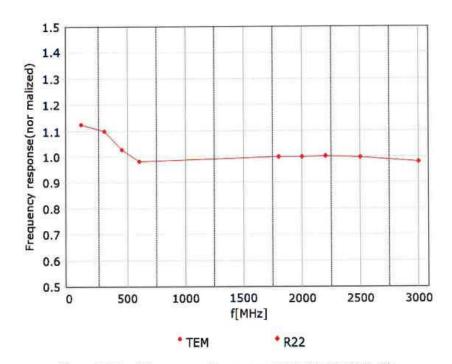




# Frequency Response of E-Field (TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.4% (k=2)

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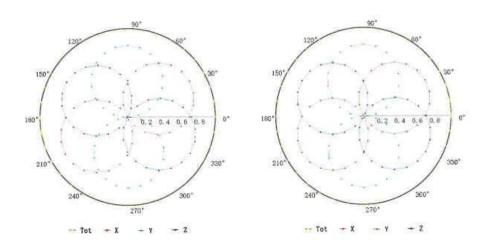


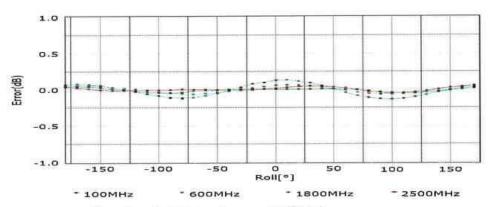


# Receiving Pattern (Φ), θ=0°

# f=600 MHz, TEM

# f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±1.2% (k=2)

Certificate No:J23Z60349

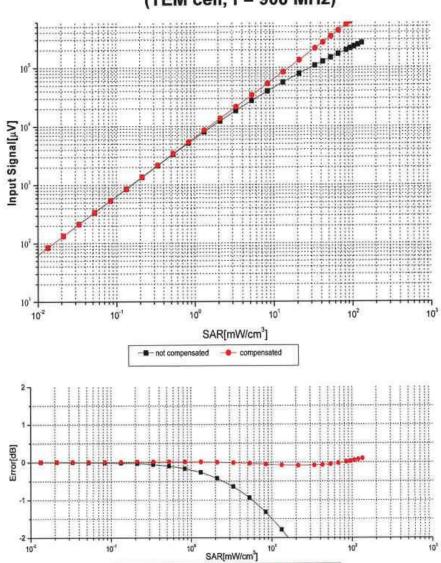
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# Dynamic Range f(SAR<sub>head</sub>) (TEM cell, f = 900 MHz)



Uncertainty of Linearity Assessment: ±0.9% (k=2)

compensated

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-- not compensated



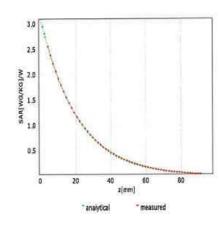


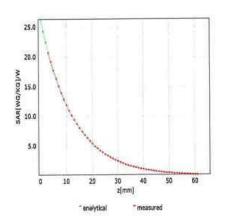


# **Conversion Factor Assessment**

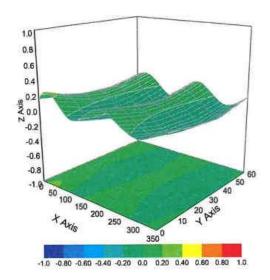
### f=750 MHz,WGLS R9(H\_convF)

### f=1750 MHz,WGLS R22(H\_convF)





# **Deviation from Isotropy in Liquid**



Uncertainty of Spherical Isotropy Assessment: ±3.2% (k=2)

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#### **Appendix: Modulation Calibration Parameters**

| UID   | Rev | Communication System Name  | Group     | PAR<br>(dB)   | UncE<br>(k=2) |
|-------|-----|--|-----------|---------------|---------------|
| 0     | 1   | cw   | CW        | 0.00          | ± 4.7 %       |
| 0010  | CAA | SAR Validation (Square, 100ms, 10ms)   | Test      | 10.00         | ± 9.6 %       |
| 0011  | CAB | UMTS-FDD (WCDMA)   | WCDMA     | 2.91          | ± 9.6 %       |
| 0012  | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)   | WLAN      | 1.87          | ± 9.6 %       |
| 0013  | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)  | WLAN      | 9.46          | ± 9.6 %       |
| 0021  | DAC | GSM-FDD (TDMA, GMSK)   | GSM       | 9.39          | ± 9.6 %       |
| 0023  | DAC | GPRS-FDD (TDMA, GMSK, TN 0)  | GSM       | 9.57          | ±9.69         |
| 0024  | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)  | GSM       | 6.56          | ±9.69         |
| 0025  | DAC | EDGE-FDD (TDMA, 8PSK, TN 0)  | GSM       | 12.62         | ± 9.6 9       |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)  | GSM       | 9.55          | ±9.69         |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)  | GSM       | 4.80          | ± 9.6 9       |
| 0028  | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)  | GSM       | 3.55          | ±9.69         |
| 0029  | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)  | GSM       | 7.78          | ± 9.6 %       |
| 0030  | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)  | Bluetooth | 5.30          | ± 9.6 %       |
| 0031  | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)  | Bluetooth | 1.87          | ± 9.6 9       |
| 0032  | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)  | Bluetooth | 1.16          | ± 9.6 9       |
| 0032  | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)  | Bluetooth | 7.74          | ± 9.6 9       |
| 0033  | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)  | Bluetooth | 4.53          | ± 9.6         |
| 0035  | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)  | Bluetooth | 3.83          | ± 9.6         |
| 0036  | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)  | Bluetooth | 8.01          | ±9.6          |
| 0036  | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)  | Bluetooth | 4.77          | ±9.6          |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)  | Bluetooth | 4.10          | ±9.6          |
| 0039  | CAB | CDMA2000 (1xRTT, RC1)  | CDMA2000  | 4.57          | ± 9.6         |
| 0039  | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)                                  | AMPS      | 7.78          | ± 9.6         |
| 0042  | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)   | AMPS      | 0.00          | ± 9.6         |
| 10044 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)  | DECT      | 13.80         | ±9.6          |
| 0048  | CAA | DECT (TDD, TDMA/FDM, GFSK, Pull Slot, 24)  | DECT      | 10.79         | ±9.6          |
|       | CAA |  | TD-SCDMA  | 11.01         | ± 9.6         |
| 10056 |     | UMTS-TDD (TD-SCDMA, 1.28 Mcps)   | GSM       | 6.52          | ± 9.6         |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)  | WLAN      | 2.12          | ± 9,6         |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)   | WLAN      | 2.83          | ±9.6          |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps) | WLAN      | 3.60          | ± 9.6         |
| 10061 |     |  | WLAN      | 8.68          | ± 9.6         |
| 10062 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)   | WLAN      | 8.63          | ± 9.6         |
| 10063 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)   | WLAN      | 9.09          | ± 9.6         |
| 10064 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)  | WLAN      | 9.00          | ± 9.6         |
| 10065 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)  | WLAN      | 9.38          | ± 9.6         |
| 10066 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)  | WLAN      | 10.12         | ± 9.6         |
| 10067 | CAD | IEEE 802.11a/h WIFI 5 GHz (OFDM, 36 Mbps)  | WLAN      | 10.12         | ± 9.6         |
| 10068 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)  | WLAN      | 10.56         | ± 9.6         |
| 10069 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)  | WLAN      | 9.83          | ± 9.6         |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)  | WLAN      | 9.62          | ± 9.6         |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)                                       | WLAN      | 9.94          | ± 9.6         |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)                                       | WLAN      | 10.30         | ± 9.6         |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)                                       |           | 10.30         | ± 9.6         |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)                                       | WLAN      | 10.77         | ± 9.6         |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)                                       |           |               |               |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)                                       | WLAN      | 11.00<br>3.97 | ± 9.6         |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)  | CDMA2000  |               |               |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)                                  | AMPS      | 4.77          | ± 9.6         |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)  | GSM       | 6.56          | ± 9.6         |
| 10097 | CAC | UMTS-FDD (HSDPA)   | WCDMA     | 3.98          | ± 9.6         |
| 10098 | DAC | UMTS-FDD (HSUPA, Subtest 2)  | WCDMA     | 3.98          | ± 9.6         |
| 10099 | CAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)  | GSM       | 9.55          | ± 9.6         |
| 10100 | CAC | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)   | LTE-FDD   | 5.67          | ± 9.6         |
| 10101 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)   | LTE-FDD   | 6.42          | ± 9.6         |

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| 10102 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)     | LTE-FDD | 6.60  | ± 9.6 % |
|-------|-----|--|---------|-------|---------|
| 10103 | DAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)       | LTE-TDD | 9.29  | ±9.6%   |
| 10104 | CAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)     | LTE-TDD | 9,97  | ± 9.6 % |
| 10105 | CAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)     | LTE-TDD | 10.01 | ±9.6 %  |
| 10108 | CAE | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)       | LTE-FDD | 5.80  | ±9.6 %  |
| 10109 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)     | LTE-FDD | 6.43  | ±9.6%   |
| 10110 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10111 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)      | LTE-FDD | 6.44  | ±9.6%   |
| 10112 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | LTE-FDD | 6.59  | ±9.6%   |
| 10113 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | LTE-FDD | 6.62  | ±9.6%   |
| 10114 | CAG | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | WLAN    | 8.10  | ± 9.6 % |
| 10115 | CAG | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | WLAN    | 8.46  | ± 9.6 % |
| 10116 | CAG | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN    | 8.15  | ±9.6 %  |
| 10117 | CAG | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | WLAN    | 8.07  | ± 9.6 % |
| 10118 | CAD | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | WLAN    | 8.59  | ±9.6 %  |
| 10119 | CAD | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | WLAN    | 8.13  | ±9.6%   |
| 10140 | CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | LTE-FDD | 6.49  | ±9.6 %  |
| 10141 | CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | LTE-FDD | 6.53  | ± 9.6 % |
| 10142 | CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | LTE-FDD | 5,73  | ±9.6%   |
| 10143 | CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | LTE-FDD | 6.35  | ± 9.6 % |
| 10144 | CAC | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | LTE-FDD | 6.65  | ±9.6%   |
| 10145 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | LTE-FDD | 5.76  | ± 9.6 % |
| 10146 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | LTE-FDD | 6.41  | ± 9.6 % |
| 10147 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | LTE-FDD | 6.72  | ± 9.6 % |
| 10149 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-FDD | 6.42  | ± 9.6 % |
| 10150 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-FDD | 6.60  | ± 9.6 % |
| 10151 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)        | LTE-TDD | 9.28  | ± 9.6 % |
| 10152 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-TDD | 9.92  | ± 9.6 % |
| 10153 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-TDD | 10.05 | ± 9.6 % |
| 10154 | CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10155 | CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)      | LTE-FDD | 6.43  | ± 9.6 % |
| 10156 | CAF | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         | LTE-FDD | 5.79  | ± 9.6 % |
| 10157 | CAE | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)       | LTE-FDD | 6.49  | ± 9.6 % |
| 10158 | CAE | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)      | LTE-FDD | 6.62  | ±9.6 %  |
| 10159 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)       | LTE-FDD | 6.56  | ±9.6%   |
| 10160 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)        | LTE-FDD | 5.82  | ± 9.6 % |
| 10161 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)      | LTE-FDD | 6.43  | ±9.6%   |
| 10162 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)      | LTE-FDD | 6.58  | ± 9.6 % |
| 10166 | CAG |  | LTE-FDD | 5.46  | ± 9.6 % |
| 10167 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)     | LTE-FDD | 6.21  | ±9.6 %  |
| 10168 | CAG |  | LTE-FDD | 6,79  | ±9.6 %  |
| 10169 |     | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-FDD | 5.73  | ± 9.6 % |
| 10170 | CAG |  | LTE-FDD | 6.52  | ± 9.6 % |
| 10171 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-FDD | 6.49  | ±9.6%   |
| 10172 | CAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-TDD | 9.21  | ±9.6 %  |
| 10173 | CAE |  | LTE-TDD | 9.48  | ± 9.6 % |
| 10174 | CAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-TDD | 10.25 | ±9.6 %  |
| 10175 | CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)          | LTE-FDD | 5.72  | ± 9.6 % |
| 10176 | CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)        | LTE-FDD | 6.52  | ±9.6 %  |
| 10177 | CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)           | LTE-FDD | 5.73  | ± 9.6 % |
| 10178 | CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)         | LTE-FDD | 6.52  | ±9.6 %  |
| 10179 | AAE | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)        | LTE-FOD | 6.50  | ± 9.6 % |
| 10180 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)         | LTE-FDD | 6.50  | ± 9.6 % |
| 10181 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)          | LTE-FDD | 5.72  | ± 9.6 % |
| 10182 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10183 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)        | LTE-FDD | 6.50  | ± 9.6 % |
| 10184 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)           | LTE-FDD | 5.73  | ± 9.6 % |
| 10185 | CAI | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         | LTE-FDD | 6.51  | ± 9.6 % |
| 10186 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         | LTE-FDD | 6.50  | ±9.6 %  |

