



| | | | | | |
|---|---|---|---|--|---|
| Prüfbericht-Nr.: <i>Test report No.:</i> | 50141687 001 | Auftrags-Nr.: <i>Order No.:</i> | 174080192 | Seite 1 von 20 <i>Page 1 of 20</i> | |
| Kunden-Referenz-Nr.: <i>Client reference No.:</i> | N/A | Auftragsdatum: <i>Order date.:</i> | 09.03.2018 | | |
| Auftraggeber: <i>Client:</i> | Guangzhou huaxin Electronics Co.,Ltd. No. 72 Nanxiang 2nd Rd, Science City, Guangzhou, PRC | | | | |
| Prüfgegenstand: <i>Test item:</i> | Active Stylus (Dongle Unit) | | | | |
| Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i> | X1-Da-bc (a, b, c are variables, details see section 3.1) | | | | |
| Auftrags-Inhalt: <i>Order content:</i> | FCC and IC approval | | | | |
| Prüfgrundlage: <i>Test specification:</i> | CFR47 FCC Part 15: Subpart C Section 15.249 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2: Section 2.1091 | | | | |
| Wareneingangsdatum: <i>Date of receipt:</i> | 09.03.2018 | Please refer to photo documents | | | |
| Prüfmuster-Nr.: <i>Test sample No.:</i> | A000723491-001 | | | | |
| Prüfzeitraum: <i>Testing period:</i> | 23.03.2018 - 28.04.2018 | | | | |
| Ort der Prüfung: <i>Place of testing:</i> | TÜV Rheinland (Guangdong) Ltd. | | | | |
| Prüflaboratorium: <i>Testing laboratory:</i> | TÜV Rheinland (Guangdong) Ltd. | | | | |
| Prüfergebnis*: <i>Test result*:</i> | Pass | | | | |
| geprüft von / tested by: | | kontrolliert von / reviewed by: | | | |
|  | |  | | | |
| 08.05.2018 | Storm Shu / Assistant Project Manager | 10.05.2018 | Amy Wang / Technical Certifier | | |
| Datum <i>Date</i> | Name/Stellung <i>Name/Position</i> | Unterschrift <i>Signature</i> | Datum <i>Date</i> | Name/Stellung <i>Name/Position</i> | Unterschrift <i>Signature</i> |
| Sonstiges / Other: FCC ID: 2A059-X1-D1-XX | | | | | |
| Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i> | | | Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i> | | |
| * Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhalt P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested | | | | | |
| Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i> | | | | | |

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 FUNDAMENTAL & HARMONICS RADIATED EMISSION

RESULT: Pass

5.1.3 20dB BANDWIDTH

RESULT: Pass

5.1.4 RADIATED SPURIOUS EMISSION & BAND EDGE

RESULT: Pass

5.1.5 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of General 2.4GHz wireless

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.

No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663,
Guangdong Province P.R. China

FCC Accreditation Designation No.: CN1207

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

For the measurement Equipment list, refer to the appendix B.

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

| Item | Extended Uncertainty |
|-----------------------------------|---|
| Conducted Emission | ± 2.68 dB |
| Radiated Emission (30-1000MHz) | Field strength (dB μ V/m) ± 5.16 dB |
| Radiated Emission (above 1000MHz) | Field strength (dB μ V/m) ± 2.22 dB |
| Radio Spectrum | ± 4.51 dB |

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Guangdong) Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. Test facility located at No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663, Guangdong Province P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is Active Stylus (Dongle Unit) operating in 2402-2479MHz with 78 channels. The EUT is powered by DC 5.0V via USB port.

Model list:

X1-Da-bc

1. Variable "a" can be "0" to "9" which represents the different appearance;
2. Variable "b" can be "A" to "Z" which represents the first letter of customer name.
3. Variable "c" can be "A" to "Z" which represents the second letter of customer name.

Therefore, full tests were performed on **X1-D0-CT**.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

| General Information of EUT | Value |
|----------------------------|--------------------------------|
| Kind of Equipment | Active Stylus (Dongle Unit) |
| Type Designation | X1-Da-bc |
| FCC ID | 2AO59-X1-D1-XX |
| Operating Voltage | DC 5.0V via USB port |
| Testing Voltage | DC 5.0V via USB port |
| Type of Modulation | GFSK |
| Channel Number | 78 channels |
| Channel Separation | 1MHz |
| Antenna Type | Integral Antenna (PCB Antenna) |
| Antenna number | 1 |
| Antenna Gain | 0 dBi Max |

Table 3: RF Channel and Frequency of General 2.4GHz

| RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| 00 | 2402.00 | 20 | 2422.00 | 40 | 2442.00 | 60 | 2462.00 |
| 01 | 2403.00 | 21 | 2423.00 | 41 | 2443.00 | 61 | 2463.00 |
| 02 | 2404.00 | 22 | 2424.00 | 42 | 2444.00 | 62 | 2464.00 |
| 03 | 2405.00 | 23 | 2425.00 | 43 | 2445.00 | 63 | 2465.00 |
| 04 | 2406.00 | 24 | 2426.00 | 44 | 2446.00 | 64 | 2466.00 |
| 05 | 2407.00 | 25 | 2427.00 | 45 | 2447.00 | 65 | 2467.00 |
| 06 | 2408.00 | 26 | 2428.00 | 46 | 2448.00 | 66 | 2468.00 |
| 07 | 2409.00 | 27 | 2429.00 | 47 | 2449.00 | 67 | 2469.00 |
| 08 | 2410.00 | 28 | 2430.00 | 48 | 2450.00 | 68 | 2470.00 |
| 09 | 2411.00 | 29 | 2431.00 | 49 | 2451.00 | 69 | 2471.00 |
| 10 | 2412.00 | 30 | 2432.00 | 50 | 2452.00 | 70 | 2472.00 |
| 11 | 2413.00 | 31 | 2433.00 | 51 | 2453.00 | 71 | 2473.00 |
| 12 | 2414.00 | 32 | 2434.00 | 52 | 2454.00 | 72 | 2474.00 |
| 13 | 2415.00 | 33 | 2435.00 | 53 | 2455.00 | 73 | 2475.00 |
| 14 | 2416.00 | 34 | 2436.00 | 54 | 2456.00 | 74 | 2476.00 |
| 15 | 2417.00 | 35 | 2437.00 | 55 | 2457.00 | 75 | 2477.00 |
| 16 | 2418.00 | 36 | 2438.00 | 56 | 2458.00 | 76 | 2478.00 |
| 17 | 2419.00 | 37 | 2439.00 | 57 | 2459.00 | 77 | 2479.00 |
| 18 | 2420.00 | 38 | 2440.00 | 58 | 2460.00 | | |
| 19 | 2421.00 | 39 | 2441.00 | 59 | 2461.00 | -- | -- |

Test frequencies are lowest channel: 2402 MHz, middle channel: 2440 MHz and highest channel: 2479 MHz for General 2.4GHz

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, General 2.4GHz wireless transmitting mode
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. On, Transmitting on hopping channel
- C. On, Normal operation with general 2.4GHz mode
- D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- FCC/IC Label and Location Info
- Operation Description
- Photo Document
- Schematics
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model X1-D0-XX in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

| Description | Manufacturer | Model | S/N | Rating |
|-------------|--------------|---------------|----------|--------|
| Notebook | Lenovo | ThinkPad X260 | PC0DZSKR | N/A |

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

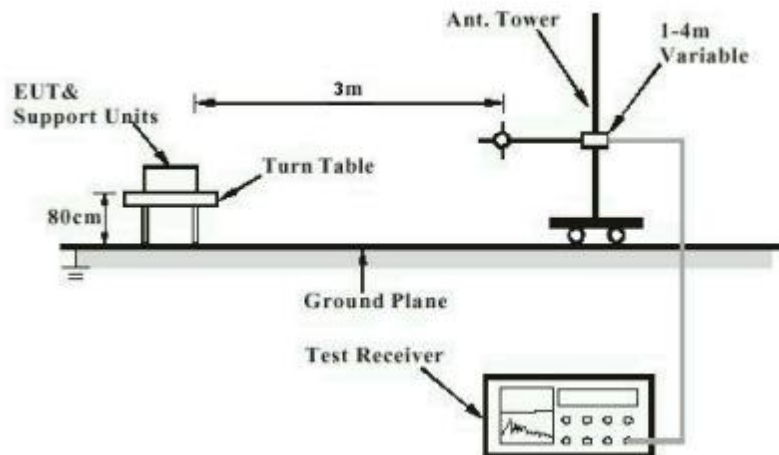


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

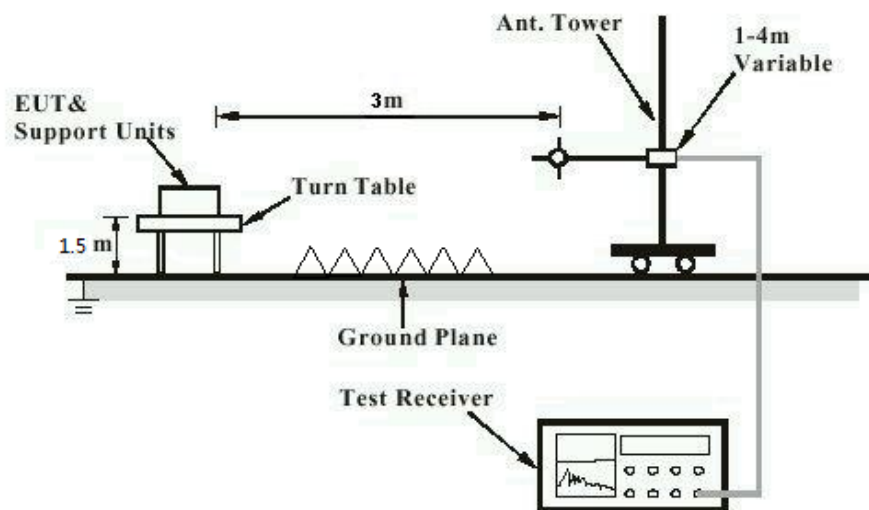


Diagram of Measurement Configuration for Mains Conduction Measurement

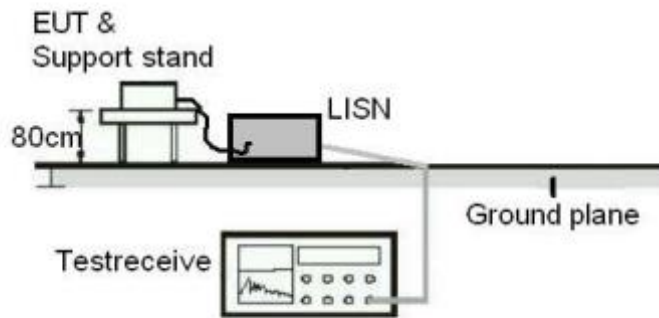
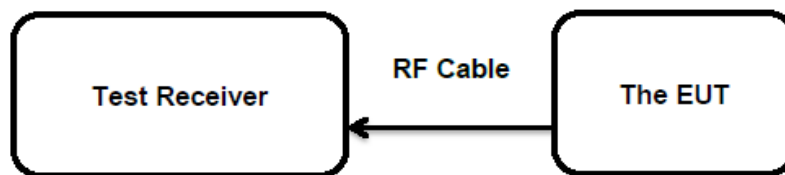


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Fundamental & Harmonics Radiated Emission

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.249(a)
Basic standard : ANSI C63.10: 2013
Limits : Refer to FCC Part 15.209(a)
Kind of test site : Shielded Room

Test Setup

Date of testing : 28.04.2018
Input voltage : DC 5.0V via USB port
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 22 °C
Relative humidity : 56 %
Atmospheric pressure : 100 kPa

For the measurement records, refer to the appendix B.

5.1.3 20dB Bandwidth

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.215
 Basic standard : ANSI C63.10: 2013
 Kind of test site : Shielded Room

Test Setup

Date of testing : 23.03.2018
 Input voltage : DC 5.0V via USB port
 Operation mode : A
 Test channel : Low / Middle / High
 Ambient temperature : 22 °C
 Relative humidity : 56 %
 Atmospheric pressure : 100 kPa

For details refer to following test result.

