

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Report No: CCISE171003001

FCC REPORT (BLE)

Applicant: Light wave Technology

Address of Applicant: 400 Wright Street St-Laurent QC H4N 1M6 Canada

Equipment Under Test (EUT)

Product Name: Lookit

Model No.: RVC2000-BT

FCC ID: 2ABSL2000

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 16 Oct., 2017

Date of Test: 17 Oct., to 25 Oct., 2017

Date of report issued: 26 Oct., 2017

Test Result: PASS *

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

Authorized Signature:



Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

| Version No. | Date | Description |
|-------------|---------------|-------------|
| 00 | 26 Oct., 2017 | Original |
| | | |
| | | |
| | | |
| | | |

| Tested by: | Cung | Date: | 26 Oct., 2017 |
|--------------|---------------|-------|---------------|
| | Test Engineer | | |
| Reviewed by: | wimer han | Date: | 26 Oct., 2017 |

Project Engineer



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4 Test Summary

| Test Items | Section in CFR 47 | Result | | | |
|---|-------------------|--------|--|--|--|
| Antenna requirement | 15.203/15.247 (c) | Pass | | | |
| AC Power Line Conducted Emission | 15.207 | N/A | | | |
| Conducted Peak Output Power | 15.247 (b)(3) | Pass | | | |
| 6dB Emission Bandwidth | 15.247 (a)(2) | Pass | | | |
| Power Spectral Density | 15.247 (e) | Pass | | | |
| Band Edge | 15.247(d) | Pass | | | |
| Conducted and radiated Spurious Emission | 15.205/15.209 | Pass | | | |
| Pass: The EUT complies with the essential requirements in the standard. | | | | | |



5 General Information

5.1 Client Information

| Applicant: | Light wave Technology |
|-----------------------|---|
| Address: | 400 Wright Street St-Laurent QC H4N 1M6 Canada |
| Manufacturer/Factory: | DONGGUAN PORTMAN ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD |
| Address: | NO.10, LUYI 2 ROAD, TANGXIA TOWN, DONGGUAN CITY, GUANGDONG PROVINCE CHINA |

5.2 General Description of E.U.T.

| Product Name: | Lookit |
|------------------------|--|
| Model No.: | RVC2000-BT |
| Operation Frequency: | 2402-2480 MHz |
| Channel numbers: | 40 |
| Channel separation: | 2 MHz |
| Modulation technology: | GFSK |
| Data speed : | 1Mbps |
| Antenna Type: | PCB Antenna |
| Antenna gain: | -3 dBi |
| Power supply: | Rechargeable Li-ion Battery DC3.6V/8Ah*3 and SPC1550*1 |

| Operation Frequency each of channel | | | | | | | |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 0 | 2402MHz | 10 | 2422MHz | 20 | 2442MHz | 30 | 2462MHz |
| 1 | 2404MHz | 11 | 2424MHz | 21 | 2444MHz | 31 | 2464MHz |
| 2 | 2406MHz | 12 | 2426MHz | 22 | 2446MHz | 32 | 2466MHz |
| 3 | 2408MHz | 13 | 2428MHz | 23 | 2448MHz | 33 | 2468MHz |
| 4 | 2410MHz | 14 | 2430MHz | 24 | 2450MHz | 34 | 2470MHz |
| 5 | 2412MHz | 15 | 2432MHz | 25 | 2452MHz | 35 | 2472MHz |
| 6 | 2414MHz | 16 | 2434MHz | 26 | 2454MHz | 36 | 2474MHz |
| 7 | 2416MHz | 17 | 2436MHz | 27 | 2456MHz | 37 | 2476MHz |
| 8 | 2418MHz | 18 | 2438MHz | 28 | 2458MHz | 38 | 2478MHz |
| 9 | 2420MHz | 19 | 2440MHz | 29 | 2460MHz | 39 | 2480MHz |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test. Channel No. 0, 24 & 39 were selected as Lowest, Middle and Highest channel.

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5.3 Test environment and test mode

| Operating Environment: | |
|------------------------|---|
| Temperature: | 24.0 °C |
| Humidity: | 54 % RH |
| Atmospheric Pressure: | 1010 mbar |
| Test mode: | |
| Transmitting mode | Keep the EUT in continuous transmitting with modulation |

The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.

5.4 Description of Support Units

The EUT has been tested as an independent unit. New battery is used during all test.

