

TEST REPORT No. I16Z42267-EMC01

for

TCL Communication Ltd.

LTE / UMTS / GSM mobile phone

Model Name: 5085J

FCC ID: 2ACCJH068

with

Hardware Version: PIO

Software Version: 1AA4

Issued Date: 2017-01-04

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

FCC 2.948 Listed: No.525429

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: cttl_terminals@catr.cn, website: www.chinattl.com



REPORT HISTORY

| Report Number | Revision | Description | Issue Date | |
|-----------------|----------|-------------------------|------------|--|
| I16Z42267-EMC01 | Rev.0 | 1 st edition | 2017-01-04 | |
| | | | | |



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1. Test Laboratory

1.1. Testing Location

CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China

100191

1.2. <u>Testing Environment</u>

Normal Temperature: 15-35°C Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2016-12-08
Testing End Date: 2016-12-15

1.4. Signature

Wang Junqing

(Prepared this test report)

屈鹏飞

Qu Pengfei

(Reviewed this test report)

Liu Baodian

Deputy Director of the laboratory

(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: TCL Communication Ltd.

Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,

Pudong Area Shanghai, P.R. China. 201203

Contact Person: Gong Zhizhou

 Contact Email
 zhizhou.gong@tcl.com

 Telephone:
 0086-21-31363544

 Fax:
 0086-21-61460602

2.2. Manufacturer Information

Company Name: TCL Communication Ltd.

Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,

Pudong Area Shanghai, P.R. China. 201203

Contact Person: Gong Zhizhou

Contact Email zhizhou.gong@tcl.com
Telephone: 0086-21-31363544
Fax: 0086-21-61460602



3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

LTE / UMTS / GSM mobile phone Description

Model Name 5085J

FCC ID 2ACCJH068

Extreme vol. Limits 3.5VDC to 4.2VDC (nominal: 3.8VDC)

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT.

3.2. Internal Identification of EUT used during the test

| EUT ID* | SN or IMEI | HW Version | SW Version |
|---------|------------|-------------------|------------|
| EUT1 | / | PIO | 1AA4 |

^{*}EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

| AE ID* | Description | SN | Remarks |
|--------|-------------|----|---------------|
| AE1 | Battery | / | inbuilt |
| AE2 | Battery | / | inbuilt |
| AE3 | Battery | / | inbuilt |
| AE4 | Charger | / | 16TCT-CH-1489 |
| AE5 | Charger | / | 16TCT-CH-1565 |
| AE6 | Charger | / | 16TCT-CH-0860 |
| AE7 | USB Cable | / | 16TCT-DC-0493 |
| AE8 | USB Cable | / | 16TCT-DC-0501 |
| AE9 | USB Cable | / | / |
| AE10 | USB Cable | / | / |
| AE11 | Headset | / | 16TCT-HS-1704 |
| AE12 | Headset | / | 16TCT-HS-1602 |

AE1

Model CAC2710008CJ Manufacturer **COSLIGHT** Capacitance 2710 mAh V

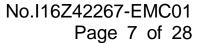
Nominal voltage

AE2

Model CAC2710004C1

BYD Manufacturer Capacitance 2710 mAh

Nominal voltage ٧





AE3

Model CAC2710005CC

Manufacturer Jinneng
Capacitance 2710 mAh

Nominal voltage V

AE4

Model CBA0058AGAC2

Manufacturer TEPAO

Length of cable

AE5

Model CBA0058AGAC4

Manufacturer Aohai
Length of cable /

AE6

Model CBA0058AGAC3

Manufacturer YINGJU

Length of cable /

AE7

Model CDA3122005C2

Manufacturer Shenhua Length of cable 100cm

AE8

Model CDA3122005C1

Manufacturer Juwei
Length of cable 100cm

AE9

Model CDA3122002C2

Manufacturer Shenhua Length of cable 100cm

AE10

Model CDA3122002C1

Manufacturer Juwei Length of cable 100cm

AE11

Model CCB0049A10C1

Manufacturer Juwei Length of cable 120cm

AE12

Model CCB0049A10C4

Manufacturer Meihao Length of cable 124cm



*AE ID: is used to identify the test sample in the lab internally.

Note: The USB cables are shielded.

3.4. EUT set-ups

| EUT set-up No. | Combination of EUT and AE | Remarks |
|----------------|--------------------------------------------|------------------|
| Set.1 | EUT1+ AE1/AE2/AE3+ AE4+ AE7/AE8 | Charger |
| Set.2 | EUT1+ AE1/AE2/AE3+ AE5+ AE7/AE8 | Charger |
| Set.3 | EUT1+ AE1/AE2/AE3+ AE6+ AE7/AE8 | Charger |
| Set.4 | EUT1+ AE1/AE2/AE3+ AE4+ AE7/AE8+ AE11/AE12 | Charger +Headset |
| Set.5 | EUT1+ AE1/AE2/AE3+ AE7/AE8 | USB mode |

Note: The LTE / UMTS / GSM mobile phone 5085J manufactured by TCL Communication Ltd. is a variant model based on 5085A for conformance test. According to the declaration of changes, no test needs to been performed, all results are cited from the initial model. The report number for initial model is I16Z42266-EMC01.



