# **FCC Test Report**

Report No.: AGC08201160901FE03

**FCC ID** : 2AJYZGO-PLAY

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION**: Go-play smart wireless recorder

BRAND NAME : 1go

**MODEL NAME** : Go-play

**CLIENT** : Yigo Space (Beijing)Science & Technology CO., LTD

**DATE OF ISSUE** : Dec. 07, 2016

STANDARD(S)

TEST PROCEDURE(S) : FCC Part 15 Rules

**REPORT VERSION** V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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## **Report Revise Record**

| Report Version | Revise Time | Issued Date   | Valid Version | Notes           |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0           | /           | Dec. 07, 2016 | Valid         | Original Report |

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### 1. VERIFICATION OF CONFORMITY

| Yigo Space (Beijing)Science & Technology CO ., LTD  |
|---|
| Room 505, Building 5, Qunying Science & Technology Park, 8# Chuangye Road, Haidian District, Beijing, China |
| Yigo Space (Beijing)Science & Technology CO ., LTD  |
| Room 505, Building 5, Qunying Science & Technology Park, 8# Chuangye Road, Haidian District, Beijing, China |
| Go-play smart wireless recorder   |
| 1go   |
| Go-play   |
| Dec. 05, 2016 to Dec. 06, 2016  |
| None  |
| Normal  |
| Pass  |
| AGCRT-US-BR/RF  |
|   |

We hereby certify that:

The above equipment was tested by Dongguan Precise Testing Service Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.249.

Tested by

Max Zhang(Zhang Yi)

Dec. 07, 2016

Reviewed by

Bart Xie(Xie Xiaobin))

Approved by

Solger Zhang(Zhang Hongyi)

Authorized Officer

Dec. 07, 2016

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### 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

| Operation Frequency    | 2.402 GHz to 2.480GHz                               |
|------------------------|---|
| Operation Frequency    | 2.402 0112 to 2.4000112                             |
| Maximum field strength | 90.16dBuV/m(AV)@3m                                  |
| Bluetooth Version      | V4.0  |
| Modulation             | GFSK for BLE  |
| Number of channels     | 40  |
| Antenna Gain           | 0dBi  |
| Antenna Designation    | Integrated Antenna (Met 15.203 Antenna requirement) |
| Hardware Version       | V2.2  |
| Software Version       | V1.0  |
| Power Supply           | DC 3.7V by battery or DC 5V by adapter              |

### 2.2. TABLE OF CARRIER FREQUENCY

**BLE Channel List** 

| Frequency Band | Channel Number | Frequency |
|----------------|----------------|-----------|
|                | 0              | 2402MHZ   |
|                | 1              | 2404MHZ   |
| 2400~2483.5MHZ | :              | :         |
|                | 38             | 2478 MHZ  |
|                | 39             | 2480 MHZ  |

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### 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y  $\pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %  $\circ$ 

| No. | Item                    | Uncertainty |
|-----|-------------------------|-------------|
| 1   | Conducted Emission Test | ±3.18dB     |
| 2   | All emissions,radiated  | ±3.91dB     |
| 3   | Temperature             | ±0.5°C      |
| 4   | Humidity                | ±2%         |

### 4. DESCRIPTION OF TEST MODES

| TEST MODE DESCRIPTION |
|-----------------------|
| Low channel GFSK      |
| Middle channel GFSK   |
| High channel GFSK     |
|                       |

#### Note:

- 1. All the test modes can be supply by battery, only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

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## **5. SYSTEM TEST CONFIGURATION**

## **5.1. CONFIGURATION OF EUT SYSTEM**

Configure:

|--|

## **5.2. EQUIPMENT USED IN EUT SYSTEM**

| Item | Equipment                             | Model No. | ID or Specification | Remark |
|------|---------------------------------------|-----------|---------------------|--------|
| 1    | GO-PLAY SMART<br>WIRELESS<br>RECORDER | GO-PLAY   | 2AJYZGO-PLAY        | EUT    |

### **5.3. SUMMARY OF TEST RESULTS**

| FCC RULES      | DESCRIPTION OF TEST    | RESULT    |  |
|----------------|------------------------|-----------|--|
| §15.249&15.209 | Radiated Emission      | Compliant |  |
| §15.249        | Band Edges             | Compliant |  |
| §15.215        | §15.215 20dB bandwidth |           |  |

