**DEKRA Testing and Certification (Suzhou) Co., Ltd.**
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098

Test report No:
2390387R-RF-US-P03V01

# SAR TEST REPORT

| | |
|---|---|
| Product Name | POS |
| Trademark | Elo |
| Model and /or type reference | EMC-M100C |
| FCC ID | RBWEMCM100C |
| IC | 10757B-EMCM100C |
| Applicant´s name / address | Elo Touch Solutions, Inc<br>670 N. McCarthy Blvd., Suite 100, Milpitas, CA 95035, USA. |
| Test method requested, standard | FCC 47CFR §2.1093<br>IEEE Std 1528-2013<br>EN IEC/IEEE 62209-1528:2021<br>ANSI C95.1-2005<br>RSS-102 Measurement (SAR) Issue 5: 2015 |
| Highest Measurement SAR<br>1g SAR (W/kg) | MAX SAR: **1.258** W/kg |
| Highest Simultaneous Transmission<br>1g SAR (W/kg) | MAX SAR: **1.590** W/kg |
| Verdict Summary | IN COMPLIANCE |
| Tested by (name / position & signature) | Tim Cao/Project Manager |
| Approved by (name / position & signature) | Jack Zhang/Manager |
| Date of issue | 2024-06-07 |
| Report Version | V1.1 |
| Report template No | Template_FCC SAR-RF-V1.0 |

# INDEX

Page

## COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

**IMPORTANT:** No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

## GENERAL CONDITIONS

| | |
|---|---|
| Test Location | No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China |
| Date(receive sample) | Dec. 26, 2023 |
| Date (start test) | Jan. 15, 2024 |
| Date (finish test) | Mar. 15, 2024 |

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

## ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

| | |
|---|---|
| Ambient temperature | 18 °C – 25 °C |
| Relative Humidity air | 30% - 60% |

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

## POSSIBLE TEST CASE VERDICTS

| | |
|---|---|
| Test case does not apply to test object | N/A |
| Test object does meet requirement | P (Pass) / PASS |
| Test object does not meet requirement | F (Fail) / FAIL |
| Not measured | N/M |

## ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

| | | |
|---|---|---|
| EUT | : | Equipment Under Test |
| QP | : | Quasi-Peak |
| CAV | : | CISPR Average |
| AV | : | Average |
| CDN | : | Coupling Decoupling Network |
| SAC | : | Semi-Anechoic Chamber |
| OATS | : | Open Area Test Site |
| BW | : | Bandwidth |
| AM | : | Amplitude Modulation |
| PM | : | Pulse Modulation |
| HCP | : | Horizontal Coupling Plane |
| VCP | : | Vertical Coupling Plane |
| $U_N$ | : | Nominal voltage |
| *T*x | : | Transmitter |
| *R*x | : | Receiver |
| N/A | : | Not Applicable |
| N/M | : | Not Measured |

## DOCUMENT HISTORY

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| 2390387R-RF-US-P03V01 | V1.0 | Initial issue of report. | 2024-05-28 |
| 2390387R-RF-US-P03V01 | V1.1 | Page 28：Add liquid depth information.<br>Page 108: Add note about reduction function.<br>(The test report No.: 2390387R-RF-US-P03V01 V1.1 is to replace the test report No.: 2390387R-RF-US-P03V01 V1.0, and test report 2390387R-RF-US-P03V01 V1.0 is obsoleted.) | 2024-06-07 |
| | | | |
| | | | |
| | | | |
| | | | |

## REMARKS AND COMMENTS

1. The equipment under test (EUT) does  meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with FCC 47CFR §2.1093, IEEE Std. 1528-2013, EN IEC/IEEE 62209-1528:2021, ANSI C95.1-2005, RSS - 102 Issue 5: 2015.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
   - Chapter 1.1 General Description of the Item(s);
   - Chapter 1.2 Antenna Information.
   - Chapter 1.3 Antenna location diagram.
   - Chapter 1.4 Data Rate.
   - Chapter 1.5 Channel List.

# 1 General Information

## 1.1 General Description of the Item(s)

| | |
|---|---|
| Product Name ..... : | POS |
| Model No. ..... : | EMC-M100C |
| Trademark..... : | Elo |
| FCC ID..... : | RBWEMCM100C |
| IC..... : | 10757B-EMCM100C |
| Hardware Version..... : | V1.00 |
| Software Version..... : | T14 |
| Manufacturer..... : | Elo Touch Solutions, Inc |
| Manufacturer Address ..... : | 670 N. McCarthy Blvd., Suite 100, Milpitas, CA 95035, USA. |
| Factory..... : | ShuoGe Intelligent Technology Co.,Ltd. |
| Factory address ..... : | Room 308-310, Building 1, No.2 8th Road, Baiyang Street, Qiantang New Area,Hangzhou City, Zhejiang Province, P.R. China(310018) |

| | |
|---|---|
| Wireless specification .....: | WIFI |
| Operating frequency range(s) | For 2.4G<br>2412~2462MHz |
| | For 5G<br>5.2GHz: 5180 ~ 5240 MHz<br>5.3GHz: 5260 ~ 5320MHz<br>5.6GHz: 5500 ~ 5700MHz<br>5.8GHz: 5745 ~ 5825MHz |
| Type of Modulation & Data Rate ....: | Refer to clause 1.4 |
| Number of channel .....: | For2.4G:<br>802.11b/g/n(20MHz): 11<br>802.11n(40MHz): 7 |
| | For 5G:<br>802.11a/n/ac(20MHz): 24<br>802.11n/ac(40MHz): 11<br>802.11ac(80MHz): 5 |
| Wireless specification .....: | Bluetooth (BR/EDR&LE) |
| Operating frequency range(s) | 2402~2480MHz |
| Type of Modulation .....: | FHSS: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)<br>LE : 1Mbps(GFSK); 2Mbps(GFSK); |
| Number of channel .....: | FHSS: 79<br>LE : 40 |
| BT Channel Separation .....: | FHSS: 1MHz<br>LE : 2MHz |
| BT Data Rate .....: | FHSS: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)<br>LE : 1Mbps(GFSK); 2Mbps(GFSK); |

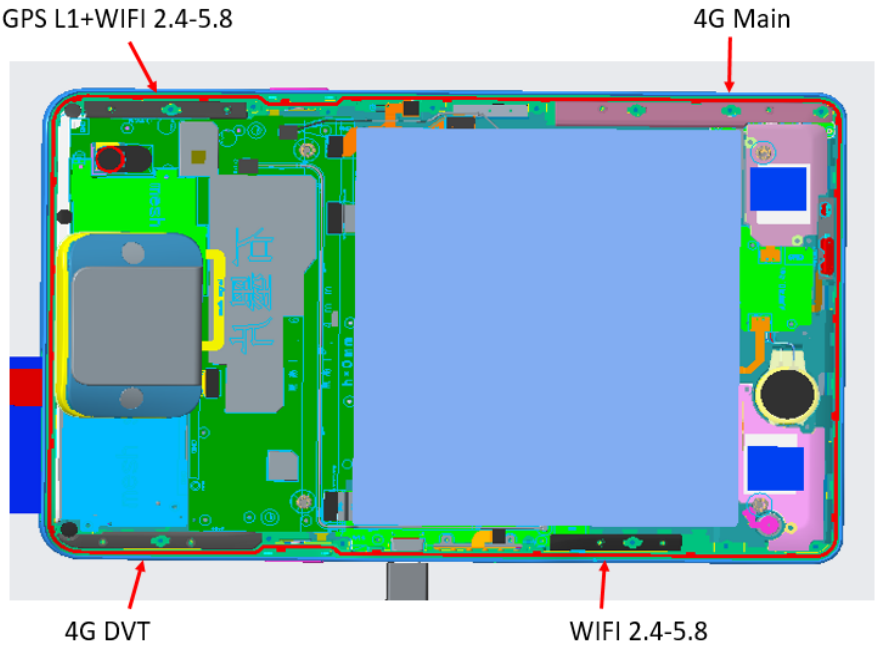
| | | |
|---|---|---|
| Wireless module..... : | SLM750 | |
| Wireless specification..... : | WCDMA/LTE | |
| Support Band ..... : | WCDMA Band II/IV/V<br>LTE Band 2/4/5/12/13/17/26/41 | |
| Uplink..... : | WCDMA Band II: 1850 MHz to 1910 MHz<br>WCDMA Band IV: 1710 MHz to 1755 MHz<br>WCDMA Band V: 824 MHz to 849 MHz<br>LTE FDD Band 2: 1850 MHz to 1910 MHz<br>LTE FDD Band 4: 1710 MHz to 1755 MHz<br>LTE FDD Band 5: 824 MHz to 849 MHz<br>LTE FDD Band 12: 699 MHz to 716 MHz<br>LTE FDD Band 13: 777 MHz to 787 MHz<br>LTE FDD Band 17: 704 MHz to 716 MHz<br>LTE FDD Band 25: 1850 MHz to 1915 MHz<br>LTE FDD Band 26: 814 MHz to 849 MHz<br>LTE TDD Band 41: 2496 MHz to 2690 MHz | |
| Downlink ..... : | WCDMA Band II: 1930 MHz to 1990 MHz<br>WCDMA Band IV: 2110 MHz to 2155 MHz<br>WCDMA Band V: 869 MHz to 894 MHz<br>LTE FDD Band 2: 1930 MHz to 1990 MHz<br>LTE FDD Band 4: 2110 MHz to 2155 MHz<br>LTE FDD Band 5: 869 MHz to 894 MHz<br>LTE FDD Band 12: 729 MHz to 746 MHz<br>LTE FDD Band 13: 746 MHz to 756 MHz<br>LTE FDD Band 17: 734 MHz to 746 MHz<br>LTE FDD Band 25: 1930 MHz to 1995 MHz<br>LTE FDD Band 26: 859 MHz to 894 MHz<br>LTE TDD Band 41: 2496 MHz to 2690 MHz | |
| Supported Channel Bandwidth(MHz): ..... : | Band | Bandwidth |
| | WCDMA II | 5 MHz |
| | WCDMA IV | 5 MHz |
| | WCDMA V | 5 MHz |
| | Band 2: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz |
| | Band 4: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz |
| | Band 5: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz |
| | Band 12: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz |
| | Band 13: | 5 MHz / 10 MHz |
| | Band 17: | 5 MHz / 10 MHz |
| | Band 25: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz |
| | Band 26: | 1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz |
| | Band 41: | 5 MHz / 10 MHz / 15 MHz / 20 MHz |
| WCDMA Type of modulation ..... : | BPSK / QPSK | |
| LTE Type of modulation ..... : | QPSK / 16QAM | |
| Operating temperature range..... : | -40℃ ~ 80℃ | |

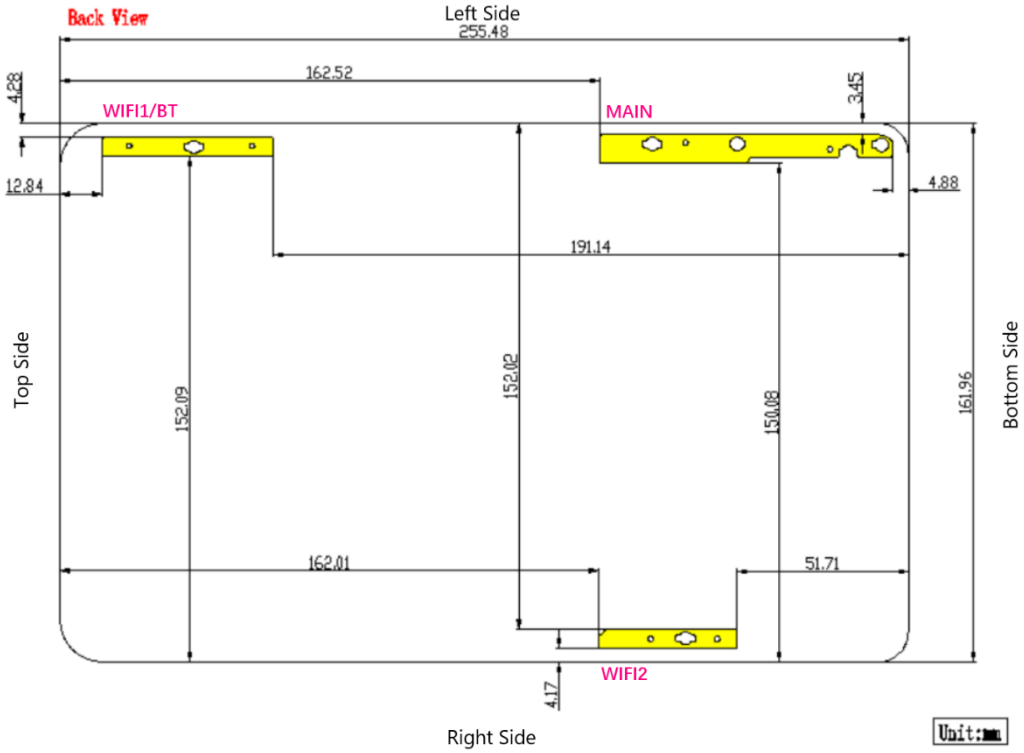
| | | |
|---|---|---|
| Rated power supply..... : | Voltage and Frequency | |
| | ☐ | AC: 220 - 240 V, 50/60 Hz |
| | ☐ | AC: 100 - 240 V, 50/60 Hz |
| | ☒ | Battery: |
| | ☐ | Poe: |
| | ☒ | Adapter: |
| Adapter Model..... : | UES45LCP-SPC | |
| | Input: 100-240V ~ 50/60Hz,1.3A<br>Output: 5.0V/3.0A,15.0W; 9.0V/3.0A, 27.0W; 12.0V/3.0A,36.0W; 15V/3.0A,45W; 20V/2.25A,45W Max | |
| Mounting position ..... : | ☐ | Tabletop equipment |
| | ☐ | Wall/Ceiling mounted equipment |
| | ☐ | Floor standing equipment |
| | ☒ | Hand-held/Portable equipment |
| | ☐ | Other: |

## 1.2 Antenna Information

| | | | | |
|---|---|---|---|---|
| Antenna Delivery .....: | ☒ | 1TX + 1RX | | |
| | ☒ | 2TX + 2RX | | |
| | ☐ | Others:…… | | |
| Antenna technology.....: | ☒ | SISO | | |
| | ☒ | MIMO | ☒ | CDD |
| | | | ☐ | Beam-forming |
| Antenna Type .....: | ☐ | External | ☐ | Dipole |
| | | | ☐ | Sectorized |
| | ☒ | Internal | ☒ | FPC |
| | | | ☐ | PCB |
| | | | ☐ | Metal Monopole Antenna |
| | | | ☐ | Ceramic chip |
| | | | ☐ | Others…….. |

## 1.3 Antenna location diagram




Note: GPS L1 and 4G DVT are RX Only antennas.

