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# FCC Test Report

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Report No.: AGC12364231110FR01

**FCC ID** : MJO-5133

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION** : GeoSafari Jr. My First Walkie Talkies

**BRAND NAME** : N/A

**MODEL NAME** : EI-5133

**CLIENT** : Educational Insights

**DATE OF ISSUE** : Dec. 05, 2023

**STANDARD(S)** : FCC Part 15 Subpart C Section 15.249

**REPORT VERSION** : V1.0

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**Report Revise Record**

| Report Version | Revise Time | Issued Date   | Valid Version | Notes           |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0           | /           | Dec. 05, 2023 | Valid         | Initial release |

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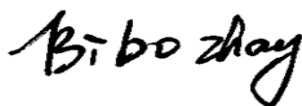
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## 1. VERIFICATION OF CONFORMITY

|                                     |                                                                |
|-------------------------------------|----------------------------------------------------------------|
| <b>Applicant</b>                    | Educational Insights                                           |
| <b>Address</b>                      | 19800 S Vermont, Torrance, California 90502, United States     |
| <b>Manufacturer</b>                 | Dongguan Yingsheng Electronics Company Limited                 |
| <b>Address</b>                      | No.4, Chikan Industry North 5 Road, Shipai Town, Dongguan City |
| <b>Factory</b>                      | Dongguan Yingsheng Electronics Company Limited                 |
| <b>Address</b>                      | No.4, Chikan Industry North 5 Road, Shipai Town, Dongguan City |
| <b>Product Designation</b>          | GeoSafari Jr. My First Walkie Talkies                          |
| <b>Brand Name</b>                   | N/A                                                            |
| <b>Test Model</b>                   | EI-5133                                                        |
| <b>Series Model</b>                 | N/A                                                            |
| <b>Difference description</b>       | N/A                                                            |
| <b>Date of receipt of test item</b> | Nov. 29, 2023                                                  |
| <b>Date of test</b>                 | Nov. 29, 2023 to Dec. 05, 2023                                 |
| <b>Deviation</b>                    | None                                                           |
| <b>Condition of Test Sample</b>     | Normal                                                         |
| <b>Test Result</b>                  | Pass                                                           |
| <b>Report Template</b>              | AGCRT-US-BR/RF                                                 |

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By



Bibo Zhang  
(Project Engineer)

Dec. 05, 2023

Reviewed By



Calvin Liu  
(Reviewer)

Dec. 05, 2023

Approved By



Max Zhang  
Authorized Officer

Dec. 05, 2023

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## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

|                               |                                                 |
|-------------------------------|-------------------------------------------------|
| <b>Operation Frequency</b>    | 2.405 GHz to 2.475GHz                           |
| <b>Maximum field strength</b> | 91.74dBuV/m(peak)@3m<br>85.95dBuV/m(Average)@3m |
| <b>Modulation</b>             | GFSK                                            |
| <b>Number of channels</b>     | 3                                               |
| <b>Hardware Version</b>       | V1.0                                            |
| <b>Software Version</b>       | V1.0                                            |
| <b>Antenna Designation</b>    | Wire Antenna                                    |
| <b>Antenna Gain</b>           | 0dBi                                            |
| <b>Power Supply</b>           | DC 4.5V by battery                              |

### 2.2. TABLE OF CARRIER FREQUENCIES

| Frequency Band | Channel Number | Frequency |
|----------------|----------------|-----------|
| 2400~2483.5MHz | 00             | 2405MHz   |
|                | 01             | 2440MHz   |
|                | 02             | 2475MHz   |

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### 3. MEASUREMENT UNCERTAINTY

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

- Uncertainty of Conducted Emission,  $U_c = \pm 2.9$  dB
- Uncertainty of Radiated Emission below 1GHz,  $U_c = \pm 3.9$  dB
- Uncertainty of Radiated Emission above 1GHz,  $U_c = \pm 4.9$  dB
- Uncertainty of Occupied Channel Bandwidth:  $U_c = \pm 2$  %

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#### 4. DESCRIPTION OF TEST MODES

| NO. | TEST MODE DESCRIPTION |
|-----|-----------------------|
| 1   | Low channel           |
| 2   | Middle channel        |
| 3   | High channel          |

**Note:**

1. 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.

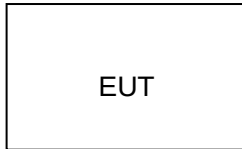
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## 5. SYSTEM TEST CONFIGURATION

### 5.1. CONFIGURATION OF EUT SYSTEM

Configure :



### 5.2. EQUIPMENT USED IN EUT SYSTEM

| Item | Equipment | Mfr/Brand | Model/Type No. | Remark |
|------|-----------|-----------|----------------|--------|
| 1    | --        | --        | --             | --     |

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### 5.3. SUMMARY OF TEST RESULTS

| FCC RULES             | DESCRIPTION OF TEST | RESULT         |
|-----------------------|---------------------|----------------|
| §15.249(a)<br>§15.209 | Radiated Emission   | Compliant      |
| §15.249(d)            | Band Edges          | Compliant      |
| §15.207               | Conduction Emission | Not applicable |
| §15.215               | Band Width          | Compliant      |

Note: The conducted emission tests at AC port are not required for devices which only employ battery power for operation.

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## 6. TEST FACILITY

|                                          |                                                                                                                                          |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>                         | Attestation of Global Compliance (Shenzhen) Co., Ltd                                                                                     |
| <b>Location</b>                          | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Designation Number</b>                | CN1259                                                                                                                                   |
| <b>FCC Test Firm Registration Number</b> | 975832                                                                                                                                   |
| <b>A2LA Cert. No.</b>                    | 5054.02                                                                                                                                  |
| <b>Description</b>                       | Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA                                                                |