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| 10187          | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)   | LTE-FDD   | 5.73  | ± 9.6 % |
|----------------|-----|--|-----------|-------|---------|
| 0188           | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)   | LTE-FDD   | 6.52  | ± 9.6 % |
| 0189           | CAE | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)   | LTE-FDD   | 6.50  | ± 9.6 % |
| 0193           | CAE | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)   | WLAN      | 8.09  | ± 9.6 % |
| 0194           | AAD | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)  | WLAN      | 8.12  | ± 9.6 % |
| 0195           | CAE | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)  | WLAN      | 8.21  | ± 9.6 % |
| 0196           | CAE | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)  | WLAN      | 8.10  | ± 9.6 % |
| 0197           | AAE | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)   | WLAN      | 8.13  | ± 9.6 % |
| 0198           | CAF | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)   | WLAN      | 8.27  | ± 9.6 % |
| 0219           | CAF | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)  | WLAN      | 8.03  | ± 9.6 % |
| 0220           | AAF | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)   | WLAN      | 8.13  | ± 9.6 % |
| 0221           | CAC | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)   | WLAN      | 8.27  | ±9.6 %  |
| 0222           | CAC | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)   | WLAN      | 8.06  | ± 9.6 % |
| 0223           | CAD | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)   | WLAN      | 8.48  | ± 9.6 % |
| 0224           | CAD | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)  | WLAN      | 8.08  | ± 9.6 % |
| 0225           | CAD | UMTS-FDD (HSPA+)   | WCDMA     | 5.97  | ± 9.6 % |
| 0226           | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)   | LTE-TDD   | 9.49  | ± 9.6 % |
| 0227           | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)   | LTE-TDD   | 10.26 | ± 9.6 % |
| 0228           | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)   | LTE-TDD   | 9.22  | ± 9.6 % |
| 0229           | DAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)   | LTE-TOD   | 9.48  | ± 9.6 % |
| 0230           | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)   | LTE-TOD   | 10.25 | ± 9.6 % |
| 0231           | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)   | LTE-TDD   | 9.19  | ± 9.6 % |
| 0232           | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)   | LTE-TDD   | 10.25 | ± 9.6 % |
| 10233          | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)   | LTE-TDD   |       | ± 9.6 % |
| 0234           | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)   | LTE-TOD   | 9.21  | ± 9.6 % |
| 0235           | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)  | LTE-TOD   | 10.25 | ± 9.6 % |
| 0236           | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)  | LTE-TOD   | 9.21  | ± 9.6 % |
| 0237           | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)  | LTE-TDD   | 9.48  | ± 9.6 % |
| 0238           | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)  | LTE-TDD   | 10.25 | ± 9.6 % |
| 10239          | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)  | LTE-TOD   | 9.21  | ± 9.6 % |
| 10240          | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)  | LTE-TDD   | 9.82  | ± 9.6 % |
| 10241          | CAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)   | LTE-TDD   | 9.86  | ± 9.6 % |
| 10242          | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)   | LTE-TDD   | 9.46  | ± 9.6 % |
| 10243          | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)   | LTE-TDD   | 10.06 | ± 9.6 % |
| 10244          | CAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)   | LTE-TDD   | 10.06 | ± 9.6 % |
| 10245          | CAG | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)   | LTE-TDD   | 9.30  | ± 9.6 % |
| 10246          | CAG | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)   | LTE-TOD   | 9.91  | ± 9.6 % |
| 10247          | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)   | LTE-TOD   | 10.09 | ± 9.6 % |
| 10248          | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)   | LTE-TDD   | 9.29  | ± 9.6 % |
| 10249          | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)   | LTE-TDD   | 9.81  | ± 9.6 % |
| 10250          | CAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)  LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM) | LTE-TOD   | 10.17 | ± 9.6 % |
| 10251<br>10252 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAW)  | LTE-TDD   | 9.24  | ± 9.6 % |
| 10252          | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)  | LTE-TDD   | 9.90  | ± 9.6 % |
| 10254          | CAB | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)  | LTE-TDD   | 10.14 | ± 9.6 % |
| 10255          | CAB | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)  | LTE-TDD   | 9.20  | ± 9.6 % |
| 10256          | CAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)  | LTE-TDD   | 9.96  | ± 9.6 % |
| 10257          | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)  | LTE-TDD   | 10.08 | ± 9.6 % |
| 0257           | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 04-QAW)  | LTE-TDD   | 9,34  | ± 9.6 % |
| 10259          | CAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)  | LTE-TDD   | 9.98  | ± 9.6 % |
| 10260          | CAG | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)  | LTE-TDD   | 9.97  | ± 9.6 % |
| 0261           | CAG | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)  | LTE-TDD   | 9.24  | ±9.6 %  |
| 0262           | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)  | LTE-TDD   | 9.83  | ± 9.6 % |
| 0263           | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)  | LTE-TDD   | 10.16 | ± 9.6 % |
| 0264           | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)  | LTE-TDD   | 9.23  | ±9.69   |
| 10265          | CAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)   | LTE-TDD   | 9.92  | ± 9.6 % |
|                | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 10-QAM)   | LTE-TDD   | 10.07 | ± 9.6 % |
|                | UMI |  | LTE-TDD   | 9.30  | ±9.6 %  |
| 10266<br>10267 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)   | 1115+1101 | 9 30  |         |

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| 10269 | CAB | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)                 | LTE-TDD  | 10.13 | ± 9.6 % |
|-------|-----|--|----------|-------|---------|
| 10270 | CAB | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                   | LTE-TDD  | 9.58  | ± 9.6 % |
| 10274 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                  | WCDMA    | 4.87  | ± 9.6 % |
| 10275 | CAD | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                   | WCDMA    | 3.96  | ± 9.6 % |
| 10277 | CAD | PHS (QPSK)   | PHS      | 11.81 | ± 9.6 % |
| 10278 | CAD | PHS (QPSK, BW 884MHz, Rolloff 0.5)                         | PHS      | 11.81 | ±9.6%   |
| 10279 | CAG | PHS (QPSK, BW 884MHz, Rolloff 0.38)                        | PHS      | 12.18 | ± 9.6 % |
| 10290 | CAG | CDMA2000, RC1, SO55, Full Rate                             | CDMA2000 | 3.91  | ± 9.6 % |
| 10291 | CAG | CDMA2000, RC3, SO55, Full Rate                             | CDMA2000 | 3.46  | ± 9.6 % |
| 10292 | CAG | CDMA2000, RC3, SO32, Full Rate                             | CDMA2000 | 3.39  | ±9.6%   |
| 10293 | CAG | CDMA2000, RC3, SO3, Full Rate                              | CDMA2000 | 3.50  | ± 9.6 % |
| 10295 | CAG | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                      | CDMA2000 | 12.49 | ± 9.6 % |
| 10297 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                    | LTE-FDD  | 5.81  | ± 9.6 % |
| 10298 | CAF | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                     | LTE-FDD  | 5.72  | ± 9.6 % |
| 10299 | CAF | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                   | LTE-FDD  | 6.39  | ±9.6 %  |
| 10300 | CAC | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                   | LTE-FDD  | 6.60  | ± 9.6 % |
| 10301 | CAC | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)         | WIMAX    | 12.03 | ±9.6 %  |
| 10302 | CAB | IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)  | WIMAX    | 12.57 | ± 9.6 % |
| 10303 | CAB | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)        | WiMAX    | 12.52 | ± 9.6 % |
| 10304 | CAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)        | WIMAX    | 11,86 | ± 9.6 % |
| 10305 | CAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)       | WIMAX    | 15.24 | ±9.6%   |
| 10306 | CAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)       | WIMAX    | 14.67 | ± 9.6 % |
| 10307 | AAB | IEEE 802,16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC)        | WiMAX    | 14.49 | ± 9.6 % |
| 10308 | AAB | IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)       | WiMAX    | 14.46 | ± 9.6 % |
| 10309 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM,AMC 2x3)     | WIMAX    | 14.58 | ± 9.6 % |
| 10310 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3      | WiMAX    | 14.57 | ± 9.6 % |
| 10311 | AAB | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                   | LTE-FDD  | 6.06  | ± 9.6 % |
| 10313 | AAD | IDEN 1:3   | IDEN     | 10.51 | ± 9.6 % |
| 10314 | AAD | IDEN 1:6   | IDEN     | 13.48 | ± 9.6 % |
| 10315 | AAD | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)          | WLAN     | 1.71  | ± 9.6 % |
| 10316 | AAD | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)      | WLAN     | 8.36  | ± 9.6 % |
| 10317 | AAA | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)            | WLAN     | 8.36  | ± 9.6 % |
| 10352 | AAA | Pulse Waveform (200Hz, 10%)                                | Generic  | 10.00 | ± 9.6 % |
| 10353 | AAA | Pulse Waveform (200Hz, 20%)                                | Generic  | 6.99  | ±9.6 %  |
| 10354 | AAA | Pulse Waveform (200Hz, 40%)                                | Generic  | 3.98  | ±9.6 %  |
| 10355 | AAA | Pulse Waveform (200Hz, 60%)                                | Generic  | 2.22  | ± 9.6 % |
| 10356 | AAA | Pulse Waveform (200Hz, 80%)                                | Generic  | 0.97  | ± 9.6 % |
| 10387 | AAA | QPSK Waveform, 1 MHz                                       | Generic  | 5.10  | ± 9.6 % |
| 10388 | AAA | QPSK Waveform, 10 MHz                                      | Generic  | 5.22  | ± 9.6 % |
| 10396 | AAA | 64-QAM Waveform, 100 kHz                                   | Generic  | 6.27  | ± 9.6 % |
| 10399 | AAA | 64-QAM Waveform, 40 MHz                                    | Generic  | 6.27  | ± 9.6 % |
| 10400 | AAD | IEEE 802,11ac WiFi (20MHz, 64-QAM, 99pc dc)                | WLAN     | 8.37  | ± 9.6 % |
| 10401 | AAA | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)                | WLAN     | 8.60  | ± 9.6 % |
| 10402 | AAA | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)                | WLAN     | 8.53  | ± 9.6 % |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0)                                 | CDMA2000 | 3.76  | ± 9.6 % |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A)                                 | CDMA2000 | 3.77  | ± 9.6 % |
| 10406 | AAD | CDMA2000, RC3, SO32, SCH0, Full Rate                       | CDMA2000 | 5.22  | ±9.6 %  |
| 10410 | AAA | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)  | LTE-TDD  | 7.82  | ± 9.6 % |
| 10414 | AAA | WLAN CCDF, 64-QAM, 40MHz                                   | Generic  | 8.54  | ± 9.6 % |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)          | WLAN     | 1.54  | ± 9.6 % |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)      | WLAN     | 8.23  | ± 9.6 % |
| 10417 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)          | WLAN     | 8.23  | ± 9.6 % |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)  | WLAN     | 8.14  | ± 9.6 % |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short) | WLAN     | 8.19  | ± 9.6 % |
| 10422 | AAA | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)               | WLAN     | 8.32  | ± 9.6 % |
| 10423 | AAA | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)            | WLAN     | 8.47  | ± 9.6 % |
| 10424 | AAE | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)            | WLAN     | 8.40  | ± 9.6 % |
| 10425 | AAE | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                | WLAN     | 8.41  | ± 9.6 % |
| 10426 | AAE | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)              | WLAN     | 8.45  | ± 9.6 % |