5.5 Measurement Uncertainty

| Parameters | Expanded Uncertainty |
|-------------------------------------|----------------------|
| Conducted Emission (9kHz ~ 30MHz) | 2.14 dB (k=2) |
| Radiated Emission (9kHz ~ 30MHz) | 4.24 dB (k=2) |
| Radiated Emission (30MHz ~ 1000MHz) | 4.35 dB (k=2) |
| Radiated Emission (1GHz ~ 18GHz) | 4.44 dB (k=2) |
| Radiated Emission (18GHz ~ 26.5GHz) | 4.56 dB (k=2) |

5.6 Laboratory Facility

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

FCC - Registration No.: 727551

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



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5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.8 Test Instruments list

| Radiated Emission: | | | | | | |
|--------------------|-----------------|---------------|------------|-------------------------|-----------------------------|--|
| Test Equipment | Manufacturer | Model No. | Serial No. | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) | |
| 3m SAC | SAEMC | 9m*6m*6m | 966 | 07-22-2017 | 07-21-2020 | |
| Loop Antenna | SCHWARZBECK | FMZB1519B | 00044 | 02-25-2017 | 02-24-2018 | |
| BiConiLog Antenna | SCHWARZBECK | VULB9163 | 497 | 02-25-2017 | 02-24-2018 | |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 916 | 02-25-2017 | 02-24-2018 | |
| EMI Test Software | AUDIX | E3 | 6.110919b | N/A | N/A | |
| Pre-amplifier | HP | 8447D | 2944A09358 | 02-25-2017 | 02-24-2018 | |
| Pre-amplifier | CD | PAP-1G18 | 11804 | 02-25-2017 | 02-24-2018 | |
| Spectrum analyzer | Rohde & Schwarz | FSP30 | 101454 | 02-25-2017 | 02-24-2018 | |
| EMI Test Receiver | Rohde & Schwarz | ESRP7 | 101070 | 02-25-2017 | 02-24-2018 | |
| Cable | ZDECL | Z108-NJ-NJ-81 | 1608458 | 02-25-2017 | 02-24-2018 | |
| Cable | MICRO-COAX | MFR64639 | K10742-5 | 02-25-2017 | 02-24-2018 | |
| Cable | SUHNER | SUCOFLEX100 | 58193/4PE | 02-25-2017 | 02-24-2018 | |



6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement:

FCC Part 15 C Section 15.203 /247(c)

15.203 requirement:

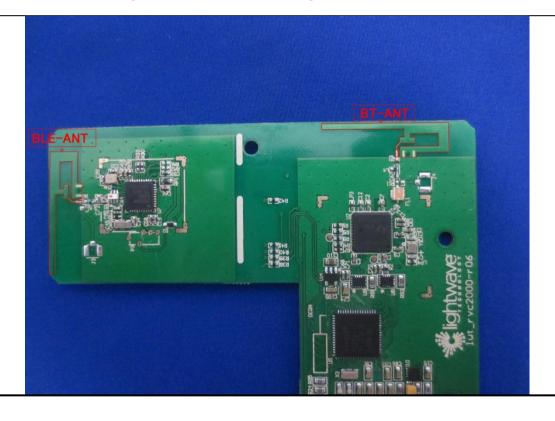
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The BLE antenna is integral antenna , the best-case gain of the antenna is -3 dBi.





6.2 Conducted Output Power

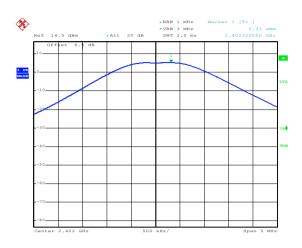
| Test Requirement: | FCC Part 15 C Section 15.247 (b)(3) | | |
|-------------------|--|--|--|
| Test Method: | ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v04 section 9.1.1 | | |
| Limit: | 30dBm | | |
| Test setup: | Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane | | |
| Test Instruments: | Refer to section 5.8 for details | | |
| Test mode: | Refer to section 5.3 for details | | |
| Test results: | Passed | | |

Measurement Data:

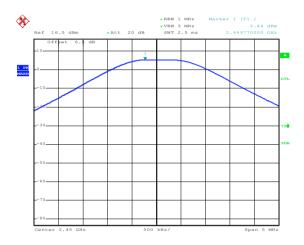
| Micasarciniciti Bata. | | | |
|-----------------------|---------------------------------|------------|--------|
| Test CH | PK Conducted Output Power (dBm) | Limit(dBm) | Result |
| Lowest | 5.31 | | |
| Middle | 5.44 | 30.00 | Pass |
| Highest | 5.16 | | |



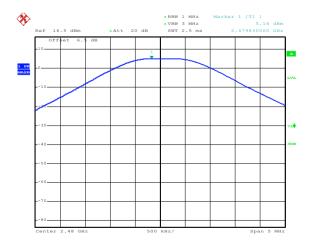
Test plot as follows:



Lowest channel



Middle channel



Highest channel



6.3 Occupy Bandwidth

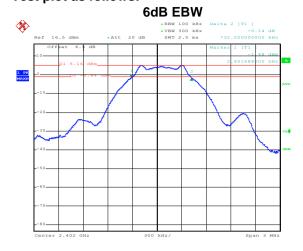
| Test Requirement: | FCC Part 15 C Section 15.247 (a)(2) |
|-------------------|---|
| Test Method: | ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v04 section 8.1 |
| Limit: | >500kHz |
| Test setup: | Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