4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

| • | · · · · · · · · · · · · · · · · · · · | |
|------------------------|---------------------------------------------------|---------|
| Reference | Title | Version |
| FCC Part 15, Subpart B | Radio frequency devices - Unintentional Radiators | 10-1-15 |
| | | Edition |
| ANSI C63.4 | American National Standard for | 2014 |
| | Methods of Measurement of Radio- | |
| | Noise Emissions from Low-Voltage | |
| | Electrical and Electronic Equipment | |

in the Range of 9 kHz to 40 GHz

Note: The test methods have no deviation with standards.



5. LABORATORY ENVIRONMENT

Semi-anechoic chamber SAC-1 (23 meters \times 17meters \times 10meters) did not exceed following limits along the EMC testing:

| Temperature | Min. = 15 °C, Max. = 35 °C |
|-------------------------------------------------------|-----------------------------------------|
| Relative humidity | Min. = 15 %, Max. = 75 % |
| Shielding effectiveness | 0.014MHz-1MHz, >60dB; |
| | 1MHz - 1000MHz, >90dB. |
| Electrical insulation | > 2 MΩ |
| Ground system resistance | < 4 Ω |
| Normalised site attenuation (NSA) | < ±4 dB, 10 m distance |
| Site voltage standing-wave ratio (S _{VSWR}) | Between 0 and 6 dB, from 1GHz to 6GHz |
| Uniformity of field strength | Between 0 and 6 dB, from 80 to 3000 MHz |

Shielded room did not exceed following limits along the EMC testing:

| • | |
|--------------------------|----------------------------|
| Temperature | Min. = 15 °C, Max. = 35 °C |
| Relative humidity | Min. = 20 %, Max. = 75 % |
| Shielding effectiveness | 0.014MHz-1MHz, >60dB; |
| | 1MHz-1000MHz, >90dB. |
| Electrical insulation | > 2 MΩ |
| Ground system resistance | < 4 Ω |



6. SUMMARY OF TEST RESULTS

| Abbreviations used in this clause: | | |
|------------------------------------|----|----------------|
| | Р | Pass |
| Verdict Column | NA | Not applicable |
| | F | Fail |

| Items | Test Name | Clause in FCC rules | Section in this report | Verdict | Test Location |
|-------|-----------------------|---------------------|------------------------|---------|-----------------------------|
| 1 | Radiated Emission | 15.109(a) | B.1 | Р | CTTL(huayuan North Road) |
| 2 | Conducted Emission | 15.107(a) | B.2 | Р | CTTL(huayuan North Road) |



7. Test Equipments Utilized

| NO. | Description | TYPE | SERIES NUMBER | MANUFACTURE | CAL DUE DATE | CALIBRATI ON INTERVAL |
|-----|--------------------------------------------|--------------|--------------------------|--------------|-----------------|-----------------------------|
| 1 | Test Receiver | ESU26 | 100235 | R&S | 2017-03-02 | 1 year |
| 2 | Test Receiver | ESCI 7 | 100344 | R&S | 2017-07-05 | 1 year |
| 3 | Universal Radio Communication Tester | CMW500 | 143008 | R&S | 2017-12-01 | 1 year |
| 4 | Universal Radio Communication Tester | CMW500 | 155415 | R&S | 2017-01-11 | 1 year |
| 5 | LISN | ENV216 | 101200 | R&S | 2017-07-10 | 1 year |
| 6 | EMI Antenna | VULB 9163 | 9163-301 | Schwarzbeck | 2017-12-16 | 3 years |
| 7 | EMI Antenna | 3115 | 6914 | ETS-Lindgren | 2017-12-15 | 3 years |
| 8 | PC | OPTIPLEX 380 | 2X1YV2X | DELL | N/A | N/A |
| 9 | Printer | P1606dn | VNC3L52122 | HP | N/A | N/A |
| 10 | Keyboard | L100 | CN0RH6596589 07ATOI40 | DELL | N/A | N/A |
| 11 | Mouse | M-UAE119 | LZ935220ZRC | Lenovo | N/A | N/A |

| Test Item | Test Software and Version | Software Vendor |
|------------------------------|---------------------------|-----------------|
| Radiated Continuous Emission | EMC32 V9.01 | R&S |
| Conducted Emission | EMC32 V8.52.0 | R&S |



ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission

Reference

FCC: CFR Part 15.109(a).