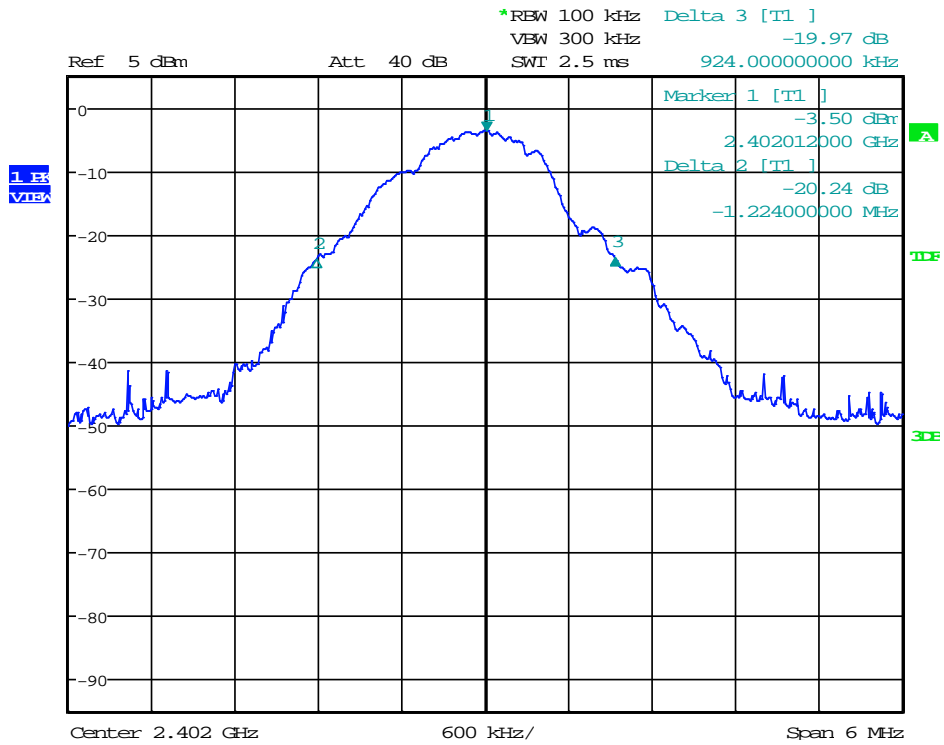
Table 5: Test Result of 20dB Bandwidth, General 2.4GHz

| Channel | Test Mode Test Channel (MHz) | 20dB Bandwidth (kHz) | Limit (MHz) |
|-----------------------------------|------------------------------------|-------------------------|---|
| Low Channel | 2402 | 2148.00 | Within the assigned frequency band 2400~2483.5MHz |
| High Channel | 2479 | 1488.00 | |
| Maximum Measured Value | Maximum Measured Value | 2148.00 | |

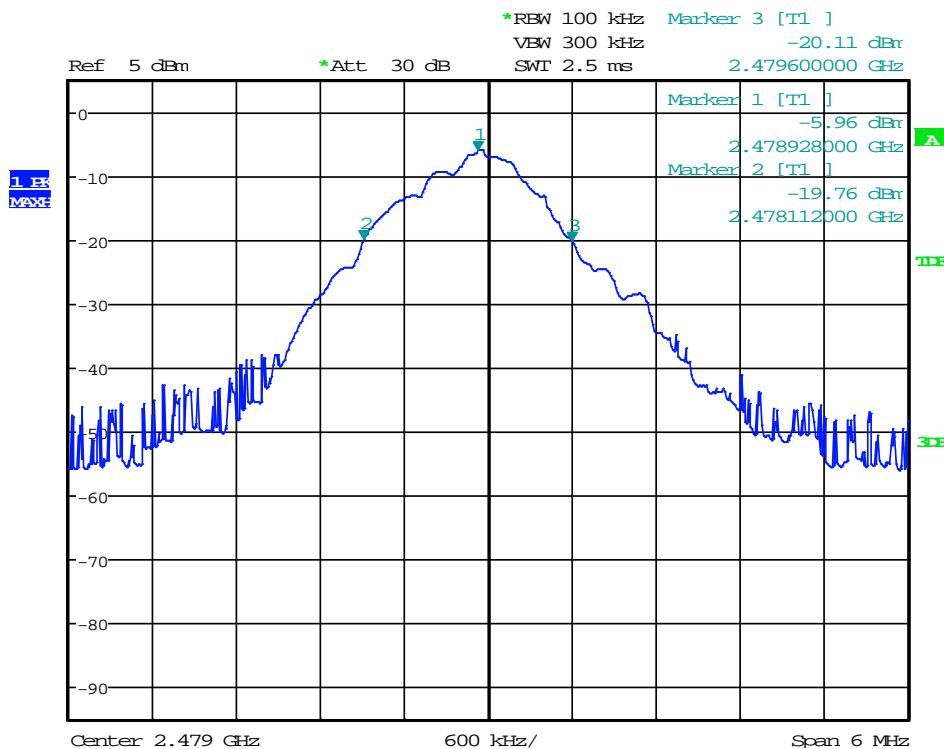
For the measurement records, refer to following test plot:

Test Plot of 20dB Bandwidth

Low CH



High CH



5.1.4 Radiated Spurious Emission & Band Edge

RESULT:**Pass****Test Specification**

| | |
|-------------------|--|
| Test standard | : FCC Part 15.249 (d) & FCC Part 15.205 |
| Basic standard | : ANSI C63.10: 2013 |
| Limits | : Refer to 15.209(a) of FCC part 15.247(d) |
| Kind of test site | : 3m Semi-anechoic Chamber |

Test Setup

| | |
|----------------------|------------------------|
| Date of testing | : Refer to test result |
| Input voltage | : DC 5.0V via USB port |
| Operation mode | : A |
| Test channel | : Low / Middle / High |
| Ambient temperature | : 22 °C |
| Relative humidity | : 56 % |
| Atmospheric pressure | : 100 kPa |

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix B.

5.1.5 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

| | |
|-------------------|---|
| Test standard | : FCC Part 15.207(a) |
| Basic standard | : ANSI C63.10: 2013 |
| Frequency range | : 0.15 – 30MHz |
| Limits | : FCC Part 15.207(a) RSS-Gen Table 3 |
| Kind of test site | : Shielded Room |

Test Setup

| | |
|----------------------|------------------------|
| Date of testing | : Refer to test result |
| Input voltage | : AC 120V, 60Hz |
| Operation mode | : C |
| Earthing | : Not connected |
| Ambient temperature | : 24 °C |
| Relative humidity | : 53 % |
| Atmospheric pressure | : 101 kPa |

For the measurement records, refer to the appendix B.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:

Pass

Test Specification

Test standard : CFR47 FCC Part 2: Section 2.1093
CFR47 FCC Part 1: Section 1.1310
FCC KDB Publication 447498 D01 v06

➤ FCC requirements

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

Measurement Record for CFR47 FCC Part 2.1093

The minimum distance for the EUT is less than 5mm.

The maximum specified e.i.r.p.: 75.402dBuv/m @3m = -19.8dBm=0.0104mW

Antenna Gain: 0dBi max

According to KDB 447498 D01 v06 4.3.1 a)

Exempted Power: 9.5mW, hence the EUT is compliance with the RF exposure.

The minimum distance for the EUT is less than 5mm.

The maximum specified e.i.r.p.: 75.402dBuv/m @3m = -19.8dBm=0.0104mW

7 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

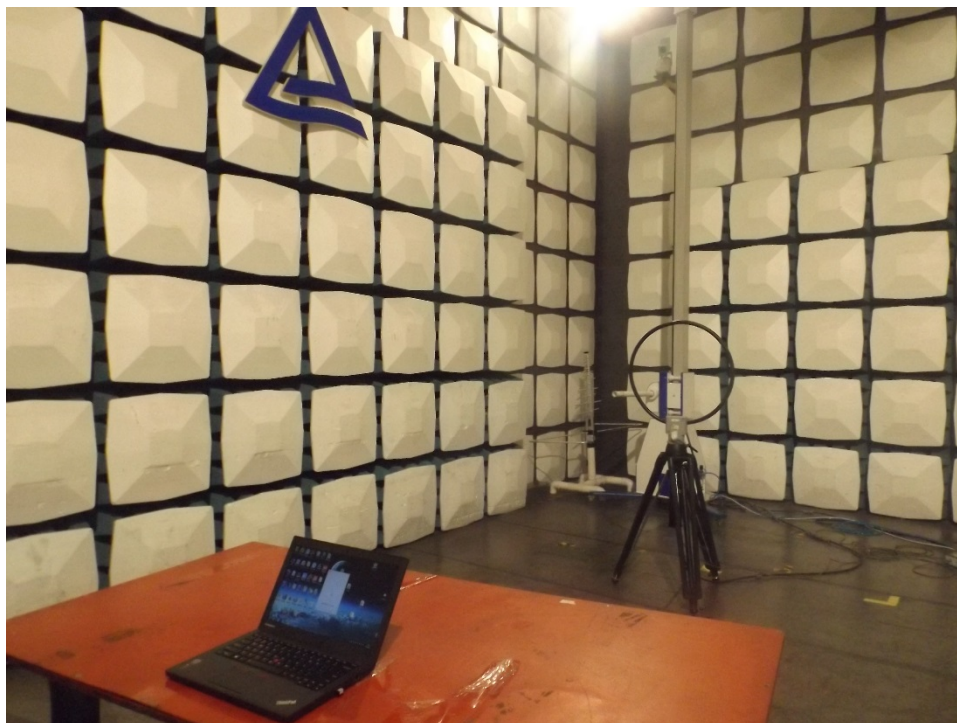
8 List of Tables

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Appendix A: Photographs of the Test Set-Up

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Photograph 1: Set-up for Radiated Spurious Emission, 9kHz - 30MHz



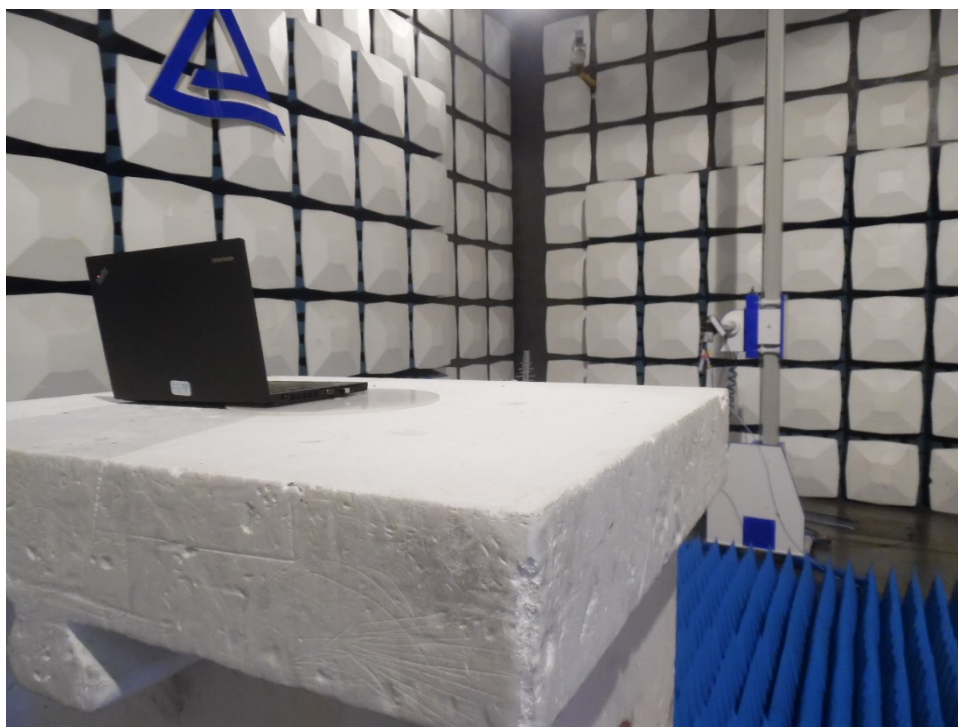
Photograph 2: Set-up for Radiated Spurious Emission, 30MHz - 1GHz



