| | | | | |
|---|---|---|---|---|
| **Prüfbericht-Nr.:** *Test report no.:* | **CN21SN7Q 001** | **Auftrags-Nr.:** *Order no.:* | 168310254 | Seite 1 von 55 Page 1 of 55 |
| **Kunden-Referenz-Nr.:** *Client reference no.:* | **N/A** | **Auftragsdatum:** *Order date:* | 2020-12-22 | |
| **Auftraggeber:** *Client:* | Foshan COXO Medical Instrument Co., Ltd<br>BLDG 4, Dist. A Guangdong New Light Source IND. Base, South of Luocun Ave. Nanhai Dist., Foshan,528226 Guangdong, China | | | |
| **Prüfgegenstand:** *Test item:* | Endo Motors | | | |
| **Bezeichnung / Typ-Nr.:** *Identification / Type no.:* | C-SMART-I PILOT<br>(Trademark: COXO) | | | |
| **Auftrags-Inhalt:** *Order content:* | Test Report | | | |
| **Prüfgrundlage:** *Test specification:* | FCC CFR Title 47, Part 15, Subpart C, Section 15.247 | | | |

| | | |
|---|---|---|
| **Wareneingangsdatum:** *Date of sample receipt:* | 2021-04-02 | Please refer to Photo Document |
| **Prüfmuster-Nr.:** *Test sample no:* | A003006478-001,004 | |
| **Prüfzeitraum:** *Testing period:* | 2021-04-02 – 2021-06-16 | |
| **Ort der Prüfung:** *Place of testing:* | TÜV Rheinland (Shenzhen) Co., Ltd. | |
| **Prüflaboratorium:** *Testing laboratory:* | TÜV Rheinland (Shenzhen) Co., Ltd. | |
| **Prüfergebnis*:** *Test result*:* | Pass | |

| | | | |
|---|---|---|---|
| **geprüft von:** *tested by:* | Recoverable Signature<br>X Chris Chen<br>Signed by: chenchris@asia.tuv.com | **genehmigt von:** *authorized by:* | X Winnie Hou<br>Signed by: Winnie Hou |
| **Datum:** *Date:* 2021-06-24 | | **Ausstellungsdatum:** *Issue date:* 2021-06-24 | |
| **Stellung** / *Position:* | Senior Project Manager | **Stellung** / *Position:* | Technical Certifier |
| **Sonstiges** / *Other:* | *FCC ID: 2A2C6-002* | | |

| | |
|---|---|
| **Zustand des Prüfgegenstandes bei Anlieferung:** *Condition of the test item at delivery:* | Prüfmuster vollständig und unbeschädigt<br>*Test item complete and undamaged* |

| | | | | | |
|---|---|---|---|---|---|
| * Legende: | 1 = sehr gut | 2 = gut | 3 = befriedigend | 4 = ausreichend | 5 = mangelhaft |
| | P(ass) = entspricht o.g. Prüfgrundlage(n) | | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |
| ** Legend:* | *1 = very good* | *2 = good* | *3 = satisfactory* | *4 = sufficient* | *5 = poor* |
| | *P(ass) = passed a.m test specification(s)* | | *F(ail) = failed a.m test specification(s)* | *N/A = not applicable* | *N/T = not tested* |

**Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.**
*This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be V05 plicated in extracts. This test report does not entitle to carry any test mark.*

# *Test Summary*

**5.1.1 ANTENNA REQUIREMENT**
*RESULT: Pass*

**5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER**
*RESULT: Pass*

**5.1.3 CONDUCTED POWER SPECTRAL DENSITY**
*RESULT: Pass*

**5.1.4 6DB BANDWIDTH**
*RESULT: Pass*

**5.1.5 99% BANDWIDTH**
*RESULT: Pass*

**5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH**
*RESULT: Pass*

**5.1.7 RADIATED SPURIOUS EMISSION**
*RESULT: Pass*

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# 1 General Remarks

## 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

# 2 Test Sites

## 2.1 Test Facilities

**TÜV Rheinland (Shenzhen) Co., Ltd.**
362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China

FCC Registration No.: 694916
ISED wireless device testing laboratory: 25069

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

| **Radio Spectrum Testing (TS8997)** | | | | |
|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model** | **Serial No.** | **Cal. until** |
| Signal Analyzer | R&S | FSV 40 | 101441 | 2021-08-10 |
| OSP | R&S | OSP 150 | 101017 | 2021-12-10 |
| Control PC | DELL | OptiPlex 7050 | FTJZ9P2 | N/A |
| Test Software | R&S | WMS32 (V11.00.00) | N/A | N/A |
| Power Meter | R&S | NRP2 | 107105 | 2021-12-10 |
| Wideband Power Sensor | R&S | NRP-Z81 | 105677 | 2021-09-10 |
| Shielding Room 8# | Albatross | SR8 | APC17151-SR8 | 2021-07-23 |
| **Unwanted Emission Testing (TS9975)** | | | | |
| **Equipment** | **Manufacturer** | **Model** | **Serial No.** | **Cal. until** |
| EMI Test Receiver | R&S | ESR 7 | 102021 | 2021-08-11 |
| Signal Analyzer | R&S | FSV 40 | 101439 | 2021-08-10 |
| System Controller Interface | R&S | SCI-100 | S10010038 | N/A |
| Filterbank | R&S | Wlan | 100759 | 2021-08-10 |
| OSP | R&S | OSP 120 | 102040 | N/A |
| Pre-amplifier | R&S | SCU08F1 | 08320031 | 2021-08-10 |
| Amplifier | R&S | SCU-18F | 180070 | 2021-08-10 |
| Amplifier | R&S | SCU40A | 100475 | 2021-09-10 |
| Trilog Broadband Antenna (30 MHz - 7 GHz) | Schwarzbeck | VULB 9162 | 193 | 2022-08-08 |
| Double-Ridged Antenna (1 -18 GHz) | ETS-LINDGREN | 3117 | 00218717 | 2022-08-08 |
| Wideband Ridged Horn Antenna (18-40 GHz) | Steatite | QMS-00880 | 19067 | 2022-08-08 |
| Active Loop Antenna | Schwarzbeck | FMZB 1513 | 302 | 2022-09-13 |

| | | | | |
|---|---|---|---|---|
| Wideband Ridged Horn Antenna (12-18 GHz) | Steatite | QMS-00208 | 18313 | 2021-09-02 |
| Test software | R&S | EMC32 (V10.60.10) | N/A | N/A |
| Control PC | Dell | OptiPlex 7050 | 36NV9P2 | N/A |
| 3m Semi-Anechoic Chamber | Albatross | SAC-3m | APC17151-SAC | 2021-07-06 |

| **Conducted Emission** | | | | |
|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Cal. Until** |
| EMI Test Receiver | R&S | ESR3 | 102428 | 2021-08-16 |
| Artificial Mains Network | R&S | ENV216 | 102333 | 2021-08-16 |
| EMC32 test software | R&S | EMC32(Ver.10.50.00) | N/A | N/A |

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

| Parameter | Uncertainty |
|---|---|
| Radio Frequency | ±1 x 10-7 |
| RF Power (conducted) | ±2.5 dB |
| Radiated Emission of Transmitter, valid up to 26.5 GHz | ±6 dB |
| Radiated Emission of Receiver, valid up to 26.5 GHz | ±6 dB |
| Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz) | ± 3.70 dB / ± 3.30 dB |
| Radiated Emission (3m SAC), 30MHz to 1000MHz | ± 4.52 dB |
| Radiated Emission (3m SAC), above 1000MHz | ± 4.37 dB |
| Temperature | ±1 °C |
| Humidity | ±5 % |
| Voltage (DC) | ±1 % |
| Voltage (AC, <10kHz) | ±2 % |

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were showed in this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

# 3 General Product Information

## 3.1 Product Function and Intended Use

The EUT is a Control Unit which part of **Endo Motors** and supports Bluetooth low energy (version 4.0), Wireless charging(WPT) technologies.
For details refer to the User Manual, Technical Description and Circuit Diagram.

## 3.2 Ratings and System Details

**Table 2: Technical Specification of EUT**

| General Information of EUT | Value |
|---|---|
| Kind of Equipment: | Endo Motors |
| Type Designation: | C-SMART-I PILOT |
| Trademark: | COXO |
| FCC ID: | 2A2C6-002 |
| Operating Voltage: | AC 100-240V, 50/60Hz Via adapter or<br>DC 7.4V(2600mAh Li-ion battery) charging by Apdater |
| Power Adapter | Model: GM16-100150-1A<br>Input: AC 100-240V, 50/60Hz, 1A<br>Output: DC 10V, 1.5A |
| **Technical Specification of Bluetooth LE** | |
| Frequency Range: | 2402 MHz to 2480 MHz |
| Type of Modulation: | GFSK |
| Channel Number: | 40 channels |
| Data Rate: | 1 Mbps |
| Channel Separation: | 2 MHz |
| Antenna Type: | Monopole Antenna |
| Antenna Gain: | 1.66 dBi |

## 3.3 Independent Operation Modes

The basic operation modes are:

A. On, Bluetooth LE transmitting mode
   1) Low Channel
   2) Middle Channel
   3) High Channel

B. On, BT Link mode

## 3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

## 3.5 Submitted Documents

- Application Form
- Instruction Manual
- Block Diagram
- ID Label and Location Info
- Schematics
- Operation Description

# 4 Test Set-up and Operation Modes

## 4.1 Principle of Configuration Selection

**Radio Spectrum:** The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

## 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

**Table 3: Test environments**

| Environment Parameter | Values During Tests | | |
|---|---|---|---|
| | Temperature | Voltage (Battery operated) | Relative Humidity |
| NTNV | 25°C±2°C | 3.0Vdc | Ambient |

**Table 4: Test channel and frequency**

| Mode | Test Channels (MHz) | Remark |
|---|---|---|
| Transmitting | L/M/H: 2402MHz, 2440MHz, 2480MHz | -- |

## 4.3 Special Accessories and Auxiliary Equipment

**Table 5: Auxiliary Equipment Used during Test**

| Description | Manufacturer | Model | S/N |
|---|---|---|---|
| Laptop | Lenovo | T480 | PF-16A6N8 |

## 4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

# 4.5 Test Setup Diagram

**Diagram of Measurement Configuration for Radiation Test (Below 1GHz)**

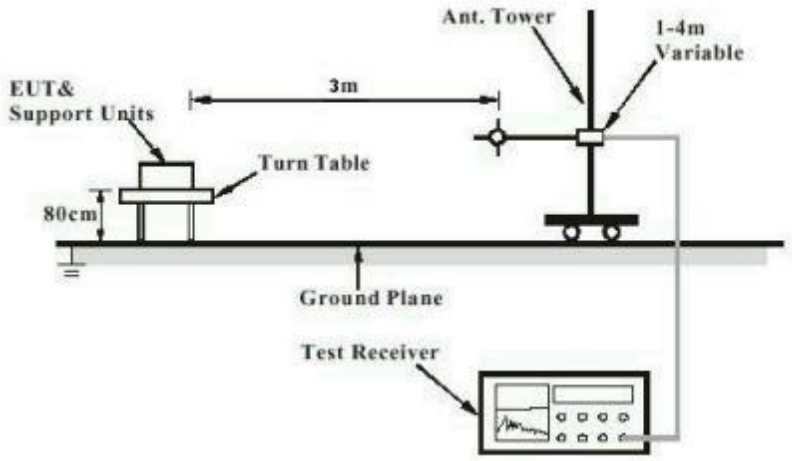



**Diagram of Measurement Configuration for Radiation Test (Above 1GHz)**

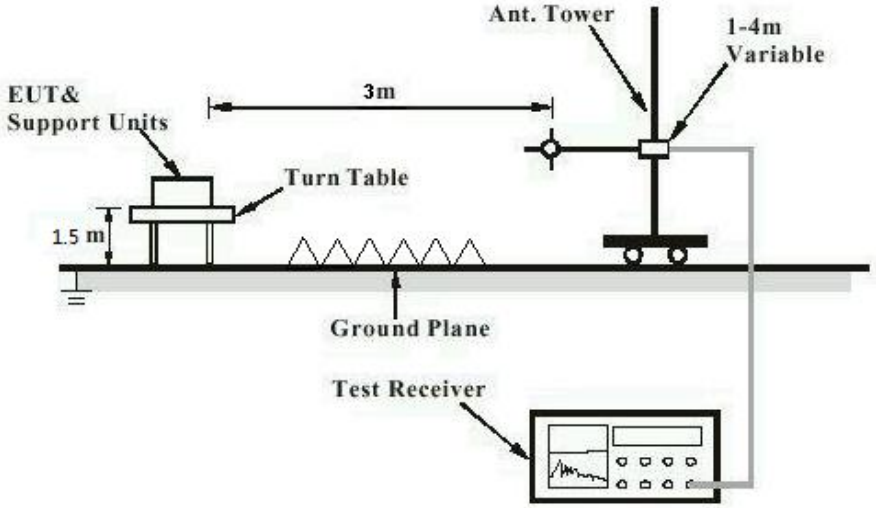


**Diagram of Measurement Configuration for Mains Conduction Measurement**

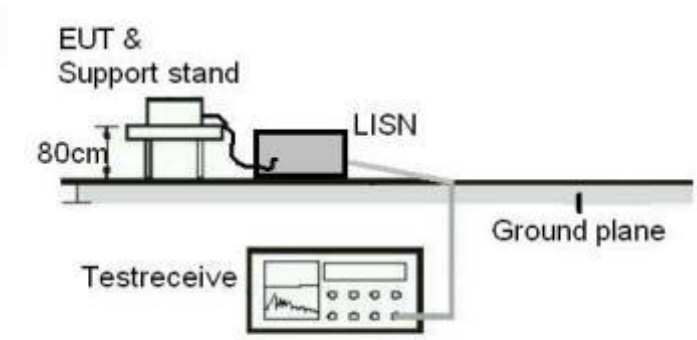
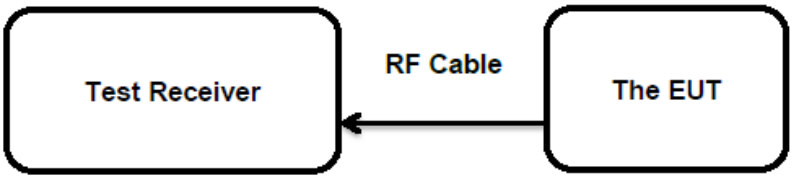



