



TEST REPORT

For

Shenzhen Huafului Technology Co., Ltd.

Smartphone

Test Model: KINGKONG AX

Prepared for : Shenzhen Huafului Technology Co., Ltd.
Address : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : December 19, 2023
Number of tested samples : 2
Serial number : Prototype
Date of Test : December 19, 2023 ~ January 24, 2024
Date of Report : January 25, 2024





| TEST REPORT ETSI EN 303 345-1 V1.1.1 (2019-06) & ETSI EN 303 345-3 V1.1.1 (2021-06) | |
|---|---|
| Report Reference No. | : LCSA12153128EL |
| Date of Issue | : January 25, 2024 |
| Testing Laboratory Name | : Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Address | : Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China |
| Testing Location/ Procedure | : Full application of Harmonised standards <input checked="" type="checkbox"/> Partial application of Harmonised standards <input type="checkbox"/> Other standard testing method <input type="checkbox"/> |
| Applicant's Name | : Shenzhen Huafurui Technology Co., Ltd. |
| Address | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
| Test Specification | |
| Standard | : ETSI EN 303 345-1 V1.1.1 (2019-06) ETSI EN 303 345-3 V1.1.1 (2021-06) |
| Test Report Form No. | : LCSEMC-1.0 |
| TRF Originator | : Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Master TRF | : Dated 2017-06 |
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| Test Item Description | : Smartphone |
| Trade Mark | : CUBOT |
| Test Model | : KINGKONG AX |
| Ratings | : Please Refer to Page 6 |
| Result | : Positive |

Compiled by:

Kevin Huang/ Administrator

Supervised by:

Cary Luo/ Technique principal

Approved by:

Gavin Liang/ Manager





TEST REPORT

| | |
|---|--|
| Test Report No. : LCSA12153128EL | <u>January 25, 2024</u> Date of issue |
|---|--|

| | |
|--------------------------|--|
| Test Model..... | : KINGKONG AX |
| EUT..... | : Smartphone |
| Applicant..... | : Shenzhen Huafurui Technology Co., Ltd. |
| Address..... | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
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| Fax..... | : / |
| Factory..... | : Shenzhen Huafurui Technology Co., Ltd. |
| Address..... | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
| Telephone..... | : / |
| Fax..... | : / |

| | |
|--------------------|-----------------|
| Test Result | Positive |
|--------------------|-----------------|

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



Revision History

| Report Version | Issue Date | Revision Content | Revised By |
|----------------|------------------|------------------|------------|
| 000 | January 25, 2024 | Initial Issue | --- |
| | | | |
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1. GENERAL INFORMATION

1.1. Product Description for Equipment Under Test (EUT)

| | |
|---------------------|--|
| EUT | : Smartphone |
| Test Model | : KINGKONG AX |
| Power Supply | : Input: 5/9V \pm 3.0A For AC Adapter Input: 100-240V~, 50/60Hz, 0.8A Adapter Output: 5.0V \pm 3.0A 15.0W OR 9.0V \pm 3.0A 27.0W DC 3.87V by Rechargeable Li-ion Battery, 5100mAh |
| Hardware Version | : M129-MUB-V2 |
| Software Version | : CUBOT_KINGKONG AX_D073_V01 |
| Bluetooth | : |
| Frequency Range | : 2402MHz~2480MHz |
| Channel Number | : 79 channels for Bluetooth V5.2 (BDR/EDR) 40 channels for Bluetooth V5.2 (BT LE/ BT 2LE) |
| Channel Spacing | : 1MHz for Bluetooth V5.2 (BDR/EDR) 2MHz for Bluetooth V5.2 (BT LE/ BT 2LE) |
| Modulation Type | : GFSK, $\pi/4$ -DQPSK, 8-DPSK for Bluetooth V5.2 (BDR/EDR) GFSK for Bluetooth V5.2 (BT LE/ BT 2LE) |
| Bluetooth Version | : V5.2 |
| Antenna Description | : FPC Antenna, -0.19dBi(Max.) |
| WIFI(2.4G Band) | : |
| Frequency Range | : 2412MHz~2472MHz |
| Channel Spacing | : 5MHz |
| Channel Number | : 13 Channel for 20MHz bandwidth(2412~2472MHz) 9 channels for 40MHz bandwidth(2422~2462MHz) |
| Modulation Type | : 802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Antenna Description | : FPC Antenna, -0.19dBi(Max.) |
| WIFI(5.2G Band) | : |
| Frequency Range | : 5180MHz~5240MHz |
| Channel Number | : 4 channels for 20MHz bandwidth(5180~5240MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 1 channels for 80MHz bandwidth(5210MHz) |
| Modulation Type | : 802.11a/n: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) |
| Antenna Description | : FPC Antenna, -0.33dBi(Max.) |
| WIFI(5.8G Band) | : |
| Frequency Range | : 5745MHz~5825MHz |
| Channel Number | : 5 channels for 20MHz bandwidth(5745~5825MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5775MHz) |



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Modulation Type : 802.11a/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
 Antenna Description : FPC Antenna, -0.33dBi(Max.)