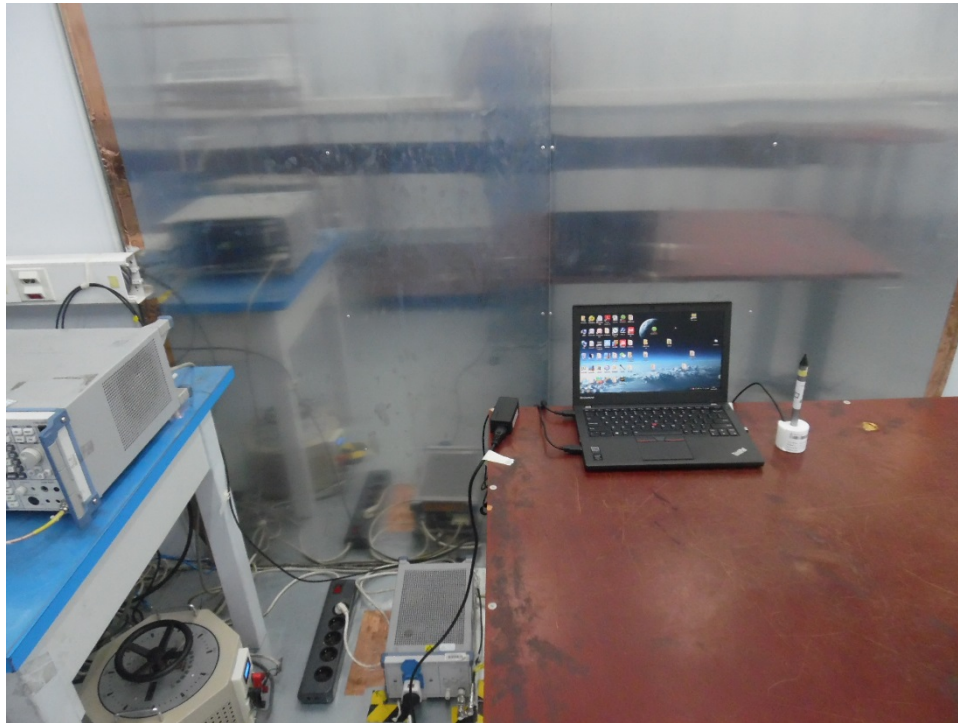
Photograph 3: Set-up for Radiated Spurious Emission, 1GHz - 18GHz



Photograph 4: Set-up for Radiated Spurious Emission, 18GHz - 26.5GHz



Photograph 5: Set-up for Conducted Emission on AC Mains



Appendix B: Test Results of General 2.4GHz

| | |
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Appendix B.1: Measurement Equipment List

Measurement Equipment List



Testing Start Date 23.03.2018
Testing end date 28.04.2018

Project Manager Storm Shu
Cost Center 144
Test Report Number 50141687 001
Order Item Number 0174080192A00120

Customer Guangzhou huaxin Electronics
Product Name Active Stylus Dongle Unit
Comment

Page 1 of 1

| Old ID | Equip. | Description | Model | Manufacturer | Inte. (mon) | Due Date |
|--------|---------|----------------------------|----------------------|--------------------|----------------|------------|
| 1.887 | 1813944 | EMI Test Receiver | ESCI | Rohde & Schwarz | 12 | 16.03.2019 |
| 1.886 | 1813943 | Two-Line V-Network | ENV216 | Rohde & Schwarz | 12 | 31.05.2018 |
| 1.807 | 1813832 | EMI Test Receiver | ESCI | Rohde & Schwarz | 12 | 18.09.2018 |
| 1.805 | 1813829 | FSP30 Spectrum Analyzer | FSP30 | Rohde & Schwarz | 12 | 16.03.2019 |
| 1.921B | 1814142 | Trilog Broadband Antenna | VULB9168(6dB) | SCHWARZBECK | 24 | 20.09.2018 |
| 1.822 | 1813850 | Loop Antenna | HFH2-Z2 | Rohde & Schwarz | 24 | 14.03.2019 |
| 1.889C | 1814199 | Double-Ridged Horn Antenna | HF907(3s) | Rohde & Schwarz | 24 | 27.10.2018 |
| 1.808 | 1813833 | Horn Antenna | 3160-09 | EMCO | 60 | 29.07.2019 |
| 1.819C | 1814068 | Pre-Amplifier | A44-00101800-25-10P- | MITEQ | 12 | 16.03.2019 |
| 1.819A | 1813846 | Band Reject Filter | BRM50702 | Micro-Tronics | 24 | 07.07.2018 |
| 1.808A | 1813834 | Pre-Amplifier | A33-18002650-30-8P-4 | MITEQ | 24 | 20.07.2019 |
| 1.666 | 1813697 | SAC | N/A | Albatross Project | 36 | 04.08.2020 |
| 1.913 | 1814012 | Shielding Room | 9x4x3.4 | Changzhou Yuanping | 60 | 06.12.2020 |

* No entry for devices that are not subject to regular gauging or calibration

Signature: Storm Shu

Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz -26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Appendix B.2: Fundamental & Harmonics Radiated Emission 30MHz - 1GHz

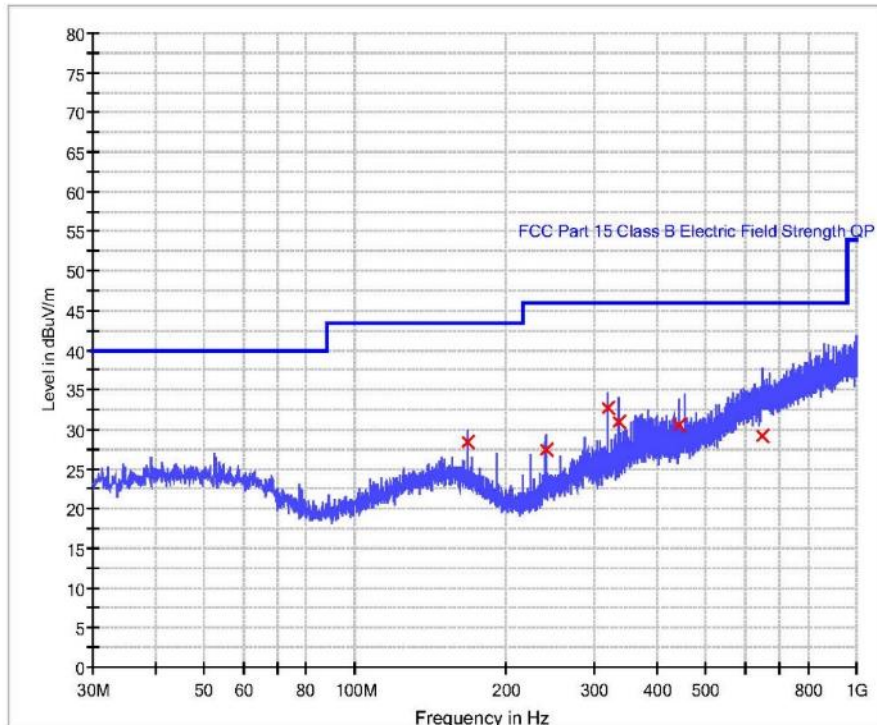
TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|---------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Horizontal |
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 168.000000 | 28.5 | 1000.0 | 120.000 | H | 21.1 | 15.0 | 43.5 | |
| 240.000000 | 27.5 | 1000.0 | 120.000 | H | 19.3 | 18.5 | 46.0 | |
| 320.040000 | 32.7 | 1000.0 | 120.000 | H | 22.1 | 13.3 | 46.0 | |
| 335.920000 | 30.9 | 1000.0 | 120.000 | H | 22.7 | 15.1 | 46.0 | |
| 444.080000 | 30.6 | 1000.0 | 120.000 | H | 25.8 | 15.4 | 46.0 | |
| 648.600000 | 29.2 | 1000.0 | 120.000 | H | 31.5 | 16.8 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

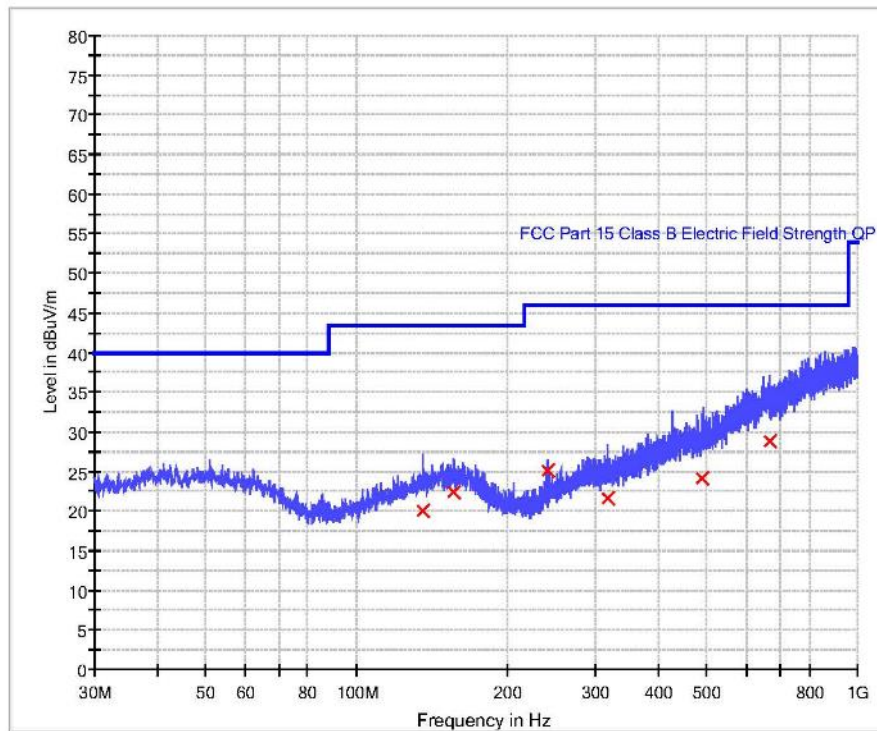
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|-------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Vertical |

| | |
|------------------|------------|
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 135.360000 | 20.0 | 1000.0 | 120.000 | V | 20.1 | 23.5 | 43.5 | |
| 156.840000 | 22.4 | 1000.0 | 120.000 | V | 21.3 | 21.1 | 43.5 | |
| 240.000000 | 25.1 | 1000.0 | 120.000 | V | 19.3 | 20.9 | 46.0 | |
| 317.480000 | 21.6 | 1000.0 | 120.000 | V | 22.1 | 24.4 | 46.0 | |
| 490.520000 | 24.2 | 1000.0 | 120.000 | V | 26.6 | 21.8 | 46.0 | |
| 668.640000 | 28.9 | 1000.0 | 120.000 | V | 31.2 | 17.1 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