**Diagram of Measurement Configuration for Conducted Transmitter Measurement**



# 5 Test Results

## 5.1 Transmitter Requirement & Test Suites

### 5.1.1 Antenna Requirement

**RESULT:** **Pass**

**Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has a Monopole Antenna, the gain of antenna is 1.66 dBi, which that permanent attachment and no consideration of replacement.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

## 5.1.2 Maximum Peak Conducted Output Power

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(b)(3) |
| Basic standard | : | ANSI C63.10: 2013 |
| Limits | : | 1.0 Watts |
| Kind of test site | : | Shielded Room |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-04-21 |
| Input voltage | : | DC 7.4V |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | 25.4 ℃ |
| Relative humidity | : | 49 % |
| Atmospheric pressure | : | 101 kPa |

**Table 6: Test Result of Maximum Peak Conducted Output Power, BLE**

| Test Mode | Test Channel (MHz) | Measured Peak Power | | Limit (W) |
|---|---|---|---|---|
| | | (dBm) | (W) | |
| BLE | 2402 | -1.0 | 0.000794 | < 1.0 |
| | 2440 | -1.4 | 0.000724 | |
| | 2480 | -2.3 | 0.000589 | |
| **Max. Measured Value** | | **-1.0** | **0.000794** | |

Note:
1) The cable loss is taken into account in results.
2) Antenna gain(G): 1.66 dBi

## 5.1.3 Conducted Power Spectral Density

**RESULT:** **Pass**

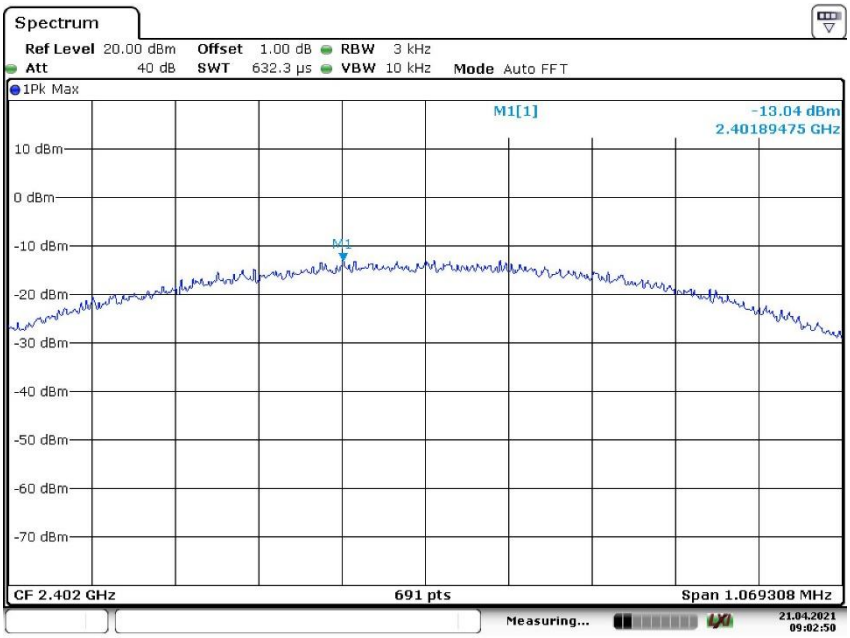
**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(e) |
| Basic standard | : | ANSI C63.10: 2013 |
| Limits | : | < 8 dBm / 3kHz |
| Kind of test site | : | Shielded Room |

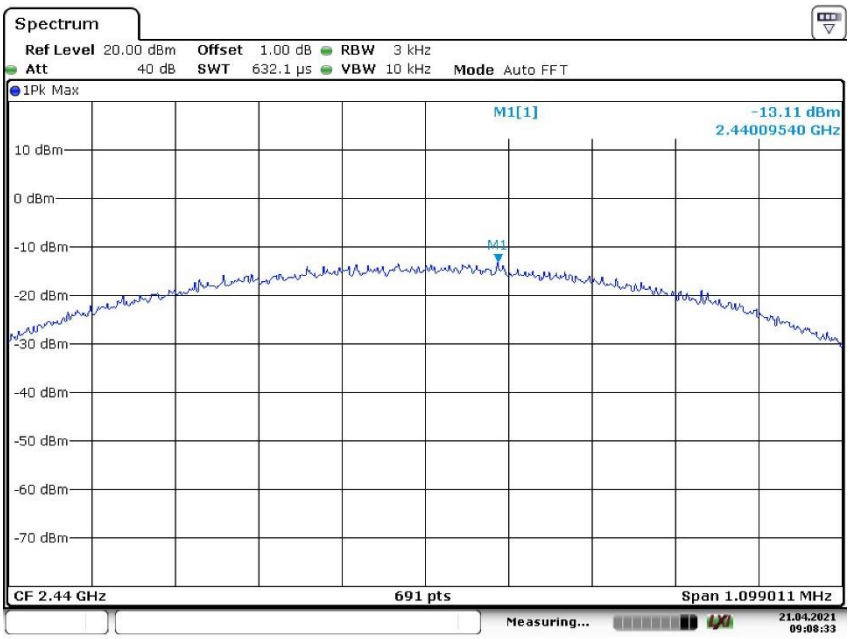
**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-04-21 |
| Input voltage | : | DC 7.4V |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | 25.4 ℃ |
| Relative humidity | : | 49 % |
| Atmospheric pressure | : | 101 kPa |

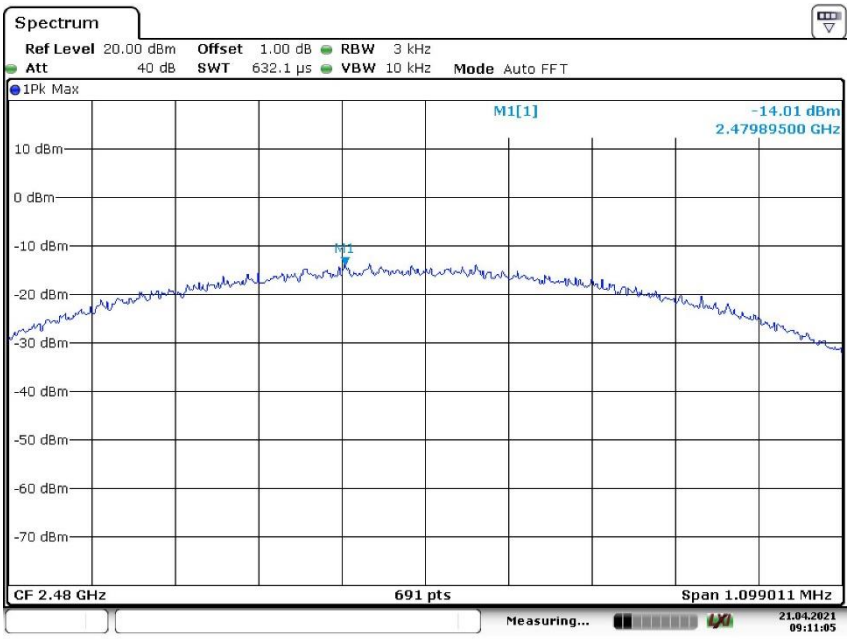
## Test Results of Conducted Power Spectral Density




Date: 21.APR.2021 09:02:50




Date: 21.APR.2021 09:08:33




Date: 21.APR.2021 09:11:05

## 5.1.4 6dB Bandwidth

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(a)(2) |
| Basic standard | : | ANSI C63.10: 2013 |
| Limits | : | > 500 KHz |
| Kind of test site | : | Shielded Room |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-04-21 |
| Input voltage | : | DC 7.4V |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | 25.4 ℃ |
| Relative humidity | : | 49 % |
| Atmospheric pressure | : | 101 kPa |

## Test Results of 6dB Bandwidth

## Minimum Emission Bandwidth 6 dB (2402 MHz; 10.000 dBm; 1 MHz)

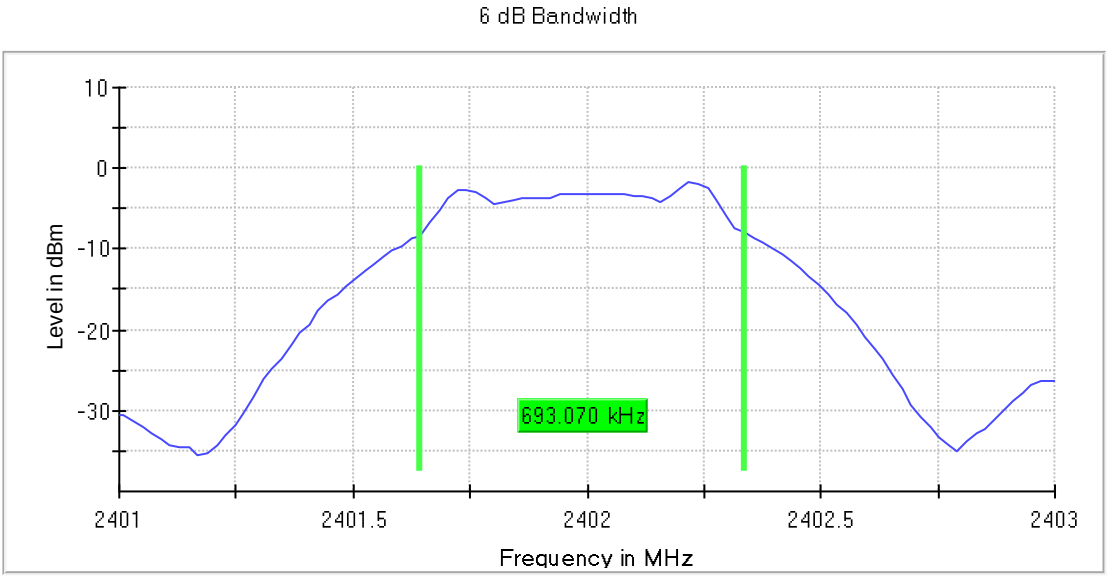
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

## 6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2402.000000 | 0.693070 | 0.500000 | --- | 2401.643564 | 2402.336634 |

**(continuation of the "6 dB Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---|---|---|
| 2402.000000 | -1.8 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.40100 GHz | 2.40100 GHz |
| Stop Frequency | 2.40300 GHz | 2.40300 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| Sweeptime | 18.938 µs | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 7 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.22 dB | 0.50 dB |

# Minimum Emission Bandwidth 6 dB (2440 MHz; 10.000 dBm; 1 MHz)

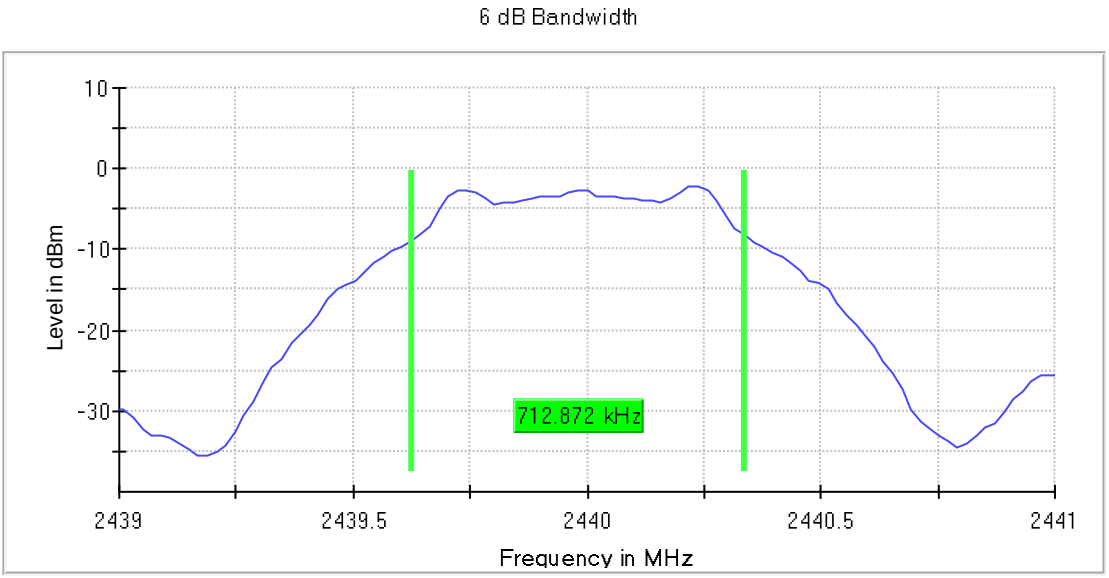
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10 - 2013

## 6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2440.000000 | 0.712872 | 0.500000 | --- | 2439.623762 | 2440.336634 |

**(continuation of the "6 dB Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---|---|---|
| 2440.000000 | -2.2 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.43900 GHz | 2.43900 GHz |
| Stop Frequency | 2.44100 GHz | 2.44100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| Sweeptime | 18.938 µs | AUTO |
| Reference Level | -10.000 dBm | -10.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 11 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.34 dB | 0.50 dB |