2G

Support Band : GSM 900 (EU-Band) DCS 1800 (EU-Band)
 GSM 850 (U.S.-Band) PCS 1900 (U.S.-Band)

Release Version : R99
 GPRS Class : Class 12
 EGPRS Class : Class 12

Uplink : GSM 900: 880MHz~915MHz
 DCS 1800: 1710MHz~1785MHz

Downlink : GSM 900: 925MHz~960MHz
 DCS 1800: 1805MHz~1880MHz

Type Of Modulation : GMSK for GSM/GPRS; GMSK/8PSK for EGPRS

Antenna Description : FPC Antenna
 -0.69dBi (max.) For GSM 900
 -0.33dBi (max.) For DCS 1800

Power Class : GSM 900: Level 5, DCS 1800: Level 0
 EGPRS 900: Level 8, EGPRS 1800: Level 2

3G

Support Band : WCDMA Band I (EU-Band)
 WCDMA Band VIII (EU-Band)

Release Version : R8

Uplink : WCDMA Band I: 1920MHz~1980MHz
 WCDMA Band VIII: 880MHz~915MHz

Downlink : WCDMA Band I: 2110MHz~2170MHz
 WCDMA Band VIII: 925MHz~960MHz

Type Of Modulation : QPSK/16QAM

Antenna Description : FPC Antenna
 -0.46dBi (max.) For WCDMA Band I
 -0.69dBi (max.) For WCDMA Band VIII

Power Class : Level 3

LTE

Support Band : E-UTRA Band 1(EU-Band)
 E-UTRA Band 3(EU-Band)
 E-UTRA Band 7(EU-Band)
 E-UTRA Band 8(EU-Band)
 E-UTRA Band 20(EU-Band)
 E-UTRA Band 28(EU-Band)
 E-UTRA Band 38(EU-Band)
 E-UTRA Band 40(EU-Band)

LTE Release Version : R12

FDD Band : Uplink: E-UTRA Band 1: 1920MHz~1980MHz
 E-UTRA Band 3: 1710MHz~1785MHz





E-UTRA Band 7: 2500MHz~2570MHz
 E-UTRA Band 8: 880MHz~915MHz
 E-UTRA Band 20: 832MHz~862MHz
 E-UTRA Band 28: 703MHz~748MHz
 Downlink: E-UTRA Band 1: 2110MHz~2170MHz
 E-UTRA Band 3: 1805MHz~1880MHz
 E-UTRA Band 7: 2620MHz~2690MHz
 E-UTRA Band 8: 925MHz~960MHz
 E-UTRA Band 20: 791MHz~821MHz
 E-UTRA Band 28: 758MHz~803MHz
 TDD Band : E-UTRA Band 38: 2570MHz ~ 2620MHz
 E-UTRA Band 40: 2300MHz ~ 2400MHz
 Type Of Modulation : QPSK/16QAM
 Antenna Description : FPC Antenna
 -0.46dBi (max.) For E-UTRA Band 1
 -0.33dBi (max.) For E-UTRA Band 3
 -0.29dBi (max.) For E-UTRA Band 7
 -0.69dBi (max.) For E-UTRA Band 8
 -0.56dBi (max.) For E-UTRA Band 20
 -0.72dBi (max.) For E-UTRA Band 28
 -0.36dBi (max.) For E-UTRA Band 38
 -0.43dBi (max.) For E-UTRA Band 40

Power Class : Class 3

GPS Receiver :

Receive Frequency : 1575.42MHz

Channel Number : 1

Antenna Description : FPC Antenna, -0.21dBi(Max.)

GLONASS Receiver :

Receive Frequency : 1602.5625MHz

Channel Number : 1

Antenna Description : FPC Antenna, -0.21dBi(Max.)

Galileo Receiver :

Receive Frequency : 1589.74MHz

Channel Number : 1

Antenna Description : FPC Antenna, -0.21dBi(Max.)