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at distances of 10 meters(for 30MHz-1GHz) and 3 meters (for above 1GHz) is tested. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.1.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is DELL OPTIPLEX 380, and the serial number of the PC is 2X1YV2X. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

Note: I/O information: Printer – USB, Mouse – PS/2, Keyboard – USB.

A.1.3 Measurement Limit

| Frequency range | Field strength limit (μV/m) | | | | |
|-----------------|-----------------------------|---------|------|--|--|
| (MHz) | Quasi-peak | Average | Peak | | |
| 30-88 | 100 | | | | |
| 88-216 | 150 | | | | |
| 216-960 | 200 | | | | |
| 960-1000 | 500 | | | | |
| >1000 | | 500 | 5000 | | |

Note: the above limit is for 3 meters test distance. 10 meters' limit is got by converting.

A.1.4 Test Condition

| Frequency range (MHz) | RBW/VBW | Sweep Time (s) | Detector |
|-----------------------|-----------------------|----------------|-----------------|
| 30-1000 | 120kHz (IF Bandwidth) | 5 | Peak/Quasi-peak |
| Above 1000 | 1MHz/1MHz | 15 | Peak, Average |



A.1.5 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

Result = $P_{Mea} + A_{Rpl} = P_{Mea} + G_A + G_{PL}$

Where

G_A: Antenna factor of receive antenna

G_{PL}: Path Loss

P_{Mea}: Measurement result on receiver.

Measurement uncertainty (worst case): U = 4.3 dB, k=2.

Measurement results for Set.1:

Charging Mode/Average detector

| Frequency(MHz) | Result(dBμV/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|
| 17952.400 | 49.1 | -17.7 | 45.6 | 21.200 | V |
| 17985.550 | 49.0 | -17.7 | 45.6 | 21.100 | Н |
| 17961.750 | 48.9 | -17.7 | 45.6 | 21.000 | Н |
| 17875.050 | 48.9 | -18.5 | 45.6 | 21.800 | V |
| 17947.300 | 48.9 | -17.7 | 45.6 | 21.000 | V |
| 17928.600 | 48.8 | -17.7 | 45.6 | 20.900 | Н |

Charging Mode/Peak detector

| Frequency(MHz) | Result(dBμV/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity | |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|--|
| 17949.000 | 59.1 | -17.7 | 45.6 | 31.200 | V | |
| 17989.800 | 59.0 | -17.7 | 45.6 | 31.100 | Н | |
| 17868.250 | 58.9 | -18.5 | 45.6 | 31.800 | Н | |
| 17990.650 | 58.9 | -17.7 | 45.6 | 31.000 | V | |
| 17856.350 | 58.9 | -18.5 | 45.6 | 31.800 | Н | |
| 17885.250 | 58.8 | -18.5 | 45.6 | 31.700 | Н | |

Sample calculation: Peak detector, 17949.000MHz

Result = P_{Mea} (31.200dB μ V)+ G_A (45.6dB/m)+ G_{PL} (-17.7 dB) =59.1dB μ V/m



Measurement results for Set.2:

Charging Mode/Average detector

| Frequency(MHz) | Result(dB _μ V/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|-----------------------------|----------------------|-----------------------|-------------------------|----------|
| 17883.550 | 49.6 | -18.5 | 45.6 | 22.500 | V |
| 17974.500 | 49.6 | -17.7 | 45.6 | 21.700 | Н |
| 17919.250 | 49.5 | -17.7 | 45.6 | 21.600 | Н |
| 17907.350 | 49.1 | -18.5 | 45.6 | 22.000 | V |
| 17885.250 | 49.1 | -18.5 | 45.6 | 22.000 | V |
| 17903.100 | 49.1 | -18.5 | 45.6 | 22.000 | Н |

Charging Mode/Peak detector

| Frequency(MHz) | Result(dBμV/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|
| 17911.600 | 54.7 | -17.7 | 45.6 | 26.800 | Н |
| 17885.250 | 54.4 | -17.7 | 45.6 | 26.500 | V |
| 17916.700 | 54.1 | -18.5 | 45.6 | 27.000 | V |
| 17991.500 | 54.1 | -17.7 | 45.6 | 26.200 | V |
| 17967.700 | 54.0 | -17.7 | 45.6 | 26.100 | Н |
| 17989.800 | 53.8 | -17.7 | 45.6 | 25.900 | Н |

Sample calculation: Peak detector, 17911.600MHz

Result = P_{Mea} (26.800dB μ V)+ G_A (45.6dB/m)+ G_{PL} (-17.7 dB) =54.7dB μ V/m

Measurement results for Set.3:

Charging Mode/Average detector

| Frequency(MHz) | Result(dB _μ V/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|-----------------------------|----------------------|-----------------------|-------------------------|----------|
| 17966.850 | 49.5 | -17.7 | 45.6 | 21.600 | V |
| 17877.600 | 49.3 | -18.5 | 45.6 | 22.200 | Н |
| 17930.300 | 49.0 | -17.7 | 45.6 | 21.100 | Н |
| 17919.250 | 49.0 | -17.7 | 45.6 | 21.100 | Н |
| 17951.550 | 48.9 | -17.7 | 45.6 | 21.000 | Н |
| 17910.750 | 48.8 | -18.5 | 45.6 | 21.700 | V |

