

Report No.: GTS201909000203F05

TEST REPORT

| Applicant: | Autel Intelligent Tech. Corp., Ltd. |
|---|---|
| Address of Applicant: | 7th-8th, 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd. Xili, Nanshan, Shenzhen 518055, China |
| Manufacturer: | Autel Intelligent Tech. Corp., Ltd. |
| Address of Manufacturer: Factory 1: | 7th-8th, 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd. Xili, Nanshan, Shenzhen 518055, China Autel Intelligent Technology Corp.,Ltd. |
| Address of Factory 1: | 6th Floor,Building 1,Yanxiang Zhigu,NO.11 Gaoxin West Rd,Guangming New District, Shenzhen City, Guangdong Province,China. |
| Factory 2: | AUTEL VIETNAM COMPANY LIMITED |
| Address of Factory 2: | 4th Floor, Factory#6, Land#CN1, An Duong Industrial Zone, Hong Phong Township, An Duong County, Hai Phong, Viet Nam |
| Equipment Under Test (E | EUT) |
| Product Name: | MaxiFlash VCMI |
| Model No.: | MaxiFlash VCMI |
| Trade Mark: | Autel |
| FCC ID: | WQ8VCMI1911 |
| Applicable standards: | FCC CFR Title 47 Part 15 Subpart B |
| Date of sample receipt: | September 25, 2019 |
| Date of Test: | September 25-29, 2019 |
| Date of report issued: | September 29, 2019 |
| Test Result : | Pass * |

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver. Page 1 of 30



Report No.: GTS201909000203F05

Version 2

| Version No. | Date | Description |
|-------------|--------------------|-------------|
| 00 | September 29, 2019 | Original |
| | | |
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| | | |
| | | |

Prepared By:

han lou

Date:

Date:

September 29, 2019

Project Engineer

Check By:

TINSon

Reviewer

September 29, 2019

Report No.: GTS201907000127F04

3 Contents

| 1 | COV | ER PAGE | . 1 |
|---|-----|--|-----|
| 2 | VER | SION | . 2 |
| 3 | CON | ITENTS | . 3 |
| 4 | TES | T SUMMARY | . 4 |
| 5 | GEN | ERAL INFORMATION | . 5 |
| | 5.1 | GENERAL DESCRIPTION OF EUT | . 5 |
| | 5.2 | TEST MODE AND TEST VOLTAGE | |
| | 5.3 | DESCRIPTION OF SUPPORT UNITS | |
| | 5.4 | DEVIATION FROM STANDARDS | |
| | 5.5 | ABNORMALITIES FROM STANDARD CONDITIONS | |
| | 5.6 | TEST FACILITY | . 6 |
| | 5.7 | TEST LOCATION | . 6 |
| 6 | TES | T INSTRUMENTS LIST | . 7 |
| 7 | TES | T RESULTS AND MEASUREMENT DATA | . 9 |
| | 7.1 | RADIATED EMISSION | . 9 |
| | 7.2 | CONDUCTED EMISSIONS | 21 |
| 8 | TES | T SETUP PHOTO | 30 |
| 9 | EUT | CONSTRUCTIONAL DETAILS | 30 |

4 Test Summary

| Test Item | Test Requirement | Test Method | Class / Severity | Result |
|--------------------|------------------|-------------|------------------|--------|
| Conducted Emission | FCC Part15.107 | ANSI C63.4 | Class B | Pass |
| Radiated Emissions | FCC Part15.109 | ANSI C63.4 | Class B | Pass |

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.

2. # Refer to FCC Part 15.33 (b)(1) conditional testing procedure :

| The highest frequency generated or used in the EUT | Test frequency range of Radiated emission |
|--|--|
| <108MHz | 30MHz ~ 1GHz |
| 108MHz ~ 500MHz | 30MHz ~ 2GHz |
| 500MHz ~ 1GHz | 30MHz ~ 5GHz |
| >1GHz | 30MHz ~ 5th harmonic of the highest frequency or 40 GHz, whichever is lower. |

The highest frequency of the internal sources of the EUT is more than 108MHz.

5 General Information

5.1 General Description of EUT

| Product Name: | MaxiFlash VCMI |
|--------------------|--|
| Model No.: | MaxiFlash VCMI |
| Serial No.: | 123456789101112 |
| Hardware Version: | V6 |
| Software Version: | V1.00.10 |
| Test sample(s) ID: | GTS201909000203-2 |
| Sample(s) Status | Normal sample |
| Power Supply: | Adapter |
| | Model: A361-1203000DI |
| | Input: AC 100-240V, 50/60Hz, 1.5A |
| | Output: DC 12V, 3000mA |
| | Rechargeable battery: DC3.8V 3750mAh 14.25Wh |