## 1.4 Data Rate

**IEEE 802.11b**

| Modulation | Data Rate(Mb/s) |
|---|---|
| DSSS | 1 |
| DSSS | 2 |
| CCK | 5.5 |
| CCK | 11 |

**IEEE 802.11g**

| Modulation | R | Data Rate(Mb/s) |
|---|---|---|
| BPSK | 1/2 | 6 |
| BPSK | 3/4 | 9 |
| QPSK | 1/2 | 12 |
| QPSK | 3/4 | 18 |
| 16-QAM | 1/2 | 24 |
| 16-QAM | 3/4 | 36 |
| 64-QAM | 2/3 | 48 |
| 64-QAM | 3/4 | 54 |

**IEEE 802.11n**

| Spatial streames | MCS Index | Modulation | R | Data Rate(Mb/s) | | | |
|---|---|---|---|---|---|---|---|
| | | | | 800ns GI | | 400ns GI | |
| | | | | 20MHz | 40MHz | 20MHz | 40MHz |
| 1 | 0 | BPSK | 1/2 | 6.5 | 13.5 | 7.2 | 15.0 |
| 1 | 1 | QPSK | 1/2 | 13.0 | 27.0 | 14.4 | 30.0 |
| 1 | 2 | QPSK | 3/4 | 19.5 | 40.5 | 21.7 | 45.0 |
| 1 | 3 | 16-QAM | 1/2 | 26.0 | 54.0 | 28.9 | 60.0 |
| 1 | 4 | 16-QAM | 3/4 | 39.0 | 81.0 | 43.3 | 90.0 |
| 1 | 5 | 64-QAM | 2/3 | 52.0 | 108.0 | 57.8 | 120.0 |
| 1 | 6 | 64-QAM | 3/4 | 58.5 | 121.5 | 65.0 | 135.0 |
| 1 | 7 | 64-QAM | 5/6 | 65.0 | 135.0 | 72.2 | 150.0 |
| 2 | 8 | BPSK | 1/2 | 13 | 27 | 14.4 | 30 |
| 2 | 9 | QPSK | 1/2 | 26 | 54 | 28.8 | 60 |
| 2 | 10 | QPSK | 3/4 | 39 | 81 | 43.4 | 90 |
| 2 | 11 | 16-QAM | 1/2 | 52 | 108 | 57.8 | 120 |
| 2 | 12 | 16-QAM | 3/4 | 78 | 162 | 86.6 | 180 |
| 2 | 13 | 64-QAM | 2/3 | 104 | 216 | 115.6 | 240 |
| 2 | 14 | 64-QAM | 3/4 | 117 | 243 | 130 | 270 |
| 2 | 15 | 64-QAM | 5/6 | 130 | 270 | 144.4 | 300 |

**IEEE 802.11a**

| Modulation | R | Data Rate(Mb/s) |
|---|---|---|
| BPSK | 1/2 | 6 |
| BPSK | 3/4 | 9 |
| QPSK | 1/2 | 12 |
| QPSK | 3/4 | 18 |
| 16-QAM | 1/2 | 24 |
| 16-QAM | 3/4 | 36 |
| 64-QAM | 2/3 | 48 |
| 64-QAM | 3/4 | 54 |

**IEEE 802.11n/ac**

| Spatial streames | MCS Index | Modulation | R | Data Rate(Mb/s) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 400ns GI | | | 800ns GI | | |
| | | | | 20MHz | 40MHz | 80MHz | 20MHz | 40MHz | 80MHz |
| 1 | 0 | BPSK | 1/2 | 7.2 | 15 | 32.5 | 6.5 | 13.5 | 29.3 |
| 1 | 1 | QPSK | 1/2 | 14.4 | 30 | 65 | 13 | 27 | 58.5 |
| 1 | 2 | QPSK | 3/4 | 21.7 | 45 | 97.5 | 19.5 | 40.5 | 87.8 |
| 1 | 3 | 16-QAM | 1/2 | 28.9 | 60 | 130 | 26 | 54 | 117 |
| 1 | 4 | 16-QAM | 3/4 | 43.3 | 90 | 195 | 39 | 81 | 175.5 |
| 1 | 5 | 64-QAM | 2/3 | 57.8 | 120 | 260 | 52 | 108 | 234 |
| 1 | 6 | 64-QAM | 3/4 | 65 | 135 | 292.5 | 58.5 | 121.5 | 263.3 |
| 1 | 7 | 64-QAM | 5/6 | 72.2 | 150 | 325 | 65 | 135 | 292.5 |
| 1 | 8 | 256QAM | 3/4 | 86.7 | 180 | 390 | 78 | 162 | 351 |
| 1 | 9 | 256QAM | 5/6 | N/A | 200 | 433.3 | N/A | 180 | 390 |
| 2 | 0 | BPSK | 1/2 | 14.4 | 30 | 65 | 13 | 27 | 58.6 |
| 2 | 1 | QPSK | 1/2 | 28.8 | 60 | 130 | 26 | 54 | 117 |
| 2 | 2 | QPSK | 3/4 | 43.4 | 90 | 195 | 39 | 81 | 175.6 |
| 2 | 3 | 16-QAM | 1/2 | 57.8 | 120 | 260 | 52 | 108 | 234 |
| 2 | 4 | 16-QAM | 3/4 | 86.6 | 180 | 390 | 78 | 162 | 351 |
| 2 | 5 | 64-QAM | 2/3 | 115.6 | 240 | 520 | 104 | 216 | 468 |
| 2 | 6 | 64-QAM | 3/4 | 130 | 270 | 585 | 117 | 243 | 526.6 |
| 2 | 7 | 64-QAM | 5/6 | 144.4 | 300 | 650 | 130 | 270 | 585 |
| 2 | 8 | 256QAM | 3/4 | 173.4 | 360 | 780 | 156 | 324 | 702 |
| 2 | 9 | 256QAM | 5/6 | N/A | 400 | 866.6 | N/A | 360 | 780 |

Note : We have evaluated low/mid/high data rate, the blue font is the highest power data rate.

## 1.5 Channel List

### Transmission (H, M, L) channel numbers and frequencies in each WCDMA band

| WCDMA II | | |
|---|---|---|
| | Ch. # | Freq. (MHz) |
| L | 9262 | 1852.4 |
| M | 9400 | 1880.0 |
| H | 9538 | 1907.6 |
| WCDMA IV | | |
| | Ch. # | Freq. (MHz) |
| L | 1312 | 1712.4 |
| M | 1413 | 1732.6 |
| H | 1513 | 1752.6 |
| WCDMA V | | |
| | Ch. # | Freq. (MHz) |
| L | 4132 | 826.4 |
| M | 4182 | 836.4 |
| H | 4233 | 846.6 |

## Transmission (H, M, L) channel numbers and frequencies in each LTE band

| LTE Band 2 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 18607 | 1850.7 | 18615 | 1851.5 | 18625 | 1852.5 | 18650 | 1855 | 18675 | 1857.5 | 18700 | 1860 |
| M | 18900 | 1880 | 18900 | 1880 | 18900 | 1880 | 18900 | 1880 | 18900 | 1880 | 18900 | 1880 |
| H | 19193 | 1909.3 | 19185 | 1908.5 | 19175 | 1907.5 | 19150 | 1905 | 19125 | 1902.5 | 19100 | 1900 |

| LTE Band 4 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 19957 | 1710.7 | 19965 | 1711.5 | 19975 | 1712.5 | 20000 | 1715 | 20025 | 1717.5 | 20050 | 1720 |
| M | 20175 | 1732.5 | 20175 | 1732.5 | 20175 | 1732.5 | 20175 | 1732.5 | 20175 | 1732.5 | 20175 | 1732.5 |
| H | 20393 | 1754.3 | 20385 | 1753.5 | 20375 | 1752.5 | 20350 | 1750 | 20325 | 1747.5 | 20300 | 1745 |

| LTE Band 5 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 20407 | 824.7 | 20415 | 825.5 | 20425 | 826.5 | 20450 | 829 |
| M | 20525 | 836.5 | 20525 | 836.5 | 20525 | 836.5 | 20525 | 836.5 |
| H | 20643 | 848.3 | 20635 | 847.5 | 20625 | 846.5 | 20600 | 844 |

| LTE Band 12 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 23017 | 699.7 | 23025 | 700.5 | 23035 | 701.5 | 23060 | 704 |
| M | 23095 | 707.5 | 23095 | 707.5 | 23095 | 707.5 | 23095 | 707.5 |
| H | 23173 | 715.3 | 23165 | 714.5 | 23155 | 713.5 | 23130 | 711 |

| LTE Band 13 | | | | |
|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
| | Channel # | Freq.(MHz) | Channel # | Freq.(MHz) |
| L | 23205 | 779.5 | 23230 | 782 |
| M | 23230 | 782 | | |
| H | 23255 | 784.5 | | |

| LTE Band 17 | | | | |
|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
| | Channel # | Freq.(MHz) | Channel # | Freq. (MHz) |
| L | 23755 | 706.5 | 23780 | 709 |
| M | 23790 | 710 | 23790 | 710 |
| H | 23825 | 713.5 | 23800 | 711 |

| LTE Band 25 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 26047 | 1850.7 | 26055 | 1851.5 | 26065 | 1852.5 | 26090 | 1855 | 26115 | 1857.5 | 26140 | 1860 |
| M | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 |
| H | 26683 | 1914.3 | 26675 | 1913.5 | 26665 | 1912.5 | 26640 | 1910 | 26615 | 1907.5 | 26590 | 1905 |

| LTE Band 26 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Ch. # | Freq. (MHz) | Ch. # | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 26697 | 814.7 | 26705 | 815.5 | 26715 | 816.5 | 26740 | 819 | 26765 | 821.5 |
| M | 26865 | 831.5 | 26865 | 831.5 | 26865 | 831.5 | 26865 | 831.5 | 26865 | 831.5 |
| H | 27033 | 848.3 | 27025 | 847.5 | 27015 | 846.5 | 26990 | 844 | 26965 | 841.5 |

| LTE Band 26 for IC | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 1.4 MHz | | Bandwidth 3 MHz | | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 26797 | 824.7 | 26805 | 825.5 | 26815 | 826.5 | 26840 | 829 | 26865 | 831.5 |
| M | 26915 | 836.5 | 26915 | 836.5 | 26915 | 836.5 | 26915 | 836.5 | 26915 | 836.5 |
| H | 27033 | 848.3 | 27025 | 847.5 | 27015 | 846.5 | 26990 | 844 | 26965 | 841.5 |

| LTE Band 41 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 40265 | 2557.5 | 40290 | 2560 | 40315 | 2562.5 | 40340 | 2565 |
| M | 40740 | 2605 | 40740 | 2605 | 40740 | 2605 | 40740 | 2605 |
| H | 41215 | 2652.5 | 41190 | 2650 | 41165 | 2647.5 | 41140 | 2645 |

| IEEE 802.11b/g & IEEE 802.11n (20MHz) Working Frequency of Each Channel | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2412 MHz | 2 | 2417 MHz | 3 | 2422 MHz | 4 | 2427 MHz |
| 5 | 2432 MHz | 6 | 2437 MHz | 7 | 2442 MHz | 8 | 2447 MHz |
| 9 | 2452 MHz | 10 | 2457 MHz | 11 | 2462 MHz | - | - |

| IEEE 802.11n(40MHz)Working Frequency of Each Channel | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 3 | 2422 MHz | 4 | 2427 MHz | 5 | 2432 MHz | 6 | 2437 MHz |
| 7 | 2442 MHz | 8 | 2447 MHz | 9 | 2452 MHz | - | - |

| Bluetooth Working Frequency of Each Channel: (For FHSS) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 00 | 2402 MHz | 01 | 2403 MHz | 02 | 2404 MHz | 03 | 2405 MHz |
| 04 | 2406 MHz | 05 | 2407 MHz | 06 | 2408 MHz | 07 | 2409 MHz |
| 08 | 2410 MHz | 09 | 2411 MHz | 10 | 2412 MHz | 11 | 2413 MHz |
| 12 | 2414 MHz | 13 | 2415 MHz | 14 | 2416 MHz | 15 | 2417 MHz |
| 16 | 2418 MHz | 17 | 2419 MHz | 18 | 2420 MHz | 19 | 2421 MHz |
| 20 | 2422 MHz | 21 | 2423 MHz | 22 | 2424 MHz | 23 | 2425 MHz |
| 24 | 2426 MHz | 25 | 2427 MHz | 26 | 2428 MHz | 27 | 2429 MHz |
| 28 | 2430 MHz | 29 | 2431 MHz | 30 | 2432 MHz | 31 | 2433 MHz |
| 32 | 2434 MHz | 33 | 2435 MHz | 34 | 2436 MHz | 35 | 2437 MHz |
| 36 | 2438 MHz | 37 | 2439 MHz | 38 | 2440 MHz | 39 | 2441 MHz |
| 40 | 2442 MHz | 41 | 2443 MHz | 42 | 2444 MHz | 43 | 2445 MHz |
| 44 | 2446 MHz | 45 | 2447 MHz | 46 | 2448 MHz | 47 | 2449 MHz |
| 48 | 2450 MHz | 49 | 2451 MHz | 50 | 2452 MHz | 51 | 2453 MHz |
| 52 | 2454 MHz | 53 | 2455 MHz | 54 | 2456 MHz | 55 | 2457 MHz |
| 56 | 2458 MHz | 57 | 2459 MHz | 58 | 2460 MHz | 59 | 2461 MHz |
| 60 | 2462 MHz | 61 | 2463 MHz | 62 | 2464 MHz | 63 | 2465 MHz |
| 64 | 2466 MHz | 65 | 2467 MHz | 66 | 2468 MHz | 67 | 2469 MHz |
| 68 | 2470 MHz | 69 | 2471 MHz | 70 | 2472 MHz | 71 | 2473 MHz |
| 72 | 2474 MHz | 73 | 2475 MHz | 74 | 2476 MHz | 75 | 2477 MHz |
| 76 | 2478 MHz | 77 | 2479 MHz | 78 | 2480 MHz | N/A | N/A |

| Bluetooth Working Frequency of Each Channel: (For LE) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 00 | 2402 MHz | 01 | 2404 MHz | 02 | 2406 MHz | 03 | 2408 MHz |
| 04 | 2410 MHz | 05 | 2412 MHz | 06 | 2414 MHz | 07 | 2416 MHz |
| 08 | 2418 MHz | 09 | 2420 MHz | 10 | 2422 MHz | 11 | 2424 MHz |
| 12 | 2426 MHz | 13 | 2428 MHz | 14 | 2430 MHz | 15 | 2432 MHz |
| 16 | 2434 MHz | 17 | 2436 MHz | 18 | 2438 MHz | 19 | 2440 MHz |
| 20 | 2442 MHz | 21 | 2444 MHz | 22 | 2446 MHz | 23 | 2448 MHz |
| 24 | 2450 MHz | 25 | 2452 MHz | 26 | 2454 MHz | 27 | 2456 MHz |

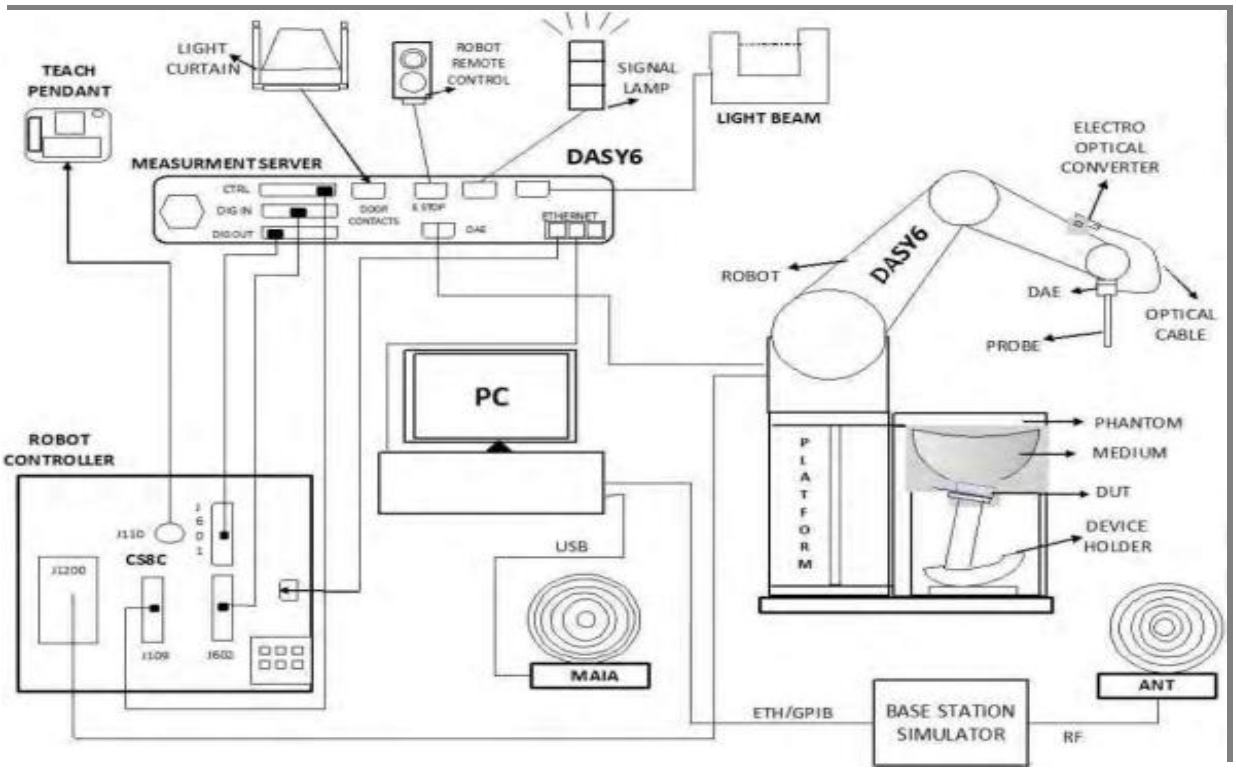
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 28 | 2458 MHz | 29 | 2460 MHz | 30 | 2462 MHz | 31 | 2464 MHz |
| 32 | 2466 MHz | 33 | 2468 MHz | 34 | 2470 MHz | 35 | 2472 MHz |
| 36 | 2474 MHz | 37 | 2476 MHz | 38 | 2478 MHz | 39 | 2480 MHz |

| 802.11a/n/ac(20MHz) Working Frequency of Each Channel: | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 36 | 5180 MHz | 40 | 5200 MHz | 44 | 5220 MHz | 48 | 5240 MHz |
| 52 | 5260 MHz | 56 | 5280 MHz | 60 | 5300 MHz | 64 | 5320 MHz |
| 100 | 5500 MHz | 104 | 5520 MHz | 108 | 5540 MHz | 112 | 5550 MHz |
| 116 | 5580 MHz | 120 | 5600 MHz | 124 | 5620 MHz | 128 | 5640 MHz |
| 132 | 5660 MHz | 136 | 5680 MHz | 140 | 5700 MHz | 149 | 5745 MHz |
| 153 | 5765 MHz | 157 | 5785 MHz | 161 | 5805 MHz | 165 | 5825 MHz |
| 802.11n/ac(40MHz) Working Frequency of Each Channel: | | | | | | | |
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 38 | 5190 MHz | 46 | 5230 MHz | 54 | 5270 MHz | 62 | 5310 MHz |
| 102 | 5510 MHz | 110 | 5550 MHz | 118 | 5590 MHz | 126 | 5630 MHz |
| 134 | 5670 MHz | 151 | 5755 MHz | 159 | 5795 MHz | N/A | N/A |
| 802.11ac(80MHz) Working Frequency of Each Channel: | | | | | | | |
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 42 | 5210 MHz | 58 | 5290 MHz | 106 | 5530MHz | 122 | 5610 MHz |
| 138 | 5690 MHz | 155 | 5775 MHz | N/A | N/A | N/A | N/A |

Note: The General Description of the Item, antenna information and Channel List in clause 1 are provided and confirmed by the client.