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## **6. TEST FACILITY**

| Site                 | Dongguan Precise Testing Service Co., Ltd.   |
|----------------------|--|
| Location             | Building D, Baoding Technology Park, Guangming Road2, Dongcheng District, Dongguan, Guangdong, China.  |
| FCC Registration No. | 371540   |
| Description          | The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2014. |

## ALL TEST EQUIPMENT LIST

| Radiated Emission Test Site         |                    |                 |               |                     |                    |
|-------------------------------------|--------------------|-----------------|---------------|---------------------|--------------------|
| Name of Equipment                   | Manufacturer       | Model<br>Number | Serial Number | Last<br>Calibration | Due<br>Calibration |
| EMI Test Receiver                   | Rohde &<br>Schwarz | ESCI            | 101417        | July 3, 2016        | July 2, 2017       |
| Trilog Broadband Antenna (25M-1GHz) | SCHWARZBECK        | VULB9160        | 9160-3355     | July 3, 2016        | July 2, 2017       |
| Signal Amplifier                    | SCHWARZBECK        | BBV 9475        | 9745-0013     | July 3, 2016        | July 2, 2017       |
| RF Cable                            | SCHWARZBECK        | AK9515E         | 96221         | July 3, 2016        | July 2, 2017       |
| 3m Anechoic Chamber                 | CHENGYU            | 966             | PTS-001       | June 3, 2016        | June 2, 2017       |
| MULTI-DEVICE Positioning Controller | Max-Full           | MF-7802         | MF780208339   | N/A                 | N/A                |
| Active loop antenna<br>(9K-30MHz)   | Schwarzbeck        | FMZB1519        | 1519-038      | June 3, 2016        | June 2, 2017       |
| Spectrum analyzer                   | Agilent            | E4407B          | MY46185649    | June 3, 2016        | June 2, 2017       |
| Power Sensor                        | Agilent            | U2021XA         | MY55050474    | June 3, 2016        | June 2, 2017       |
| Horn Antenna (1G-18GHz)             | SCHWARZBECK        | BBHA9120D       | 9120D-1246    | June 3, 2016        | June 2, 2017       |
| Horn Ant (18G-40GHz)                | Schwarzbeck        | BBHA 9170       | 9170-181      | June 3, 2016        | June 2, 2017       |

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### 7. RADIATED EMISSION

### 7.1TEST LIMIT

#### Standard FCC15.249

| Fundamental Frequency | Field Strength of Fundamental | Field Strength of Harmonics |
|-----------------------|-------------------------------|-----------------------------|
|                       | (millivolts/meter)            | (microvolts/meter)          |
| 900-928MHz            | 50                            | 500                         |
| 2400-2483.5MHz        | 50                            | 500                         |
| 5725-5875MHz          | 50                            | 500                         |
| 24.0-24.25GHz         | 250                           | 2500                        |

#### Standard FCC 15.209

| Frequency     | Distance | Field Strengths Limit                              |          |  |  |  |
|---------------|----------|--|----------|--|--|--|
| (MHz)         | Meters   | μ V/m  | dB(μV)/m |  |  |  |
| 0.009 ~ 0.490 | 300      | 2400/F(kHz)  |          |  |  |  |
| 0.490 ~ 1.705 | 30       | 24000/F(kHz)                                       |          |  |  |  |
| 1.705 ~ 30    | 30       | 30   |          |  |  |  |
| 30 ~ 88       | 3        | 100  | 40.0     |  |  |  |
| 88 ~ 216      | 3        | 150  | 43.5     |  |  |  |
| 216 ~ 960     | 3        | 200  | 46.0     |  |  |  |
| 960 ~ 1000    | 3        | 500  | 54.0     |  |  |  |
| Above 1000    | 3        | Other:74.0 dB(µV)/m (Peak) 54.0 dB(µV)/m (Average) |          |  |  |  |

Remark:

- (1) Emission level dB $\mu$  V = 20 log Emission level  $\mu$  V/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

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#### 7.2. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.

- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

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The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter    | Setting   |  |  |
|-----------------------|---|--|--|
| Start ~Stop Frequency | 9KHz~150KHz/RB 200Hz for QP                               |  |  |
| Start ~Stop Frequency | 150KHz~30MHz/RB 9KHz for QP                               |  |  |
| Start ~Stop Frequency | 30MHz~1000MHz/RB 120KHz for QP                            |  |  |
| Start ~Stop Frequency | 1GHz~26.5GHz<br>1MHz/1MHz for Peak, 1MHz/10Hz for Average |  |  |

| Receiver Parameter    | Setting                        |  |  |
|-----------------------|--------------------------------|--|--|
| Start ~Stop Frequency | 9KHz~150KHz/RB 200Hz for QP    |  |  |
| Start ~Stop Frequency | 150KHz~30MHz/RB 9KHz for QP    |  |  |
| Start ~Stop Frequency | 30MHz~1000MHz/RB 120KHz for QP |  |  |

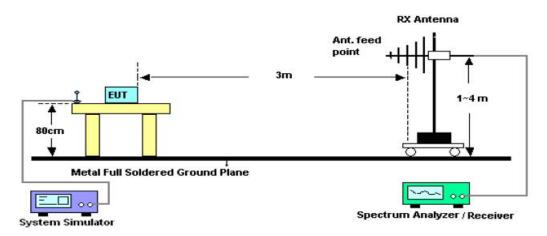
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#### 7.3. TEST SETUP

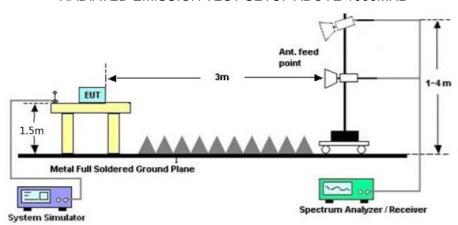
## Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



### RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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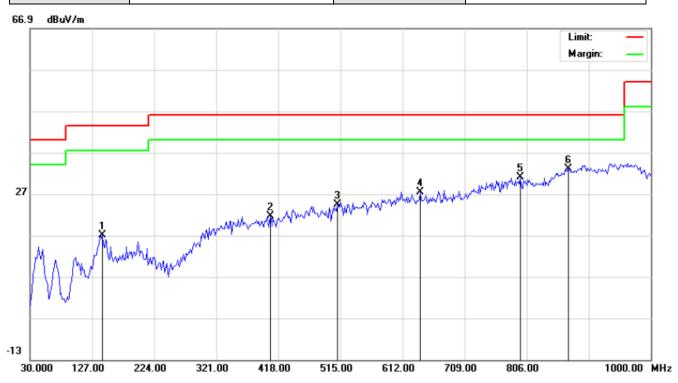
### 7.4. TEST RESULT

### **RADIATED EMISSION BELOW 30MHZ**

No emission found between lowest internal used/generated frequencies to 30MHz.

## **RADIATED EMISSION 30MHz-1GHZ**

| <b> -</b>    | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------|------------------------------------|---------------------|------------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :  | Mode 1                             | Polarization :      | Horizontal |

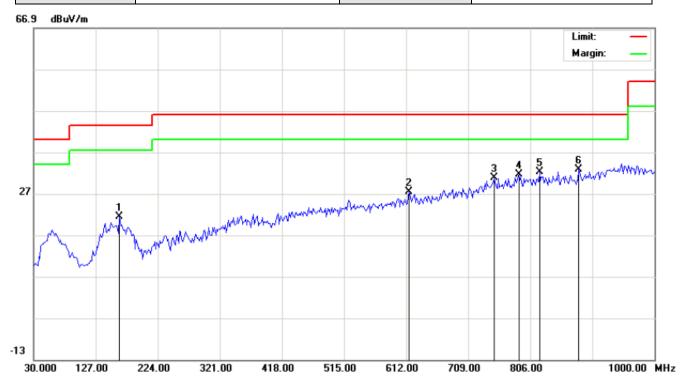


| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna<br>Height | Table<br>Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|-------------------|-----------------|---------|
|     | -  | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm                | degree          |         |
| 1   |    | 143.1667 | 2.61    | 14.43  | 17.04       | 43.50  | -26.46 | peak     |                   |                 |         |
| 2   |    | 405.0667 | 2.33    | 19.22  | 21.55       | 46.00  | -24.45 | peak     |                   |                 |         |
| 3   |    | 510.1500 | 3.09    | 21.40  | 24.49       | 46.00  | -21.51 | peak     |                   |                 |         |
| 4   |    | 639.4833 | 3.60    | 23.82  | 27.42       | 46.00  | -18.58 | peak     |                   |                 |         |
| 5   |    | 796.3000 | 3.64    | 27.27  | 30.91       | 46.00  | -15.09 | peak     | ·                 |                 |         |
| 6   | *  | 870.6667 | 5.16    | 27.85  | 33.01       | 46.00  | -12.99 | peak     |                   |                 |         |