# Minimum Emission Bandwidth 6 dB (2480 MHz; 10.000 dBm; 1 MHz)

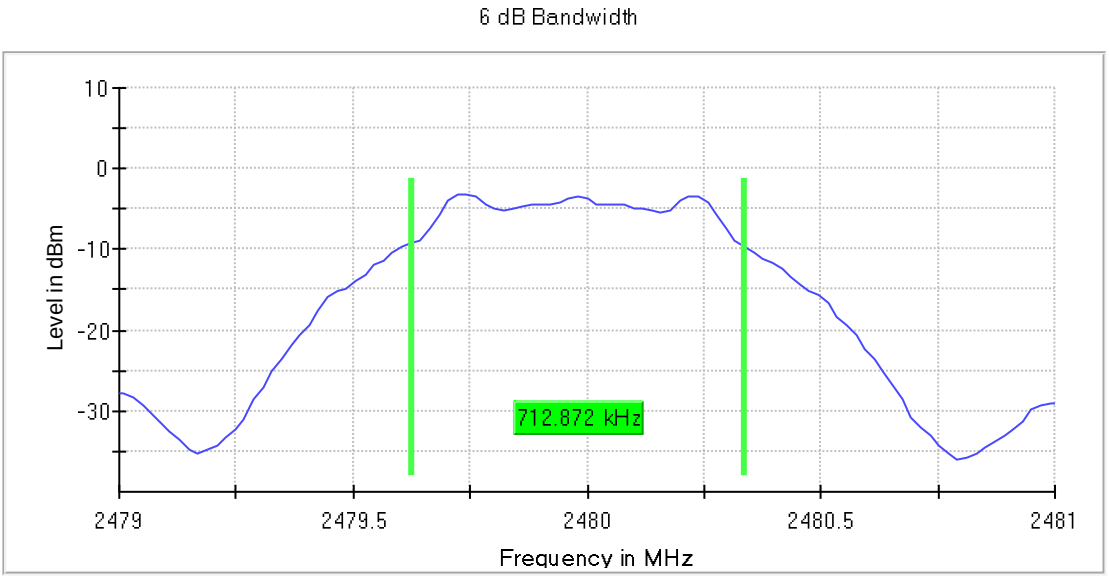
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10 - 2013

## 6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2480.000000 | 0.712872 | 0.500000 | --- | 2479.623762 | 2480.336634 |

**(continuation of the "6 dB Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---|---|---|
| 2480.000000 | -3.1 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.47900 GHz | 2.47900 GHz |
| Stop Frequency | 2.48100 GHz | 2.48100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| Sweeptime | 18.938 µs | AUTO |
| Reference Level | -10.000 dBm | -10.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 12 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.02 dB | 0.50 dB |

## 5.1.5 99% Bandwidth

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(a) |
| Basic standard | : | ANSI C63.10: 2013 |
| Kind of test site | : | Shielded Room |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-04-21 |
| Input voltage | : | DC 7.4V |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | 25.4 ℃ |
| Relative humidity | : | 49 % |
| Atmospheric pressure | : | 101 kPa |

## Test Results of 99% Bandwidth

# Occupied Channel Bandwidth 99% (2402 MHz; 10.000 dBm; 1 MHz)

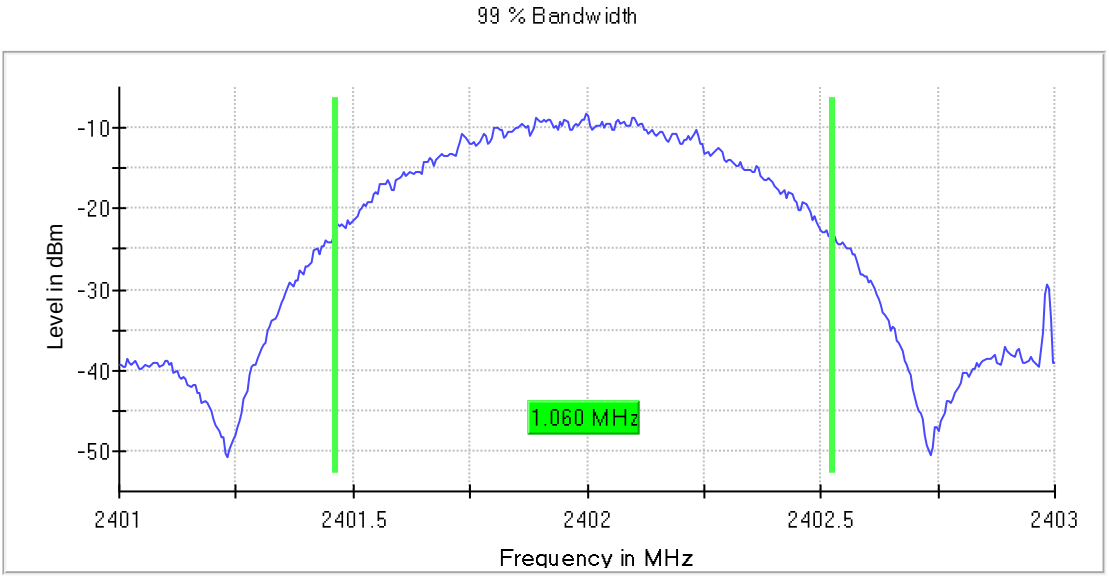
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

## 99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2402.000000 | 1.060000 | --- | --- | 2401.462500 | 2402.522500 |

**(continuation of the "99 % Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Result |
|---|---|
| 2402.000000 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.40100 GHz | 2.40100 GHz |
| Stop Frequency | 2.40300 GHz | 2.40300 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| Sweeptime | 189.648 µs | AUTO |
| Reference Level | -10.000 dBm | -10.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 63 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.09 dB | 0.30 dB |

# Occupied Channel Bandwidth 99% (2440 MHz; 10.000 dBm; 1 MHz)

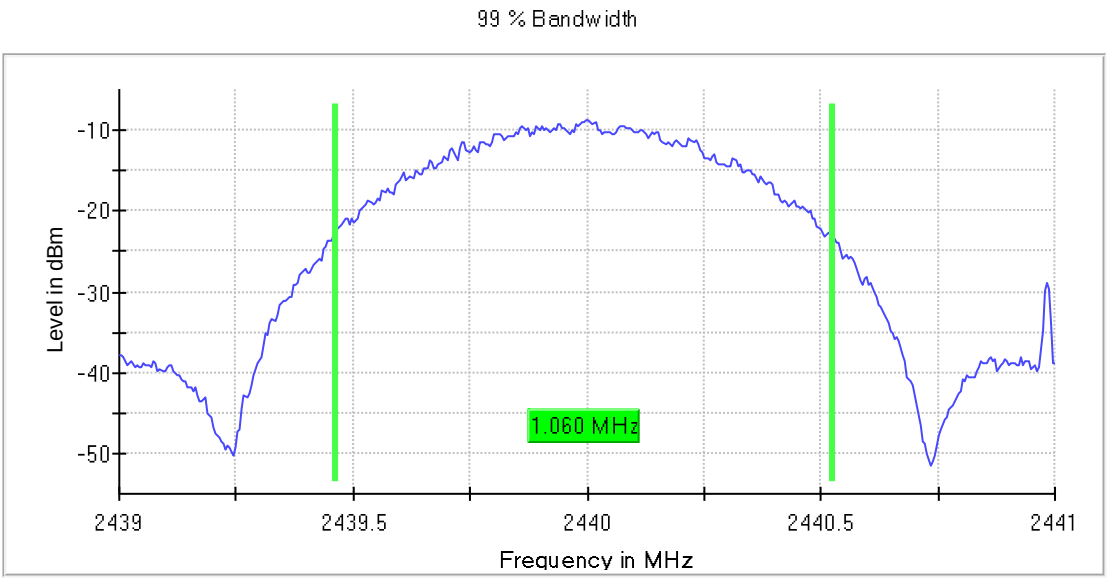
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

## 99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2440.000000 | 1.060000 | --- | --- | 2439.462500 | 2440.522500 |

**(continuation of the "99 % Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Result |
|---|---|
| 2440.000000 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.43900 GHz | 2.43900 GHz |
| Stop Frequency | 2.44100 GHz | 2.44100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| Sweeptime | 189.648 µs | AUTO |
| Reference Level | -10.000 dBm | -10.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 50 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.04 dB | 0.30 dB |

# Occupied Channel Bandwidth 99% (2480 MHz; 10.000 dBm; 1 MHz)

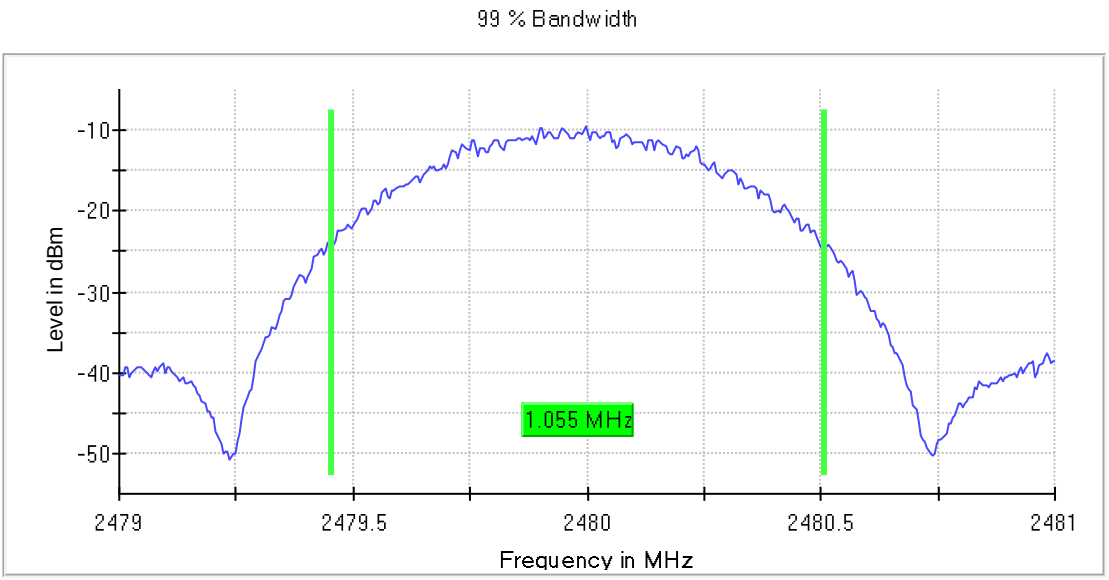
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10 - 2013

## 99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---|---|---|---|---|---|
| 2480.000000 | 1.055000 | --- | --- | 2479.452500 | 2480.507500 |

**(continuation of the "99 % Bandwidth" table from column 6 ...)**

| DUT Frequency (MHz) | Result |
|---|---|
| 2480.000000 | PASS |




## Measurement

| Setting | Instrument Value | Target Value |
|---|---|---|
| Start Frequency | 2.47900 GHz | 2.47900 GHz |
| Stop Frequency | 2.48100 GHz | 2.48100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| Sweeptime | 189.648 µs | AUTO |
| Reference Level | -10.000 dBm | -10.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 43 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.30 dB |

## 5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

**RESULT:** **Pass**

**Test Specification**

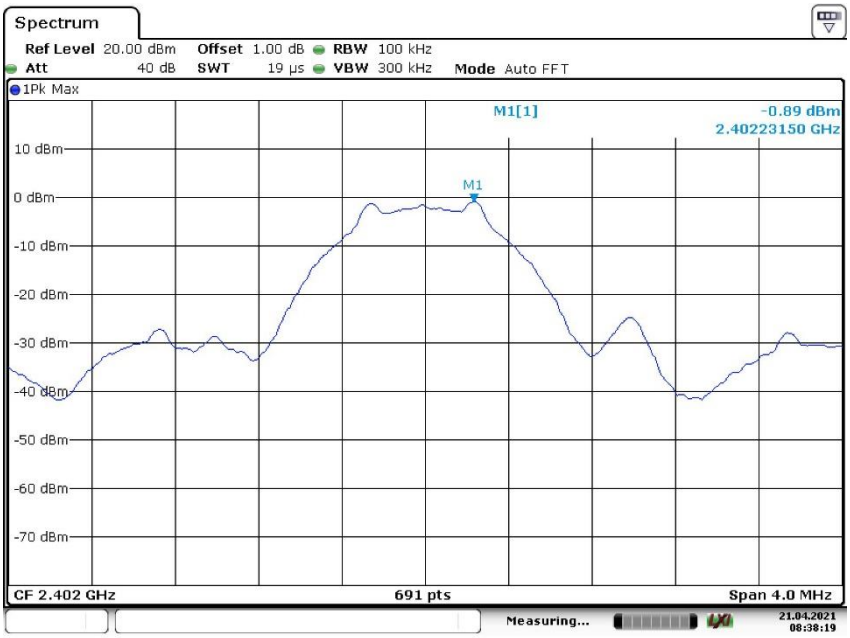
| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(d) |
| Basic standard | : | ANSI C63.10: 2013 |
| Limits | : | 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power);<br>In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a) |
| Kind of test site | : | Shielded Room |

**Test Setup**

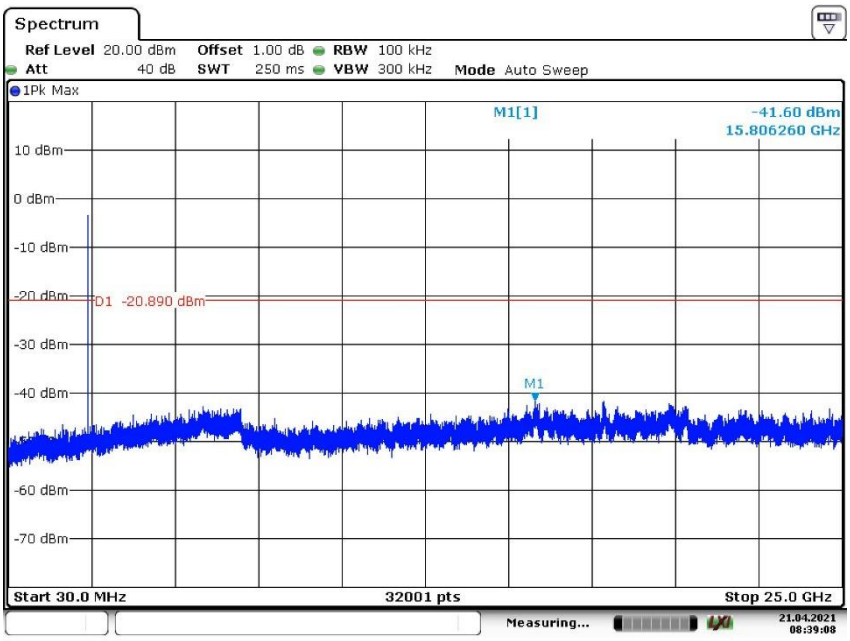
| | | |
|---|---|---|
| Date of testing | : | 2021-04-21 |
| Input voltage | : | DC 7.4V |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | 25.4 ℃ |
| Relative humidity | : | 49 % |
| Atmospheric pressure | : | 101 kPa |