## TEST EQUIPMENT OF RADIATED EMISSION TEST

| Equipment                      | Manufacturer   | Model    | S/N          | Cal. Date     | Cal. Due      |
|--------------------------------|----------------|----------|--------------|---------------|---------------|
| Test Receiver                  | R&S            | ESCI     | 10096        | Feb. 18, 2023 | Feb. 17, 2024 |
| Signal Analyzer                | Aglient        | N9020A   | MY52090123   | Jun. 01, 2023 | May 31, 2024  |
| EXA Signal Analyzer            | Agilent        | N9010A   | MY53470504   | Jun. 01, 2023 | May 31, 2024  |
| 2.4GHz Filter                  | EM Electronics | N/A      | N/A          | Mar. 18, 2022 | Mar. 19, 2024 |
| Attenuator                     | ZHINAN         | E-002    | N/A          | Aug. 04, 2022 | Aug. 03, 2024 |
| Horn Antenna                   | SCHWARZBEC     | BBHA9170 | 768          | Sep. 24, 2023 | Sep. 23, 2025 |
| Active Loop Antenna (9K-30Mhz) | ZHINAN         | ZN30900C | 18051        | Mar. 12, 2022 | Mar. 11, 2024 |
| Double-Ridged Waveguide Horn   | ETS            | 3117     | 00034609     | Mar. 23, 2023 | Mar. 22, 2024 |
| Preamplifier                   | ETS            | 3117-PA  | 00246148     | Aug. 04, 2022 | Aug. 03, 2024 |
| Wideband Antenna               | SCHWARZBECK    | VULB9168 | VULB9168-494 | Jan. 05, 2023 | Jan. 04, 2024 |
| Test Software                  | Tonscend       | 4.0.0.0  | N/A          | N/A           | N/A           |

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## 7. RADIATED EMISSION

### 7.1 TEST LIMIT

#### Standard FCC15.249

| Fundamental Frequency | Field Strength of Fundamental (millivolts/meter) | Field Strength of Harmonics (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 (MHz) | Distance Meters | Field Strengths Limit                                         |               |
|-----------------|-----------------|---------------------------------------------------------------|---------------|
|                 |                 | $\mu V/m$                                                     | $dB(\mu V)/m$ |
| 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 $dB(\mu V)/m$ (Peak) 54.0 $dB(\mu V)/m$ (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.

## 7.2. MEASUREMENT PROCEDURE

1. The measuring distance of 3m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation(Below 1GHz)
2. The measuring distance of 3m shall used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation(Above 1GHz)
3. The height of the test antenna shall vary between 1m to 4m.Both horizontal and vertical polarization Of the antenna are set to make the measurement.
4. The initial step in collecting radiated emission data is a receive peak detector mode. Pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
5. All readings are peak unless otherwise stated QP in column of Note. Peak denoted that the Peak reading compliance with the QP limits and then QP Mode measurement didn't perform(Below 1GHz)
6. All readings are Peak mode value unless otherwise stated AVG in column of Note. If the Peak mode measured value compliance with the Peak limits and lower than AVG Limits, the EUT shall be deemed to meet Peak & AVG limits and then only Peak mode was measured, but AVG mode didn't perform.(Above 1GHz)

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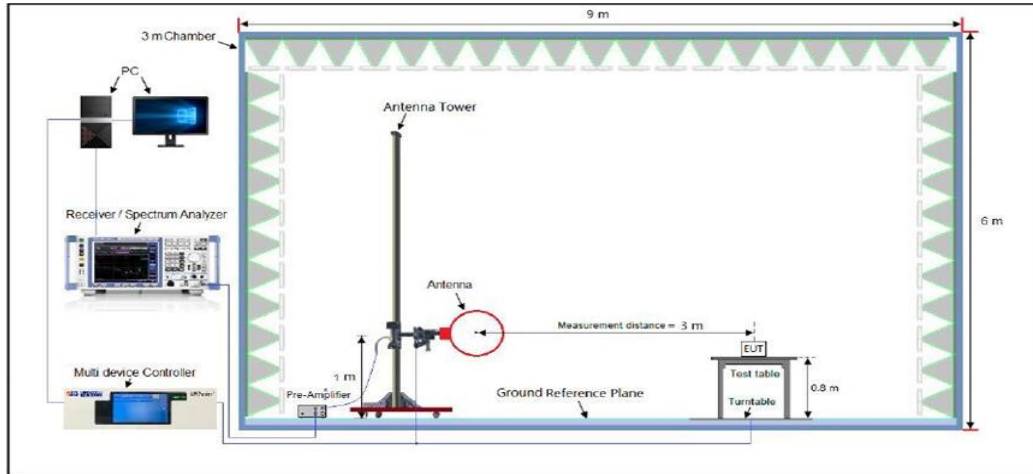
The following table is the setting of spectrum analyzer and receiver.

| 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 | Fundamental: 2.4~2.483GHz<br>RBW 2MHz/ VBW 6MHz for Peak,<br>RBW 2MHz/ VBW 10Hz for Average<br>Harmonics: 1GHz~25GHz<br>RBW 1MHz/ VBW 3MHz for Peak,<br>RBW 1MHz/ VBW 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                                                                                                                                                         |

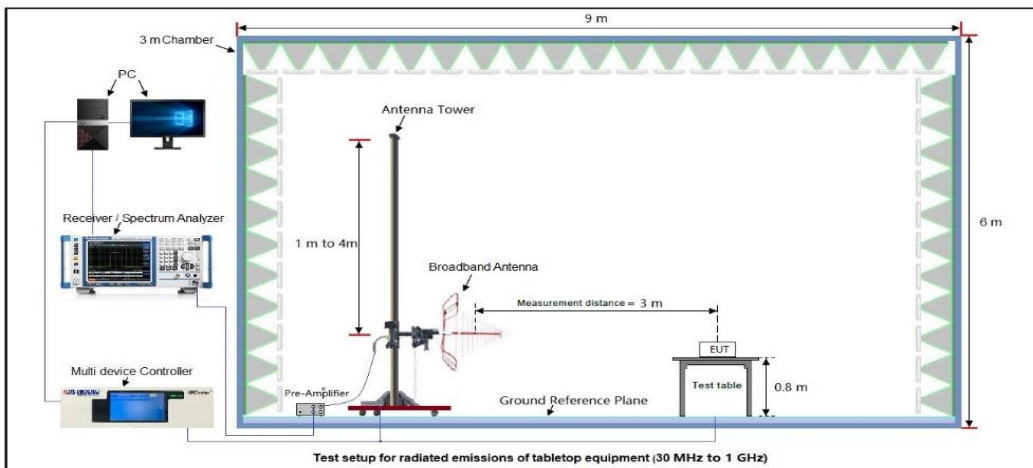
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### 7.3. TEST SETUP

