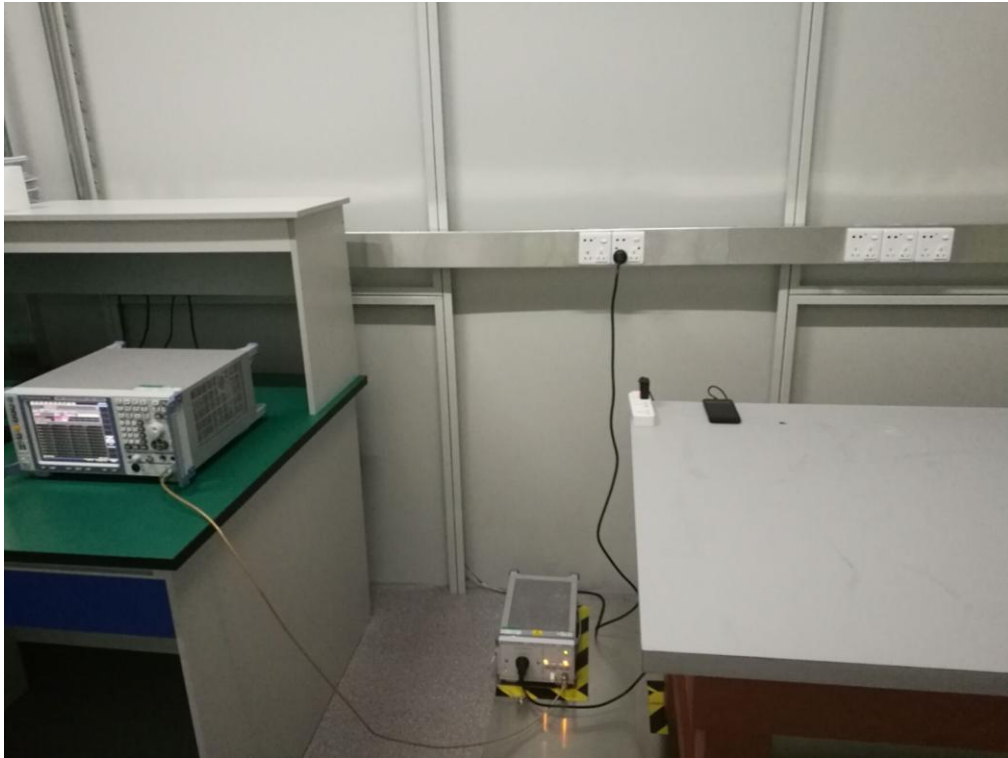
GFSK-HCH



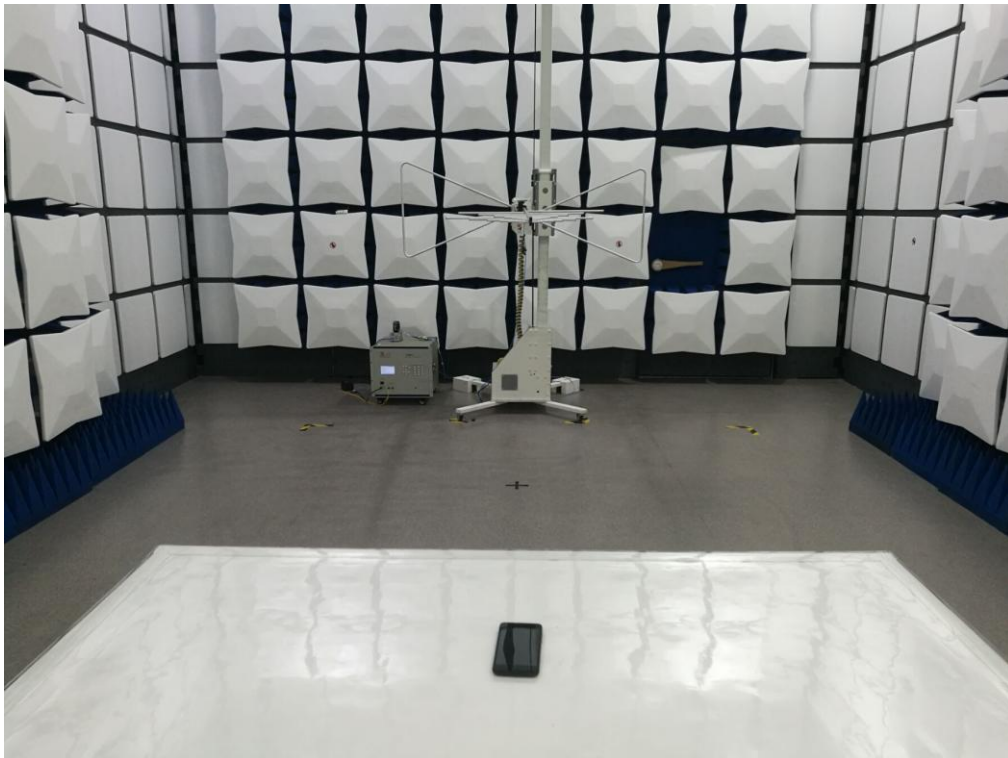


APPENDIX A: PHOTOGRAPHS OF TEST SETUP

LINE CONDUCTED EMISSION TEST SETUP



RADIATED EMISSION TEST SETUP





RADIATED EMISSION ABOVE 1G TEST SETUP



----END OF REPORT----