Charging Mode/Peak detector

| Frequency(MHz) | Result(dBμV/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|
| 17934.550 | 59.5 | -17.7 | 45.6 | 31.600 | Н |
| 17866.550 | 59.4 | -18.5 | 45.6 | 32.300 | V |
| 17976.200 | 59.2 | -17.7 | 45.6 | 31.300 | Н |
| 17950.700 | 59.2 | -17.7 | 45.6 | 31.300 | V |
| 17915.850 | 58.9 | -17.7 | 45.6 | 31.000 | V |
| 17913.300 | 58.9 | -18.5 | 45.6 | 31.800 | Н |

Sample calculation: Peak detector, 17934.550MHz

Result = P_{Mea} (31.600dB μ V)+ G_A (45.6dB/m)+ G_{PL} (-17.7 dB) =59.5dB μ V/m



Measurement results for Set.4:

Charging Mode with headset/Average detector

| Frequency(MHz) | Result(dB _μ V/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|-----------------------------|----------------------|-----------------------|-------------------------|----------|
| 17915.000 | 49.4 | -17.7 | 45.6 | 21.500 | Н |
| 17922.650 | 49.4 | -17.7 | 45.6 | 21.500 | Н |
| 17923.500 | 49.1 | -17.7 | 45.6 | 21.200 | V |
| 17930.300 | 49.0 | -17.7 | 45.6 | 21.100 | Н |
| 17943.050 | 48.9 | -17.7 | 45.6 | 21.000 | Н |
| 17920.950 | 48.9 | -17.7 | 45.6 | 21.000 | V |

Charging Mode with headset /Peak detector

| Frequency(MHz) | Result(dBμV/m) | G _{PL} (dB) | G _A (dB/m) | P _{Mea} (dBµV) | Polarity |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|
| 17995.750 | 59.5 | -17.7 | 45.6 | 31.600 | Н |
| 17955.800 | 59.1 | -17.7 | 45.6 | 31.200 | Н |
| 17978.750 | 59.0 | -17.7 | 45.6 | 31.100 | V |
| 17943.050 | 59.0 | -17.7 | 45.6 | 31.100 | Н |
| 17996.600 | 58.9 | -17.7 | 45.6 | 31.000 | Н |
| 17705.050 | 58.7 | -18.9 | 45.6 | 32.000 | V |

Sample calculation: Peak detector, 17995.750MHz

Result = P_{Mea} (31.600dB μ V) + G_A (45.6dB/m) + G_{PL} (-17.7 dB) =59.5dB μ V/m



Measurement results for Set.5:

USB Mode/Average detector

| Frequency(MHz) | Result(dBµV/m) | G _{PL} (dB) | G _A (dB/m) | P _{mea} (dBµV) | Polarity |
|----------------|----------------|----------------------|-----------------------|-------------------------|----------|
| 17954.100 | 49.3 | -17.7 | 45.6 | 21.400 | V |
| 17924.350 | 49.3 | -17.7 | 45.6 | 21.400 | Н |
| 17953.250 | 49.2 | -17.7 | 45.6 | 21.300 | V |
| 17972.800 | 49.1 | -17.7 | 45.6 | 21.200 | V |
| 17879.300 | 49.1 | -18.5 | 45.6 | 22.000 | Н |
| 17969.400 | 48.9 | -17.7 | 45.6 | 21.000 | Н |

USB Mode/ Peak detector

| Frequency(MHz) | Result(dBµV/m) | G _{PL} (dB) | G _A (dB/m) | $P_{mea}(dB\mu V)$ | Polarity |
|----------------|----------------|----------------------|-----------------------|--------------------|----------|
| 17994.900 | 59.8 | -17.7 | 45.6 | 31.900 | V |
| 17911.600 | 59.7 | -18.5 | 45.6 | 32.600 | Н |
| 17864.000 | 59.7 | -18.5 | 45.6 | 32.600 | V |
| 17971.950 | 59.5 | -17.7 | 45.6 | 31.600 | Н |
| 17882.700 | 59.4 | -18.5 | 45.6 | 32.300 | V |
| 17896.300 | 59.4 | -18.5 | 45.6 | 32.300 | Н |

Sample calculation: Peak detector, 17994.900MHz

Result = P_{Mea} (31.900dB μ V) + G_A (45.6dB/m) + G_{PL} (-17.7 dB) =59.8dB μ V/m



