

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC150866 1 of 106 Page:

FCC Radio Test Report FCC ID: 2ABHA0014

Original Grant

Report No. TB-FCC150866

NINGBO CSTAR IMP&EXP CO., LTD. **Applicant**

Equipment Under Test (EUT)

EUT Name Micro Truwireless Earbuds

7199-99BK Model No.

SL066, 7199-99, 7198-04 Series Model No.

Brand Name Cstar

Receipt Date 2016-12-05

Test Date 2016-12-06 to 2016-12-15

Issue Date 2016-12-16

Standards FCC Part 15: 2016, Subpart C(15.247)

Test Method ANSI C63.10: 2013

Conclusions PASS

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

The EUT technically complies with the FCC requirements

Test/Witness Engineer

Approved& Authorized

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

TB-RF-074-1.0

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1. General Information about EUT

1.1 Client Information

Applicant : NINGBO CSTAR IMP&EXP CO., LTD

Address : Floor 4, Building E, No. 655-90, Qiming Road, Yinzhou Investment &

Innovation Center, Ningbo, China

Manufacturer : ShenZhen C-Star Electronic Tech. Co., Ltd

Address : 2, 3/F, Building B, No. 2 Bada Industrial Park, Yongfu Road, Heping

Community, Fuyong Town, Baoan District, Shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

| EUT Name | | Micro Truwireless Earbuds | | |
|------------------------|---|--|-----------------------------------|--|
| Models No. | | 7199-99BK, SL066, 7199-99, 7198-04 | | |
| Model Difference | del Difference : All these models are identical in the same PCB, layout and electrical in the same point and electrical in | | | |
| CITE OF | | Operation Frequency: | Bluetooth V4.1+EDR: 2402~2480 MHz | |
| | | Number of Channel: | Bluetooth: 79 Channels see Note 2 | |
| Product | | Max Peak Output Power: Bluetooth: 6.06 dBm(GFSK) | | |
| Description | | Antenna Gain: | 0 dBi PCB Antenna | |
| | | Modulation Type: | GFSK 1Mbps(1 Mbps) | |
| | | | π /4-DQPSK(2 Mbps) | |
| | | 1 | 8-DPSK(3 Mbps) | |
| Power Supply | | DC power by USB cable. | | |
| | | DC power by Li-ion battery | | |
| Power Rating | : | DC 5V by USB Cable.(Charging Box) DC 3.7V by 450mAh Li-ion Battery. (Charging Box) | | |
| MANAGER | N | | | |
| | | DC 3.7V by 40mAh Li-ion Battery.(Headsets) | | |
| Connecting I/O Port(S) | • | Please refer to the User's Manual | | |

Note

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

| | | Bluetooth | Channel List | | |
|---------|--------------------|-----------|--------------------|---------|--------------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 00 | 2402 | 27 | 2429 | 54 | 2456 |
| 01 | 2403 | 28 | 2430 | 55 | 2457 |
| 02 | 2404 | 29 | 2431 | 56 | 2458 |



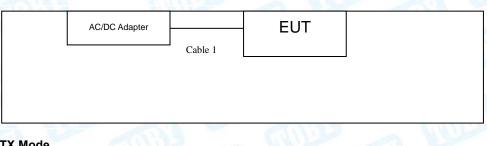
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| | | W. 43 A Y Y B | | | A SECTION AND ADDRESS OF THE PARTY OF THE PA |
|----|------|---------------|------|---------|--|
| 03 | 2405 | 30 | 2432 | 57 | 2459 |
| 04 | 2406 | 31 | 2433 | 58 | 2460 |
| 05 | 2407 | 32 | 2434 | 59 | 2461 |
| 06 | 2408 | 33 | 2435 | 60 | 2462 |
| 07 | 2409 | 34 | 2436 | 61 | 2463 |
| 08 | 2410 | 35 | 2437 | 62 | 2464 |
| 09 | 2411 | 36 | 2438 | 63 | 2465 |
| 10 | 2412 | 37 | 2439 | 64 | 2466 |
| 11 | 2413 | 38 | 2440 | 65 | 2467 |
| 12 | 2414 | 39 | 2441 | 66 | 2468 |
| 13 | 2415 | 40 | 2442 | 67 | 2469 |
| 14 | 2416 | 41 | 2443 | 68 | 2470 |
| 15 | 2417 | 42 | 2444 | 69 | 2471 |
| 16 | 2418 | 43 | 2445 | 70 | 2472 |
| 17 | 2419 | 44 | 2446 | 71 | 2473 |
| 18 | 2420 | 45 | 2447 | 72 | 2474 |
| 19 | 2421 | 46 | 2448 | 73 | 2475 |
| 20 | 2422 | 47 | 2449 | 74 | 2476 |
| 21 | 2423 | 48 | 2450 | 75 | 2477 |
| 22 | 2424 | 49 | 2451 | 76 | 2478 |
| 23 | 2425 | 50 | 2452 | 77 | 2479 |
| 24 | 2426 | 51 | 2453 | 78 | 2480 |
| 25 | 2427 | 52 | 2454 | Hilliam | |
| 26 | 2428 | 53 | 2455 | 200 | (32) |

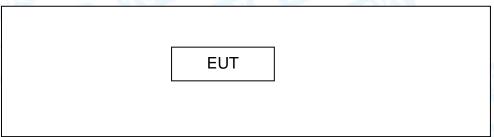
⁽³⁾ The Antenna information about the equipment is provided by the applicant.

1.3 Block Diagram Showing the Configuration of System Tested

Charging with TX Mode



TX Mode





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1.4 Description of Support Units

| | Eq | uipment Informatio | on | |
|----------------|-----------------------|-----------------------|--------------|--|
| Name | Model | FCC ID/VOC | Manufacturer | Used "√" |
| AC/DC Adapter | TEKA012 | VOC | TEKA | √ |
| AC/DC Adapter: | Input:100~240V, 50/60 | OHz, 0.2A. Output: 5V | , 1A | |
| | | Cable Information | | |
| Number | Shielded Type | Ferrite Core | Length | Note |
| Cable 1 | NO | NO | 0.4M | THE PARTY OF THE P |

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

| | For Conducted Test | | | |
|-----------------------------|---------------------------------------|--|--|--|
| Final Test Mode Description | | | | |
| Mode 1 | USB Charging Mode | | | |
| | For Radiated Test | | | |
| Final Test Mode Description | | | | |
| Mode 1 | TX GFSK Mode | | | |
| Mode 2 | TX Mode(GFSK) Channel 00/39/78 | | | |
| Mode 3 | TX Mode(π /4-DQPSK) Channel 00/39/78 | | | |
| Mode 4 | TX Mode(8-DPSK) Channel 00/39/78 | | | |
| Mode 5 | Hopping Mode(GFSK) | | | |
| Mode 6 | Hopping Mode(π /4-DQPSK) | | | |
| Mode 7 | Hopping Mode(8-DPSK) | | | |

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate. We have pretested all the test modes above.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: GFSK (1 Mbps)

TX Mode: π /4-DQPSK (2 Mbps)
TX Mode: 8-DPSK (3Mbps)



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(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane as the normal use. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of Bluetooth mode.

| Test Software Version | Airoha.AB1500_l | FamilyLabTestTool_20151127 | 7_1.4.17.0_Verifying |
|------------------------------|-----------------|----------------------------|----------------------|
| Frequency | 2402 MHz | 2441MHz | 2480 MHz |
| GFSK | DEF | DEF | DEF |
| π /4-DQPSK | DEF | DEF | DEF |
| 8-DPSK | DEF | DEF | DEF |

1.7 Measurement Uncertainty

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

| Test Item | Parameters | Expanded Uncertainty (U _{Lab}) |
|--------------------|---|--|
| Conducted Emission | Level Accuracy: 9kHz~150kHz 150kHz to 30MHz | ±3.42 dB ±3.42 dB |
| Radiated Emission | Level Accuracy: 9kHz to 30 MHz | ±4.60 dB |
| Radiated Emission | Level Accuracy: 30MHz to 1000 MHz | ±4.40 dB |
| Radiated Emission | Level Accuracy: Above 1000MHz | ±4.20 dB |



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1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



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2. Test Summary

| | F | CC Part 15 Subpart C(15.247)/ RSS | 247 Issue 1 | | |
|----------------------|--------------------|--|-------------|--|--|
| Standard Section | | | 1 1 | | |
| FCC | IC | Test Item | Judgment | Remark | |
| 15.203 | | Antenna Requirement | PASS | N/A | |
| 15.207 | RSS-GEN 7.2.2 | Conducted Emission | PASS | N/A | |
| 15.205 | RSS-Gen 7.2.3 | Restricted Bands | PASS | N/A | |
| 15.247(a)(1) | RSS 247 5.1 (2) | Hopping Channel Separation | PASS | N/A | |
| 15.247(a)(1) | RSS 247 5.1 (4) | Dwell Time | PASS | N/A | |
| 15.247(b)(1) | RSS 247 5.4 (2) | Peak Output Power | PASS | N/A | |
| 15.247(b)(1) | RSS 247 5.1 (4) | Number of Hopping Frequency | PASS | N/A | |
| 15.247(d) | RSS 247 5.5 | Band Edge | PASS | N/A | |
| 15.247(c)& 15.209 | RSS 247 5.5 | Radiated Spurious Emission | PASS | N/A | |
| 15.247(a) | RSS 247 5.1 (1) | 99% Occupied Bandwidth & 20dB Bandwidth | PASS | 99%OBW GFSK:894.00kHz π/4-DQPSK: 1350.00kHz 8-DPSK: 1344.00KHz | |



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3. Test Equipment

| AC Main C | conducted Emiss | sion | | | |
|---------------------------|----------------------------------|-------------|----------------------|---------------|------------------|
| Description | Manufacturer | Model No. | Serial No. | Cal. Date | Cal. Due Date |
| EMI Test Receiver | ROHDE& SCHWARZ | ESCI | 100321 | Jul. 22, 2016 | Jul. 21, 2017 |
| RF Switching Unit | Compliance Direction Systems Inc | RSU-A4 | 34403 | Jul. 22, 2016 | Jul. 21, 2017 |
| L.I.S.N | Rohde & Schwarz | ENV216 | 101131 | Jul. 22, 2016 | Jul. 21, 2017 |
| L.I.S.N | SCHWARZBECK | NNBL 8226-2 | 8226-2/164 | Jul. 22, 2016 | Jul. 21, 2017 |
| Description | Spurious Emiss Manufacturer | Model No. | Serial No. | Cal. Date | Cal. Due |
| Spectrum Analyzer | Agilent | E4407B | MY45106456 | Jul. 22, 2016 | Jul. 21, 2017 |
| EMI Test Receiver | Rohde & Schwarz | ESPI | 107199-99BK0/0 07 | Jul. 22, 2016 | Jul. 21, 2017 |
| Bilog Antenna | ETS-LINDGREN | 3142E | 7199-99BK17537 | Mar. 20, 2016 | Mar. 19, 2017 |
| Horn Antenna | ETS-LINDGREN | 3117 | 7199-99BK43207 | Mar. 19, 2016 | Mar. 18, 2017 |
| Pre-amplifier | Sonoma | 310N | 185903 | Mar. 20, 2016 | Mar. 19, 2017 |
| Pre-amplifier | HP | 8449B | 3008A00849 | Mar. 26, 2016 | Mar. 25, 2017 |
| Cable | HUBER+SUHNER | 100 | SUCOFLEX | Mar. 26, 2016 | Mar. 25, 2017 |
| Positioning Controller | ETS-LINDGREN | 2090 | N/A | N/A | N/A |
| Antenna C | conducted Emiss | sion | | | |
| Description | Manufacturer | Model No. | Serial No. | Cal. Date | Cal. Due Date |
| Spectrum Analyzer | Agilent | E4407B | MY45106456 | Jul. 22, 2016 | Jul. 21, 2017 |
| Spectrum Analyzer | Rohde & Schwarz | ESPI | 100321 | Jul. 22, 2016 | Jul. 21, 2017 |



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4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

4.1.2 Test Limit

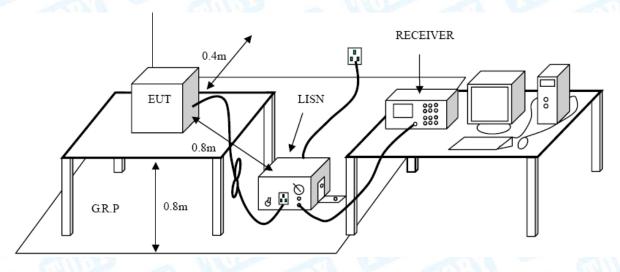
Conducted Emission Test Limit

| Eroguanav | Maximum RF Line Voltage (dBμV) | | |
|---------------|--------------------------------|---------------|--|
| Frequency | Quasi-peak Level | Average Level | |
| 150kHz~500kHz | 66 ~ 56 * | 56 ~ 46 * | |
| 500kHz~5MHz | 56 | 46 | |
| 5MHz~30MHz | 60 | 50 | |

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Test data please refer the following pages.



EUT: 7199-99BK Micro Truwireless Earbuds **Model Name:** 25℃ **Relative Humidity:** Temperature: 55% Test Voltage: AC 120V/60 Hz Terminal: Line Test Mode: **USB Charging Mode** Remark: Only worse case is reported 80.0 dBuV QP: AVG: 30 AVG -20 0.150 0.5 (MHz) 30.000 Reading Correct Measure-Limit Over No. Mk. Factor Freq. Level ment dB dΒ MHz dBuV dBuV dBuV Detector 1 0.2380 19.99 10.02 30.01 62.16 -32.15 QΡ 2 0.2380 6.59 10.02 16.61 52.16 -35.55 **AVG** 3 0.3420 22.83 10.02 32.85 59.15 -26.30 QΡ 0.3420 9.69 10.02 19.71 49.15 -29.44 AVG 4 5 0.5100 20.80 10.02 30.82 56.00 -25.18 QΡ 0.5100 6.35 10.02 16.37 46.00 -29.63 6 **AVG** 7 0.6700 21.37 10.10 31.47 56.00 -24.53 QΡ 8 0.6700 8.26 10.10 18.36 46.00 -27.64 **AVG** 56.00 -27.25 9 0.9620 18.68 10.07 28.75 QΡ 46.00 -30.19 5.74 15.81 AVG 10 0.9620 10.07 56.00 -26.35 QΡ 11 1.3900 19.59 10.06 29.65

10.06

6.14

16.20

46.00 -29.80

12

1.3900

Emission Level= Read Level+ Correct Factor

AVG



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| EUT: | Micro Truwireless | Earbuds | Model N | Name : | | 7199-99BK |
|--|--------------------|-------------|---|--------|-------------|------------|
| Temperature: | 25℃ | a GIV | Relative | Humid | ity: | 55% |
| Test Voltage: | AC 120V/60 Hz | | (MI) | 135 | - | MAIN |
| Terminal: | Neutral | | Barrie | | 1:49 | |
| Test Mode: | USB Charging Mo | ode | | W W | | |
| Remark: | Only worse case | is reported | CALL DE | 3 | 9 | M. Carrier |
| 30 X X X X X X X X X X X X X X X X X X X | 0.5 | MHz) | Mary May day of the second of | WWW. | QP: AVG: | peak AVG |
| No. Mk. F | Reading req. Level | Correct I | Measure- ment | Limit | Over | |
| | 1Hz dBuV | dB | dBuV | dBuV | dB | Detector |
| 1 0.2 | 300 23.35 | 10.11 | 33.46 | 62.45 | -28.99 | QP |
| 2 0.2 | 300 8.97 | 10.11 | 19.08 | 52.45 | -33.37 | AVG |
| 3 0.3 | 300 26.55 | 10.08 | 36.63 | 59.45 | -22.82 | QP |
| 4 0.3 | 300 11.78 | 10.08 | 21.86 | 49.45 | -27.59 | AVG |
| 5 * 0.4 | 980 26.83 | 10.02 | 36.85 | 56.03 | -19.18 | QP |
| 6 0.4 | 980 10.69 | 10.02 | 20.71 | 46.03 | -25.32 | AVG |
| 7 0.6 | 700 25.62 | 10.02 | 35.64 | 56.00 | -20.36 | QP |
| 8 0.6 | 700 10.38 | 10.02 | 20.40 | 46.00 | -25.60 | AVG |
| 9 0.9 | 580 23.64 | 10.14 | 33.78 | 56.00 | -22.22 | QP |
| 10 0.9 | 580 8.07 | 10.14 | 18.21 | 46.00 | -27.79 | AVG |
| 11 1.3 | 900 23.03 | 10.12 | 33.15 | 56.00 | -22.85 | QP |
| 12 1.3 | 900 7.45 | 10.12 | 17.57 | 46.00 | -28.43 | AVG |
| Emission Level= | Read Level+ Corr | ect Factor | | | | |





EUT: 7199-99BK Micro Truwireless Earbuds **Model Name:** 25℃ **Relative Humidity:** Temperature: 55% Test Voltage: AC 240V/60 Hz Terminal: Line Test Mode: **USB Charging Mode** Remark: Only worse case is reported 80.0 dBuV QP: AVG: 30 AVG 0.150 0.5 (MHz) 30.000 Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz dBuV dΒ dBuV dBuV dΒ Detector 0.2938 13.76 10.02 23.78 -36.63 1 60.41 QΡ 2 0.2938 2.91 10.02 12.93 50.41 -37.48 **AVG** 56.00 -26.49 3 0.5100 19.49 10.02 29.51 QΡ 0.5100 14.86 10.02 46.00 -21.12 **AVG** 4 24.88 17.28 10.11 27.39 56.00 -28.61 5 0.6860 QP 46.00 -25.32 6 0.6860 10.57 10.11 20.68 **AVG** 10.07 56.00 -31.72 QP 7 0.9618 14.21 24.28 8 10.07 46.00 -29.77 **AVG** 0.9618 6.16 16.23 9 1.7419 17.88 10.06 27.94 56.00 -28.06 QΡ 1.7419 12.92 10.06 22.98 46.00 -23.02 **AVG** 10 QΡ 11 2.9100 16.65 10.03 26.68 56.00 -29.32 10.03 46.00 -26.54 **AVG** 12 2.9100 9.43 19.46 **Emission Level= Read Level+ Correct Factor**