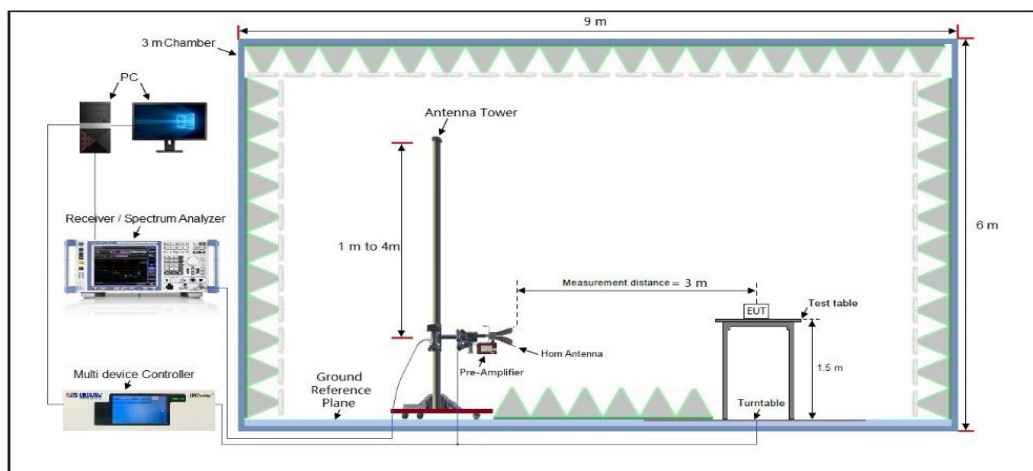
#### Radiated Emission Test-Setup Frequency Below 30MHz



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



#### RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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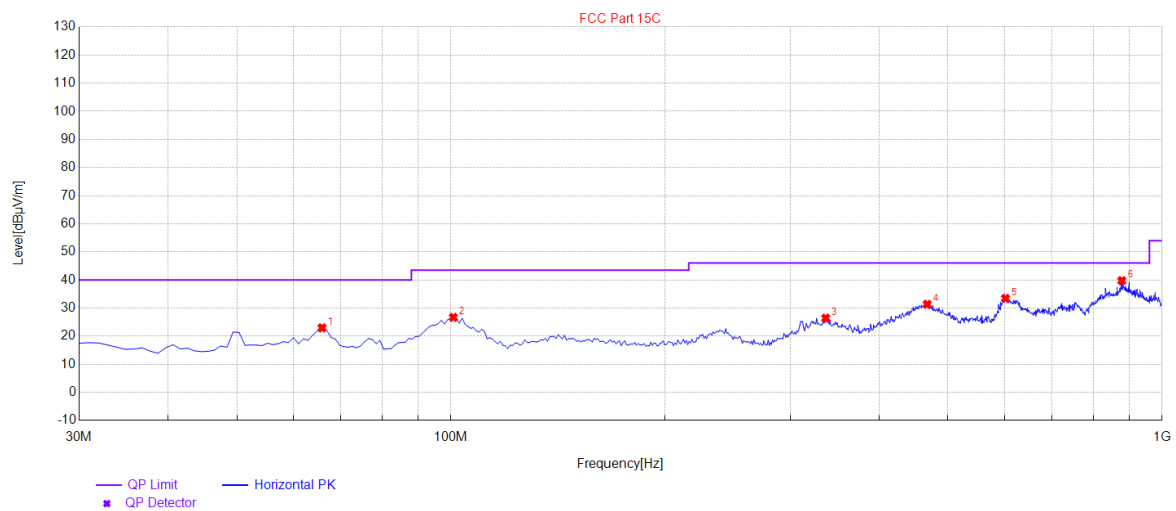
## 7.4. TEST RESULT

### RADIATED EMISSION BELOW 30MHz

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

### RADIATED EMISSION 30MHz- 1GHz FOR BR/EDR

|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 1                                | Polarization :      | Horizontal |



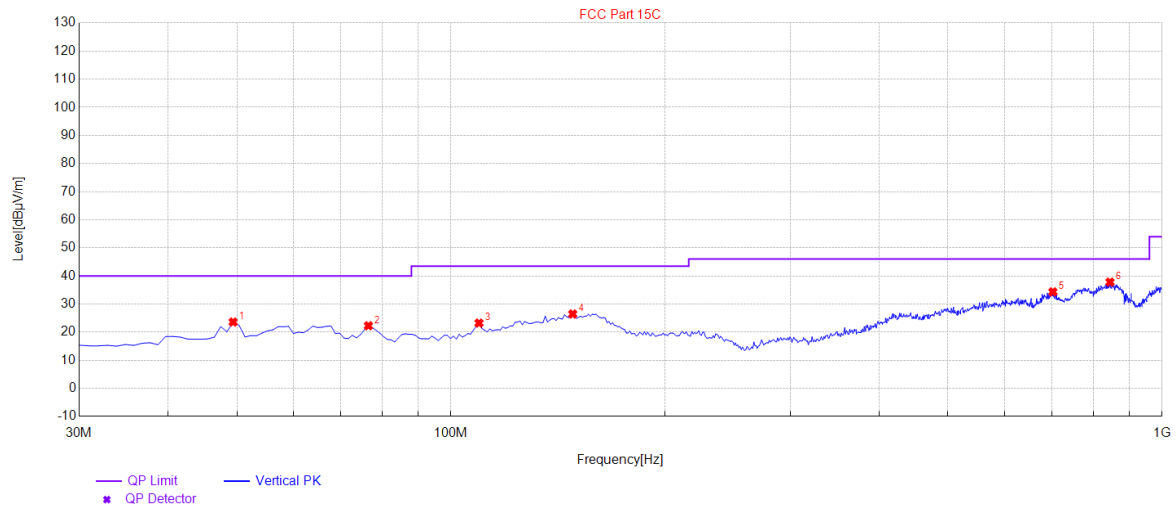
| NO. | Freq. [MHz] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity   |
|-----|-------------|----------------|-------------|----------------|-------------|-------------|-----------|------------|
| 1   | 65.89       | 22.95          | 11.99       | 40.00          | 17.05       | 100         | 1         | Horizontal |
| 2   | 100.81      | 26.69          | 21.07       | 43.50          | 16.81       | 100         | 278       | Horizontal |
| 3   | 336.52      | 26.42          | 20.95       | 46.00          | 19.58       | 100         | 358       | Horizontal |
| 4   | 467.47      | 31.35          | 26.93       | 46.00          | 14.65       | 100         | 78        | Horizontal |
| 5   | 602.3       | 33.45          | 28.64       | 46.00          | 12.55       | 100         | 86        | Horizontal |
| 6   | 877.78      | 39.77          | 32.91       | 46.00          | 6.23        | 100         | 1         | Horizontal |