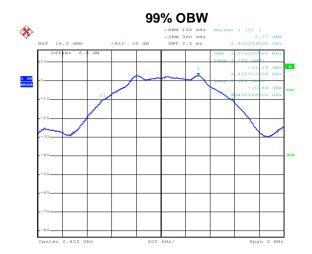
Measurement Data:

| Test CH | 6dB Emission Bandwidth (MHz) | Limit(kHz) | Result | |
|---------|------------------------------|------------|--------|--|
| Lowest | 0.732 | | | |
| Middle | 0.732 | >500 | Pass | |
| Highest | 0.720 | | | |
| Test CH | 99% Occupy Bandwidth (MHz) | Limit(kHz) | Result | |
| Lowest | 1.076 | | | |
| Middle | 1.080 | N/A | N/A | |
| Highest | 1.076 | | | |

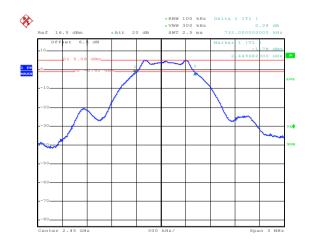


Test plot as follows:

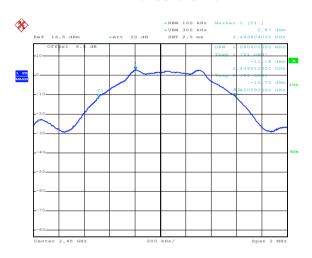




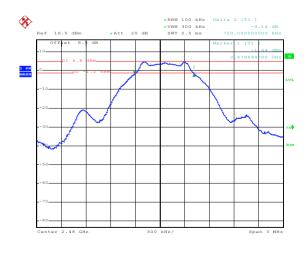
Lowest channel



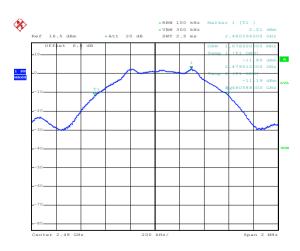
Lowest channel



Middle channel



Middle channel



Highest channel

Highest channel



6.4 Power Spectral Density

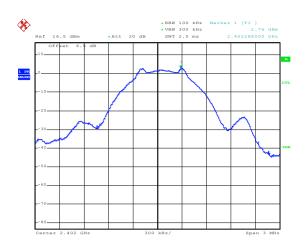
| Test Requirement: | FCC Part 15 C Section 15.247 (e) | | | | | | |
|-------------------|---|--|--|--|--|--|--|
| Test Method: | ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v04 section 10.2 | | | | | | |
| Limit: | 8 dBm | | | | | | |
| Test setup: | Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane | | | | | | |
| Test Instruments: | Refer to section 5.8 for details | | | | | | |
| Test mode: | Refer to section 5.3 for details | | | | | | |
| Test results: | Passed | | | | | | |

Measurement Data:

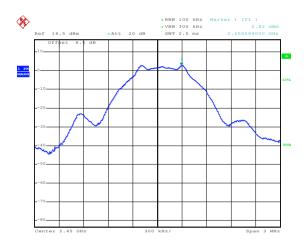
| Test CH | Power Spectral Density (dBm) | Limit(dBm) | Result |
|---------|------------------------------|------------|--------|
| Lowest | 2.76 | | |
| Middle | 2.82 | 8.00 | Pass |
| Highest | 2.43 | | |



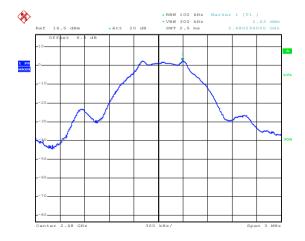
Test plots as follow:



Lowest channel



Middle channel



Highest channel



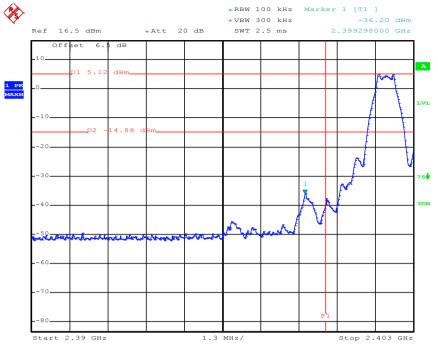
6.5 Band Edge

6.5.1 Conducted Emission Method

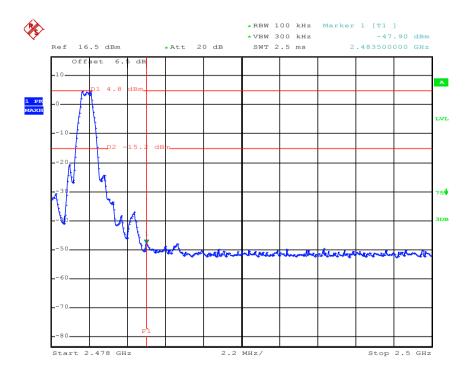
| 0.3.1 Odlidacted Elilission | inctiou . | | | | | | |
|-----------------------------|---|--|--|--|--|--|--|
| Test Requirement: | FCC Part 15 C Section 15.247 (d) | | | | | | |
| Test Method: | ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v04 section 13 | | | | | | |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. | | | | | | |
| Test setup: | Spectrum Analyzer | | | | | | |
| | Non-Conducted Table | | | | | | |
| | Ground Reference Plane | | | | | | |
| Test Instruments: | Refer to section 5.8 for details | | | | | | |
| Test mode: | Refer to section 5.3 for details | | | | | | |
| Test results: | Passed | | | | | | |