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| 10427          | AAB                         | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)   | WLAN   | 8.41         | ±9.6%              |
|----------------|-----------------------------|--|--|--------------|--------------------|
| 10430          | AAB                         | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)   | LTE-FDD  | 8.28         | ± 9.6 %            |
| 10431          | AAC                         | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)  | LTE-FDD  | 8.38         | ± 9.6 %            |
| 10432          | AAB                         | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)  | LTE-FDD  | 8.34         | ± 9.6 %            |
| 10433          | AAC                         | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)  | LTE-FDD  | 8.34         | ±9.6%              |
| 10434          | AAG                         | W-CDMA (BS Test Model 1, 64 DPCH)  | WCDMA  | 8.60         | ± 9.6 %            |
| 10435          | AAA                         | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)  | LTE-TDD  | 7.82         | ± 9.6 %            |
| 10447          | AAA                         | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)   | LTE-FDD  | 7.56         | ± 9.6 %            |
| 10448          | AAA                         | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)   | LTE-FDD  | 7.53         | ± 9.6 %            |
| 10449          | AAC                         | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)   | LTE-FDD  | 7.51         | ± 9.6 %            |
| 10450          | AAA                         | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)  | LTE-FDD  | 7.48         | ± 9.6 %            |
| 10451          | AAA                         | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)  | WCDMA  | 7.59         | ± 9.6 %            |
| 10453          | AAC                         | Validation (Square, 10ms, 1ms)   | Test   | 10.00        | ± 9.6 %            |
| 10456          | AAC                         | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)   | WLAN   | 8.63         | ±9.6%              |
| 10457          | AAC                         | UMTS-FDD (DC-HSDPA)  | WCDMA  | 6.62         | ±9.6%              |
| 10458          | AAC                         | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)   | CDMA2000   | 6.55         | ±9.6 %             |
| 10459          | AAC                         | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)   | CDMA2000   | 8.25         | ±9.6 %             |
| 10460          | AAC                         | UMTS-FDD (WCDMA, AMR)  | WCDMA  | 2.39         | ± 9.6 %            |
| 10461          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)   | LTE-TDD  | 7.82         | ± 9.6 %            |
| 10462          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)   | LTE-TDD  | 8.30         | ± 9.6 %            |
| 10463          | AAD                         | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)   | LTE-TDD  | 8.56         | ± 9.6 %            |
| 10464          | AAD                         | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)   | LTE-TOD  | 7.82         | ± 9.6 %            |
| 10465          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)   | LTE-TDD  | 8.32         | ± 9.6 %            |
| 10466          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)   | LTE-TDD  | 8.57         | ± 9.6 %            |
| 10467          | AAA                         | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)   | LTE-TDD  | 7.82         | ± 9.6 %            |
| 10468          | AAF                         | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)   | LTE-TDD  | 8.32         | ± 9.6 %            |
| 10469          | AAD                         | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)   | LTE-TDD  | 8.56<br>7.82 | ± 9.6 %            |
| 10470          | AAD                         | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)  | LTE-TDD  |              | ± 9.6 %            |
| 10471          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)  | LTE-TOD  | 8.32         | ±9.6%              |
| 10472          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)  | LTE-TDD  | 8.57         | ± 9.6 %<br>± 9.6 % |
| 10473          | AAA                         | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)  | LTE-TDD  | 7.82<br>8.32 | ± 9.6 %            |
| 10474          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)  | LTE-TDD<br>LTE-TDD   | 8.57         | ± 9.6 %            |
| 10475          | AAD                         | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)  |  |              | ± 9.6 %            |
| 10477          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)  | LTE-TDD  | 8.32<br>8.57 | ± 9.6 %            |
| 10478          | AAC                         | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)  | LTE-TOD  | 7.74         | ± 9.6 %            |
| 10479          | AAC                         | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)   | LTE-TDD  | 8.18         | ± 9.6 %            |
| 10480          | AAA                         | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)   | LTE-TOD  | 8.45         | ±9.6 %             |
| 10481          | AAA                         | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)   | The state of the s | 7.71         | ± 9.6 %            |
| 10482          | AAA                         | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)   | LTE-TDD  | 8.39         | ± 9.6 %            |
| 10483          | AAA                         | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)  | LTE-TOD  | 8.47         | ±9.6 %             |
| 10484          | AAB                         | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)   | LTE-TDD  | 7.59         | ± 9.6 %            |
| 10485          | AAB                         | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)   | LTE-TDD  | 8.38         | ± 9.6 %            |
| 10486          | AAB                         | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)   | LTE-TDD  | 8.60         | ± 9.6 %            |
| 10487          | AAC                         | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)   | LTE-TDD  | 7.70         | ± 9.6 %            |
| 10488          | AAC                         | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)  | LTE-TDD  | 8.31         | ± 9.6 %            |
| 10489          | AAC                         | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)  | LTE-TDD  | 8.54         | ± 9.6 %            |
| 10490          | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)  | LTE-TDD  | 7.74         | ± 9.6 %            |
| 10491          | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)  | LTE-TOD  | 8,41         | ± 9.6 %            |
| 10492          | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)  LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub) | LTE-TOD  | 8.55         | ± 9.6 %            |
| 10493          | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, 0L 50b)  | LTE-TDD  | 7.74         | ±9.6 %             |
|                | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSR, 0L Sub)  | LTE-TOD  | 8.37         | ±9.6 %             |
| 10495          | AAF                         | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)  | LTE-TDD  | 8.54         | ± 9.6 %            |
| 10496<br>10497 | AAE                         | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, 0E 50b)  | LTE-TDD  | 7.67         | ± 9.6 %            |
|                | AAE                         | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)  | LTE-TDD  | 8.40         | ± 9.6 %            |
| 10498          | and the same of the same of | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)  | LTE-TDD  | 8.68         | ± 9.6 %            |
| 10499          | AAF                         | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAW, 0L Sub)  | LTE-TDD  | 7.67         | ± 9.6 %            |
| 10500          | AAF                         | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, 0L Sub)  | LTE-TDD  | 8.44         | ± 9.6 %            |
| 10501          | AAB                         | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 10-QAM, UL Sub)  | LTE-TOD  | 8.52         | ± 9.6 %            |

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| 10503 | AAB | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)         | LTE-TOD | 7.72 | ± 9.6 % |
|-------|-----|---|---------|------|---------|
| 10504 | AAB | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)       | LTE-TDD | 8.31 | ± 9.6 % |
| 10505 | AAC | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)       | LTE-TDD | 8.54 | ± 9.6 % |
| 10506 | AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)        | LTE-TDD | 7.74 | ± 9.6 % |
| 10507 | AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)      | LTE-TDD | 8.36 | ± 9.6 % |
| 10508 | AAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)      | LTE-TDD | 8.55 | ± 9.6 % |
| 10509 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)        | LTE-TOD | 7.99 | ± 9.6 % |
| 10510 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)      | LTE-TDD | 8.49 | ± 9.6 % |
| 10511 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)      | LTE-TDD | 8.51 | ±9.6%   |
| 10512 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)        | LTE-TDD | 7.74 | ± 9.6 % |
| 10513 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)      | LTE-TDD | 8.42 | ±9.6%   |
| 10514 | AAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)      | LTE-TDD | 8.45 | ± 9.6 % |
| 10515 | AAE | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)       | WLAN    | 1.58 | ± 9.6 % |
| 10516 | AAE | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)     | WLAN    | 1.57 | ± 9.6 % |
| 10517 | AAF | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)      | WLAN    | 1.58 | ± 9.6 % |
| 10518 | AAF | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)       | WLAN    | 8.23 | ± 9.6 % |
| 10519 | AAF | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)      | WLAN    | 8.39 | ± 9.6 % |
| 10520 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)      | WLAN    | 8.12 | ±9.6 %  |
| 10521 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)      | WLAN    | 7.97 | ±9.6 %  |
| 10522 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)      | WLAN    | 8.45 | ±9.6%   |
| 10523 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)      | WLAN    | 8.08 | ± 9.6 % |
| 10524 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)      | WLAN    | 8.27 | ±9.6 %  |
| 10525 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)               | WLAN    | 8.36 | ±9.6 %  |
| 10526 | AAF | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)               | WLAN    | 8.42 | ±9.6%   |
| 10527 | AAF | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)               | WLAN    | 8.21 | ± 9.6 % |
| 10528 | AAF | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)               | WLAN    | 8.36 | ± 9.6 % |
| 10529 | AAF | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)               | WLAN    | 8.36 | ± 9.6 % |
| 10531 | AAF | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)               | WLAN    | 8.43 | ± 9.6 % |
| 10532 | AAF | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)               | WLAN    | 8.29 | ± 9.6 % |
| 10533 | AAE | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)               | WLAN    | 8.38 | ± 9.6 % |
| 10534 | AAE | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)               | WLAN    | 8.45 | ± 9.6 % |
| 10535 | AAE | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)               | WLAN    | 8.45 | ±9.6 %  |
| 10536 | AAF | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)               | WLAN    | 8.32 | ± 9.6 % |
| 10537 | AAF | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)               | WLAN    | 8.44 | ± 9.6 % |
| 10538 | AAF | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)               | WLAN    | 8.54 | ± 9.6 % |
| 10540 | AAA | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)               | WLAN    | 8.39 | ± 9.6 % |
| 10541 | AAA | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)               | WLAN    | 8.46 | ± 9.6 % |
| 10542 | AAA | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)               | WLAN    | 8.65 | ± 9.6 % |
| 10543 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)               | WLAN    | 8.65 | ± 9.6 % |
| 10544 | AAC | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)               | WLAN    | 8.47 | ± 9.6 % |
| 10545 | AAC | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)               | WLAN    | 8.55 | ± 9.6 % |
| 10546 | AAC | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)               | WLAN    | 8.35 | ± 9.6 % |
| 10547 | AAC | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)               | WLAN    | 8.49 | ± 9.6 % |
| 10548 | AAC | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)               | WLAN    | 8.37 | ± 9.6 % |
| 10550 | AAC | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)               | WLAN    | 8.38 | ± 9.6 % |
| 10551 | AAC | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)               | WLAN    | 8.50 | ± 9.6 % |
| 10552 | AAC | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)               | WLAN    | 8.42 | ± 9.6 % |
| 10553 | AAC | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)               | WLAN    | 8.45 | ±9.6 %  |
| 10554 | AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)              | WLAN    | 8.48 | ± 9.6 % |
| 10555 | AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)              | WLAN    | 8.47 | ± 9.6 % |
| 10556 | AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)              | WLAN    | 8.50 | ± 9.6 % |
| 10557 | AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)              | WLAN    | 8.52 | ± 9.6 % |
| 10558 | AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)              | WLAN    | 8.61 | ± 9.6 % |
| 10560 | AAC | IEEE 802,11ac WiFi (160MHz, MCS6, 99pc dc)              | WLAN    | 8.73 | ± 9.6 % |
| 10561 | AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)              | WLAN    | 8.56 | ± 9.6 % |
| 10562 | AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)              | WLAN    | 8.69 | ± 9.6 % |
| 10563 | AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)              | WLAN    | 8.77 | ± 9.6 % |
| 10564 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)  | WLAN    | 8.25 | ± 9.6 % |
| 10565 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc) | WLAN    | 8.45 | ± 9.6 % |