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

## Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

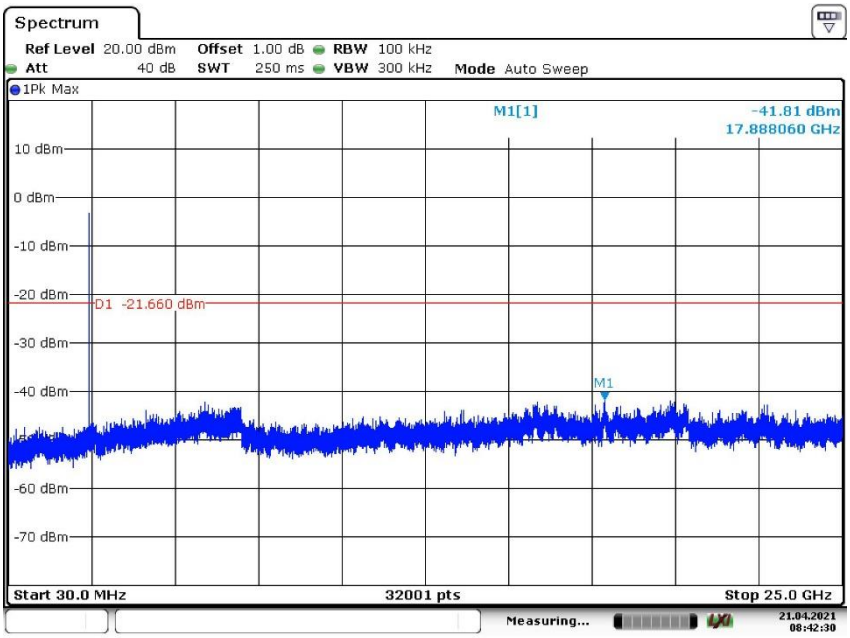



Date: 21.APR.2021 08:38:19

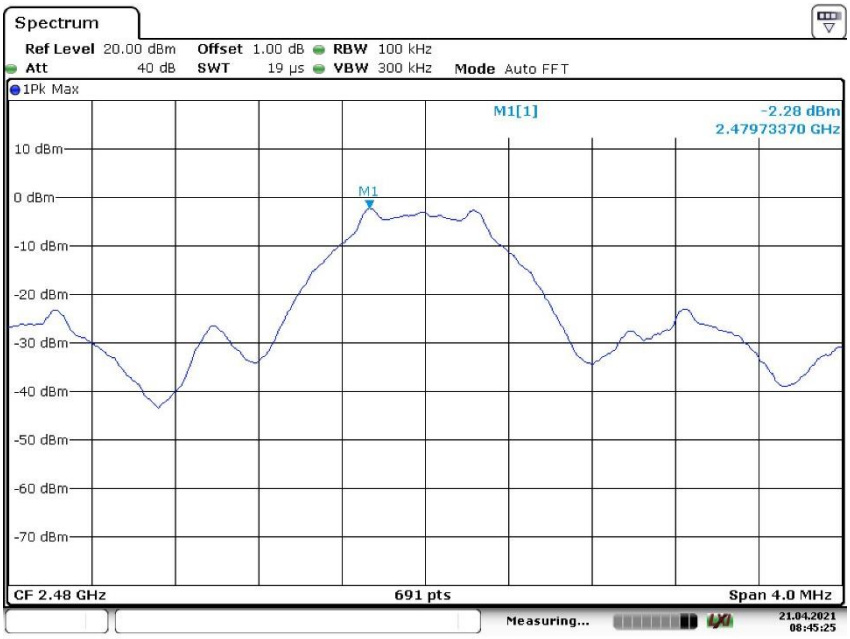



Date: 21.APR.2021 08:39:08

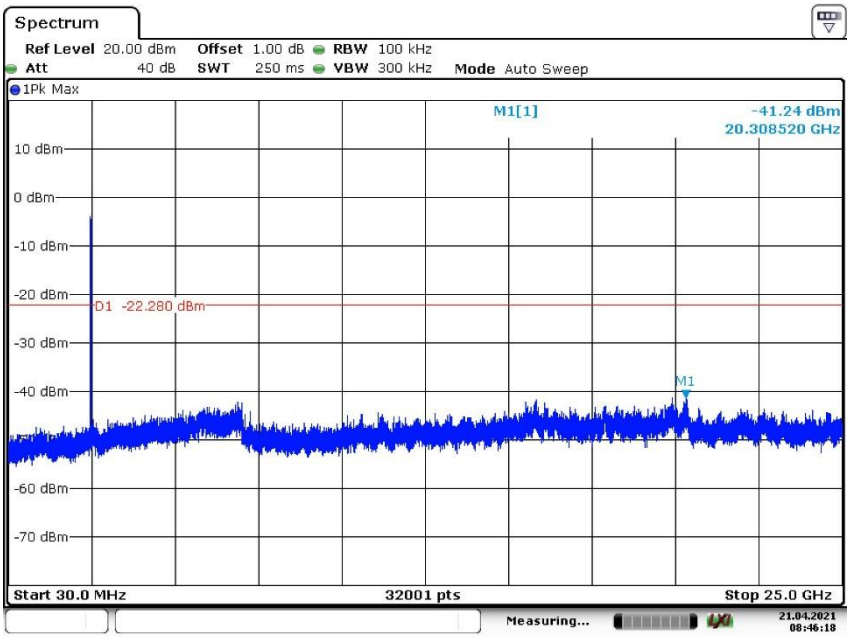
Date: 21.APR.2021 08:42:05




Date: 21.APR.2021 08:42:31

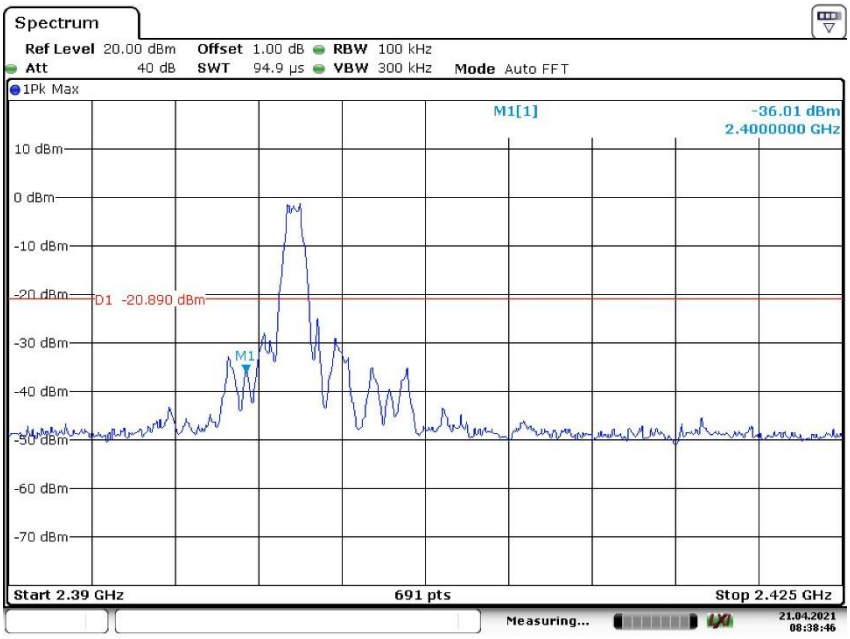



Date: 21.APR.2021 08:45:25

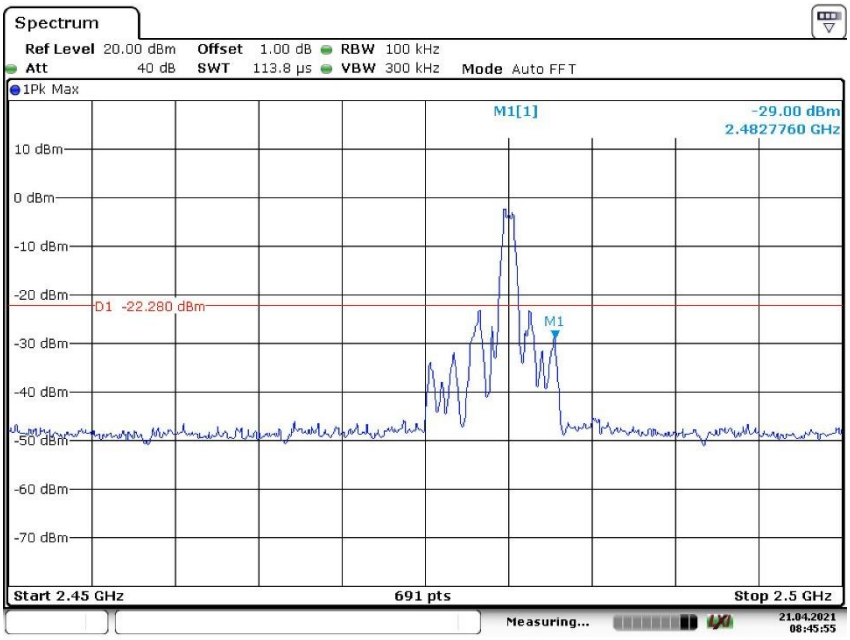



Date: 21.APR.2021 08:46:18

Band Edge




Date: 21.APR.2021 08:38:47




Date: 21.APR.2021 08:45:54

## 5.1.7 Radiated Spurious Emission

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.247(d) & FCC Part 15.205 |
| Basic standard | : | ANSI C63.10: 2013 |
| Limits | : | Refer to 15.209(a) of FCC part 15.247(d) |
| Kind of test site | : | 3m Semi-anechoic Chamber |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-06-11 |
| Input voltage | : | DC 7.4V powered by battery or<br>AC 120V 60Hz Powered from adapter |
| Operation mode | : | A |
| Test channel | : | Low / Middle / High |
| Ambient temperature | : | Refer to test result |
| Relative humidity | : | Refer to test result |
| Atmospheric pressure | : | 101 kPa |

Remark:

1) This testing was carried out on different modulations, but only the worst case was presented in this report.
2) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

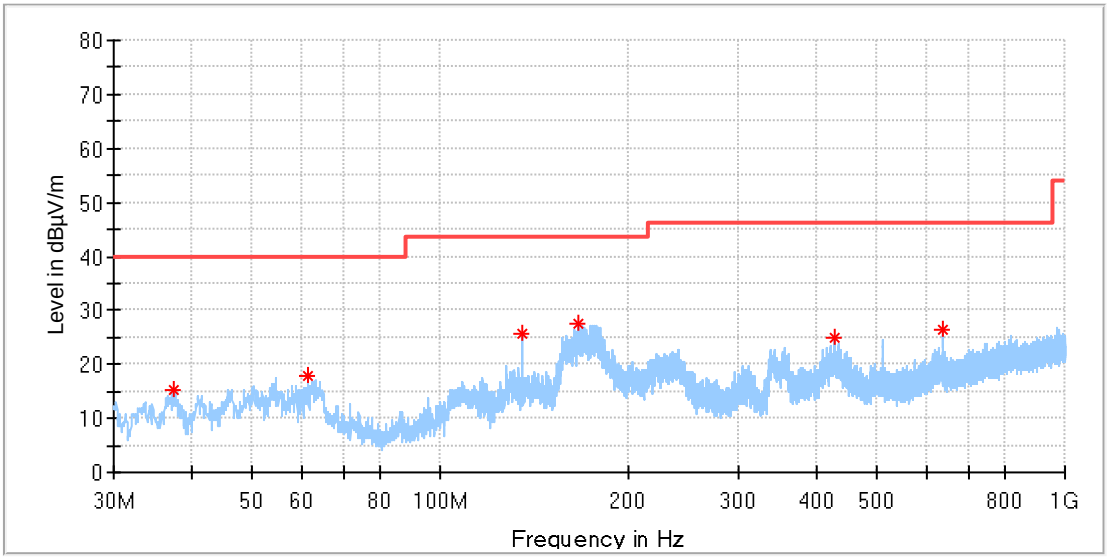
## Test Results of Radiated Spurious Emissions

30 MHz to 1GHz

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | AC 120V 60Hz Powered from adapter |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 37.566000 | 15.07 | 40.00 | 24.93 | 100.0 | H | 353.0 | -20.9 |
| 61.428000 | 17.96 | 40.00 | 22.04 | 100.0 | H | 222.0 | -19.3 |
| 135.002500 | 25.74 | 43.50 | 17.76 | 100.0 | H | 0.0 | -22.1 |
| 165.751500 | 27.44 | 43.50 | 16.06 | 100.0 | H | 229.0 | -21.4 |
| 428.233500 | 24.84 | 46.00 | 21.16 | 100.0 | H | 163.0 | -13.3 |
| 639.499500 | 26.54 | 46.00 | 19.46 | 100.0 | H | 215.0 | -9.3 |