**RESULT: PASS** 

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| IF()) :      | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|--------------|------------------------------------|---------------------|----------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure:    | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :  | Mode 1                             | Polarization:       | Vertical |



| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna<br>Height | Table<br>Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|-------------------|-----------------|---------|
|     | -  | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm                | degree          |         |
| 1   |    | 164.1833 | 6.26    | 15.07  | 21.33       | 43.50  | -22.17 | peak     |                   |                 |         |
| 2   |    | 616.8500 | 4.31    | 23.11  | 27.42       | 46.00  | -18.58 | peak     |                   |                 |         |
| 3   |    | 749.4167 | 4.25    | 26.61  | 30.86       | 46.00  | -15.14 | peak     |                   |                 |         |
| 4   |    | 788.2167 | 4.49    | 27.16  | 31.65       | 46.00  | -14.35 | peak     |                   |                 |         |
| 5   |    | 820.5500 | 4.86    | 27.32  | 32.18       | 46.00  | -13.82 | peak     |                   |                 |         |
| 6   | *  | 881.9833 | 4.59    | 28.14  | 32.73       | 46.00  | -13.27 | peak     |                   |                 |         |

## **RESULT: PASS**

#### Note:

Factor=Antenna Factor + Cable loss, Margin=Result-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

The mode 1 is the worst case, and only the data of the worst case recorded in this test report.

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## **RADIATED EMISSION ABOVE 1GHZ**

| HUI :        | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------|------------------------------------|---------------------|------------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :  | Mode 1                             | Polarization :      | Horizontal |

| Frequency   | Meter Reading                           | Factor | Emission Level | Limits   | Margin | Value Type |  |  |
|---|---|--------|----------------|----------|--------|------------|--|--|
| (MHz)   | (dBµV)                                  | (dB)   | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |  |  |
| 2402.013  | 105.12                                  | -9.37  | 95.75          | 114      | -18.25 | peak       |  |  |
| 2402.013  | 99.53                                   | -9.37  | 90.16          | 94       | -3.84  | AVG        |  |  |
| 4804.026  | 44.71                                   | 3.74   | 48.45          | 74       | -25.55 | peak       |  |  |
| 4804.026  | 39.25                                   | 3.74   | 42.99          | 54       | -11.01 | AVG        |  |  |
| 7206.039  | 39.54                                   | 8.14   | 47.68          | 74       | -26.32 | peak       |  |  |
| 7206.039  | 7206.039 34.18 8.14 42.32 54 -11.68 AVG |        |                |          |        |            |  |  |
| Remark:   |   |        |                |          |        |            |  |  |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |   |        |                |          |        |            |  |  |

| HUI :        | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|--------------|------------------------------------|---------------------|----------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :  | Mode 1                             | Polarization :      | Vertical |

| Frequency  | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |  |
|--|---------------|--------|----------------|----------|--------|------------|--|
| (MHz)  | (dBµV)        | (dB)   | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |  |
| 2402.013   | 103.05        | -9.37  | 93.68          | 114      | -20.32 | peak       |  |
| 2402.013   | 97.42         | -9.37  | 88.05          | 94       | -5.95  | AVG        |  |
| 4804.026   | 43.55         | 3.74   | 47.29          | 74       | -26.71 | peak       |  |
| 4804.026   | 38.74         | 3.74   | 42.48          | 54       | -11.52 | AVG        |  |
| 7206.039   | 39.33         | 8.14   | 47.47          | 74       | -26.53 | peak       |  |
| 7206.039 33.82 8.14 41.96 54 -12.04 AVG              |               |        |                |          |        |            |  |
| Remark:  |               |        |                |          |        |            |  |
| actor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |  |