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| EUT: | Micro | o Truwireless | s Earbuds | Model | Name : | 71 | 99-99BK |
|---------------|-----------------|---------------|-------------|---|----------|--------------------|----------|
| Temperature: | 25℃ | | - EN | Relativ | e Humidi | ity: 55 | 5% |
| Test Voltage: | AC 2 | 240V/60 Hz | 13 | | 100 | | Aller |
| Terminal: | Neut | ral | | 1 | 711 | 1:43 | |
| Test Mode: | USB | Charging M | ode | | 1 10 | | |
| Remark: | Only | worse case | is reported | CALL DE | 2 | a Y | III. |
| 80.0 dBuV | | | | | | QP: | |
| | | | | | | AVG: | |
| | | | | | | | |
| | | | | | | | |
| ~~~~~ | X | | J | | | | |
| Ma. | Jan Mary | WWWWW | Mawa mari | S Maringon Maringon | | duals | |
| 30 | ~ ~ ^ | 17 11 7 | ethe Mari | 1 11 11 11 11 11 11 | Languary | MAN WILLIAM STATES | Marmola |
| V V | Was In the last | Vanna 1 | A. M. M. A. | л л л л л л л л л | | | peak |
| | | 1, 1, 1, 1, 1 | 110 M.A. | . A A A A A A A A A A A A A A A A A A A | MMMMM | hery before more | AVG |
| | | | | | | | |
| | | | | | | | |
| -20 | | | | | | | |
| 0.150 | 0.5 | | (MHz) | 5 | | | 30.000 |
| | | Reading | Correct | Measure- | | _ | |
| No. Mk. | Freq. | Level | Factor | ment | Limit | Over | |
| | MHz | dBuV | dB | dBu∀ | dBu∀ | dB | Detector |
| 1 (| 0.2340 | 25.13 | 10.11 | 35.24 | 62.30 | -27.06 | QP |
| 2 (| 0.2340 | 11.11 | 10.11 | 21.22 | 52.30 | -31.08 | AVG |
| 3 (| 0.3140 | 19.38 | 10.08 | 29.46 | 59.86 | -30.40 | QP |
| 4 (| 0.3140 | 7.44 | 10.08 | 17.52 | 49.86 | -32.34 | AVG |
| 5 (| 0.4979 | 24.03 | 10.02 | 34.05 | 56.03 | -21.98 | QP |
| | 0.4979 | 14.10 | 10.02 | 24.12 | 46.03 | | AVG |
| | 0.9577 | 17.04 | 10.14 | 27.18 | 56.00 | | QP |
| | | | | | | | |
| | 0.9577 | 8.75 | 10.14 | 18.89 | 46.00 | | AVG |
| | 1.3740 | 21.35 | 10.12 | 31.47 | 56.00 | | QP |
| 10 1 | 1.3740 | 11.95 | 10.12 | 22.07 | 46.00 | -23.93 | AVG |
| 11 2 | 2.8220 | 18.68 | 10.06 | 28.74 | 56.00 | -27.26 | QP |
| 12 2 | 2.8220 | 7.44 | 10.06 | 17.50 | 46.00 | -28.50 | AVG |
| Emission Leve | el= Read | Level+ Corı | ect Factor | | | | |



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5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limit (9 kHz~1000MHz)

| Frequency (MHz | Field Strength (microvolt/meter) | Measurement Distance (meters) |
|-------------------|----------------------------------|-------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

Radiated Emission Limit (Above 1000MHz)

| Frequency | Class B (dBuV/m)(at 3m) | | | | |
|------------|-------------------------|---------|--|--|--|
| (MHz) | Peak | Average | | | |
| Above 1000 | 74 | 54 | | | |

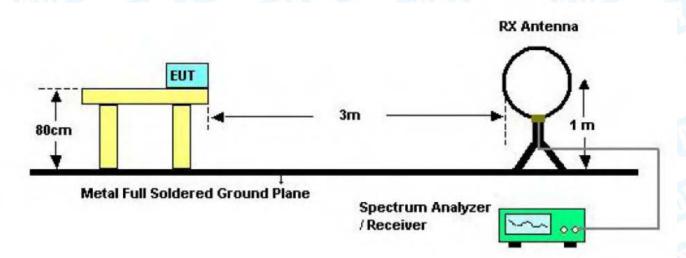
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m)

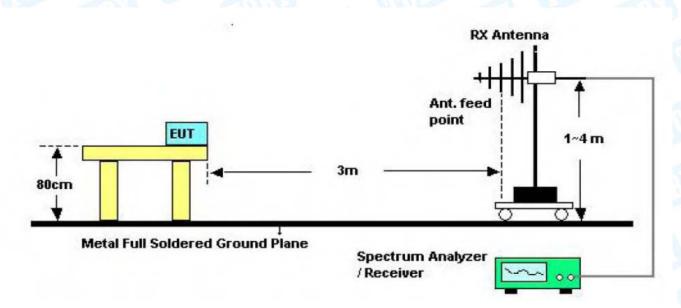


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5.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Antenna tower

Horn antenna

Spectrum analyzer

Turntable 1.5m Antenna 1.5m Antenna

Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power in TX mode.

5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.



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9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz~1GHz

| EUT: | Micro Truwirel | ess Earbuds | Mode | el Name : | 7199-99BI |
|--|---|--|-------------------------|--|-----------------------------------|
| Temperature: | 25℃ | 7 | Relati | ve Humidity: | 55% |
| Test Voltage: | DC 3.7V | | | CHILL | |
| Ant. Pol. | Horizontal | Alexander of the second | | 6 | TI I |
| Test Mode: | TX GFSK Mod | de 2402MHz | Allin | 1 N | No. |
| Remark: | Only worse ca | se is reported | 6 | Winns. | |
| 80.0 dBuV/m | | | | | |
| 20 | T X X X X X X X X X X X X X X X X X X X | × Value of the state of the sta | 3 5 5 | (RF)FCC 15C 3M I | Radiation Aargin -6 dB S X |
| 30.000 40 50 | 60 70 80 | (MHz) | 300 | 400 500 60 | 0 700 1000.00 |
| No. Mk. F | Reading req. Level | g Correct M Factor | leasure- ment | Limit Ov | /er |
| N | MHz dBuV | dB/m | dBuV/m | dBuV/m d | B Detecto |
| | | | | | |
| 1 143. | .8295 46.99 | -21.51 | 25.48 | 43.50 -18 | 3.02 peak |
| | .8295 46.99 .7450 54.58 | -21.51 -20.45 | 25.48 34.13 | | |
| 2 191. | | | | 43.50 -9 | .37 peak |
| 2 191. 3 * 239. | .7450 54.58 .9874 56.98 | -20.45 -18.18 | 34.13 38.80 | 43.50 -9 46.00 -7 | .37 peak |
| 2 191. 3 * 239. 4 250. | .7450 54.58 .9874 56.98 .3012 51.40 | -20.45 -18.18 -17.69 | 34.13 38.80 33.71 | 43.50 -9 46.00 -7 46.00 -12 | .37 peak .20 peak 2.29 peak |
| 2 191. 3 * 239. 4 250. 5 287. | .7450 54.58 .9874 56.98 | -20.45 -18.18 -17.69 -16.89 | 34.13 38.80 | 43.50 -9 46.00 -7 46.00 -12 46.00 -17 | .37 peak |

*:Maximum data

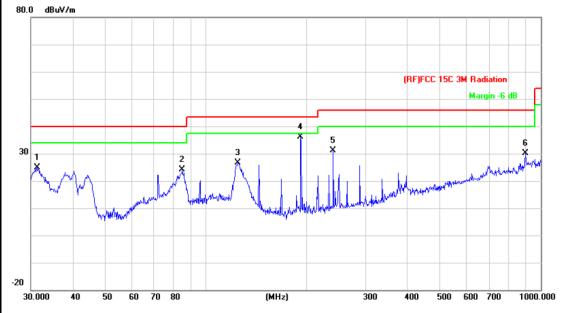
Emission Level= Read Level+ Correct Factor

x:Over limit !:over margin



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|-----------------------------|--------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | Vertical | | | | | |
| Test Mode: | TX GFSK Mode 2402MHz | | CHILITIES | | | | |
| Remark: | Only worse case is reported | | | | | | |
| 80.0 dBuV/m | | | | | | | |
| | | | | | | | |



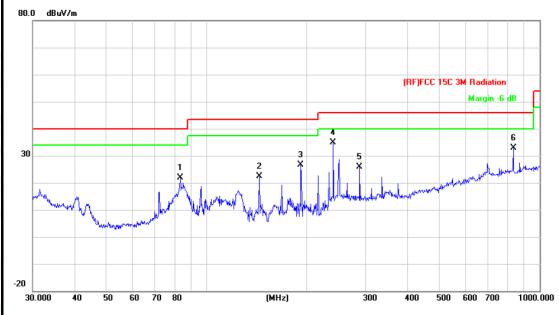
| No | . Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 31.2893 | 39.72 | -14.94 | 24.78 | 40.00 | -15.22 | peak |
| 2 | | 84.9995 | 47.12 | -23.04 | 24.08 | 40.00 | -15.92 | peak |
| 3 | | 124.5690 | 49.00 | -22.27 | 26.73 | 43.50 | -16.77 | peak |
| 4 | * | 191.7450 | 56.62 | -20.45 | 36.17 | 43.50 | -7.33 | peak |
| 5 | | 239.9874 | 49.32 | -18.18 | 31.14 | 46.00 | -14.86 | peak |
| 6 | | 900.1474 | 33.68 | -3.60 | 30.08 | 46.00 | -15.92 | peak |

^{*:}Maximum data x:Over limit !:over margin



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MHz | | MILLER |
| Remark: | Only worse case is reported | | |



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 83.2296 | 44.94 | -23.14 | 21.80 | 40.00 | -18.20 | peak |
| 2 | | 143.8291 | 43.99 | -21.51 | 22.48 | 43.50 | -21.02 | peak |
| 3 | | 191.7450 | 47.08 | -20.45 | 26.63 | 43.50 | -16.87 | peak |
| 4 | * | 239.9874 | 52.98 | -18.18 | 34.80 | 46.00 | -11.20 | peak |
| 5 | | 287.9904 | 42.82 | -16.89 | 25.93 | 46.00 | -20.07 | peak |
| 6 | | 833.3170 | 38.03 | -5.12 | 32.91 | 46.00 | -13.09 | peak |

^{*:}Maximum data x:Over limit !:over margin



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------------|-----------------------------|-------------------|--------------|--|--|--|--|
| emperature: | 25℃ Relative Humidity: 55 | | | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | 7 130 | A STATE OF | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MHz | W. 10 | CHILL | | | | |
| Remark: | Only worse case is reported | | | | | | |
| 80.0 dBuV/m | | | | | | | |
| 30 1 2 | 3 | (RF)FCC 15C 3M R. | argin -6 dB | | | | |
| -20 30.000 40 50 | 60 70 80 (MHz) | 300 400 500 600 | 700 1000.000 | | | | |

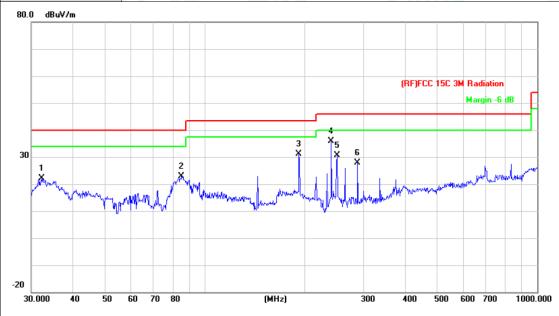
| | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | * | 31.6202 | 41.97 | -15.14 | 26.83 | 40.00 | -13.17 | peak |
| 2 | | | 37.9450 | 43.62 | -19.04 | 24.58 | 40.00 | -15.42 | peak |
| 3 | | | 84.9993 | 48.62 | -23.04 | 25.58 | 40.00 | -14.42 | peak |
| 4 | | | 124.5690 | 50.50 | -22.27 | 28.23 | 43.50 | -15.27 | peak |
| 5 | | | 191.7450 | 50.12 | -20.45 | 29.67 | 43.50 | -13.83 | peak |
| 6 | | | 239.9874 | 49.32 | -18.18 | 31.14 | 46.00 | -14.86 | peak |

^{*:}Maximum data x:Over limit !:over margin



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|----------------------|-----------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | TO BE | |
| Ant. Pol. | Horizontal | 7 100 | |
| Test Mode: | TX 8-DPSK Mode 2402MHz | | CHILITIES |
| Remark: | Only worse case is reported | | |
| en n deuv <i>t</i> m | | | |



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 32.2924 | 37.71 | -15.56 | 22.15 | 40.00 | -17.85 | peak |
| 2 | | 84.9993 | 45.98 | -23.04 | 22.94 | 40.00 | -17.06 | peak |
| 3 | | 191.7450 | 51.58 | -20.45 | 31.13 | 43.50 | -12.37 | peak |
| 4 | * | 239.9874 | 53.98 | -18.18 | 35.80 | 46.00 | -10.20 | peak |
| 5 | | 250.3009 | 48.40 | -17.69 | 30.71 | 46.00 | -15.29 | peak |
| 6 | | 287.9904 | 44.82 | -16.89 | 27.93 | 46.00 | -18.07 | peak |

^{*:}Maximum data x:Over limit !:over margin



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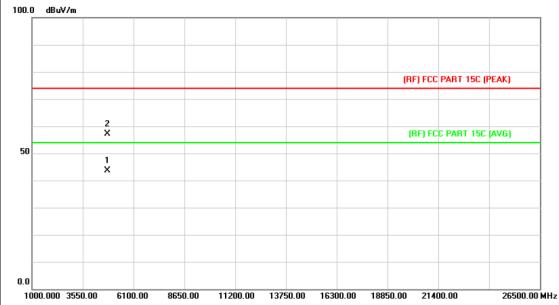
| 'a man a watu wa u | | | Earbuds | Wode | l Name : | 7 13 | 99-99BI |
|------------------------------------|---|---|--|---|--|----------------------------------|---------------------------------|
| emperature: | 25℃ | | 10 | Relativ | ve Humidity | y : 55° | % |
| est Voltage: | DC 3.7V | M. M. C. | | 1 | | 13 | |
| nt. Pol. | Vertical | | CHIT'S | | N. A. S. | | 1300 |
| est Mode: | TX 8-DP | SK Mode 2 | 2402MHz | CITIES ! | | | المعالية |
| temark: | Only wor | rse case is | reported | 600 | | | . (|
| 30 1 X | | 2 | 3 4 × | 6 X | (RF)FCC 15C 3 | Margin -6 | |
| 20 | 50 70 8 | | (MHz) | 300 | | 600 700 | 1000 000 |
| 30.000 40 50 | 60 70 8 | Reading | (MHz) | 300 Measure- | 400 500 | 600 700 | 1000.000 |
| 30.000 40 50 | 60 70 8 | | | | 400 500 | 600 700 Over | 1000.000 |
| 30.000 40 50 No. Mk. F | 60 70 8 | Reading | Correct N | /leasure- | 400 500 | | 1000.000 |
| 30.000 40 50 No. Mk. F | 60 70 8 Freq. | Reading Level | Correct N Factor | /leasure- ment | 400 500 Limit dBuV/m | Over | |
| No. Mk. F | 60 70 8 Freq. | Reading Level | Correct N Factor | /leasure- ment dBuV/m | 400 500 Limit dBuV/m 40.00 | Over dB | Detecto |
| No. Mk. F | 60 70 8 Freq. MHz 9450 | Reading Level dBuV 42.12 | Correct N Factor dB/m | Measure- ment dBuV/m 23.08 | 400 500 Limit dBuV/m 40.00 | Over dB -16.92 | Detecto peak peak |
| No. Mk. F 1 37. 2 84. 3 125 | 60 70 8 Freq. MHz .9450 .9993 | Reading Level dBuV 42.12 50.62 | Correct N Factor dB/m -19.04 -23.04 | Measure- ment dBuV/m 23.08 27.58 | 400 500 Limit dBuV/m 40.00 40.00 43.50 | Over dB -16.92 -12.42 | Detecto peak peak |
| No. Mk. F 1 37. 2 84. 3 125 4 143 | 60 70 8 Freq. MHz 9450 9993 | Reading Level dBuV 42.12 50.62 49.21 | Correct N Factor dB/m -19.04 -23.04 -22.25 | Measure- ment dBuV/m 23.08 27.58 26.96 | 400 500 Limit dBuV/m 40.00 40.00 43.50 43.50 | Over dB -16.92 -12.42 -16.54 | Detecto peak peak peak |



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Above 1GHz

| : Micro Truwireless Earbuds Model Name : | | 7199-99BK | | | | |
|--|--|--|--|--|--|--|
| 25℃ | Relative Humidity: | | | | | |
| DC 3.7V | | | | | | |
| Horizontal | | | | | | |
| TX GFSK Mode 2402MHz | 10.33 | CHILITIES | | | | |
| No report for the emission which more than 10 dB below the prescribed limit. | | | | | | |
| | 25℃ DC 3.7V Horizontal TX GFSK Mode 2402MHz No report for the emission which | 25°C Relative Humidity: DC 3.7V Horizontal TX GFSK Mode 2402MHz No report for the emission which more than 10 dB below | | | | |