# 2 SAR MEASUREMENT SYSTEM

## 2.1 DASY6 System Description




| The DASY6 system for performing compliance tests consists of the following items: |
|---|
| 1. A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE). |
| 2. A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC. |
| 3. The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server. |
| 4. The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning. |
| 5. A computer running Windows 11 and the DASY6 software. |
| 6. Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc. |
| 7. The phantom, the device holder and other accessories according to the targeted measurement. |

### 2.1.1. Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEC/IEEE 62209-1528, KDB 865664 and others.

### 2.1.2. Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures points and step size follow as below. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution. The measure settings are referred to KDB 865664 D01v01r04:

| | | | ≤ 3 GHz | > 3 GHz |
|---|---|---|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | | | 5 mm ± 1 mm | ½·δ·ln(2) mm ± 0.5 mm |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location | | | 30° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: $\Delta x_{Area}$, $\Delta y_{Area}$ | | | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm |
| | | | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. | |
| Maximum zoom scan spatial resolution: $\Delta x_{Area}$, $\Delta y_{Area}$ | | | ≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm* | 3 – 4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 4 mm* |
| Maximum zoom scan spatial resolution, normal to phantom surface | uniform grid: $\Delta z_{Zoom}(n)$ | | ≤ 5 mm | 3 – 4 GHz: ≤ 4 mm<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 2 mm |
| | Graded grid | $\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface | ≤ 4 mm | 3 – 4 GHz: ≤ 3 mm<br>4 – 5 GHz: ≤ 2.5 mm<br>5 – 6 GHz: ≤ 2 mm |
| | | $\Delta z_{Zoom}(n>1)$: between subsequent points | ≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm | |
| Minimum zoom scan volume | x, y, z | | ≥ 30 mm | 3 – 4 GHz: ≥ 28 mm<br>4 – 5 GHz: ≥ 25 mm<br>5 – 6 GHz: ≥ 22 mm |
| Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.<br>* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. | | | | |

### 2.1.3. Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Postprocessor, DASY6 allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEC/IEEE 62209-1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets. The field gradients are covered by the spatially flat distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}}\cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}}\frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

## 2.2 DASY6 E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SPEAG. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.
SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEC/IEEE 62209-1528, etc.) under ISO 17025. The calibration data are in Appendix D.

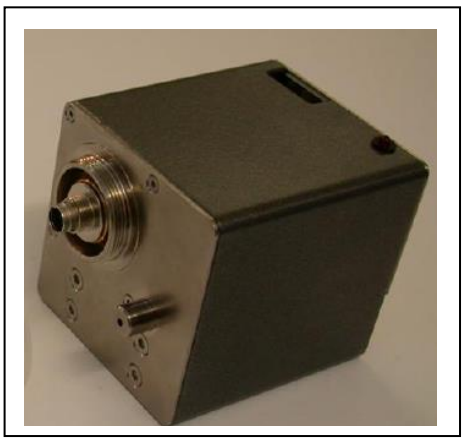
| | | |
|---|---|---|
| **Model** | EX3DV4 | |
| **Construction** | Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE) | |
| **Frequency** | 10 MHz to 6 GHz<br>Linearity: ± 0.2 dB (30 MHz to 6 GHz) |  |
| **Directivity** | ± 0.3 dB in HSL (rotation around probe axis)<br>± 0.5 dB in tissue material (rotation normal to probe axis) | |
| **Dynamic Range** | 10 µW/g to 100 mW/g<br>Linearity: ± 0.2 dB (noise: typically < 1 µW/g) | |
| **Dimensions** | Overall length: 330 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm | |
| **Application** | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%. | |

## 2.3 Boundary Detection Unit and Probe Mounting Device

The DASY probes use a precise connector and an additional holder for the probe, consisting of a plastic tube and a flexible silicon ring to center the probe. The connector at the DAE is flexibly mounted and held in the default position with magnets and springs. Two switching systems in the connector mount detect frontal and lateral probe collisions and trigger the necessary software response.

## 2.4 DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit.
Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.
The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.



The DASY6 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chipdisk and 128MB RAM. The necessary circuits for communication with the DAE electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY6 I/O board, which is directly connected to the PC/104 bus of the CPU board.

## 2.5 Robot

The DASY6 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY6 system, the CS8C robot controller version from Stäubli is used. The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

## 2.6 Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

## 2.7 Device Holder

The DASY6 device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR).

Thus the device needs no repositioning when changing the angles.

The DASY6 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity εr =3 and loss tangent $\delta$ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

The DASY6 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity εr =3 and loss tangent $\delta$ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

## 2.8 Phantom

SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

ELI Phantom

The SAM phantom is a fiberglass shell phantom with 2mm shell thickness. It has one measurement areas:

- ELI phantom

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 7.125 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

# 3 TISSUE SIMULATING LIQUID

## 3.1 The composition of the tissue simulating liquid

**Simulate 600MHz~10000MHz liquid, manufactured by SPEAG**

**Table F.1 – Suggested recipes for achieving target dielectric properties, 30 MHz to 900 MHz**

| Frequency (MHz) | 30 | 50 | | 144 | | 450 | | 835 | 900 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Recipe source number | 3 | 3 | 2 | 2 | 3 | 2 | 4 | 2 | 2 | 4 |
| **Ingredients (% by weight)** | | | | | | | | | | |
| De-ionized water | 48,30 | 48,30 | 53,53 | 55,12 | 48,30 | 48,53 | 56 | 50,36 | 50,31 | 56 |
| Tween 20 | | | 44,70 | 43,31 | | 49,51 | | 48,39 | 48,34 | |
| Oxidized mineral oil | | | | | | | 44 | | | 44 |
| Diethylenglycol monohexylether | | | | | | | | | | |
| Triton X-100 | | | | | | | | | | |
| Diacetin | 50,00 | 50,00 | | | 50,00 | | | | | |
| DGBE | | | | | | | | | | |
| NaCl | 1,60 | 1,60 | 1,77 | 1,57 | 1,60 | 1,96 | | 1,25 | 1,35 | |
| Additives and salt | 0,10 | 0,10 | | | 0,10 | | | | | |
| **Measured temperature dependence** | | | | | | | | | | |
| **Temp. (°C)** | | | 21 | 21 | | 21 | 20 | 21 | 21 | 20 |
| $\varepsilon_{\text{liquid temp. unc.}}$ (%) | 0,8 | 0,1 | | | 0,1 | 0,1 | | 0,04 | 0,04 | |
| $\sigma_{\text{liquid temp. unc.}}$ (%) | 2,8 | 2,8 | | | 2,6 | 4,2 | | 1,6 | 1,6 | |

**Table F.2 – Suggested recipes for achieving target dielectric properties, 1 800 MHz to 10 000 MHz**

| Frequency (MHz) | 1 800 | | 2 450 | 4 000 | 5 000 | 5 200 | 5 800 | 6 000 | 8 000 | 10 000 |
|---|---|---|---|---|---|---|---|---|---|---|
| Recipe source number | 2 | 4 | 4 | 4 | 4 | 1 | 1 | 4 | 5 | 5 |
| **Ingredients (% by weight)** | | | | | | | | | | |
| De-ionized water | 54,23 | 56 | 56 | 56 | 56 | 65,53 | 65,53 | 56 | 67,8 | 66,0 |
| Tween | 45,27 | | | | | | | | 31,1 | 33,0 |
| Oxidized mineral oil | | 44 | 44 | 44 | 44 | | | 44 | | |
| Diethylenglycol monohexylether | | | | | | 17,24 | 17,24 | | | |
| Triton X-100 | | | | | | 17,24 | 17,24 | | | |
| Diacetin | | | | | | | | | | |
| DGBE | | | | | | | | | | |
| NaCl | 0,50 | | | | | | | | | |
| Additives and salt | | | | | | | | | | |
| **Measured temperature dependence** | | | | | | | | | | |
| **Temp. (°C)** | 21 | 20 | 20 | 20 | 20 | 22 | 22 | 20 | 20 | 20 |
| $\varepsilon_{\text{liquid temp. unc.}}$ (%) | 0,4 | | | | | 1,7 | 1,8 | | | |
| $\sigma_{\text{liquid temp. unc.}}$ (%) | 2,3 | | | | | 2,7 | 2,6 | | | |

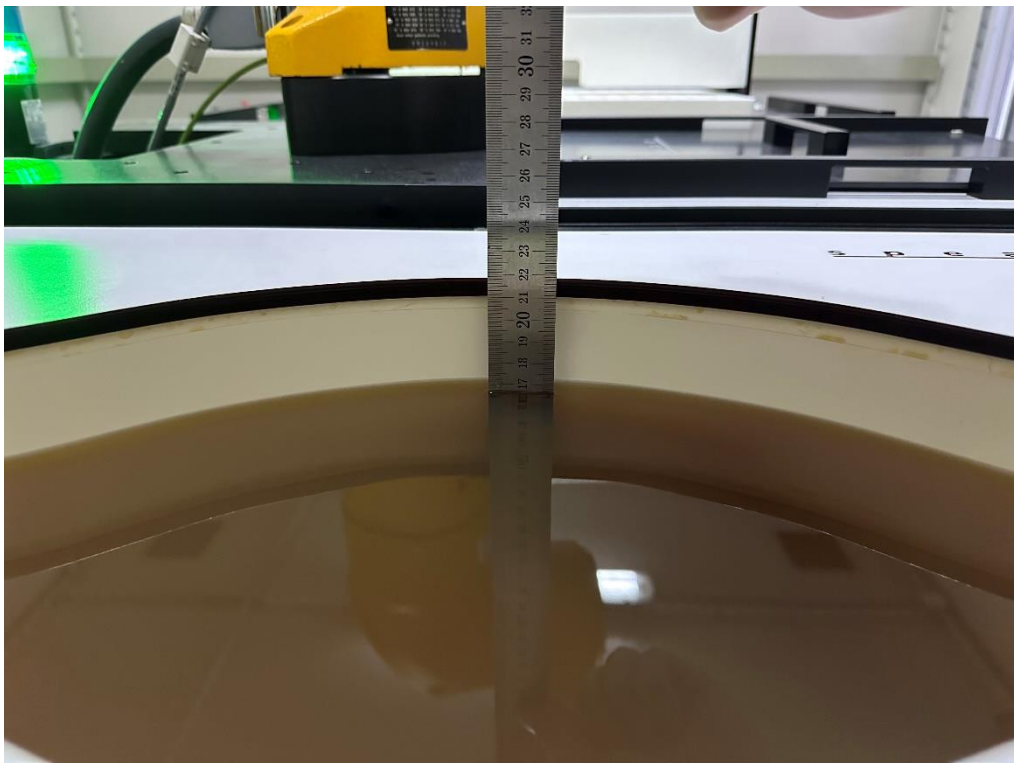
NOTE 1 Multiple columns under a single frequency indicate optional recipes.

NOTE 2 Recipe source numbers: 1 verified by different labs, 2 Reference [59], 3 developed by IT'IS Foundation, 4 developed by IT'IS Foundation, 5 Reference [60].

NOTE 3 The values of $\varepsilon_{\text{liquid temp. unc.}}$ and $\sigma_{\text{liquid temp. unc.}}$ are liquid temperature uncertainties described in O.9.6, based on measurements of the applicable liquid recipes given above. These are not part of the original publications but have been subsequently developed by the project team.

NOTE 4 The recipes at 8 000 MHz and 10 000 MHz are sufficiently broadband that they cover the frequency range of 6 000 MHz to 10 000 MHz within a tolerance of ±10 % for permittivity and conductivity.

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-3.1.



The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528, and KDB 865664 D01 Appendix A. For the body tissue simulating liquids, the dielectric properties are defined in KDB 865664 D01 Appendix A. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

## 3.2 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using DASY6 Dielectric Probe Kit and Agilent Vector Network Analyzer E5071C

| **Head Tissue Simulant Measurement** | | | | |
|---|---|---|---|---|
| Frequency [MHz] | Description | Dielectric Parameters | | Tissue Temp. [°C] |
| | | $\varepsilon_r$ | $\sigma$ [s/m] | |
| 750MHz | Reference result ± 5% window | 41.9<br>39.81 to 44.0 | 0.89<br>0.85 to 0.93 | N/A |
| | 15-01-2024 | 41.70 | 0.89 | 22.0 |
| 835MHz | Reference result ± 5% window | 41.5<br>39.43 to 43.58 | 0.90<br>0.86 to 0.95 | N/A |
| | 20-01-2024 | 41.16 | 0.90 | 22.0 |
| 1800MHz | Reference result ± 5% window | 40.0<br>38 to 42 | 1.40<br>1.33 to 1.47 | N/A |
| | 25-01-2024 | 38.82 | 1.41 | 22.0 |
| 1900MHz | Reference result ± 5% window | 40.0<br>38 to 42 | 1.40<br>1.33 to 1.47 | N/A |
| | 30-01-2024 | 39.09 | 1.40 | 22.0 |
| 2600MHz | Reference result ± 5% window | 39.0<br>37.05 to 40.95 | 1.96<br>1.86 to 2.06 | N/A |
| | 05-02-2024 | 37.93 | 2.03 | 22.0 |
| 2450 MHz | Reference result ± 5% window | 39.2<br>37.24 to 41.16 | 1.80<br>1.71 to 1.89 | N/A |
| | 20-02-2024 | 38.54 | 1.86 | 22.0 |
| 5250 MHz | Reference result ± 5% window | 35.9<br>34.11 to 37.70 | 4.71<br>4.47 to 4.95 | N/A |
| | 25-02-2024 | 36.38 | 4.60 | 22.0 |
| 5600 MHz | Reference result ± 5% window | 35.5<br>33.73 to 37.28 | 5.07<br>4.82 to 5.32 | N/A |
| | 01-03-2024 | 35.8 | 4.99 | 22.0 |
| 5750 MHz | Reference result ± 5% window | 35.4<br>33.63 to 37.17 | 5.22<br>4.96 to 5.48 | N/A |
| | 15-03-2024 | 35.55 | 5.17 | 22.0 |