BDS Receiver :

Receive Frequency : 1561.098MHz

Channel Number : 1

Antenna Description : FPC Antenna, -0.21dBi(Max.)

FM :

Frequency Range : 87.5MHz~108MHz





Modulation Type : FM
Antenna Description : External Antenna(Earphone)
NFC :
Frequency Range : 13.56MHz
Modulation Type : ASK
Antenna Description : FPC Antenna, 0dBi(Max.)





1.2. Objective

| | |
|--------------------------|---|
| ETSI EN 303 345-1 V1.1.1 | Broadcast Sound Receivers; Part 1: Generic requirements and measuring methods |
| ETSI EN 303 345-3 V1.1.1 | Broadcast Sound Receivers; Part 3: FM broadcast sound service; Harmonised Standard for access to radio spectrum |

The objective is to determine compliance with ETSI EN 303 345-1 V1.1.1 (2019-06) and ETSI EN 303 345-3 V1.1.1 (2021-06).

1.3. Test Methodology

All measurements contained in this report were conducted with ETSI EN 303 345-1 V1.1.1 (2019-06).

1.4. Description of Test Facility

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

1.5. Equipment

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."





1.6. Support Equipment List

| Manufacturer | Description | Model | Serial Number | Certificate |
|-------------------------------------|--------------|-------------|---------------|-------------|
| Shenzhen Huajin Electronics Co.,Ltd | Fast Charger | HJ-PD33W-EU | --- | CE |

1.7. External I/O

| I/O Port Description | Quantity | Cable |
|----------------------|----------|--|
| Type-C USB Port | 1 | USB Cable: 1.2m, unshielded Headphone Cable: 1.2m, unshielded |

1.8. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Parameter | Uncertainty | Remark |
|---------------------------------------|---------------------|-------------|
| Uncertainty in conducted measurements | $\pm 0.8\text{dB}$ | |
| Uncertainty in radiated measurements | $\pm 3.54\text{dB}$ | Polarize: V |
| | $\pm 4.1\text{dB}$ | Polarize: H |
| Spurious emissions | See EN 55032 | |





2. SYSTEM TEST CONFIGURATION

2.1. EUT Exercise Software

N/A.

2.2. Special Accessories

N/A.

2.3. Equipment Modifications

No modifications were made to the unit tested.

2.4. External I/O Cable

N/A.

2.5. Configuration of Test Setup

Please refer to the test setup photo.





3. SUMMARY OF TEST RESULTS

Technical requirements for FM equipment:

| RULE | DESCRIPTION OF TEST | RESULT |
|------|--|-----------|
| §4.2 | SENSITIVITY | COMPLIANT |
| §4.3 | RECEIVER ADJACENT CHANNEL SELECTIVITY AND BLOCKING | COMPLIANT |
| §4.4 | UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN | COMPLIANT |





4. TEST RESULTS

4.1. Sensitivity

4.1.1 Limit of Sensitivity

The limits for sensitivity specified in table 2 shall apply. Each figure quoted is the required level of wanted signal which provides a given level of audio quality. The audio impairment criteria relevant for these tests is that the audio SNR ≥ 40 dBQ ref $\pm 60,8$ kHz deviation, and that there shall be 10 seconds of audio with no subjective impairments (e.g. clicks resulting from FM threshold effects).

Table 2: FM sensitivity requirements

| De-modulation | Tuned frequency band | Wanted signal centre frequency (MHz) | Required sensitivity limit | |
|---------------|----------------------|--------------------------------------|----------------------------|-------------------------|
| | | | Conducted (dBm) | Radiated (dB μ V/m) |
| FM | VHF band II | 98 | -90 | 50 (see note) |

NOTE: For products with an integral antenna, the requirement is relaxed to 67 dB μ V/m.

FM configuration

| Parameter | FM signals | | AM signal |
|-----------------------------|-------------------------------|---|------------|
| | Wanted | Unwanted | Blocking |
| Audio modulation | 1 kHz tone | Weighted noise Recommendation ITU-R BS.559-2 [3], clause 1, band-limited to 15 kHz (see note 1) | 1 kHz tone |
| Other modulation parameters | $\pm 60,8$ kHz peak deviation | 15,9 kHz RMS deviation (see note 2) | 80 % depth |
| Pilot tone | None | None | |

NOTE 1: The filter shall have a cut-off frequency of 15 kHz and a minimum roll-off of 60 dB/octave.
NOTE 2: This is equivalent to a quasi-peak deviation of 34,8 kHz and has pre-emphasis enabled. The quasi-peak level measurement is defined by Recommendation ITU-R BS.641 [i.5], clause 5; with pre-emphasis disabled the quasi-peak deviation is 32 kHz (14,5 kHz RMS).