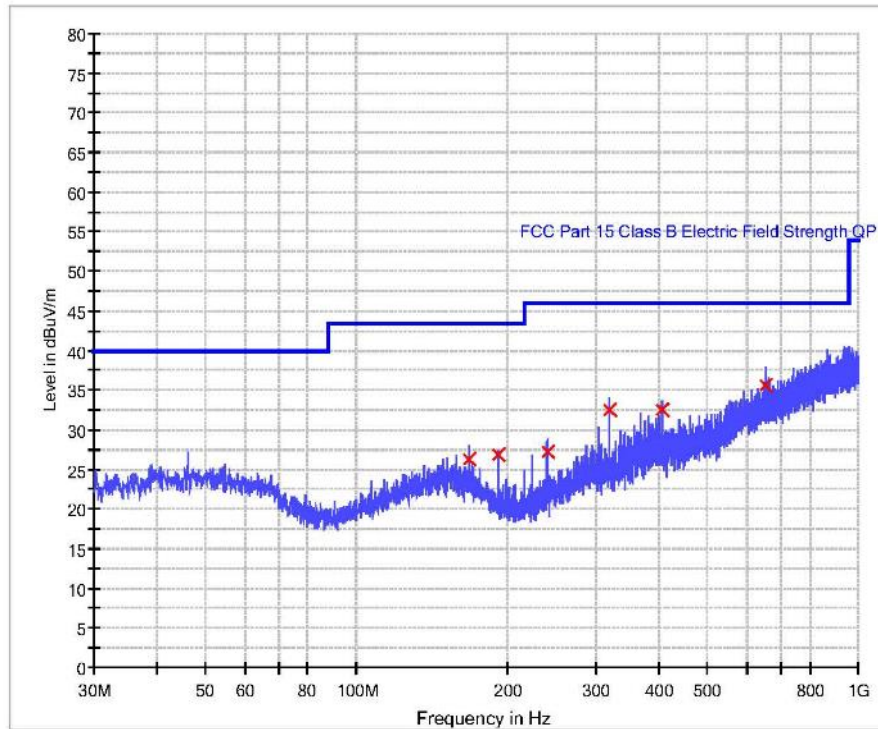
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|---------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Horizontal |

| | |
|------------------|------------|
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 168.000000 | 26.3 | 1000.0 | 120.000 | H | 21.1 | 17.2 | 43.5 | |
| 192.000000 | 27.0 | 1000.0 | 120.000 | H | 18.3 | 16.6 | 43.5 | |
| 240.000000 | 27.2 | 1000.0 | 120.000 | H | 19.3 | 18.8 | 46.0 | |
| 319.920000 | 32.5 | 1000.0 | 120.000 | H | 22.1 | 13.5 | 46.0 | |
| 405.520000 | 32.6 | 1000.0 | 120.000 | H | 24.5 | 13.4 | 46.0 | |
| 655.520000 | 35.6 | 1000.0 | 120.000 | H | 31.5 | 10.4 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

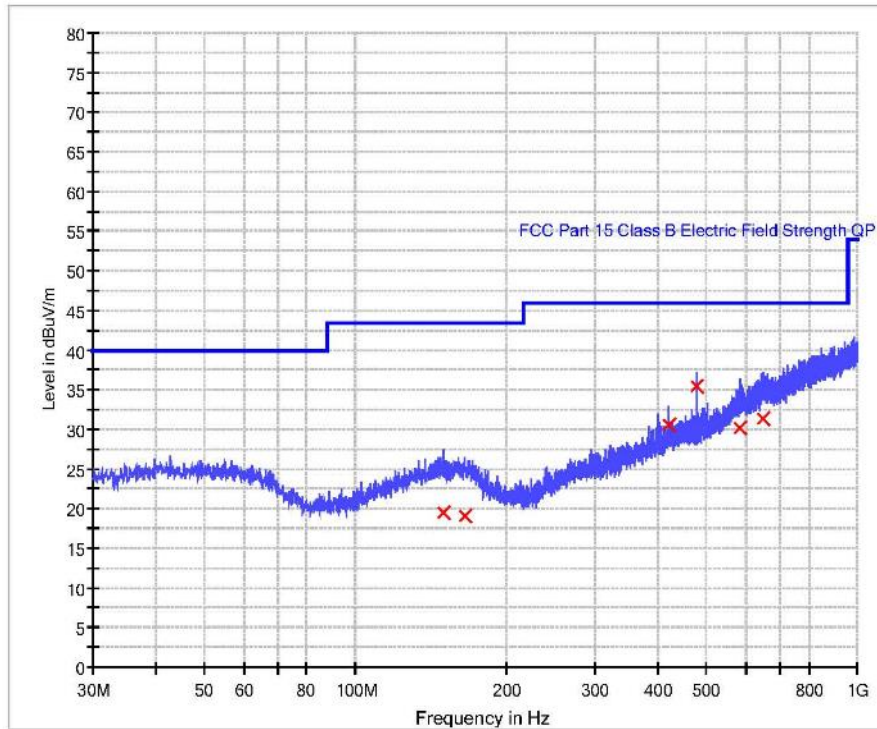
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|-------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Vertical |

| | |
|------------------|------------|
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 149.560000 | 19.5 | 1000.0 | 120.000 | V | 21.1 | 24.0 | 43.5 | |
| 165.080000 | 19.0 | 1000.0 | 120.000 | V | 21.1 | 24.5 | 43.5 | |
| 420.920000 | 30.5 | 1000.0 | 120.000 | V | 25.1 | 15.5 | 46.0 | |
| 479.960000 | 35.5 | 1000.0 | 120.000 | V | 26.3 | 10.5 | 46.0 | |
| 581.800000 | 30.1 | 1000.0 | 120.000 | V | 29.3 | 15.9 | 46.0 | |
| 651.280000 | 31.4 | 1000.0 | 120.000 | V | 31.6 | 14.6 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

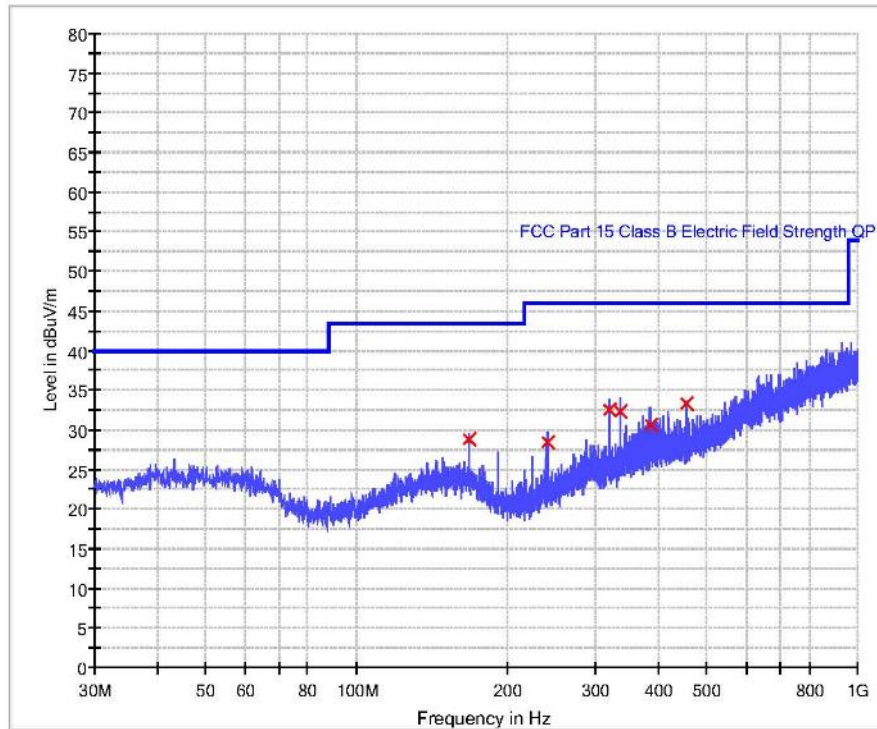
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|---------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Horizontal |

| | |
|------------------|------------|
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 168.000000 | 28.8 | 1000.0 | 120.000 | H | 21.1 | 14.7 | 43.5 | |
| 240.000000 | 28.5 | 1000.0 | 120.000 | H | 19.3 | 17.5 | 46.0 | |
| 319.920000 | 32.5 | 1000.0 | 120.000 | H | 22.1 | 13.5 | 46.0 | |
| 336.040000 | 32.4 | 1000.0 | 120.000 | H | 22.7 | 13.6 | 46.0 | |
| 386.000000 | 30.5 | 1000.0 | 120.000 | H | 24.0 | 15.5 | 46.0 | |
| 456.080000 | 33.2 | 1000.0 | 120.000 | H | 26.1 | 12.8 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

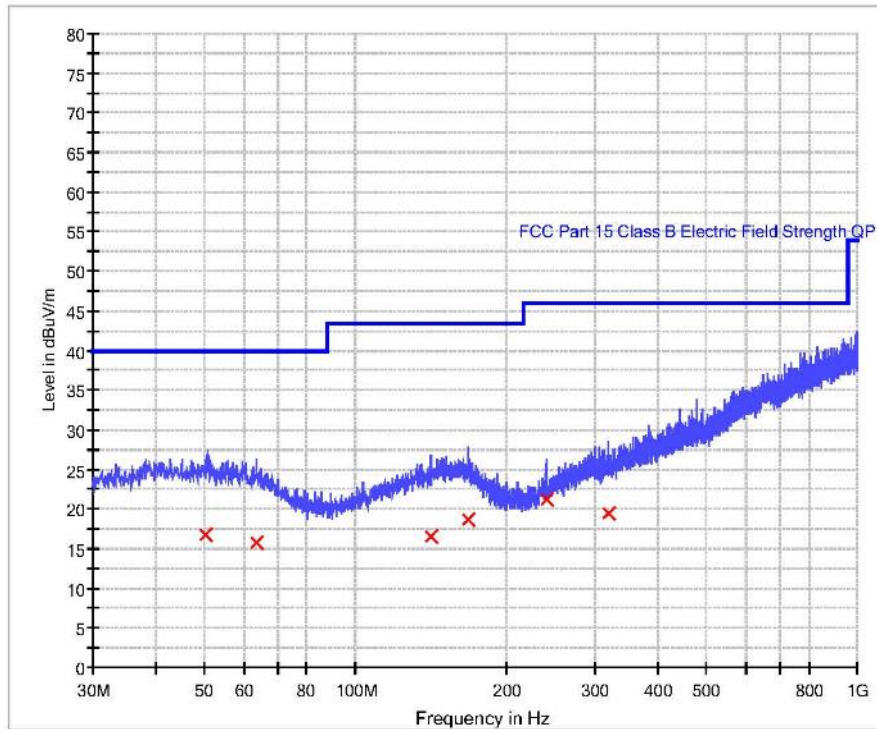
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|-------------------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Test distance is 3m; Vertical |

| | |
|------------------|------------|
| Subrange 1 | |
| Frequency range: | 30-1000MHz |
| Receiver: | ESCI 3 |
| Transducer: | VULB9168 |



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - QPK (dB) | Limit - QPK (dBuV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 50.480000 | 16.7 | 1000.0 | 120.000 | V | 20.6 | 23.3 | 40.0 | |
| 63.600000 | 15.8 | 1000.0 | 120.000 | V | 19.5 | 24.2 | 40.0 | |
| 141.200000 | 16.6 | 1000.0 | 120.000 | V | 20.4 | 26.9 | 43.5 | |
| 168.000000 | 18.7 | 1000.0 | 120.000 | V | 21.1 | 24.8 | 43.5 | |
| 240.000000 | 21.3 | 1000.0 | 120.000 | V | 19.3 | 24.7 | 46.0 | |
| 320.040000 | 19.5 | 1000.0 | 120.000 | V | 22.1 | 26.5 | 46.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

1GHz - 18GHz

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

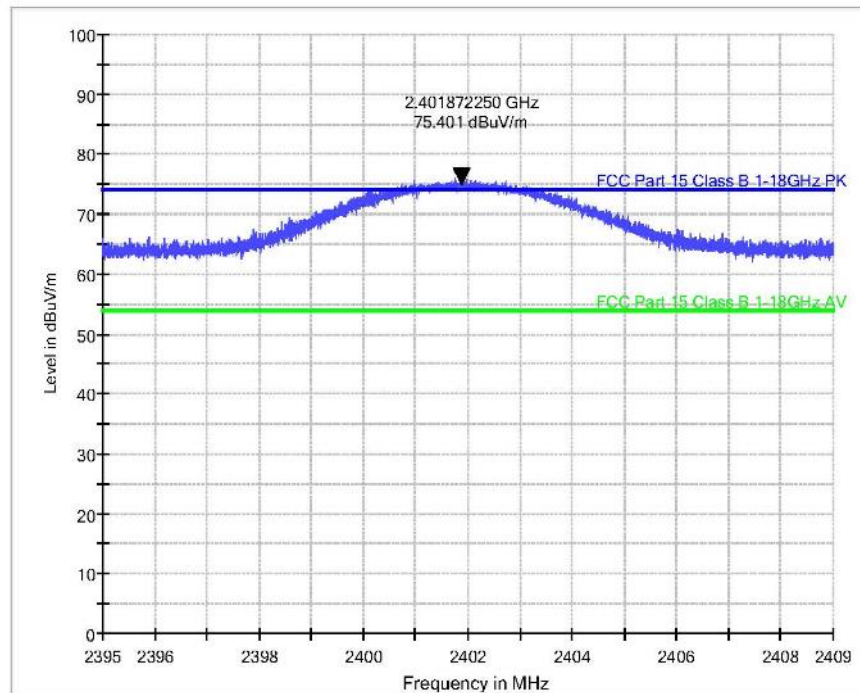
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