| Head Tissue Simulant Measurement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CH | Frequency (MHz) | Conductivity (σ) | Permittivity ($\varepsilon_r$) | Conductivity Target (σ) | Permittivity Target ($\varepsilon_r$) | Delta (σ) (%) | Delta ($\varepsilon_r$) (%) | Limit (%) | Date |
| 9262 | 1852.4 | 1.36 | 39.30 | 1.40 | 40.00 | -2.86 | -1.75 | ±5 | WCDMA II |
| 9400 | 1880 | 1.38 | 39.19 | 1.40 | 40.00 | -1.43 | -2.03 | ±5 | WCDMA II |
| 9538 | 1907.6 | 1.41 | 39.06 | 1.40 | 40.00 | 0.71 | -2.35 | ±5 | WCDMA II |
| 1312 | 1712.4 | 1.32 | 39.24 | 1.35 | 40.16 | -2.30 | -2.39 | ±5 | WCDMA IV |
| 1413 | 1732.6 | 1.34 | 39.13 | 1.36 | 40.13 | -1.40 | -2.42 | ±5 | WCDMA IV |
| 1513 | 1752.6 | 1.36 | 39.04 | 1.37 | 40.09 | -0.51 | -2.64 | ±5 | WCDMA IV |
| 4132 | 826.4 | 0.89 | 41.28 | 0.90 | 41.54 | -0.89 | -0.53 | ±5 | WCDMA V |
| 4183 | 836.6 | 0.90 | 41.14 | 0.91 | 41.52 | -0.81 | -0.87 | ±5 | WCDMA V |
| 4233 | 846.6 | 0.91 | 41.02 | 0.91 | 41.50 | 0.23 | -1.16 | ±5 | WCDMA V |
| 26140 | 1860 | 1.36 | 39.28 | 1.40 | 40.00 | -2.64 | -1.80 | ±5 | LTE Band25/2 |
| 26365 | 1882.5 | 1.38 | 39.19 | 1.40 | 40.00 | -1.14 | -2.03 | ±5 | LTE Band25/2 |
| 26590 | 1905 | 1.41 | 39.07 | 1.40 | 40.00 | 0.57 | -2.33 | ±5 | LTE Band25/2 |
| 20050 | 1720 | 1.33 | 39.20 | 1.36 | 40.15 | -2.43 | -2.24 | ±5 | LTE Band4 |
| 20175 | 1732.5 | 1.34 | 39.11 | 1.36 | 40.13 | -1.18 | -2.47 | ±5 | LTE Band4 |
| 20300 | 1745 | 1.36 | 39.07 | 1.37 | 40.11 | -1.09 | -2.57 | ±5 | LTE Band4 |
| 26765 | 821.5 | 0.89 | 41.33 | 0.90 | 41.56 | -1.32 | -0.65 | ±5 | LTE Band26/5 |
| 26865 | 831.5 | 0.90 | 41.20 | 0.90 | 41.52 | -0.24 | -0.72 | ±5 | LTE Band26/5 |
| 26915 | 836.5 | 0.90 | 41.14 | 0.90 | 41.50 | 0.29 | -0.87 | ±5 | LTE Band26/5 For IC |
| 26965 | 841.5 | 0.91 | 41.08 | 0.91 | 41.50 | -0.29 | -1.01 | ±5 | LTE Band26/5 |
| 23060 | 704 | 0.85 | 42.31 | 0.89 | 42.15 | -4.66 | 0.50 | ±5 | LTE Band12/17 |
| 23095 | 707.5 | 0.85 | 42.25 | 0.89 | 42.13 | -4.21 | 0.36 | ±5 | LTE Band12/17 |
| 23130 | 711 | 0.86 | 42.20 | 0.89 | 42.11 | -3.92 | 0.24 | ±5 | LTE Band12/17 |
| 23230 | 782 | 0.92 | 41.27 | 0.89 | 41.75 | 3.74 | -1.03 | ±5 | LTE Band13 |
| 40340 | 2565 | 1.99 | 38.08 | 1.93 | 39.05 | 3.32 | -2.61 | ±5 | LTE Band41 |
| 40740 | 2605 | 2.04 | 39.92 | 1.97 | 39.00 | 3.45 | 2.36 | ±5 | LTE Band41 |
| 41140 | 2645 | 2.09 | 37.75 | 2.01 | 38.95 | 3.78 | -3.21 | ±5 | LTE Band41 |
| 1 | 2412 | 1.81 | 38.70 | 1.77 | 39.27 | 2.43 | -1.53 | ±5 | WLAN2.4GHz |
| 6 | 2437 | 1.84 | 38.92 | 1.79 | 39.22 | 2.96 | -0.71 | ±5 | WLAN2.4GHz |
| 11 | 2462 | 1.87 | 38.50 | 1.81 | 39.18 | 3.54 | -1.79 | ±5 | WLAN2.4GHz |
| 0 | 2402 | 1.80 | 38.73 | 1.76 | 39.29 | 2.39 | -1.45 | ±5 | Bluetooth |
| 39 | 2441 | 1.85 | 38.58 | 1.79 | 39.22 | 3.24 | -1.58 | ±5 | Bluetooth |
| 78 | 2480 | 1.89 | 38.44 | 1.83 | 39.15 | 3.44 | -1.94 | ±5 | Bluetooth |
| 52 | 5260 | 4.62 | 36.37 | 4.72 | 35.94 | -2.18 | 1.31 | ±5 | WLAN5GHz |
| 60 | 5300 | 4.65 | 36.30 | 4.76 | 35.90 | -2.25 | 1.11 | ±5 | WLAN5GHz |
| 64 | 5320 | 4.68 | 36.28 | 4.78 | 35.87 | -2.13 | 1.06 | ±5 | WLAN5GHz |
| 100 | 5500 | 4.87 | 35.97 | 4.97 | 35.63 | -1.93 | 1.04 | ±5 | WLAN5GHz |
| 116 | 5580 | 4.97 | 35.87 | 5.05 | 35.53 | -1.56 | 1.04 | ±5 | WLAN5GHz |
| 140 | 5700 | 5.11 | 35.64 | 5.17 | 35.40 | -1.24 | 0.68 | ±5 | WLAN5GHz |
| 149 | 5745 | 5.16 | 35.56 | 5.22 | 35.36 | -1.15 | 0.45 | ±5 | WLAN5GHz |
| 157 | 5785 | 5.20 | 35.53 | 5.26 | 35.32 | -1.06 | 0.65 | ±5 | WLAN5GHz |
| 165 | 5825 | 5.25 | 35.44 | 5.30 | 35.28 | -0.94 | 0.40 | ±5 | WLAN5GHz |

Note:

1. The delta ($\varepsilon_r$) and ($\sigma$) are within ±5%, delta SAR value was not calculated in this report.
2. As per IEC/IEEE 62209-1528 Annex F, the SAR correction factor is given by:

   $\Delta SAR = c_\varepsilon \Delta\varepsilon_r + c_\sigma \Delta\sigma$

   For the1g average SAR Cε and Cσ are given by:

   Cε = -7.854x10^-4f^3 + 9.402x10^-3f^2 – 2.742x10^-2f – 0.2026

   Cσ = 9.804x10^-3f^3 – 8.661x10^-2f^2 + 2.981x10^-2f + 0.7829

Where f is the frequency in GHz.

## 3.3 Tissue Dielectric Parameters for Head Phantoms

The head tissue dielectric parameters recommended by the IEC/IEEE 62209-1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head tissue parameters that have not been specified in IEC/IEEE 62209-1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in IEC/IEEE 62209-1528.

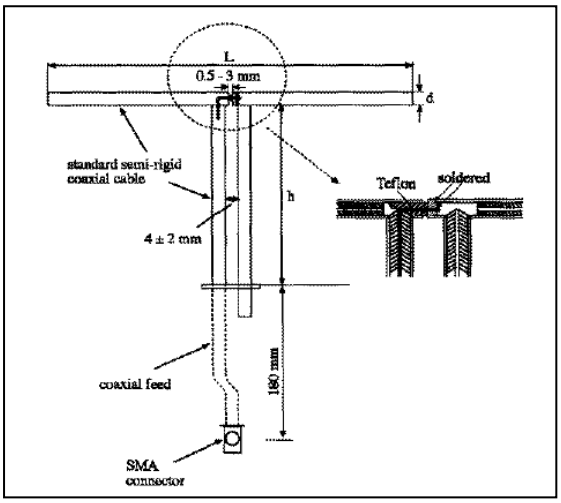
| Target Frequency | Head | |
|---|---|---|
| (MHz) | $\varepsilon_r$ | $\sigma$ (S/m) |
| 150 | 52.3 | 0.76 |
| 300 | 45.3 | 0.87 |
| 450 | 43.5 | 0.87 |
| 750 | 41.9 | 0.89 |
| 835 | 41.5 | 0.90 |
| 900 | 41.5 | 0.97 |
| 915 | 41.5 | 0.98 |
| 1450 | 40.5 | 1.20 |
| 1610 | 40.3 | 1.29 |
| 1800 – 2000 | 40.0 | 1.40 |
| 2450 | 39.2 | 1.80 |
| 2600 | 39.0 | 1.96 |
| 3000 | 38.5 | 2.40 |
| 5800 | 35.3 | 5.07 |

($\varepsilon_r$ = relative permittivity, $\sigma$ = conductivity and $\rho$ = 1000 kg/m$^3$)

# 4 SAR MEASUREMENT PROCEDURE

## 4.1 SAR System Validation

### 4.1.1. Validation Dipoles




The dipoles used is based on the IEC/IEEE 62209-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical specifications for the dipoles.

| Frequency | L (mm) | h (mm) | d (mm) |
|---|---|---|---|
| 750MHz | 176.0 | 100.0 | 6.35 |
| 835MHz | 161.0 | 89.8 | 3.6 |
| 900MHz | 149.0 | 83.3 | 3.6 |
| 1800MHz | 72.0 | 41.7 | 3.6 |
| 2000MHz | 64.5 | 37.5 | 3.6 |
| 2600MHz | 48.5 | 28.8 | 3.6 |
| 3500MHz | 37.0 | 26.4 | 3.6 |
| 3700MHz | 34.7 | 26.4 | 3.6 |
| 3900MHz | 32.4 | 26.4 | 3.6 |
| 5000 to 6000MHz | 20.6 | 40.3 | 3.6 |

### 4.1.2. Validation Result

| System Performance Check at 750MHz, 835MHz, 1800MHz, 1900MHz, 2450MHz, 2600MHz, 5250MHz, 5600MHz, 5750MHz | | | | |
|---|---|---|---|---|
| **Validation Dipole: D750V3, SN: 1086** | | | | |
| Frequency [MHz] | Description | SAR [w/kg] 1g | SAR [w/kg] 10g | Tissue Temp. [°C] |
| 750 MHz | Reference result ± 10% window | 8.41 7.57 to 9.25 | 5.50 4.95 to 6.05 | N/A |
| | 15-01-2024 | 8.56 | 5.72 | 22.0 |
| **Validation Dipole: D835V2, SN: 4d094** | | | | |
| 835 MHz | Reference result ± 10% window | 9.44 8.50 to 10.38 | 6.20 5.58 to 6.82 | N/A |
| | 20-01-2024 | 10.04 | 6.64 | 22.0 |
| **Validation Dipole: D1800V2, SN: 2d179** | | | | |
| 1800 MHz | Reference result ± 10% window | 39.00 35.1 to 42.9 | 20.50 18.45 to 22.55 | N/A |
| | 25-01-2024 | 35.96 | 18.76 | 22.0 |
| **Validation Dipole: D1900V2, SN: 5d121** | | | | |
| 1900 MHz | Reference result ± 10% window | 39.50 39.55 to 43.45 | 20.30 18.27 to 22.33 | N/A |
| | 30-01-2024 | 36.56 | 18.92 | 22.0 |
| **Validation Dipole: D2450V2, SN: 839** | | | | |
| 2450 MHz | Reference result ± 10% window | 52.60 47.34 to 57.86 | 24.30 21.87 to 26.73 | N/A |
| | 20-02-2024 | 51.20 | 23.72 | 22.0 |
| **Validation Dipole: D2600V2, SN: 1029** | | | | |
| 2600 MHz | Reference result ± 10% window | 55.60 50.04 to 61.16 | 24.80 22.32 to 27.28 | N/A |
| | 05-02-2024 | 54.00 | 24.40 | 22.0 |
| **Validation Dipole: D5GHzV2, SN: 1078** | | | | |
| 5250 MHz | Reference result ± 10% window | 76.00 68.40 to 83.60 | 21.60 19.44 to 23.76 | N/A |
| | 25-02-2024 | 77.00 | 21.70 | 22.0 |
| **Validation Dipole: D5GHzV2, SN: 1078** | | | | |
| 5600 MHz | Reference result ± 10% window | 79.50 71.55 to 87.45 | 22.40 20.16 to 24.64 | N/A |

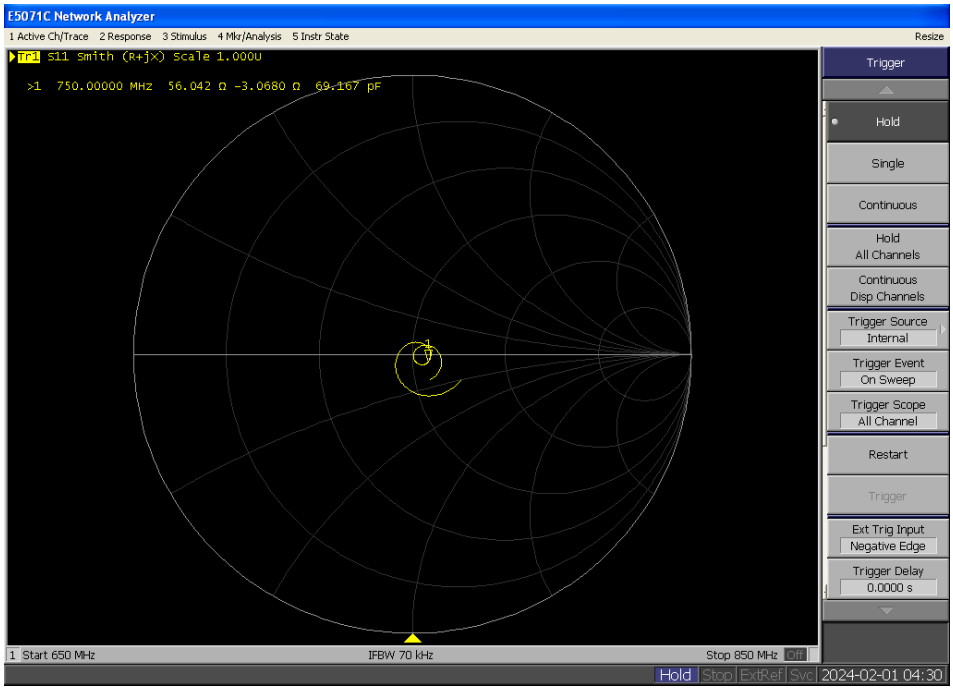
| | | | | |
|---|---|---|---|---|
| | 03-03-2024 | 78.60 | 22.00 | 22.0 |
| **Validation Dipole: D5GHzV2, SN: 1078** | | | | |
| 5750 MHz | Reference result<br>± 10% window | 75.70<br>68.13 to 83.27 | 21.30<br>19.17 to 23.43 | N/A |
| | 15-03-2024 | 73.30 | 20.80 | 22.0 |
| Note: All SAR values are normalized to 1W forward power. | | | | |

## 4.1.3. Dipole Calibration Data

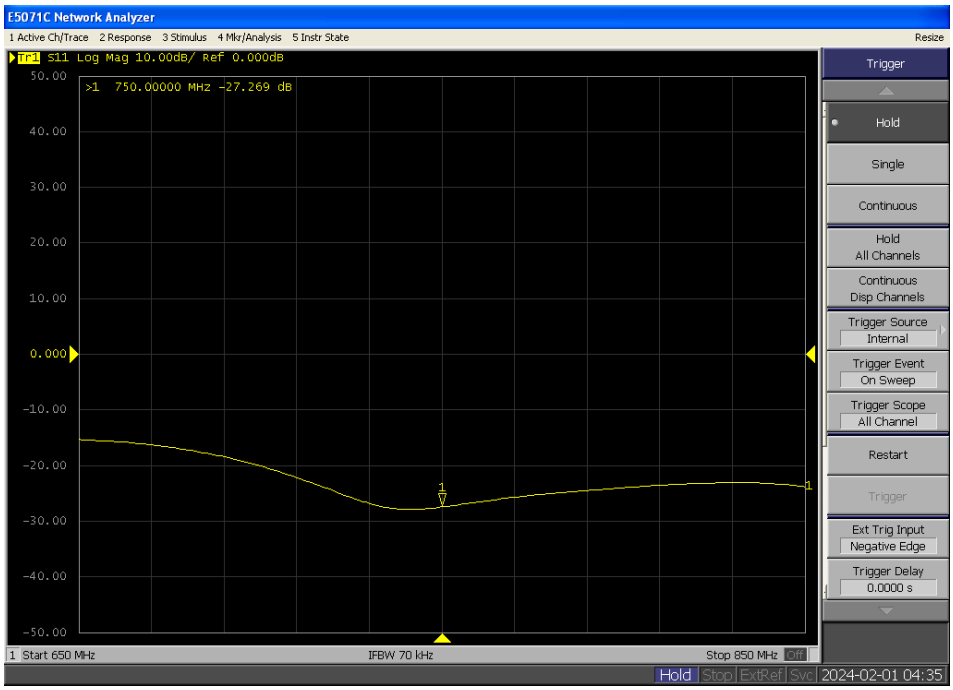
**Impedance Plot for D750V3**

**750MHz Head**

Calibrated impedance: 55.283 Ω; Measured impedance: 56.042 Ω (within 5Ω)



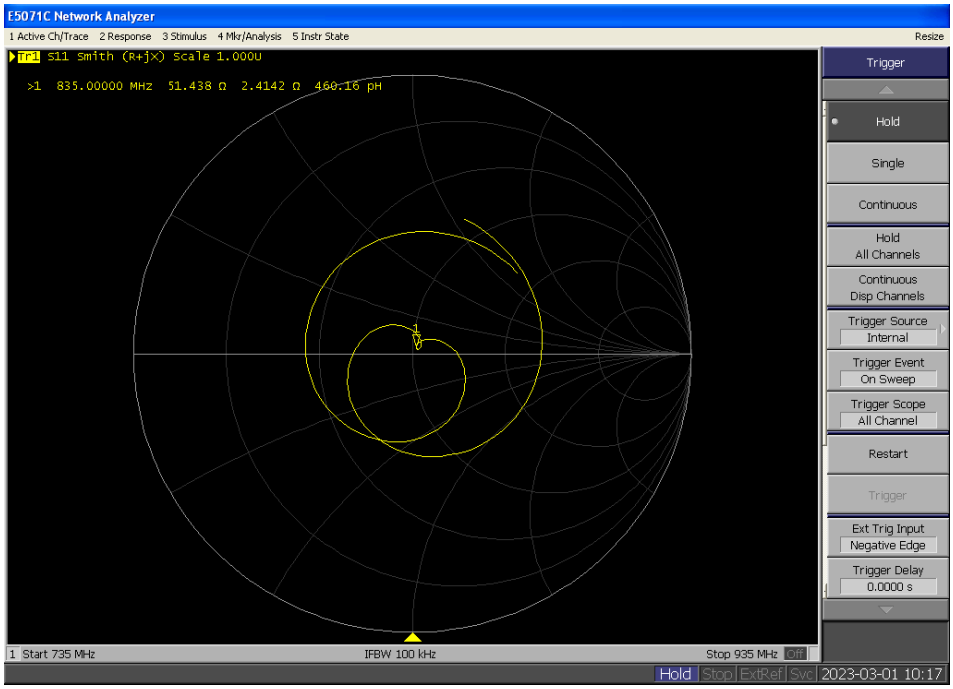

Calibrated return loss: -25.938 dB; Measured impedance: -27.269 dB (within 20%)