Test plots as follow:



Lowest channel



Highest channel





6.5.2 Radiated Emission Method

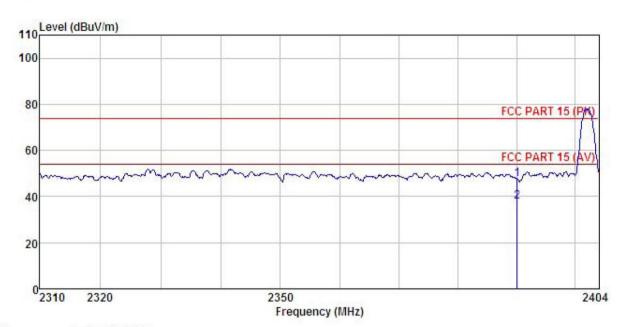
| <u>0.5.Z</u> | .5.2 Radiated Emission Method | | | | | | | |
|--------------|-------------------------------|---|--|---|--|--|--|--|
| | Test Requirement: | FCC Part 15 C Section 15.209 and 15.205 | | | | | | |
| | Test Method: | ANSI C63.10: 2013 and KDB558074 D01 DTS Meas Guidance v04 section 12.1 | | | | | | |
| | Test Frequency Range: | 2.3GHz to 2.5GHz | | | | | | |
| | Test Distance: | 3m | | | | | | |
| | Receiver setup: | Frequency | Detecto | or | RBW | V | /BW | Remark |
| | receiver cotap. | Above 1GHz | Peak | | 1MHz | | MHz | Peak Value |
| | | Above 1GHz | RMS | | 1MHz | | MHz | Average Value |
| | Limit: | Frequer | ncy | Lin | nit (dBuV/m @3 | Bm) | | Remark |
| | | Above 10 | GHz | | 54.00 74.00 | | | verage Value Peak Value |
| | Test Procedure: | the groun to determ 2. The EUT antenna, tower. 3. The anter the groun Both horizemake the 4. For each case and meters are to find the Specified 6. If the emite the limits of the EU have 10 ce | ad at a 3 m nine the po was set 3 which was nna height ad to detern zontal and measurer suspected then the a nd the rota e maximun receiver sy Bandwidtl ssion level specified, the | eter of sition meters motor is varine vertinent. It emission real vertem h with hen te rep woul | the top of a rotacember. The tall of the highest ers away from the unted on the top aried from one nathe maximum valued from the maximum valued from the was turned from the was turned from the was turned from the was turned from the end to be was | ble waradian re into of a neter value s of the was a beginn 0 of a modern stoppie the brief brie | table 1. as rotat tion. erference variable to four of the fine anterest from degrees exect Furde. e was 10 ped and emissicy one us | 5 meters above ed 360 degrees ce-receiving e-height antenna meters above eld strength. In a are set to d to its worst in 1 meter to 4 is to 360 degrees inction and 0 dB lower than 1 the peak values ons that did not sing peak, quasi- |
| | Test setup: | AE (T | Test Re | Е | Horn Antenna Reference Plane Pre- Amplifer Control | Antenna T | lower | |
| | Test Instruments: | Refer to section | on 5.8 for c | detail | | | | |
| | Test mode: | Refer to section | on 5.3 for c | detail | S | | | |
| | Test results: | Passed | | | | | | |
| | | | | | | | | |





Test channel: Lowest

Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL Condition

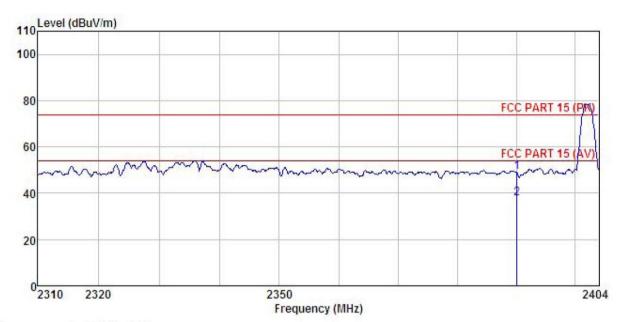
EUT : Lookit : KVC2000
Test mode : BLE-L mode
Power Rating : DC 3.6V
Environment : Temp:25.5°C Huni:55% 101KPa
Test Engineer: YT
REMARK :

| AAM | r : | Read | Antenna | Cable | Preamn | | Limit | Over | |
|-----|----------------------|------|---------|-----------|-----------|--------|--------|-----------|--|
| | Freq | | Factor | | | | | | |
| , | MHz | dBu₹ | | <u>dB</u> | <u>dB</u> | dBuV/m | dBu√/m | <u>dB</u> | |
| 1 2 | 2390.000 2390.000 | | | | | 47.66 | | | |





Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL Condition

: Lookit : RVC2000 EUT Model Test mode : BLE-L mode Power Rating : DC 3.6V

Environment : Temp: 25.5°C Huni: 55% 101KPa Test Engineer: YT REMARK :

1 2

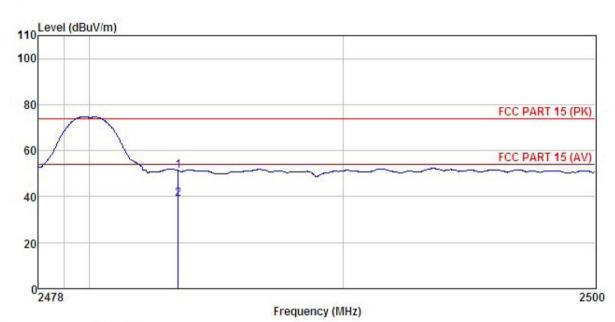
| $\mu \pi \nu$ | | | | | | | | | | |
|---------------|----------|-----------------------|-------------------|------------|-----------|--------|--------|-----------|---------|--|
| | Freq | | Antenna Factor | | | | | | Remark | |
| 64 | MHz | dBu∇ | <u>dB</u> /m | <u>d</u> B | <u>dB</u> | dBuV/m | dBuV/m | <u>dB</u> | | |
| | 2390.000 | 700 1974 His 100 Oct. | | | | | | | | |
| | 2390.000 | 7.44 | 25.45 | 4.69 | 0.00 | 37.58 | 54.00 | -16.42 | Average | |





Test channel: Highest

Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL Condition

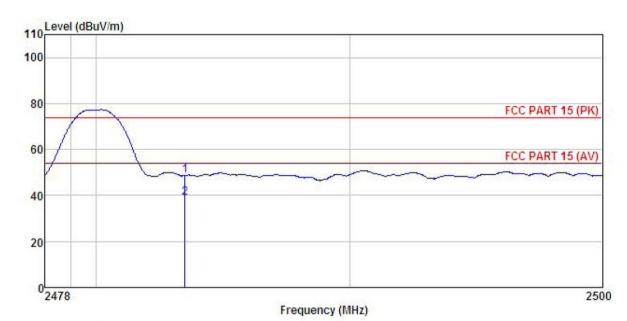
EUT : Lookit Model : RVC2000 Test mode : BLE-H mode

Power Rating: DC 3.6V
Environment: Temp:25.5°C Huni:55% 101KPa
Test Engineer: YT
REMARK:

| | | | Antenna | | | | | | |
|-----|----------------------|-------|---------|------|--------|--------|--------|-------|--------|
| | Freq | Level | Factor | Loss | Factor | Level | Line | Limit | Remark |
| - | MHz | dBu∀ | ∃dB/m | dB | ₫₿ | dBuV/m | dBuV/m | dB | |
| 1 2 | 2483.500 2483.500 | | | | | | | | |



Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL Condition EUT

: Lookit : RVC2000 : BLE-H mode Model Test mode

Power Rating: DC 3.6V Environment: Temp:25.5°C Huni:55% 101KPa Test Engineer: YT REMARK:

| <u>- 20</u> | | Antenna | | | | Limit | | | |
|----------------------|-------|-------------------------------|------------|--------|---------------------|---------------------|-------|--------|--|
| Freq | Level | Factor | Loss | Factor | Level | Line | Limit | Remark | |
| MHz | dBu₹ | $-\overline{dB}/\overline{m}$ | d <u>B</u> | dB | $\overline{dBuV/m}$ | $\overline{dBuV/m}$ | dB | | |
| 2483.500 2483.500 | | | | | | | | | |



6.6 Spurious Emission

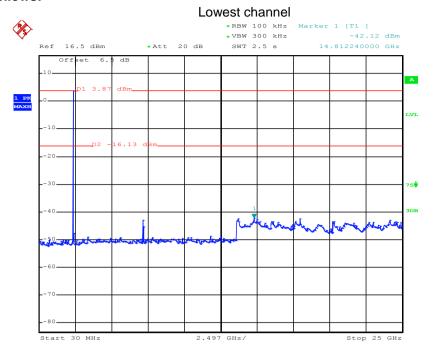
6.6.1 Conducted Emission Method

| | Conaditor Linicolor Motifod | | | | | |
|-------------------|---|--|--|--|--|--|
| Test Requirement: | FCC Part 15 C Section 15.247 (d) | | | | | |
| Test Method: | ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v04 section 11 | | | | | |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. | | | | | |
| Test setup: | Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane | | | | | |
| Test Instruments: | Refer to section 5.8 for details | | | | | |
| Test mode: | Refer to section 5.3 for details | | | | | |
| Test results: | Passed | | | | | |