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| 10566 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc) | WLAN   | 8.13 | ± 9.6 %  |
|-------|-----|---|--|------|--|
| 0567  | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc) | WLAN   | 8.00 | ± 9.6 %  |
| 0568  | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc) | WLAN   | 8.37 | ± 9.6 %  |
| 0569  | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc) | WLAN   | 8.10 | ± 9.6 %  |
| 10570 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc) | WLAN   | 8.30 | ± 9.6 %  |
| 0571  | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)       | WLAN   | 1.99 | ±9.6 %   |
| 10572 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)       | WLAN   | 1.99 | ±9.6%  |
| 0573  | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)     | WLAN   | 1.98 | ±9.6 %   |
| 10574 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)      | WLAN   | 1.98 | ±9.6%  |
| 10575 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)  | WLAN   | 8.59 | ± 9.6 %  |
| 10576 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)  | WLAN   | 8.60 | ±9.6 %   |
| 10577 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc) | WLAN   | 8.70 | ± 9.6 %  |
| 10578 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc) | WLAN   | 8.49 | ± 9.6 %  |
| 10579 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc) | WLAN   | 8.36 | ±9.6 %   |
|       | AAD | IEEE 802.11g WiF1 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc) | WLAN   | 8.76 | ±9.6 %   |
| 10580 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc) | WLAN   | 8.35 | ± 9.6 %  |
| 10581 |     | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc) | WLAN   | 8.67 | ± 9.6 %  |
| 10582 | AAD |   | WLAN   | 8.59 | ± 9.6 %  |
| 10583 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)       | WLAN   | 8.60 | ± 9.6 %  |
| 10584 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)       | WLAN   | 8.70 | ± 9.6 %  |
| 10585 | AAD | IEEE 802.11a/h WIFI 5 GHz (OFDM, 12 Mbps, 90pc dc)      | WLAN   | 8.49 | ± 9.6 %  |
| 10586 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)      | WLAN   | 8.36 | ± 9.6 %  |
| 10587 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)      | WLAN   | 8.76 | ±9.6 %   |
| 10588 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)      | WLAN   | 8.35 | ± 9.6 %  |
| 10589 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)      | WLAN   | 8.67 | ± 9.6 %  |
| 10590 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)      | WLAN   | 8.63 | ± 9.6 %  |
| 10591 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)           | WLAN   | 8.79 | ±9.6 %   |
| 10592 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)           | WLAN   | 8.64 | ± 9.6 %  |
| 10593 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)           | The second secon | 8.74 | ± 9.6 %  |
| 10594 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)           | WLAN   | 8.74 | ± 9.6 %  |
| 10595 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)           | WLAN   |      |  |
| 10596 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)           | WLAN   | 8.71 | ± 9.6 %  |
| 10597 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)           | WLAN   | 8.72 | ± 9.6 %  |
| 10598 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)           | WLAN   |      | The state of the s |
| 10599 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)           | WLAN   | 8.79 | ± 9.6 %  |
| 10600 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)           | WLAN   | 8.88 | ± 9.6 %  |
| 10601 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)           | WLAN   | 8.82 | ± 9.6 %  |
| 10602 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)           | WLAN   | 8.94 | ± 9.6 %  |
| 10603 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)           | WLAN   | 9.03 | ± 9.6 %  |
| 10604 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)           | WLAN   | 8.76 | ± 9.6 %  |
| 10605 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)           | WLAN   | 8.97 | ± 9.6 %  |
| 10606 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)           | WLAN   | 8.82 | ±9.6 %   |
| 10607 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)               | WLAN   | 8.64 | ± 9.6 %  |
| 10608 | AAC | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)               | WLAN   | 8.77 | ±9.6 %   |
| 10609 | AAC | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)               | WLAN   | 8.57 | ± 9.6 %  |
| 10610 | AAC | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)               | WLAN   | 8.78 | ± 9.6 %  |
| 10611 | AAC | IEEE 802,11ac WiFi (20MHz, MCS4, 90pc dc)               | WLAN   | 8.70 | ± 9.6 %  |
| 10612 | AAC | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)               | WLAN   | 8.77 | ± 9.6 %  |
| 10613 | AAC | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)               | WLAN   | 8.94 | ± 9.6 %  |
| 10614 | AAC | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)               | WLAN   | 8.59 | ± 9.6 %  |
| 10615 | AAC | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)               | WLAN   | 8.82 | ± 9.6 %  |
| 10616 | AAC | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)               | WLAN   | 8.82 | ± 9.6 %  |
| 10617 | AAC | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)               | WLAN   | 8.81 | ± 9.6 %  |
| 10618 | AAC | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)               | WLAN   | 8.58 | ± 9.6 %  |
| 10619 | AAC | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)               | WLAN   | 8.86 | ± 9.6 %  |
| 10620 | AAC | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)               | WLAN   | 8.87 | ± 9.6 %  |
| 10621 | AAC | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)               | WLAN   | 8.77 | ± 9.6 %  |
| 10622 | AAC | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)               | WLAN   | 8.68 | ± 9.6 %  |
| 10623 | AAC | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)               | WLAN   | 8.82 | ± 9.6 %  |
| 10624 | AAC | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)               | WLAN   | 8.96 | ± 9.6 %  |

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| 10625                   | AAC  | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)                                   | WLAN      | 8.96  | ± 9.6 % |
|-------------------------|------|---|-----------|-------|---------|
| 10626                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)                                   | WLAN      | 8.83  | ± 9.6 % |
| 10627                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)                                   | WLAN      | 8.88  | ± 9.6 % |
| 10628                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)                                   | WLAN      | 8.71  | ± 9.6 % |
| 10629                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)                                   | WLAN      | 8.85  | ±9.6%   |
| 10630                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)                                   | WLAN      | 8.72  | ± 9.6 % |
| 10631                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)                                   | WLAN      | 8.81  | ± 9.6 % |
| 10632                   | AAC  | IEEE 802.11ac WiFI (80MHz, MCS6, 90pc dc)                                   | WLAN      | 8.74  | ± 9.6 % |
| 10633                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)                                   | WLAN      | 8.83  | ± 9.6 % |
| 10634                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)                                   | WLAN      | 8.80  | ± 9.6 % |
| 10635                   | AAC  | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)                                   | WLAN      | 8.81  | ± 9.6 % |
| 10636                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)                                  | WLAN      | 8.83  | ±9.6 %  |
| 10637                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)                                  | WLAN      | 8.79  | ± 9.6 % |
| 10638                   | AAC  | IEEE 802.11ac WIFI (160MHz, MCS2, 90pc dc)                                  | WLAN      | 8.86  | ± 9.6 % |
| 10639                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)                                  | WLAN      | 8.85  | ± 9.6 % |
| 10640                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)                                  | WLAN      | 8.98  | ±9.6%   |
| 10641                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)                                  | WLAN      | 9.06  | ± 9.6 % |
| 10642                   | AAC  | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)                                  | WLAN      | 9.06  | ±9.6%   |
|                         | AAC  | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)                                  | WLAN      | 8.89  | ± 9.6 % |
| 10643<br>10644          | AAC  | IEEE 802.11ac WiFi (160MHz, MCSF, 30pc dc)                                  | WLAN      | 9.05  | ± 9.6 % |
|                         | AAC  | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)                                  | WLAN      | 9.11  | ± 9.6 % |
| 10645                   | AAC  | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)                            | LTE-TDD   | 11.96 | ± 9.6 % |
| 10646                   | AAC  | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7)                           | LTE-TDD   | 11.96 | ± 9.6 % |
| 10647                   | AAC  | CDMA2000 (1x Advanced)  | CDMA2000  | 3.45  | ±9.6%   |
|                         | AAC  | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                              | LTE-TDD   | 6.91  | ± 9.6 % |
| 10652                   |      | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                              | LTE-TDD   | 7.42  | ± 9.6 % |
| 10653                   | AAC  | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                             | LTE-TDD   | 6.96  | ± 9.6 % |
| 10654                   | AAC  | LTE-TDD (OFDMA, 13 MHz, E-TM 3.1, Clipping 44%)                             | LTE-TDD   | 7.21  | ± 9.6 % |
| 10655<br>10658          | AAC  | Pulse Waveform (200Hz, 10%)   | Test      | 10.00 | ± 9.6 % |
|                         | AAC  | Pulse Waveform (200Hz, 10%)   | Test      | 6.99  | ± 9.6 % |
| 10659                   | AAC  | Pulse Waveform (200Hz, 40%)   | Test      | 3.98  | ± 9.6 % |
| 10660                   | AAC  | Pulse Waveform (200Hz, 40%)  Pulse Waveform (200Hz, 60%)                    | Test      | 2.22  | ±9.6%   |
| 10661<br>10662          | AAC  | Pulse Waveform (200Hz, 80%)   | Test      | 0.97  | ± 9.6 % |
| 10670                   | AAC  | Bluetooth Low Energy  | Bluetooth | 2.19  | ± 9.6 % |
| 10670                   | AAD  | IEEE 802.11ax (20MHz, MCS0, 90pc dc)  | WLAN      | 9.09  | ±9.6 %  |
| 10671                   | AAD  | IEEE 802.11ax (20MHz, MCS1, 90pc dc)  | WLAN      | 8.57  | ± 9.6 % |
| 10672                   | AAD  | IEEE 802.11ax (20MHz, MCS2, 90pc dc)  | WLAN      | 8.78  | ± 9.6 % |
| 10674                   | AAD  | IEEE 802.11ax (20MHz, MCS3, 90pc dc)  | WLAN      | 8.74  | ± 9.6 % |
| 10674                   | AAD  | IEEE 802.11ax (20MHz, MCS4, 90pc dc)  | WLAN      | 8.90  | ± 9.6 % |
| 10676                   | AAD  | IEEE 802.11ax (20MHz, MCS5, 90pc dc)  | WLAN      | 8.77  | ± 9.6 % |
| 10677                   | AAD  | IEEE 802.11ax (20MHz, MCS6, 90pc dc)  | WLAN      | 8.73  | ± 9.6 % |
| 10678                   | AAD  | IEEE 802.11ax (20MHz, MCS7, 90pc dc)  | WLAN      | 8.78  | ± 9.6 % |
| 10679                   | AAD  | IEEE 802.11ax (20MHz, MCS8, 90pc dc)  | WLAN      | 8.89  | ± 9.6 % |
| 10680                   | AAD  | IEEE 802.11ax (20MHz, MCS9, 90pc dc)  | WLAN      | 8.80  | ±9.6%   |
| 10681                   | AAG  | IEEE 802.11ax (20MHz, MCS10, 90pc dc)                                       | WLAN      | 8.62  | ± 9.6 % |
| 10682                   | AAF  | IEEE 802.11ax (20MHz, MCS11, 90pc dc)                                       | WLAN      | 8.83  | ± 9.6 % |
| 10683                   | AAA  | IEEE 802.11ax (20MHz, MCS0, 99pc dc)  | WLAN      | 8.42  | ± 9.6 % |
| 10684                   | AAC  | IEEE 802.11ax (20MHz, MCS1, 99pc dc)  | WLAN      | 8.26  | ±9.6 %  |
| 10685                   | AAC  | IEEE 802.11ax (20MHz, MCS1, 99pc dc)  | WLAN      | 8.33  | ± 9.6 % |
| 10686                   | AAC  | IEEE 802.11ax (20MHz, MCS3, 99pc dc)  | WLAN      | 8.28  | ± 9.6 % |
| 10687                   | AAE  | IEEE 802.11ax (20MHz, MCS4, 99pc dc)  | WLAN      | 8.45  | ± 9.6 % |
| 10688                   | AAE  | IEEE 802.11ax (20MHz, MCS5, 99pc dc)  | WLAN      | 8.29  | ± 9.6 % |
| 10689                   | AAD  | IEEE 802.11ax (20MHz, MCS6, 99pc dc)  | WLAN      | 8.55  | ± 9.6 % |
| 10690                   | AAE  | IEEE 802.11ax (20MHz, MCS7, 99pc dc)  | WLAN      | 8.29  | ± 9.6 % |
| 10690                   | AAB  | IEEE 802.11ax (20MHz, MCS7, 99pc dc)  | WLAN      | 8.25  | ± 9.6 % |
| 10091                   | AAA  | IEEE 802.11ax (20MHz, MCS9, 99pc dc)  | WLAN      | 8.29  | ± 9.6 % |
| 10000                   | LAMA |   | WLAN      | 8.25  | ± 9.6 % |
|                         |      | LEGE 800 11av (20MHz MCS10 QQnc dc)   |           |       |         |
| 10692<br>10693<br>10694 | AAA  | IEEE 802.11ax (20MHz, MCS10, 99pc dc) IEEE 802.11ax (20MHz, MCS11, 99pc dc) | WLAN      | 8.57  | ± 9.6 % |