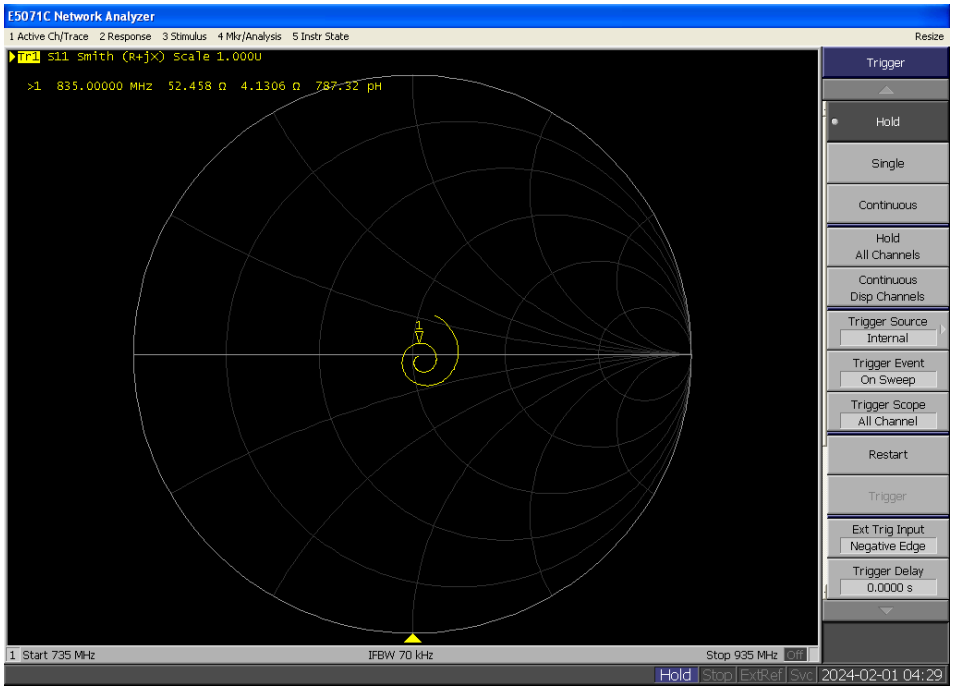
**Impedance Plot for D835V2**

**835MHz Head**

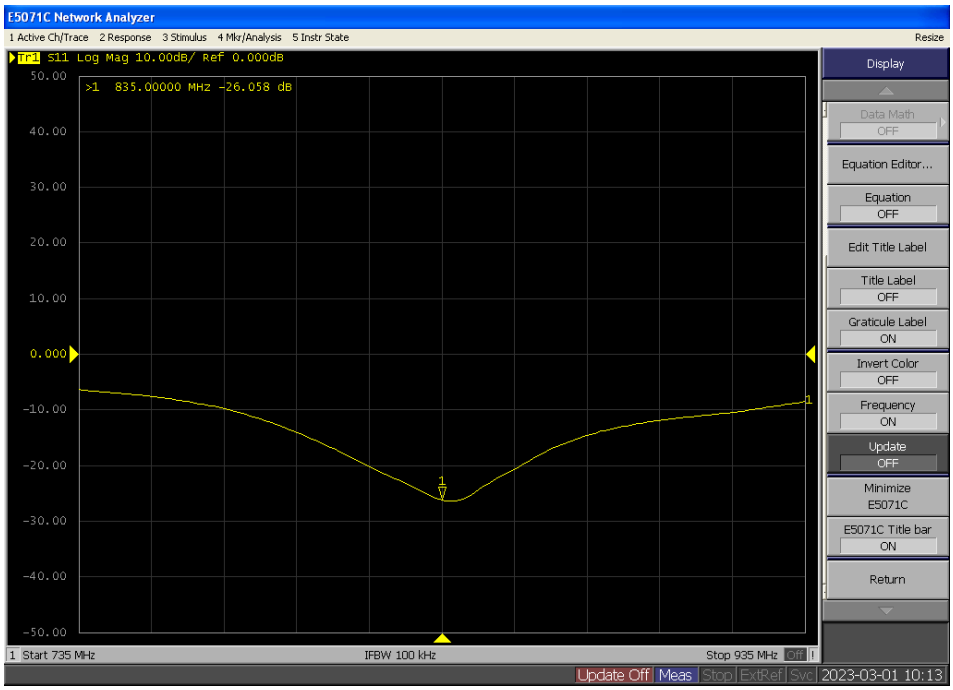
Calibrated impedance: 50.234 Ω; Measured impedance: 51.438 Ω (within 5Ω)



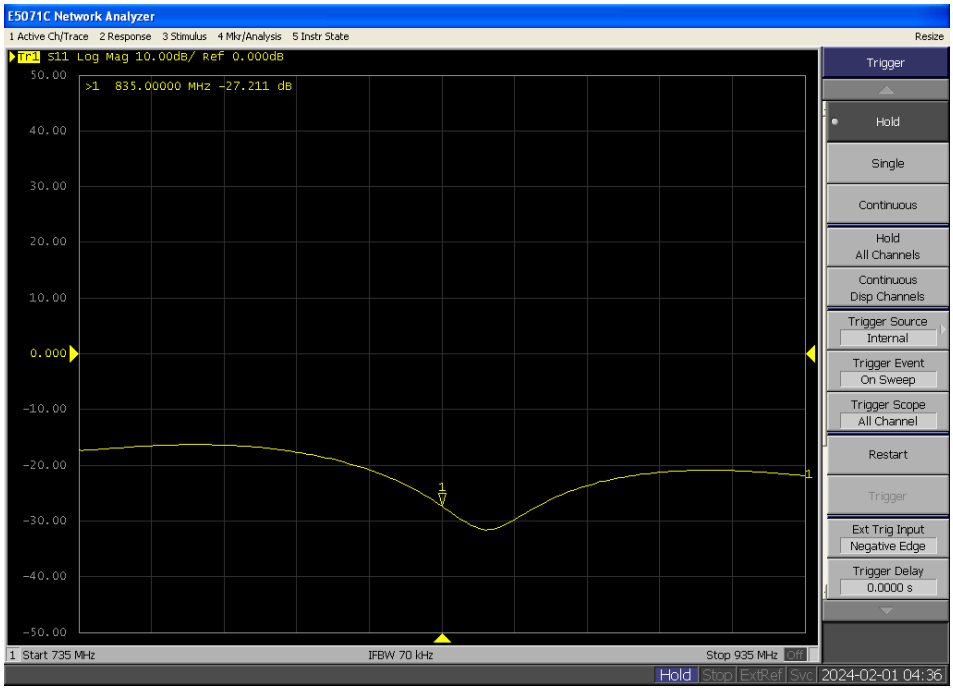

Calibrated impedance: 50.234 Ω; Measured impedance: 52.458 Ω (within 5Ω)



Calibrated return loss: -27.673 dB; Measured impedance: -26.058 dB (within 20%)



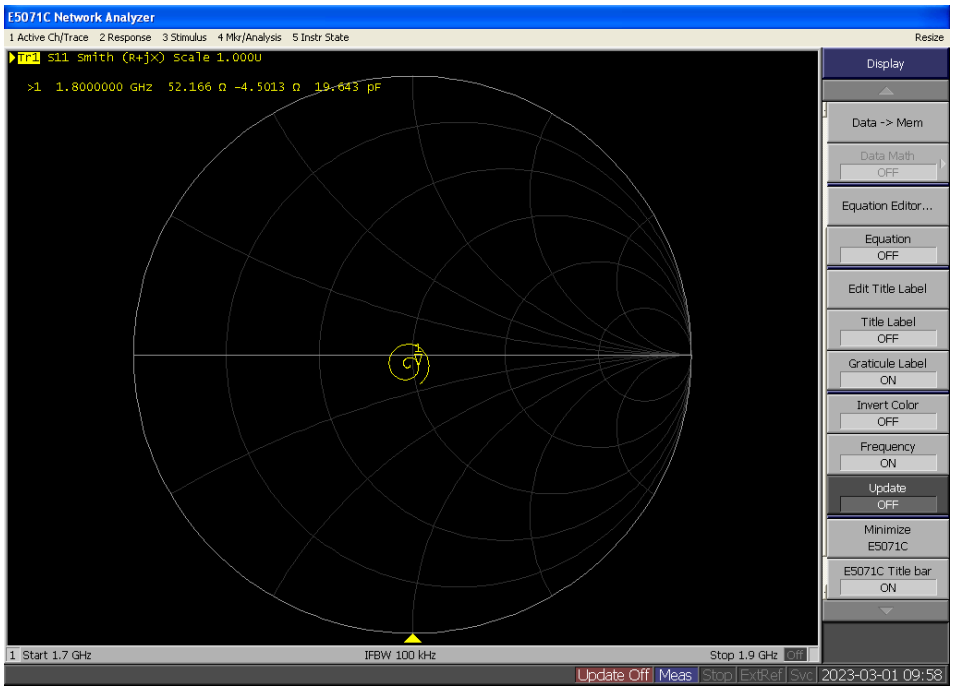

Calibrated return loss: -27.673 dB; Measured impedance: -27.211 dB (within 20%)



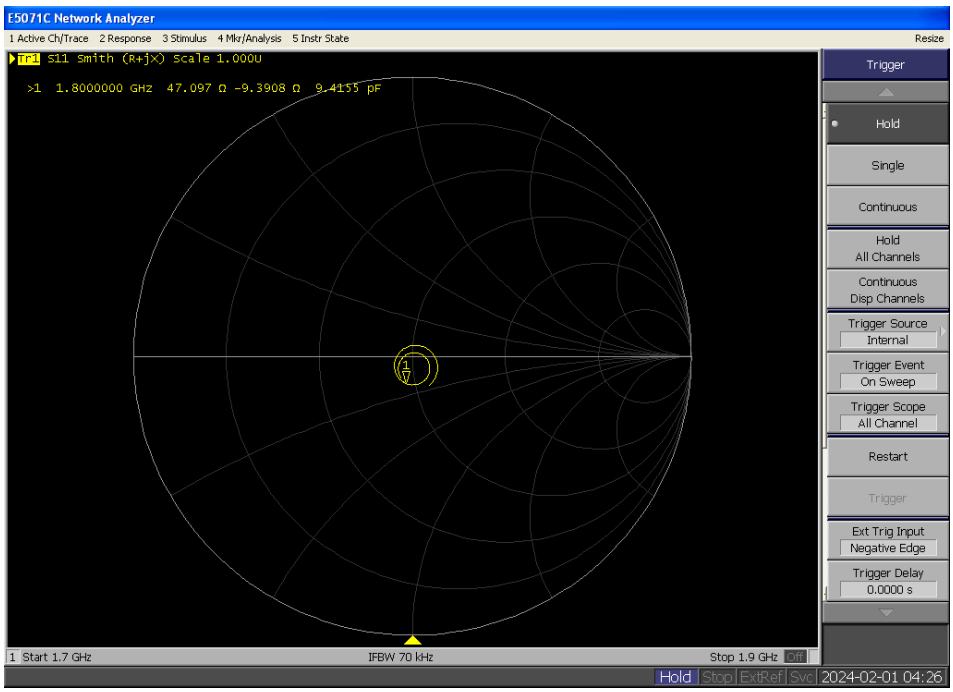
**Impedance Plot for D1800V2**

**1800MHz Head**

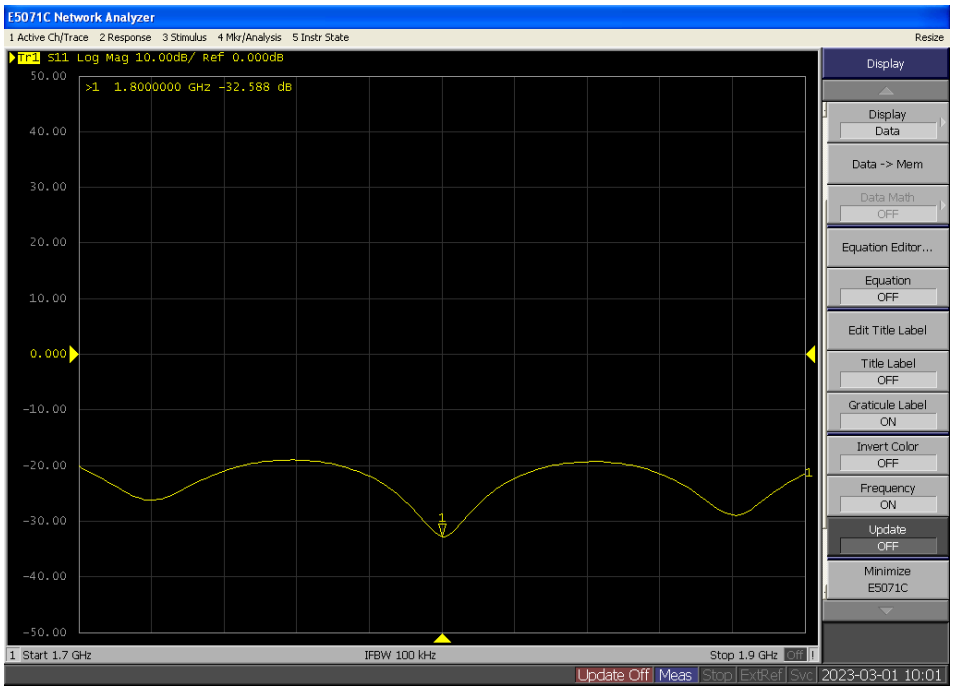
Calibrated impedance: 49.000 Ω; Measured impedance: 52.166 Ω (within 5Ω)



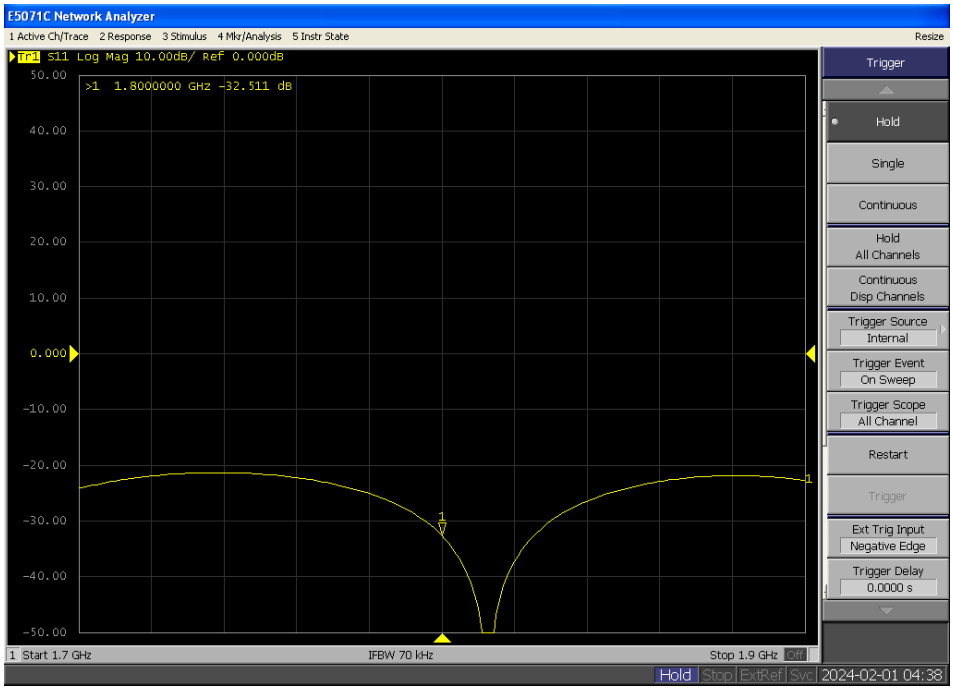

Calibrated impedance: 49.000 Ω; Measured impedance: 47.097 Ω (within 5Ω)



Calibrated return loss: -31.568 dB; Measured impedance: -32.588 dB (within 20%)