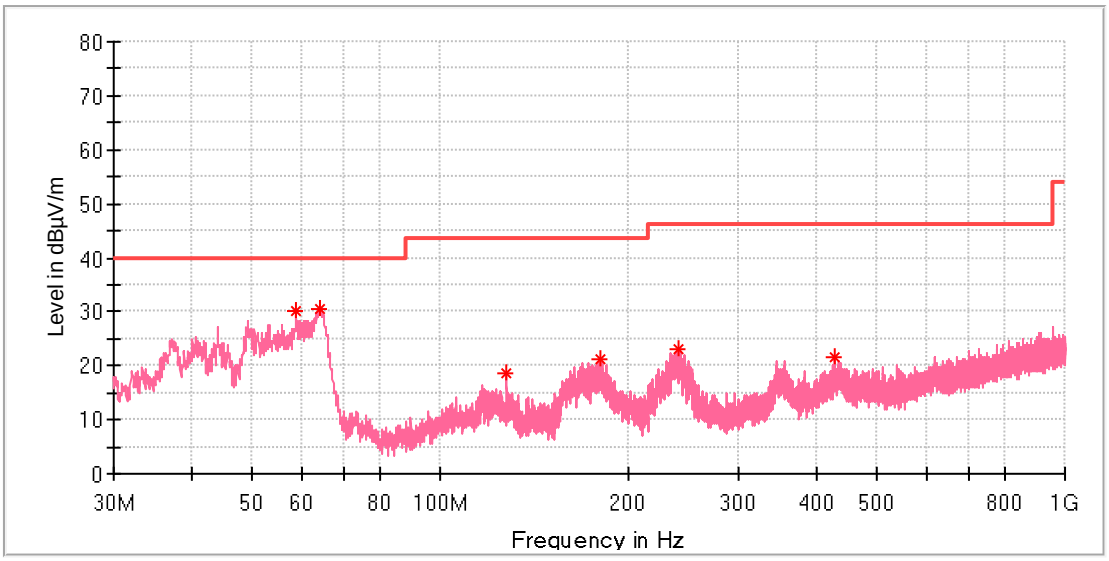
## Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | AC 120V 60Hz Powered from adapter |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 58.615000 | 30.27 | 40.00 | 9.73 | 100.0 | V | 250.0 | -18.8 |
| 64.095500 | 30.43 | 40.00 | 9.57 | 100.0 | V | 322.0 | -19.9 |
| 127.873000 | 18.71 | 43.50 | 24.79 | 100.0 | V | 0.0 | -21.6 |
| 180.350000 | 21.26 | 43.50 | 22.24 | 100.0 | V | 267.0 | -20.5 |
| 240.296000 | 23.09 | 46.00 | 22.91 | 100.0 | V | 282.0 | -17.7 |
| 428.573000 | 21.76 | 46.00 | 24.24 | 100.0 | V | 163.0 | -13.3 |

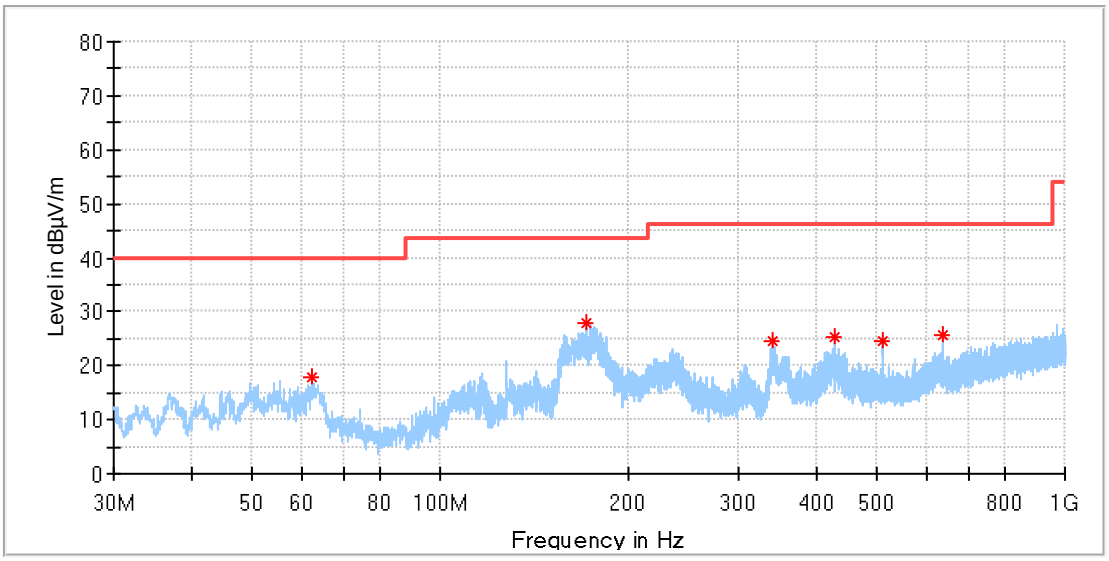
## Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | AC 120V 60Hz Powered from adapter |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 62.252500 | 18.01 | 40.00 | 21.99 | 100.0 | H | 207.0 | -19.5 |
| 171.135000 | 27.85 | 43.50 | 15.65 | 100.0 | H | 224.0 | -21.1 |
| 341.273000 | 24.51 | 46.00 | 21.49 | 100.0 | H | 67.0 | -14.9 |
| 428.282000 | 25.37 | 46.00 | 20.63 | 100.0 | H | 142.0 | -13.3 |
| 511.411000 | 24.57 | 46.00 | 21.43 | 100.0 | H | 346.0 | -11.6 |
| 639.402500 | 25.50 | 46.00 | 20.50 | 100.0 | H | 177.0 | -9.3 |

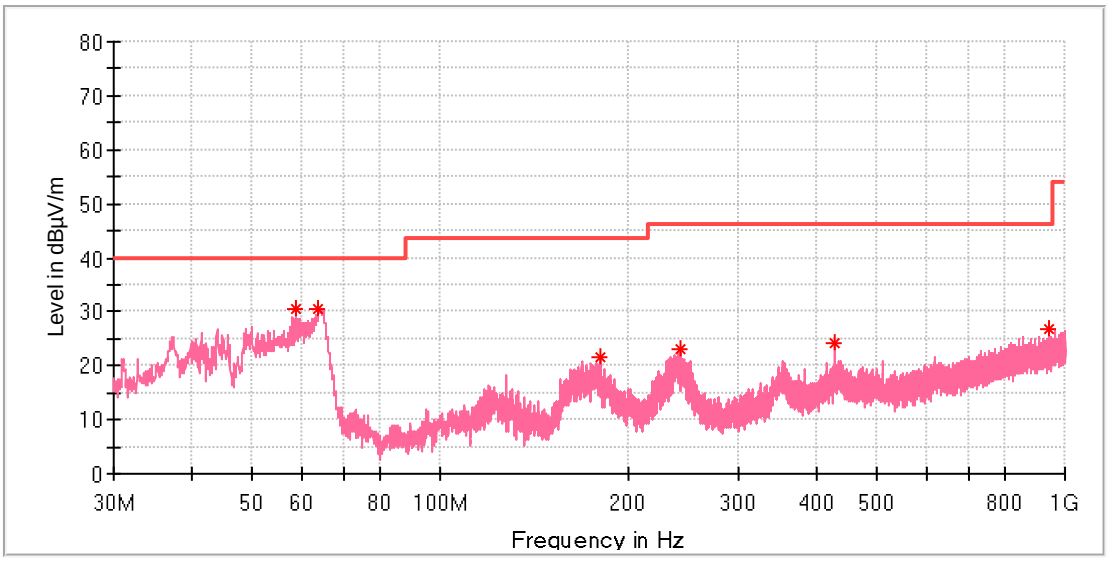
## Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | AC 120V 60Hz Powered from adapter |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 58.857500 | 30.42 | 40.00 | 9.58 | 100.0 | V | 309.0 | -18.9 |
| 63.804500 | 30.56 | 40.00 | 9.44 | 100.0 | V | 186.0 | -19.8 |
| 180.883500 | 21.64 | 43.50 | 21.86 | 100.0 | V | 281.0 | -20.5 |
| 242.284500 | 23.06 | 46.00 | 22.94 | 100.0 | V | 290.0 | -17.7 |
| 428.476000 | 24.00 | 46.00 | 22.00 | 100.0 | V | 336.0 | -13.3 |
| 943.012500 | 26.78 | 46.00 | 19.22 | 100.0 | V | 68.0 | -4.5 |

## Final_Result

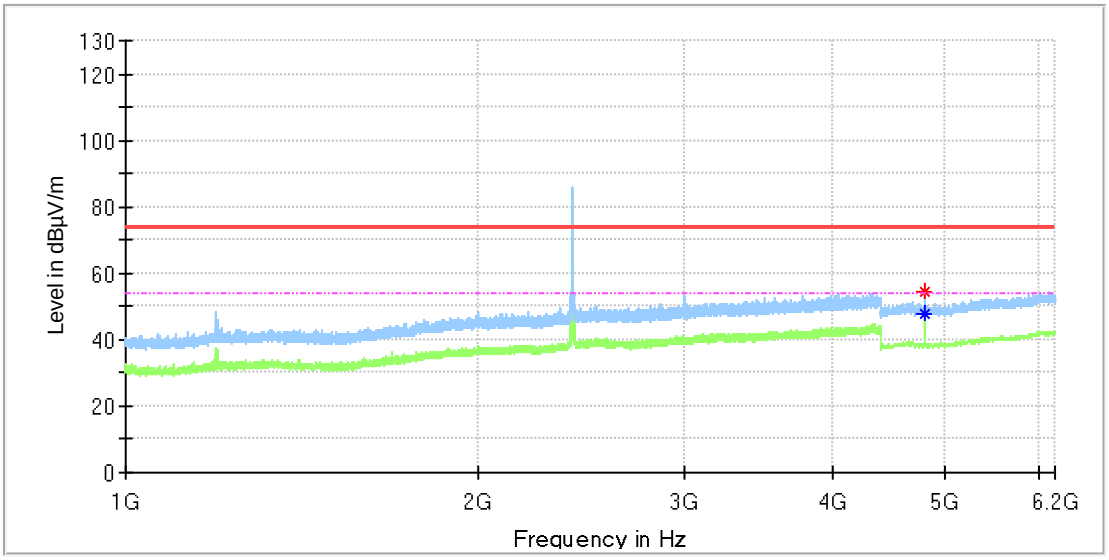
| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

Above 1GHz

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4804.000000 | --- | 47.70 | 54.00 | 6.30 | 100.0 | H | 150.0 | 11.8 |
| 4804.500000 | 54.50 | --- | 74.00 | 19.50 | 100.0 | H | 150.0 | 11.8 |

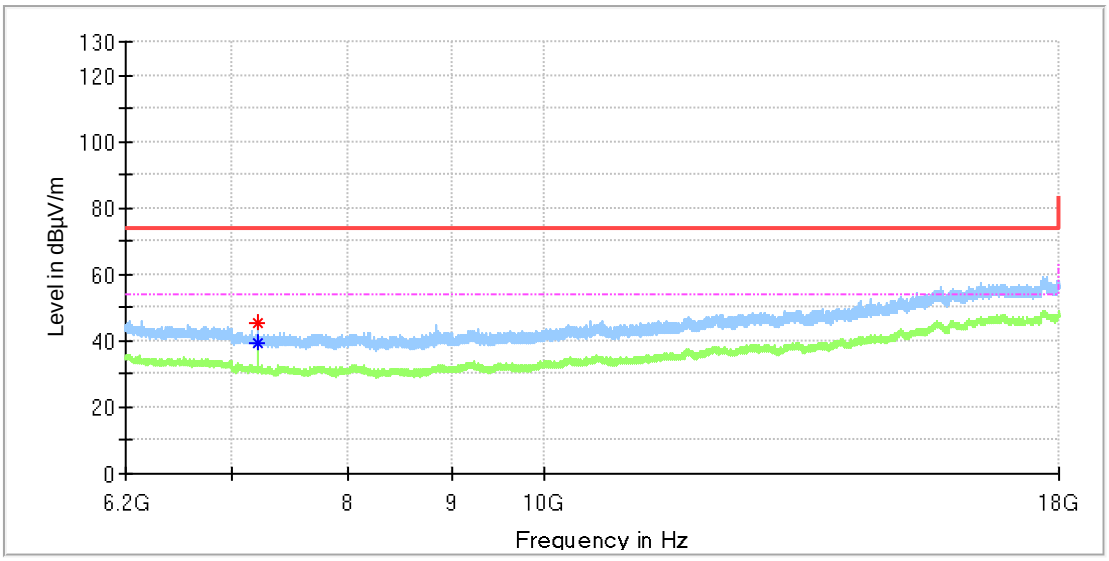
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7206.441667 | 45.06 | --- | 74.00 | 28.94 | 100.0 | H | 55.0 | 8.8 |
| 7206.441667 | --- | 39.04 | 54.00 | 14.96 | 100.0 | H | 55.0 | 8.8 |