5.2 Test mode and Test voltage

| Test mode: | Test mode: | | | | |
|-----------------------|--|--|--|--|--|
| Oscilloscope mode | Keep the EUT in Oscilloscope mode. | | | | |
| Multimeter mode | Keep the EUT in Multimeter mode. | | | | |
| Signal generator mode | Keep the EUT in Signal generator mode. | | | | |
| OBD mode | Keep the EUT in OBD mode. | | | | |
| Test voltage: | | | | | |
| AC 120V/60Hz | | | | | |

5.3 Description of Support Units

| Manufacturer | Description | Model | Serial Number |
|--------------------|-----------------|---------------|---------------|
| Supplied by client | ECU (MED17.1.6) | N/A | N/A |
| AUTEL | DV1912 | Maxisys_Ultra | N/A |

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• FCC — Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

• IC — Registration No.: 9079A

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

• NVLAP (LAB CODE:600179-0)

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.7 Test Location

Tests were performed at:

Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

6 Test Instruments list

| Radiated Emission: | | | | | | | |
|--------------------|--|--------------------------------|-----------------------------|------------------|------------------------|----------------------------|--|
| ltem | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) | |
| 1 | 3m Semi- Anechoic Chamber | ZhongYu Electron | 9.2(L)*6.2(W)* 6.4(H) | GTS250 | July. 03 2015 | July. 02 2020 | |
| 2 | Control Room | ZhongYu Electron | 6.2(L)*2.5(W)* 2.4(H) | GTS251 | N/A | N/A | |
| 3 | EMI Test Receiver | Rohde & Schwarz | ESU26 | GTS203 | June. 26 2019 | June. 25 2020 | |
| 4 | BiConiLog Antenna | SCHWARZBECK MESS-ELEKTRONIK | VULB9163 | GTS214 | June. 26 2019 | June. 25 2020 | |
| 5 | Double -ridged waveguide horn | SCHWARZBECK MESS-ELEKTRONIK | BBHA 9120 D | GTS208 | June. 26 2019 | June. 25 2020 | |
| 6 | Horn Antenna | ETS-LINDGREN | 3160 | GTS217 | June. 26 2019 | June. 25 2020 | |
| 7 | EMI Test Software | AUDIX | E3 | N/A | N/A | N/A | |
| 8 | Coaxial Cable | GTS | N/A | GTS213 | June. 26 2019 | June. 25 2020 | |
| 9 | Coaxial Cable | GTS | N/A | GTS211 | June. 26 2019 | June. 25 2020 | |
| 10 | Coaxial cable | GTS | N/A | GTS210 | June. 26 2019 | June. 25 2020 | |
| 11 | Coaxial Cable | GTS | N/A | GTS212 | June. 26 2019 | June. 25 2020 | |
| 12 | Amplifier(100kHz-3GHz) | HP | 8347A | GTS204 | June. 26 2019 | June. 25 2020 | |
| 13 | Amplifier(2GHz-20GHz) | HP | 84722A | GTS206 | June. 26 2019 | June. 25 2020 | |
| 14 | Amplifier (18-26GHz) | Rohde & Schwarz | AFS33-18002 650-30-8P-44 | GTS218 | June. 26 2019 | June. 25 2020 | |
| 15 | Band filter | Amindeon | 82346 | GTS219 | June. 26 2019 | June. 25 2020 | |
| 16 | Power Meter | Anritsu | ML2495A | GTS540 | June. 26 2019 | June. 25 2020 | |
| 17 | Power Sensor | Anritsu | MA2411B | GTS541 | June. 26 2019 | June. 25 2020 | |
| 18 | Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | GTS575 | June. 26 2019 | June. 25 2020 | |
| 19 | Splitter | Agilent | 11636B | GTS237 | June. 26 2019 | June. 25 2020 | |
| 20 | Loop Antenna | ZHINAN | ZN30900A | GTS534 | June. 26 2019 | June. 25 2020 | |
| 21 | Breitband hornantenne | SCHWARZBECK | BBHA 9170 | GTS579 | Oct. 20 2018 | Oct. 19 2019 | |
| 22 | Amplifier | TDK | PA-02-02 | GTS574 | Oct. 20 2018 | Oct. 19 2019 | |
| 23 | Amplifier | TDK | PA-02-03 | GTS576 | Oct. 20 2018 | Oct. 19 2019 | |
| 24 | PSA Series Spectrum Analyzer | Rohde & Schwarz | FSP | GTS578 | June. 26 2019 | June. 25 2020 | |