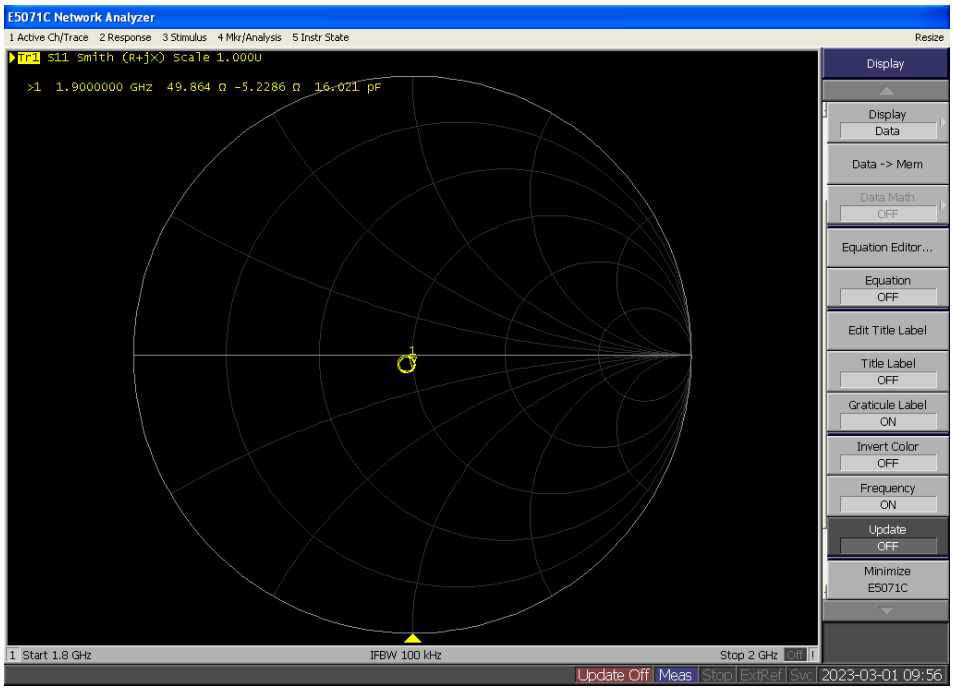

Calibrated return loss: -31.568 dB; Measured impedance: -32.511 dB (within 20%)



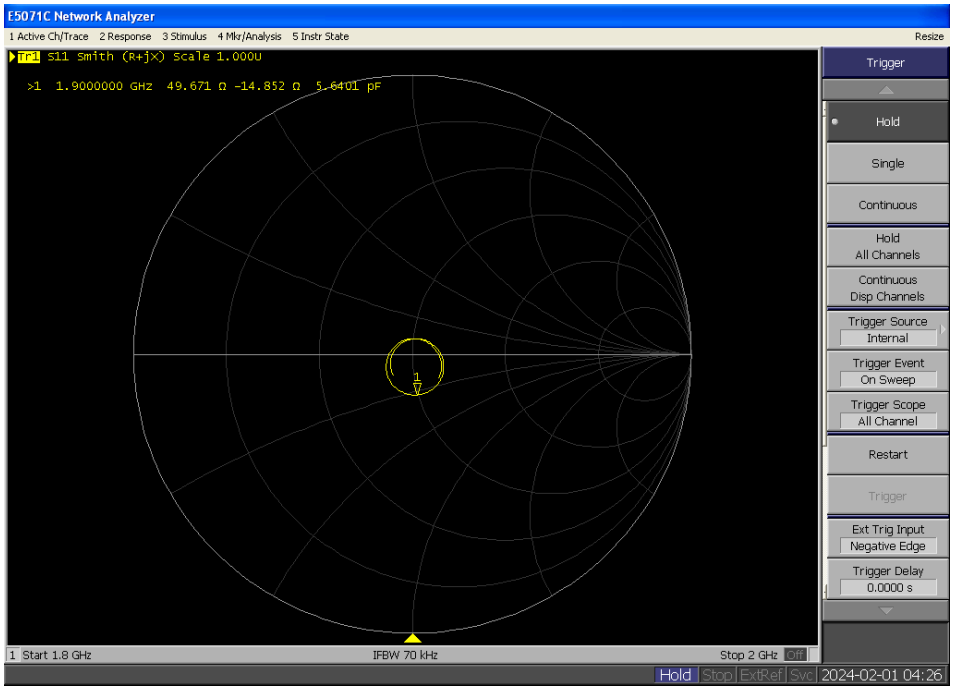
**Impedance Plot for D1900V2**

**1900MHz Head**

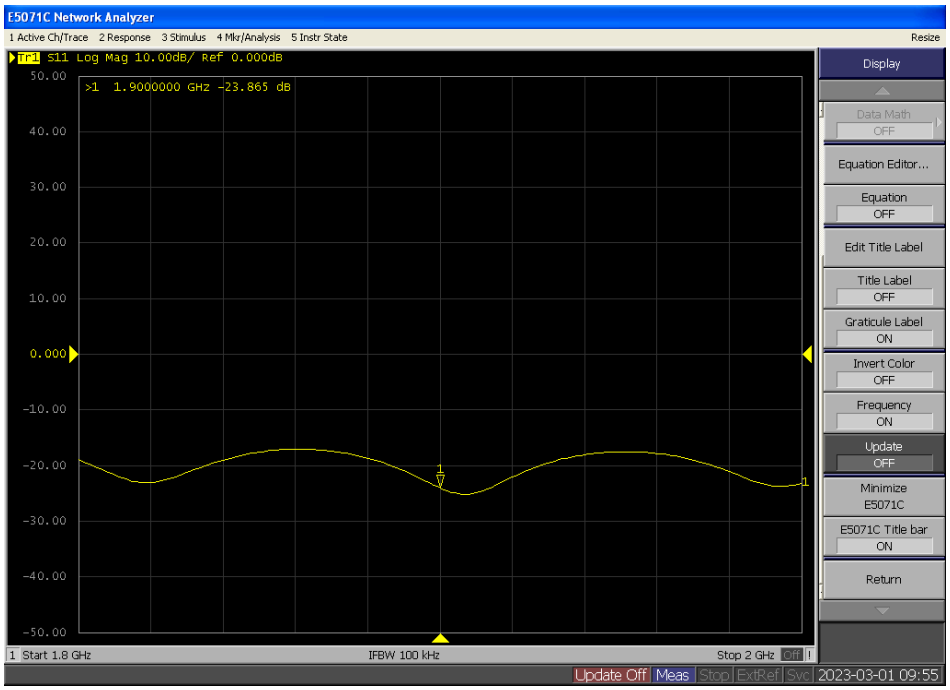
Calibrated impedance: 49.116 Ω; Measured impedance: 49.864 Ω (within 5Ω)



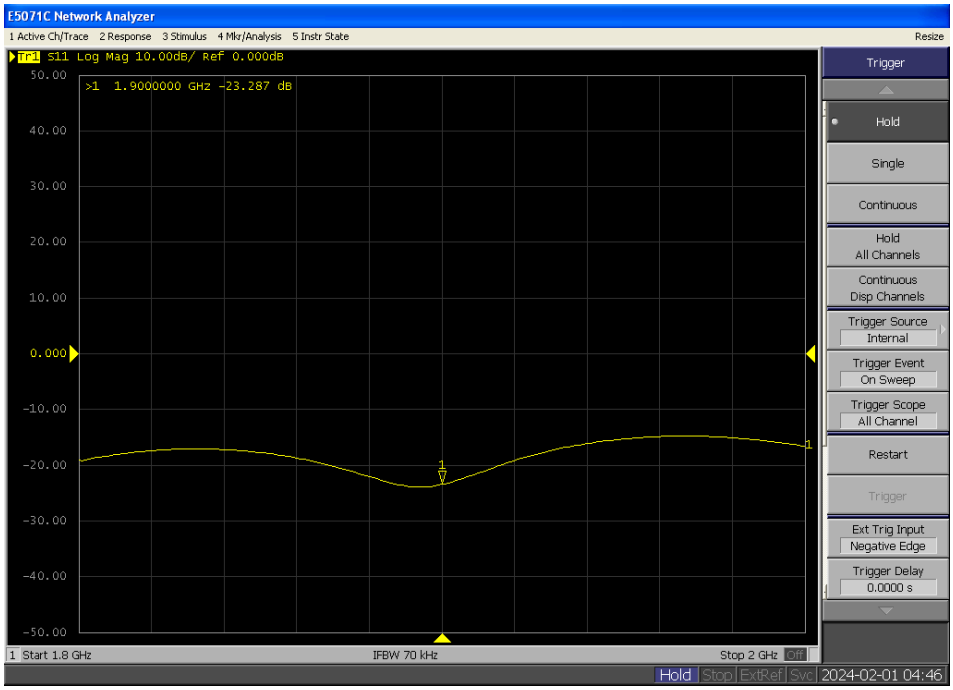

Calibrated impedance: 49.116 Ω; Measured impedance: 49.671 Ω (within 5Ω)



Calibrated return loss: -24.371 dB; Measured impedance: -23.865 dB (within 20%)



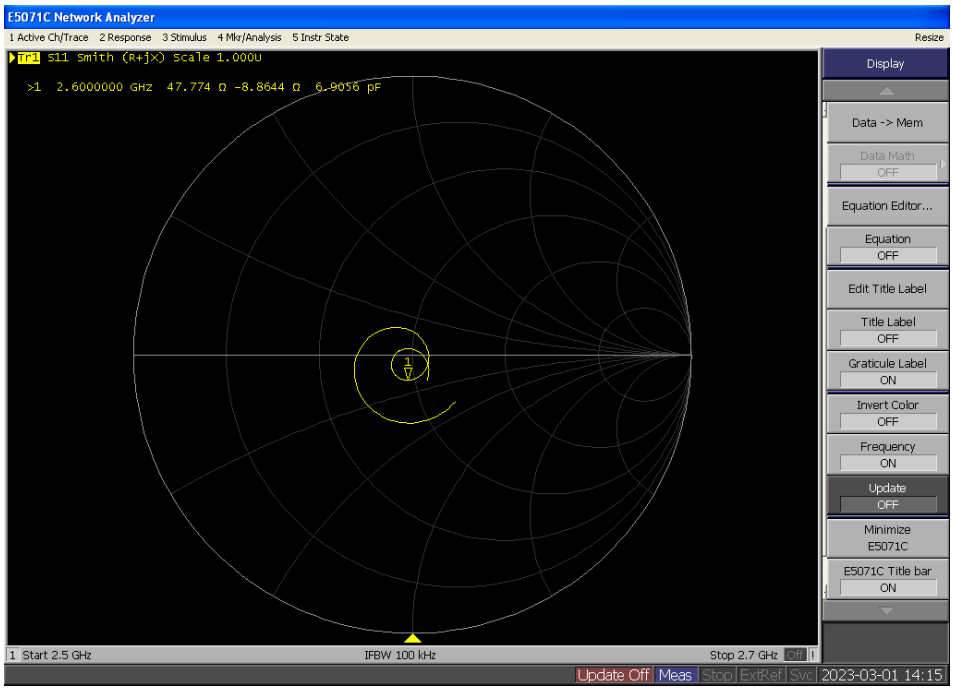

Calibrated return loss: -24.371 dB; Measured impedance: -23.287 dB (within 20%)



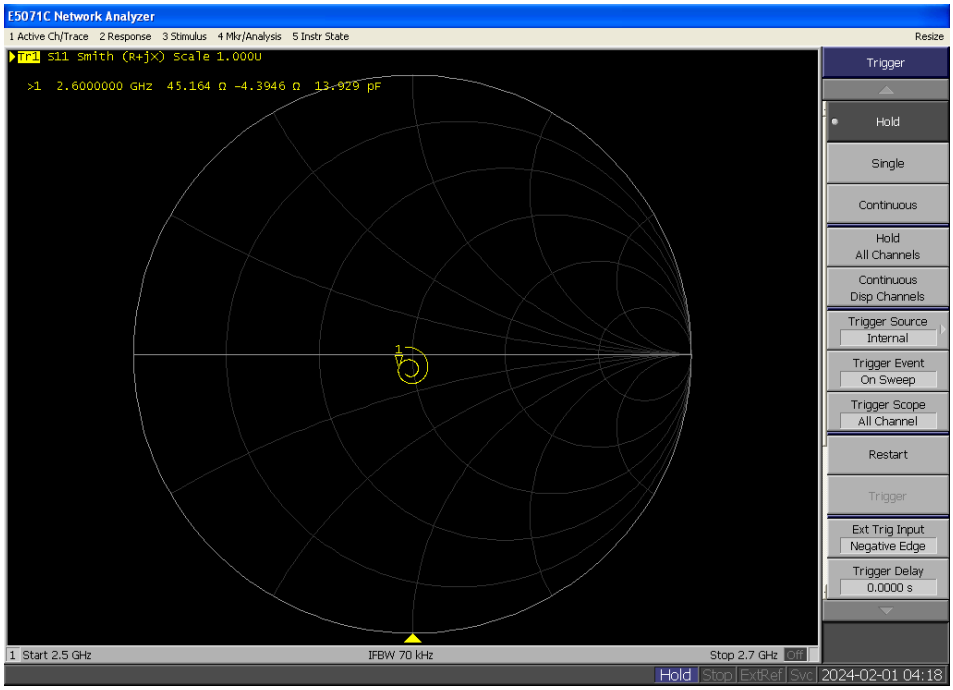
**Impedance Plot for D2600V2**

**2600MHz Head**

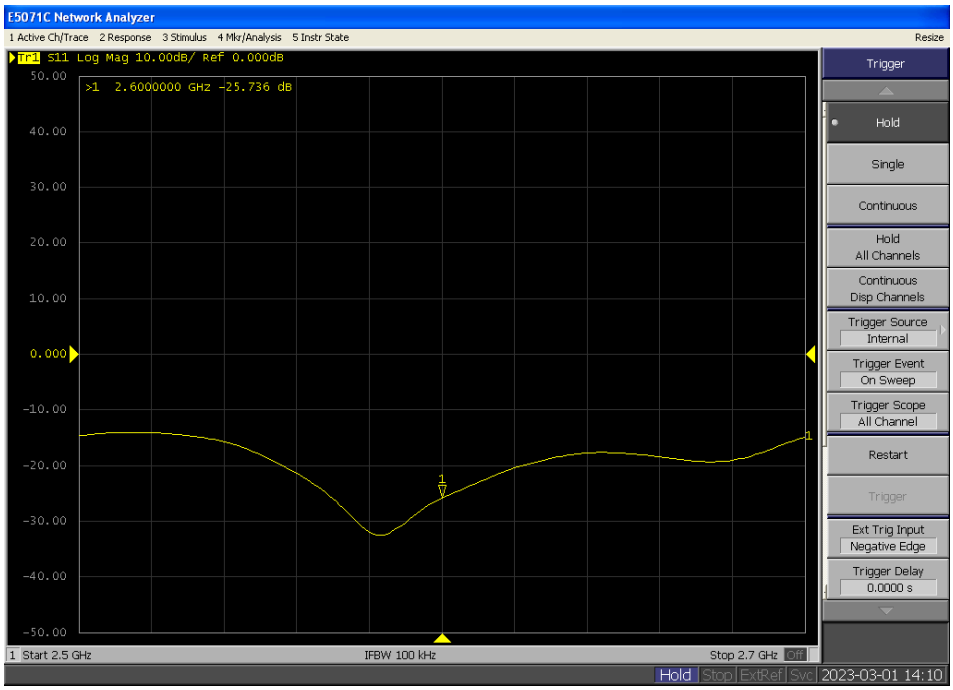
Calibrated impedance: 48.200 Ω; Measured impedance: 47.774 Ω (within 5Ω)



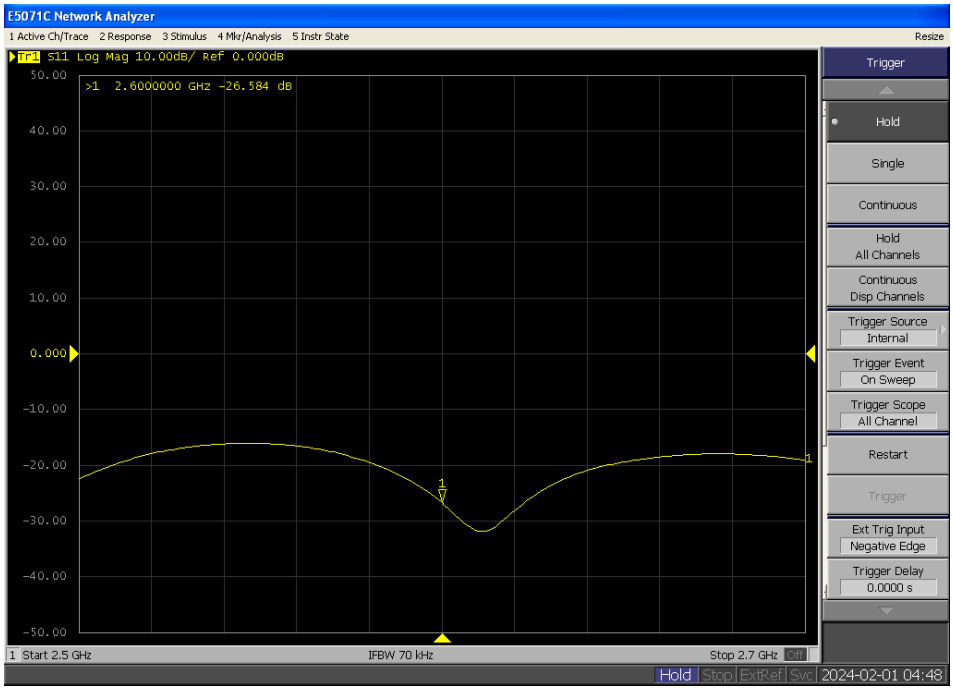

Calibrated impedance: 48.200 Ω; Measured impedance: 45.164 Ω (within 5Ω)