**RESULT: PASS**

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|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%    |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 1                                | Polarization :      | Vertical |



| NO. | Freq. [MHz] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
|-----|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|
| 1   | 49.4        | 23.61          | 13.23       | 40.00          | 16.39       | 100         | 127       | Vertical |
| 2   | 76.56       | 22.29          | 12.62       | 40.00          | 17.71       | 100         | 336       | Vertical |
| 3   | 109.54      | 23.23          | 15.06       | 43.50          | 20.27       | 100         | 221       | Vertical |
| 4   | 148.34      | 26.46          | 20.72       | 43.50          | 17.04       | 100         | 328       | Vertical |
| 5   | 702.21      | 34.34          | 28.88       | 46.00          | 11.66       | 100         | 26        | Vertical |
| 6   | 844.8       | 37.82          | 32.39       | 46.00          | 8.18        | 100         | 144       | Vertical |

## RESULT: PASS

**Note:** 1. Factor=Antenna Factor + Cable loss, Margin= Limit -Level.

2. The “Factor” value can be calculated automatically by software of measurement system.

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### FIELD STRENGTH OF FUNDAMENTAL FOR BR/EDR

|                   |                                       |                     |            |
|-------------------|---------------------------------------|---------------------|------------|
| EUT :             | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature :     | 25.0 °C                               | Relative Humidity : | 50%        |
| Pressure :        | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Modulation : | GFSK                                  | Polarization :      | Horizontal |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 2405                                                  | 78.28         | 13.46  | 91.74          | 114.00   | -22.26 | peak       |
| 2405                                                  | 72.49         | 13.46  | 85.95          | 94.00    | -8.05  | AVG        |
| 2440                                                  | 77.36         | 13.88  | 91.24          | 114.00   | -22.76 | peak       |
| 2440                                                  | 71.58         | 13.88  | 85.46          | 94.00    | -8.54  | AVG        |
| 2475                                                  | 77.06         | 14.11  | 91.17          | 114.00   | -22.83 | peak       |
| 2475                                                  | 71.18         | 14.11  | 85.29          | 94.00    | -8.71  | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|                   |                                       |                     |          |
|-------------------|---------------------------------------|---------------------|----------|
| EUT :             | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature :     | 25.0 °C                               | Relative Humidity : | 50%      |
| Pressure :        | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Modulation : | GFSK                                  | Polarization :      | Vertical |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 2405                                                  | 76.69         | 13.46  | 90.15          | 114.00   | -23.85 | peak       |
| 2405                                                  | 69.31         | 13.46  | 82.77          | 94.00    | -11.23 | AVG        |
| 2440                                                  | 75.47         | 13.88  | 89.35          | 114.00   | -24.65 | peak       |
| 2440                                                  | 69.03         | 13.88  | 82.91          | 94.00    | -11.09 | AVG        |
| 2475                                                  | 74.24         | 14.11  | 88.35          | 114.00   | -25.65 | peak       |
| 2475                                                  | 69            | 14.11  | 83.11          | 94.00    | -10.89 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

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### RADIATED EMISSION ABOVE 1GHZ FOR BR/EDR

|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 1                                | Polarization :      | Horizontal |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4810                                                  | 44.39         | 7.12   | 51.51          | 74       | -22.49 | peak       |
| 4810                                                  | 37.12         | 7.12   | 44.24          | 54       | -9.76  | AVG        |
| 7215                                                  | 40.15         | 9.84   | 49.99          | 74       | -24.01 | peak       |
| 7215                                                  | 28.35         | 9.84   | 38.19          | 54       | -15.81 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%    |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 1                                | Polarization :      | Vertical |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4810                                                  | 45.28         | 7.12   | 52.4           | 74       | -21.6  | peak       |
| 4810                                                  | 36.84         | 7.12   | 43.96          | 54       | -10.04 | AVG        |
| 7215                                                  | 40.24         | 9.84   | 50.08          | 74       | -23.92 | peak       |
| 7215                                                  | 27.26         | 9.84   | 37.1           | 54       | -16.9  | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

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|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 2                                | Polarization :      | Horizontal |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4880                                                  | 44.69         | 7.12   | 51.81          | 74       | -22.19 | peak       |
| 4880                                                  | 39.24         | 7.12   | 46.36          | 54       | -7.64  | AVG        |
| 7320                                                  | 39.64         | 9.84   | 49.48          | 74       | -24.52 | peak       |
| 7320                                                  | 30.15         | 9.84   | 39.99          | 54       | -14.01 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%    |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 2                                | Polarization :      | Vertical |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4880                                                  | 43.94         | 7.12   | 51.06          | 74       | -22.94 | peak       |
| 4880                                                  | 38.42         | 7.12   | 45.54          | 54       | -8.46  | AVG        |
| 7320                                                  | 37.51         | 9.84   | 47.35          | 74       | -26.65 | peak       |
| 7320                                                  | 28.42         | 9.84   | 38.26          | 54       | -15.74 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

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|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 3                                | Polarization :      | Horizontal |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4950                                                  | 45.29         | 7.12   | 52.41          | 74       | -21.59 | peak       |
| 4950                                                  | 39.24         | 7.12   | 46.36          | 54       | -7.64  | AVG        |
| 7425                                                  | 41.25         | 9.84   | 51.09          | 74       | -22.91 | peak       |
| 7425                                                  | 32.46         | 9.84   | 42.3           | 54       | -11.7  | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 24.0 °C                               | Relative Humidity : | 59.8%    |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 3                                | Polarization :      | Vertical |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4950                                                  | 44.36         | 7.12   | 51.48          | 74       | -22.52 | peak       |
| 4950                                                  | 37.25         | 7.12   | 44.37          | 54       | -9.63  | AVG        |
| 7425                                                  | 39.64         | 9.84   | 49.48          | 74       | -24.52 | peak       |
| 7425                                                  | 31.24         | 9.84   | 41.08          | 54       | -12.92 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