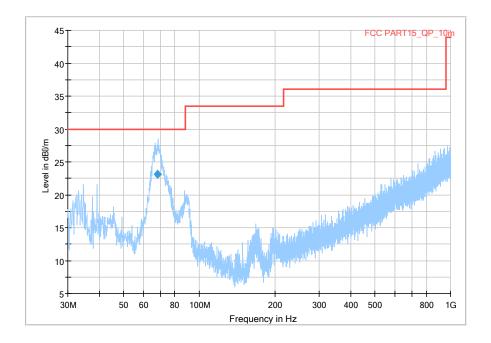


Figure A.1 Radiated Emission from 30MHz to 1GHz

| Frequency | QuasiPeak | Limit | Limit Height | | Azimuth | Corr. |
|-----------|-----------|----------|---------------|---|---------|-------|
| (MHz) | (dBuV/m) | (dBuV/m) | (dBuV/m) (cm) | | (deg) | (dB) |
| 68.149000 | 23.06 | 30.00 | 102.0 | ٧ | -16.0 | -14.7 |

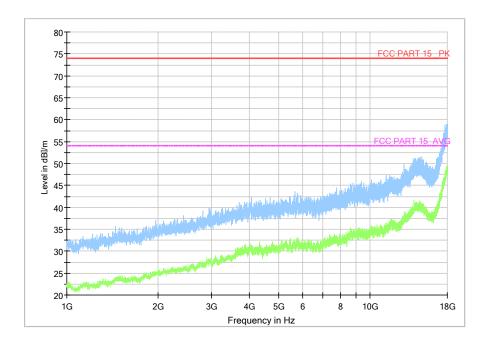


Figure A.2 Radiated Emission from 1GHz to 18GHz



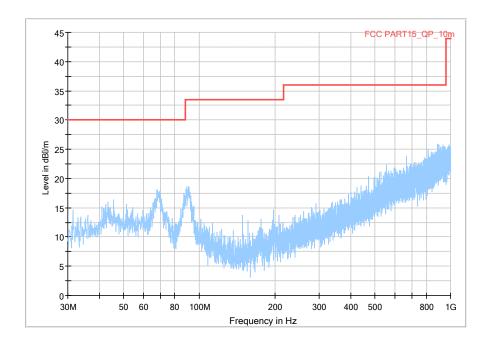


Figure A.3 Radiated Emission from 30MHz to 1GHz

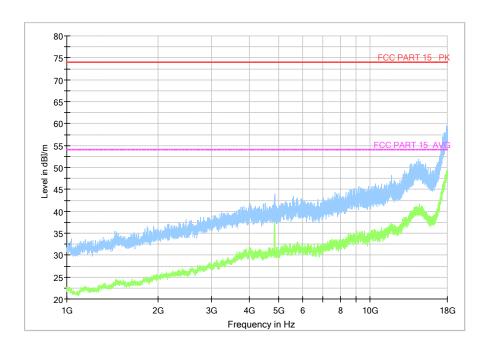


Figure A.4 Radiated Emission from 1GHz to 18GHz



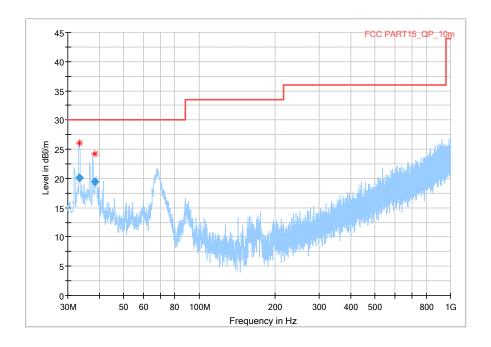


Figure A.3 Radiated Emission from 30MHz to 1GHz

| Frequency | QuasiPeak | Height | Polarization | Azimuth | Corr. | Margin | Limit |
|-----------|---------------|--------|--------------|---------|-------|--------|----------|
| (MHz) | $(dB\mu V/m)$ | (cm) | Polarization | (deg) | (dB) | (dB) | (dBµV/m) |
| 33.321000 | 20.13 | 101.0 | V | 154.0 | -13.5 | 9.87 | 30.0 |
| 38.360000 | 19.50 | 178.0 | V | 178.0 | -12.4 | 10.50 | 30.0 |