Calibrated return loss: -26.012 dB; Measured impedance: -25.736 dB (within 20%)



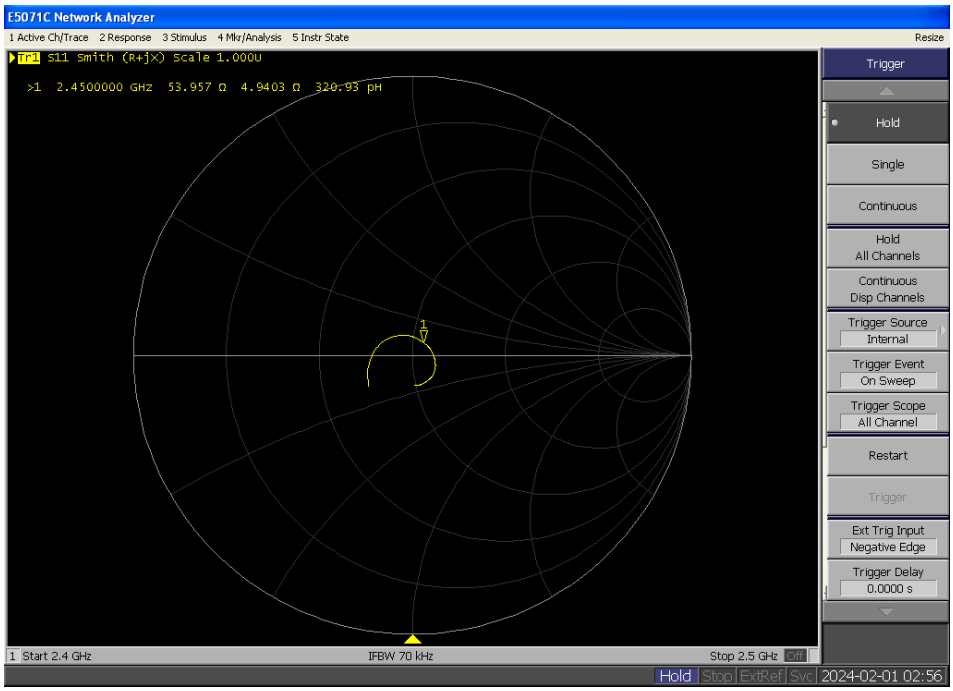

Calibrated return loss: -26.012 dB; Measured impedance: -26.584 dB (within 20%)



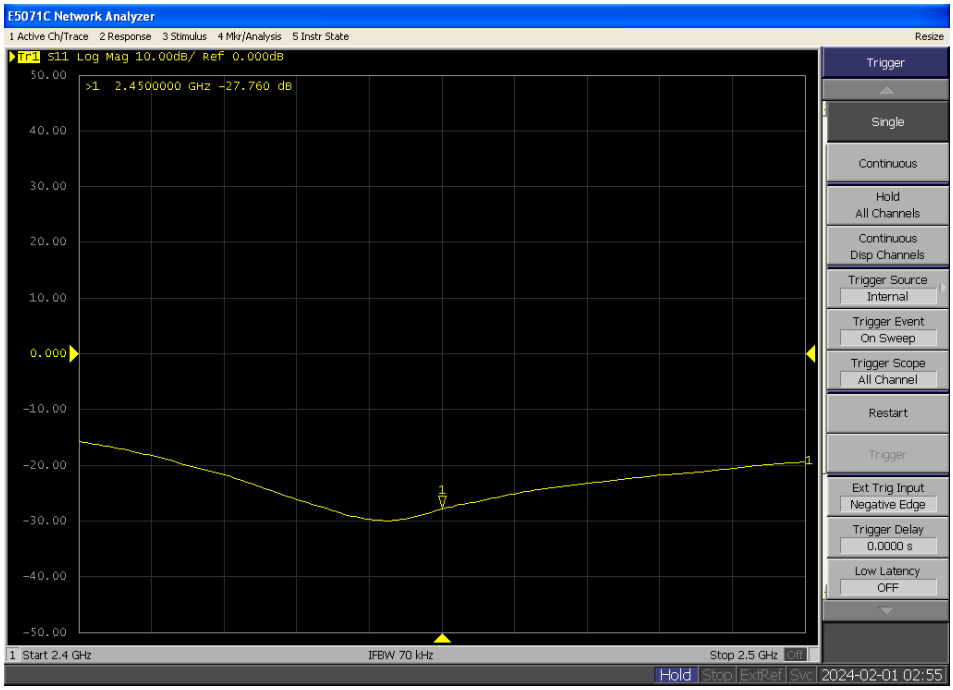
**Impedance Plot for D2450V2**

**2450MHz Head**

Calibrated impedance: 54.028 Ω; Measured impedance: 53.957 Ω (within 5Ω)



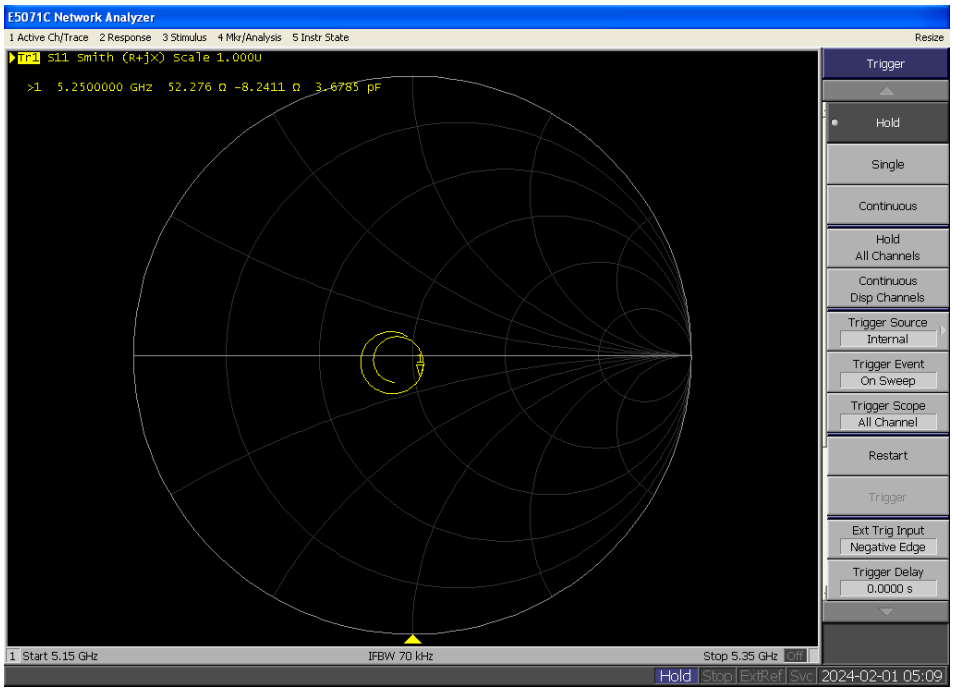

Calibrated return loss: -25.693 dB; Measured impedance: -27.760 dB (within 20%)



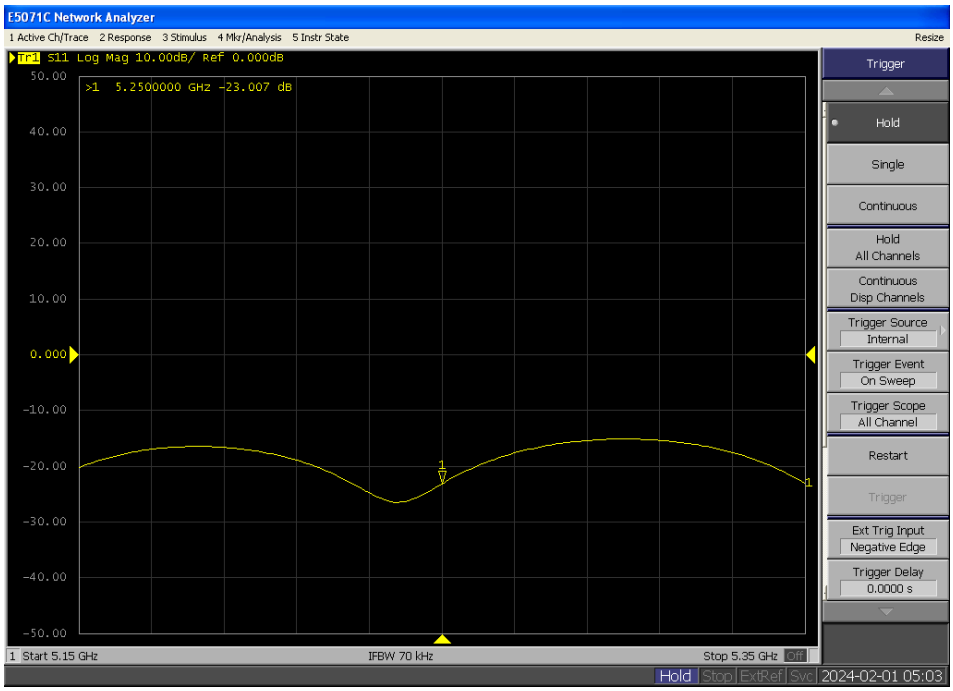
**Impedance Plot for D5250V2**

**5250MHz Head**

Calibrated impedance: 52.316 Ω; Measured impedance: 52.276 Ω (within 5Ω)



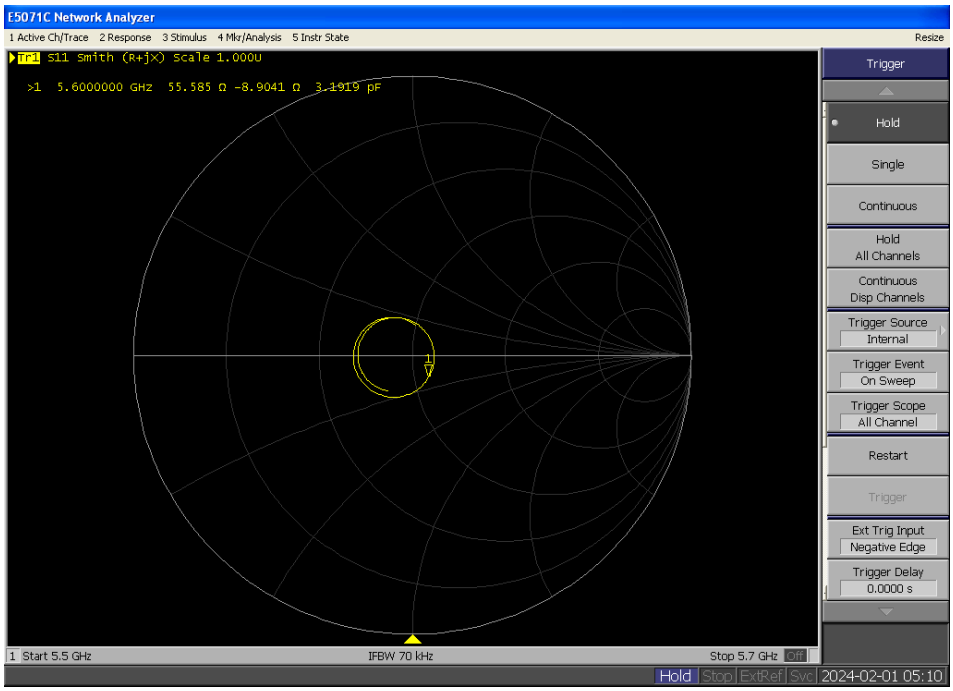

Calibrated return loss: -22.294 dB; Measured impedance: -23.007 dB (within 20%)



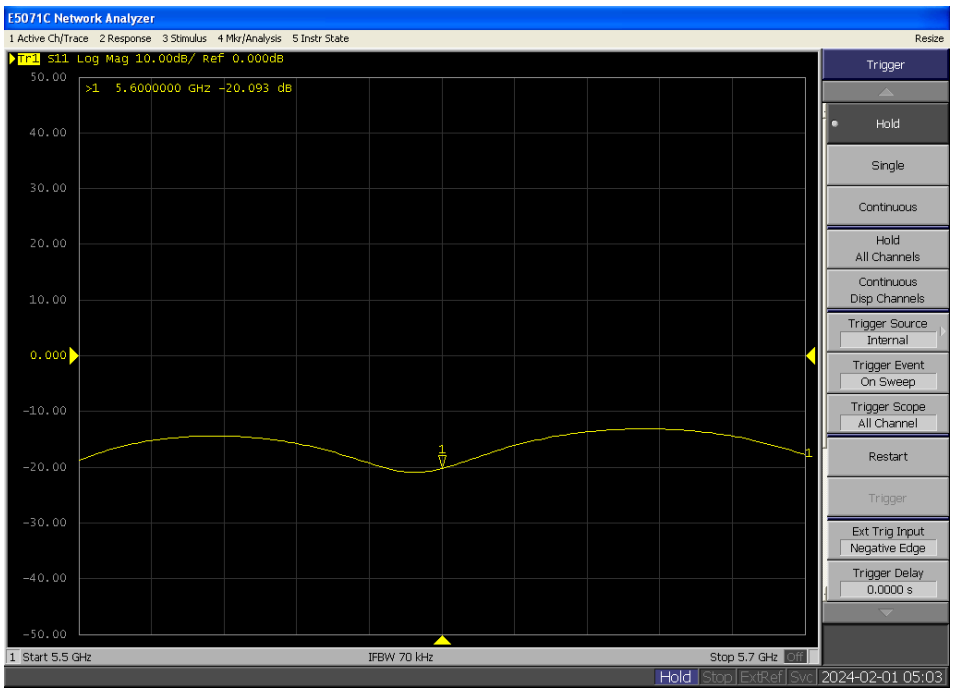
**Impedance Plot for D5600V2**

**5600MHz Head**

Calibrated impedance: 58.284 Ω; Measured impedance: 55.585 Ω (within 5Ω)



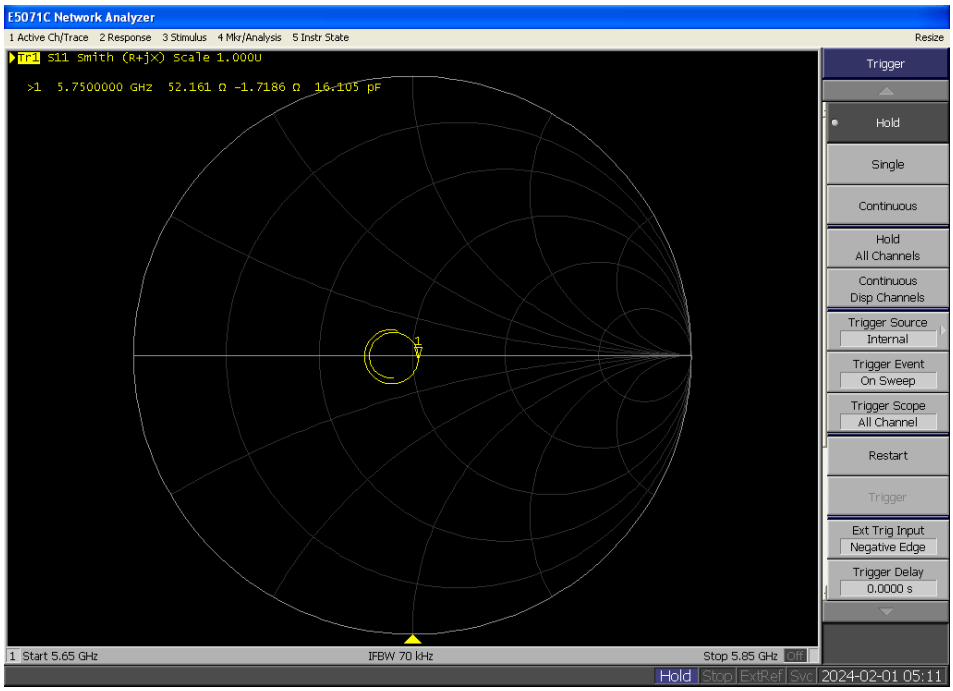

Calibrated return loss: -21.282 dB; Measured impedance: -20.093 dB (within 20%)



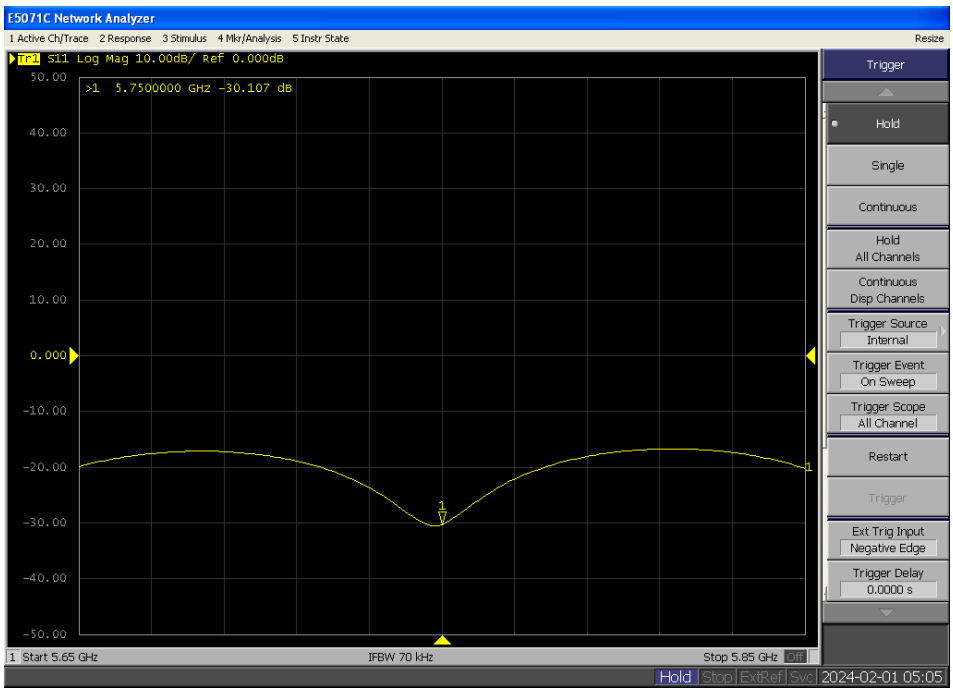
**Impedance Plot for D5750V2**

**5750MHz Head**

Calibrated impedance: 53.508 Ω; Measured impedance: 52.161 Ω (within 5Ω)




Calibrated return loss: -29.164 dB; Measured impedance: -30.107 dB (within 20%)



Note: Per KDB 450824 D02 requirements for dipole calibration, DEKRA Lab has adopted three years calibration interval. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement (Show above);
4. Impedance is within 5Ω of calibrated measurement (Show above).