**Note:** Other emissions 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 TEST LIMIT

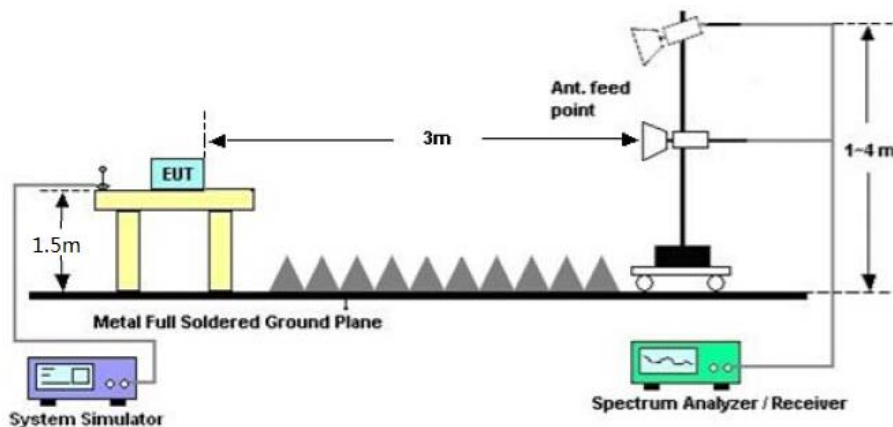
| Frequency Band            | Limit of the Field Strength (dB $\mu$ V/m) |         |
|---------------------------|--------------------------------------------|---------|
|                           | Peak                                       | Average |
| $f \leq 2400\text{MHz}$   | 74                                         | 54      |
| $f \geq 2483.5\text{MHz}$ | 74                                         | 54      |

### 8.2. 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=1MHz, VBW=3MHz / Sweep=AUTO  
(b) AVERAGE: RBW=1MHz ; VBW=1/on time / Sweep=AUTO
3. Other procedures refer to clause 8.2.

### 8.3 TEST SETUP

RADIATED EMISSION TEST SETUP



### 8.4 TEST RESULT

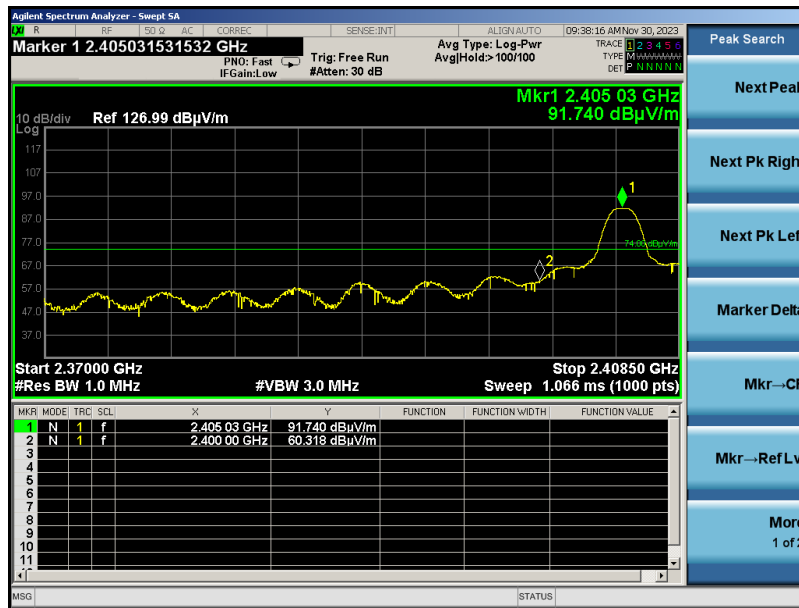
#### Note:

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.

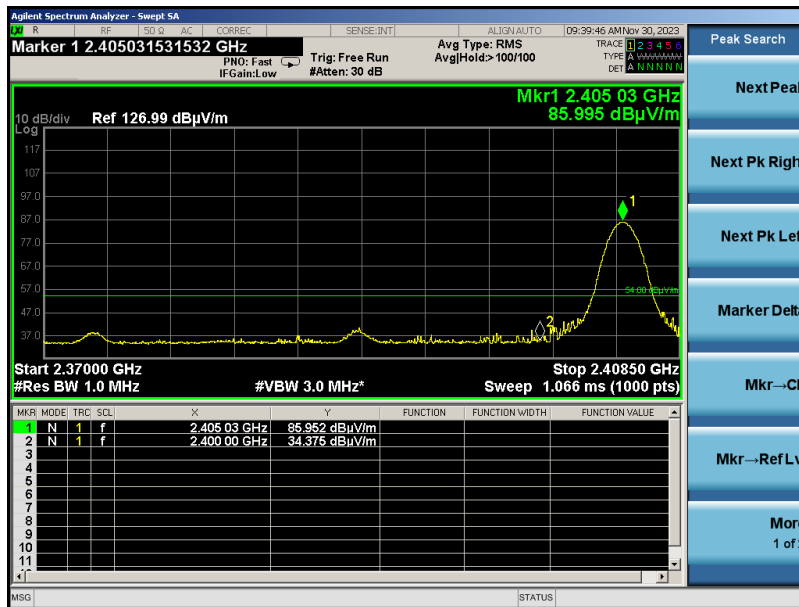
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|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 25.0 °C                               | Relative Humidity : | 50%        |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 1                                | Polarization :      | Horizontal |