| Con | Conducted Emission | | | | | | | |
|------|--------------------------|-----------------------------|----------------------|------------------|------------------------|----------------------------|--|--|
| ltem | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) | | |
| 1 | Shielding Room | ZhongYu Electron | 7.3(L)x3.1(W)x2.9(H) | GTS252 | May.15 2019 | May.14 2022 | | |
| 2 | EMI Test Receiver | R&S | ESCI 7 | GTS552 | June. 26 2019 | June. 25 2020 | | |
| 3 | Coaxial Switch | ANRITSU CORP | MP59B | GTS225 | June. 26 2019 | June. 25 2020 | | |
| 4 | Artificial Mains Network | SCHWARZBECK MESS | NSLK8127 | GTS226 | June. 26 2019 | June. 25 2020 | | |
| 5 | Coaxial Cable | GTS | N/A | GTS227 | N/A | N/A | | |
| 6 | EMI Test Software | AUDIX | E3 | N/A | N/A | N/A | | |
| 7 | Thermo meter | KTJ | TA328 | GTS233 | June. 26 2019 | June. 25 2020 | | |
| 8 | Absorbing clamp | Elektronik- Feinmechanik | MDS21 | GTS229 | June. 26 2019 | June. 25 2020 | | |
| 9 | ISN | SCHWARZBECK | NTFM 8158 | GTD565 | June. 26 2019 | June. 25 2020 | | |

| Gene | General used equipment: | | | | | | |
|------|------------------------------------|--------------|-----------|---------------|------------------------|----------------------------|--|
| ltem | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) | |
| 1 | Humidity/ Temperature Indicator | KTJ | TA328 | GTS243 | June. 26 2019 | June. 25 2020 | |
| 2 | Barometer | ChangChun | DYM3 | GTS255 | June. 26 2019 | June. 25 2020 | |



Test Results and Measurement Data 7

7.1 Radiated Emission

| Test Requirement: | FCC Part15 B Section 15.109 | | | | | |
|-----------------------|---|---------------|---------------|---------------|------------------------|--|
| Test Method: | ANSI C63.4:2014 | | | | | |
| Test Frequency Range: | 30MHz to 6GHz | | | | | |
| Test site: | Measurement Dist | ance: 3m (Sen | ni-Anechoic (| Chamber) | | |
| Receiver setup: | | | | | | |
| | Frequency | Detector | RBW | VBW | Value | |
| | 30MHz-1GHz | Quasi-peak | 120kHz | 300kHz | Quasi-peak | |
| | Above 1GHz | Peak | 1MHz | 3MHz | Peak | |
| | | Average | 1MHz | 3MHz | Average | |
| Limit: | | | | - | | |
| | Frequency | | µV/m @3m) | | Value | |
| | 30MHz-88MHz | | 0.00 | | lasi-peak | |
| | 88MHz-216MHz 216MHz-960MH | | 3.50 6.00 | | lasi-peak lasi-peak | |
| | 960MHz-1GHz | | 4.00 | | lasi-peak | |
| | | | 4.00 | 1 | verage | |
| | Above 1GHz | | 4.00 | | Peak | |
| | Antenna Tower Antenna Tower <td< td=""></td<> | | | | | |
| | 1. The EUT was placed on the top of a rotating table 0.8 meters ab | | | | | |
| Test Procedure: | 1. The EUT was | placed on the | top of a rota | ting table 0. | 8 meters above | |

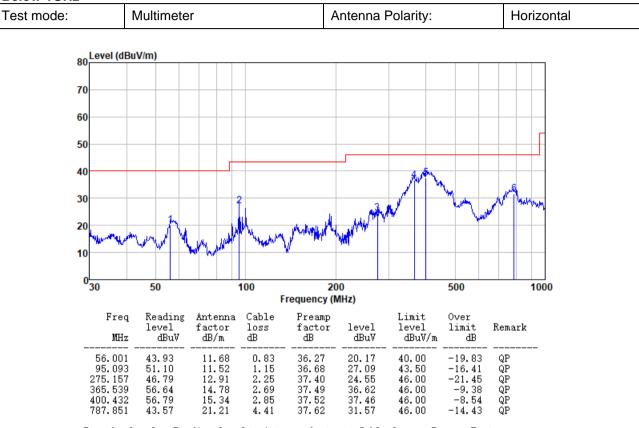
Global United Technology Services Co., Ltd. No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960

| | the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. |
|-------------------|--|
| | The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. |
| | The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. |
| | For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. |
| | The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. |
| | If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak |
| | values of the EUT would be reported. Otherwise the emissions that |
| | did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. |
| Test environment: | Temp.: 25 °C Humid.: 52% Press.: 1 012mbar |
| Test Instruments: | Refer to section 6 for details |
| Test mode: | Refer to section 5.2 for details ,and only show the worst mode |
| Test results: | Pass |