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|              | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------|------------------------------------|---------------------|------------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :  | Mode 2                             | Polarization:       | Horizontal |

| Frequency                               | Meter Reading   | Factor         | Emission Level | Limits   | Margin | Value Type |
|---|-----------------|----------------|----------------|----------|--------|------------|
| (MHz)                                   | (dBµV)          | (dB)           | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |
| 2440.016                                | 105.12          | -9.63          | 95.49          | 114      | -18.51 | peak       |
| 2440.016                                | 99.53           | -9.63          | 89.9           | 94       | -4.1   | AVG        |
| 4880.032                                | 44.71           | 3.76           | 48.47          | 74       | -25.53 | peak       |
| 4880.032                                | 39.25           | 3.76           | 43.01          | 54       | -10.99 | AVG        |
| 7320.048                                | 39.54           | 8.17           | 47.71          | 74       | -26.29 | peak       |
| 7320.048 34.18 8.17 42.35 54 -11.65 AVG |                 |                |                |          |        |            |
| Remark:                                 |                 |                |                |          |        |            |
| Factor = Ante                           | nna Factor + Ca | able Loss – Pr | e-amplifier.   | _        | _      |            |

| E            | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|--------------|------------------------------------|---------------------|----------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :  | Mode 2                             | Polarization :      | Vertical |

| Frequency                               | Meter Reading   | Factor | Emission Level | Limits   | Margin | Value Type |
|---|---|--------|----------------|----------|--------|------------|
| (MHz)                                   | (dBµV)  | (dB)   | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |
| 2440.016                                | 102.85  | -9.63  | 93.22          | 114      | -20.78 | peak       |
| 2440.016                                | 97.15   | -9.63  | 87.52          | 94       | -6.48  | AVG        |
| 4880.032                                | 43.57   | 3.76   | 47.33          | 74       | -26.67 | peak       |
| 4880.032                                | 38.07   | 3.76   | 41.83          | 54       | -12.17 | AVG        |
| 7320.048                                | 38.64   | 8.17   | 46.81          | 74       | -27.19 | peak       |
| 7320.048 33.78 8.17 41.95 54 -12.05 AVG |   |        |                |          |        |            |
| Remark:                                 |   |        |                |          |        |            |
| Factor = Ante                           | Factor = Antenna Factor + Cable Loss – Pre-amplifier. |        |                |          |        |            |

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| I <b>- I</b> I I . | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------------|------------------------------------|---------------------|------------|
| Temperature :      | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :         | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :        | Mode 3                             | Polarization :      | Horizontal |

| Frequency                             | Meter Reading   | Factor         | Emission Level | Limits   | Margin | Value Type |
|---------------------------------------|-----------------|----------------|----------------|----------|--------|------------|
| (MHz)                                 | (dBµV)          | (dB)           | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |
| 2480.021                              | 104.16          | -9.61          | 94.55          | 114      | -19.45 | peak       |
| 2480.021                              | 98.75           | -9.61          | 89.14          | 94       | -4.86  | AVG        |
| 4960.042                              | 43.26           | 3.83           | 47.09          | 74       | -26.91 | peak       |
| 4960.042                              | 37.81           | 3.83           | 41.64          | 54       | -12.36 | AVG        |
| 7440.063                              | 38.55           | 8.21           | 46.76          | 74       | -27.24 | peak       |
| 7440.063 33.09 8.21 41.3 54 -12.7 AVG |                 |                |                |          |        |            |
| Remark:                               |                 |                |                |          |        |            |
| Factor = Ante                         | nna Factor + Ca | able Loss – Pr | e-amplifier.   |          |        | ·          |

| HUI :         | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|---------------|------------------------------------|---------------------|----------|
| Temperature : | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure :    | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :   | Mode 3                             | Polarization :      | Vertical |

| Frequency     | Meter Reading   | Factor | Emission Level | Limits   | Margin | Value Type |
|---------------|---|--------|----------------|----------|--------|------------|
| (MHz)         | (dBµV)  | (dB)   | (dBµV/m)       | (dBµV/m) | (dB)   | value Type |
| 2480.021      | 102.33  | -9.61  | 92.72          | 114      | -21.28 | peak       |
| 2480.021      | 96.81   | -9.61  | 87.2           | 94       | -6.8   | AVG        |
| 4960.042      | 44.12   | 3.83   | 47.95          | 74       | -26.05 | peak       |
| 4960.042      | 38.16   | 3.83   | 41.99          | 54       | -12.01 | AVG        |
| 7440.063      | 37.15   | 8.21   | 45.36          | 74       | -28.64 | peak       |
| 7440.063      | 32.54   | 8.21   | 40.75          | 54       | -13.25 | AVG        |
| Remark:       |   |        |                |          |        |            |
| Factor = Ante | Factor = Antenna Factor + Cable Loss – Pre-amplifier. |        |                |          |        |            |