### Peak Value



### Average Value



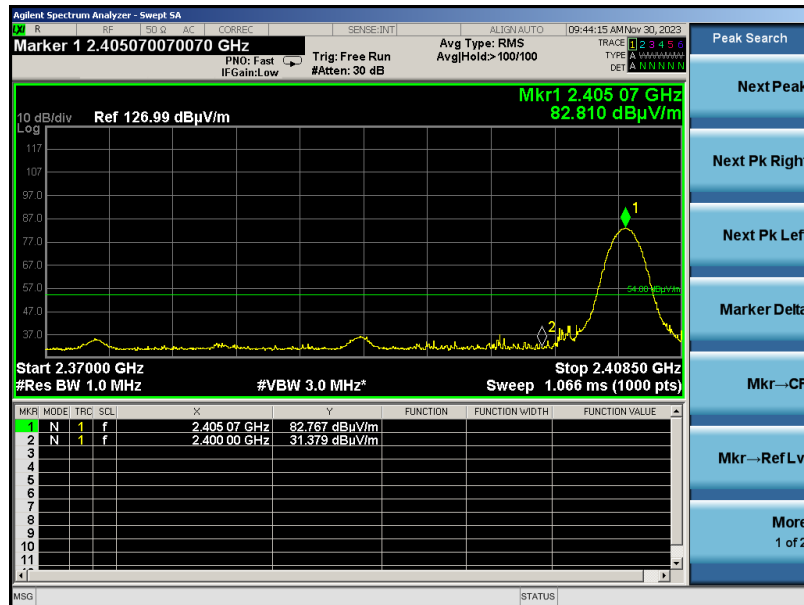
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|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 25.0 °C                               | Relative Humidity : | 50%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 1                                | Polarization :      | Vertical |

### Peak Value



### Average Value



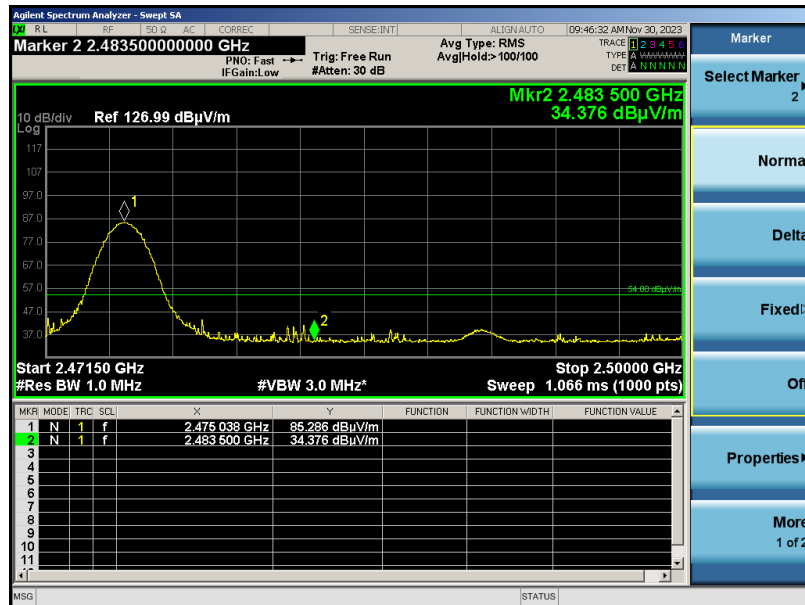
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|               |                                       |                     |            |
|---------------|---------------------------------------|---------------------|------------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133    |
| Temperature : | 25.0 °C                               | Relative Humidity : | 50%        |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V    |
| Test Mode :   | Mode 3                                | Polarization :      | Horizontal |

### Peak Value



### Average Value



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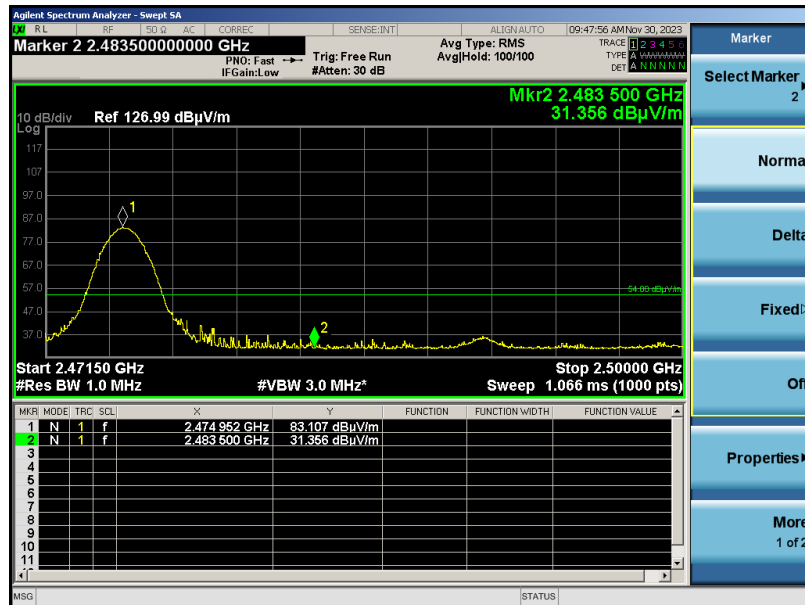
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|               |                                       |                     |          |
|---------------|---------------------------------------|---------------------|----------|
| EUT :         | GeoSafari Jr. My First Walkie Talkies | Model Name. :       | EI-5133  |
| Temperature : | 25.0 °C                               | Relative Humidity : | 50%      |
| Pressure :    | 985 Mbar                              | Test Voltage :      | DC 4.5V  |
| Test Mode :   | Mode 3                                | Polarization :      | Vertical |

