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| Change History | | |
|----------------|------------|-------------------|
| Issue | Date | Reason for change |
| 1.0 | 2018-10-17 | First edition |
| | | |



1. Technical Information

Note: Provide by manufacturer.

1.1. Manufacturer and Factory Information

| | |
|------------------------------|---|
| Applicant: | Dongguan Kingsheng Electronics & Technology Co., Ltd |
| Applicant Address: | Building 39, Arising Sun Industrial, Lincun Village, Tangxia Town, Dongguan, Guangdong, China |
| Manufacturer: | Dongguan Kingsheng Electronics & Technology Co., Ltd |
| Manufacturer Address: | Building 39, Arising Sun Industrial, Lincun Village, Tangxia Town, Dongguan, Guangdong, China |

1.2. Equipment Under Test (EUT) Description

| | |
|------------------|-----|
| Wireless Type | N/A |
| Hardware Version | N/A |
| Software Version | N/A |

2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

| No. | Identity | Document Title |
|-----|-------------------|--|
| 1 | IEEE Std 149-1979 | IEEE Standard Test Procedures for Antennas |

2.2. Test Conditions

Test Environment Conditions:

| | |
|--------------------|------------------|
| Relative Humidity: | 15 ... 75 % |
| Temperature: | +10 °C to +30 °C |

2.3. Test Results lists

2.3.1. Gain and Efficiency

| Frequency | Gain(dBi) | Efficiency |
|-----------|-----------|------------|
| 2400MHz | -1.60 | 23.03% |
| 2410MHz | -2.38 | 18.97% |
| 2420MHz | -0.10 | 26.47% |
| 2430MHz | -2.06 | 26.23% |
| 2440MHz | 0.13 | 22.21% |
| 2450MHz | -2.09 | 22.85% |
| 2460MHz | -1.73 | 18.53% |
| 2470MHz | -1.47 | 19.63% |
| 2480MHz | -2.13 | 21.26% |
| 2490MHz | -2.48 | 16.05% |
| 2500MHz | -2.87 | 14.90% |

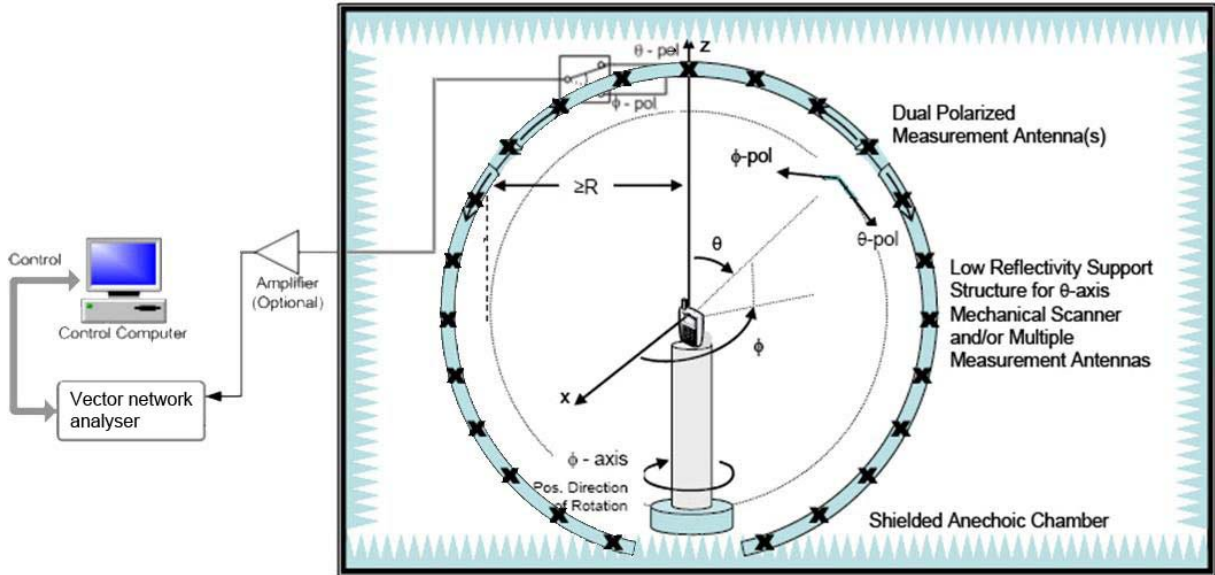


2.3.2.Return Loss;Impedance;VSWR

| Frequency | Return Loss (dB) | Impedance(Ω) | VSWR |
|-----------|------------------|-----------------------|------|
| 2400MHz | -3.34 | 25.82 | 5.27 |
| 2450MHz | -3.00 | 39.16 | 5.86 |
| 2500MHz | -2.71 | 69.44 | 6.47 |