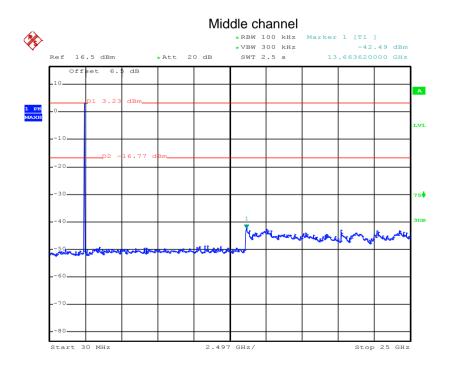




Test plot as follows:

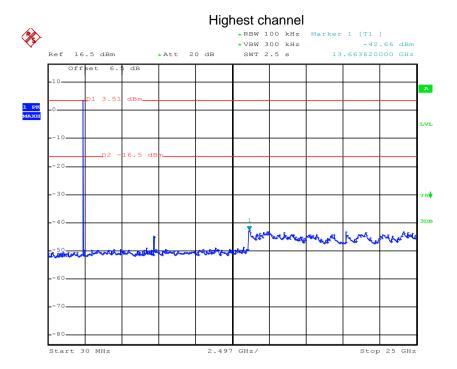


30MHz~25GHz



30MHz~25GHz





30MHz~25GHz



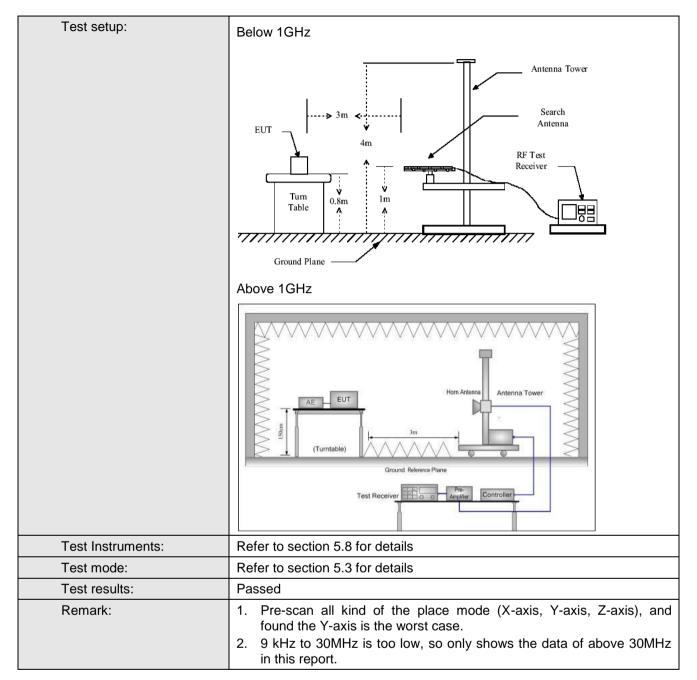


6.6.2 Radiated Emission Method

| Test Requirement: | FCC Part 15 C Section 15.209 and 15.205 | | | | | | | |
|-----------------------|--|--|---|---|--|--|--|--|
| Test Method: | ANSI C63.10:20 | 013 | | | | | | |
| Test Frequency Range: | 9kHz to 25GHz | | | | | | | |
| Test Distance: | 3m | | | | | | | |
| Receiver setup: | Frequency | Detect | or | RBW | VB | W | Remark | |
| · | 30MHz-1GHz | Quasi-p | eak | 120KHz | 3001 | KHz | Quasi-peak Value | |
| | Above 1GHz | Peak | | 1MHz | 3M | | Peak Value | |
| Limit: | Frequency | RMS | | 1MHz nit (dBuV/m @ | 3M | Hz | Average Value Remark | |
| LITTIIL. | 30MHz-88M | | LII | 40.0 | 3111) | 0 | luasi-peak Value | |
| | 88MHz-216M | | | 43.5 | | | luasi-peak Value | |
| | 216MHz-960N | | | 46.0 | | | luasi-peak Value | |
| | 960MHz-1G | Hz | | 54.0 | | | uasi-peak Value | |
| | Above 1GH | J-7 | | 54.0 | | Average Value | | |
| | | | | 74.0 | | Peak Value | | |
| Test Procedure: | 1GHz)/1.5r The table of highest rad 2. The EUT antenna, we tower. 3. The antenre the ground Both horizon make the numbers and to find the offind the offin | m(above was rotateliation. was set which was na height to deter ontal and neasurem suspected hen the additional level sion level ecified, the would be margin was rotately and the rotately and width sion level and the rotately and width sion level and the rotately and the rotately and width sion level and the rotately and the ro | 1GH: ed 36 3 me mou is is varmine l vertinent. d em anten table reac system with l of th nen te e rep would | z) above the 50 degrees to eters away for the maximum ical polarizations was turned ling. In was set of Maximum Hore EUT in peresting could be orted. Other id be re-tested. | rom thop of a me metum valuions of to Pea old Moak mode stopp wise this one by | d at a mine of the variable of the a sarrage degree k Det de. le was ped are e emisy one | table 0.8m(below 3 meter camber. the position of the rference-receiving ble-height antenna our meters above the field strength. Intenna are set to anged to its worst from 1 meter to 4 es to 360 degrees ect Function and a 10 dB lower than and the peak values assions that did not using peak, quasi-eported in a data | |