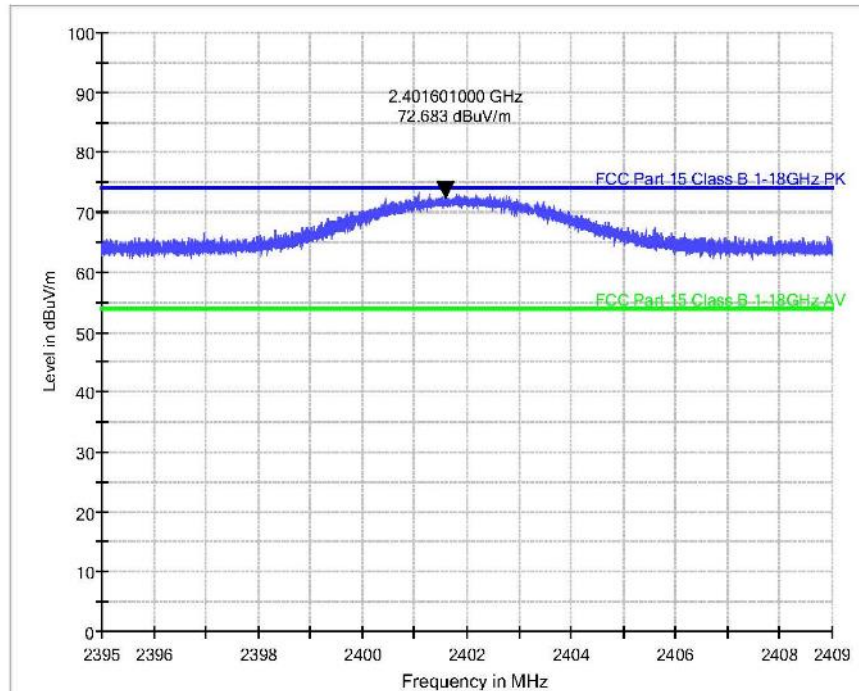
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428 Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

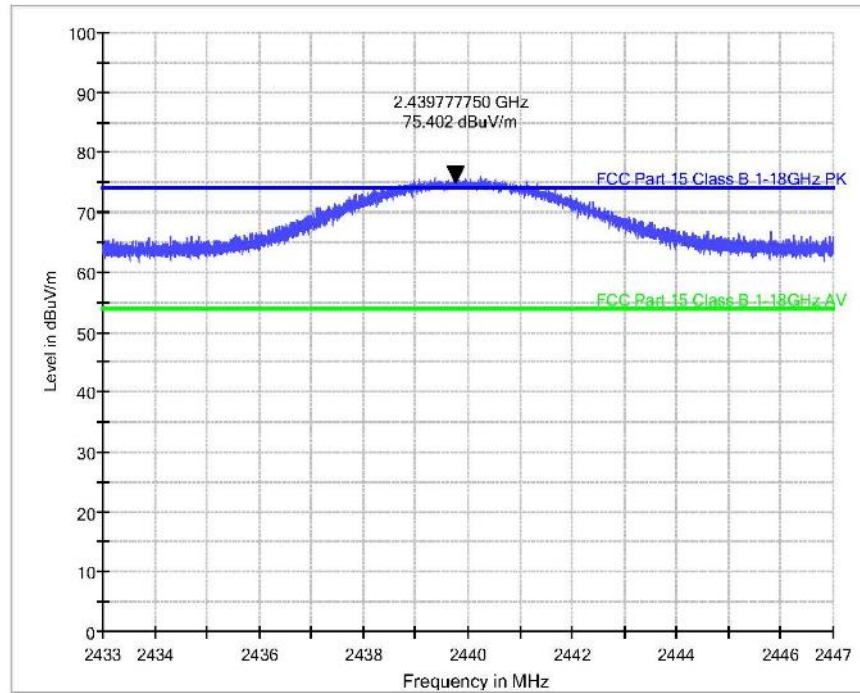
EMC Test Record (Emission)

Common Information

| | |
|---------------------|-----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428 Reviewed by: *Jocky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

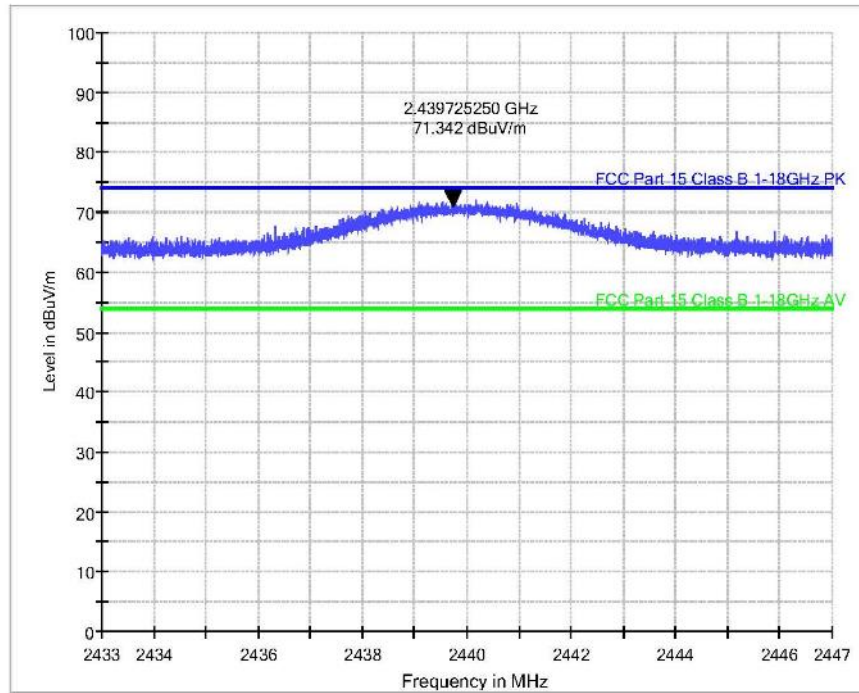
EMC Test Record (Emission)

Common Information

| | |
|---------------------|-----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jocky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

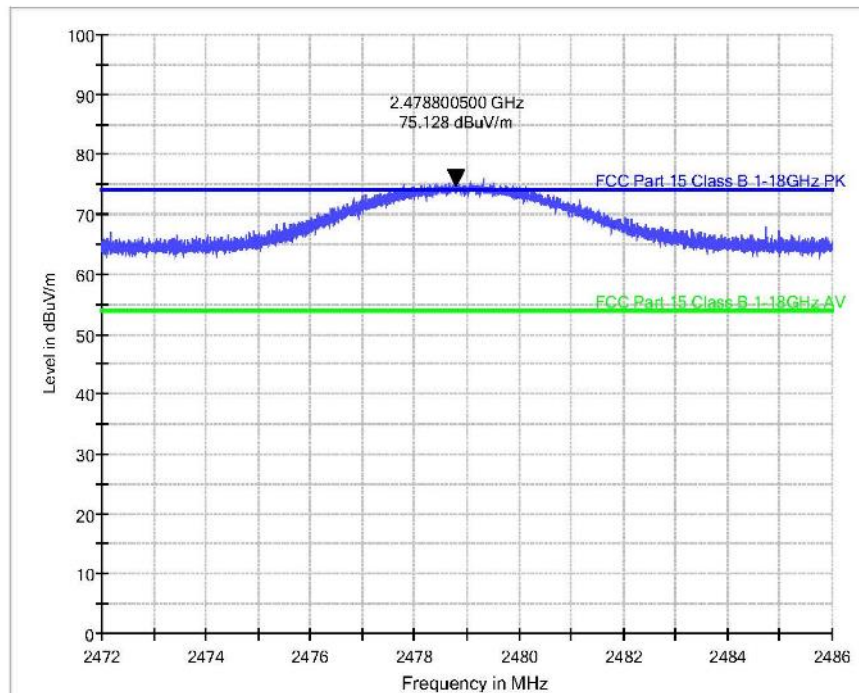
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jocky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

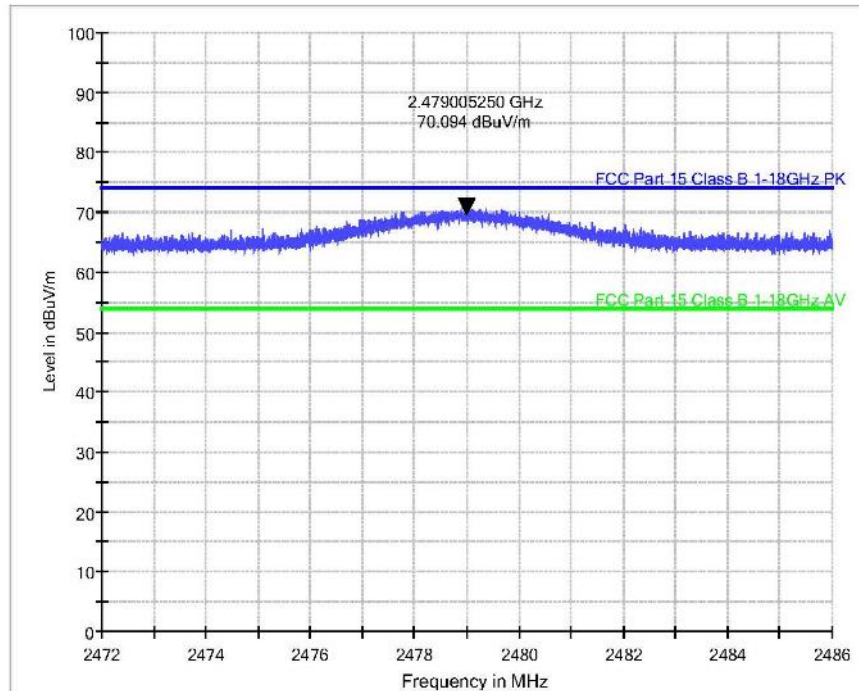
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | 1GHz-18GHz |
| Frequency Range: | TUV FSP30 |
| Receiver: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |
| Transducer: | |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jocky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

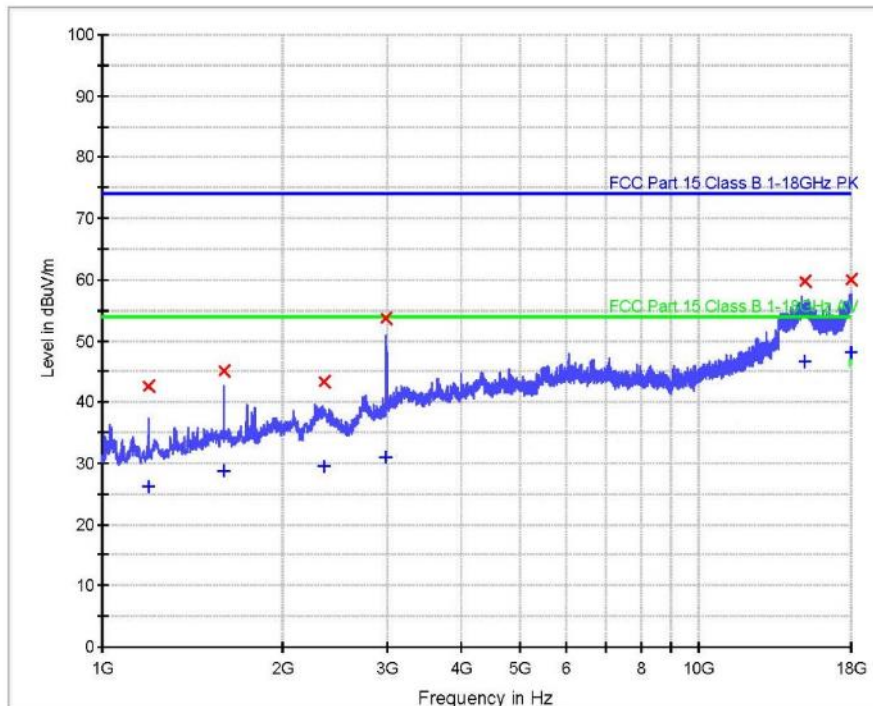
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCCT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 42.6 | 1000.0 | 1000.000 | V | -16.3 | 31.4 | 74.0 | |
| 1599.000000 | 45.1 | 1000.0 | 1000.000 | V | -14.1 | 29.0 | 74.0 | |
| 2354.000000 | 43.3 | 1000.0 | 1000.000 | V | -11.0 | 30.7 | 74.0 | |
| 2991.000000 | 53.6 | 1000.0 | 1000.000 | V | -8.5 | 20.4 | 74.0 | |
| 15027.000000 | 58.8 | 1000.0 | 1000.000 | V | 7.9 | 14.2 | 74.0 | |
| 17960.000000 | 60.0 | 1000.0 | 1000.000 | V | 10.2 | 14.0 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 26.1 | 1000.0 | 1000.000 | V | -16.3 | 27.9 | 54.0 | |
| 1599.000000 | 28.8 | 1000.0 | 1000.000 | V | -14.1 | 25.2 | 54.0 | |
| 2354.000000 | 29.5 | 1000.0 | 1000.000 | V | -11.0 | 24.5 | 54.0 | |
| 2991.000000 | 30.9 | 1000.0 | 1000.000 | V | -8.5 | 23.1 | 54.0 | |
| 15027.000000 | 46.6 | 1000.0 | 1000.000 | V | 7.9 | 7.4 | 54.0 | |
| 17960.000000 | 48.0 | 1000.0 | 1000.000 | V | 10.2 | 6.0 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