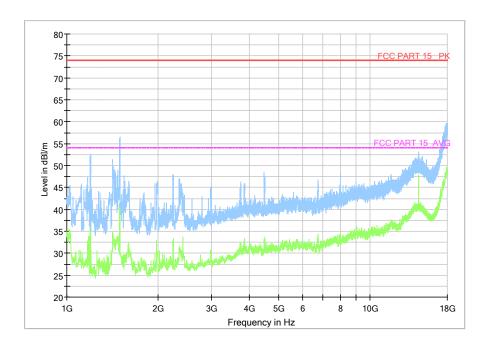


Figure A.4 Radiated Emission from 1GHz to 18GHz



Charging Mode with headset, Set.4

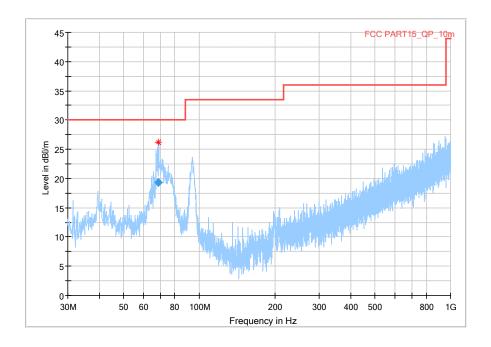


Figure A.5 Radiated Emission from 30MHz to 1GHz

| Frequency | QuasiPeak | Limit | Height | Pol | Azimuth | Corr. |
|-----------|-----------|----------|--------|-----|---------|-------|
| (MHz) | (dBuV/m) | (dBuV/m) | (cm) | | (deg) | (dB) |
| 68.874000 | 19.35 | 30.00 | 193.0 | v | 191.0 | -14.9 |

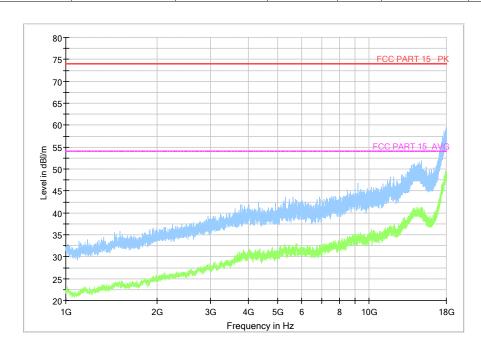


Figure A.6 Radiated Emission from 1GHz to 18GHz



USB Mode, Set.5

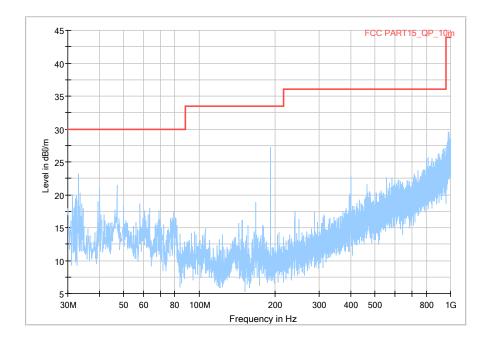


Figure A.7 Radiated Emission from 30MHz to 1GHz

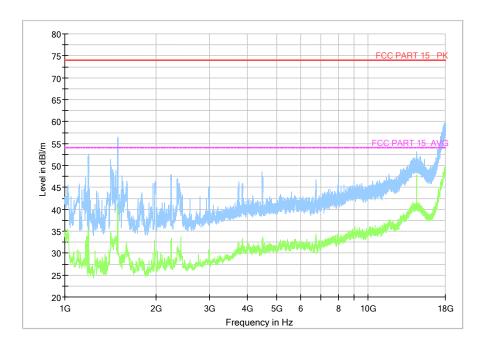


Figure A.8 Radiated Emission from 1GHz to 18GHz



A.2 Conducted Emission

Reference

FCC: CFR Part 15.107(a).

A.2.1 Method of measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 7.3.

A.2.2 EUT Operating Mode

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is DELL OPTIPLEX 380, and the serial number of the PC is 2X1YV2X. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

Note: I/O information: Printer – USB, Mouse – PS/2, Keyboard – USB.

A.2.3 Measurement Limit

| Frequency of emission (MHz) | Conducted limit (dBµV) | | | | | |
|------------------------------------------------|------------------------|-----------|--|--|--|--|
| | Quasi-peak | Average | | | | |
| 0.15-0.5 | 66 to 56* | 56 to 46* | | | | |
| 0.5-5 | 56 | 46 | | | | |
| 5-30 | 60 | 50 | | | | |
| *Decreases with the logarithm of the frequency | | | | | | |

A.2.4 Test Condition in charging mode

| Voltage (V) | Frequency (Hz) | | | | | | |
|-------------|----------------|--|--|--|--|--|--|
| 120 | 60 | | | | | | |

| RBW/IF bandwidth | Sweep Time(s) |
|------------------|---------------|
| 9kHz | 1 |



A.2.5 Measurement Results

Measurement uncertainty: U= 2.9 dB, k=2.