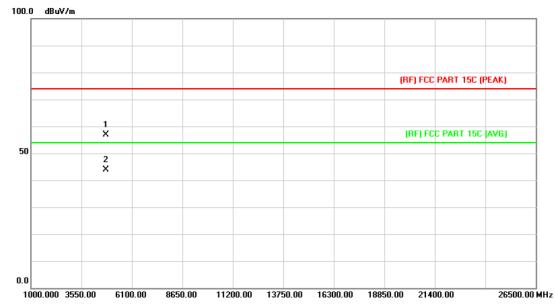


| No | o. Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 4804.514 | 30.10 | 13.44 | 43.54 | 54.00 | -10.46 | AVG |
| 2 | | 4804.780 | 43.69 | 13.44 | 57.13 | 74.00 | -16.87 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|--|--------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | C 3.7V | | | | | | |
| Ant. Pol. | Vertical | | | | | | |
| Test Mode: | TX GFSK Mode 2402MHz | | CHILL | | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | | |

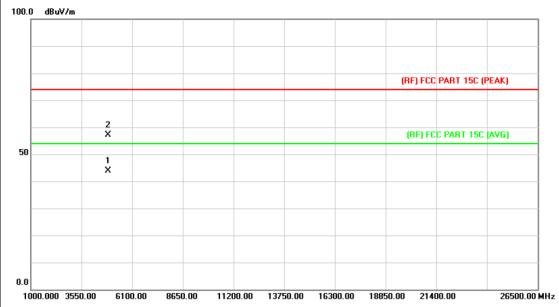


| No | o. Mk | . Freq. | | | Measure- ment | Limit | Over | |
|----|-------|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4803.522 | 43.56 | 13.44 | 57.00 | 74.00 | -17.00 | peak |
| 2 | * | 4803.772 | 30.35 | 13.44 | 43.79 | 54.00 | -10.21 | AVG |



Page: 28 of 106

| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|--|--------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | C 3.7V | | | | | | |
| Ant. Pol. | Horizontal | Horizontal | | | | | |
| Test Mode: | TX GFSK Mode 2441MHz | | CHILL | | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | | |

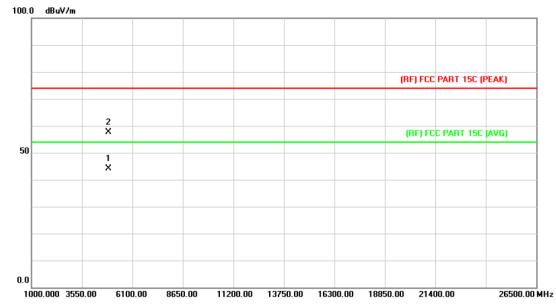


| N | lo. | Mk. | Freq. | | | Measure- ment | Limit | Over | |
|---|-----|-----|----------|-------|-------|------------------|--------|--------|----------|
| | | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | * | 4881.492 | 30.08 | 13.90 | 43.98 | 54.00 | -10.02 | AVG |
| 2 | | | 4882.196 | 43.24 | 13.90 | 57.14 | 74.00 | -16.86 | peak |



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| EUT: | Micro Truwireless Earbuds | wireless Earbuds Model Name : | | | | | | |
|---------------|--|-------------------------------|-------|--|--|--|--|--|
| Temperature: | perature: 25°C Relative Humid | | 55% | | | | | |
| Test Voltage: | DC 3.7V | OC 3.7V | | | | | | |
| Ant. Pol. | Vertical | Vertical | | | | | | |
| Test Mode: | TX GFSK Mode 2441MHz | | CHILL | | | | | |
| Remark: | Remark: No report for the emission which more than 10 dB below the prescribed limit. | | | | | | | |



| 1 | No. | Mk. | Freq. | Reading Level | | Measure- ment | Limit | Over | |
|---|-----|-----|----------|------------------|-------|------------------|--------|--------|----------|
| | | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | * | 4881.792 | 30.34 | 13.90 | 44.24 | 54.00 | -9.76 | AVG |
| 2 | | | 4882.106 | 43.78 | 13.90 | 57.68 | 74.00 | -16.32 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | | |
|---------------|--|--------------|-----------|--|--|--|--|--|
| Temperature: | perature: 25℃ Rela | | 55% | | | | | |
| Test Voltage: | DC 3.7V | C 3.7V | | | | | | |
| Ant. Pol. | Horizontal | Horizontal | | | | | | |
| Test Mode: | TX GFSK Mode 2480MHz | | CHITT: 1 | | | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | | | |
| 100.0 40.4/- | | | | | | | | |

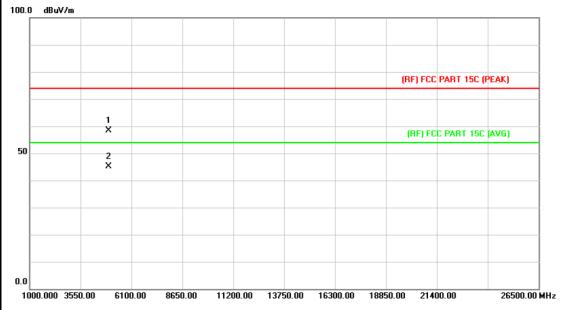


| No. Mk. | | k. Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---------|---|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 4960.394 | 30.64 | 14.36 | 45.00 | 54.00 | -9.00 | AVG |
| 2 | | 4960.506 | 44.34 | 14.36 | 58.70 | 74.00 | -15.30 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|--|--------------|-----------|--|--|--|--|
| Temperature: | 25℃ | 55% | | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | | | | | | |
| Test Mode: | TX GFSK Mode 2480MHz | | CITIE | | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | | |
| | | | | | | | |

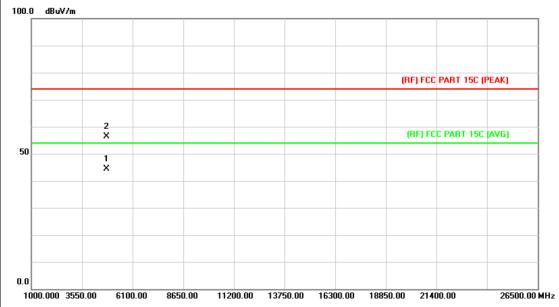


| No. | Mk. | Freq. | _ | | Measure- ment | Limit | Over | |
|-----|-----|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4959.648 | 44.09 | 14.36 | 58.45 | 74.00 | -15.55 | peak |
| 2 | * | 4960.780 | 30.87 | 14.36 | 45.23 | 54.00 | -8.77 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | |
|---------------|--|--------------|-----------|--|--|--|
| Temperature: | 25℃ | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | |
| Ant. Pol. | Horizontal | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MHz | | CHILITIES | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | |

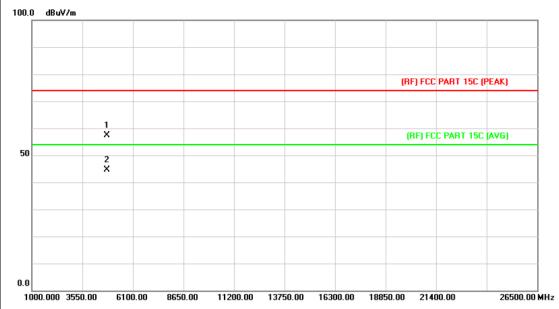


| N | o. I | Иk. | Freq. | Reading Level | | Measure- ment | Limit | Over | |
|---|-------------|-----|----------|------------------|-------|------------------|--------|--------|----------|
| | | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | | 4804.238 | 30.84 | 13.44 | 44.28 | 54.00 | -9.72 | AVG |
| 2 | | | 4805.461 | 42.82 | 13.45 | 56.27 | 74.00 | -17.73 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | |
|---------------|--|--------------|-----------|--|--|--|
| Temperature: | 25℃ Relative Humidity: 55% | | | | | |
| Test Voltage: | DC 3.7V | | | | | |
| Ant. Pol. | Vertical | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MH | z | CHILL | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | |

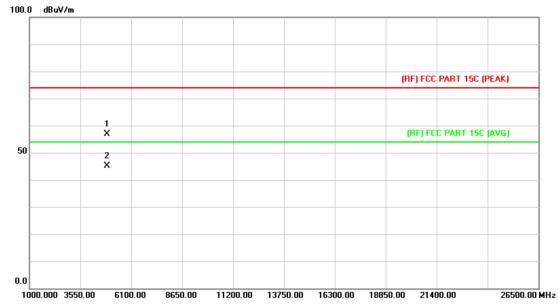


| N | o. Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|---|-------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4804.272 | 43.82 | 13.44 | 57.26 | 74.00 | -16.74 | peak |
| 2 | * | 4805.372 | 31.15 | 13.45 | 44.60 | 54.00 | -9.40 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | |
|---------------|--|--------------|-----------|--|--|--|
| Temperature: | 25℃ | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | |
| Ant. Pol. | Horizontal | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2441MH | z | CHILL | | | |
| Remark: | No report for the emission which more than 10 dB below the | | | | | |
| | prescribed limit. | | | | | |

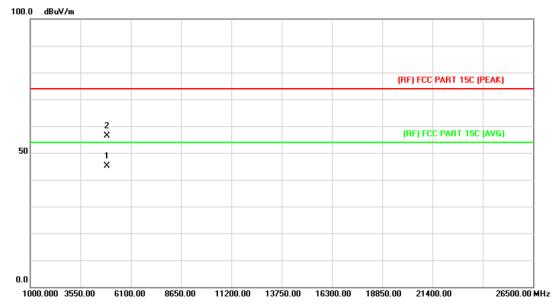


| No | . Mk | Freq. | | | Measure- ment | Limit | Over | |
|----|------|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4881.736 | 42.86 | 13.90 | 56.76 | 74.00 | -17.24 | peak |
| 2 | * | 4883.627 | 31.31 | 13.92 | 45.23 | 54.00 | -8.77 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | |
|---------------|--|--------------|-----------|--|--|--|
| Temperature: | 25℃ | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | |
| Ant. Pol. | Vertical | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2441MHz | | CHILITIES | | | |
| Remark: | No report for the emission which more than 10 dB below the prescribed limit. | | | | | |

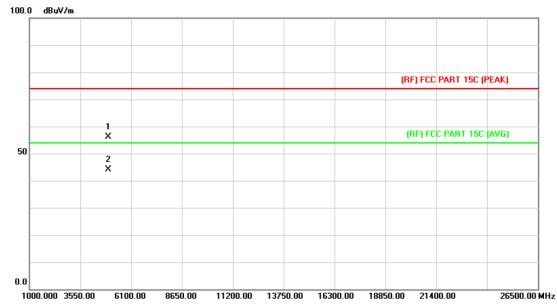


| N | No. | Mk. | Freq. | | | Measure- ment | Limit | Over | |
|---|-----|-----|----------|-------|-------|------------------|--------|--------|----------|
| | | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | * | 4881.235 | 31.33 | 13.90 | 45.23 | 54.00 | -8.77 | AVG |
| 2 | | | 4882.672 | 42.37 | 13.90 | 56.27 | 74.00 | -17.73 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|--|--------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Horizontal | | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2480MHz | | CHILL | | | | |
| Remark: | No report for the emission which more than 10 dB below the | | | | | | |
| | prescribed limit. | | | | | | |

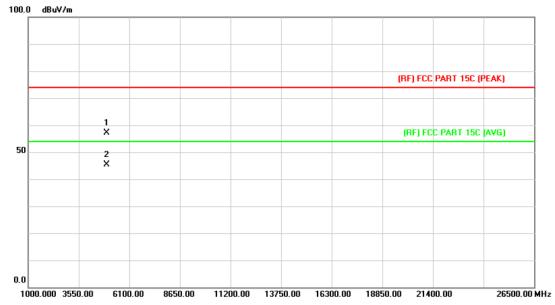


| No. | Mk. | Freq. | _ | | Measure- ment | Limit | Over | |
|-----|-----|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4960.752 | 41.77 | 14.36 | 56.13 | 74.00 | -17.87 | peak |
| 2 | * | 4961.034 | 29.79 | 14.37 | 44.16 | 54.00 | -9.84 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | | |
|---------------|--|---------------------------|-----------|--|--|--|--|--|
| Temperature: | 25℃ | 5℃ Relative Humidity: 55% | | | | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | | 100 | | | | | |
| Test Mode: | TX π /4-DQPSK Mode 2480MH | z | CHILL | | | | | |
| Remark: | No report for the emission which more than 10 dB below the | | | | | | | |
| | prescribed limit. | | | | | | | |

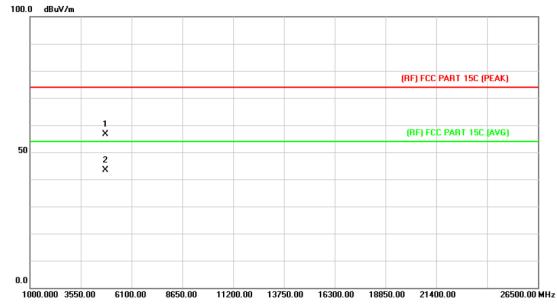


| N | o. Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|---|-------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4960.174 | 42.87 | 14.36 | 57.23 | 74.00 | -16.77 | peak |
| 2 | * | 4960.237 | 30.91 | 14.36 | 45.27 | 54.00 | -8.73 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|--|-----------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | | |
| Ant. Pol. | Horizontal | | | | | | |
| Test Mode: | TX 8-DPSK Mode 2402MHz | | CHILL | | | | |
| Remark: | No report for the emission which prescribed limit. | h more than 10 dB bel | ow the | | | | |

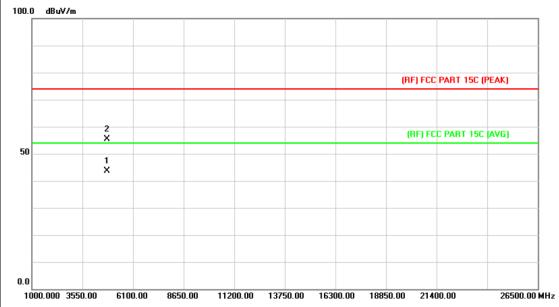


| No | o. Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4803.438 | 43.23 | 13.44 | 56.67 | 74.00 | -17.33 | peak |
| 2 | * | 4804.072 | 30.03 | 13.44 | 43.47 | 54.00 | -10.53 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | | |
|---------------|--|------------------------|-----------|--|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | | | | | | | |
| Test Mode: | TX 8-DPSK Mode 2402MHz | | CHILL | | | | | |
| Remark: | No report for the emission whi prescribed limit. | ch more than 10 dB bel | ow the | | | | | |
| | | | | | | | | |

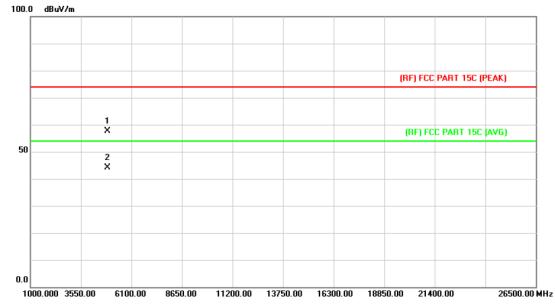


| N | o. Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|---|-------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 4803.356 | 30.10 | 13.44 | 43.54 | 54.00 | -10.46 | AVG |
| 2 | | 4803.886 | 41.96 | 13.44 | 55.40 | 74.00 | -18.60 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|---|----------------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | 5°C Relative Humidity: 55° | | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Horizontal | | | | | | |
| Test Mode: | TX 8-DPSK Mode 2441MHz | | MILLER | | | | |
| Remark: | No report for the emission which no prescribed limit. | nore than 10 dB below | the | | | | |



| No | . Mk | . Freq. | _ | | Measure- ment | Limit | Over | |
|----|------|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4881.538 | 43.76 | 13.90 | 57.66 | 74.00 | -16.34 | peak |
| 2 | * | 4881.948 | 30.23 | 13.90 | 44.13 | 54.00 | -9.87 | AVG |



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| EUT: | Micro Truwireless Earbuds | 7199-99BK | | | | | |
|---------------|---|------------------------|--------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: 55% | | | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | | |
| Ant. Pol. | Vertical | | | | | | |
| Test Mode: | TX 8-DPSK Mode 2441MHz | W. P. | MILLIA | | | | |
| Remark: | No report for the emission which no prescribed limit. | nore than 10 dB below | the | | | | |

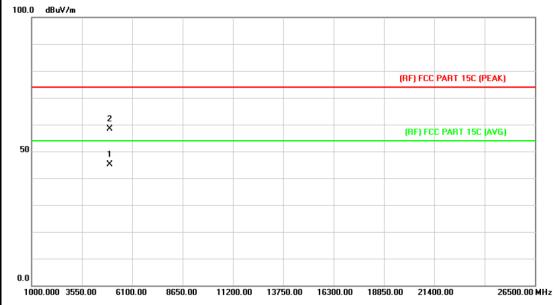


| No. | Mk. | Freq. | Reading Level | | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4881.368 | 43.26 | 13.90 | 57.16 | 74.00 | -16.84 | peak |
| 2 | * | 4882.108 | 30.13 | 13.90 | 44.03 | 54.00 | -9.97 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | | |
|---------------|--|-------------------------------|-----------|--|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: 55% | | | | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | | | |
| Ant. Pol. | Horizontal | | | | | | | |
| Test Mode: | TX 8-DPSK Mode 2480MHz | | MILLER | | | | | |
| Remark: | No report for the emission which represcribed limit. | more than 10 dB below | the | | | | | |
| | | | | | | | | |

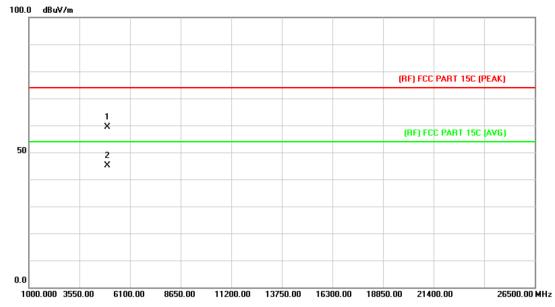


| No | o. Mk | . Freq. | | | Measure- ment | Limit | Over | |
|----|-------|----------|-------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 4959.516 | 30.72 | 14.36 | 45.08 | 54.00 | -8.92 | AVG |
| 2 | | 4959.784 | 44.08 | 14.36 | 58.44 | 74.00 | -15.56 | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | |
|---------------|--|--|-----------|--|--|--|
| Temperature: | 25℃ Relative Humidity: 55% | | | | | |
| Test Voltage: | DC 3.7V | THE STATE OF THE S | | | | |
| Ant. Pol. | Vertical | | | | | |
| Test Mode: | TX 8-DPSK Mode 2480MHz | | HILL | | | |
| Remark: | No report for the emission which represcribed limit. | more than 10 dB below | the | | | |
| 400.0 10.111 | | | | | | |



| No | . Mk | . Freq. | Reading Level | | Measure- ment | Limit | Over | |
|----|------|----------|------------------|-------|------------------|--------|--------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 4959.778 | 45.08 | 14.36 | 59.44 | 74.00 | -14.56 | peak |
| 2 | * | 4960.870 | 30.66 | 14.36 | 45.02 | 54.00 | -8.98 | AVG |



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6. Restricted Bands Requirement

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.247(d)

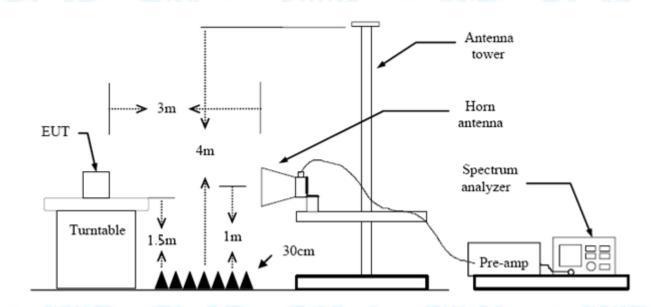
FCC Part 15.209

FCC Part 15.205

6.1.2 Test Limit

| Restricted Frequency | Class B (dE | BuV/m)(at 3m) |
|----------------------|-------------|---------------|
| Band (MHz) | Peak | Average |
| 310 ~2390 | 74 | 54 |
| 2483.5 ~2500 | 74 | 54 |

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to



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determine the position of the highest radiation.

- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with AVG Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

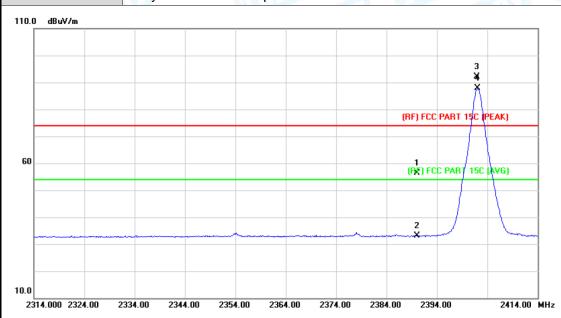
All restriction bands have been tested, only the worst case is reported.



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(1) Radiation Test

| ١ | EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---|---------------|-----------------------------|--------------------|-----------|
| | Temperature: | 25 ℃ | Relative Humidity: | 55% |
| | Test Voltage: | DC 3.7V | | |
| | Ant. Pol. | Horizontal | M:N | MILLIAM |
| | Test Mode: | TX GFSK Mode 2402MHz | | |
| | Remark: | Only worse case is reported | THU. | |

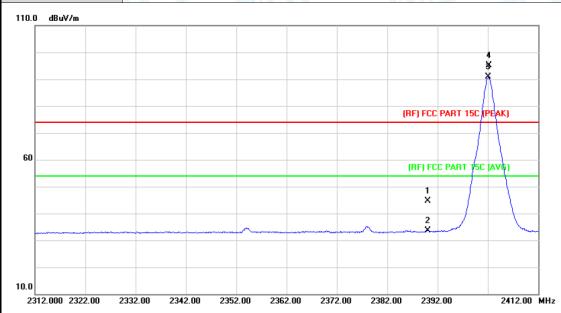


| N | lo. N | ۱k. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-------|-----|----------|------------------|-------------------|------------------|-----------------------|-----------|----------|
| | | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | | 2390.000 | 55.51 | 0.77 | 56.28 | 74.00 | -17.72 | peak |
| 2 | | | 2390.000 | 32.35 | 0.77 | 33.12 | 54.00 | -20.88 | AVG |
| 3 | X | | 2401.900 | 91.27 | 0.82 | 92.09 | Fundamental Frequency | | peak |
| 4 | * | | 2402.100 | 87.09 | 0.82 | 87.91 | Fundamenta | Frequency | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------|-----------|
| Temperature: | 25℃ | 55% | |
| Test Voltage: | DC 3.7V | WILL ST | |
| Ant. Pol. | Vertical | | |
| Test Mode: | TX GFSK Mode 2402MHz | TUPE | MA |
| Remark: | Only worse case is reported | EM:33 | |

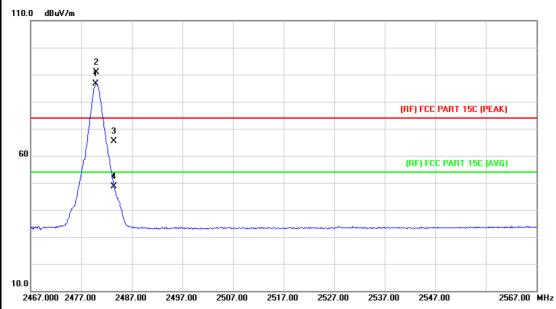


| No | . Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|------|----------|------------------|-------------------|------------------|-------------|-----------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 2390.000 | 43.84 | 0.77 | 44.61 | 74.00 | -29.39 | peak |
| 2 | | 2390.000 | 32.95 | 0.77 | 33.72 | 54.00 | -20.28 | AVG |
| 3 | * | 2402.100 | 90.04 | 0.82 | 90.86 | Fundamental | Frequency | AVG |
| 4 | X | 2402.200 | 94.32 | 0.82 | 95.14 | Fundamental | Frequency | peak |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | mili 3 | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX GFSK Mode 2480 MHz | The same of the sa | MARINE |
| Remark: | Only worse case is reported | | |

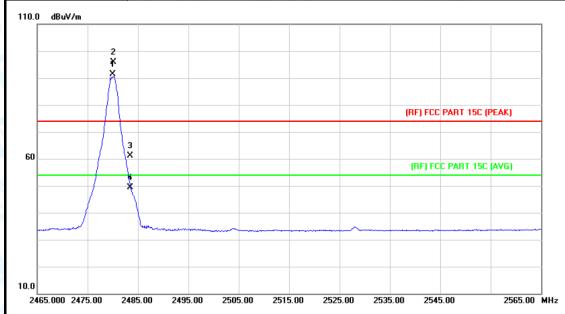


| No | o. Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------------------|------------------|------------|-------------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 2479.900 | 85.56 | 1.15 | 86.71 | Fundamenta | I Frequency | AVG |
| 2 | X | 2480.000 | 89.74 | 1.15 | 90.89 | Fundamenta | I Frequency | peak |
| 3 | | 2483.500 | 64.11 | 1.17 | 65.28 | 74.00 | -8.72 | peak |
| 4 | | 2483.500 | 47.43 | 1.17 | 48.60 | 54.00 | -5.40 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|---------------|-----------------------------|-----------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | | | | | | |
| Test Mode: | TX GFSK Mode 2480 MHz | TX GFSK Mode 2480 MHz | | | | | |
| Remark: | Only worse case is reported | | | | | | |

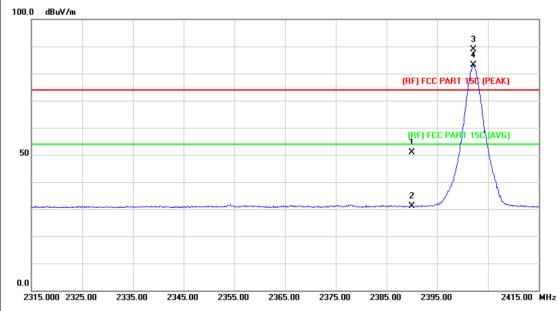


| No | . Mk. | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------------------|------------------|-------------|-------------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 2480.000 | 90.26 | 1.15 | 91.41 | Fundamental | I Frequency | AVG |
| 2 | Χ | 2480.200 | 94.66 | 1.15 | 95.81 | Fundamental | I Frequency | peak |
| 3 | | 2483.500 | 60.07 | 1.17 | 61.24 | 74.00 | -12.76 | peak |
| 4 | | 2483.500 | 48.32 | 1.17 | 49.49 | 54.00 | -4.51 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MHz | W. 10 | MILLER |
| Remark: | Only worse case is reported | | |
| 100.0 dBuV/m | | | |

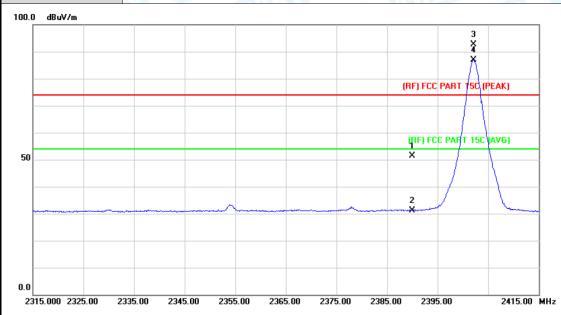


| No. | Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|----|----------|------------------|-------------------|------------------|------------|-------------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 2390.000 | 50.05 | 0.77 | 50.82 | 74.00 | -23.18 | peak |
| 2 | | 2390.000 | 30.45 | 0.77 | 31.22 | 54.00 | -22.78 | AVG |
| 3 | Χ | 2402.100 | 87.96 | 0.82 | 88.78 | Fundamenta | I Frequency | peak |
| 4 | * | 2402.100 | 82.39 | 0.82 | 83.21 | Fundamenta | I Frequency | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | WILL ST | |
| Ant. Pol. | Vertical | | |
| Test Mode: | TX π /4-DQPSK Mode 2402MHz | | Million |
| Remark: | Only worse case is reported | | |
| 100.0 dBuV/m | | | |

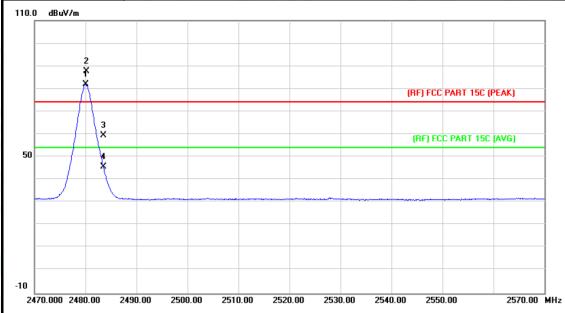


| No | . Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|------|----------|------------------|-------------------|------------------|-------------|-----------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 2390.000 | 50.54 | 0.77 | 51.31 | 74.00 | -22.69 | peak |
| 2 | | 2390.000 | 30.45 | 0.77 | 31.22 | 54.00 | -22.78 | AVG |
| 3 | Χ | 2402.200 | 91.77 | 0.82 | 92.59 | Fundamental | Frequency | peak |
| 4 | * | 2402.200 | 86.09 | 0.82 | 86.91 | Fundamental | Frequency | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------|-----------|
| Temperature: | 25℃ | 55% | |
| Test Voltage: | DC 3.7V | and it | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX π /4-DQPSK Mode 2480 MHz | William . | MARINE |
| Remark: | Only worse case is reported | | |
| | | | |

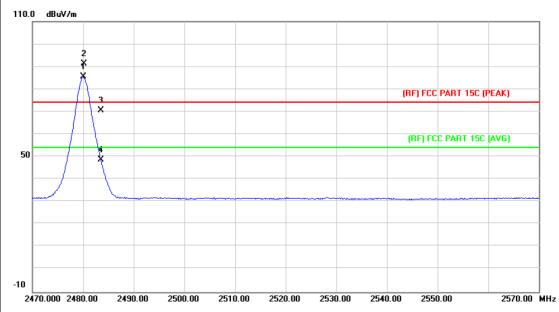


| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|------------|-------------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 2480.000 | 80.88 | 1.15 | 82.03 | Fundamenta | I Frequency | AVG |
| 2 | Χ | 2480.200 | 86.42 | 1.15 | 87.57 | Fundamenta | I Frequency | peak |
| 3 | | 2483.500 | 58.42 | 1.17 | 59.59 | 74.00 | -14.41 | peak |
| 4 | | 2483.500 | 44.43 | 1.17 | 45.60 | 54.00 | -8.40 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|--|-----------------------------|--------------------|-----------|--|--|--|--|
| Temperature: | 25℃ | Relative Humidity: | 55% | | | | |
| Test Voltage: | DC 3.7V | | | | | | |
| Ant. Pol. | Vertical | | | | | | |
| Test Mode: ΤΧ π /4-DQPSK Mode 2480 MHz | | | | | | | |
| Remark: | Only worse case is reported | | | | | | |

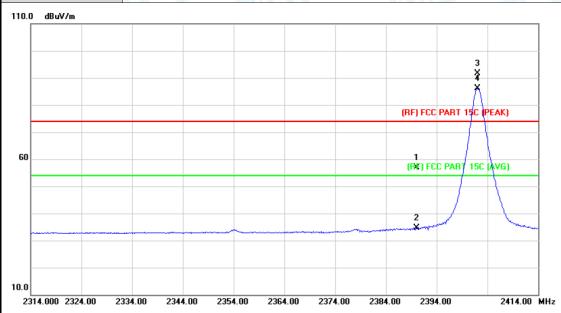


| N | o. Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-------|----------|------------------|-------------------|------------------|-------------|-------------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 2480.000 | 84.28 | 1.15 | 85.43 | Fundamental | Frequency | AVG |
| 2 | X | 2480.200 | 90.01 | 1.15 | 91.16 | Fundamental | l Frequency | peak |
| 3 | | 2483.500 | 69.27 | 1.17 | 70.44 | 74.00 | -3.56 | peak |
| 4 | | 2483.500 | 47.39 | 1.17 | 48.56 | 54.00 | -5.44 | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | and it | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX 8-DPSK Mode 2402MHz | | Milliam |
| Remark: | Only worse case is reported | | |
| 110.0 dRuV/m | | | |

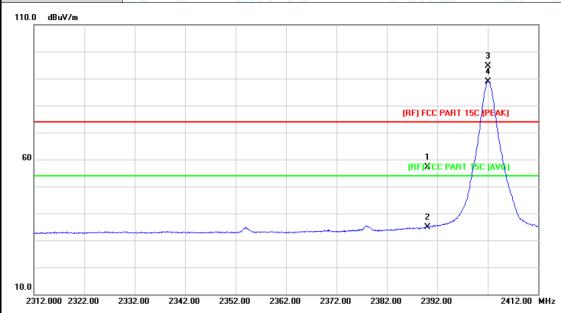


| No. | Mk | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|----|----------|------------------|-------------------|------------------|------------|-------------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 2390.000 | 56.01 | 0.77 | 56.78 | 74.00 | -17.22 | peak |
| 2 | | 2390.000 | 33.84 | 0.77 | 34.61 | 54.00 | -19.39 | AVG |
| 3 | Χ | 2402.000 | 90.93 | 0.82 | 91.75 | Fundamenta | I Frequency | peak |
| 4 | * | 2402.000 | 85.38 | 0.82 | 86.20 | Fundamenta | I Frequency | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|-----------------------------|--|------------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | WILL ST | |
| Ant. Pol. | Vertical | | |
| Test Mode: | TX 8-DPSK Mode 2402MHz | THE PARTY OF THE P | Alle |
| Remark: | Only worse case is reported | | (<u>1</u> |

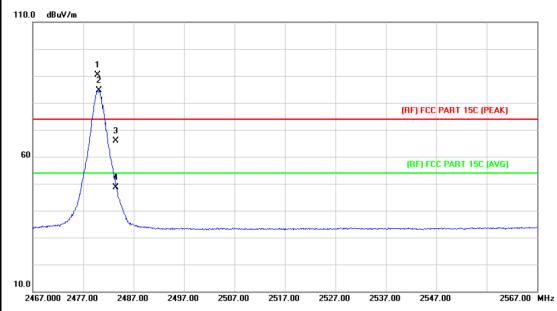


| No. | . Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|------|----------|------------------|-------------------|------------------|-------------|-----------|----------|
| | | MHz | dBu∀ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 2390.000 | 56.37 | 0.77 | 57.14 | 74.00 | -16.86 | peak |
| 2 | | 2390.000 | 34.20 | 0.77 | 34.97 | 54.00 | -19.03 | AVG |
| 3 | Χ | 2402.100 | 93.88 | 0.82 | 94.70 | Fundamental | Frequency | peak |
| 4 | * | 2402.100 | 88.18 | 0.82 | 89.00 | Fundamental | Frequency | AVG |



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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK | | | | |
|-----------------------------------|-----------------------------|--------------|-----------|--|--|--|--|
| Temperature: | 25℃ | 55% | | | | | |
| Test Voltage: | Voltage: DC 3.7V | | | | | | |
| Ant. Pol. | Horizontal | | | | | | |
| Test Mode: TX 8-DPSK Mode 2480MHz | | | | | | | |
| Remark: | Only worse case is reported | | | | | | |