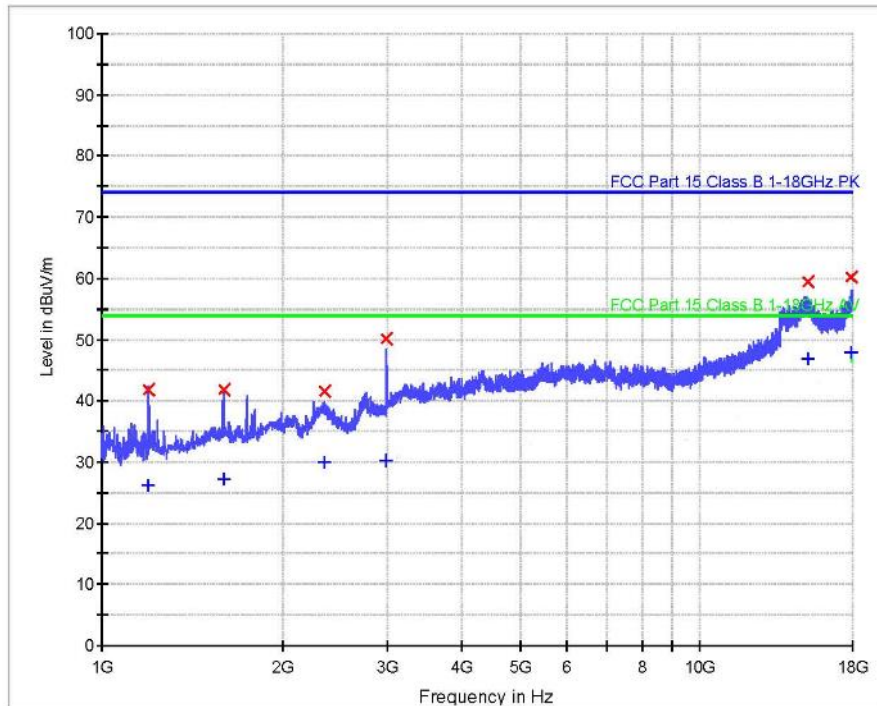
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* 20180428 Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 41.7 | 1000.0 | 1000.000 | H | -16.3 | 32.3 | 74.0 | |
| 1597.000000 | 41.9 | 1000.0 | 1000.000 | H | -14.1 | 32.1 | 74.0 | |
| 2354.000000 | 41.5 | 1000.0 | 1000.000 | H | -11.0 | 32.6 | 74.0 | |
| 2987.000000 | 50.1 | 1000.0 | 1000.000 | H | -8.6 | 23.9 | 74.0 | |
| 15163.000000 | 59.4 | 1000.0 | 1000.000 | H | 7.9 | 14.6 | 74.0 | |
| 17936.000000 | 60.3 | 1000.0 | 1000.000 | H | 10.1 | 13.7 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 26.1 | 1000.0 | 1000.000 | H | -16.3 | 27.9 | 54.0 | |
| 1597.000000 | 27.1 | 1000.0 | 1000.000 | H | -14.1 | 26.9 | 54.0 | |
| 2354.000000 | 29.9 | 1000.0 | 1000.000 | H | -11.0 | 24.2 | 54.0 | |
| 2987.000000 | 30.3 | 1000.0 | 1000.000 | H | -8.6 | 23.7 | 54.0 | |
| 15163.000000 | 46.9 | 1000.0 | 1000.000 | H | 7.9 | 7.1 | 54.0 | |
| 17936.000000 | 47.8 | 1000.0 | 1000.000 | H | 10.1 | 6.2 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

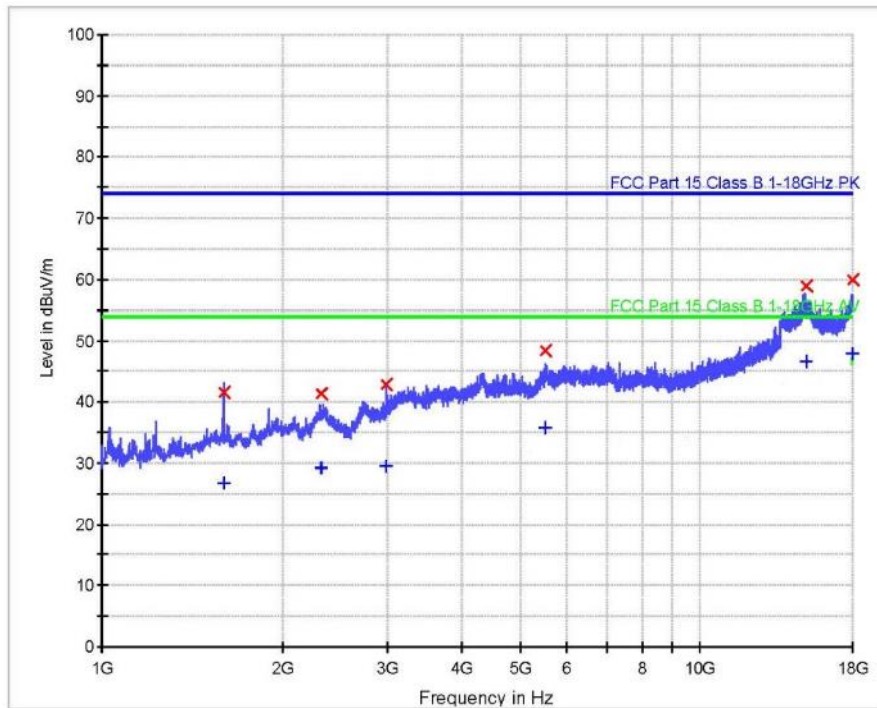
EMC Test Record (Emission)

Common Information

| | |
|---------------------|-----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1595.000000 | 41.5 | 1000.0 | 1000.000 | H | -14.1 | 32.5 | 74.0 | |
| 2332.000000 | 41.4 | 1000.0 | 1000.000 | H | -11.1 | 32.6 | 74.0 | |
| 2989.000000 | 42.8 | 1000.0 | 1000.000 | H | -8.5 | 31.2 | 74.0 | |
| 5507.000000 | 48.5 | 1000.0 | 1000.000 | H | -2.9 | 25.5 | 74.0 | |
| 15016.000000 | 58.9 | 1000.0 | 1000.000 | H | 7.9 | 15.1 | 74.0 | |
| 17983.000000 | 59.9 | 1000.0 | 1000.000 | H | 10.1 | 14.1 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1595.000000 | 26.6 | 1000.0 | 1000.000 | H | -14.1 | 27.4 | 54.0 | |
| 2332.000000 | 29.3 | 1000.0 | 1000.000 | H | -11.1 | 24.7 | 54.0 | |
| 2989.000000 | 29.5 | 1000.0 | 1000.000 | H | -8.5 | 24.5 | 54.0 | |
| 5507.000000 | 35.8 | 1000.0 | 1000.000 | H | -2.9 | 18.2 | 54.0 | |
| 15016.000000 | 46.5 | 1000.0 | 1000.000 | H | 7.9 | 7.5 | 54.0 | |
| 17983.000000 | 48.0 | 1000.0 | 1000.000 | H | 10.1 | 6.0 | 54.0 | |

Tested by: *Chris Liang* 20180428 Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

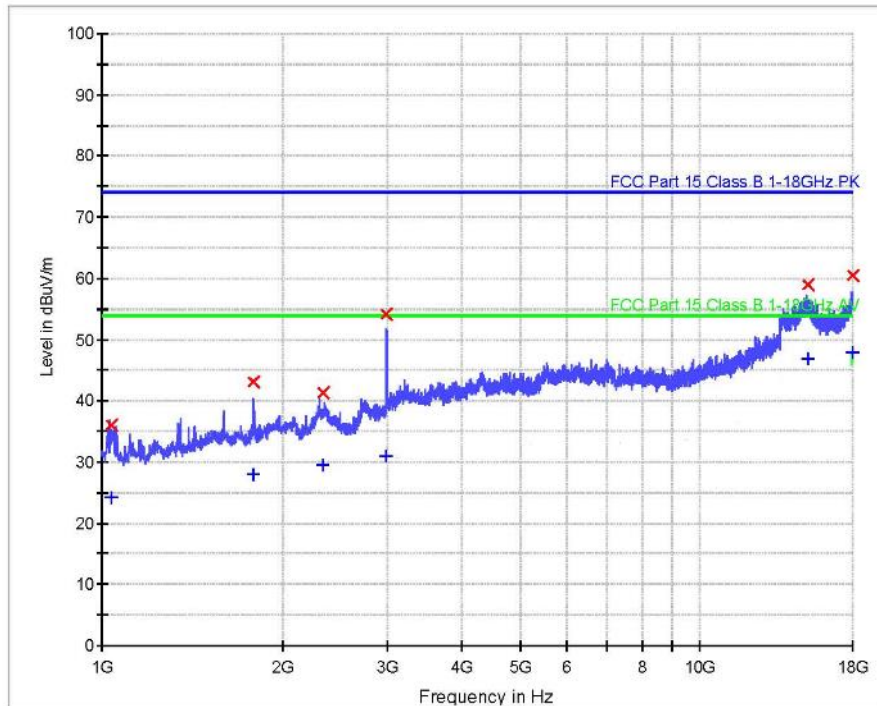
EMC Test Record (Emission)

Common Information

| | |
|---------------------|-----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (Middle) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1034.000000 | 35.9 | 1000.0 | 1000.000 | V | -17.2 | 38.1 | 74.0 | |
| 1795.000000 | 43.0 | 1000.0 | 1000.000 | V | -13.2 | 31.1 | 74.0 | |
| 2343.000000 | 41.3 | 1000.0 | 1000.000 | V | -11.0 | 32.7 | 74.0 | |
| 2989.000000 | 54.3 | 1000.0 | 1000.000 | V | -8.5 | 19.7 | 74.0 | |
| 15191.000000 | 58.9 | 1000.0 | 1000.000 | V | 7.9 | 15.1 | 74.0 | |
| 17968.000000 | 60.5 | 1000.0 | 1000.000 | V | 10.2 | 13.5 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1034.000000 | 24.1 | 1000.0 | 1000.000 | V | -17.2 | 29.9 | 54.0 | |
| 1795.000000 | 28.0 | 1000.0 | 1000.000 | V | -13.2 | 26.0 | 54.0 | |
| 2343.000000 | 29.4 | 1000.0 | 1000.000 | V | -11.0 | 24.6 | 54.0 | |
| 2989.000000 | 31.0 | 1000.0 | 1000.000 | V | -8.5 | 23.0 | 54.0 | |
| 15191.000000 | 46.8 | 1000.0 | 1000.000 | V | 7.9 | 7.2 | 54.0 | |
| 17968.000000 | 47.9 | 1000.0 | 1000.000 | V | 10.2 | 6.1 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