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| 10696 | AAA | IEEE 802.11ax (40MHz, MCS1, 90pc dc)   | WLAN | 8.91 | ± 9.6 % |
|-------|-----|--|------|------|---------|
| 10697 | AAA | IEEE 802.11ax (40MHz, MCS2, 90pc dc)   | WLAN | 8.61 | ± 9.6 % |
| 10698 | AAA | IEEE 802.11ax (40MHz, MCS3, 90pc dc)   | WLAN | 8.89 | ± 9.6 % |
| 10699 | AAA | IEEE 802.11ax (40MHz, MCS4, 90pc dc)   | WLAN | 8.82 | ± 9.6 % |
| 10700 | AAA | IEEE 802.11ax (40MHz, MCS5, 90pc dc)   | WLAN | 8.73 | ± 9.6 % |
| 10701 | AAA | IEEE 802.11ax (40MHz, MCS6, 90pc dc)   | WLAN | 8.86 | ± 9.6 % |
| 10702 | AAA | IEEE 802.11ax (40MHz, MCS7, 90pc dc)   | WLAN | 8.70 | ± 9.6 % |
| 10703 | AAA | IEEE 802.11ax (40MHz, MCS8, 90pc dc)   | WLAN | 8.82 | ±9.6 %  |
| 10704 | AAA | IEEE 802.11ax (40MHz, MCS9, 90pc dc)   | WLAN | 8.56 | ± 9.6 % |
| 10705 | AAA | IEEE 802.11ax (40MHz, MCS10, 90pc dc)  | WLAN | 8.69 | ± 9.6 % |
| 10706 | AAC | IEEE 802.11ax (40MHz, MCS11, 90pc dc)  | WLAN | 8.66 | ± 9.6 % |
| 10707 | AAC | IEEE 802.11ax (40MHz, MCS0, 99pc dc)   | WLAN | 8.32 | ±9.6 %  |
| 10708 | AAC | IEEE 802.11ax (40MHz, MCS1, 99pc dc)   | WLAN | 8.55 | ±9.6 %  |
| 10709 | AAC | IEEE 802.11ax (40MHz, MCS2, 99pc dc)   | WLAN | 8.33 | ±9.6%   |
| 10710 | AAC | IEEE 802.11ax (40MHz, MCS3, 99pc dc)   | WLAN | 8.29 | ± 9.6 % |
| 10711 | AAC | IEEE 802.11ax (40MHz, MCS4, 99pc dc)   | WLAN | 8.39 | ± 9.6 % |
| 10712 | AAC | IEEE 802,11ax (40MHz, MCS5, 99pc dc)   | WLAN | 8.67 | ± 9.6 % |
| 10713 | AAC | IEEE 802.11ax (40MHz, MCS6, 99pc dc)   | WLAN | 8.33 | ± 9.6 % |
| 10714 | AAC | IEEE 802.11ax (40MHz, MCS7, 99pc dc)   | WLAN | 8.26 | ±9.6%   |
| 10715 | AAC | IEEE 802.11ax (40MHz, MCS8, 99pc dc)   | WLAN | 8.45 | ± 9.6 % |
| 10716 | AAC | IEEE 802.11ax (40MHz, MCS9, 99pc dc)   | WLAN | 8.30 | ± 9.6 % |
| 10717 | AAC | IEEE 802.11ax (40MHz, MCS10, 99pc dc)  | WLAN | 8.48 | ± 9.6 % |
| 10718 | AAC | IEEE 802.11ax (40MHz, MCS11, 99pc dc)  | WLAN | 8.24 | ± 9.6 % |
| 10719 | AAC | IEEE 802.11ax (80MHz, MCS0, 90pc dc)   | WLAN | 8.81 | ± 9.6 % |
| 10720 | AAC | IEEE 802.11ax (80MHz, MCS1, 90pc dc)   | WLAN | 8.87 | ±9.6 %  |
| 10721 | AAC | IEEE 802.11ax (80MHz, MCS2, 90pc dc)   | WLAN | 8.76 | ± 9.6 % |
| 10722 | AAC | IEEE 802,11ax (80MHz, MCS3, 90pc dc)   | WLAN | 8.55 | ± 9.6 % |
| 10723 | AAC | IEEE 802.11ax (80MHz, MCS4, 90pc dc)   | WLAN | 8.70 | ± 9.6 % |
| 10724 | AAC | IEEE 802.11ax (80MHz, MCS5, 90pc dc)   | WLAN | 8.90 | ± 9.6 % |
| 10725 | AAC | IEEE 802.11ax (80MHz, MCS6, 90pc dc)   | WLAN | 8.74 | ±9.6 %  |
| 10726 | AAC | IEEE 802.11ax (80MHz, MCS7, 90pc dc)   | WLAN | 8.72 | ± 9.6 % |
| 10727 | AAC | IEEE 802,11ax (80MHz, MCS8, 90pc dc)   | WLAN | 8.66 | ± 9.6 % |
| 10728 | AAC | IEEE 802.11ax (80MHz, MCS9, 90pc dc)   | WLAN | 8.65 | ± 9.6 % |
| 10729 | AAC | IEEE 802.11ax (80MHz, MCS10, 90pc dc)  | WLAN | 8.64 | ± 9.6 % |
| 10730 | AAC | IEEE 802.11ax (80MHz, MCS11, 90pc dc)  | WLAN | 8.67 | ± 9.6 % |
| 10731 | AAC | IEEE 802.11ax (80MHz, MCS0, 99pc dc)   | WLAN | 8.42 | ±9.6%   |
| 10732 | AAC | IEEE 802.11ax (80MHz, MCS1, 99pc dc)   | WLAN | 8.46 | ± 9.6 % |
| 10733 | AAC | IEEE 802.11ax (80MHz, MCS2, 99pc dc)   | WLAN | 8.40 | ± 9.6 % |
| 10734 | AAC | IEEE 802.11ax (80MHz, MCS3, 99pc dc)   | WLAN | 8.25 | ± 9.6 % |
| 10735 | AAC | IEEE 802.11ax (80MHz, MCS4, 99pc dc)   | WLAN | 8.33 | ± 9.6 % |
| 10736 | AAC | IEEE 802.11ax (80MHz, MCS5, 99pc dc)   | WLAN | 8.27 | ± 9.6 % |
| 10737 | AAC | IEEE 802.11ax (80MHz, MCS6, 99pc dc)   | WLAN | 8.36 | ± 9.6 % |
| 10738 | AAC | IEEE 802.11ax (80MHz, MCS7, 99pc dc)   | WLAN | 8.42 | ± 9.6 % |
| 10739 | AAC | IEEE 802.11ax (80MHz, MCS8, 99pc dc)   | WLAN | 8.29 | ± 9.6 % |
| 10740 | AAC | IEEE 802.11ax (80MHz, MCS9, 99pc dc)   | WLAN | 8.48 | ± 9.6 % |
| 10741 | AAC | IEEE 802.11ax (80MHz, MCS10, 99pc dc)  | WLAN | 8.40 | ± 9.6 % |
| 10742 | AAC | IEEE 802.11ax (80MHz, MCS11, 99pc dc)  | WLAN | 8.43 | ±9.6 %  |
| 10743 | AAC | IEEE 802.11ax (160MHz, MCS0, 90pc dc)  | WLAN | 8.94 | ± 9.6 % |
| 10744 | AAC | IEEE 802.11ax (160MHz, MCS1, 90pc dc)  | WLAN | 9.16 | ±9,6%   |
| 10745 | AAC | IEEE 802.11ax (160MHz, MCS2, 90pc dc)  | WLAN | 8.93 | ± 9.6 % |
| 10746 | AAC | IEEE 802.11ax (160MHz, MCS3, 90pc dc)  | WLAN | 9.11 | ± 9.6 % |
| 10747 | AAC | IEEE 802,11ax (160MHz, MCS4, 90pc dc)  | WLAN | 9.04 | ± 9.6 % |
| 10748 | AAC | IEEE 802.11ax (160MHz, MCS5, 90pc dc)  | WLAN | 8.93 | ± 9.6 % |
| 10749 | AAC | IEEE 802.11ax (160MHz, MCS6, 90pc dc)  | WLAN | 8.90 | ± 9.6 % |
| 10750 | AAC | IEEE 802.11ax (160MHz, MCS7, 90pc dc)  | WLAN | 8.79 | ± 9.6 % |
| 10751 | AAC | IEEE 802.11ax (160MHz, MCS8, 90pc dc)  | WLAN | 8.82 | ± 9.6 % |
| 10752 | AAC | IEEE 802.11ax (160MHz, MCS9, 90pc dc)  | WLAN | 8.81 | ± 9.6 % |
| 10753 | AAC | IEEE 802.11ax (160MHz, MCS10, 90pc dc) | WLAN | 9.00 | ± 9.6 % |
| 10754 | AAC | IEEE 802.11ax (160MHz, MCS11, 90pc dc) | WLAN | 8.94 | ± 9.6 % |