Charging Mode, Set.1

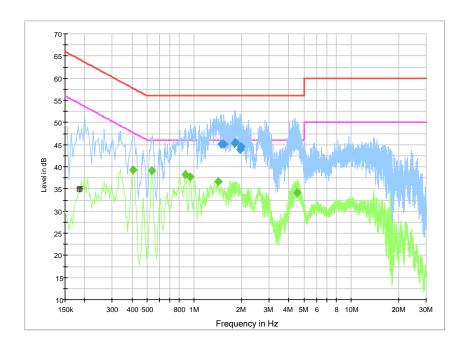


Figure A.9 Conducted Emission

Final Result 1

| Frequency | QuasiPeak | PE | Line | Corr. | Margin | Limit |
|-----------|-----------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 1.486500 | 45.1 | GND | L1 | 10.3 | 10.9 | 56.0 |
| 1.545000 | 45.1 | GND | L1 | 10.3 | 10.9 | 56.0 |
| 1.797000 | 45.4 | GND | L1 | 10.4 | 10.6 | 56.0 |
| 1.828500 | 45.4 | GND | L1 | 10.4 | 10.6 | 56.0 |
| 1.959000 | 43.8 | GND | L1 | 10.4 | 12.2 | 56.0 |
| 1.986000 | 44.5 | GND | L1 | 10.4 | 11.5 | 56.0 |

| Frequency | Average | PE | Line | Corr. | Margin | Limit |
|-----------|---------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.406500 | 39.3 | GND | N | 10.4 | 8.5 | 47.7 |
| 0.537000 | 39.1 | GND | N | 10.4 | 6.9 | 46.0 |
| 0.874500 | 38.2 | GND | N | 10.4 | 7.8 | 46.0 |
| 0.942000 | 37.7 | GND | N | 10.4 | 8.3 | 46.0 |
| 1.414500 | 36.6 | GND | N | 10.4 | 9.4 | 46.0 |
| 4.510500 | 34.3 | GND | L1 | 10.5 | 11.7 | 46.0 |



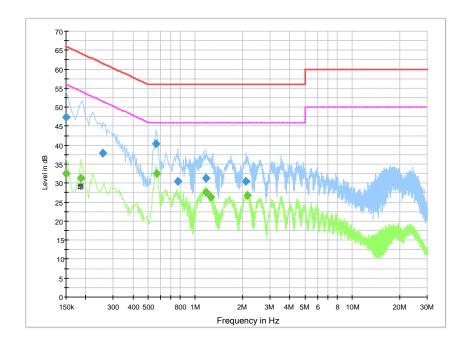


Figure A.10 Conducted Emission

Final Result 1

| Frequency | QuasiPeak | PE | Line | Corr. | Margin | Limit |
|-----------|-----------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.150000 | 47.3 | GND | L1 | 10.3 | 18.7 | 66.0 |
| 0.258000 | 37.8 | GND | L1 | 10.3 | 23.7 | 61.5 |
| 0.564000 | 40.5 | GND | L1 | 10.3 | 15.5 | 56.0 |
| 0.775500 | 30.4 | GND | N | 10.4 | 25.6 | 56.0 |
| 1.167000 | 31.3 | GND | N | 10.4 | 24.7 | 56.0 |
| 2.107500 | 30.4 | GND | N | 10.5 | 25.6 | 56.0 |

| Frequency (MHz) | Average (dBµV) | PE | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|--------------------|-------------------|-----|------|---------------|----------------|-----------------|
| 0.150000 | 32.5 | GND | L1 | 10.3 | 23.5 | 56.0 |
| 0.186000 | 31.3 | GND | L1 | 10.3 | 22.9 | 54.2 |
| 0.568500 | 32.5 | GND | L1 | 10.3 | 13.5 | 46.0 |
| 1.167000 | 27.6 | GND | L1 | 10.3 | 18.4 | 46.0 |
| 1.252500 | 26.3 | GND | L1 | 10.3 | 19.7 | 46.0 |
| 2.148000 | 26.8 | GND | L1 | 10.4 | 19.2 | 46.0 |



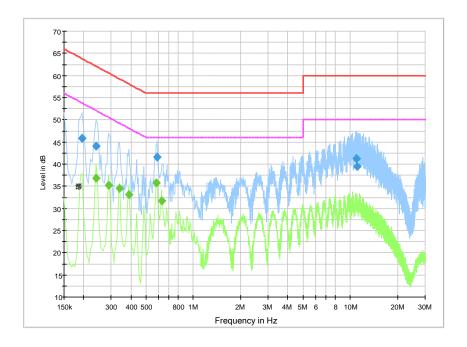


Figure A.10 Conducted Emission

Final Result 1

| Frequency | QuasiPeak | PE | Line | Corr. | Margin | Limit |
|-----------|-----------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.195000 | 45.8 | GND | L1 | 10.3 | 18.0 | 63.8 |
| 0.240000 | 44.0 | GND | L1 | 10.3 | 18.1 | 62.1 |
| 0.586500 | 41.6 | GND | L1 | 10.3 | 14.4 | 56.0 |
| 10.923000 | 41.2 | GND | L1 | 10.7 | 18.8 | 60.0 |
| 10.941000 | 41.3 | GND | L1 | 10.7 | 18.7 | 60.0 |
| 11.008500 | 39.5 | GND | L1 | 10.7 | 20.5 | 60.0 |

| Frequency | Average | PE | Line | Corr. | Margin | Limit |
|-----------|---------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.240000 | 36.7 | GND | L1 | 10.3 | 15.4 | 52.1 |
| 0.289500 | 35.2 | GND | L1 | 10.3 | 15.3 | 50.5 |
| 0.339000 | 34.5 | GND | L1 | 10.3 | 14.7 | 49.2 |
| 0.388500 | 33.2 | GND | L1 | 10.3 | 14.9 | 48.1 |
| 0.577500 | 35.7 | GND | L1 | 10.3 | 10.3 | 46.0 |
| 0.627000 | 31.7 | GND | L1 | 10.3 | 14.3 | 46.0 |