4.1.2 Test Procedures

Refer to chapter 5.3.4.1 of ETSI EN 303 345-1.

- 1) The 'unwanted' signal generator remains switched off for the duration of the test.
- 2) The 'wanted' signal generator is set to the required modulation method, test signal configuration and centre frequency. The signal level is adjusted with the modulation disabled to the required sensitivity level plus 6 dB, as measured at ©. The modulation is enabled.
- 3) The receiver is tuned to the frequency of the 'wanted' signal generator. For a receiver without a digital frequency display, the receiver shall be tuned for optimum THD+N (i.e. as it would be tuned by a user for best quality). The receiver's audio level shall be set so as to provide clean 1 kHz audio tone at the audio output (minimum distortion, that is typically less than 3 % total harmonic distortion, but no more than 10 % total harmonic distortion) but of sufficient level to drive the measurement device.
- 4) The level of the 'wanted' signal generator is reduced by 6 dB.
- 5) The audio output, measured using the measurement device, is recorded as the signal level, S.
- 6) The modulating audio signal for the 'wanted' signal generator is removed. The audio output, measured using the measurement device, is recorded as the noise level, N.

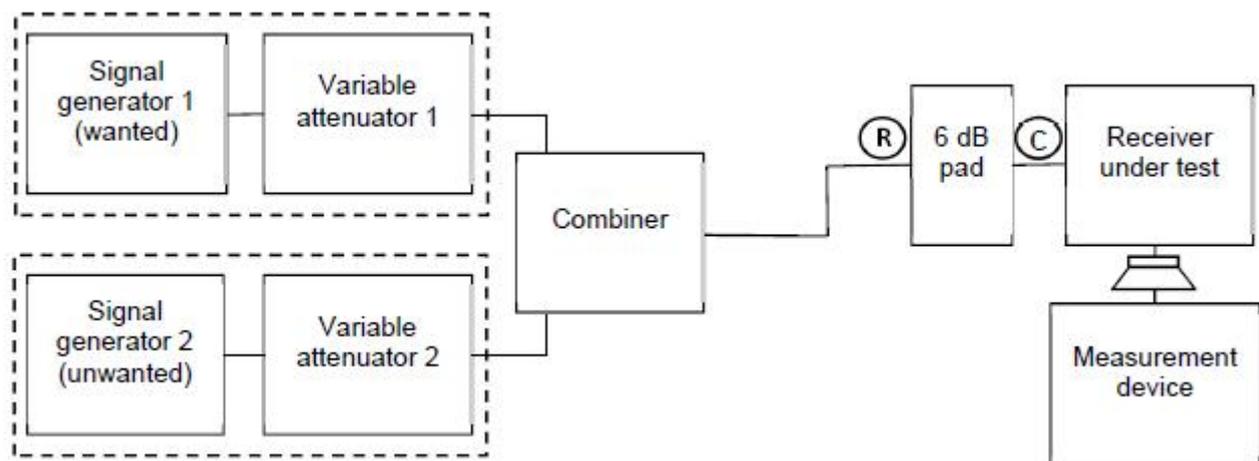
NOTE: Modulation is disabled when setting the power level to prevent sideband power from influencing the measurement. Sideband power is not considered when measuring the power of analogue signals.

4.1.3 Deviation From Test Standard

No deviation.

4.1.4 Test Setup

Generic measurement set-up for conducted testing



Generic measurement arrangement for receivers with an external antenna connector

The measurement set-up is shown in figure where © represents the calibration point of the system. In this case, there is no need for careful screening from the external environment, although high field-strengths from potential interferers should be avoided.





4.1.5 Test Results

| | | |
|---------------|---|----------------|
| Product | : | Smartphone |
| Test Mode | : | FM |
| Env./ Ins | : | 25.1 °C/ 52.4% |
| Test Engineer | : | Paddi Chen |

| Frequency (MHz) | Modulation | Sensitivity Limit (dBm) | Measured sensitivity (dB m) | SNR (dBQ) | Result |
|-----------------|--|-------------------------|-----------------------------|-----------|--------|
| 98 | 1kHz tone ±60.8 kHz peak deviation | -90 | -102.69 | 42.79 | Pass |





4.2. Receiver Adjacent Channel Selectivity And Blocking

4.2.1 Limits of Receiver Adjacent Channel Selectivity And Blocking

The channel spacings specified in table 3 shall apply.