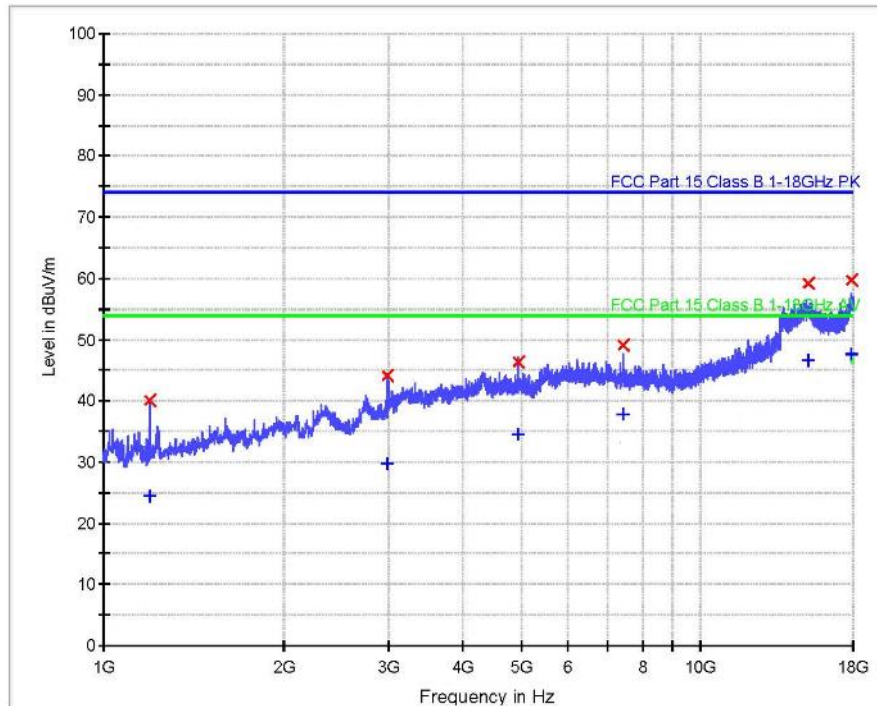
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 40.0 | 1000.0 | 1000.000 | H | -16.3 | 34.0 | 74.0 | |
| 2993.000000 | 44.2 | 1000.0 | 1000.000 | H | -8.5 | 29.8 | 74.0 | |
| 4959.000000 | 46.5 | 1000.0 | 1000.000 | H | -3.7 | 27.6 | 74.0 | |
| 7437.000000 | 49.0 | 1000.0 | 1000.000 | H | -1.4 | 25.0 | 74.0 | |
| 15178.000000 | 58.2 | 1000.0 | 1000.000 | H | 7.9 | 14.8 | 74.0 | |
| 17926.000000 | 59.7 | 1000.0 | 1000.000 | H | 10.0 | 14.3 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | PoI | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1195.000000 | 24.5 | 1000.0 | 1000.000 | H | -16.3 | 29.5 | 54.0 | |
| 2993.000000 | 29.8 | 1000.0 | 1000.000 | H | -8.5 | 24.2 | 54.0 | |
| 4959.000000 | 34.4 | 1000.0 | 1000.000 | H | -3.7 | 19.6 | 54.0 | |
| 7437.000000 | 37.7 | 1000.0 | 1000.000 | H | -1.4 | 16.3 | 54.0 | |
| 15178.000000 | 46.7 | 1000.0 | 1000.000 | H | 7.9 | 7.3 | 54.0 | |
| 17926.000000 | 47.5 | 1000.0 | 1000.000 | H | 10.0 | 6.5 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

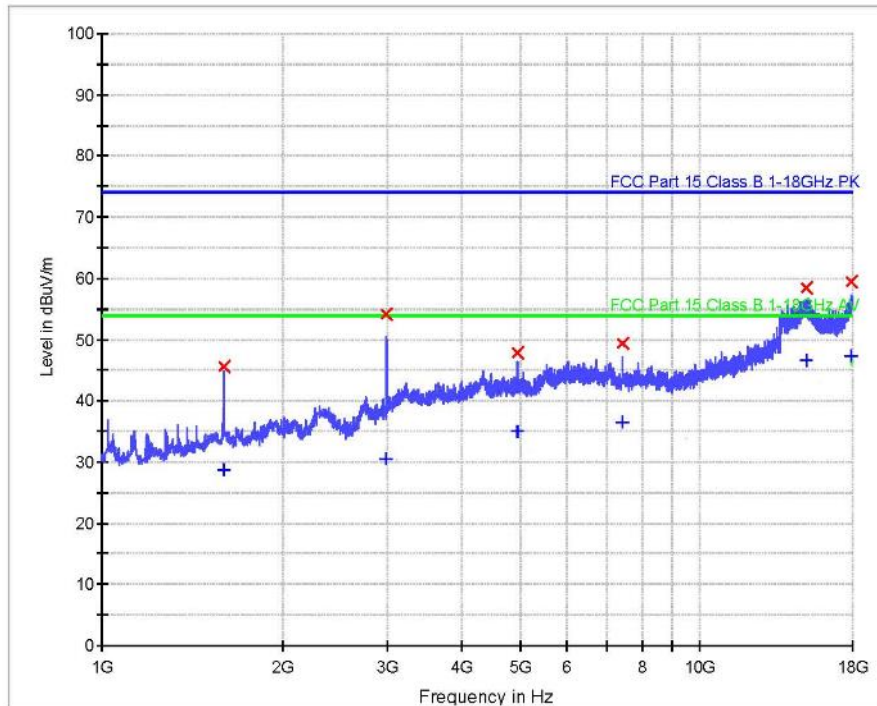
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Radiated Emission |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1599.000000 | 45.5 | 1000.0 | 1000.000 | V | -14.1 | 28.5 | 74.0 | |
| 2995.000000 | 54.1 | 1000.0 | 1000.000 | V | -8.5 | 19.9 | 74.0 | |
| 4959.000000 | 47.8 | 1000.0 | 1000.000 | V | -3.7 | 26.2 | 74.0 | |
| 7437.000000 | 49.3 | 1000.0 | 1000.000 | V | -1.4 | 24.7 | 74.0 | |
| 15091.000000 | 58.5 | 1000.0 | 1000.000 | V | 7.9 | 15.5 | 74.0 | |
| 17934.000000 | 59.5 | 1000.0 | 1000.000 | V | 10.1 | 14.5 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 1599.000000 | 28.8 | 1000.0 | 1000.000 | V | -14.1 | 25.2 | 54.0 | |
| 2995.000000 | 30.4 | 1000.0 | 1000.000 | V | -8.5 | 23.6 | 54.0 | |
| 4959.000000 | 35.0 | 1000.0 | 1000.000 | V | -3.7 | 19.0 | 54.0 | |
| 7437.000000 | 36.5 | 1000.0 | 1000.000 | V | -1.4 | 17.5 | 54.0 | |
| 15091.000000 | 46.5 | 1000.0 | 1000.000 | V | 7.9 | 7.5 | 54.0 | |
| 17934.000000 | 47.4 | 1000.0 | 1000.000 | V | 10.1 | 6.6 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

Appendix B.3: Test Results of Radiated Emissions in Restricted Bands

Low channel

TUV Rheinland (Guangdong) Ltd.

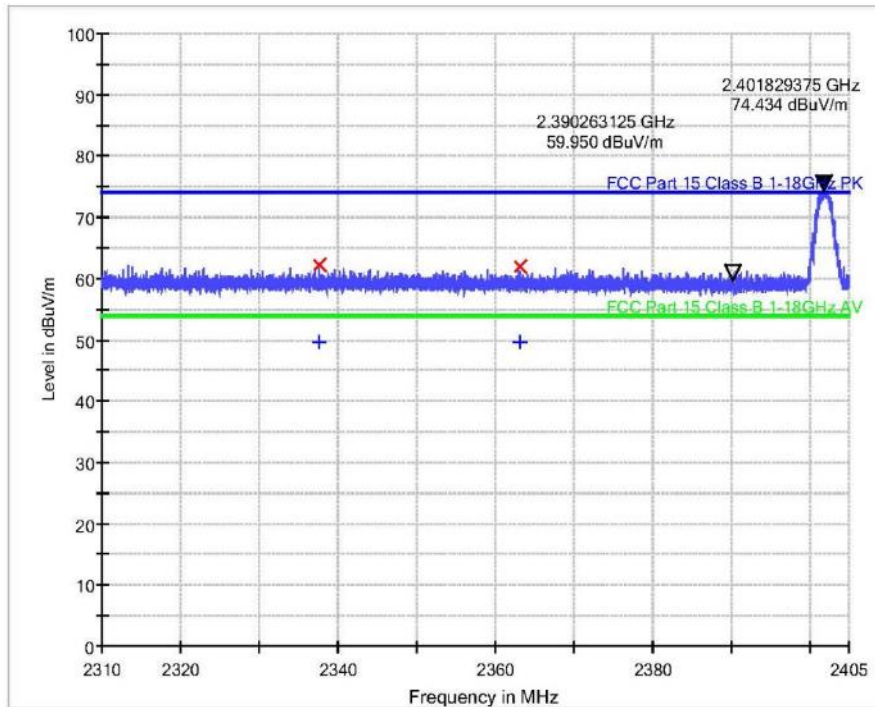
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

| | |
|---------------------|--|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Band edge |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2337.640000 | 62.2 | 1000.0 | 1000.000 | H | 35.1 | 11.8 | 74.0 | |
| 2363.200000 | 61.9 | 1000.0 | 1000.000 | H | 35.2 | 12.1 | 74.0 | |
| 2400.000000 | 63.3 | 1000.0 | 1000.000 | H | 35.4 | 10.7 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2337.640000 | 49.7 | 1000.0 | 1000.000 | H | 35.1 | 4.3 | 54.0 | |
| 2363.200000 | 49.6 | 1000.0 | 1000.000 | H | 35.2 | 4.4 | 54.0 | |
| 2400.000000 | 49.6 | 1000.0 | 1000.000 | H | 35.4 | 4.4 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

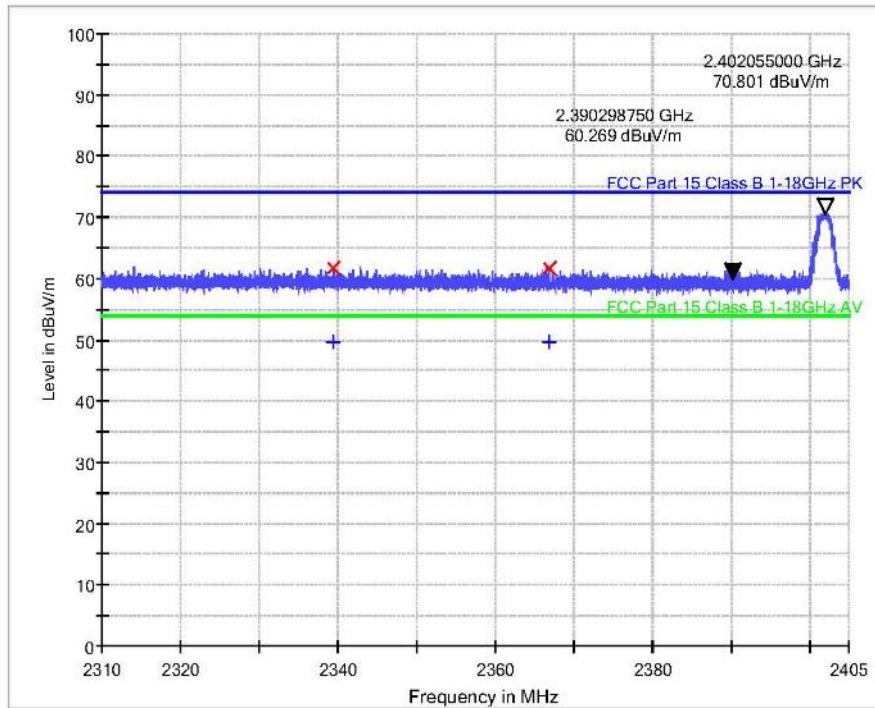
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Band edge |
| Operation Mode: | Transmitting (Low) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428 Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2339.440000 | 61.8 | 1000.0 | 1000.000 | V | 35.1 | 12.2 | 74.0 | |
| 2366.920000 | 61.7 | 1000.0 | 1000.000 | V | 35.3 | 12.3 | 74.0 | |
| 2400.000000 | 64.5 | 1000.0 | 1000.000 | V | 35.4 | 9.5 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2339.440000 | 49.7 | 1000.0 | 1000.000 | V | 35.1 | 4.3 | 54.0 | |
| 2366.920000 | 49.5 | 1000.0 | 1000.000 | V | 35.3 | 4.5 | 54.0 | |
| 2400.000000 | 49.6 | 1000.0 | 1000.000 | V | 35.4 | 4.4 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