### Peak Value



### Average Value



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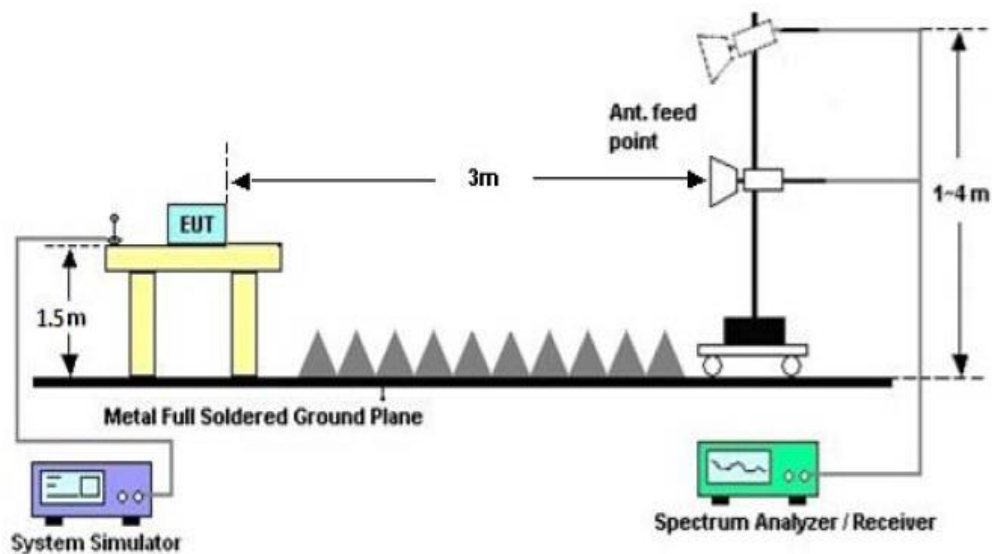
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## 9. 20DB BANDWIDTH

### 9.1. MEASUREMENT PROCEDURE

1. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
2. Set Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel  
RBW  $\geq$  1% of the 20 dB bandwidth, VBW  $\geq$  3RBW; Sweep = auto; Detector function = peak
3. Set SPA Trace 1 Max hold, then View.

### 9.2. TEST SET-UP



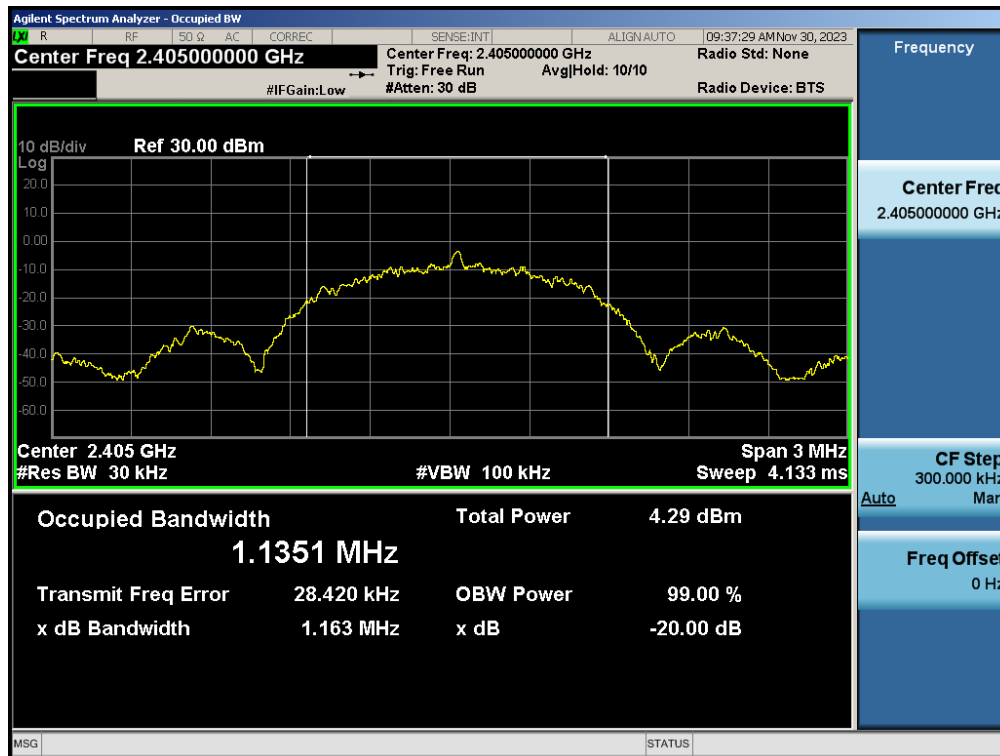
### 9.3. LIMITS AND MEASUREMENT RESULTS

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

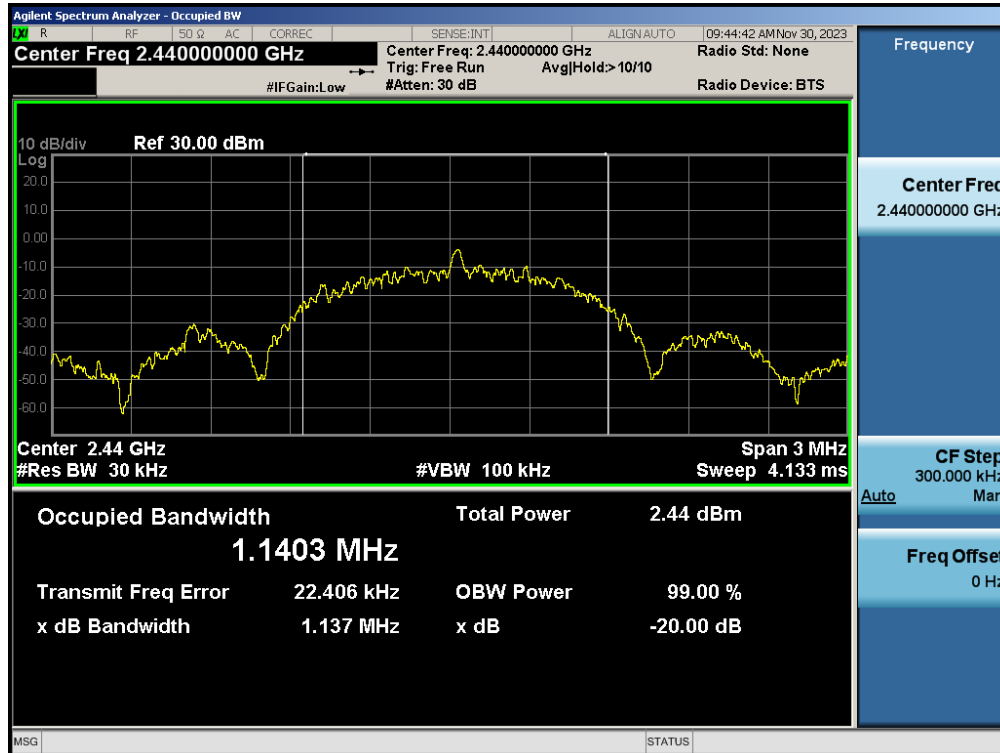
| Test Data (MHz) |       | Criteria |
|-----------------|-------|----------|
| Low Channel     | 1.163 | PASS     |
| Middle Channel  | 1.137 | PASS     |
| High Channel    | 1.171 | PASS     |