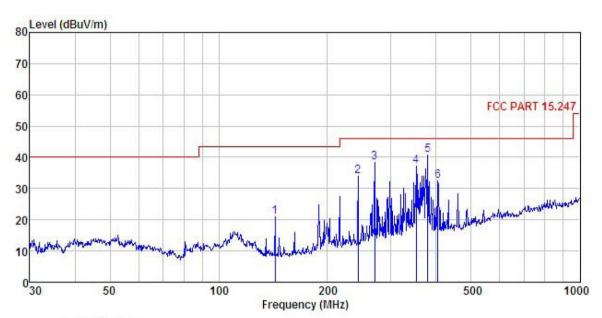






Below 1GHz:

Horizontal:



Site

: 3m chamber : FCC PART 15.247 3m VULB9163(30M2G) HORIZONTAL

Condition EUT : Lookit Model : RVC2000 Test mode : BLE Mode Power Rating : DC 3.6V

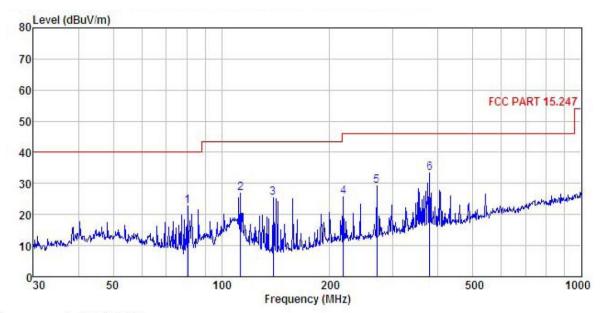
Environment : Temp:25.5°C Huni:55% Test Engineer: YT REMARK :

| $r_{10}r_{01}r_{01}$ | | | | | | | | | |
|----------------------|---------|--------|-------------------|-------|------------|---------------------|---------------------|-----------|--------|
| | Freq | | Antenna Factor | | | | | | Remark |
| _ | MHz | dBu∇ | dB/m | | <u>d</u> B | $\overline{dBuV/m}$ | $\overline{dBuV/m}$ | <u>dB</u> | |
| 1 | 143.326 | 39.53 | 8.38 | 2.44 | 29.25 | 21.10 | 43.50 | -22.40 | QP |
| 2 | 243.377 | 47.64 | 11.92 | 2.82 | 28.58 | 33.80 | 46.00 | -12.20 | QP |
| 2 3 4 5 | 270.375 | 51.36 | 12.53 | 2.86 | 28.50 | 38.25 | 46.00 | -7.75 | QP |
| 4 | 351.708 | 48.04 | 14.77 | 3.10 | 28.57 | 37.34 | 46.00 | -8.66 | QP |
| 5 | 378.584 | 51.86 | 14.58 | 3.09 | 28.69 | 40.84 | 46.00 | -5.16 | QP |
| 6 | 404,667 | 43, 30 | 14.92 | 3, 09 | 28, 79 | 32.52 | 46,00 | -13.48 | OP |





Vertical:



Site

: 3m chamber : FCC PART 15.247 3m VULB9163(30M2G) VERTICAL Condition

: Lookit Model : RVC2000
Test mode : BLE Mode
Power Rating : DC 3.6V
Environment : Temp:25.5°C Huni:55%
Test Engineer: YT
REMMARK EUT

