



Spot Check Evaluation

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History of this test report

| Version | Description | Issued Date |
|---------|-------------------------|---------------|
| 01 | Initial issue of report | Dec. 04, 2018 |
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1. Introduction Section

The original model (FCC ID: IHDT56XC1) and the variant model (FCC ID: IHDT56XC3) has identical PCB layout, antenna, SW implementation for Bluetooth/Wi-Fi/GPS. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS) and Part 15E (equipment class: NII) test data issued test data of IHDT56XC3 references the test data of IHDT56XC1

The original model (FCC ID: IHDT56XC1) and the variant model (FCC ID: IHDT56XC3) has identical PCB layout, antenna, SW implementation for GSM/WCDMA/LTE. Based on their similarity, the FCC Part 22, 24, 27 (equipment class: PCE) test data issued test data of IHDT56XC3 references the test data of IHDT56XC1

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID (FCC ID: IHDT56XC3).



2. Difference Section

The original model (FCC ID: IHDT56XC1) and the variant model (FCC ID: IHDT56XC3) has identical PCB layout, antenna, SW implementation for Bluetooth/Wi-Fi/NFC/GPS. The details of similarity and difference can be found in the Operating Description.

The original model (FCC ID: IHDT56XC1) and the variant model (FCC ID: IHDT56XC3) has identical PCB layout, antenna, SW implementation for GSM/WCDMA/LTE. Based on their similarity, the FCC Part 22, 24, 27 (equipment class: PCE) test data issued test data of IHDT56XC3 references the test data of IHDT56XC1

Cellular transmitter RF components are different in IHDT56XC3, to support capability for different cellular bands.

The product specification is outlined in the following table:

| FCC ID | | IHDT56XC1 | IHDT56XC3 |
|---------------|---|--|--------------|
| Wireless Tech | Mode | Frequency (MHz) | |
| GSM | GSM Voice GPRS (GMSK) EDGE (8PSK) | Multi-Slot Class 12 DTM: No | 850/1900 |
| UMTS | AMR/RCM12.2Kbps HSDPA/HSUPA/DC-HSDPA | B5/B4/B2 | B5/B2 |
| LTE (FDD) | QPSK 16QAM | B2/B4/B5/B7/B12/B13/ B17/B25/B26//B30/B38/ B41/B66 | B2/B4/B5/B13 |
| CDMA | RC1/RC3 | BC0/BC1/BC10 | BC0/BC1/BC10 |
| Wi-Fi | 11b/11g/11n(HT20) | 2412-2462 | |
| | 11a/11n(HT20)/11n(HT40) | 5180-5240 5260-5320 5500-5720 5745-5825 | |
| Bluetooth | V4.2 LE | 2402-2480 MHz | |



3. Spot Check Verification Data Section

Summary of the spot check:

| Test Item | Mode | IHDT56XC1 Worst Result | IHDT56XC3 Worst Result | Difference (dB) |
|-------------------------------|------------------------------------|---|------------------------|-----------------|
| Average Conducted Power (dBm) | 802.11b | 17.99 | 17.95 | 0.04 |
| | 802.11g | 10.49 | 10.30 | 0.19 |
| | 11n HT20 | 9.49 | 9.45 | 0.04 |
| | BT (1Mbps) | 11.24 | 11.19 | 0.05 |
| | BT (2Mbps) | 9.20 | 9.16 | 0.04 |
| | BT (3Mbps) | 9.21 | 9.17 | 0.04 |
| | BT-LE | 1.90 | 1.72 | 0.18 |
| | 11a, 5.2GHz | 15.49 | 15.80 | -0.31 |
| | 11n HT20, 5.2GHz | 9.99 | 9.92 | 0.07 |
| | 11n HT40, 5.2GHz | 9.97 | 9.99 | -0.02 |
| | 11a, 5.3GHz | 15.99 | 15.75 | 0.24 |
| | 11n HT20, 5.3GHz | 9.98 | 9.99 | -0.01 |
| | 11n HT40, 5.3GHz | 9.99 | 9.78 | 0.21 |
| | 11a, 5.5GHz | 15.98 | 15.79 | 0.19 |
| | 11n HT20, 5.5GHz | 9.99 | 9.94 | 0.05 |
| | 11n HT40, 5.5GHz | 9.94 | 9.77 | 0.17 |
| | 11a, 5.8GHz | 15.99 | 15.82 | 0.17 |
| | 11n HT20, 5.8GHz | 9.98 | 9.98 | 0.00 |
| | 11n HT40, 5.8GHz | 9.99 | 9.91 | 0.08 |
| | GSM 850 | 33.49 | 32.95 | 0.54 |
| | GSM 1900 | 30.65 | 29.98 | 0.67 |
| | WCDMA B2 | 22.87 | 23.36 | -0.49 |
| | WCDMA B5 | 22.87 | 23.59 | -0.72 |
| | CDMA BC0 1xRTT | 24.38 | 24.11 | 0.27 |
| | CDMA BC0 1xEVDO | 24.37 | 24.09 | 0.28 |
| | CDMA BC1 1xRTT | 24.27 | 24.39 | -0.12 |
| | CDMA BC1 1xEVDO | 24.26 | 24.41 | -0.15 |
| | CDMA BC10 1xRTT | 24.47 | 24.14 | 0.33 |
| | CDMA BC10 1xEVDO | 24.46 | 24.08 | 0.38 |
| | LTE B2 (FDD - QPSK) | 23.36 | 23.63 | -0.27 |
| | LTE B4 (FDD - QPSK) | 23.48 | 23.92 | -0.44 |
| | LTE B5 (FDD - QPSK) | 23.21 | 23.48 | -0.27 |
| | LTE B13 (FDD - QPSK) | 23.32 | 23.25 | 0.07 |
| IMEI of test sample | 351838090015965 351838090015015 | 359543090002839 359543090013406 359543090013737 | | |
| Test date | 2018/01/02~2018/01/20 | 2018/10/12~2018/10/13 | | |