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### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

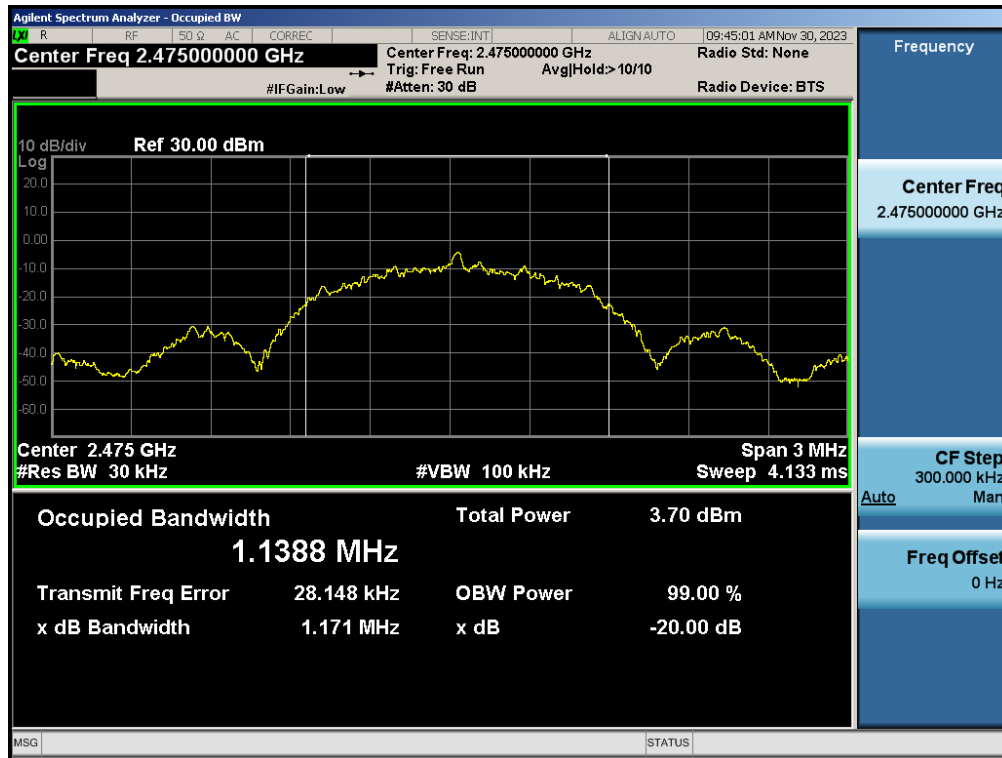


### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



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### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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## 10. FCC LINE CONDUCTED EMISSION TEST

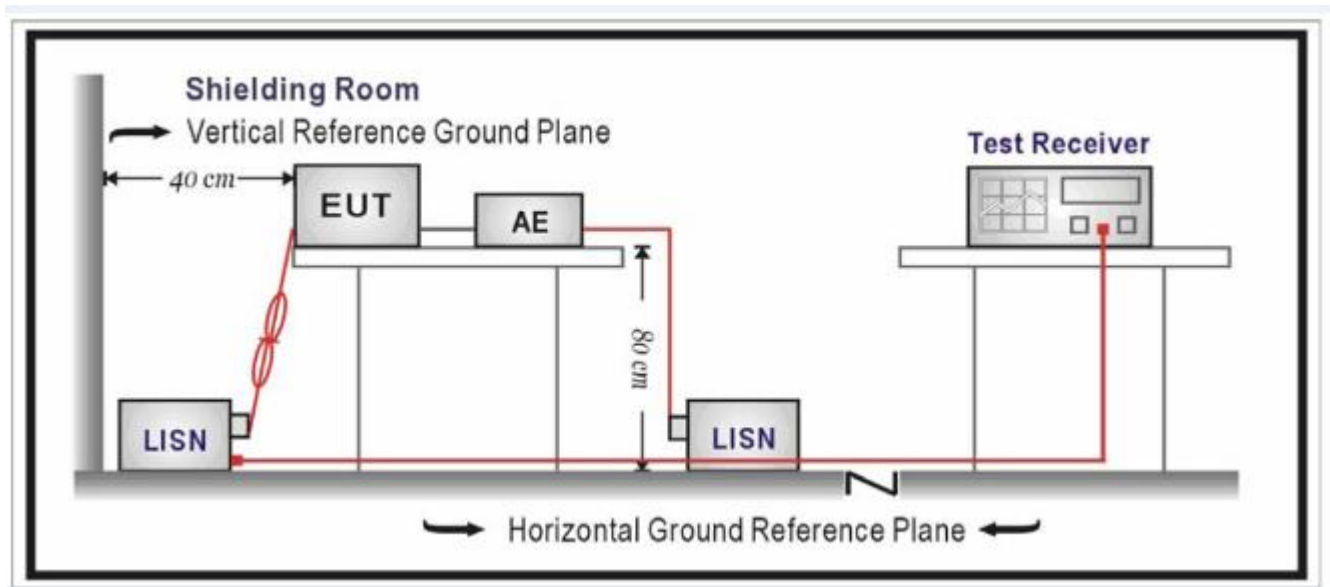
### 10.1. LIMITS OF LINE CONDUCTED EMISSION TEST

| Frequency     | Maximum RF Line Voltage |                |
|---------------|-------------------------|----------------|
|               | Q.P.( dBuV)             | Average( dBuV) |
| 150kHz~500kHz | 66-56                   | 56-46          |
| 500kHz~5MHz   | 56                      | 46             |
| 5MHz~30MHz    | 60                      | 50             |

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 10.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



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### 10.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10-2013.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC 5V power by adapter which received AC120V/60Hz power by a LISN.
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

### 10.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

### 10.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

N/A

Note: The conducted emission tests at AC port are not required for devices which only employ battery power for operation.

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

Refer to the Report No.: AGC12364231110AP01

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

Refer to the Report No.: AGC12364231110AP02

**-----END OF REPORT-----**

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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
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8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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