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| 10755 | AAC | IEEE 802.11ax (160MHz, MCS0, 99pc dc)          | WLAN          | 8.64 | ± 9.6 % |
|-------|-----|--|---------------|------|---------|
| 10756 | AAC | IEEE 802.11ax (160MHz, MCS1, 99pc dc)          | WLAN          | 8.77 | ± 9.6 % |
| 10757 | AAC | IEEE 802,11ax (160MHz, MCS2, 99pc dc)          | WLAN          | 8.77 | ± 9.6 % |
| 10758 | AAC | IEEE 802.11ax (160MHz, MCS3, 99pc dc)          | WLAN          | 8.69 | ± 9.6 % |
| 10759 | AAC | IEEE 802.11ax (160MHz, MCS4, 99pc dc)          | WLAN          | 8.58 | ± 9.6 % |
| 10760 | AAC | IEEE 802.11ax (160MHz, MCS5, 99pc dc)          | WLAN          | 8.49 | ± 9.6 % |
| 10761 | AAC | IEEE 802.11ax (160MHz, MCS6, 99pc dc)          | WLAN          | 8.58 | ±9.6 %  |
| 10762 | AAC | IEEE 802.11ax (160MHz, MCS7, 99pc dc)          | WLAN          | 8.49 | ± 9.6 % |
| 10763 | AAC | IEEE 802.11ax (160MHz, MCS8, 99pc dc)          | WLAN          | 8.53 | ±9.6%   |
| 10764 | AAC | IEEE 802.11ax (160MHz, MCS9, 99pc dc)          | WLAN          | 8.54 | ± 9.6 % |
| 10765 | AAC | IEEE 802,11ax (160MHz, MCS10, 99pc dc)         | WLAN          | 8.54 | ± 9.6 % |
| 10766 | AAC | IEEE 802.11ax (160MHz, MCS11, 99pc dc)         | WLAN          | 8.51 | ±9.6 %  |
| 10767 | AAC | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 7.99 | ± 9.6 % |
| 10768 | AAC | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10769 | AAC | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01 | ±9.6 %  |
| 10770 | AAC | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10771 | AAC | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ±9.6 %  |
| 10772 | AAC | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.23 | ±9.6 %  |
| 10773 | AAC | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.03 | ±9.6 %  |
| 10774 | AAC | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10775 | AAC | 5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10776 | AAC | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10777 | AAC | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8,30 | ± 9.6 % |
| 10778 | AAC | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10779 | AAC | 5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.42 | ± 9.6 % |
| 10780 | AAC | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38 | ±9.6 %  |
| 10781 | AAC | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38 | ± 9.6 % |
| 10782 | AAC | 5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.43 | ± 9.6 % |
| 10783 | AAC | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10784 | AAC | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.29 | ± 9.6 % |
| 10785 | AAC | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10786 | AAC | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10787 | AAC | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.44 | ± 9.6 % |
| 10788 | AAC | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10789 | AAC | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10790 | AAC | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10791 | AAC | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.83 | ± 9.6 % |
| 10792 | AAC | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.92 | ±9.6 %  |
| 10793 | AAC | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.95 | ± 9.6 % |
| 10794 | AAC | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10795 | AAC | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.84 | ± 9.6 % |
| 10796 | AAC | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10797 | AAC | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 8.01 | ±9.6%   |
| 10798 | AAC | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10799 | AAC | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10801 | AAC | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10802 | AAC | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.87 | ± 9.6 % |
| 10803 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10805 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.37 | ±9.6 %  |
| 10809 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34 | ±9.6%   |
| 10810 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34 | ±9.6 %  |
| 10812 | AAD | 5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10817 | AAD | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10818 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10819 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.33 | ± 9.6 % |
| 10820 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10821 | AAC | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz) |               |      |         |
| 10822 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |

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| 10823 | AAC                      | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 8.36 | ± 9.6 % |
|-------|--------------------------|--|--|------|---------|
| 10824 | AAD                      | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 8.39 | ± 9.6 % |
| 10825 | AAD                      | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 8.41 | ± 9.6 % |
| 10827 | AAD                      | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 8.42 | ± 9.6 % |
| 10828 | AAE                      | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 8.43 | ±9.6 %  |
| 10829 | AAD                      | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD  | 8.40 | ± 9.6 % |
| 10830 | AAD                      | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.63 | ± 9.6 % |
| 10831 | AAD                      | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.73 | ± 9.6 % |
| 10832 | AAD                      | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.74 | ± 9.6 % |
| 10833 | AAD                      | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.70 | ± 9.6 % |
|       | AAD                      | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.75 | ± 9.6 % |
| 10834 |                          | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.70 | ± 9.6 % |
| 10835 | AAD                      |  | 5G NR FR1 TDD  | 7.66 | ± 9.6 % |
| 10836 | AAE                      | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.68 | ± 9.6 % |
| 10837 | AAD                      | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.70 | ± 9.6 % |
| 10839 | AAD                      | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)          |  | 7.67 | ± 9.6 % |
| 10840 | AAD                      | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD  | 7.71 | ± 9.6 % |
| 10841 | AAD                      | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)         | 5G NR FR1 TDD  |      |         |
| 10843 | AAD                      | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD  | 8.49 | ± 9.6 % |
| 10844 | AAD                      | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD  | 8.34 | ± 9.6 % |
| 10846 | AAD                      | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD  | 8.41 | ± 9.6 % |
| 10854 | AAD                      | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.34 | ± 9.6 % |
| 10855 | AAD                      | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.36 | ± 9.6 % |
| 10856 | AAD                      | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.37 | ± 9.6 % |
| 10857 | AAD                      | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.35 | ± 9.6 % |
| 10858 | AAD                      | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.36 | ± 9.6 % |
| 10859 | AAD                      | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.34 | ±9.6%   |
| 10860 | AAD                      | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.41 | ± 9.6 % |
| 10861 | AAD                      | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.40 | ± 9.6 % |
| 10863 | AAD                      | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.41 | ±9.69   |
|       | The second second second | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD  | 8.37 | ± 9.6 % |
| 10864 | AAE                      |  | 5G NR FR1 TDD  | 8.41 | ± 9.6 % |
| 10865 | AAD                      | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)      | 5G NR FR1 TDD  | 5.68 | ± 9.6 9 |
| 10866 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD  | 5.89 | ± 9.6 % |
| 10868 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR2 TDD  | 5.75 | ± 9.6 % |
| 10869 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)     |  | 5.86 | ± 9.6 % |
| 10870 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)  | 5G NR FR2 TDD  |      |         |
| 10871 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD  | 5.75 | ±9.69   |
| 10872 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD  | 6.52 | ± 9.6 % |
| 10873 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD  | 6,61 | ± 9.6 % |
| 10874 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) |  | 6.65 | ± 9.6 9 |
| 10875 | AAD                      | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)        | 5G NR FR2 TDD  | 7.78 | ± 9.6 9 |
| 10876 | AAD                      | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD  | 8.39 | ± 9.6 9 |
| 10877 | AAD                      | 5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)       | 5G NR FR2 TDD  | 7.95 | ± 9.6 % |
| 10878 | AAD                      | 5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD  | 8.41 | ± 9.6 9 |
| 10879 | AAD                      | 5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)       | 5G NR FR2 TDD  | 8.12 | ± 9.6 9 |
| 10880 | AAD                      | 5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD  | 8.38 | ± 9.6 9 |
| 10881 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD  | 5.75 | ± 9.6 9 |
| 10882 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)   | 5G NR FR2 TDD  | 5.96 | ± 9.6   |
| 10883 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)  | 5G NR FR2 TDD  | 6.57 | ± 9.6   |
|       | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 KHz)     | 5G NR FR2 TDD  | 6.53 | ± 9.6   |
| 10884 |                          |  | 5G NR FR2 TDD  | 6.61 | ± 9.6   |
| 10885 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD  | 6.65 | ± 9.6   |
| 10886 | AAD                      | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)  | THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAME |      |         |
| 10887 | AAD                      | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)         | 5G NR FR2 TDD  | 7.78 | ± 9.6   |
| 10888 | AAD                      | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD  | 8.35 | ± 9.6   |
| 10889 | AAD                      | 5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)        | 5G NR FR2 TDD  | 8.02 | ± 9.6   |
| 10890 | AAD                      | 5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD  | 8.40 | ± 9.6   |
| 10891 | AAD                      | 5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)        | 5G NR FR2 TDD  | 8.13 | ± 9.6   |
| 10892 | AAD                      | 5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD  | 8.41 | ± 9.6 9 |
| 10897 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)        | 5G NR FR1 TDD  | 5.66 | ± 9.6   |
| 10898 | AAD                      | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD  | 5.67 | ± 9.6 9 |







| 10899 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.67 | ± 9.6 % |
|-------|-----|--|---------------|------|---------|
| 10900 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10901 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10902 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ±9.6 %  |
| 10903 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ±9.6%   |
| 10904 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10905 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10906 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10907 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.78 | ±9.6%   |
| 10908 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.93 | ± 9.6 % |
| 10909 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.96 | ± 9.6 % |
| 10910 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10911 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.93 | ±9.6 %  |
| 10912 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10913 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10914 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.85 | ±9.6%   |
| 10915 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10916 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.87 | ± 9.6 % |
| 10917 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.94 | ± 9.6 % |
| 10918 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10919 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10920 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.87 | ±9.6 %  |
| 10921 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10922 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.82 | ± 9.6 % |
| 10923 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10924 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10925 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5,95 | ± 9.6 % |
| 10926 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10927 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 5.94 | ± 9.6 % |
| 10928 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10929 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10930 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10931 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.51 | ±9.6%   |
| 10932 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.51 | ±9.6 %  |
| 10933 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10934 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.51 | ±9.6 %  |
| 10935 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.90 | ±9.6 %  |
| 10937 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.77 | ± 9.6 % |
| 10938 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.90 | ± 9.6 % |
| 10939 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.82 | ± 9.6 % |
| 10940 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.89 | ± 9.6 % |
| 10941 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.83 | ± 9.6 % |
| 10942 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.85 | ± 9.6 % |
| 10943 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.95 | ± 9.6 % |
| 10944 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.81 | ± 9.6 % |
| 10945 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.85 | ± 9.6 % |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.83 | ± 9.6 % |
| 10947 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.87 | ± 9.6 % |
| 10948 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.94 | ± 9.6 % |
| 10949 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.87 | ± 9.6 % |
| 10950 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.94 | ± 9.6 % |
| 10951 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)  | 5G NR FR1 FDD | 5.92 | ± 9.6 % |
| 10952 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.25 | ± 9.6 % |
| 10953 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.15 | ± 9.6 % |
| 10954 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.23 | ±9.6 %  |
| 10955 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.42 | ± 9.6 % |
| 10956 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.14 | ± 9.6 % |
| 10957 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.31 | ± 9.6 % |