Table 3: Channel spacing for adjacent channel selectivity and blocking

| Demodulation | Tuned frequency band | Unwanted frequency (N = 2, 3, 4) | Unwanted frequency (blocking) |
|--------------|----------------------|----------------------------------|-------------------------------|
| FM | VHF band II | $\pm N \times 100 \text{ kHz}$ | $\pm 800 \text{ kHz}$ |

The limits for selectivity and blocking specified in table 4 shall apply with the channel spacings given in table 3. Each figure quoted is the minimum acceptable level of unwanted signal, relative to that of the wanted signal, which provides a given level of audio quality. The audio impairment criteria relevant for these tests is that the audio SNR $\geq 40 \text{ dBQ}$ ref $\pm 60,8 \text{ kHz}$ deviation, and that there shall be 10 seconds of audio with no subjective impairments (e.g. clicks resulting from FM threshold effects).

Table 4: Adjacent channel selectivity and blocking requirements

| Demodulation (see note 1) | Tuned frequency band | C Wanted signal centre frequency (MHz) | C Wanted signal level | | Required I/C ratio (see notes 2 and 3) | | | |
|-----------------------------------|----------------------|--|-----------------------|-------------------------|--|------------|------------|---------------|
| | | | Conducted (dBm) | Radiated (dB μ V/m) | N = 2 (dB) | N = 3 (dB) | N = 4 (dB) | Blocking (dB) |
| FM (built-in or integral antenna) | VHF band II | 98 | n/a | 56 (see note 4) | -15 | -3 | 8 | 20 |
| FM (external antenna) | VHF band II | 98 | -84 | n/a | 3 | 17 | 30 | 30 |

NOTE 1: The ACS and blocking requirements are currently separated into different limits for radiated and conducted testing methods. These limits are likely to be unified in a future revision of the present document. Users of the present document should consult frequently the latest list published in the Official Journal of the European Union.

NOTE 2: The frequency of the interferer shall be calculated using the channel spacing data in table 3 for each of the 6 defined adjacent channels $N = \{-4, -3, -2, +2, +3, +4\}$ and the two blocking offsets. Each row of table 4 thus defines 8 individual tests.

NOTE 3: The minimum level of I for the relevant level of impairment is calculated by adding the I/C ratio to the wanted C level.

NOTE 4: The wanted signal level for receivers with integral antenna is 73 dB μ V/m.



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4.2.2 Test Procedure

Refer to chapter 5.3.5.1 of ETSI EN 303 345-1.

- 1) The 'wanted' signal generator is set to the required modulation method, test signal configuration, and centre frequency. The signal level is adjusted with the modulation disabled to the specified wanted signal level, as measured at ©, with the 'unwanted' generator switched off.
- 2) The 'unwanted' signal generator is set to the required modulation method, test signal configuration, and centre frequency calculated from the wanted signal centre frequency and the required frequency offset. The signal level is adjusted with the modulation disabled to provide the level calculated from the wanted signal level and the required level offset, as measured at ©, with the 'wanted' generator switched off.
- 3) The 'wanted' signal generator is switched back on. Modulation is enabled for both signal generators.
- 4) The receiver is tuned to the frequency of the 'wanted' signal generator. For a receiver without a digital frequency display, the receiver shall be tuned for optimum THD+N (i.e. as it would be tuned by a user for best quality). The receiver's audio level shall be set so as to provide clean 1 kHz audio tone at the audio output (minimum distortion, that is typically less than 3 % total harmonic distortion, but no more than 10 % total harmonic distortion) but of sufficient level to drive the measurement device.
- 5) The audio output, measured using the measurement device, is recorded as the signal level, S.
- 6) The modulating audio signal for the 'wanted' signal generator is removed. The audio output, measured using the measurement device, is recorded as the noise level, N.

NOTE: Modulation is disabled when setting the power levels to prevent sideband power from influencing the measurement. Sideband power is not considered when measuring the power of analogue signals.

4.2.3 Deviation From Test Standard

No deviation.