Annex A Photographs

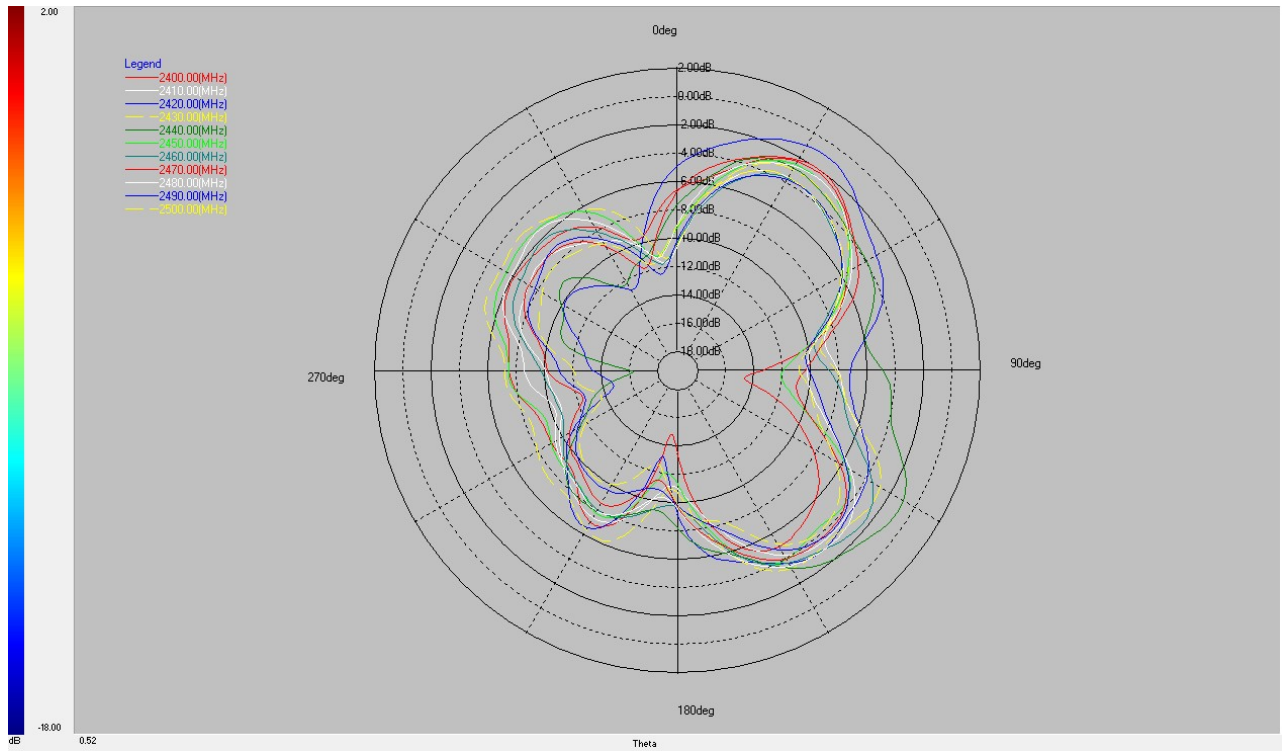
1. Test Setup



Annex B Figures

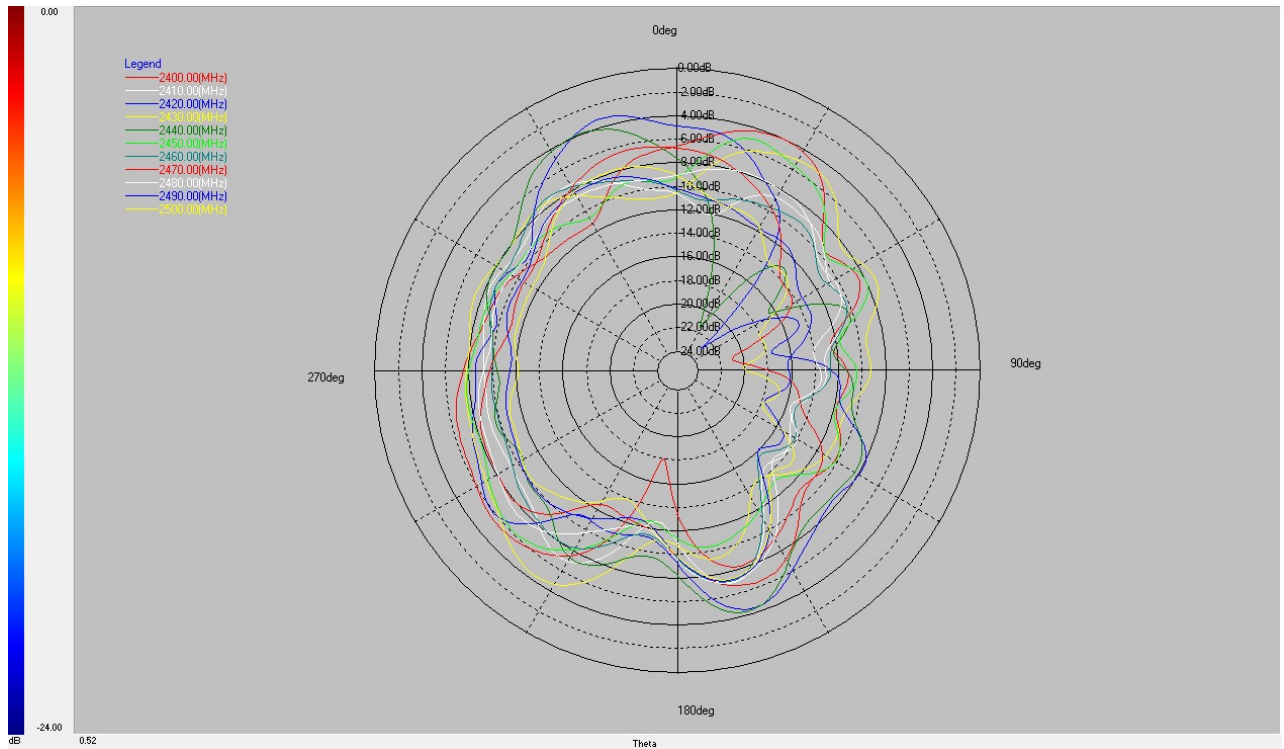
1. 2D Radiation Pattern

Phi=0°

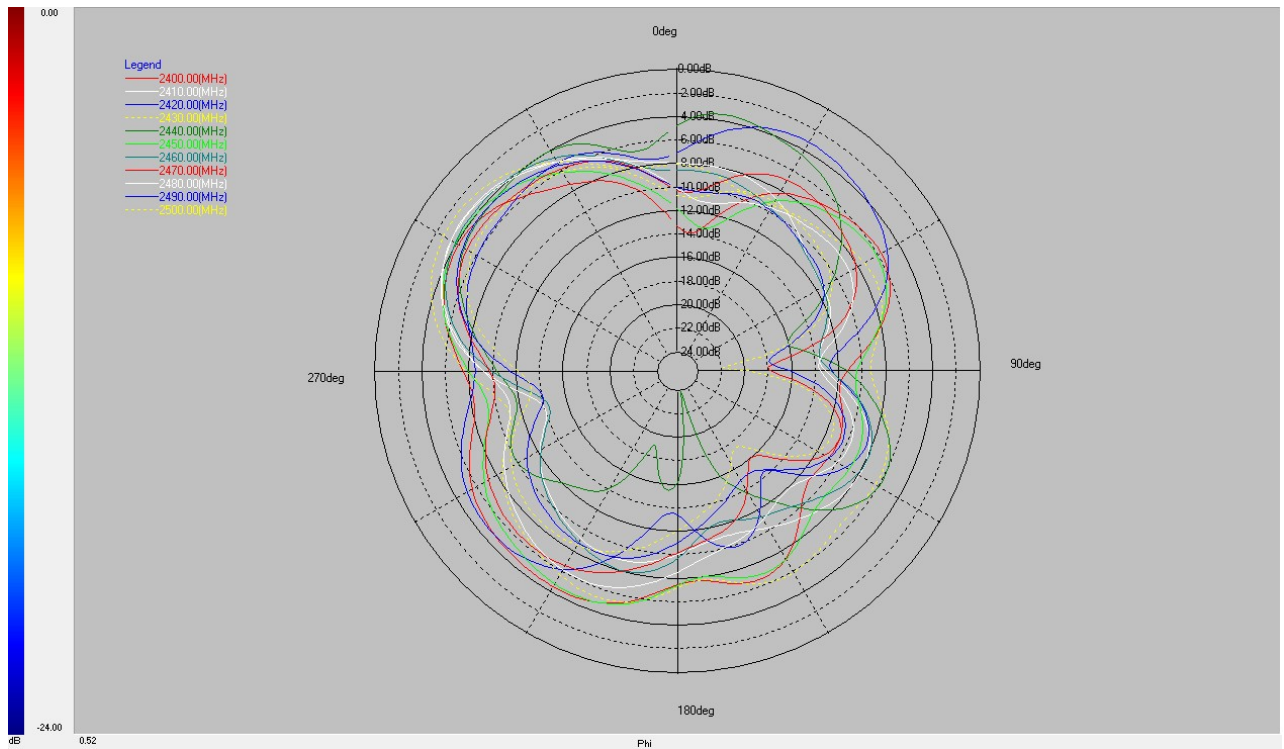




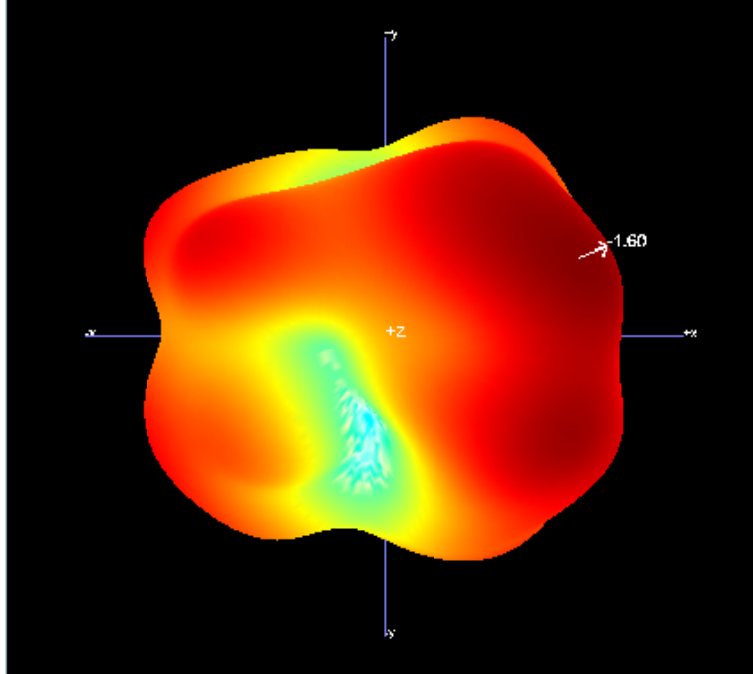