High channel

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

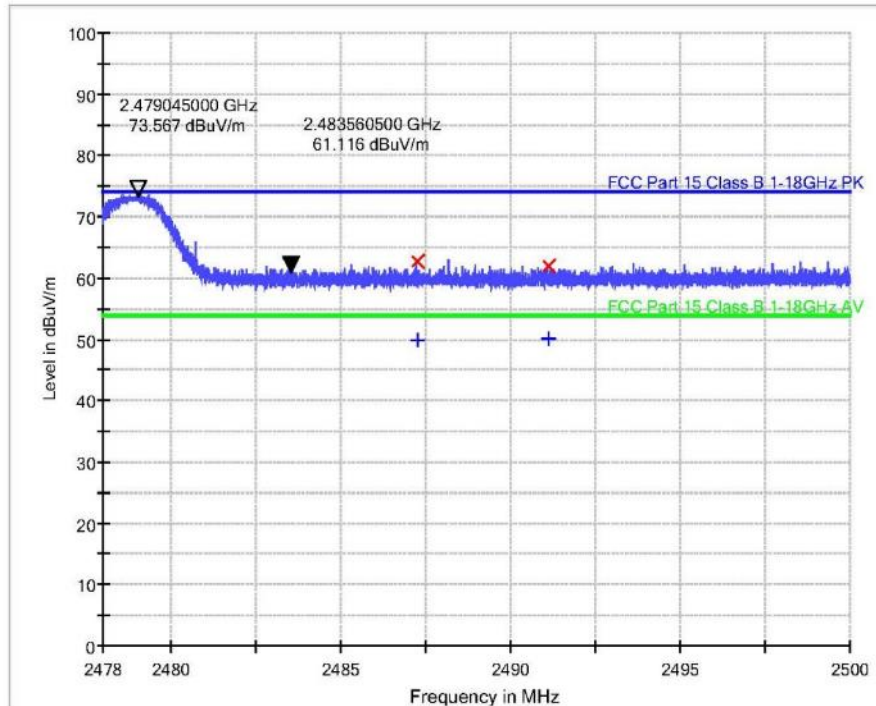
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Band edge |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Horizontal |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2487.280000 | 62.6 | 1000.0 | 1000.000 | H | 36.2 | 11.4 | 74.0 | |
| 2491.120000 | 61.9 | 1000.0 | 1000.000 | H | 36.2 | 12.1 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2487.280000 | 50.0 | 1000.0 | 1000.000 | H | 36.2 | 4.0 | 54.0 | |
| 2491.120000 | 50.0 | 1000.0 | 1000.000 | H | 36.2 | 4.0 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

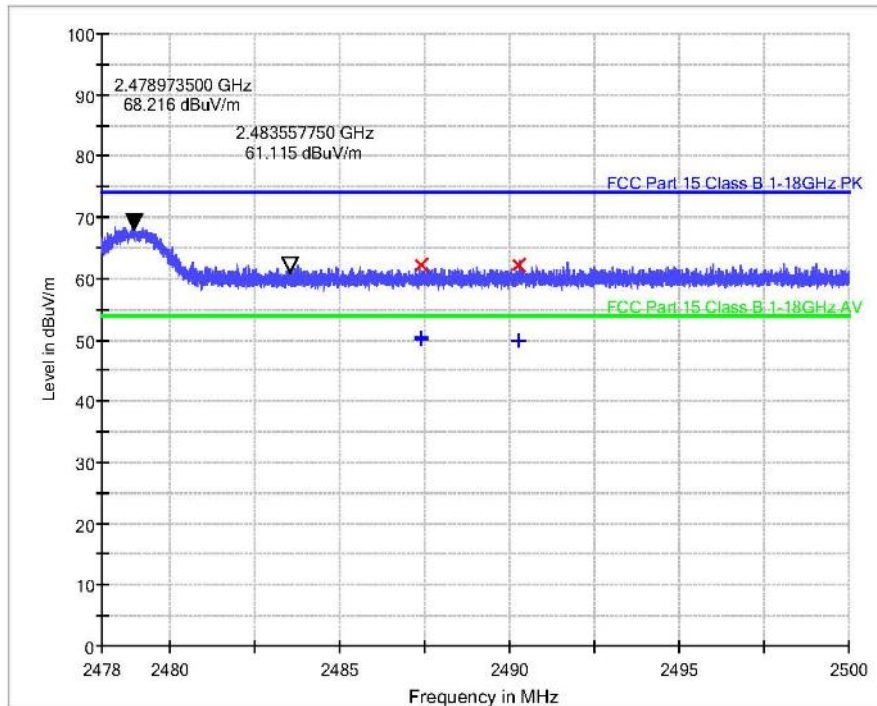
EMC Test Record (Emission)

Common Information

| | |
|---------------------|----------------------|
| Manufacturer: | Huaxin |
| Test Item: | Dongle |
| Identification: | X1-D1 |
| Test Standard: | FCC Part 15 |
| Test Detail: | Band edge |
| Operation Mode: | Transmitting (High) |
| Climate Condition: | 22 °C, 56 %, 100 kPa |
| Test Voltage/ Freq: | DC 5 V |
| Receipt No: | 174080192 |
| Report No: | / |
| Result: | Pass |
| Comment: | Vertical |

| | |
|------------------|--|
| Subrange 1 | |
| Frequency Range: | 1GHz-18GHz |
| Receiver: | TUV FSP30 |
| Transducer: | TUV SAC HF907/ TUV FSP30-TUV SAC HF907 |

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: *Chris Liang* 20180428
Reviewed by: *Jacky Chen* 20180504

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - PK+ (dB) | Limit - PK+ (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2487.400000 | 62.1 | 1000.0 | 1000.000 | V | 36.2 | 11.9 | 74.0 | |
| 2487.400000 | 62.1 | 1000.0 | 1000.000 | V | 36.2 | 11.9 | 74.0 | |
| 2490.280000 | 62.3 | 1000.0 | 1000.000 | V | 36.2 | 11.7 | 74.0 | |

Limit and Margin AV

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBuV/m) | Comment |
|-----------------|------------------|-----------------|-----------------|-----|------------|-------------------|----------------------|---------|
| 2487.400000 | 50.4 | 1000.0 | 1000.000 | V | 36.2 | 3.6 | 54.0 | |
| 2487.400000 | 50.2 | 1000.0 | 1000.000 | V | 36.2 | 3.8 | 54.0 | |
| 2490.280000 | 50.0 | 1000.0 | 1000.000 | V | 36.2 | 4.0 | 54.0 | |

Tested by: *Chris Liang* Reviewed by: *Jacky Chen*
20180428

20180504

Appendix B.4: Test Results of Conducted Emission on AC Mains

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

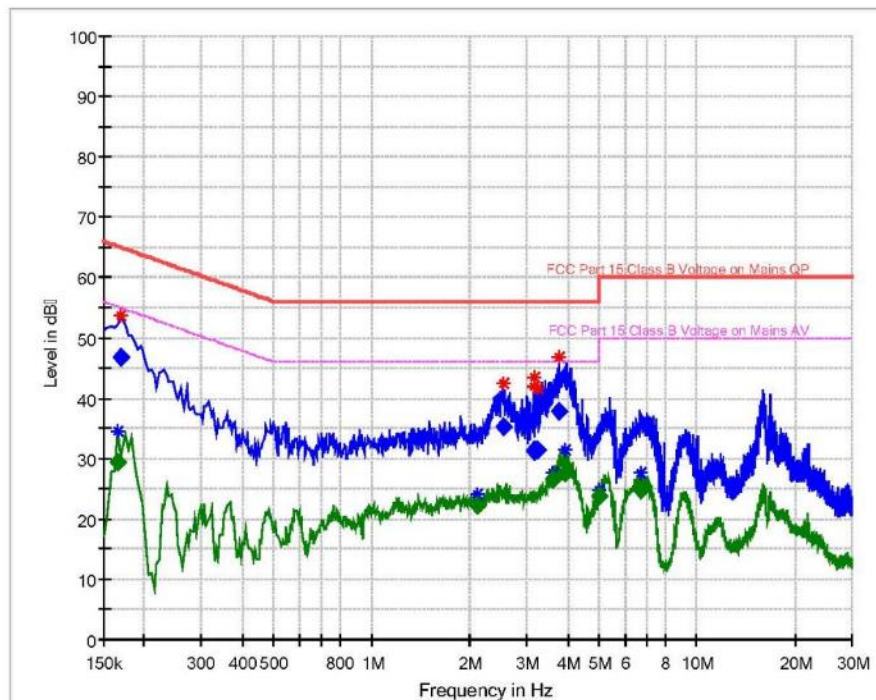
EMC Test Record (EMISSION)

Common Information

Manufacturer: Huaxin
Test Item: Pen&Dongle
Identification: X1-P1,X1-D1
Test Standard: FCC Part 15
Test Detail: Conducted Emission
Operation Mode: A
Climate Condition: 22 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq.: AC 120V, 60Hz
Port / Line: AC Mains
Receipt No.: 174080192
Report No.: /
Result: Pass
Comment: /

Hardware Setup: 1phase LISN ENV 216 to ESCI 3
Level Unit: dB μ V

| Subrange | Detectors | IF Bandwidth | Step Size | Meas. Time | Receiver |
|----------------|---------------|--------------|-----------|------------|----------|
| 150kHz - 30MHz | Peak; Average | 9kHz | 4.5kHz | 10ms | ESCI 3 |



Tested by: *Chris Liang* 20180504
Reviewed by: *Jacky Chen* 20180507

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Final Result

| Frequency (MHz) | QuasiPeak (dB μ V) | CAverage (dB μ V) | Limit (dB μ V) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|-----------------|------------------------|-----------------------|--------------------|-------------|-----------------|-----------------|------|--------|------------|
| 0.166000 | — | 29.37 | 55.16 | 25.79 | 1000. | 9.000 | L1 | OFF | 9.6 |
| 0.170000 | 46.80 | — | 64.96 | 18.16 | 1000. | 9.000 | N | OFF | 9.6 |
| 2.114000 | — | 22.25 | 46.00 | 23.75 | 1000. | 9.000 | N | OFF | 9.6 |
| 2.530000 | 35.31 | — | 56.00 | 20.69 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 3.146000 | 31.27 | — | 56.00 | 24.73 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 3.170000 | 31.46 | — | 56.00 | 24.54 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 3.218000 | 31.47 | — | 56.00 | 24.53 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 3.586000 | — | 26.53 | 46.00 | 19.47 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 3.778000 | 37.90 | — | 56.00 | 18.10 | 1000. | 9.000 | L1 | OFF | 9.8 |
| 3.942000 | — | 27.71 | 46.00 | 18.29 | 1000. | 9.000 | L1 | OFF | 9.7 |
| 4.998000 | — | 23.90 | 46.00 | 22.10 | 1000. | 9.000 | N | OFF | 9.8 |
| 6.682000 | — | 24.71 | 50.00 | 25.29 | 1000. | 9.000 | N | OFF | 9.7 |

Tested by: *Chris Liang*
20180504

Reviewed by: *Jacky Chen*
20180507