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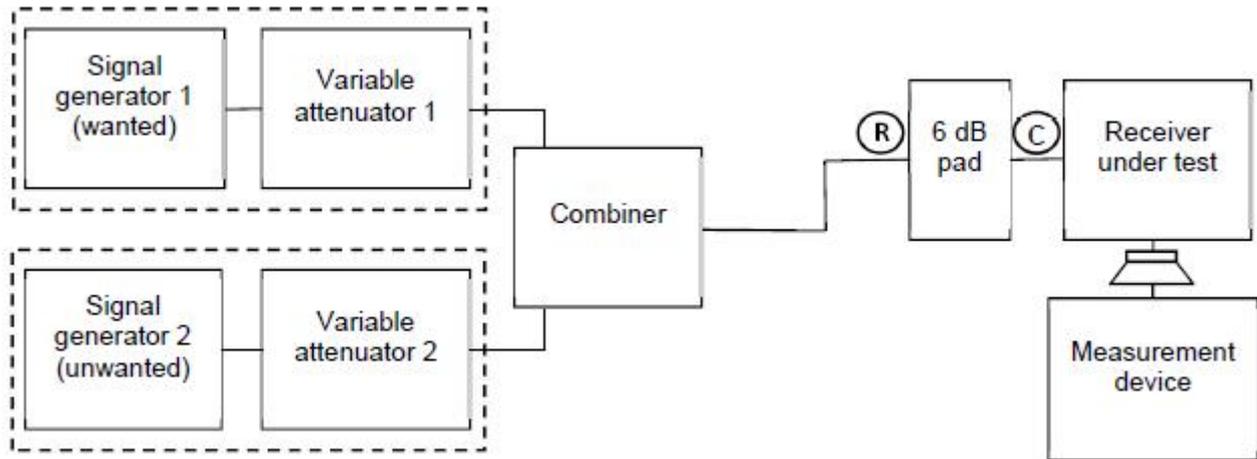
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4.2.4 Test Setup

Generic measurement set-up for conducted testing



Generic measurement arrangement for receivers with an external antenna connector

The measurement set-up is shown in figure where © represents the calibration point of the system. In this case, there is no need for careful screening from the external environment, although high field-strengths from potential interferers should be avoided.





4.2.5 Test Results

| | | |
|---------------|---|---------------|
| Product | : | Smartphone |
| Test Mode | : | FM |
| Env./ Ins | : | 25.1°C/ 52.4% |
| Test Engineer | : | Paddi Chen |

| FM VHF band II 98MHz | | | | | | | | |
|-------------------------|--|--|-------------------------------|--------|--------|--------------|-----------------------|--------|
| Adjacency | C Wanted signal level at © (dBm) | I Unwanted Signal Level at © (dBm) | Required I/C ratio (dB) | S (mV) | N (mV) | SNR (dBQ) | SNR Limit (dBQ) | Result |
| N = -2 97.8MHz | -84 | -81 | 3 | 403 | 1.58 | 48.20 | ≥ 40 | Pass |
| N = +2 98.2 MHz | -84 | -81 | 3 | 403 | 1.89 | 46.62 | ≥ 40 | Pass |
| N = -3 97.7 MHz | -84 | -67 | 17 | 403 | 1.71 | 47.47 | ≥ 40 | Pass |
| N = +3 98.3 MHz | -84 | -67 | 17 | 403 | 1.72 | 47.42 | ≥ 40 | Pass |
| N = -4 97.6 MHz | -84 | -54 | 30 | 403 | 1.72 | 47.45 | ≥ 40 | Pass |
| N = +4 98.4 MHz | -84 | -54 | 30 | 403 | 1.82 | 46.96 | ≥ 40 | Pass |
| Blocking 97.2 MHz | -84 | -54 | 30 | 403 | 1.65 | 47.82 | ≥ 40 | Pass |
| Blocking 98.8 MHz | -84 | -54 | 30 | 403 | 1.64 | 47.84 | ≥ 40 | Pass |

Note: the wanted signal with signal with the pre-emphasis restored 1kHz tone±34.8kHz quasi-peak deviation.
 $SNR=20*\log(S/N)$



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4.3 Unwanted Emissions in the Spurious Domain