Report No.: GTS201907000127F04

Measurement Data

Below 1GHz



Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor



| Test mode: | Multimeter | | | An | tenna Po | olarity: | | Vertic | al |
|------------|---|-----|------------|------------------|----------|------------------------|---------------|-------------|-----|
| oo Leve | el (dBuV/m) | | | | | | | | |
| 80 | | | | | | | | | |
| 70 | | | | | | | | | _ |
| 60 | | | | | | | | | _ |
| 50 | | | | | | | | | F |
| 40 | | | | | | | | | |
| 30 | | | | | | | a Minin | Amer | ĥ |
| | | | | | | | | | |
| 20 | Marine Marine of | mm | Mar Marine | Minal P | , MAY | · · | V-*** | | |
| 20 10 | Mar Sur 1 | mm | Mr. Turne | Mush Y May 141 | y WY | | | | |
| | 50 | him | 100 Fre | 20 equency (N | - | | 500 | 1 | 000 |
| 10 0 | 50 Freq Reading level MHz dBuV | | | | - | Limit level dBuV | Over limit | 1 Remark | 000 |

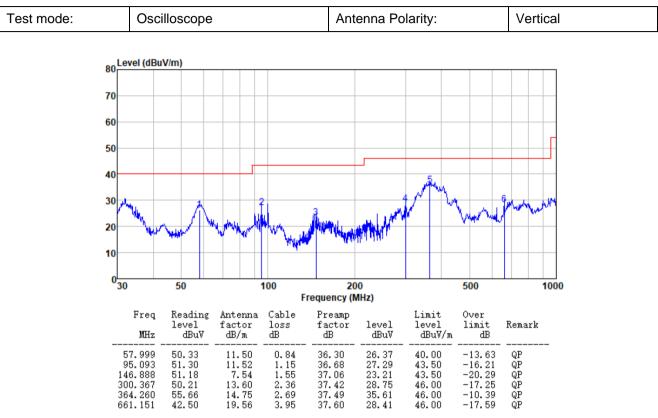
Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor



| Test mode: | Oscilloscope | | Antenna P | olarity: | | Horizontal |
|---|--|--|--|--|-------------------------------------|----------------------------------|
| 80_Level | (dBuV/m) | | | | | |
| 70 | | | | | | |
| 60 | | | | | | |
| 50 | | | | | | |
| 40 | | | | AMAN | | |
| 30 | | 1 | In non-from | W h | hay at | at his may |
| 20 | marcher | Martin 107 | | | - Jun | |
| 10 | | V V | P | | | |
| 0 ^L 30 | 50 | 100 Freque | 200 ncy (MHz) | 5 | 500 | 1000 |
| F | req Reading Antenn level factor | | eamp tor level | |)ver limit R | emark |
| | MHz dBuV dB/m | dBdB | }dBu∛ | dBuV/m | dB | |
| 95. 153. 180. 254. 364. 410. | 739 46.73 7.90 017 52.54 8.90 728 48.34 12.29 260 57.65 14.75 | 1.59 37. 1.74 37. 2.15 37. 2.69 37. | 10 19.12 24 25.94 38 25.40 49 37.60 | 43.50 - 43.50 - 46.00 - 46.00 | -24.38 -17.56 -20.60 -8.40 | QP QP QP QP QP QP |

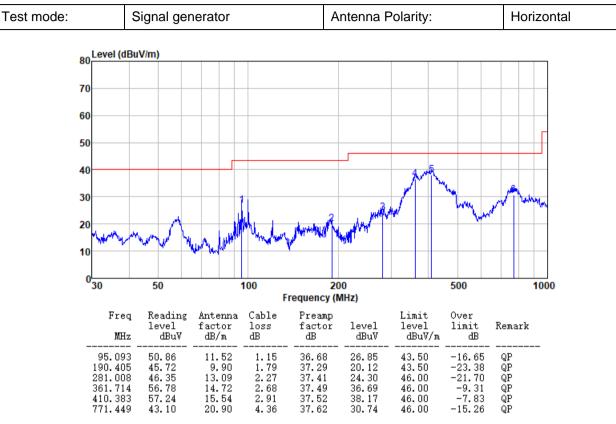
Remarks:level = Reading level + Antenna factor + Cable loss - Preamp Factor