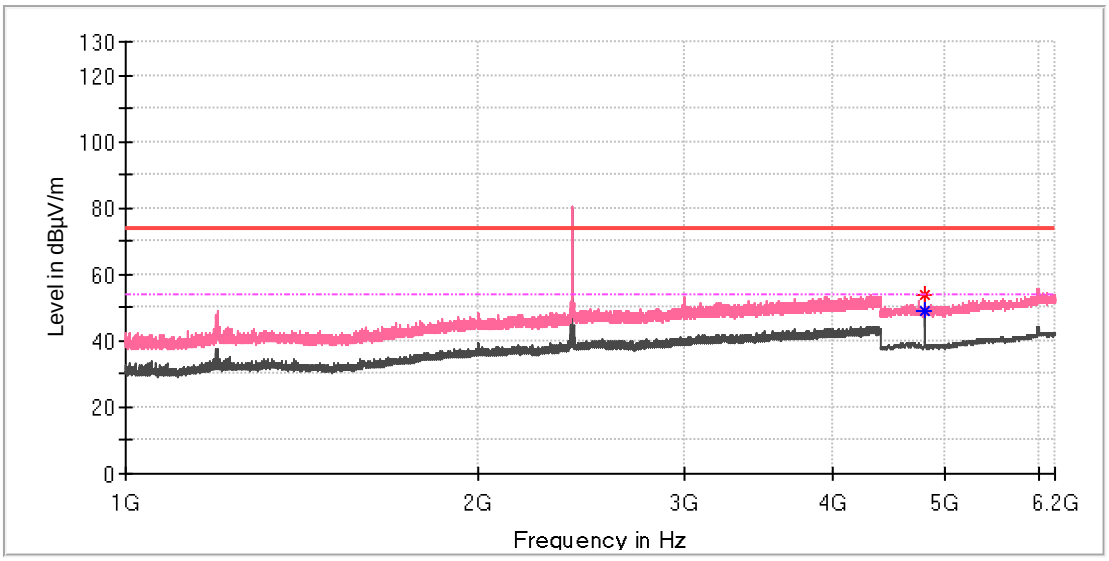
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4804.000000 | --- | 49.24 | 54.00 | 4.76 | 100.0 | V | 19.0 | 11.8 |
| 4804.000000 | 54.02 | --- | 74.00 | 19.98 | 100.0 | V | 19.0 | 11.8 |

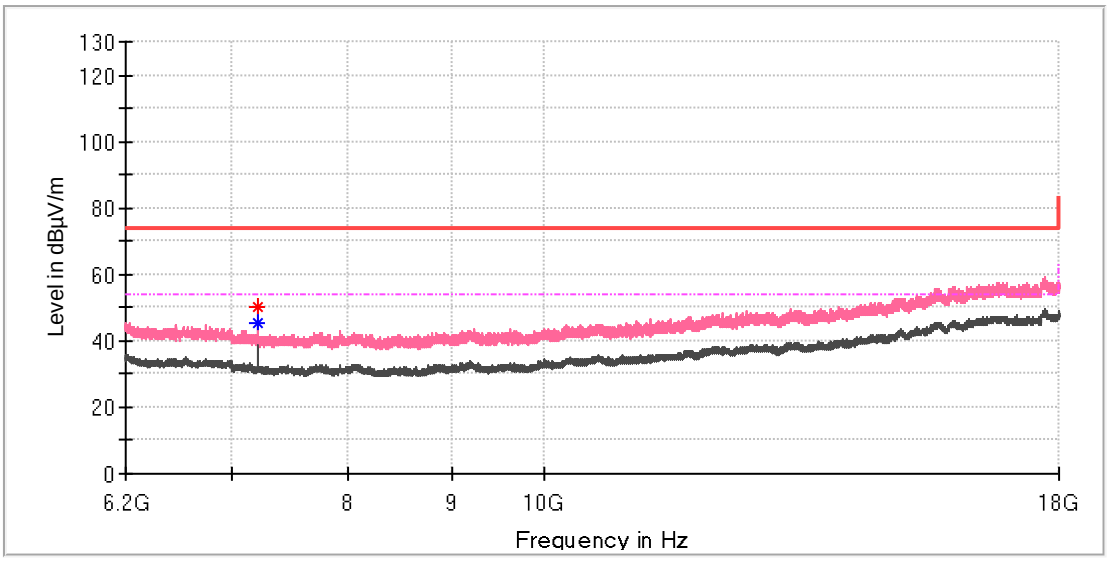
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7205.950000 | --- | 45.19 | 54.00 | 8.81 | 100.0 | V | 0.0 | 8.8 |
| 7206.441667 | 49.91 | --- | 74.00 | 24.09 | 100.0 | V | 20.0 | 8.8 |

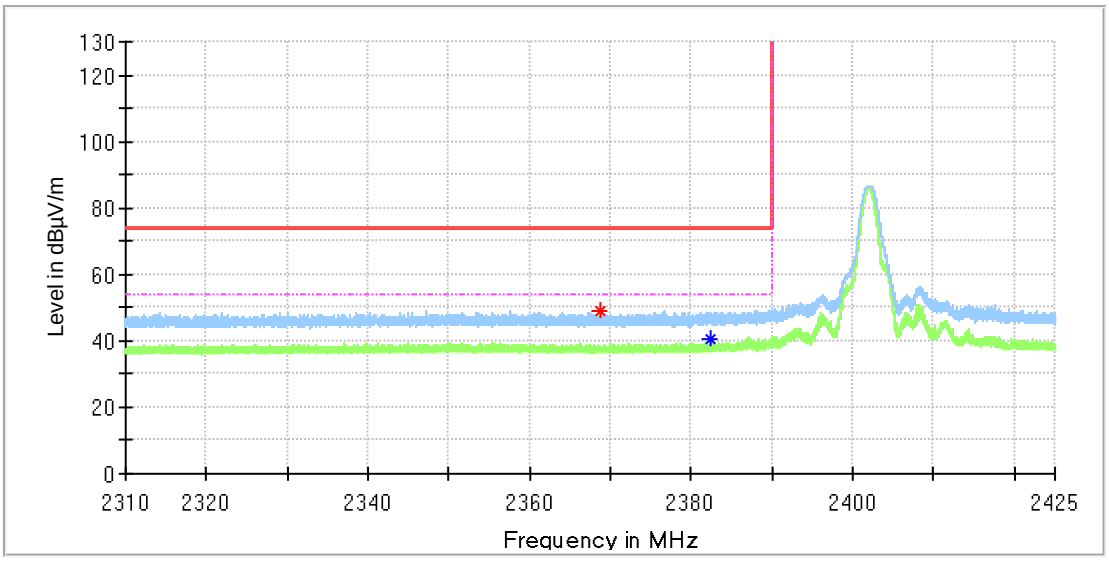
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 2368.839750 | 49.27 | --- | 74.00 | 24.73 | 100.0 | H | 166.0 | 6.9 |
| 2382.427000 | --- | 40.50 | 54.00 | 13.50 | 100.0 | H | 8.0 | 7.0 |

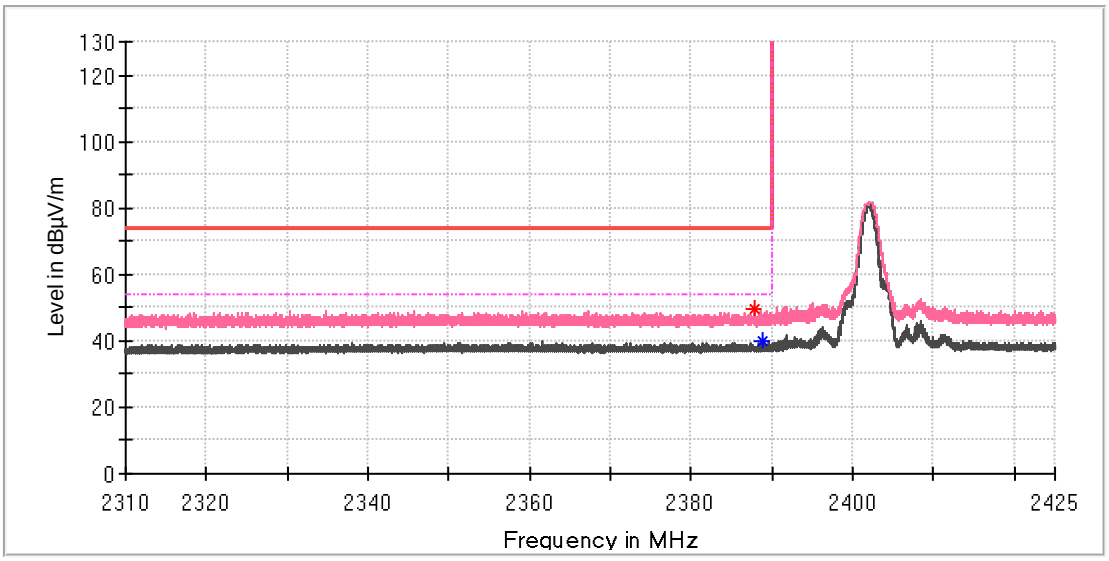
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Low channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 2387.924000 | 49.30 | --- | 74.00 | 24.70 | 100.0 | V | 326.0 | 7.0 |
| 2388.821000 | --- | 39.89 | 54.00 | 14.11 | 100.0 | V | 189.0 | 7.0 |

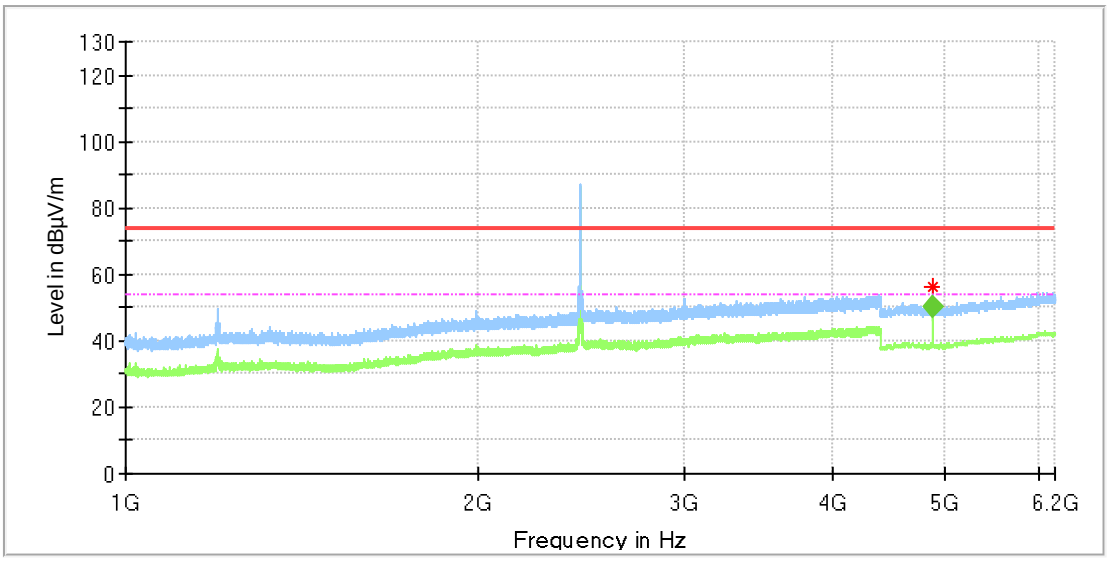
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Mid channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4880.500000 | 56.50 | --- | 74.00 | 17.50 | 100.0 | H | 144.0 | 11.8 |

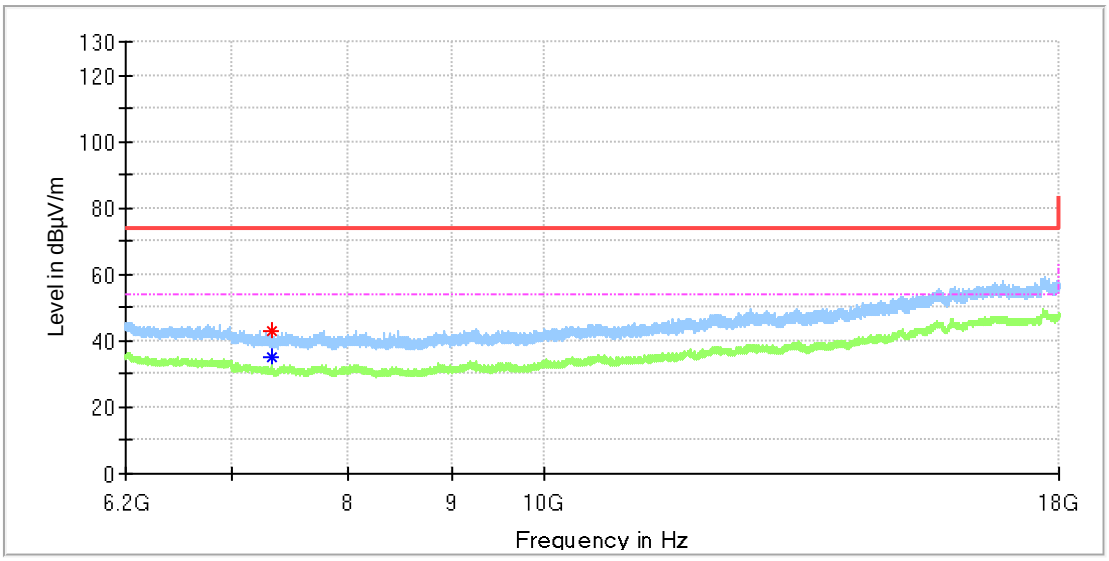
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 4879.916667 | 50.42 | 54.00 | 3.58 | 105.0 | H | 139.0 | 11.8 |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Mid channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7319.033333 | 42.68 | --- | 74.00 | 31.32 | 100.0 | H | 348.0 | 8.2 |
| 7320.016667 | --- | 35.19 | 54.00 | 18.81 | 100.0 | H | 336.0 | 8.2 |