Phi=90°



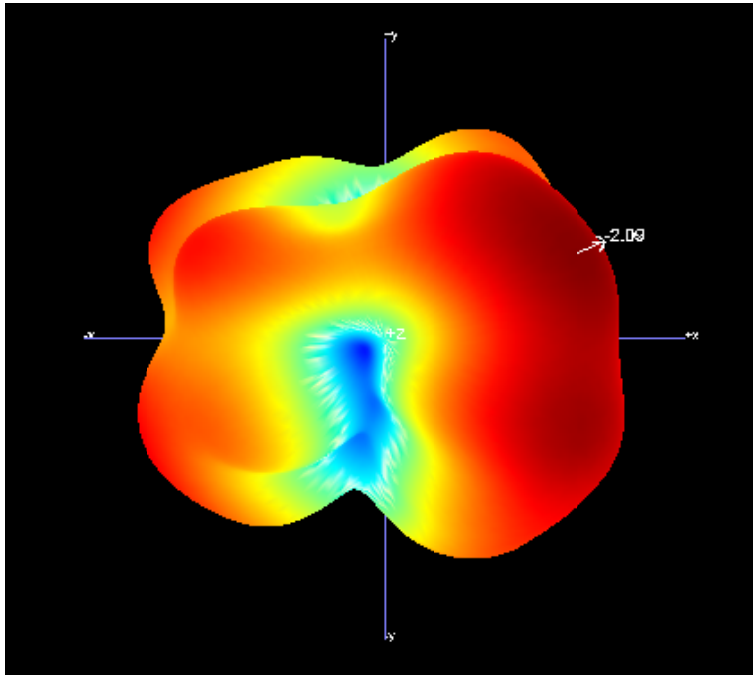
Theta=90°



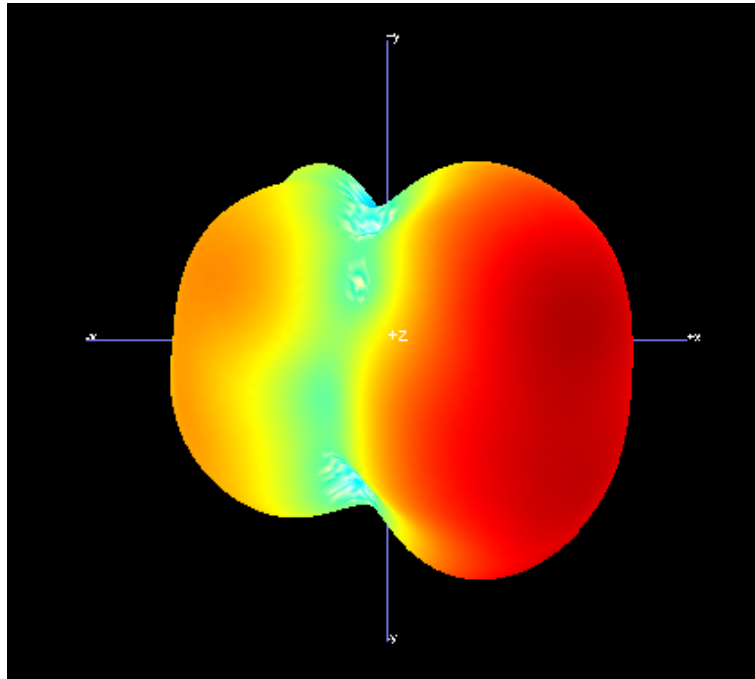
2. 3D Radiation Pattern



2400MHz

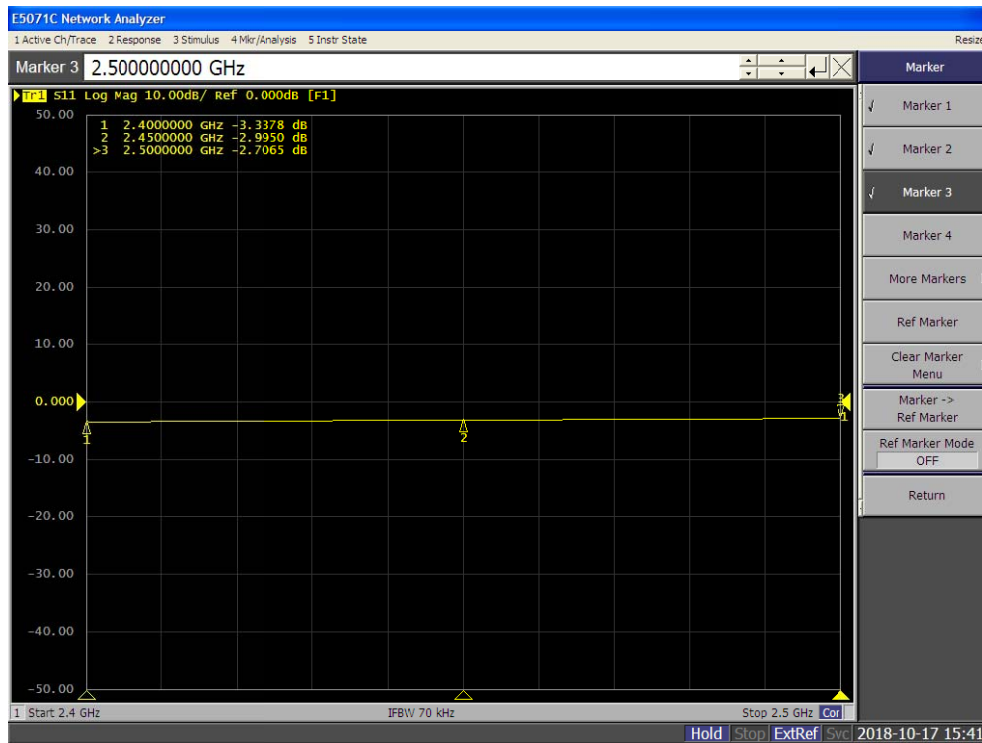


2450MHz



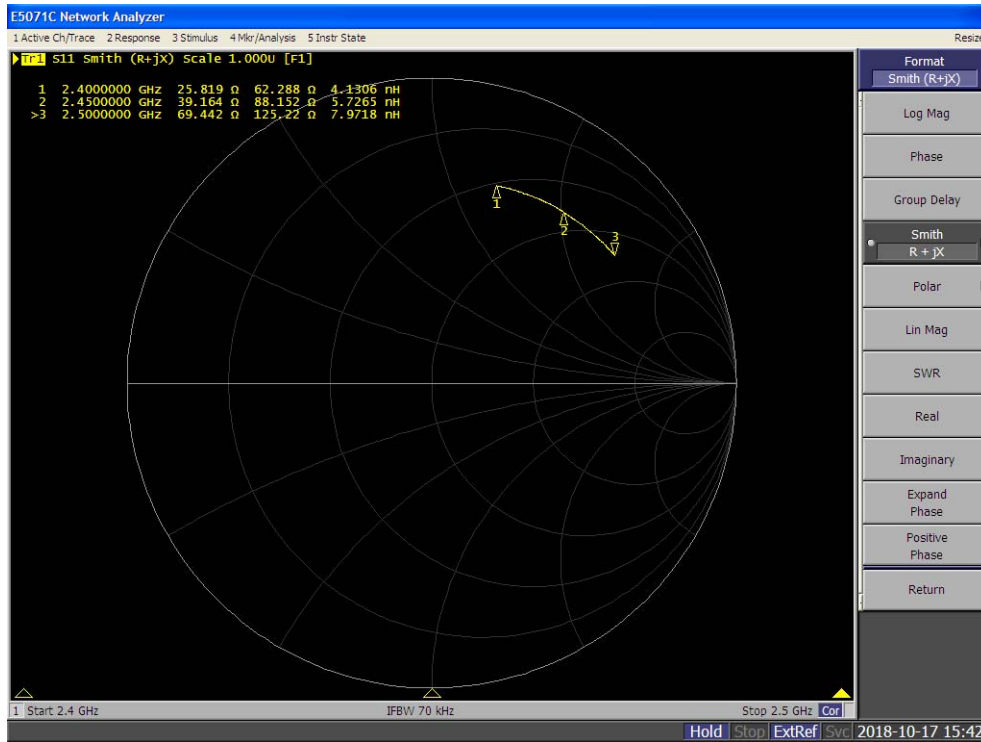
2500MHz