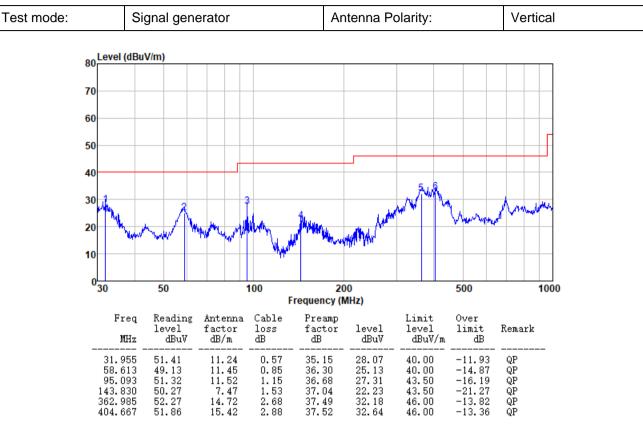


Remarks:level = Reading level + Antenna factor + Cable loss - Preamp Factor





Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor



Remarks:level = Reading level + Antenna factor + Cable loss - Preamp Factor



| t mode: | OB | D | | | Antenna Po | olarity: | F | lorizontal |
|-------------|--------------------------|---------------------------|---------------------|------------------------|----------------|--------------------------|---------------------|------------|
| Level (dBu | ıV/m) | | | | | | | |
|) | | | | | | | | |
|) | | | | | | | | |
|) | | | | | | | | |
|) | | | | | 3 .4 | | | |
|) | الا الله ال | | luh I. | Î | | | Adaptive | when |
| | ~~~~ | hand | T WW | M . | | | | |
| 30 | 50 | 1 | 100 F | 20 requency (N | | | 500 | 1000 |
| Freq MHz | Reading level dBuV | Antenna factor dB/m | Cable loss dB | Preamp factor dB | level dBu∛ | Limit level dBuV/m | Over limit dB | Remark |
| | 49.21 | 11.52 | 1.15 1.60 | 36.68 37.10 | 25.20 25.39 | 43.50 43.50 | -18.30 -18.11 | QP QP |

Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor



| st mode: | OBD | | Ante | enna Polari | ty: | | Verti | ical | | | |
|--|--------------------------------|---------------------------|--|-------------------|-----|---------------------|-----------|----------------------------|---|-------------|------|
| 80 Level (dBu | ıV/m) | | | | | | | | | | |
| 70 | | | | | | | _ | | | | |
| 60 | | | | | | | - | | | | |
| 50 | | | | | | | | | | | |
| 40 | | | | | | | | | | | |
| | | | | | | | | | | | |
| 1 | 2 | į. | | | | | | | | | men |
| 30 20 111 1 | Manual And | Weber | WWW | Add and Mark | | | Where the | weath | | hayon, Ilah | ment |
| 30 20 <mark>/// // /</mark> 10 | Marriel And | hay bould | a and a second s | , https://w | | MIN / | Warna | wheth | | herrer Ish | |
| 30 20 /// // | 50 ² | hay bould | 100 Fr | 20 requency (M | | MW/ | | 500 | | ieres deb | 1000 |
| 30 20 10 0 30 Freq MHz | 50 Reading level dBuV | Antenna factor dB/m | | | | Limi leve dBu | | 500 Over limit dB | R | emar | |

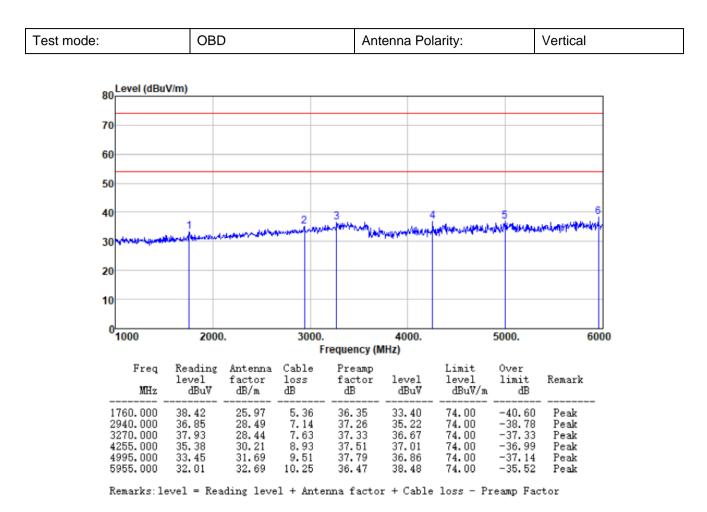
Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor



Above 1GHz Test mode: OBD Antenna Polarity: Horizontal 80 Level (dBuV/m) 70 60 50 40 2 the state of the state of the state of the state الاستخالية بنيانا 30 20 10 0^L 1000 2000. 3000. 4000. 5000. 6000 Frequency (MHz) Freq Reading Antenna Cable Preamp Limit Over level dBu∛ factor factor dB level level dBuV/m Remark loss limit MHzdB/m dBu∛ dB dB 74.00 74.00 74.00 74.00 74.00 74.00 74.00 36.39 37.00 1820.000 38.00 26.08 5.45 33.14 -40.86 Peak 2570.000 27.83 28.35 30.00 34.76 37.01 37.41 37.35 6.58 7.85 -39.24Peak 2570.000 3410.000 4165.000 4710.000 5915.000 37.34 37.47 37.69 -36.99 38.15 Peak 36.02 33.86 32.87 8.86 9.29 10.22 -36.59 Peak 36.64 -37.36 31.18 Peak 32.60 36.51 39.18 -34.82 Peak