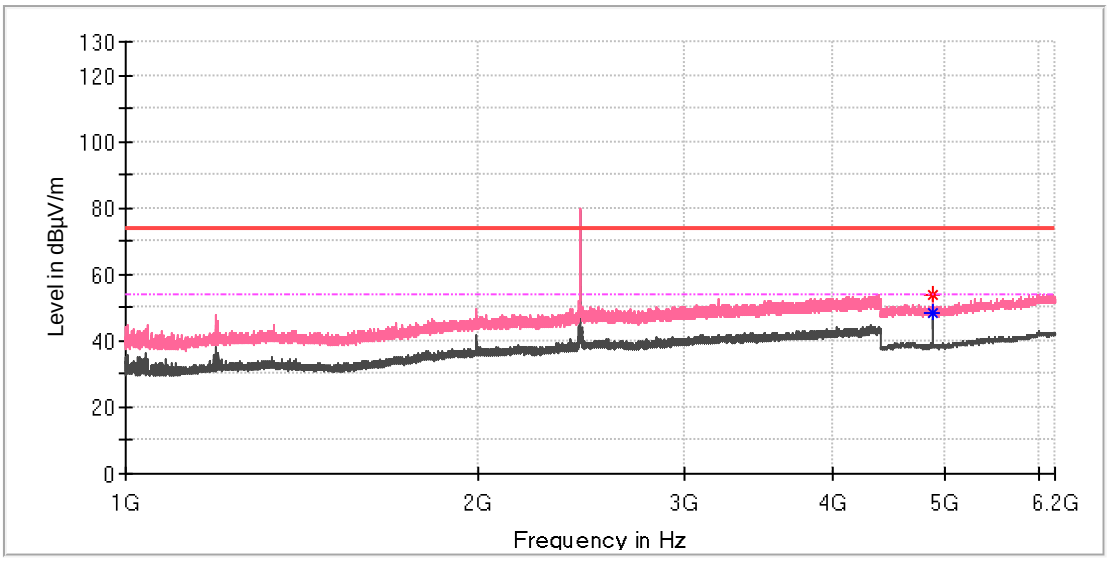
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Mid channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4880.000000 | 53.79 | --- | 74.00 | 20.21 | 100.0 | V | 65.0 | 11.8 |
| 4880.000000 | --- | 48.19 | 54.00 | 5.81 | 100.0 | V | 65.0 | 11.8 |

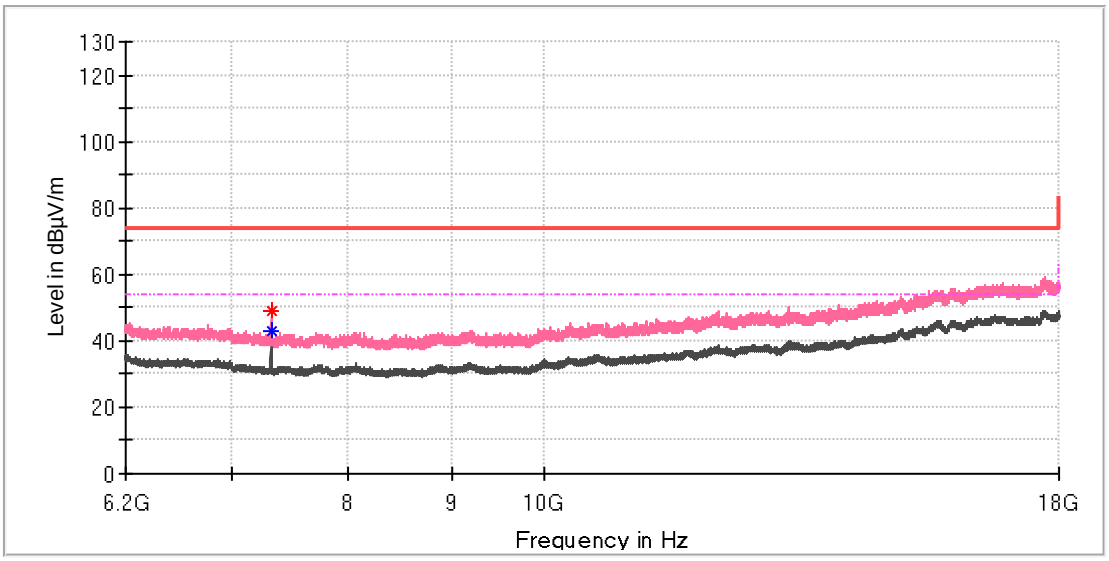
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE Mid channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7319.033333 | --- | 42.93 | 54.00 | 11.07 | 100.0 | V | 0.0 | 8.2 |
| 7320.508333 | 49.11 | --- | 74.00 | 24.89 | 100.0 | V | 0.0 | 8.2 |

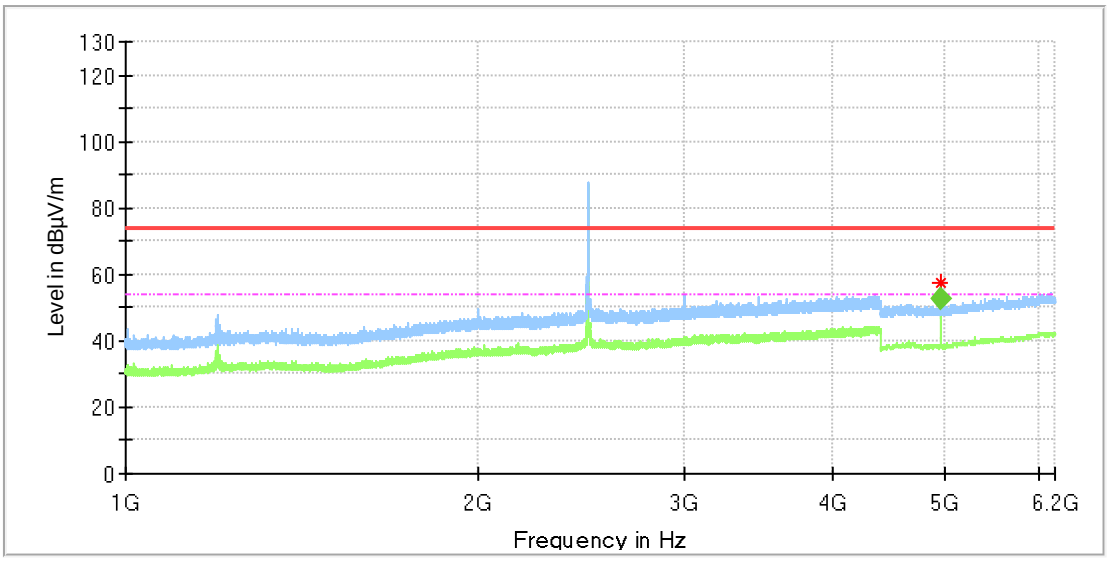
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dB磺/m) | Average (dB磺/m) | Limit (dB磺/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4959.500000 | 57.16 | --- | 74.00 | 16.84 | 100.0 | H | 149.0 | 11.8 |

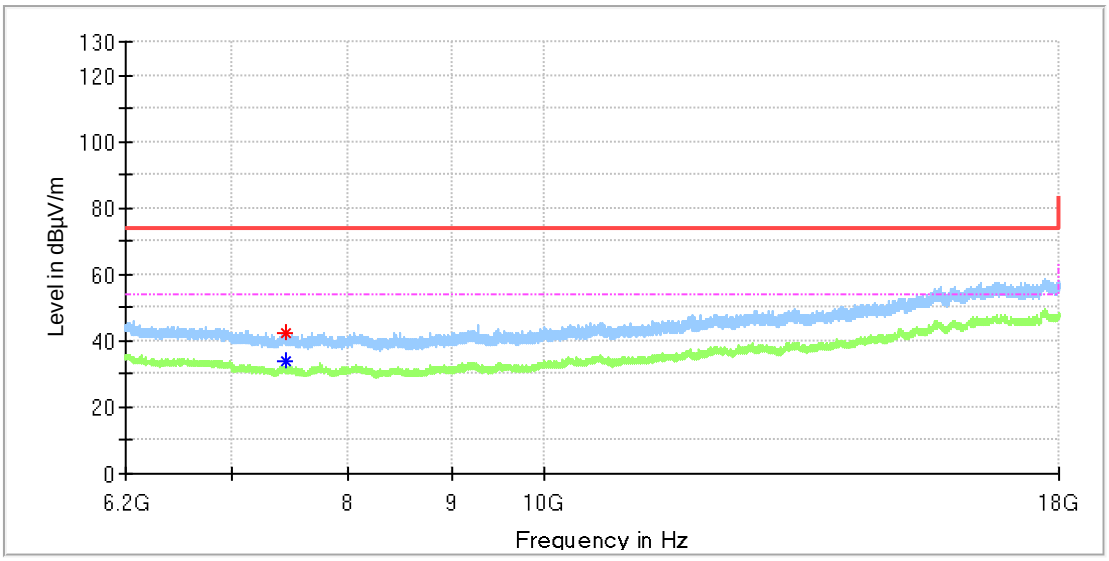
## Final_Result

| Frequency (MHz) | Average (dB磺/m) | Limit (dB磺/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| 4959.919444 | 51.31 | 54.00 | 2.69 | 100.0 | H | 144.0 | 11.8 |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7439.491667 | 42.23 | --- | 74.00 | 31.77 | 100.0 | H | 340.0 | 8.4 |
| 7439.491667 | --- | 33.57 | 54.00 | 20.43 | 100.0 | H | 340.0 | 8.4 |

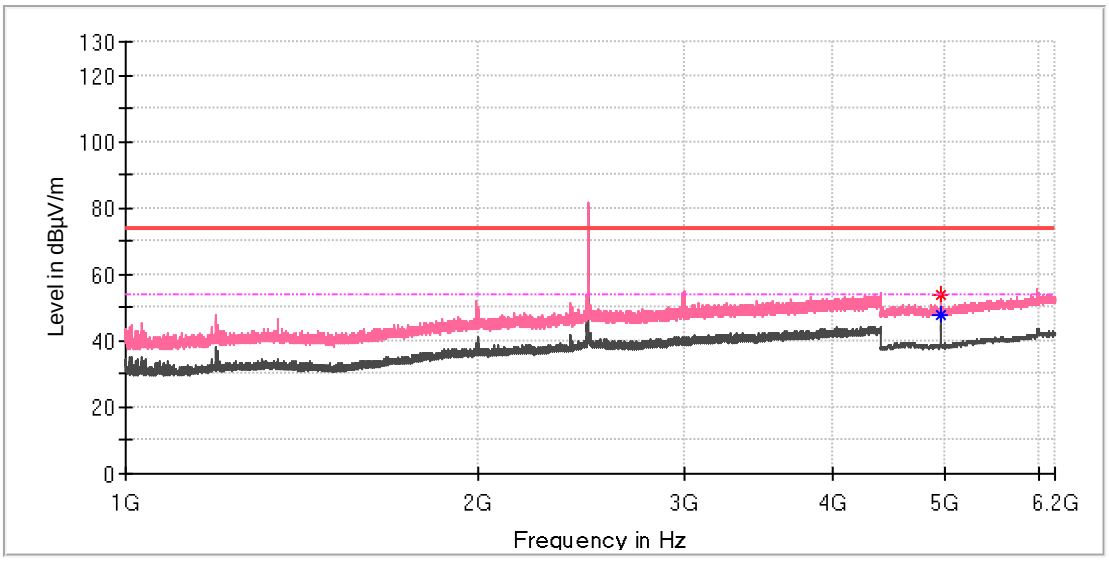
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 4959.500000 | 53.83 | --- | 74.00 | 20.17 | 100.0 | V | 60.0 | 11.8 |
| 4959.500000 | --- | 47.77 | 54.00 | 6.23 | 100.0 | V | 60.0 | 11.8 |

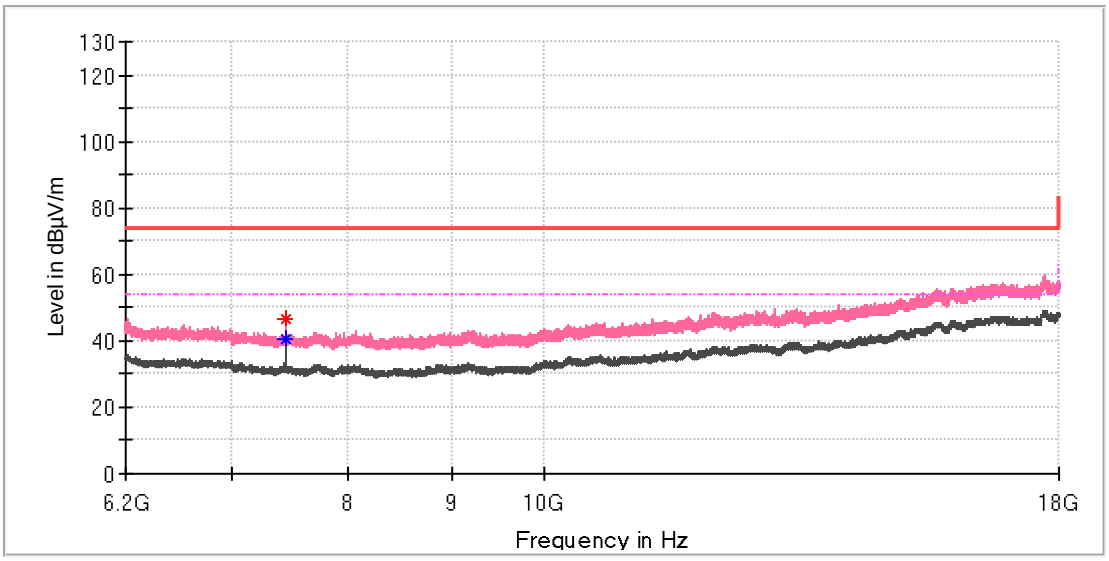
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 7439.000000 | --- | 40.63 | 54.00 | 13.37 | 100.0 | V | 354.0 | 8.4 |
| 7439.491667 | 46.80 | --- | 74.00 | 27.20 | 100.0 | V | 0.0 | 8.4 |