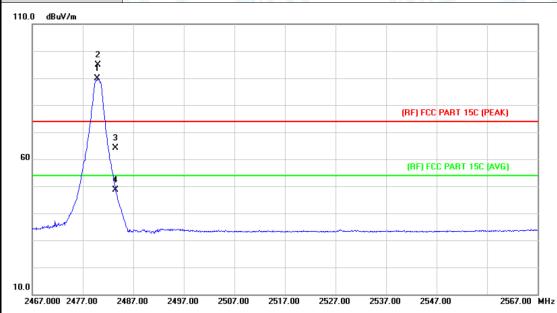


| No | o. Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----|-------|----------|------------------|-------------------|------------------|-------------|-----------|----------|
| | | MHz | dBu∨ | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | Χ | 2479.900 | 89.35 | 1.15 | 90.50 | Fundamental | Frequency | peak |
| 2 | * | 2480.100 | 83.49 | 1.15 | 84.64 | Fundamental | Frequency | AVG |
| 3 | | 2483.500 | 64.62 | 1.17 | 65.79 | 74.00 | -8.21 | peak |
| 4 | | 2483.500 | 47.57 | 1.17 | 48.74 | 54.00 | -5.26 | AVG |



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| EUT: Micro Truwireless Earbuds | | Model Name : | 7199-99BK | | | |
|---------------------------------------|------------------------|--------------------|-----------|--|--|--|
| Temperature: 25°C | | Relative Humidity: | 55% | | | |
| Test Voltage: | DC 3.7V | DC 3.7V | | | | |
| Ant. Pol. | Vertical | | | | | |
| Test Mode: | TX 8-DPSK Mode 2480MHz | | | | | |
| Remark: Only worse case is reported | | | | | | |



| N | o. I | Иk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-------------|-----|----------|------------------|-------------------|------------------|-------------|-----------|----------|
| | | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | | 2479.800 | 88.65 | 1.15 | 89.80 | Fundamental | Frequency | AVG |
| 2 | X | (| 2480.000 | 93.82 | 1.15 | 94.97 | Fundamental | Frequency | peak |
| 3 | | | 2483.500 | 63.07 | 1.17 | 64.24 | 74.00 | -9.76 | peak |
| 4 | | | 2483.500 | 47.56 | 1.17 | 48.73 | 54.00 | -5.27 | AVG |





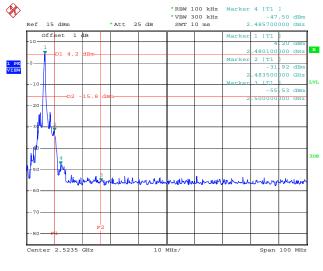
(2) Conducted Test(Band Edge)

| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |

Test Mode: TX GFSK Mode 2402MHz / 2480 MHz

| Channel | Frequency (MHz) | Measured Bandedge (dBm) | Band Edge Limit (dBm) | Result |
|---------|--------------------|----------------------------|--------------------------|--------|
| Low | 2400 | -26.17 | -13.62 | DASS |
| High | 2483.5 | -31.92 | -15.80 | PASS |





Date: 12.DEC.2016 13:30:36





EUT: **Model Name:** 7199-99BK Micro Truwireless Earbuds Temperature: 25℃ **Relative Humidity:** 55% **Test Voltage:** DC 3.7V **Test Mode: GFSK Hopping Mode** Frequency Measured Bandedge **Band Edge Limit** Channel Result (MHz) (dBm) (dBm) Low 2400 -13.62 -26.87 **PASS** High 2483.5 -15.06 -41.48*RBW 100 kHz *VBW 300 kHz SWT 10 ms Ref 15 dBm Center 2.365 GHz Date: 12.DEC.2016 14:06:21 *RBW 100 kHz Marker *VBW 300 kHz SWT 10 ms 2 25 dB 483500000 GHz Date: 12.DEC.2016 14:11:14

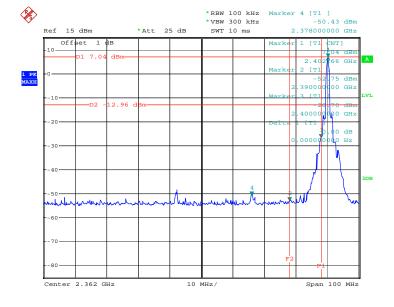




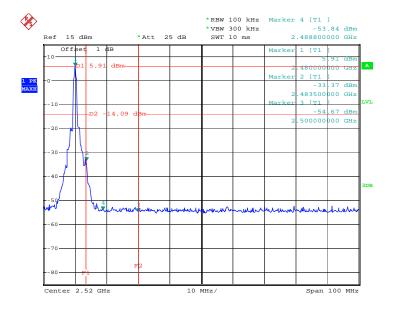
EUT:Micro Truwireless EarbudsModel Name:7199-99BKTemperature:25℃Relative Humidity:55%Test Voltage:DC 3.7V

Test Mode: ΤΧ π /4-DQPSK Mode 2402MHz / 2480 MHz

| Channel | Frequency (MHz) | Measured Bandedge (dBm) | Band Edge Limit (dBm) | Result |
|---------|--------------------|----------------------------|--------------------------|--------|
| Low | 2400 | -26.70 | -12.96 | PASS |
| High | 2483.5 | -33.37 | -14.09 | PASS |



Date: 12.DEC.2016 15:31:33



Date: 12.DEC.2016 15:37:18





EUT: 7199-99BK Micro Truwireless Earbuds **Model Name:** Temperature: 25℃ **Relative Humidity:** 55% **Test Voltage:** DC 3.7V **Test Mode:** π /4-DQPSK Hopping Mode Frequency Measured Bandedge **Band Edge Limit** Channel Result (MHz) (dBm) (dBm) Low -26.70 -12.962400 **PASS** High 2483.5 -33.37-13.97*RBW 100 kHz *VBW 300 kHz SWT 10 ms Ref 15 dBm New White Wilder Wall and Market William Victoria Center 2.362 GHz Date: 12.DEC.2016 15:33:04 *RBW 100 kHz Marker *VBW 300 kHz SWT 10 ms 2 25 dB 483500000 GHz -54.38 dBn Center 2.52 GHz 10 MHz/

Date: 12.DEC.2016 15:39:42





EUT: **Model Name:** 7199-99BK Micro Truwireless Earbuds Temperature: 25℃ **Relative Humidity:** 55% **Test Voltage:** DC 3.7V **Test Mode:** TX 8-DPSK Mode 2402MHz / 2480 MHz Frequency Measured Bandedge **Band Edge Limit** Channel Result (MHz) (dBm) (dBm) Low 2400 -14.19-23.99 **PASS** High 2483.5 -32.84-15.80 *RBW 100 kHz Marker 4 [T1]

*VBW 300 kHz -52.12 dBm
SWT 10 ms 2.378200000 GHz Ref 15 dBm *Att 25 dB 4.19 Center 2.362 GHz Date: 12.DEC.2016 13:32:59 *RBW 100 kHz Marker *VBW 300 kHz SWT 10 ms 2 25 dB 483500000 GHz





EUT: 7199-99BK Micro Truwireless Earbuds **Model Name:** Temperature: 25℃ **Relative Humidity:** 55% **Test Voltage:** DC 3.7V **Test Mode:** 8-DPSK Hopping Mode Frequency Measured Bandedge **Band Edge Limit** Channel Result (MHz) (dBm) (dBm) Low 2400 -14.00 -26.60 **PASS** High 2483.5 -38.54-15.68 *RBW 100 kHz *VBW 300 kHz SWT 10 ms Ref 15 dBm Center 2.367 GHz Date: 12.DEC.2016 14:07:53 *RBW 100 kHz Marker *VBW 300 kHz SWT 10 ms 2 25 dB 483500000 GHz -54.02 dBm 10 MHz/ Date: 12.DEC.2016 14:09:25



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7. Number of Hopping Channel

7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (a)(1)

7.1.2 Test Limit

| Section | Test Item | Limit |
|---------|------------------------------|-------|
| 15.247 | Number of Hopping Channel | >15 |

7.2 Test Setup



7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=100 KHz, VBW=100 KHz, Sweep time= Auto.

7.4 EUT Operating Condition

The EUT was set to the Hopping Mode by the Customer.

7.5 Test Data

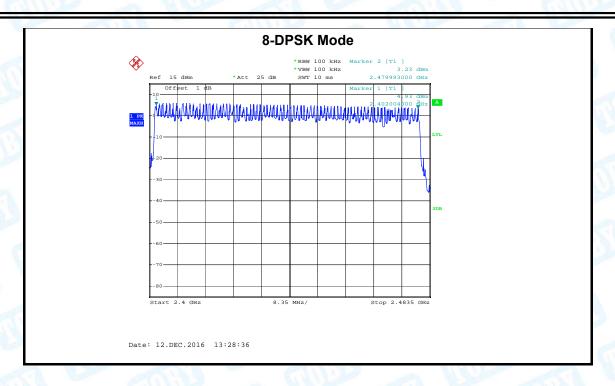


EUT: 7199-99BK Micro Truwireless Earbuds **Model Name:** 25℃ Temperature: **Relative Humidity:** 55% Test Voltage: DC 3.7V Hopping Mode (GFSK/8-DPSK) **Test Mode: Quantity of Hopping Frequency Range** Limit Channel 2402MHz~2480MHz 79 >15 **GFSK Mode %** Date: 12.DEC.2016 13:26:32 π/4-DQPSK Mode

Date: 12.DEC.2016 11:41:57



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8. Average Time of Occupancy

8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (a)(1)

8.1.2 Test Limit

| Section | Test Item | Limit |
|-----------------------|-----------------|---------|
| 15.247(a)(1)/ RSS-210 | Average Time of | 0.4.000 |
| Annex 8(A8.1d) | Occupancy | 0.4 sec |

8.2 Test Setup



8.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=1MHz, VBW=1MHz.
- (3) Use video trigger with the trigger level set to enable triggering only on full pulses.
- (4) Sweep Time is more than once pulse time.
- (5) Set the center frequency on any frequency would be measure and set the frequency span to zero.
- (6) Measure the maximum time duration of one single pulse.
- (7) Set the EUT for packet transmitting.
- (8) Measure the maximum time duration of one single pulse.

8.4 EUT Operating Condition

The average time of occupancy on any channel within the Period can be calculated with formulas:

 $\{Total \ of \ Dwell\} = \{Pulse \ Time\} * (1600 / X) / \{Number \ of \ Hopping \ Frequency\} * \{Period\} = 0.4s * \{Number \ of \ Hopping \ Frequency\}$

Note: X=2 or 4 or 6 (1DH1=2, 1DH3=4, 1DH5=6. 2DH1=2, 2DH3=4, 2DH5=6. 3DH1=2,3DH3=4, 3DH5=6)

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

The EUT was set to the Hopping Mode by the Customer.



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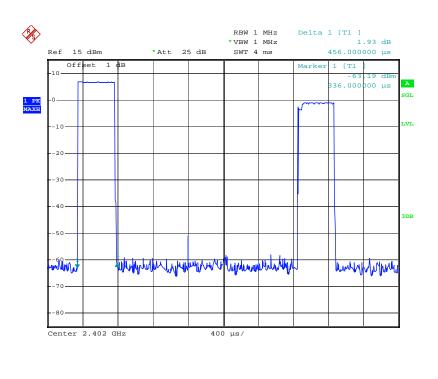
8.5 Test Data

| EUT: | Micro Truwire | Micro Truwireless Earbuds | | Model Name : | |
|---------------|-------------------------|---------------------------|---|--------------------|--------|
| Temperature: | Temperature: 25°C | | Relative Hum | Relative Humidity: | |
| Test Voltage: | DC 3.7V | AMO | | 2 | |
| Test Mode: | Hopping Mode (GFSK DH1) | | CALIFORNIA OF THE PARTY OF THE | | MARINE |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |
| 2402 | 0.456 | 145.92 | | | |
| 2441 | 0.456 | 145.92 | 31.60 | 400 | PASS |
| 2480 | 0.456 | 145.92 | | | |

Note: Dwell time=Pulse Time (ms) \times (1600 \div 2 \div 79) \times 31.6

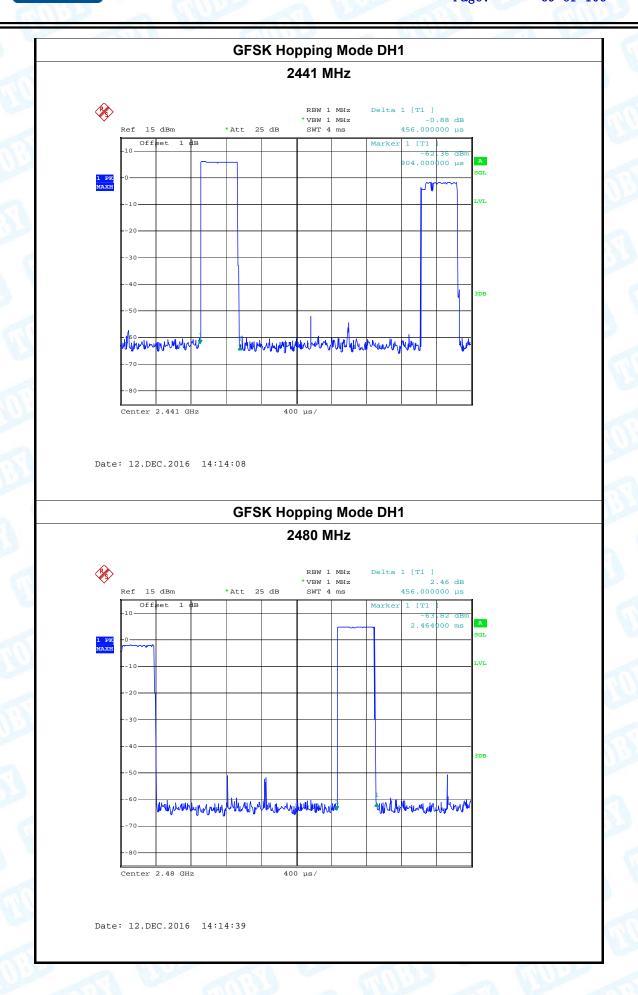
GFSK Hopping Mode DH1

2402 MHz



Date: 12.DEC.2016 14:13:48







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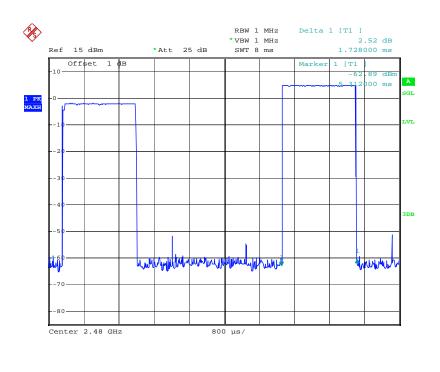
| EUT: | Micro Truw | ireless Earbuds | Model Nam | e: | 7199-99BK |
|---------------|------------|-----------------|--------------|-------|-----------|
| Temperature: | 25℃ | | Relative Hum | 55% | |
| Test Voltage: | DC 3.7V | | | | 3 |
| Test Mode: | Hopping M | ode (GFSK DH3) | | 130 | |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |

| Channel (MHz) | Pulse Time (ms) | Total of Dwell (ms) | Period Time (s) | Limit (ms) | Result |
|------------------|--------------------|------------------------|--------------------|---------------|--------|
| 2402 | 1.728 | 276.48 | | | |
| 2441 | 1.728 | 276.48 | 31.60 | 400 | PASS |
| 2480 | 1.728 | 276.48 | | | |

Note: Dwell time=Pulse Time (ms) x (1600 \div 4 \div 79) x31.6

GFSK Hopping Mode DH3

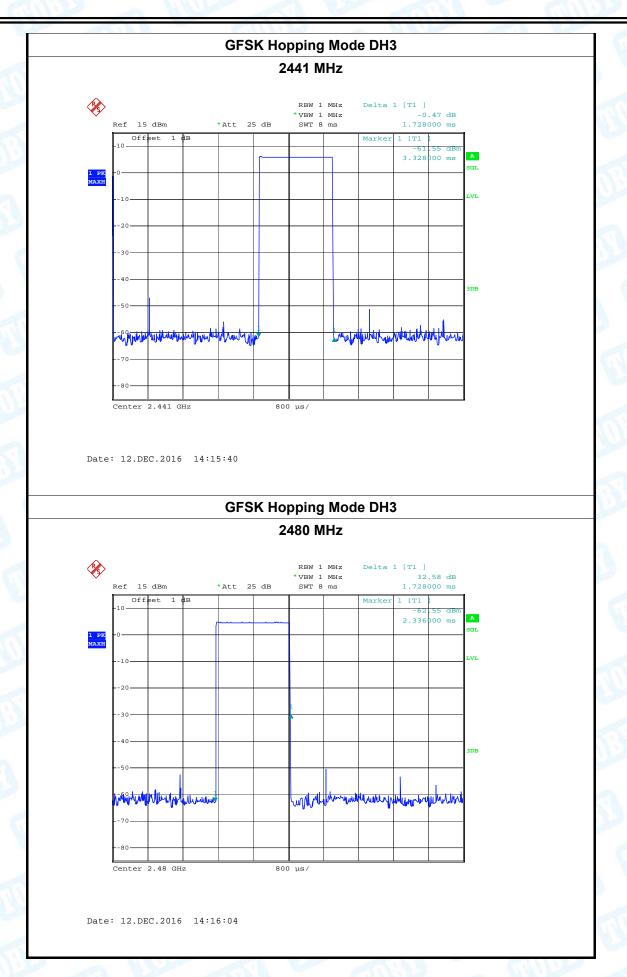
2402 MHz



Date: 12.DEC.2016 14:15:09









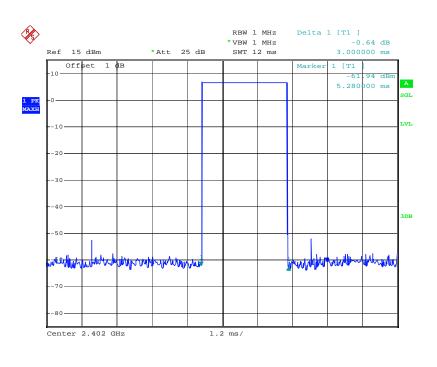
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| EUT: | Micro Truw | Micro Truwireless Earbuds | | Model Name : | |
|---------------|---------------|---------------------------|-------------|--------------|--------|
| Temperature: | : 25 ℃ | 25 ℃ | | idity: | 55% |
| Test Voltage: | DC 3.7V | | 1 | | |
| Test Mode: | Hopping M | ode (GFSK DH5) | | 1 | |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |
| 2402 | 3.000 | 320.00 | | | |
| 2441 | 3.000 | 320.00 | 31.60 | 400 | PASS |
| 2480 | 3.000 | 320.00 | | | |