Remarks:level = Reading level + Antenna factor + Cable loss - Preamp Factor





Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

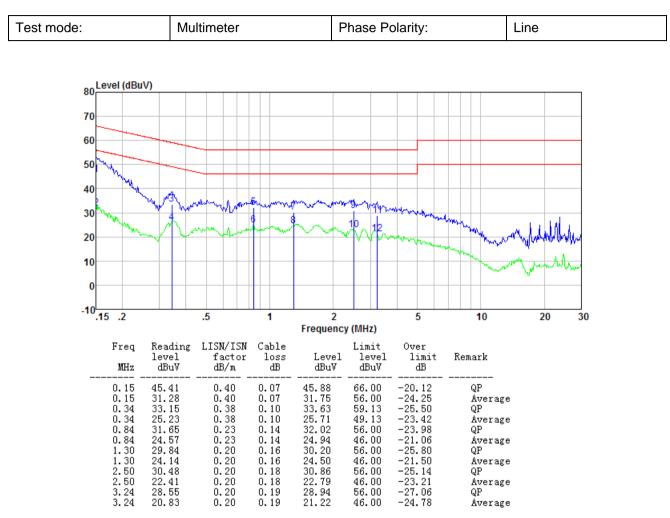


7.2 Conducted Emissions

| Test Requirement: | FCC Part15 B Section 15.107 | | |
|-----------------------|--|---|--|
| Test Method: | ANSI C63.4:2014 | | |
| Test Frequency Range: | 150kHz to 30MHz | | |
| Class / Severity: | Class B | | |
| Receiver setup: | RBW=9kHz, VBW=30kHz | | |
| Limit: | , | | |
| Linit. | Frequency range (MHz) | Limit (Quasi-peak | Average |
| | 0.15-0.5 | 66 to 56* | 56 to 46* |
| | 0.5-5 | 56 | 46 |
| | 0.5-30 | 60 | 50 |
| Test setup: | Reference F | Plane | |
| Test procedure | LISN 40cm 6 AUX Equipment E.U.T Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Netw Test table height=0.8m 1. The E.U.T and simulators | | - AC power |
| | a line impedance stabilization 50ohm/50uH coupling implementation 2. The peripheral devices and through a LISN that provious with 50ohm termination. | ation network(L.I.S.N.) pedance for the meas re also connected to th des a 50ohm/50uH co (Please refers to the bl | . The provide a uring equipment. ne main power upling impedance |
| | test setup and photograph 3. Both sides of A.C. line are interference. In order to fi positions of equipment ar changed according to AN measurement. | e checked for maximu ind the maximum emis nd all of the interface c | sion, the relative ables must be |
| Test environment: | Temp.: 25 °C Humi | d.: 52% Pre | ss.: 1 012mbar |
| Test Instruments: | Refer to section 6 for details | | • |
| Test mode: | Refer to section 5.2 for details | ,and only shows the w | vorst mode |
| Test results: | Pass | | |

Report No.: GTS201907000127F04

Measurement Data





| Test mode: | Multimete | r | P | hase Pola | arity: | Neutral | |
|---|--|--|--|--|--|--|----------|
| 80 Level (dBuV) 70 60 50 40 30 20 10 | | | | | | | Mallala |
| 0 | | | | | | <u>~</u> ~~ | V-TAL MA |
| -10.15 .2 | .5 | 1 | 2 | | 5 | 10 | 20 30 |
| | | | Frequency | (MHz) | - | | |
| Freq Reading level MHz dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 0.40 0.40 0.40 0.38 0.38 0.23 0.23 0.23 0.20 0.20 0.20 0.20 0.20 | 0.07 0.07 0.11 0.11 0.10 0.10 0.10 0.14 0.14 0.18 0.18 0.18 0.19 0.19 | 45.59 32.98 42.38 27.60 34.63 26.47 32.63 25.63 30.94 23.55 30.99 23.53 | $\begin{array}{c} 66.\ 00\\ 56.\ 00\\ 63.\ 84\\ 53.\ 84\\ 59.\ 22\\ 49.\ 22\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ \end{array}$ | -20. 41 -23. 02 -21. 46 -26. 24 -24. 59 -22. 75 -23. 37 -20. 37 -25. 06 -22. 45 -25. 01 -22. 47 | QP Average QP Average QP Average QP Average QP Average QP Average | |