**Note:** Other emission from 8G to 25 GHz are considered as ambient noise. No recording in the test report. Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

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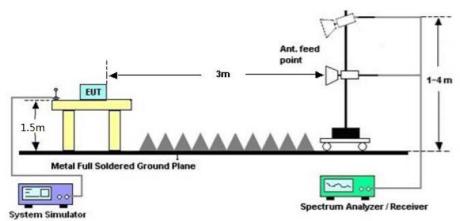
#### 8. BAND EDGE EMISSION

#### **8.1. MEASUREMENT PROCEDURE**

- 1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
- 2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
- (b) AVERAGE: RBW=1MHz; VBW=1/on time(1KHz) / Sweep=AUTO
- 3. Other procedures refer to clause 7.2.

#### **8.2 TEST SETUP**

#### RADIATED EMISSION TEST SETUP



#### **8.3 RADIATED TEST RESULT**

#### Note:

- 1. Factor=Antenna Factor + Cable loss Amplifier gain. Field Strength=Factor + Reading level
- 2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB( $\mu$ V) to represent the Amplitude. Use the F dB( $\mu$ V/m) to represent the Field Strength. So A=F.

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| HUI :        | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------|------------------------------------|---------------------|------------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :  | Mode 1                             | Polarization :      | Horizontal |

PK Value



**AV Value** 



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| I=111 :      | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|--------------|------------------------------------|---------------------|----------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :  | Mode 1                             | Polarization :      | Vertical |

#### PK Value



**AV Value** 



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| HUI :        | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY    |
|--------------|------------------------------------|---------------------|------------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%        |
| Pressure :   | 1010 hPa                           | Test Voltage :      | DC3.7V     |
| Test Mode :  | Mode 3                             | Polarization :      | Horizontal |

PK Value



**AV Value** 



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| IF()  .      | GO-PLAY SMART WIRELESS<br>RECORDER | Model Name          | GO-PLAY  |
|--------------|------------------------------------|---------------------|----------|
| Temperature: | 20 ℃                               | Relative Humidtity: | 48%      |
| Pressure:    | 1010 hPa                           | Test Voltage :      | DC3.7V   |
| Test Mode :  | Mode 3                             | Polarization :      | Vertical |

PK Value



**AV Value** 



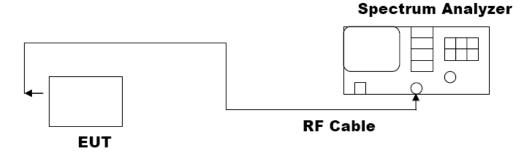
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#### 9. 20DB BANDWIDTH

#### 9.1. MEASUREMENT PROCEDURE

- 1. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
- 2. The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
- 3. Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level.
- 4. Set SPA Trace 1 Max hold, then View.

### 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



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#### 9.3. MEASUREMENT RESULTS

| TEST ITEM       | 20DB BANDWIDTH |
|-----------------|----------------|
| TEST MODULATION | GFSK for BLE   |

| Test Data (MHz) | Criteria |      |
|-----------------|----------|------|
| Low Channel     | 1.116    | PASS |
| Middle Channel  | 1.116    | PASS |
| High Channel    | 1.120    | PASS |

#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



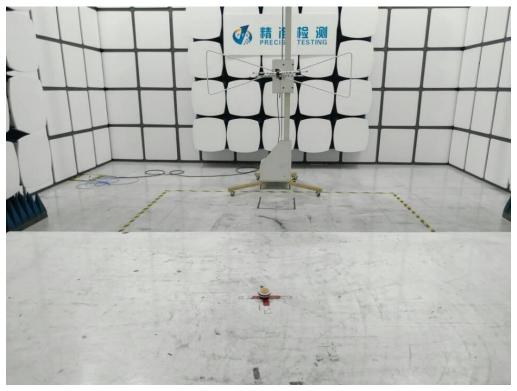
#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