Note: Dwell time=Pulse Time (ms) \times (1600 \div 6 \div 79) \times 31.6

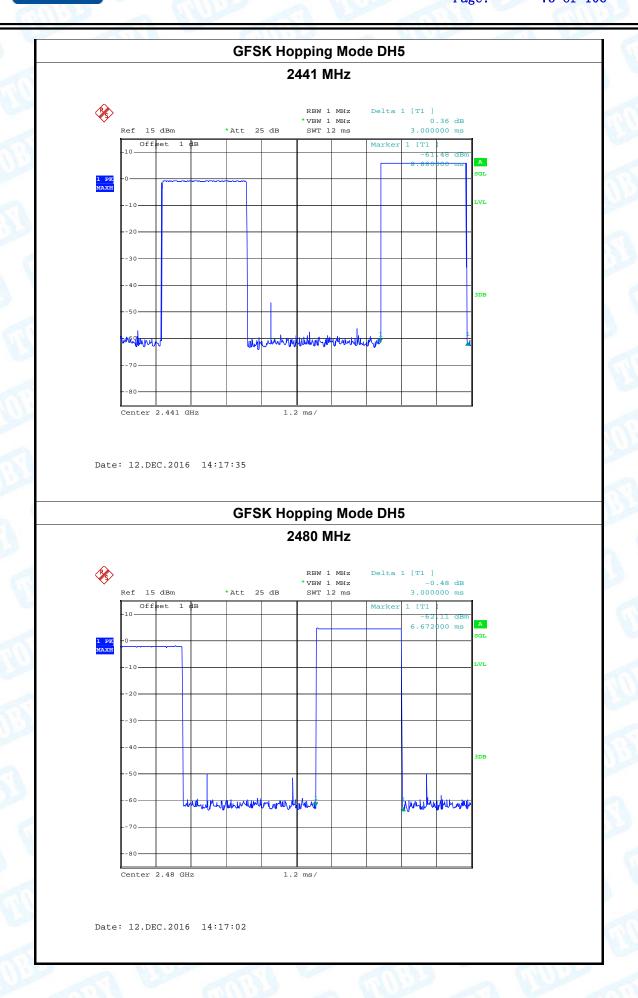
GFSK Hopping Mode DH5

2402 MHz



Date: 12.DEC.2016 14:18:06







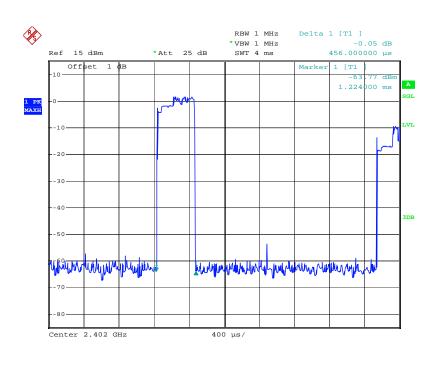
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| EUT: | Micro Truw | Micro Truwireless Earbuds | | Model Name : | |
|---------------|---------------|---------------------------|--------------------|--------------|--------|
| Temperature | : 25 ℃ | | Relative Humidity: | | 55% |
| Test Voltage: | DC 3.7V | 130 | - | | |
| Test Mode: | Hopping M | ode (π/4-DQPSK DH | 1) | 300 | 1377 |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Nesult |
| 2402 | 0.456 | 145.92 | | | |
| 2441 | 0.456 | 145.92 | 31.60 | 400 | PASS |
| 2480 | 0.456 | 145.92 | | | |

Note: Dwell time=Pulse Time (ms) x (1600 \div 2 \div 79) x31.6

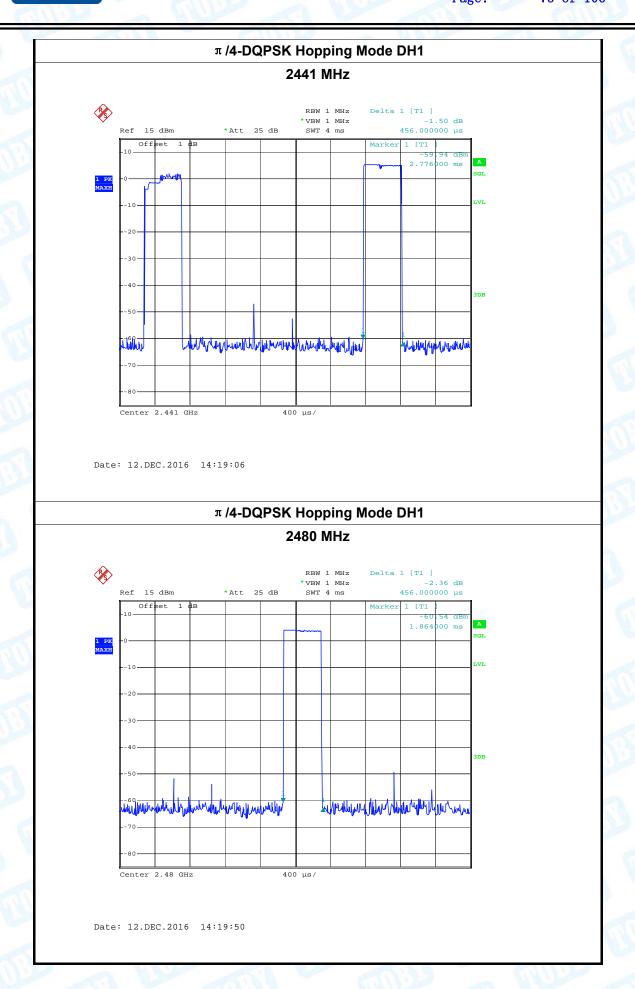
π /4-DQPSK Hopping Mode DH1

2402 MHz



Date: 12.DEC.2016 14:18:34







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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |

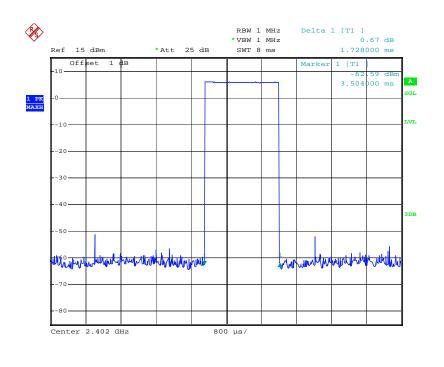
Test Mode: Hopping Mode (π /4-DQPSK DH3)

| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
|---------|------------|----------------|-------------|-------|--------|
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |
| 2402 | 1.728 | 276.48 | | | |
| 2441 | 1.728 | 276.48 | 31.60 | 400 | PASS |
| 2480 | 1.728 | 276.48 | | | |

Note: Dwell time=Pulse Time (ms) \times (1600 \div 4 \div 79) \times 31.6

π /4-DQPSK Hopping Mode DH3

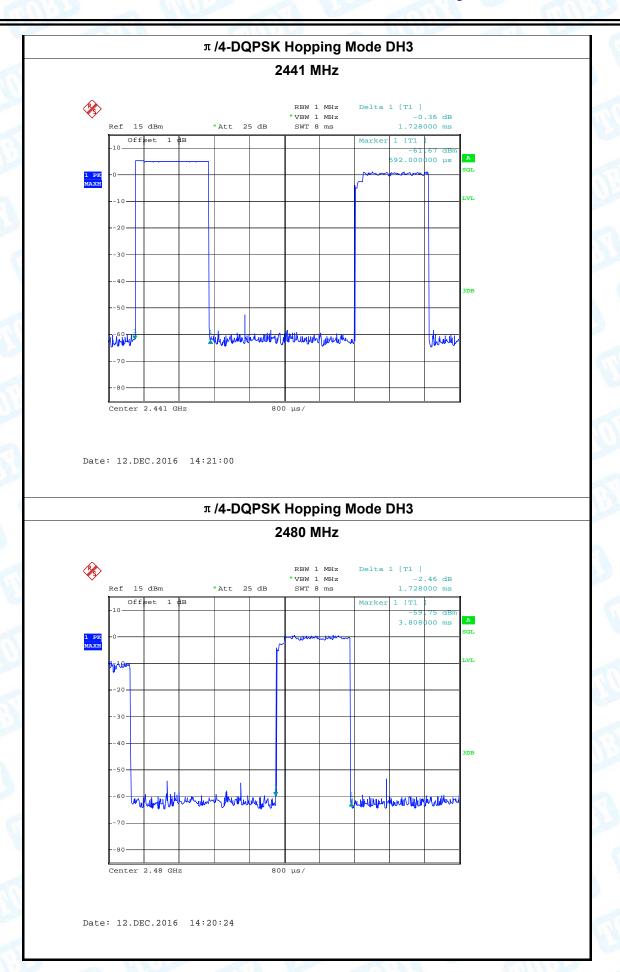
2402 MHz



Date: 12.DEC.2016 14:21:21









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| EUT: | Micro Truw | Micro Truwireless Earbuds Model Name : | | | | |
|------------------|--------------------|--|--------------------|---------------|--------|--|
| Temperature: | 25 ℃ | | Relative Hum | idity: | 55% | |
| Test Voltage: | DC 3.7V | HILL STATE | Carried Marie | | | |
| Test Mode: | Hopping M | Hopping Mode (π /4-DQPSK DH5) | | | | |
| Channel (MHz) | Pulse Time (ms) | Total of Dwell (ms) | Period Time (s) | Limit (ms) | Result | |

 Channel (MHz)
 Pulse Time (ms)
 Total of Dwell (ms)
 Period Time (s)
 Limit (ms)
 Result

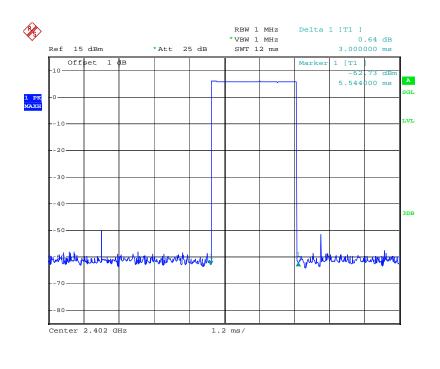
 2402
 3.000
 320.00
 31.60
 400
 PASS

 2480
 3.000
 320.00
 320.00
 31.60
 400
 PASS

Note: Dwell time=Pulse Time (ms) \times (1600 \div 6 \div 79) \times 31.6

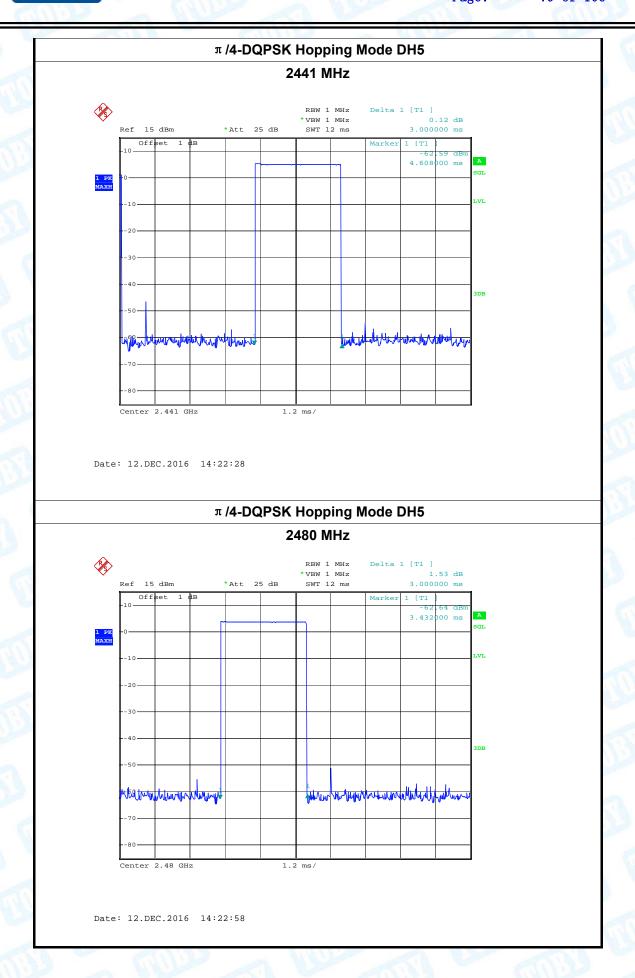
π /4-DQPSK Hopping Mode DH5

2402 MHz



Date: 12.DEC.2016 14:21:51







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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | WILLIAM TO | Million |

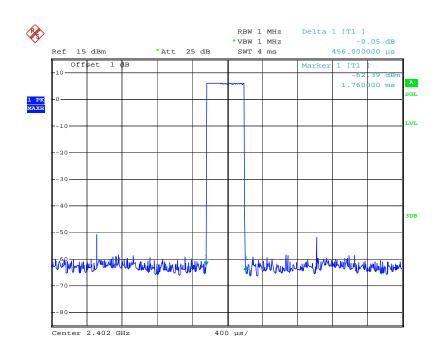
Test Mode: Hopping Mode (8-DPSK DH1)

| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
|---------|------------|----------------|-------------|-------|--------|
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |
| 2402 | 0.456 | 145.92 | | | |
| 2441 | 0.456 | 145.92 | 31.60 | 400 | PASS |
| 2480 | 0.456 | 145.92 | | | |

Note: Dwell time=Pulse Time (ms) \times (1600 \div 2 \div 79) \times 31.6

8-DPSK Hopping Mode DH1

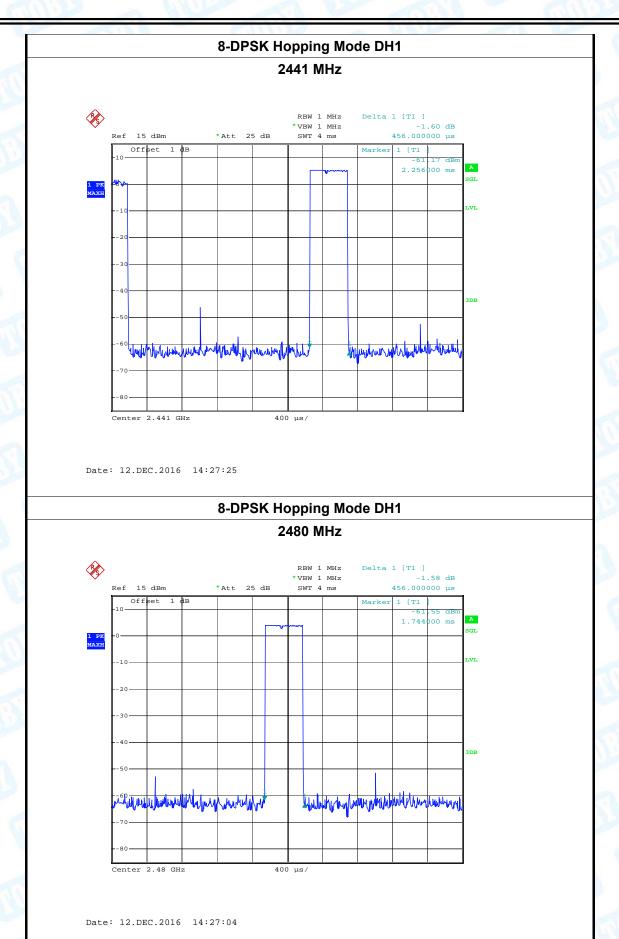
2402 MHz



Date: 12.DEC.2016 14:31:07









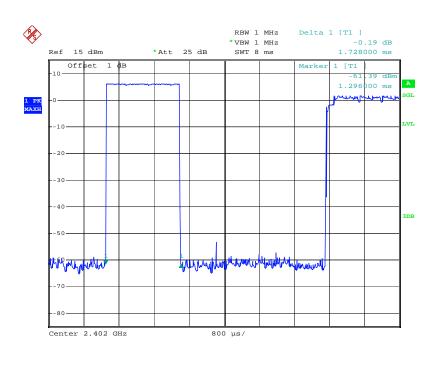
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| EUT: | Micro Truw | Micro Truwireless Earbuds | | Model Name : | |
|---------------|---------------|--|-------------|--------------|--------|
| Temperature: | : 25 ℃ | 25℃ | | dity: | 55% |
| Test Voltage: | DC 3.7V | The same of the sa | 1 | | |
| Test Mode: | Hopping M | ode (8-DPSK DH3) | | 3 | |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Result |
| 2402 | 1.728 | 276.48 | | | |
| 2441 | 1.728 | 276.48 | 31.60 | 400 | PASS |
| 2480 | 1.728 | 276.48 | | | |