Charging Mode with headset, Set.4

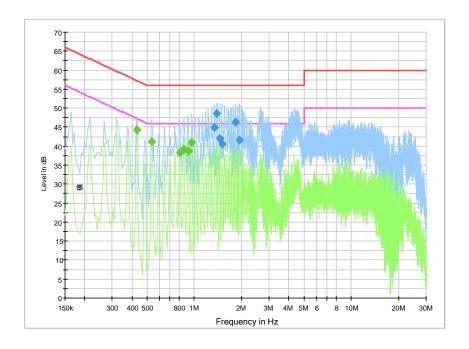


Figure A.11 Conducted Emission

Final Result 1

| Frequency | QuasiPeak | PE | Line | Corr. | Margin | Limit |
|-----------|-----------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 1.342500 | 44.9 | GND | L1 | 10.3 | 11.1 | 56.0 |
| 1.392000 | 48.5 | GND | L1 | 10.3 | 7.5 | 56.0 |
| 1.450500 | 42.0 | GND | L1 | 10.3 | 14.0 | 56.0 |
| 1.504500 | 40.5 | GND | L1 | 10.3 | 15.5 | 56.0 |
| 1.824000 | 46.4 | GND | L1 | 10.4 | 9.6 | 56.0 |
| 1.932000 | 41.5 | GND | L1 | 10.4 | 14.5 | 56.0 |

| Frequency | Average | PE | Line | Corr. | Margin | Limit |
|-----------|---------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.429000 | 44.3 | GND | N | 10.4 | 2.9 | 47.3 |
| 0.537000 | 41.3 | GND | N | 10.4 | 4.7 | 46.0 |
| 0.807000 | 38.2 | GND | N | 10.4 | 7.8 | 46.0 |
| 0.861000 | 39.1 | GND | N | 10.4 | 6.9 | 46.0 |
| 0.915000 | 38.6 | GND | N | 10.4 | 7.4 | 46.0 |
| 0.964500 | 40.9 | GND | N | 10.4 | 5.1 | 46.0 |



USB Mode, Set.5

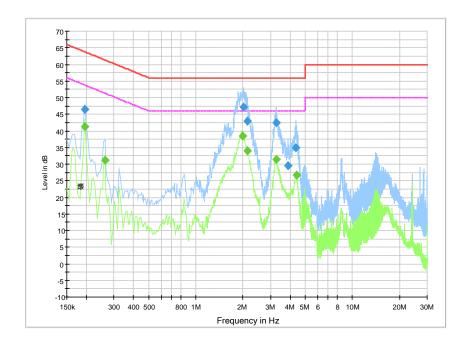


Figure A.12 Conducted Emission

Final Result 1

| Frequency | QuasiPeak | PE | Line | Corr. | Margin | Limit |
|-----------|-----------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.195000 | 46.4 | GND | L1 | 10.3 | 17.4 | 63.8 |
| 2.022000 | 47.1 | GND | L1 | 10.4 | 8.9 | 56.0 |
| 2.134500 | 43.0 | GND | N | 10.5 | 13.0 | 56.0 |
| 3.246000 | 42.5 | GND | L1 | 10.4 | 13.5 | 56.0 |
| 3.871500 | 29.5 | GND | N | 10.5 | 26.5 | 56.0 |
| 4.348500 | 35.0 | GND | L1 | 10.5 | 21.0 | 56.0 |

Final Result 2

| Frequency | Average | PE | Line | Corr. | Margin | Limit |
|-----------|---------|-----|------|-------|--------|--------|
| (MHz) | (dBµV) | | | (dB) | (dB) | (dBµV) |
| 0.195000 | 41.4 | GND | L1 | 10.3 | 12.4 | 53.8 |
| 0.262500 | 31.2 | GND | L1 | 10.3 | 20.1 | 51.4 |
| 1.999500 | 38.4 | GND | N | 10.5 | 7.6 | 46.0 |
| 2.125500 | 34.1 | GND | L1 | 10.4 | 11.9 | 46.0 |
| 3.246000 | 31.4 | GND | L1 | 10.4 | 14.6 | 46.0 |
| 4.389000 | 26.7 | GND | L1 | 10.5 | 19.3 | 46.0 |

END OF REPORT