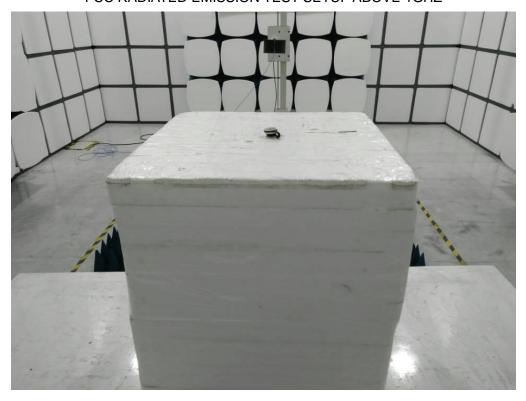
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## **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ



FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ



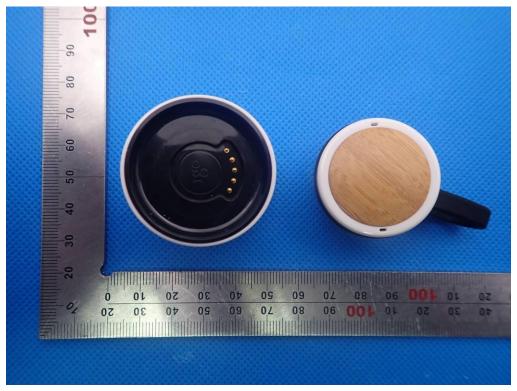
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#### **APPENDIX B: PHOTOGRAPHS OF EUT**