Note: Dwell time=Pulse Time (ms) x (1600 \div 4 \div 79) x31.6

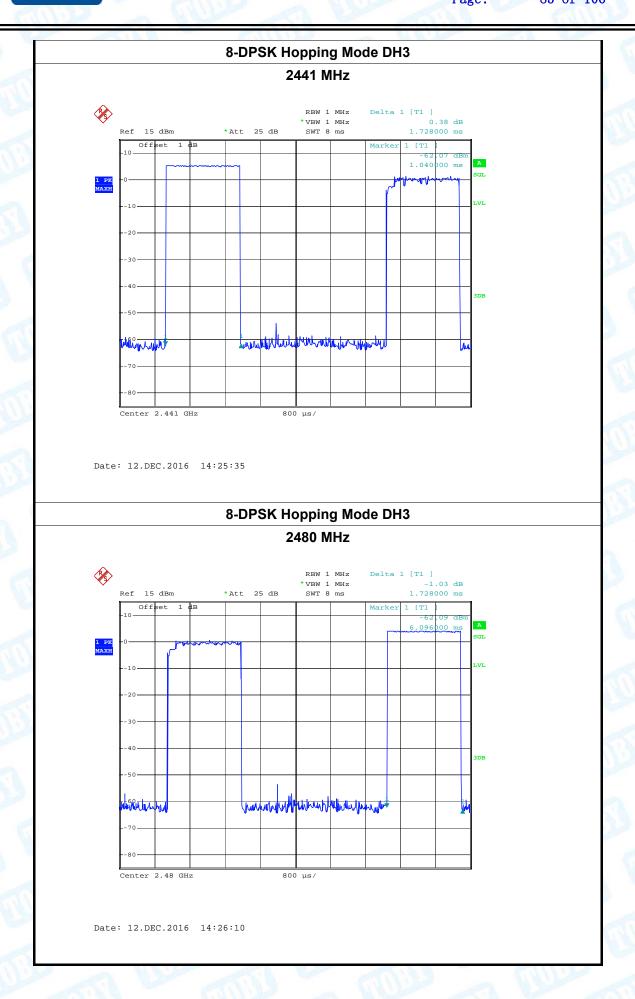
8-DPSK Hopping Mode DH3

2402 MHz



Date: 12.DEC.2016 14:25:08







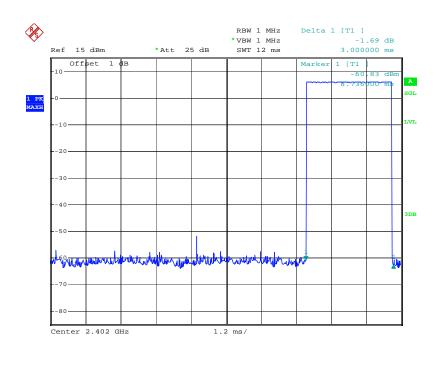
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| EUT: | Micro Truw | Micro Truwireless Earbuds | | Model Name : | |
|---------------|---------------|---------------------------|--------------|--------------|---------|
| Temperature | : 25 ℃ | 100 | Relative Hum | idity: | 55% |
| Test Voltage: | DC 3.7V | William Co. | | | |
| Test Mode: | Hopping M | ode (8-DPSK DH5) | | | A STORY |
| Channel | Pulse Time | Total of Dwell | Period Time | Limit | Result |
| (MHz) | (ms) | (ms) | (s) | (ms) | Kesuit |
| 2402 | 3.000 | 320.00 | | | |
| 2441 | 3.000 | 320.00 | 31.60 | 400 | PASS |
| 2480 | 3.000 | 320.00 | | | |

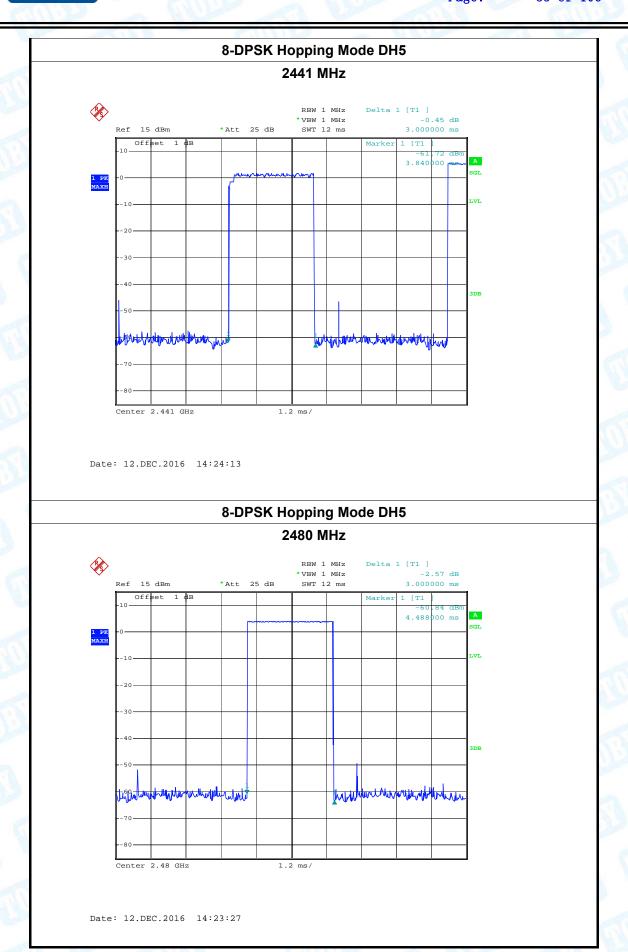
Note: Dwell time=Pulse Time (ms) x (1600 \div 6 \div 79) x31.6

8-DPSK Hopping Mode DH5

2402 MHz









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9. Channel Separation and Bandwidth Test

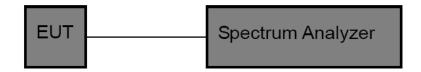
9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247

9.1.2 Test Limit

| Test Item | Limit | Frequency Range(MHz) |
|--------------------|---|----------------------|
| Bandwidth | <=1 MHz (20dB bandwidth) | 2400~2483.5 |
| Channel Separation | >25KHz or >two-thirds of the 20 dB bandwidth Which is greater | 2400~2483.5 |

9.2 Test Setup



9.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Channel Separation: RBW=30 kHz, VBW=100 kHz.

Bandwidth: RBW=30 kHz, VBW=100 kHz.

- (3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
 - (4) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:30 kHz, and Video Bandwidth:100 kHz. Sweep Time set auto.

9.4 EUT Operating Condition

The EUT was set to the Hopping Mode for Channel Separation Test and continuously transmitting for the Bandwidth Test.



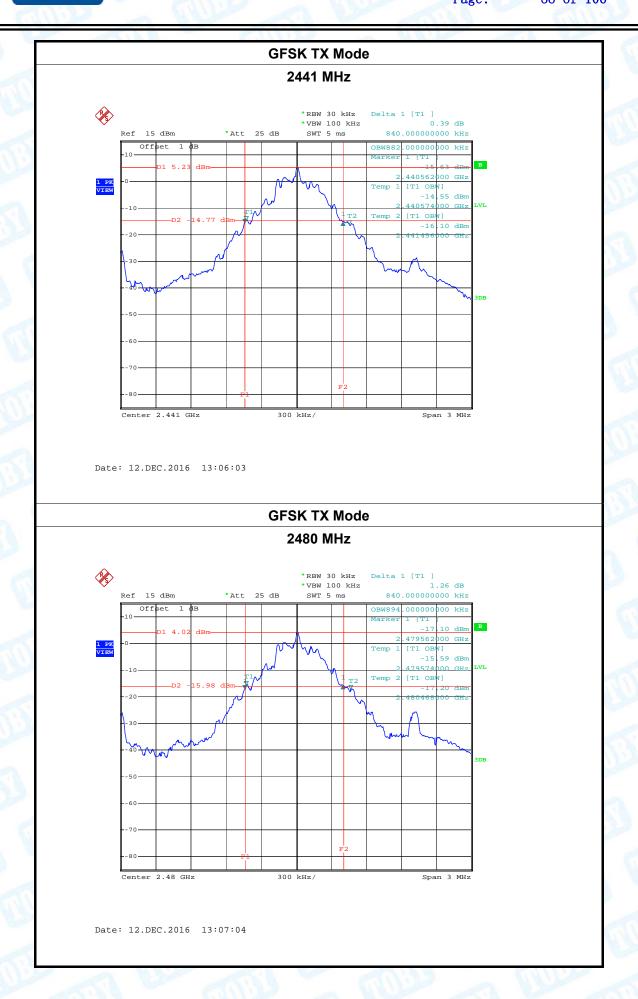
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9.5 Test Data

| EUT: | Mic | cro Truwireless I | Earbuds | Model Name | : | 7199-99BK |
|-------------------------|-----------------|-------------------|------------|---|---------------|---------------------------------|
| Temperature: | 25° | C | | Relative Humi | dity: | 55% |
| Test Voltage: | DC | 3.7V | 3.7V | | | |
| Test Mode: | TX | X Mode (GFSK) | | | | MILLER |
| Channel freque (MHz) | | 99% (kl | | 20dB Bandw (kHz) | idth | 20dB Bandwidth *2/3 (kHz) |
| 2402 | | 882 | 2.00 | 840.00 | | |
| 2441 | | 882 | 2.00 | 840.00 | | |
| 2480 | | 894 | .00 | 840.00 | | |
| | | | GFSK TX Mo | de | | |
| | | | 2402 MHz | | | |
| | 15 dBm ffset | *Att 25 0 | *VBW 100 k | Hz 0.14 dB 840.000000000 kH OBW882.000000000 kH | z = | |
| 1 PK MAXH | D1 6 | 6.15 dBm | MW. | Marker 1 [T1] -14 16 dB: 2.401568 000 GH Temp 1 [T1 0BW] -13 63 dB: | z m | |
| 10 | -D | 02 -13.85 dBm | 1 | 2.401574000 GH Temp 2 [T1 OBW] -14.74 dBi 2.402456000 GH | | |
| 30- | M. | | | | | |
| 50- | | | | | 3DB | |

Date: 12.DEC.2016 12:59:55







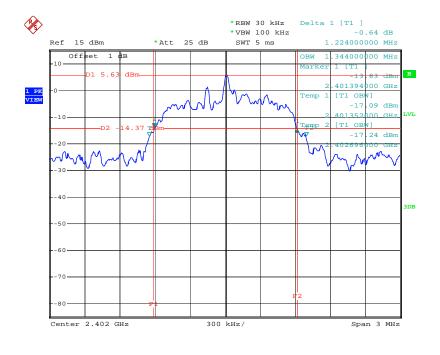
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| CHILL SHAPE | | | |
|---------------|---------------------------|--------------------|-----------|
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | 3 |
| Test Mode: | TX Mode (π/4-DQPSK) | | 1000 |

| Channel frequency (MHz) | 99% OBW (kHz) | 20dB Bandwidth (kHz) | 20dB Bandwidth *2/3 (kHz) |
|----------------------------|------------------|-------------------------|---------------------------------|
| 2402 | 1344.00 | 1224.00 | 816.00 |
| 2441 | 1350.00 | 1224.00 | 816.00 |
| 2480 | 1320.00 | 1218.00 | 812.00 |

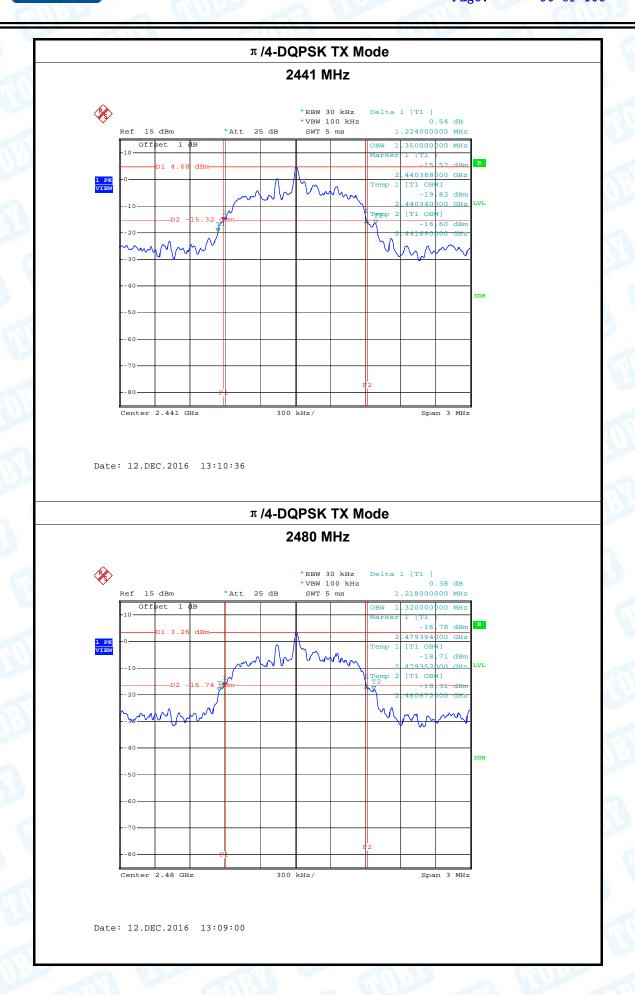
π/4-DQPSK TX Mode

2402 MHz



Date: 12.DEC.2016 13:11:24







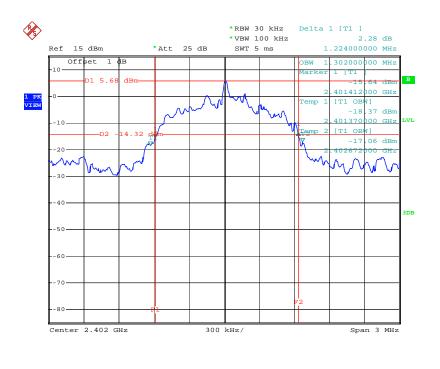
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| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|------------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | A STATE OF |
| Test Mode: | TX Mode (8-DPSK) | | CALLED TO |

| Channel frequency (MHz) | 99% OBW (kHz) | 20dB Bandwidth (kHz) | 20dB Bandwidth *2/3 (kHz) |
|----------------------------|------------------|-------------------------|---------------------------------|
| 2402 | 1302.00 | 1224.00 | 816.00 |
| 2441 | 1344.00 | 1218.00 | 812.00 |
| 2480 | 1308.00 | 1212.00 | 808.00 |

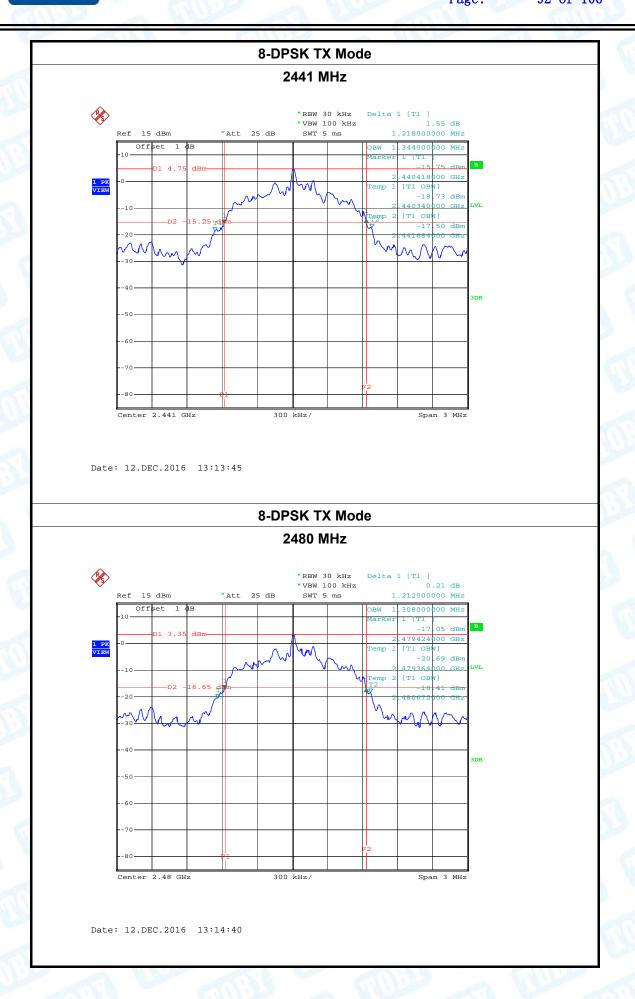
8-DPSK TX Mode

2402 MHz



Date: 12.DEC.2016 13:12:21







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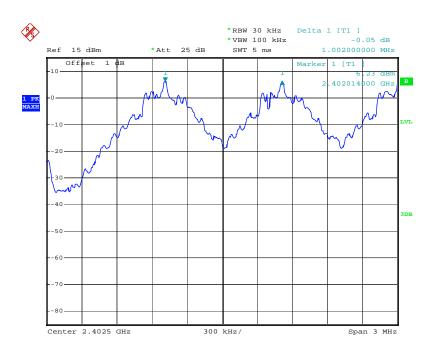
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |

Test Mode: Hopping Mode (GFSK)

| Channel frequency | Separation Read Value | Separation Limit | | | |
|-------------------|-----------------------|------------------|--|--|--|
| (MHz) | (kHz) | (kHz) | | | |
| 2402 | 1002.00 | 840.00 | | | |
| 2441 | 1002.00 | 840.00 | | | |
| 2480 | 1002.00 | 840.00 | | | |