REMARK

| Freq | | | | | | | | |
|---------|--|--|---|--|---|--|---|--|
| MHz | dBu∜ | <u>dB</u> /m | <u>dB</u> | <u>dB</u> | $\overline{dBuV/m}$ | $\overline{dBuV/m}$ | <u>dB</u> | |
| 80.644 | 41.68 | 8.92 | 1.69 | 29.64 | 22.65 | 40.00 | -17.35 | QP |
| 112.920 | 42.54 | 11.66 | 2.09 | 29.44 | 26.85 | 43.50 | -16.65 | QP |
| 139.361 | 43.95 | 8.30 | 2.39 | 29.28 | 25.36 | 43.50 | -18.14 | QP |
| 218.309 | 40.26 | 11.30 | 2.85 | 28.72 | 25.69 | 46.00 | -20.31 | QP |
| 270.375 | 42.28 | 12.53 | 2.86 | 28.50 | 29.17 | 46.00 | -16.83 | QP |
| 378.584 | 44.30 | 14.58 | 3.09 | 28.69 | 33.28 | 46.00 | -12.72 | QP |
| | MHz 80, 644 112, 920 139, 361 218, 309 270, 375 | Freq Level MHz dBuV 80.644 41.68 112.920 42.54 139.361 43.95 218.309 40.26 270.375 42.28 | ### Revel Factor MHz dBuV dB/m 80.644 41.68 8.92 112.920 42.54 11.66 139.361 43.95 8.30 218.309 40.26 11.30 270.375 42.28 12.53 | MHz dBuV dB/m dB 80.644 41.68 8.92 1.69 112.920 42.54 11.66 2.09 139.361 43.95 8.30 2.39 218.309 40.26 11.30 2.85 270.375 42.28 12.53 2.86 | MHz dBuV dB/m dB dB 80.644 41.68 8.92 1.69 29.64 112.920 42.54 11.66 2.09 29.44 139.361 43.95 8.30 2.39 29.28 218.309 40.26 11.30 2.85 28.72 270.375 42.28 12.53 2.86 28.50 | MHz dBuV dB/m dB dB dBuV/m 80.644 41.68 8.92 1.69 29.64 22.65 112.920 42.54 11.66 2.09 29.44 26.85 139.361 43.95 8.30 2.39 29.28 25.36 218.309 40.26 11.30 2.85 28.72 25.69 270.375 42.28 12.53 2.86 28.50 29.17 | Freq Level Factor Loss Factor Level Line MHz dBuV dB/m dB dB dBuV/m dBuV/m dBuV/m 80.644 41.68 8.92 1.69 29.64 22.65 40.00 112.920 42.54 11.66 2.09 29.44 26.85 43.50 139.361 43.95 8.30 2.39 29.28 25.36 43.50 218.309 40.26 11.30 2.85 28.72 25.69 46.00 270.375 42.28 12.53 2.86 28.50 29.17 46.00 | Freq Level Factor Loss Factor Level Line Limit MHz dBuV dB/m dB dB dBuV/m dBuV/m dB 80.644 41.68 8.92 1.69 29.64 22.65 40.00 -17.35 112.920 42.54 11.66 2.09 29.44 26.85 43.50 -16.65 139.361 43.95 8.30 2.39 29.28 25.36 43.50 -18.14 218.309 40.26 11.30 2.85 28.72 25.69 46.00 -20.31 270.375 42.28 12.53 2.86 28.50 29.17 46.00 -16.83 |



Above 1GHz

| Т | : | Lowest | | Le | vel: | Peak | | | |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|--------------|--|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization | |
| 4804.00 | 56.23 | 30.85 | 6.80 | 41.81 | 52.07 | 74.00 | -21.93 | Vertical | |
| 4804.00 | 55.47 | 30.85 | 6.80 | 41.81 | 51.31 | 74.00 | -22.69 | Horizontal | |
| Т | Test channel: | | | Lowest | | Level: | | Average | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization | |
| 4804.00 | 50.29 | 30.85 | 6.80 | 41.81 | 46.13 | 54.00 | -7.87 | Vertical | |
| 4804.00 | 50.20 | 30.85 | 6.80 | 41.81 | 46.04 | 54.00 | -7.96 | Horizontal | |

| Т | : | Middle | | Le | vel: | Peak | | |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|--------------|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4884.00 | 56.84 | 31.20 | 6.86 | 41.84 | 53.06 | 74.00 | -20.94 | Vertical |
| 4884.00 | 54.78 | 31.20 | 6.86 | 41.84 | 51.00 | 74.00 | -23.00 | Horizontal |
| Test channel: | | | Middle | | Level: | | Average | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4884.00 | 50.26 | 31.20 | 6.86 | 41.84 | 46.48 | 54.00 | -7.52 | Vertical |
| 4884.00 | 49.76 | 31.20 | 6.86 | 41.84 | 45.98 | 54.00 | -8.02 | Horizontal |

| Т | : | Highest | | Le | vel: | Peak | | |
|--------------------|-------------------------|-----------------------------|-----------------------|--------------------------|-------------------|------------------------|-----------------------|--------------|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4960.00 | 55.49 | 31.63 | 6.91 | 41.87 | 52.16 | 74.00 | -21.84 | Vertical |
| 4960.00 | 57.24 | 31.63 | 6.91 | 41.87 | 53.91 | 74.00 | -20.09 | Horizontal |
| Т | est channel | • | Highest | | Level: | | Average | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4960.00 | 52.03 | 31.63 | 6.91 | 41.87 | 48.70 | 54.00 | -5.30 | Vertical |
| 4960.00 | 53.79 | 31.63 | 6.91 | 41.87 | 50.46 | 54.00 | -3.54 | Horizontal |

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.