| Test mode: | | Oscilloso | ре | F | Phase Pol | arity: | Line | |
|--|--|--|---|--|--|--|--|---------------|
| 80 Level (dBu 70 60 | V) | | | | | | | |
| 50 40 30 20 10 0 | | | in the second | er | Marria Aleran | | man and and and and and and and and and a | what the hast |
| -10.15 .2 | | .5 | 1 | 2 | | 5 | 10 | 20 30 |
| .15 .2 | | .5 | | Frequency | y (MHz) | 5 | 10 | 20 30 |
| Freq MHz | Reading level dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | |
| $egin{array}{c} 0.15\\ 0.15\\ 0.33\\ 0.50\\ 0.50\\ 0.84\\ 0.84\\ 1.36\\ 1.36\\ 2.59\\ 2.59\\ 2.59 \end{array}$ | 45.34 31.26 33.11 25.21 30.43 23.23 31.57 24.47 30.88 24.66 28.69 20.68 | 0.40 0.40 0.38 0.31 0.31 0.23 0.23 0.20 0.20 0.20 0.20 0.20 | 0.07 0.07 0.10 0.11 0.11 0.14 0.14 0.14 0.16 0.16 0.18 0.18 0.18 | 45.81 31.73 33.59 25.69 30.85 23.65 31.94 24.84 31.24 25.02 29.07 21.06 | $\begin{array}{c} 66.\ 00\\ 56.\ 00\\ 59.\ 40\\ 49.\ 40\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ \end{array}$ | -20.19 -24.27 -25.81 -23.71 -25.15 -22.35 -24.06 -21.16 -24.76 -20.98 -26.93 -24.94 | QP Average QP Average QP Average QP Average QP Average QP Average | |



| Test mode: | | Oscilloso | pe | | Phase Po | larity: | Neut | ral | |
|---|--|--|--|--|--|--|--|---|----|
| 80 Level (dBu 70 60 | V) | | | | | | | | |
| | | - | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | n for the for | |
| .15 .2 | | .5 | 1 | 2 Frequency | y (MHz) | 5 | 10 | 20 | 30 |
| Freq MHz | Reading level dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | | |
| $\begin{array}{c} 0.\ 15\\ 0.\ 15\\ 0.\ 34\\ 0.\ 34\\ 0.\ 84\\ 1.\ 17\\ 1.\ 17\\ 2.\ 03\\ 2.\ 03\\ 2.\ 81\\ 2.\ 81\\ \end{array}$ | 45.08 32.68 33.72 25.93 31.72 24.92 29.40 22.19 30.19 23.21 30.36 22.87 | 0.40 0.40 0.38 0.23 0.23 0.20 0.20 0.20 0.20 0.20 0.20 | 0.07 0.10 0.10 0.14 0.14 0.14 0.16 0.16 0.18 0.18 0.18 0.19 0.19 | 45.55 33.15 34.20 26.41 32.09 25.29 29.76 22.55 30.57 23.59 30.75 23.26 | $\begin{array}{c} 65.\ 91\\ 55.\ 91\\ 59.\ 13\\ 49.\ 13\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ \end{array}$ | -20.36 -22.76 -24.93 -22.72 -23.91 -20.71 -26.24 -23.45 -25.43 -22.41 -25.25 -22.74 | QP Average QP Average QP Average QP Average QP Average QP Average | | |



| Test mode: | | Signal ger | nerator | Ρ | hase Pola | arity: | Line | |
|---|--|--|--|--|--|--|--|------------------|
| 80 Level (dBu 70 60 | V) | | | | | | | |
| 50 40 30 20 10 0 -10 .15 .2 | | .5 | * | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | - 12 - 12 - 12 - 12 | 5 | 10 | ut Marine Marine |
| .10 .2 | | .5 | 1 | Z Frequency | (MHz) | 5 | 10 | 20 30 |
| Freq MHz | Reading level dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | |
| $\begin{array}{c} 0.\ 16\\ 0.\ 16\\ 0.\ 34\\ 0.\ 34\\ 0.\ 50\\ 0.\ 50\\ 0.\ 87\\ 0.\ 87\\ 1.\ 99\\ 1.\ 99\\ 2.\ 82\\ 2.\ 82\end{array}$ | 44.05 32.52 33.88 26.02 31.15 24.17 30.36 23.13 29.43 23.01 30.69 23.15 | 0.40 0.40 0.38 0.31 0.31 0.22 0.22 0.20 0.20 0.20 0.20 0.20 | 0.08 0.08 0.10 0.11 0.11 0.11 0.14 0.14 0.18 0.18 0.19 0.19 0.19 | 44.53 33.00 34.36 26.50 31.57 24.59 30.72 23.49 29.81 23.39 31.08 23.54 | $\begin{array}{c} 65.\ 65\\ 55.\ 65\\ 59.\ 13\\ 49.\ 13\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ \end{array}$ | -21.12 -22.65 -24.77 -22.63 -24.43 -21.41 -25.28 -22.51 -26.19 -22.61 -24.92 -22.46 | QP Average QP Average QP Average QP Average QP Average QP Average | |