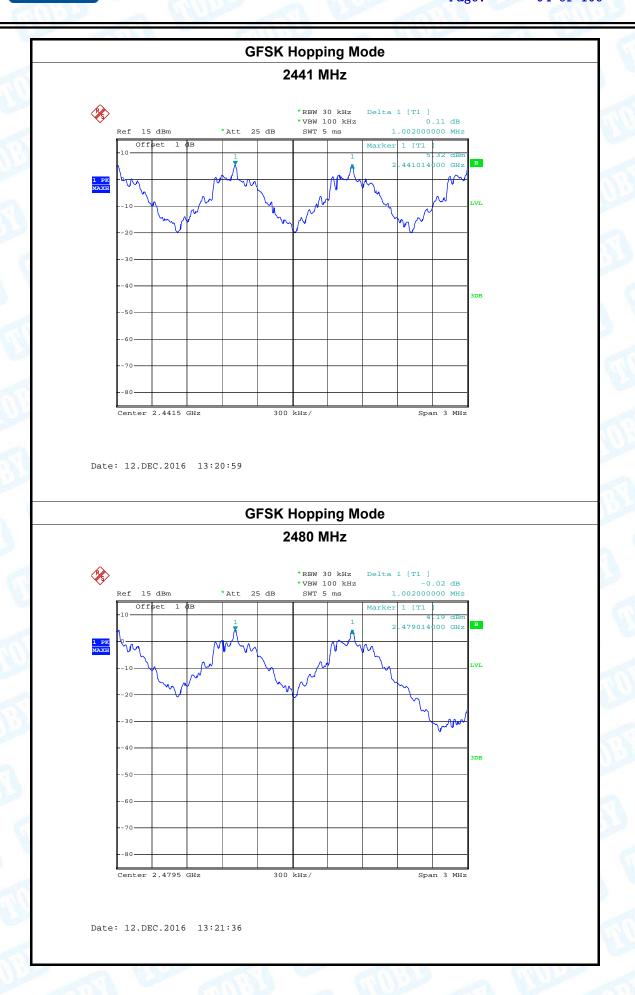
GFSK Hopping Mode

2402 MHz



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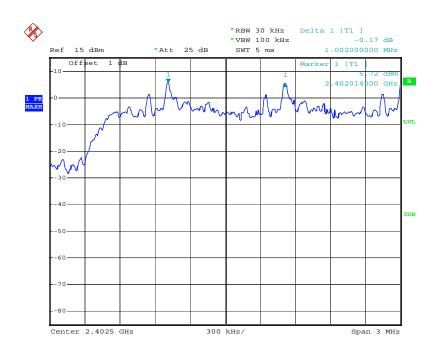
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |

Test Mode: Hopping Mode (π /4-DQPSK)

| Channel frequency | Separation Read Value | Separation Limit |
|-------------------|-----------------------|------------------|
| (MHz) | (kHz) | (kHz) |
| 2402 | 1002.00 | 816.00 |
| 2441 | 1002.00 | 816.00 |
| 2480 | 1002.00 | 812.00 |

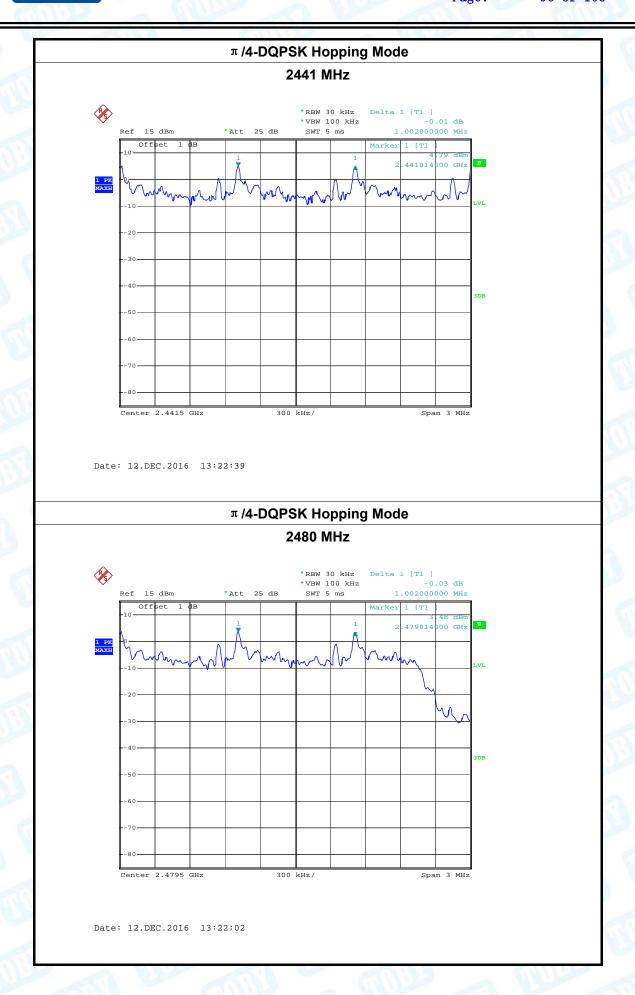
π /4-DQPSK Hopping Mode

2402 MHz



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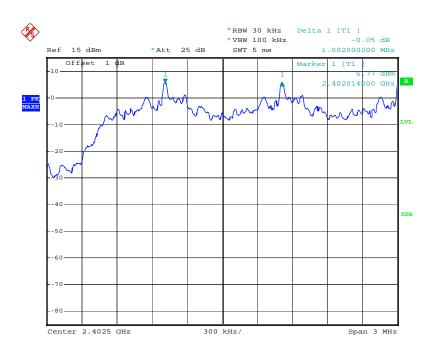
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | A WWW | |

| Test Mode: | Hopping Mode (8-DPSK) |
|------------|-----------------------|

| Channel frequency | Separation Read Value | Separation Limit | | | | |
|-------------------|-----------------------|------------------|--|--|--|--|
| (MHz) | (kHz) | (kHz) | | | | |
| 2402 | 1002.00 | 816.00 | | | | |
| 2441 | 1002.00 | 812.00 | | | | |
| 2480 | 1002.00 | 808.00 | | | | |

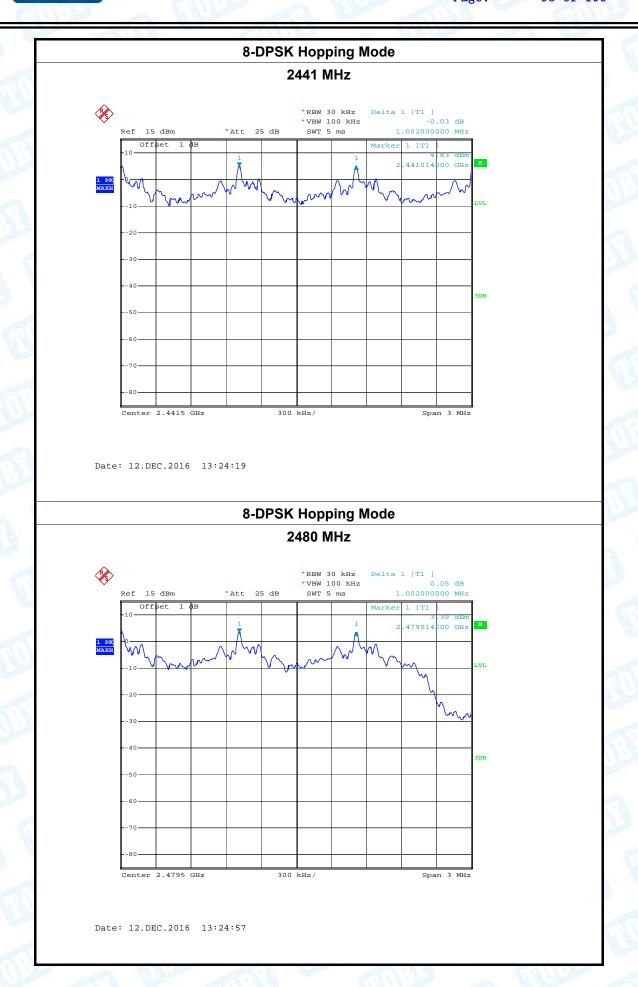
8-DPSK Hopping Mode

2402 MHz



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10. Peak Output Power Test

10.1 Test Standard and Limit

10.1.1 Test Standard FCC Part 15.247 (b) (1)

10.1.2 Test Limit

| Test Item | Limit | Frequency Range(MHz) |
|-------------------|--|----------------------|
| Peak Output Power | Hopping Channels>75 Power<1W(30dBm) Other <125 mW(21dBm) | 2400~2483.5 |

10.2 Test Setup



10.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Peak Detector: RBW=1 MHz, VBW=3 MHz for bandwidth less than 1MHz. RBW=3 MHz, VBW=3 MHz for bandwidth more than 1MHz.

10.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.



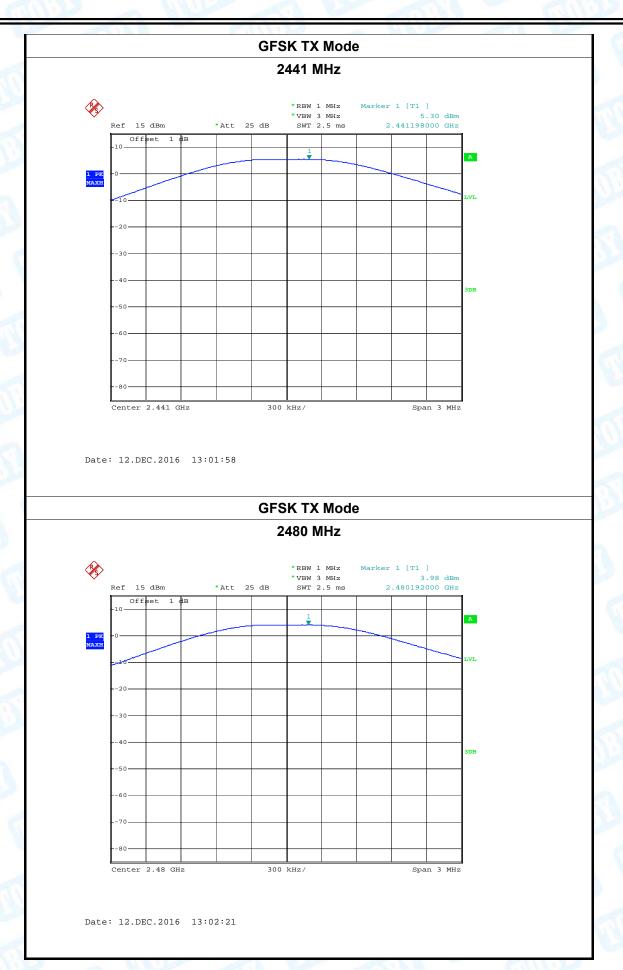
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10.5 Test Data

| UT: Micro Tru | | wirele | ee Fa | rhude | C/A | M | del | Namo | | 7199-99BI | | |
|---------------|--|----------------|-------|-------------|-------|--------|------------|--------------------------------|----------|-----------|----------|----------|
| | | 25°C |) IIU | wii eie | 33 E | iibuuS | 190 | Model Name : Relative Humid | | | | 55% |
| mperature | | | 71/ | - | | 100 | | | | aity: | ity: 55% | |
| st Voltage | | DC 3 | | '050 | 1.6 | | - A | 7/1/1 | | | | S. S. S. |
| st Mode: | | TX N | | (GFS | | | \ <u>\</u> | | | | | |
| hannel free | - | cy (MI | Hz) | | Test | | t (dBn | n) | | L | imit (| dBm) |
| 24 | 102 | | | | | 6.06 | 5 | | | | | |
| 24 | 141 | | | | | 5.30 |) | | | | 30 | |
| 24 | 480 | | | | | 3.98 | 3 | | | | | |
| | | | | | GFS | SK TX | Mode | • | | | | |
| | | | | | 2 | 402 N | 1Hz | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 8 | | | | | | *RBW 1 | MHz | Marker | 1 [T1 | 1 | | |
| \//\c | | | | | | *VBW 3 | MHz | | | .06 dBm | | |
| R | ef 15 | dBm | | *Att 2 | 25 dB | SWT 2 | | | | | | |
| | Off | dBm set 1 d | | *Att 2 | 25 dB | SWT 2 | 5 ms | | .402222 | 000 GH2 | | |
| | | | | *Att 2 | 25 dB | SWT 2 | ms | | . 402222 | | A | |
| | Off | | | *Att 2 | 25 dB | | ms | | .40222 | | A | |
| 1 PK MAXH | Off | | | *Att 2 | 25 dB | | ms | | . 102222 | • | A LVL | |
| 1 PK MAXH | Offi | | | *Att 2 | 25 dB | | . 5 ms | | . 102222 | • | | |
| 1 PK MAXH | Offi | | | *Att 2 | 25 dB | | . 5 ms | | . 102222 | • | | |
| 1 PK MAXH | Off: | | | *Att 1 | 25 dB | | . 5 ms | | . 10222 | • | | |
| 1 PK MAXH | Offi | | | *Att 1 | 25 dB | | 5 ms | | . 10222 | | | |
| 1 PK MAXH | Office | | | *Att 2 | 25 dB | | 5 ms | | | | LVL | |
| 1 PK MAXH | Offi 0 0 -10 -20 -30 -40 | | | *Att | 25 dB | | 5 ms | | | | LVL | |
| 1 PK MAXH | 0 Offi | | | *Att | 25 dB | | 5 ms | | | | LVL | |
| 1 PK MAXH | Offi 0 0 -10 -20 -30 -40 | | | *Att | 25 dB | | 5 ms | | | | LVL | |
| 1 PK MAXH | Off: -10 -20 -30 -40 -60 | | | *Att | 25 dB | | 5 ms | | | | LVL | |









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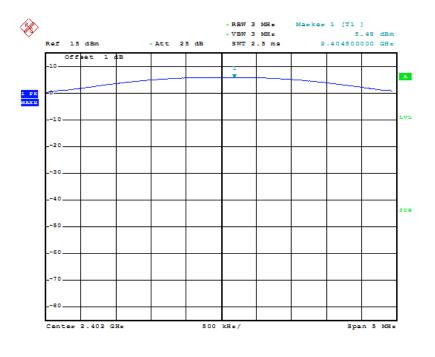
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |
| Test Mode: | TX Mode (π/4-DQPSK) | | |

| Test Mode: | TX Mode (| (π /4-DQPSK) |
|------------|-----------|---------------|
|------------|-----------|---------------|

| Channel frequency (MHz) | Test Result (dBm) | Limit (dBm) |
|-------------------------|-------------------|-------------|
| 2402 | 5.48 | |
| 2441 | 4.75 | 21 |
| 2480 | 3.46 | |

π /4-DQPSK TX Mode

2402 MHz



Date: 12.DEC.2016 13:18:26





π /4-DQPSK TX Mode 2441 MHz *RBW 3 MHz 4.75 dBm 2.441160000 GHz *VBW 3 MHz SWT 2.5 ms Ref 15 dBm *Att 25 dB Offset 1 dB Center 2.441 GHz 500 kHz/ Span 5 MHz Date: 12.DEC.2016 13:03:12 π /4-DQPSK TX Mode 2480 MHz *RBW 3 MHz Marker 1 [T1] 3.46 dBm *VBW 3 MHz 2.480150000 GHz Ref 15 dBm *Att 25 dB SWT 2.5 ms Offset 1 dB

500 kHz/

Center 2.48 GHz

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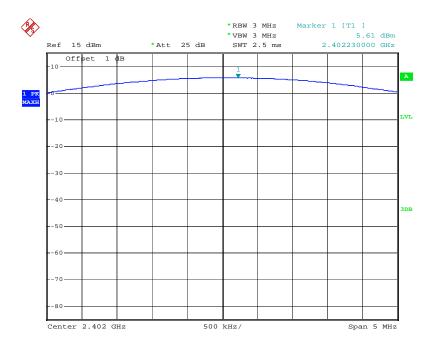
| EUT: | Micro Truwireless Earbuds | Model Name : | 7199-99BK |
|---------------|---------------------------|--------------------|-----------|
| Temperature: | 25℃ | Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V | | |

Test Mode: TX Mode (8-DPSK)

| Channel frequency (MHz) | Test Result (dBm) | Limit (dBm) |
|-------------------------|-------------------|-------------|
| 2402 | 5.61 | |
| 2441 | 4.71 | 21 |
| 2480 | 3.42 | |

8-DPSK TX Mode

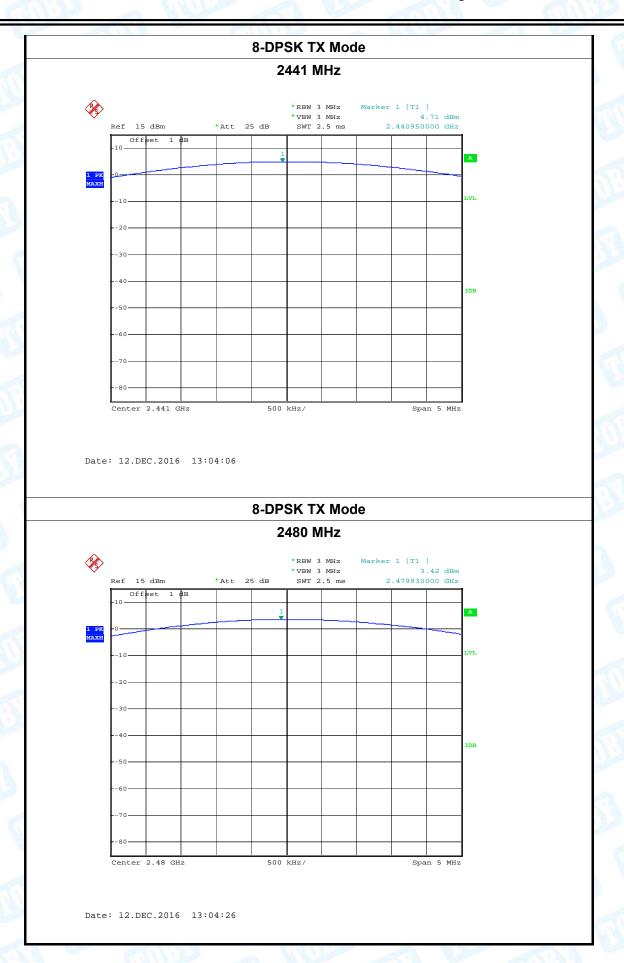
2402 MHz



Date: 12.DEC.2016 13:03:50









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11. Antenna Requirement

11.1 Standard Requirement

11.1.1 Standard FCC Part 15.203

11.1.2 Requirement

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

11.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 0dBi, and the antenna connector is de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

The EUT antenna is a PCB antenna. It complies with the standard requirement.

| A N. W. A. Blander | |
|--------------------|-------------------------------------|
| Antenna Type | |
| M EW | ▼ Permanent attached antenna |
| | □ Unique connector antenna |
| 3 | ☐ Professional installation antenna |

----END OF REPORT----