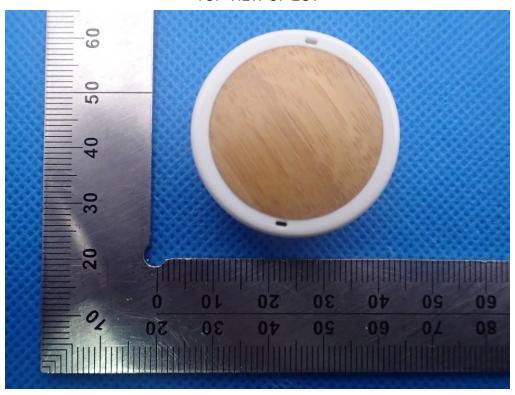
ALL VIEW OF EUT-1



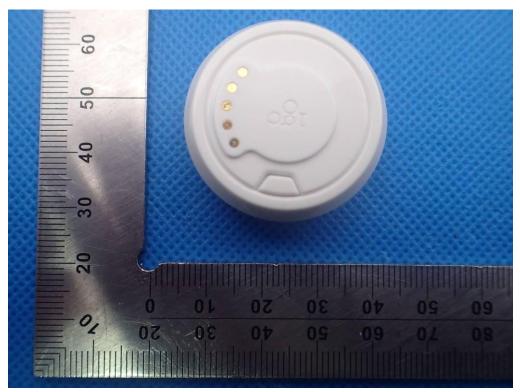
ALL VIEW OF EUT-2



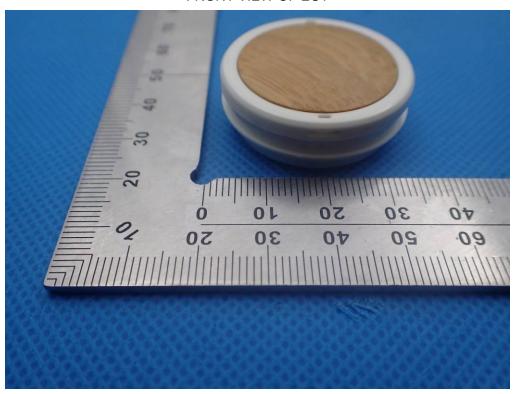
TOP VIEW OF EUT



**BOTTOM VIEW OF EUT** 



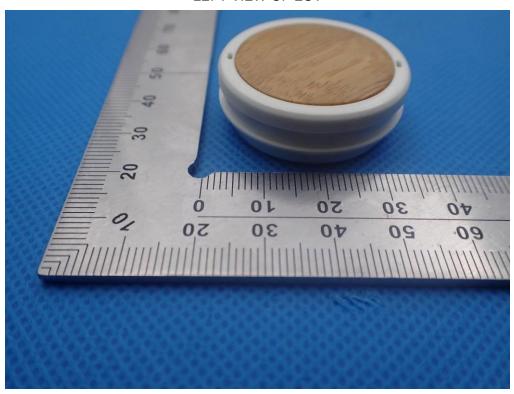
FRONT VIEW OF EUT



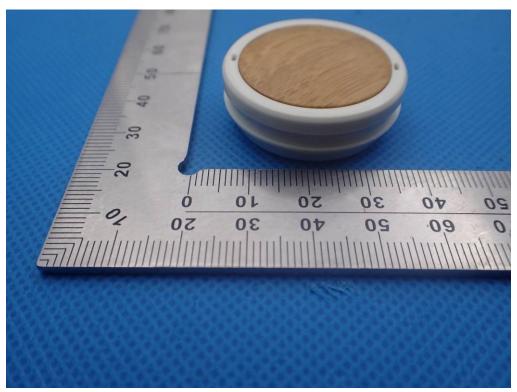
**BACK VIEW OF EUT** 



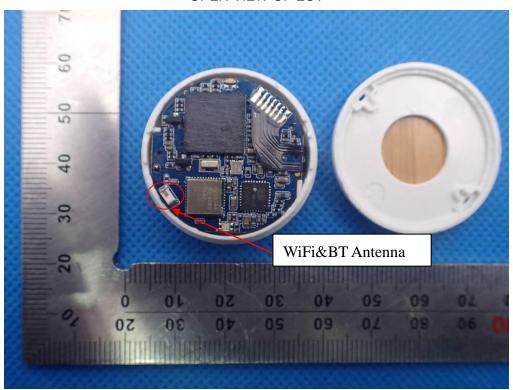
LEFT VIEW OF EUT



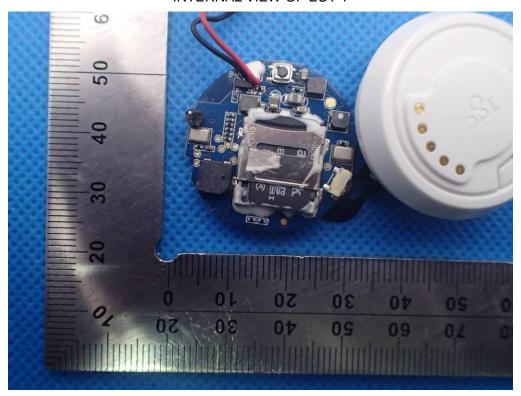
RIGHT VIEW OF EUT



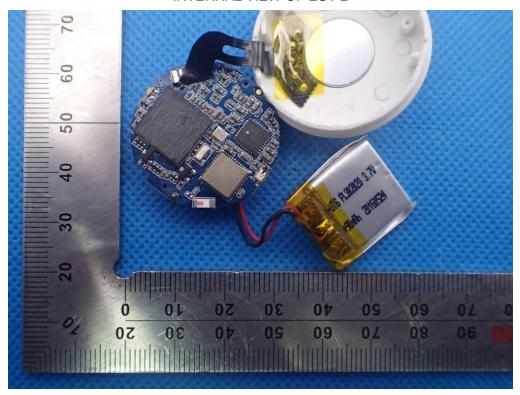
OPEN VIEW OF EUT



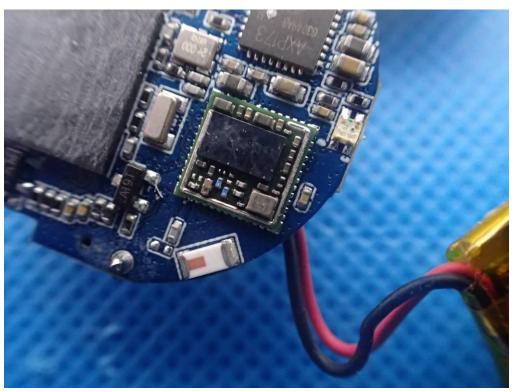
INTERNAL VIEW OF EUT-1



**INTERNAL VIEW OF EUT-2** 



**INTERNAL VIEW OF EUT-3** 



----END OF REPORT----