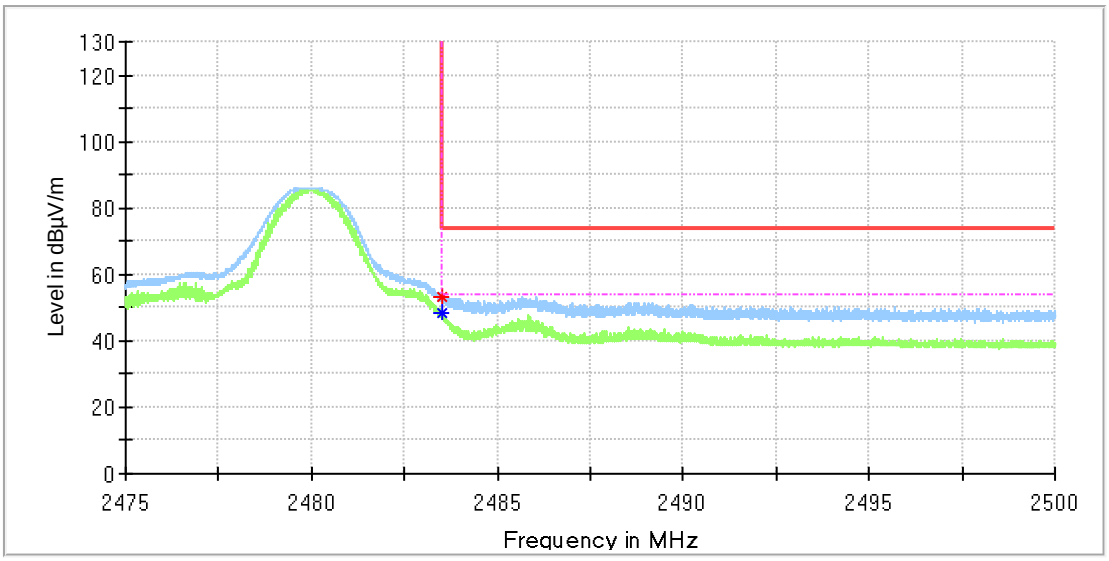
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 2483.502500 | --- | 48.55 | 54.00 | 5.45 | 100.0 | H | 117.0 | 7.4 |
| 2483.512500 | 53.26 | --- | 74.00 | 20.74 | 100.0 | H | 291.0 | 7.4 |

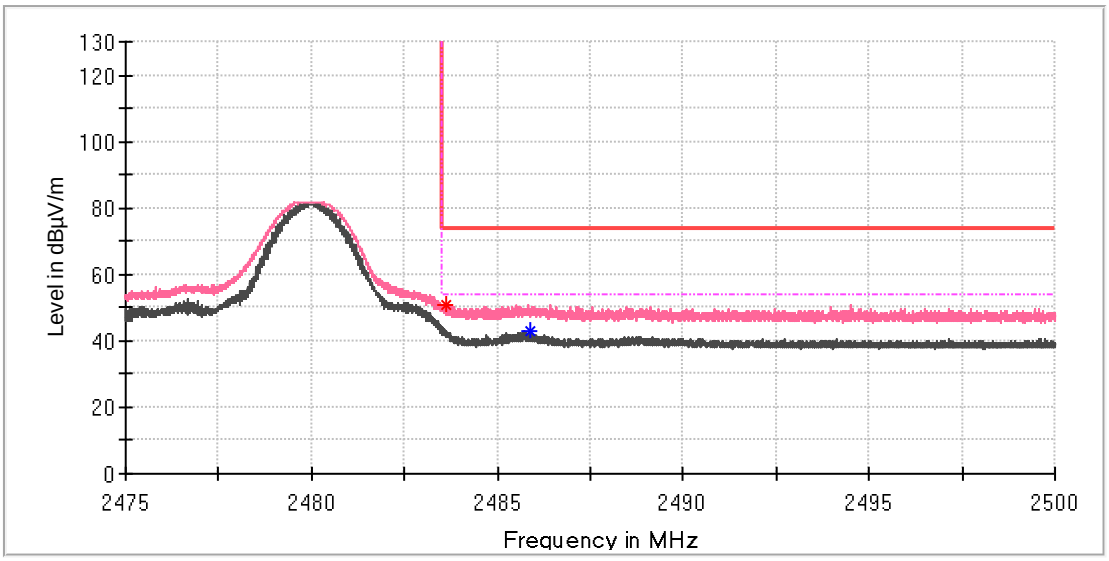
## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

# Test Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model: | C-SMART-I PILOT |
| Test Mode: | BLE High channel |
| Test Voltage:: | DC 7.4V from battery |
| Remark: | Temp 22 Humi:50% |
| Test Standard: | FCC 15.247 |
| Tested By: | Kei Zhang |
| Reviewed By: | Terry Yin |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 2483.595000 | 50.98 | --- | 74.00 | 23.02 | 100.0 | V | 342.0 | 7.4 |
| 2485.865000 | --- | 43.10 | 54.00 | 10.90 | 100.0 | V | 342.0 | 7.4 |

## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|
| --- | --- | --- | --- | --- | | --- | --- |

## 5.1.8 Conducted Emission on AC Mains

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.207(a) |
| Basic standard | : | ANSI C63.10: 2013 |
| Frequency range | : | 0.15 – 30MHz |
| Limits | : | FCC Part 15.207(a) |
| Kind of test site | : | Shielded Room |

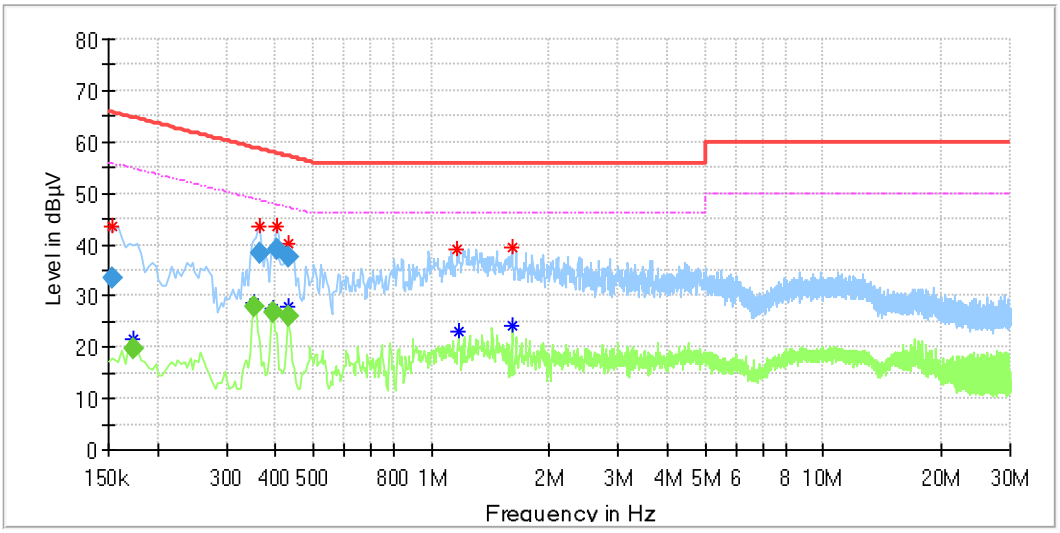
**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 2021-05-10 |
| Input voltage | : | AC 120V, 60Hz |
| Operation mode | : | B |
| Earthing | : | Not connected |
| Ambient temperature | : | 24.5 ℃ |
| Relative humidity | : | 57 % |
| Atmospheric pressure | : | 101 kPa |

# EMC32 Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model | C-SMART-I PILOT |
| Order No: | 168310254 40 |
| Test Mode: | BLE operating mode |
| Test Voltage: | AC 120V/60Hz |
| Test By: | Charlie Zha |
| Review By: | Gary Chen |
| Remark: | 3m Chamber |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|
| 0.153500 | 43.60 | --- | 65.57 | 21.97 | L1 | 9.9 |
| 0.173500 | --- | 21.71 | 54.96 | 33.25 | L1 | 9.9 |
| 0.353500 | --- | 28.81 | 48.78 | 19.97 | L1 | 9.9 |
| 0.365500 | 43.48 | --- | 58.59 | 15.11 | L1 | 9.9 |
| 0.393500 | --- | 27.55 | 47.98 | 20.43 | L1 | 9.9 |
| 0.401500 | 43.42 | --- | 57.81 | 14.39 | L1 | 9.9 |
| 0.429500 | --- | 27.89 | 47.25 | 19.36 | L1 | 9.9 |
| 0.429500 | 40.19 | --- | 57.25 | 17.07 | L1 | 9.9 |
| 1.166000 | 39.12 | --- | 56.00 | 16.88 | L1 | 10.1 |
| 1.174000 | --- | 23.12 | 46.00 | 22.88 | L1 | 10.1 |
| 1.606000 | --- | 24.24 | 46.00 | 21.76 | L1 | 10.1 |
| 1.606000 | 39.30 | --- | 56.00 | 16.70 | L1 | 10.1 |

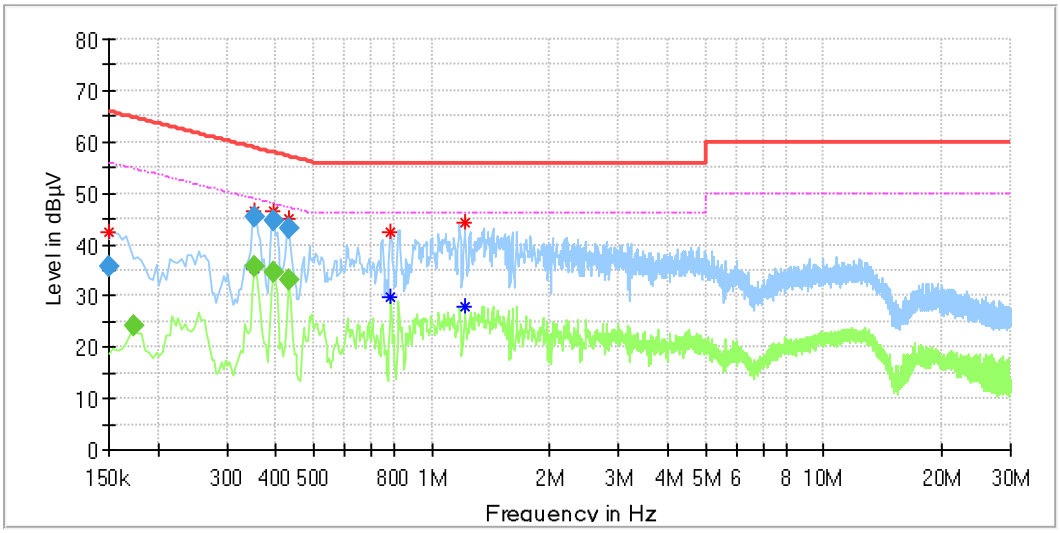
## Final_Result

| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.153500 | 33.64 | --- | 65.81 | 32.17 | 200.0 | 9.000 | L1 | 9.9 |
| 0.173500 | --- | 19.88 | 54.79 | 34.91 | 200.0 | 9.000 | L1 | 9.9 |
| 0.353500 | --- | 28.05 | 48.88 | 20.83 | 200.0 | 9.000 | L1 | 9.9 |
| 0.365500 | 38.24 | --- | 58.60 | 20.36 | 200.0 | 9.000 | L1 | 9.9 |
| 0.393500 | --- | 26.93 | 47.99 | 21.06 | 200.0 | 9.000 | L1 | 9.9 |
| 0.401500 | 39.17 | --- | 57.82 | 18.65 | 200.0 | 9.000 | L1 | 9.9 |
| 0.429500 | --- | 26.06 | 47.26 | 21.21 | 200.0 | 9.000 | L1 | 9.9 |
| 0.429500 | 37.50 | --- | 57.26 | 19.76 | 200.0 | 9.000 | L1 | 9.9 |

# EMC32 Report

## EUT Information

| | |
|---|---|
| EUT Name: | Endo Motors |
| Model | C-SMART-I PILOT |
| Order No: | 168310254 40 |
| Test Mode: | BLE operating mode |
| Test Voltage: | AC 120V/60Hz |
| Test By: | Charlie Zha |
| Review By: | Gary Chen |
| Remark: | 3m Chamber |




## Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|
| 0.150000 | 42.34 | --- | 65.78 | 23.44 | N | 9.8 |
| 0.173500 | --- | 24.35 | 54.77 | 30.42 | N | 9.8 |
| 0.353500 | 46.41 | --- | 58.87 | 12.45 | N | 9.8 |
| 0.353500 | --- | 35.33 | 48.87 | 13.54 | N | 9.8 |
| 0.393500 | 46.43 | --- | 57.98 | 11.55 | N | 9.8 |
| 0.393500 | --- | 34.57 | 47.98 | 13.41 | N | 9.8 |
| 0.429500 | 44.88 | --- | 57.25 | 12.37 | N | 9.8 |
| 0.433500 | --- | 32.98 | 47.25 | 14.27 | N | 9.8 |
| 0.786000 | 42.48 | --- | 56.00 | 13.52 | N | 9.8 |
| 0.786000 | --- | 29.91 | 46.00 | 16.09 | N | 9.8 |
| 1.214000 | --- | 28.00 | 46.00 | 18.00 | N | 9.8 |
| 1.218000 | 44.42 | --- | 56.00 | 11.58 | N | 9.8 |

## Final_Result

| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.150000 | 35.73 | --- | 66.00 | 30.27 | 200.0 | 9.000 | N | 9.8 |
| 0.173500 | --- | 24.19 | 54.79 | 30.60 | 200.0 | 9.000 | N | 9.8 |
| 0.353500 | 45.28 | --- | 58.88 | 13.60 | 200.0 | 9.000 | N | 9.8 |
| 0.353500 | --- | 35.66 | 48.88 | 13.22 | 200.0 | 9.000 | N | 9.8 |
| 0.393500 | --- | 34.59 | 47.99 | 13.40 | 200.0 | 9.000 | N | 9.8 |
| 0.393500 | 44.51 | --- | 57.99 | 13.48 | 200.0 | 9.000 | N | 9.8 |
| 0.429500 | 42.99 | --- | 57.26 | 14.27 | 200.0 | 9.000 | N | 9.8 |
| 433500 | --- | 33.09 | 47.19 | 14.10 | 200.0 | 9.000 | N | 9.8 |

# 6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.