| Test mode: | | Signal ger | nerator | PI | hase Pola | irity: | Neutral | |
|---|--|--|--|--|--|--|--|---------------|
| 80 Level (dBuV 70 60 50 1 | /) | - | | | | | | |
| 40 30 20 10 0 | | - Mores | | | 8 | ummun | Marine Market | hurmel Menter |
| -10.15 .2 | | .5 | 1 | 2 Frequency | v (MHz) | 5 | 10 | 20 30 |
| Freq MHz | Reading level dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | |
| $\begin{array}{c} 0.15\\ 0.15\\ 0.35\\ 0.35\\ 0.78\\ 0.78\\ 1.32\\ 1.32\\ 2.36\\ 2.36\\ 3.17\\ 3.17\end{array}$ | 45.48 32.57 33.93 26.52 30.88 23.70 30.31 24.67 29.55 21.49 29.91 22.32 | 0.40 0.40 0.38 0.24 0.24 0.20 0.20 0.20 0.20 0.20 0.20 | 0.07 0.07 0.10 0.14 0.14 0.14 0.16 0.16 0.18 0.18 0.18 0.19 0.19 | 45.95 33.04 34.41 27.00 31.26 24.08 30.67 25.03 29.93 21.87 30.30 22.71 | $\begin{array}{c} 66.00\\ 56.00\\ 59.05\\ 49.05\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ \end{array}$ | -20.05 -22.96 -24.64 -22.05 -24.74 -21.92 -25.33 -20.97 -26.07 -24.13 -25.70 -23.29 | QP Average QP Average QP Average QP Average QP Average QP Average | |



| Test mode: | | OBD | | F | Phase Pol | arity: | Line | | |
|--|--|---|--|--|--|--|--|-----------------------|----|
| 80 Level (dBu 70 60 50 40 30 20 10 | | | a, | | 5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | Hyle Male Van Male | Au |
| -10 <mark>.15 .2</mark> | | .5 | 1 | 2 Frequency | (MH7) | 5 | 10 | 20 | 30 |
| Freq MHz | Reading level dBuV | LISN/ISN factor dB/m | Cable loss dB | Level dBuV | Limit level dBuV | Over limit dB | Remark | | |
| 0.15 0.34 0.34 0.84 0.84 1.37 1.37 2.38 2.38 3.11 3.11 | 45.70 32.50 34.07 25.96 32.08 25.05 31.24 24.61 29.78 21.89 29.54 21.77 | 0. 40 0. 40 0. 38 0. 23 0. 23 0. 20 0. 20 0. 20 0. 20 0. 20 0. 20 0. 20 0. 20 | 0.07 0.07 0.10 0.14 0.14 0.14 0.16 0.16 0.18 0.18 0.18 0.19 0.19 | 46. 17 32. 97 34. 55 26. 44 32. 45 25. 42 31. 60 24. 97 30. 16 22. 27 29. 93 22. 16 | $\begin{array}{c} 66.\ 00\\ 56.\ 00\\ 59.\ 22\\ 49.\ 22\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ 56.\ 00\\ 46.\ 00\\ \end{array}$ | -19.83 -23.03 -24.67 -22.78 -23.55 -20.58 -24.40 -21.03 -25.84 -23.73 -26.07 -23.84 | QP Average QP Average QP Average QP Average QP Average QP Average | | |



| Fest mode: | OBD | OBD | | | arity: | Neutral | Neutral | | |
|--|---|--|--|---|--|--|---|----|-----------------|
| 80 Level (dBu 70 60 50 40 | V) | | | | | | | | |
| 30 ¹ 20 10 -10,15,2 | | .5 | 1 | 2 | 12/11/ | 5 | 10 | 20 | 1.u M- 30 |
| Freq | Reading | LISN/ISN | Cable | Frequency | / <mark>(MHz)</mark> Limit | Over | | | |
| MHz | level dBuV | factor dB/m | loss dB | Level dBuV | level dBu∛ | limit dB | Remark | | |
| 0.15 0.15 0.35 0.50 0.50 0.84 0.84 1.34 1.34 2.50 | 45.19 31.75 34.55 26.97 31.75 24.64 32.73 25.66 31.77 25.87 31.74 | 0.40 0.40 0.38 0.31 0.31 0.23 0.23 0.23 0.20 0.20 0.20 | 0.07 0.07 0.10 0.11 0.11 0.11 0.14 0.14 0.14 0.16 0.16 0.18 | 45.66 32.22 35.03 27.45 32.17 25.06 33.10 26.03 32.13 26.23 32.12 | $\begin{array}{c} 66.00\\ 56.00\\ 59.05\\ 49.05\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ 46.00\\ 56.00\\ \end{array}$ | -20.34 -23.78 -24.02 -21.60 -23.83 -20.94 -22.90 -19.97 -23.87 -19.77 -23.88 | QP Average QP Average QP Average QP Average QP Average QP | | |

Notes:

- 1. An initial pre-scan was performed on the live and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss

Report No.: GTS201907000127F04

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----