4.3.1 Limits of Radiated Emission At Frequencies Up To 1GHz FOR FREQUENCY BELOW 1000 MHz

| FREQUENCY (MHz) | Class A (at 10m) | Class B (at 10m) |
|-----------------|-------------------|-------------------|
| | Quasi-Peak dBuV/m | Quasi-Peak dBuV/m |
| 30 – 230 | 42 to 35 | 32 to 25 |
| 230 – 1000 | 42 | 32 |

| FREQUENCY (MHz) | Class A (at 3m) | Class B (at 3m) |
|-----------------|-------------------|-------------------|
| | Quasi-Peak dBuV/m | Quasi-Peak dBuV/m |
| 30 – 230 | 52 to 45 | 42 to 35 |
| 230 – 1000 | 52 | 42 |

| Requirements for radiated emissions from FM receivers | | | | | | | | |
|---|---------------------|--------------------------|------------|---------------------------|------------------------|-----------|----------|----|
| Table Clause | Frequency Range MHz | Measurement | | | Class B Limit dB(mV/m) | | | |
| | | Facility (see Table A.1) | Distance m | Detector type / Bandwidth | Fundamental | Harmonics | | |
| A6.1 | 30 to 230 | OATS/SAC | 10 | Quasi Peak / 120 kHz | 50 | 42 | | |
| | 230 to 300 | | | | | 42 | | |
| | 300 to 1 000 | | | | | 46 | | |
| A6.2 | 30 to 230 | OATS/SAC | 3 | | Quasi Peak / 120 kHz | 60 | 52 | |
| | 230 to 300 | | | | | | 52 | |
| | 300 to 1 000 | | | | | | 56 | |
| A6.3 | 30 to 230 | FAR | 10 | Quasi Peak / 120 kHz | | 52 to 45 | 44 to 37 | |
| | 230 to 300 | | | | | | 45 | 37 |
| | 300 to 1 000 | | | | | | 45 | 41 |
| A6.4 | 30 to 230 | FAR | 3 | | Quasi Peak / 120 kHz | 62 to 55 | 54 to 47 | |
| | 230 to 300 | | | | | | 55 | 47 |
| | 300 to 1 000 | | | | | | 55 | 51 |

Apply only A6.1 or A6.2 or A6.3 or A6.4 across the entire frequency range.

These relaxed limits apply only to emissions at the fundamental and harmonic frequencies of the LO. Signals at all other frequencies shall be compliant with the limits given in Table A.4.



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Scan code to check authenticity

4.3.2 Test Arrangement

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

4.3.3 Test Setup

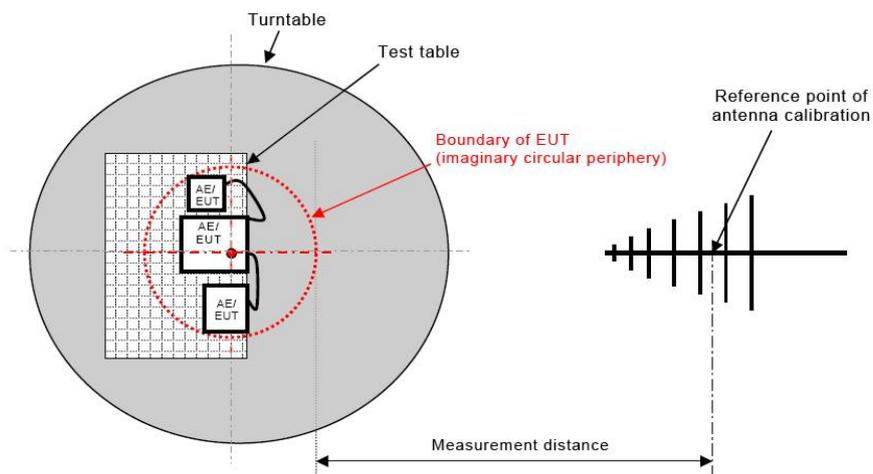
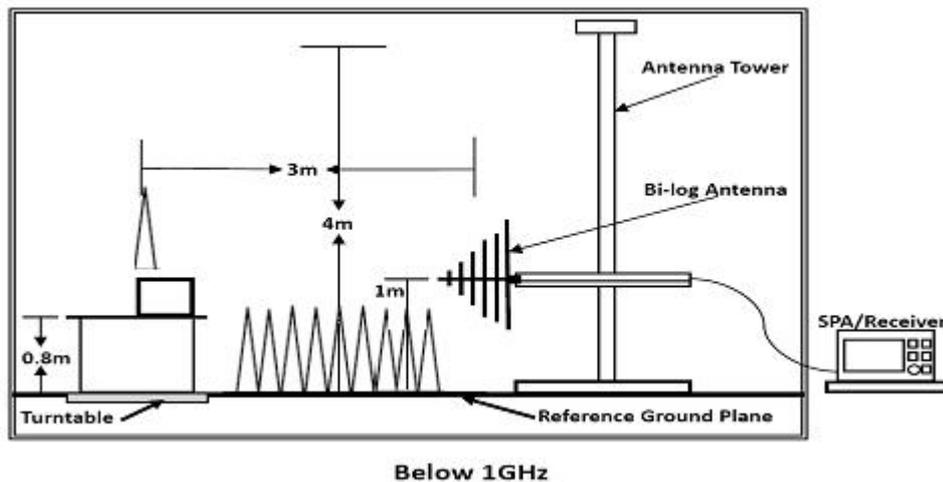