| Test Item | Mode | IHDT56XC1 Worst Result | IHDT56XC3 Worst Result | Difference (dB) |
|---|----------------------|------------------------------------|--|-----------------|
| Radiated Spurious Emission (Band Edge. Harmonic) (dBuV/m) | 802.11b | 50.26 | 50.99 | -0.73 |
| | 802.11g | 47.31 | 49.11 | -1.8 |
| | BT (1Mbps) | 50.75 | 48.38 | 2.37 |
| | BT-LE | 44.09 | 44.44 | -0.35 |
| | 11n HT40, 5.2GHz | 50.19 | 47.25 | 2.94 |
| | 11a , 5.3GHz | 50.08 | 49.33 | 0.75 |
| | 11a , 5.6GHz | 48.72 | 49.07 | -0.35 |
| | 11n HT40, 5.8GHz | 48.84 | 50.07 | -1.23 |
| | GSM 850 | -31.16 | -33.62 | 2.46 |
| | GSM 1900 | -45.04 | -46.24 | 1.2 |
| | WCDMA B2 | -45.41 | -48.34 | 2.93 |
| | WCDMA B5 | -49.32 | -48.26 | -1.06 |
| | CDMA BC0 | -46.26 | -45.35 | -0.91 |
| | CDMA BC1 | -45.47 | -46.29 | 0.82 |
| | CDMA BC10 | -47.92 | -46.11 | -1.81 |
| | LTE B2 (FDD - QPSK) | -45.26 | -47.54 | 2.28 |
| | LTE B4 (FDD - QPSK) | -46.56 | -44.03 | -2.53 |
| | LTE B5 (FDD - QPSK) | -45.29 | -42.72 | -2.57 |
| | LTE B13 (FDD - QPSK) | -52.99 | -50.33 | -2.66 |
| | IMEI of test sample | 351838090014992 351838090014406 | 359543090003555 359543090013406 359543090013737 359543090013752 | |
| Test date | 2018/1/03~2018/1/23 | 2018/10/13~2018/10/17 | | |

Conclusion:

Radiated spurious emission test against the variant model for non-cellular part based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result (power levels measured are within 1dB, and the worst case of RSE spot check verification based on the worst condition from the original model is within 3dB, and are compliance with the limits), the test data from the original model is representative for the variant model.

The unwanted, harmonics, radiated spurious emission is reported peak measurement only due to spurious lower than 20dB than the limit, 74dBuV/m



4. Reference detail Section

| Rule Part | Equipment Class | Wireless Technology | Frequency Band (MHz) | Reference FCC ID | Type Grant/Permissive Change | Reference Report Title | Reference Application | Reference Report Sections |
|---------------|-----------------|--------------------------|--|------------------|------------------------------|------------------------|-----------------------|---|
| 15C | DTS | Bluetooth – LE Wii-Fi | 2400-2483.5 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 15C (FR7D2018-03B, FR7D2018-03C) |
| | DSS | Bluetooth | 2400-2483.5 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 15C (FR7D2018-03A) |
| 15E | NII | Wi-Fi | 5150-5250 5250-5350 5470-5725 5725-5850 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 15E (FR7D2018-03E, FR7D2018-03F) |
| | NII | DFS | 5470-5725 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 15E (FZ7D2018-03) |
| Part 22.24.27 | PCE | GSM/WCDMA/ CDMA | GSM 850/1900 WCDMA B2/5 BC0/1 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 22.24.27 (FG7D2018-03A) |
| | | LTE | LTE B2/4/5/13 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 22.24.27 (FG7D2018-03C) |
| Part 90s | PCE | CDMA | BC10 | IHDT56XC1 | Original Grant | FCC RF Test Report | IHDT56XC3 | Part 90s (FG7D2018-03B) |

End of this report