3. Return Loss

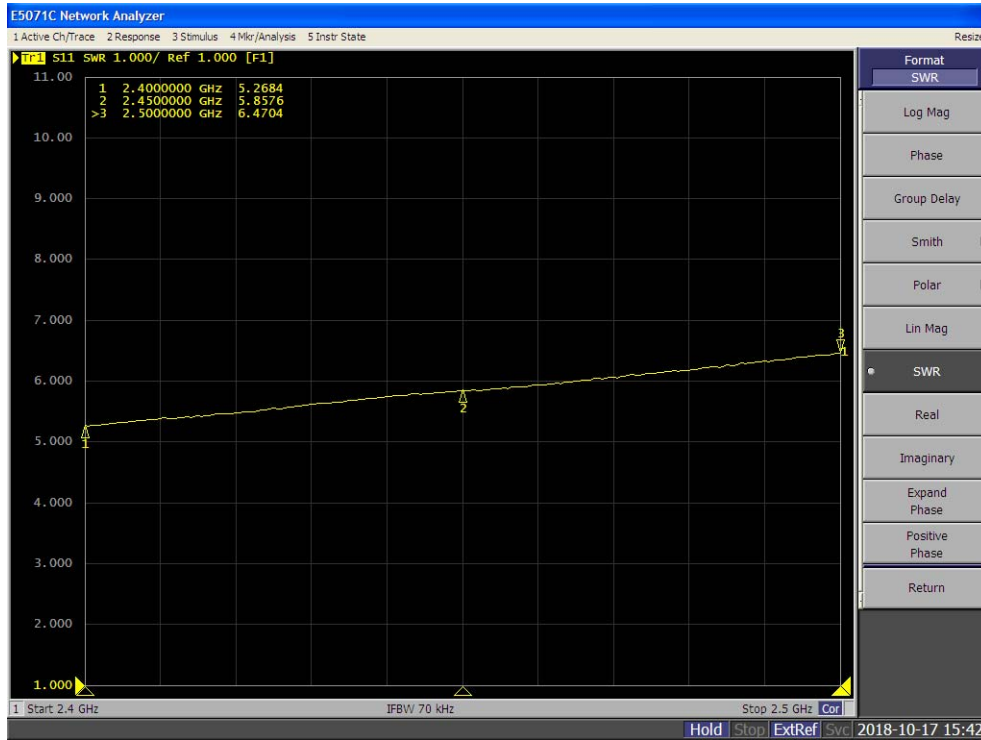




4. Impedance



5. VSWR



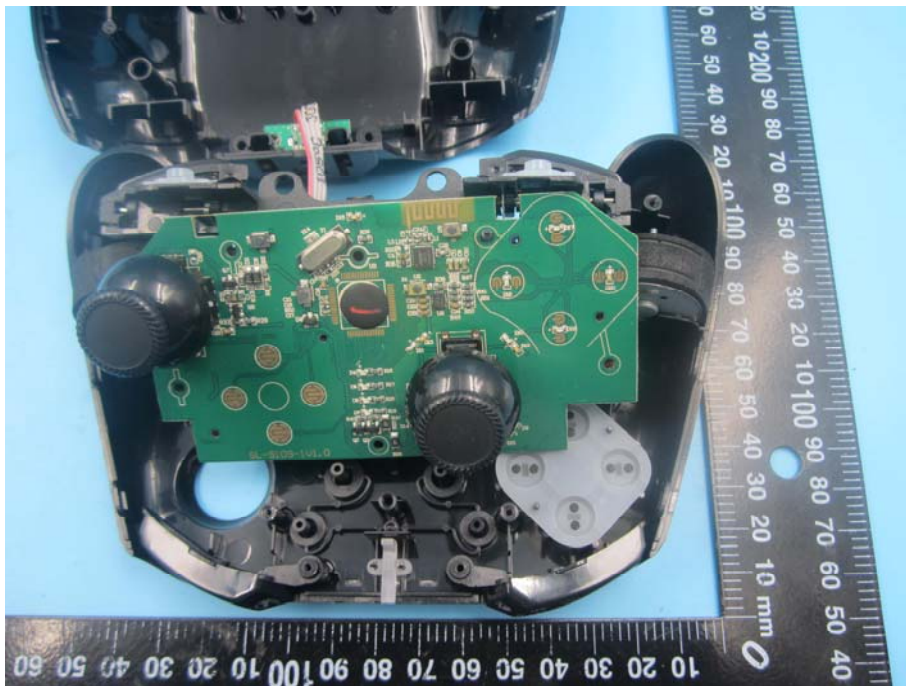
Annex C Photographs

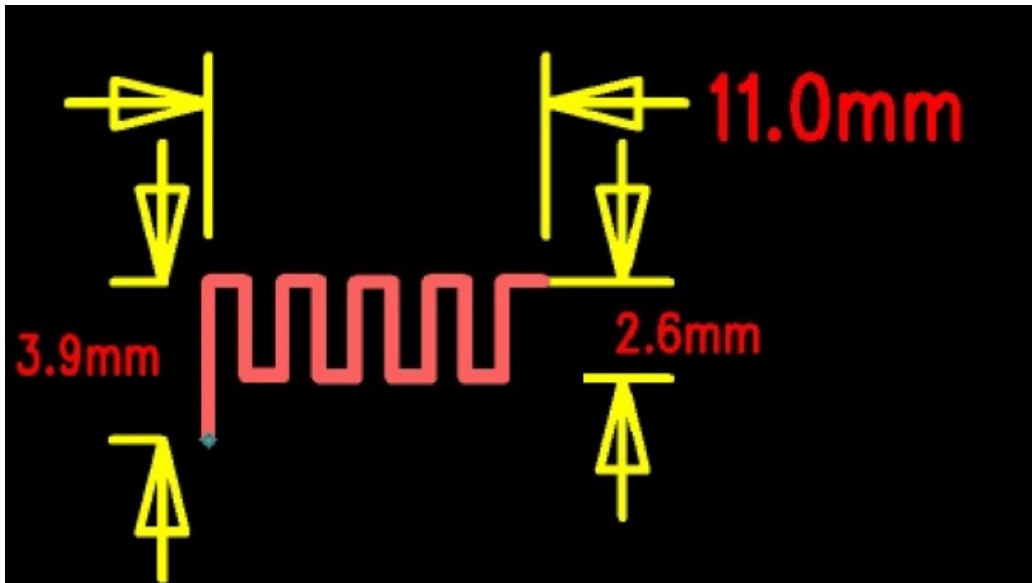
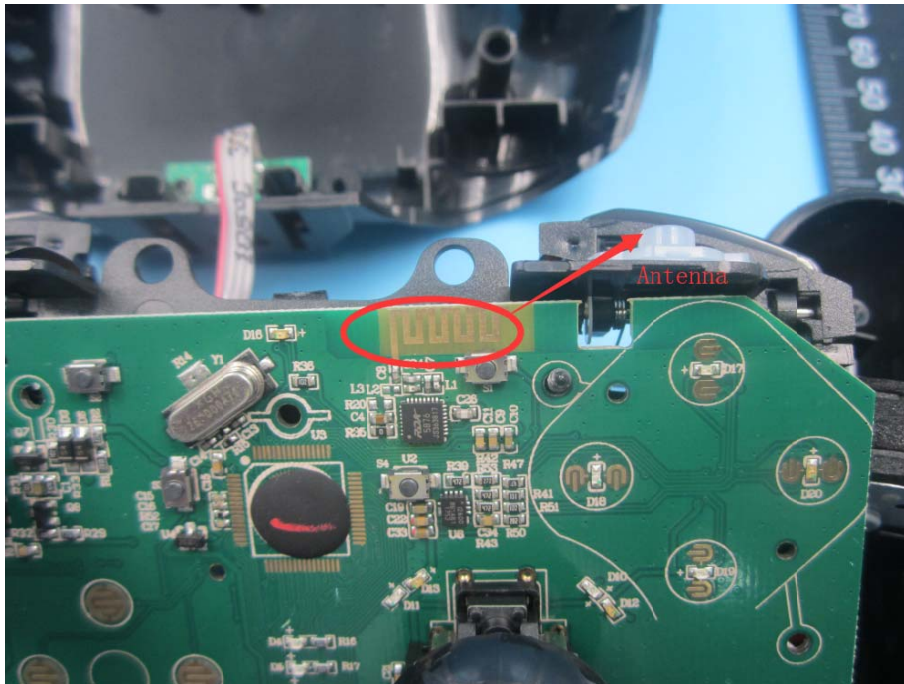
1. EUT













Annex D General Information

1.1 Identification of the Responsible Testing Laboratory

| | |
|-------------------------------|--|
| Company Name: | Shenzhen Morlab Communications Technology Co., Ltd. |
| Department: | Morlab Laboratory |
| Address: | FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China |
| Responsible Test Lab Manager: | Mr. Su Feng |
| Telephone: | +86 755 36698555 |
| Facsimile: | +86 755 36698525 |

1.2 Identification of the Responsible Testing Location

| | |
|----------|--|
| Name: | Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory |
| Address: | FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China |

1.3 Test Equipments Utilized

1.3.1 List of Test Equipment

| No. | Type | Specification |
|-----|---|-----------------------|
| 1 | E5071C Vector Network Analyzer | Manufacturer: Agilent |
| 2 | 4*4*4 Full Anechoic Chamber | Manufacturer: Satimo |
| 3 | SG24 Multi-probe Antenna Measurement System | Manufacturer: Satimo |

————— END OF REPORT —————