Figure C.1 – Measurement distance



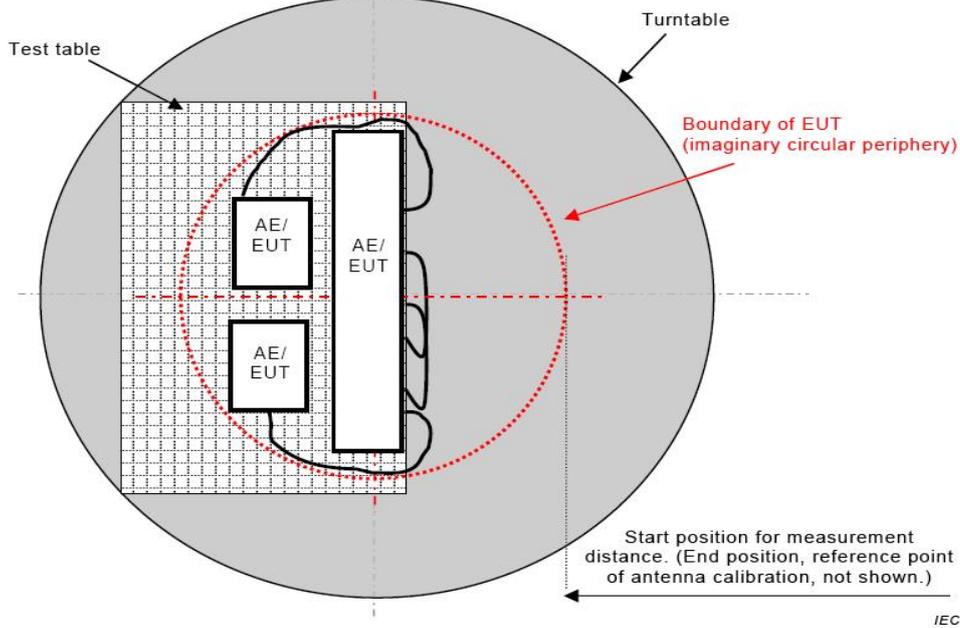


Figure C.2 – Boundary of EUT, Local AE and associated cabling

4.3.4 Test Results

Please refer to report LCSA12153128EA.





5. LIST OF MEASURING EQUIPMENT

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
|------|-----------------------------|--------------|--------------------|----------------------------|------------|------------|
| 1 | Signal Analyzer | R&S | SL3 | 101507 | 2023-06-09 | 2024-06-08 |
| 2 | FM Signal Generator | Agilent | 8648B | 3847M00954 | 2023-10-18 | 2024-10-17 |
| 3 | MXG Vector Signal Generator | Agilent | E4438C | MY42081396(6G) | 2023-10-18 | 2024-10-17 |
| 4 | ESG Vector Signal Generator | Agilent | E4438C | MY49072627(3G) | 2023-06-09 | 2024-06-08 |
| 5 | Audio Analyzer | R&S | UPV | 1146.2003K02-10 1721-UW | 2023-10-18 | 2024-10-17 |
| 6 | EMI Test Software | Farad | EZ | / | N/A | N/A |
| 8 | 3m Full Anechoic Chamber | MRDIANZI | FAC-3M | MR009 | 2022-08-17 | 2025-08-16 |
| 9 | Positioning Controller | Max-Full | MF7802BS | MF780208586 | N/A | N/A |
| 10 | By-log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2021-09-12 | 2024-09-11 |
| 11 | EMI Test Receiver | R&S | ESR 7 | 101181 | 2023-08-15 | 2024-08-14 |
| 12 | Combiner | eastsheep | SHWLPD2-5 2500S | / | 2023-10-18 | 2024-10-17 |





6. TEST SETUP PHOTOGRAPHS

Please refer to separated files Appendix B for Photographs of Test Setup_EMC

7. PHOTOGRAPHS OF THE EUT

Please refer to separated files Appendix C for Photographs of The EUT.



----- THE END OF REPORT -----