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| 10958 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.61  | ± 9.6 % |
|-------|-----|---|---------------|-------|---------|
| 10959 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.33  | ±9.6%   |
| 10960 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 TDD | 9.32  | ± 9.6 % |
| 10961 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.36  | ± 9.6 % |
| 10962 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.40  | ± 9.6 % |
| 10963 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.55  | ± 9.6 % |
| 10964 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 TDD | 9.29  | ± 9.6 % |
| 10965 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.37  | ±9.6 %  |
| 10966 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.55  | ±9.6 %  |
| 10967 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.42  | ± 9.6 % |
| 10968 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.49  | ±9.6%   |
| 10972 | AAB | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)         | 5G NR FR1 TDD | 11.59 | ± 9.6 % |
| 10973 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 9.06  | ± 9.6 % |
| 10974 | AAB | 5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.28 | ± 9.6 % |
| 10978 | AAA | ULLABOR   | ULLA          | 1.16  | ± 9.6 % |
| 10979 | AAA | ULLA HDR4   | ULLA          | 8.58  | ± 9.6 % |
| 10980 | AAA | ULLA HDR8   | ULLA          | 10.32 | ± 9.6 % |
| 10981 | AAA | ULLA HDRp4  | ULLA          | 3.19  | ± 9.6 % |
| 10982 | AAA | ULLA HDRp8  | ULLA          | 3.43  | ± 9.6 % |
| 10983 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.31  | ± 9.6 % |
| 10984 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.42  | ± 9.6 % |
| 10985 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.54  | ± 9.6 % |
| 10986 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.50  | ± 9.6 % |
| 10987 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.53  | ± 9.6 % |
| 10988 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.38  | ± 9.6 % |
| 10989 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.33  | ± 9.6 % |
| 10990 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.52  | ± 9.6 % |
| 11003 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 10.24 | ± 9.6 % |
| 11004 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.73 | ± 9.6 % |
| 11005 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.70  | ±9.6%   |
| 11006 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.55  | ± 9.6 % |
| 11007 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.46  | ±9.6 %  |
| 11008 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.51  | ± 9.6 % |
| 11009 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.76  | ± 9.6 % |
| 11010 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.95  | ±9.6 %  |
| 11011 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.96  | ± 9.6 % |
| 11012 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.68  | ± 9.6 % |
| 11013 | AAA | IEEE 802.11be (320MHz, MCS1, 99pc duty cycle)       | WLAN          | 8.47  | ± 9.6 % |
| 11014 | AAA | IEEE 802.11be (320MHz, MCS2, 99pc duty cycle)       | WLAN          | 8.45  | ± 9.6 % |
| 11015 | AAA | IEEE 802.11be (320MHz, MCS3, 99pc duty cycle)       | WLAN          | 8.44  | ± 9.6 % |
| 11016 | AAA | IEEE 802.11be (320MHz, MCS4, 99pc duty cycle)       | WLAN          | 8.44  | ± 9.6 % |
| 11017 | AAA | IEEE 802.11be (320MHz, MCS5, 99pc duty cycle)       | WLAN          | 8.41  | ±9.6 %  |
| 11018 | AAA | IEEE 802.11be (320MHz, MCS6, 99pc duty cycle)       | WLAN          | 8.40  | ± 9.6 % |
| 11019 | AAA | IEEE 802.11be (320MHz, MCS7, 99pc duty cycle)       | WLAN          | 8.29  | ± 9.6 % |
| 11020 | AAA | IEEE 802.11be (320MHz, MCS8, 99pc duty cycle)       | WLAN          | 8.27  | ± 9.6 % |
| 11021 | AAA | IEEE 802.11be (320MHz, MCS9, 99pc duty cycle)       | WLAN          | 8.46  | ± 9.6 % |
| 11022 | AAA | IEEE 802.11be (320MHz, MCS10, 99pc duty cycle)      | WLAN          | 8.36  | ± 9.6 % |
| 11023 | AAA | IEEE 802.11be (320MHz, MCS11, 99pc duty cycle)      | WLAN          | 8.09  | ± 9.6 % |
| 11024 | AAA | IEEE 802 11be (320MHz, MCS12, 99pc duty cycle)      | WLAN          | 8.42  | ± 9.6 % |
| 11025 | AAA | IEEE 802.11be (320MHz, MCS13, 99pc duty cycle)      | WLAN          | 8.37  | ± 9.6 % |
| 11026 | AAA | IEEE 802.11be (320MHz, MCS0, 99pc duty cycle)       | WLAN          | 8.39  | ± 9.6 % |

E Uncertainty is determined using the max, deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Certificate No:J23Z60349

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# **ANNEX I: Dipole Calibration Certificate**

#### 2450MHz Dipole



#### SAICT Certificate No: Z21-60358 Client **CALIBRATION CERTIFICATE** Object D2450V2 - SN: 873 Calibration Procedure(s) FF-Z11-003-01 Calibration Procedures for dipole validation kits Calibration date: October 21, 2021 This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards       | ID#        | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|-------------------------|------------|---|-----------------------|
| Power Meter NRP2        | 106277     | 24-Sep-21 (CTTL, No.J21X08326)            | Sep-22                |
| Power sensor NRP8S      | 104291     | 24-Sep-21 (CTTL, No.J21X08326)            | Sep-22                |
| Reference Probe EX3DV4  | SN 7517    | 03-Feb-21(CTTL-SPEAG.No.Z21-60001)        | Feb-22                |
| DAE4                    | SN 1556    | 15-Jan-21(SPEAG,No.DAE4-1556_Jan21)       | Jan-22                |
| Secondary Standards     | ID#        | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
| Signal Generator E4438C | MY49071430 | 01-Feb-21 (CTTL, No.J21X00593)            | Jan-22                |
| NetworkAnalyzer E5071C  | MY46110673 | 14-Jan-21 (CTTL, No.J21X00232)            | Jan-22                |
|                         |            |   |                       |

|                | Name        | Function           | Signature              |
|----------------|-------------|--------------------|------------------------|
| Calibrated by: | Zhao Jing   | SAR Test Engineer  | 是第一                    |
| Reviewed by:   | Lin Hao     | SAR Test Engineer  | 一带洛                    |
| Approved by:   | Qi Dianyuan | SAR Project Leader | 20                     |
|                |             | Iss                | sued: October 27, 2021 |

Issued: October 27, 2021

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z21-60358



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E-mail: ettl@chinattl.com http://www.chinattl.cn

Glossary:

TSL tissue simulating liquid
ConvF sensitivity in TSL / NORMx,y,z
N/A not applicable or not measured

#### Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

#### Additional Documentation:

e) DASY4/5 System Handbook

#### Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end
  of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
  point exactly below the center marking of the flat phantom section, with the arms oriented
  parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole
  positioned under the liquid filled phantom. The impedance stated is transformed from the
  measurement at the SMA connector to the feed point. The Return Loss ensures low
  reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point.
   No uncertainty required.
- · SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

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#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

| DASY Version                 | DASY52                   | V52.10.4    |
|------------------------------|--------------------------|-------------|
| Extrapolation                | Advanced Extrapolation   |             |
| Phantom                      | Triple Flat Phantom 5.1C |             |
| Distance Dipole Center - TSL | 10 mm                    | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm        |             |
| Frequency                    | 2450 MHz ± 1 MHz         |             |

#### Head TSL parameters

The following parameters and calculations were applied.

|   | Temperature     | Permittivity | Conductivity     |
|---|-----------------|--------------|------------------|
| Nominal Head TSL parameters             | 22.0 °C         | 39.2         | 1.80 mho/m       |
| Measured Head TSL parameters            | (22.0 ± 0.2) °C | 39.5 ± 6 %   | 1.81 mho/m ± 6 % |
| Head TSL temperature change during test | <1.0 °C         |              |                  |

#### SAR result with Head TSL

| SAR averaged over 1 cm3 (1 g) of Head TSL            | Condition          |                          |
|--|--------------------|--------------------------|
| SAR measured   | 250 mW input power | 13.3 W/kg                |
| SAR for nominal Head TSL parameters                  | normalized to 1W   | 53.2 W/kg ± 18.8 % (k=2) |
| SAR averaged over 10 ${\it cm}^3$ (10 g) of Head TSL | Condition          |                          |
| SAR measured   | 250 mW input power | 6.05 W/kg                |
| SAR for nominal Head TSL parameters                  | normalized to 1W   | 24.2 W/kg ± 18.7 % (k=2) |



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### Appendix (Additional assessments outside the scope of CNAS L0570)

#### Antenna Parameters with Head TSL

| Impedance, transformed to feed point | 53.6Ω+ 1.26jΩ |  |
|--------------------------------------|---------------|--|
| Return Loss                          | - 28.8dB      |  |

#### General Antenna Parameters and Design

| Electrical Delay (one direction) | 1.066 ns |
|----------------------------------|----------|
|                                  |          |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard. No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### Additional EUT Data

| Manufactured by | SPEAG |
|-----------------|-------|
|                 |       |

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#### DASY5 Validation Report for Head TSL

Date: 10.21,2021

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 873

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1 Medium parameters used: f = 2450 MHz;  $\sigma = 1.809$  S/m;  $\epsilon_r = 39.51$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 SN7517; ConvF(7.34, 7.34, 7.34) @ 2450 MHz; Calibrated: 2021-02-03
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2021-01-15
- Phantom: MFP\_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Dipole Calibration**/Zoom Scan (7x7x7) (7x7x7)/Cube 0; Measurement grid: dx=5mm,

dy=5mm, dz=5mm

Reference Value = 108.0 V/m; Power Drift = -0.03 dB

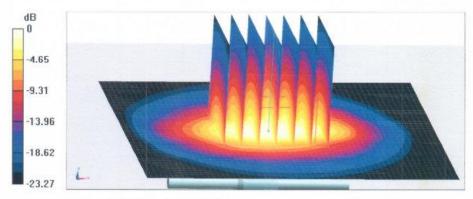
Peak SAR (extrapolated) = 28.0 W/kg

SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.05 W/kg

Smallest distance from peaks to all points 3 dB below = 9.2 mm

Ratio of SAR at M2 to SAR at M1 = 46.9%

Maximum value of SAR (measured) = 22.6 W/kg



0 dB = 22.6 W/kg = 13.54 dBW/kg

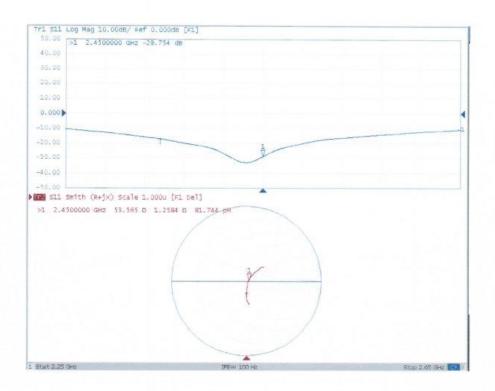
Certificate No: Z21-60358

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#### Impedance Measurement Plot for Head TSL



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#### **5GHz Dipole**







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SAICT Client

Certificate No:

Z22-60336

#### CALIBRATION CERTIFICATE

Object

D5GHzV2 - SN: 1238

Calibration Procedure(s)

FF-Z11-003-01

Calibration Procedures for dipole validation kits

Calibration date:

August 17, 2022

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards       | ID#        | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|-------------------------|------------|---|-----------------------|
| Power Meter NRP2        | 106277     | 24-Sep-21 (CTTL, No.J21X08326)            | Sep-22                |
| Power sensor NRP8S      | 104291     | 24-Sep-21 (CTTL, No.J21X08326)            | Sep-22                |
| Reference Probe EX3DV4  | SN 7464    | 26-Jan-22(SPEAG,No.EX3-7464_Jan22)        | Jan-23                |
| DAE4                    | SN 1556    | 12-Jan-22(CTTL-SPEAG,No.Z22-60007)        | Jan-23                |
| Secondary Standards     | ID#        | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
| Signal Generator E4438C | MY49071430 | 13-Jan-22 (CTTL, No. J22X00409)           | Jan-23                |
| Network Analyzer E5071C | MY46110673 | 14-Jan-22 (CTTL, No.J22X00406)            | Jan-23                |

|                | Name        | Function           | Signature |
|----------------|-------------|--------------------|-----------|
| Calibrated by: | Zhao Jing   | SAR Test Engineer  | 杨         |
| Reviewed by:   | Lin Hao     | SAR Test Engineer  | #%        |
| Approved by:   | Qi Dianyuan | SAR Project Leader | do        |

Issued: August 23, 2022

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z22-60336

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Glossary:

TSL tissue simulating liquid

ConvF sensitivity in TSL / NORMx,y,z N/A not applicable or not measured

### Calibration is Performed According to the Following Standards:

- a) IEC/IEEE 62209-1528, "Measurement Procedure for The Assessment of Specific Absorption Rate of Human Exposure to Radio Frequency Fields from Hand-held and Body-mounted Wireless Communication Devices- Part 1528: Human Models, Instrumentation and Procedures (Frequency range of 4 MHz to 10 GHz)", October 2020
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

#### **Additional Documentation:**

c) DASY4/5 System Handbook

#### Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end
  of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
  point exactly below the center marking of the flat phantom section, with the arms oriented
  parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole
  positioned under the liquid filled phantom. The impedance stated is transformed from the
  measurement at the SMA connector to the feed point. The Return Loss ensures low
  reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point.
   No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

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### No. 24B01N000863-001-SAR





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#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1. **DASY Version** DASY52 52.10.4 Extrapolation Advanced Extrapolation Phantom Triple Flat Phantom 5.1C Distance Dipole Center - TSL 10 mm with Spacer Zoom Scan Resolution dx, dy = 4 mm, dz = 1.4 mm Graded Ratio = 1.4 (Z direction) 5250 MHz ±1 MHz Frequency 5600 MHz ±1 MHz 5750 MHz ± 1 MHz

Head TSL parameters at 5250MHz

The following parameters and calculations were applied.

|   | Temperature    | Permittivity | Conductivity    |
|---|----------------|--------------|-----------------|
| Nominal Head TSL parameters             | 22.0 ℃         | 35.9         | 4.71 mho/m      |
| Measured Head TSL parameters            | (22.0 ±0.2) °C | 36.3 ±6 %    | 4.64 mho/m ±6 % |
| Head TSL temperature change during test | <1.0 ℃         |              | 7 <u>222</u>    |

#### SAR result with Head TSL at 5250MHz

| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL   | Condition          |                         |
|---|--------------------|-------------------------|
| SAR measured  | 100 mW input power | 7.95 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 79.7 W/kg ±24.4 % (k=2) |
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | Condition          |                         |
| SAR measured  | 100 mW input power | 2.27 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 22.8 W/kg ±24.2 % (k=2) |

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Head TSL parameters at 5600MHz

|   | Temperature    | Permittivity | Conductivity    |
|---|----------------|--------------|-----------------|
| Nominal Head TSL parameters             | 22.0 ℃         | 35.5         | 5.07 mho/m      |
| Measured Head TSL parameters            | (22.0 ±0.2) °C | 35.2 ±6 %    | 5.01 mho/m ±6 % |
| Head TSL temperature change during test | <1.0 ℃         |              |                 |

#### SAR result with Head TSL at 5600MHz

| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL   | Condition          |                         |
|---|--------------------|-------------------------|
| SAR measured  | 100 mW input power | 8.28 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 82.6 W/kg ±24.4 % (k=2) |
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | Condition          |                         |
| SAR measured  | 100 mW input power | 2.37 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 23.6 W/kg ±24.2 % (k=2) |

Head TSL parameters at 5750MHz

The following parameters and calculations were applied.

|   | Temperature    | Permittivity | Conductivity    |
|---|----------------|--------------|-----------------|
| Nominal Head TSL parameters             | 22.0 ℃         | 35.4         | 5,22 mho/m      |
| Measured Head TSL parameters            | (22.0 ±0.2) °C | 35,0 ±6 %    | 5.18 mho/m ±6 % |
| Head TSL temperature change during test | <1.0 ℃         | _            |                 |

#### SAR result with Head TSL at 5750MHz

| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL   | Condition          |                         |
|---|--------------------|-------------------------|
| SAR measured  | 100 mW input power | 7.87 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 78.5 W/kg ±24.4 % (k=2) |
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | Condition          |                         |
| SAR measured  | 100 mW input power | 2.22 W/kg               |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 22.1 W/kg ±24.2 % (k=2) |

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#### Appendix (Additional assessments outside the scope of CNAS L0570)

#### Antenna Parameters with Head TSL at 5250MHz

| Impedance, transformed to feed point | 48.4Ω- 3.36jΩ |  |
|--------------------------------------|---------------|--|
| Return Loss                          | - 28.5dB      |  |

#### Antenna Parameters with Head TSL at 5600MHz

| Impedance, transformed to feed point | 50.8Ω+ 2.69jΩ |  |
|--------------------------------------|---------------|--|
| Return Loss                          | - 31.1dB      |  |

#### Antenna Parameters with Head TSL at 5750MHz

| Impedance, transformed to feed point | 53.5Ω+ 2.34jΩ |  |  |
|--------------------------------------|---------------|--|--|
| Return Loss                          | - 27.9dB      |  |  |

#### General Antenna Parameters and Design

| 19- |                                  |          |  |
|-----|----------------------------------|----------|--|
|     | Electrical Delay (one direction) | 1.098 ns |  |

After long term use with 100W radiated power, only a slight warming of the dipole near the feed-point can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feed-point may be damaged.

#### Additional EUT Data

| Manufactured by | SPEAG |
|-----------------|-------|
|                 |       |

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Date: 2022-08-17







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DASY5 Validation Report for Head TSL Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1238

Communication System: CW; Frequency: 5250 MHz, Frequency: 5600 MHz,

Frequency: 5750 MHz Duty Cycle: 1:1

Medium parameters used: f = 5250 MHz;  $\sigma$  = 4.643 S/m;  $\epsilon_r$  = 36.34;  $\rho$  = 1000 kg/m³ Medium parameters used: f = 5600 MHz;  $\sigma$  = 5.006 S/m;  $\epsilon_r$  = 35.17;  $\rho$  = 1000 kg/m³ Medium parameters used: f = 5750 MHz;  $\sigma$  = 5.18 S/m;  $\epsilon_r$  = 34.96;  $\rho$  = 1000 kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: EX3DV4 - SN7464; ConvF(5.43, 5.43, 5.43) @ 5250 MHz;
 ConvF(4.91, 4.91) @ 5600 MHz; ConvF(4.85, 4.85, 4.85) @ 5750 MHz;
 Calibrated: 2022-01-26

- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2022-01-12
- Phantom: MFP\_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration /Pin=100mW, d=10mm, f=5250 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 67.66 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 31.9 W/kg

SAR(1 g) = 7.95 W/kg; SAR(10 g) = 2.27 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 65.1%

Maximum value of SAR (measured) = 18.8 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 68.44 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 35.2 W/kg

SAR(1 g) = 8.28 W/kg; SAR(10 g) = 2.37 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 63.5%

Maximum value of SAR (measured) = 20.1 W/kg

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Dipole Calibration /Pin=100mW, d=10mm, f=5750 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.17 V/m; Power Drift = -0.09 dB

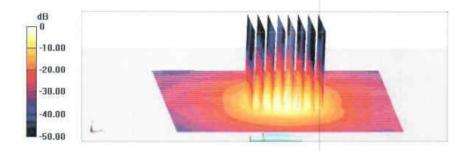
Peak SAR (extrapolated) = 35.8 W/kg

SAR(1 g) = 7.87 W/kg; SAR(10 g) = 2.22 W/kg

Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 61.3%

Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.88 dBW/kg

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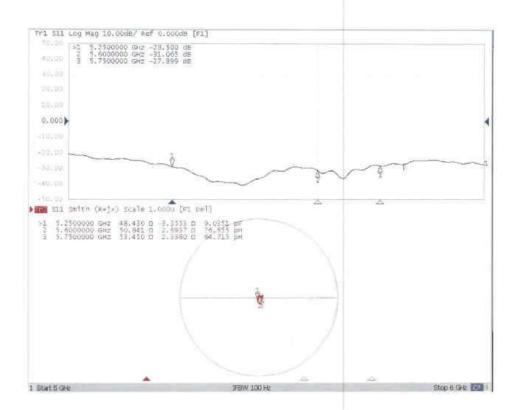
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#### Impedance Measurement Plot for Head TSL



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# **ANNEX J: Extended Calibration SAR Dipole**

Referring to KDB865664 D01, if dipoles are verified in return loss (<-20dBm, within 20% of prior calibration), and in impedance (within 5 ohm of prior calibration), the annual calibration is not necessary and the calibration interval can be extended.

Justification of Extended Calibration SAR Dipole D2450V2 - SN: 873

| Head                   |                     |           |                            |                |                                  |                 |
|------------------------|---------------------|-----------|----------------------------|----------------|----------------------------------|-----------------|
| Date of<br>Measurement | Return-Loss<br>(dB) | Delta (%) | Real<br>Impedance<br>(ohm) | Delta<br>(ohm) | Imaginary<br>Impedance<br>(johm) | Delta<br>(johm) |
| 2021/10/21             | -28.8               | 1         | 53.6                       | 1              | 1.26                             | /               |
| 2022/10/20             | -28.1               | 2.4       | 54.9                       | 1.3            | 1.43                             | 0.17            |
| 2023/10/20             | -27.4               | 4.9       | 55.8                       | 2.2            | 1.52                             | 0.26            |

Justification of Extended Calibration SAR Dipole D5GHzV2 - SN: 1238

|                        |                     | ·         | Head                       |                |                                  |                 |
|------------------------|---------------------|-----------|----------------------------|----------------|----------------------------------|-----------------|
| Date of<br>Measurement | Return-Loss<br>(dB) | Delta (%) | Real<br>Impedance<br>(ohm) | Delta<br>(ohm) | Imaginary<br>Impedance<br>(johm) | Delta<br>(johm) |
|                        |                     | 5         | 250MHz                     |                |                                  |                 |
| 2022/8/17              | -28.5               | 1         | 48.4                       | /              | -3.36                            | /               |
| 2023/8/17              | -27.6               | 3.2       | 49.5                       | 1.1            | -3.18                            | 0.18            |
|                        |                     | 5         | 600MHz                     |                |                                  |                 |
| 2022/8/17              | -31.1               | 1         | 50.8                       | /              | 2.69                             | /               |
| 2023/8/17              | -30.3               | 2.6       | 52.2                       | 1.4            | 2.88                             | 0.19            |
|                        | 5750MHz             |           |                            |                |                                  |                 |
| 2022/8/17              | -27.9               | /         | 53.5                       | 1              | 2.34                             | /               |
| 2023/8/17              | -27.1               | 2.9       | 55.1                       | 1.6            | 2.45                             | 0.11            |

The Return-Loss is <-20dB, and within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the value result should support extended cabration.

\*\*\*END OF REPORT\*\*\*