## 4.2 SAR Measurement Procedure

The DASY 6 calculates SAR using the following equation,

$$SAR = \frac{\sigma |E|^2}{\rho}$$

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$ ) which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$ ).

# 5 SAR EXPOSURE LIMITS

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

**Limits for General Population/Uncontrolled Exposure (W/kg)**

| Type Exposure | Uncontrolled Environment Limit |
|---|---|
| Spatial Peak SAR (1g cube tissue for brain or Body) | **1.6 W/kg** |
| Spatial Average SAR (whole Body) | **0.08 W/kg** |
| Spatial Peak SAR (10g for hands, feet, ankles and wrist) | **4.00 W/kg** |

# 6 TEST EQUIPMENT LIST

| Instrument | Manufacturer | Model No. | Serial No. | Cal.Date | Next Cal. Date | Firmware Version | Software Version |
|---|---|---|---|---|---|---|---|
| Stäubli Robot TX60L | Stäubli | TX60L | F10/5C90A1/A/01 | N/A | N/A | N/A | N/A |
| Controller | Stäubli | SP1 | S-0034 | N/A | N/A | N/A | N/A |
| Dipole Validation Kits | Speag | D750V3 | 1086 | 2023.03.20 | 2026.03.19 | N/A | N/A |
| Dipole Validation Kits | Speag | D835V2 | 4d094 | 2022.03.31 | 2025.03.30 | N/A | N/A |
| Dipole Validation Kits | Speag | D1800V2 | 2d179 | 2022.03.31 | 2025.03.30 | N/A | N/A |
| Dipole Validation Kits | Speag | D1900V2 | 5d121 | 2022.03.28 | 2025.03.27 | N/A | N/A |
| Dipole Validation Kits | Speag | D2450V2 | 839 | 2022.04.01 | 2025.03.31 | N/A | N/A |
| Dipole Validation Kits | Speag | D2600V2 | 1029 | 2022.03.31 | 2025.03.30 | N/A | N/A |
| Dipole Validation Kits | Speag | D5GHzV2 | 1078 | 2022.03.28 | 2025.03.27 | N/A | N/A |
| SAM Twin Phantom | Speag | SAM | TP-1562 | N/A | N/A | N/A | N/A |
| Device Holder | Speag | SD 000 H01 HA | N/A | N/A | N/A | N/A | N/A |
| Data Acquisition Electronic | Speag | DAE4 | 1220 | 2023.03.20 | 2024.03.19 | N/A | N/A |
| Data Acquisition Electronic | Speag | DAE4 | 679 | 2023.06.26 | 2024.06.25 | N/A | N/A |
| E-Field Probe | Speag | EX3DV4 | 7761 | 2023.09.13 | 2024.09.12 | N/A | N/A |
| SAR Software | Speag | DASY6 | V5.2 Build 162 | N/A | N/A | N/A | V16.2.4.2448 |
| Power Amplifier | MVE | MPC1018.50 | C30002D | 2023.07.09 | 2024.07.08 | N/A | N/A |
| Dual Directional Coupler | woken | 0110A05A82Z-20 | CMLC66W1A1 | 2023.07.23 | 2024.07.22 | N/A | N/A |
| Tissue fluid test probe | SPEAG | DAK 3.5 | 1308 | 2023.02.10 | 2024.02.09 | N/A | N/A |
| Vector Network | Agilent | E5071C | MY46103316 | 2023.08.26 | 2024.08.25 | A.11.31 | N/A |
| Signal Generator | R&S | SMBV100A | 263697 | 2023.05.14 | 2024.05.13 | V4.15.125.49 | N/A |
| Power Meter | Keysight | N1912A | MY60300004 | 2023.08.26 | 2024.08.25 | A2.06.01 | N/A |
| Wideband Radio Communication Tester | R&S | CMW 500 | 170870 | 2023.05.20 | 2024.05.19 | 4.0.62.11 | N/A |
| Temperature/Humidity Meter | Rites | RTS-8S | RF06 | 2023.05.19 | 2024.05.18 | N/A | N/A |
| Temperaturer | LKM | DTM3000 | 3777 | 2023.07.08 | 2024.07.07 | N/A | N/A |

# 7 MEASUREMENT UNCERTAINTY

| **DASY6 SAR Uncertainty**<br>Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Error Description | Uncert. value | Prob. Dist. | Div. | (ci) 1g | (ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | (vi) veff |
| **Measurement System** | | | | | | | | |
| Probe Calibration | ±5.5% | N | 1 | 1 | 1 | ±5.5% | ±5.5% | ∞ |
| Axial Isotropy | ±4.7% | R | $\sqrt{3}$ | 0.7 | 0.7 | ±1.9% | ±1.9% | ∞ |
| Hemispherical Isotropy | ±9.6% | R | $\sqrt{3}$ | 0.7 | 0.7 | ±3.9% | ±3.9% | ∞ |
| Boundary Effects | ±1.0% | R | $\sqrt{3}$ | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| Linearity | ±4.7% | R | $\sqrt{3}$ | 1 | 1 | ±2.7% | ±2.7% | ∞ |
| System Detection Limits | ±1.0% | R | $\sqrt{3}$ | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| Readout Electronics | ±0.3% | N | 1 | 1 | 1 | ±0.3% | ±0.3% | ∞ |
| Response Time | ±0.8% | R | $\sqrt{3}$ | 1 | 1 | ±0.5% | ±0.5% | ∞ |
| Integration Time | ±2.6% | R | $\sqrt{3}$ | 1 | 1 | ±1.5% | ±1.5% | ∞ |
| RF Ambient Noise | ±3.0% | R | $\sqrt{3}$ | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| RF Ambient Reflections | ±3.0% | R | $\sqrt{3}$ | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| Probe Positioner | ±0.4% | R | $\sqrt{3}$ | 1 | 1 | ±0.2% | ±0.2% | ∞ |
| Probe Positioning | ±2.9% | R | $\sqrt{3}$ | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| Max. SAR Eval. | ±1.0% | R | $\sqrt{3}$ | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| **Test Sample Related** | | | | | | | | |
| Device Positioning | ±2.9% | N | 1 | 1 | 1 | ±2.9% | ±2.9% | 145 |
| Device Holder | ±3.6% | N | 1 | 1 | 1 | ±3.6% | ±3.6% | 5 |
| Power Drift | ±5.0% | R | $\sqrt{3}$ | 1 | 1 | ±2.9% | ±2.9% | ∞ |
| **Phantom and Setup** | | | | | | | | |
| Phantom Uncertainty | ±4.0% | R | $\sqrt{3}$ | 1 | 1 | ±2.3% | ±2.3% | ∞ |
| Liquid Conductivity (meas.) | ±2.5% | N | 1 | 0.78 | 0.71 | ±2.0% | ±1.8% | ∞ |
| Liquid Permittivity (meas.) | ±2.5% | N | 1 | 0.26 | 0.26 | ±0.6% | ±0.7% | ∞ |
| **Combined Std. Uncertainty** | | | | | | ±10.6% | ±10.5% | 361 |
| **Expanded STD Uncertainty** | | | | | | ±21.2% | ±21.1% | |

| **DASY6 SAR Uncertainty**<br>Measurement uncertainty for 3 GHz to 6 GHz averaged over 1 gram / 10 gram. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Error Description | Uncert. value | Prob. Dist. | Div. | ($c_i$) 1g | ($c_i$) 10g | Std. Unc. (1g) | Std. Unc. (10g) | ($v_i$) $v_{eff}$ |
| **Measurement System** | | | | | | | | |
| Probe Calibration | ±6.65% | N | 1 | 1 | 1 | ±6.65% | ±6.65% | ∞ |
| Axial Isotropy | ±4.7% | R | $\sqrt{3}$ | 0.7 | 0.7 | ±1.9% | ±1.9% | ∞ |
| Hemispherical Isotropy | ±9.6% | R | $\sqrt{3}$ | 0.7 | 0.7 | ±3.9% | ±3.9% | ∞ |
| Boundary Effects | ±2.0% | R | $\sqrt{3}$ | 1 | 1 | ±1.2% | ±1.2% | ∞ |
| Linearity | ±4.7% | R | $\sqrt{3}$ | 1 | 1 | ±2.7% | ±2.7% | ∞ |
| System Detection Limits | ±1.0% | R | $\sqrt{3}$ | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| Readout Electronics | ±0.3% | N | 1 | 1 | 1 | ±0.3% | ±0.3% | ∞ |
| Response Time | ±0.8% | R | $\sqrt{3}$ | 1 | 1 | ±0.5% | ±0.5% | ∞ |
| Integration Time | ±2.6% | R | $\sqrt{3}$ | 1 | 1 | ±1.5% | ±1.5% | ∞ |
| RF Ambient Noise | ±3.0% | R | $\sqrt{3}$ | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| RF Ambient Reflections | ±3.0% | R | $\sqrt{3}$ | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| Probe Positioner | ±0.8% | R | $\sqrt{3}$ | 1 | 1 | ±0.5% | ±0.5% | ∞ |
| Probe Positioning | ±6.7% | R | $\sqrt{3}$ | 1 | 1 | ±3.9% | ±3.9% | ∞ |
| Max. SAR Eval. | ±4.0% | R | $\sqrt{3}$ | 1 | 1 | ±2.3% | ±2.3% | ∞ |
| **Test Sample Related** | | | | | | | | |
| Device Positioning | ±2.9% | N | 1 | 1 | 1 | ±2.9% | ±2.9% | 145 |
| Device Holder | ±3.6% | N | 1 | 1 | 1 | ±3.6% | ±3.6% | 5 |
| Power Drift | ±5.0% | R | $\sqrt{3}$ | 1 | 1 | ±2.9% | ±2.9% | ∞ |
| **Phantom and Setup** | | | | | | | | |
| Phantom Uncertainty | ±4.0% | R | $\sqrt{3}$ | 1 | 1 | ±2.3% | ±2.3% | ∞ |
| Liquid Conductivity (meas.) | ±2.5% | N | 1 | 0.78 | 0.71 | ±2.0% | ±1.8% | ∞ |
| Liquid Permittivity (meas.) | ±2.5% | N | 1 | 0.26 | 0.26 | ±0.6% | ±0.7% | ∞ |
| **Combined Std. Uncertainty** | | | | | | ±12.0% | ±12.0% | 784 |
| **Expanded STD Uncertainty** | | | | | | ±24.0% | ±23.9% | |

# 8 CONDUCTED POWER MEASUREMENT

## WCDMA Power (Full Power)

| Band | | WCDMA II | | | Tune-up Limit (dBm) | WCDMA II |
|---|---|---|---|---|---|---|
| TX Channel | | 9262 | 9400 | 9538 | | Ch Delta > 0.5 |
| Rx Channel | | 9662 | 9800 | 9938 | | |
| Frequency (MHz) | | 1852.4 | 1880 | 1907.6 | | |
| 3GPP Rel 99 | RMC 12.2Kbps | 22.64 | 22.69 | 22.59 | 24.00 | 0.10 |
| 3GPP Rel 6 | HSDPA Subtest-1 | 21.98 | 21.90 | 21.86 | 23.00 | 0.12 |
| 3GPP Rel 6 | HSDPA Subtest-2 | 21.83 | 21.63 | 21.67 | 23.00 | 0.20 |
| 3GPP Rel 6 | HSDPA Subtest-3 | 21.43 | 21.39 | 21.54 | 22.50 | 0.15 |
| 3GPP Rel 6 | HSDPA Subtest-4 | 21.34 | 21.41 | 21.33 | 22.50 | 0.08 |
| 3GPP Rel 8 | DC-HSDPA Subtest-1 | 21.88 | 21.87 | 21.87 | 23.00 | 0.01 |
| 3GPP Rel 8 | DC-HSDPA Subtest-2 | 21.85 | 21.58 | 21.62 | 23.00 | 0.27 |
| 3GPP Rel 8 | DC-HSDPA Subtest-3 | 21.46 | 21.37 | 21.59 | 22.50 | 0.22 |
| 3GPP Rel 8 | DC-HSDPA Subtest-4 | 21.32 | 21.42 | 21.41 | 22.50 | 0.10 |
| 3GPP Rel 6 | HSUPA Subtest-1 | 21.83 | 21.80 | 21.76 | 23.00 | 0.07 |
| 3GPP Rel 6 | HSUPA Subtest-2 | 20.30 | 20.26 | 20.30 | 21.00 | 0.04 |
| 3GPP Rel 6 | HSUPA Subtest-3 | 21.07 | 21.01 | 21.07 | 22.00 | 0.06 |
| 3GPP Rel 6 | HSUPA Subtest-4 | 20.30 | 20.25 | 20.22 | 21.00 | 0.08 |
| 3GPP Rel 6 | HSUPA Subtest-5 | 21.82 | 21.76 | 21.85 | 23.00 | 0.09 |
| Mode | | | Max. | 22.69 | | |

| Band | | WCDMA IV | | | Tune-up Limit (dBm) | WCDMA IV |
|---|---|---|---|---|---|---|
| TX Channel | | 1312 | 1413 | 1513 | | Ch Delta > 0.5 |
| Rx Channel | | 1537 | 1638 | 1738 | | |
| Frequency (MHz) | | 1712.4 | 1732.6 | 1752.6 | | |
| 3GPP Rel 99 | RMC 12.2Kbps | 22.84 | 22.92 | 22.77 | 24.00 | 0.15 |
| 3GPP Rel 6 | HSDPA Subtest-1 | 22.21 | 22.06 | 22.07 | 23.00 | 0.15 |
| 3GPP Rel 6 | HSDPA Subtest-2 | 22.05 | 21.85 | 21.88 | 23.00 | 0.20 |
| 3GPP Rel 6 | HSDPA Subtest-3 | 21.64 | 21.62 | 21.79 | 22.50 | 0.17 |
| 3GPP Rel 6 | HSDPA Subtest-4 | 21.49 | 21.60 | 21.51 | 22.50 | 0.11 |
| 3GPP Rel 8 | DC-HSDPA Subtest-1 | 22.06 | 22.10 | 22.11 | 23.00 | 0.05 |
| 3GPP Rel 8 | DC-HSDPA Subtest-2 | 22.10 | 21.81 | 21.86 | 23.00 | 0.29 |
| 3GPP Rel 8 | DC-HSDPA Subtest-3 | 21.70 | 21.56 | 21.84 | 22.50 | 0.28 |
| 3GPP Rel 8 | DC-HSDPA Subtest-4 | 21.48 | 21.59 | 21.63 | 22.50 | 0.15 |
| 3GPP Rel 6 | HSUPA Subtest-1 | 22.08 | 21.96 | 21.95 | 23.00 | 0.13 |
| 3GPP Rel 6 | HSUPA Subtest-2 | 20.47 | 20.47 | 20.51 | 21.00 | 0.04 |
| 3GPP Rel 6 | HSUPA Subtest-3 | 21.28 | 21.20 | 21.23 | 22.00 | 0.08 |
| 3GPP Rel 6 | HSUPA Subtest-4 | 20.52 | 20.49 | 20.46 | 21.00 | 0.06 |
| 3GPP Rel 6 | HSUPA Subtest-5 | 21.98 | 21.98 | 22.07 | 23.00 | 0.09 |
| Mode | | | Max. | 22.92 | | |

| Band | | WCDMA V | | | Tune-up Limit (dBm) | WCDMA V |
|---|---|---|---|---|---|---|
| TX Channel | | 4132 | 4183 | 4233 | | Ch Delta > 0.5 |
| Rx Channel | | 4357 | 4408 | 4458 | | |
| Frequency (MHz) | | 826.4 | 836.6 | 846.6 | | |
| 3GPP Rel 99 | RMC 12.2Kbps | 23.07 | 23.16 | 22.92 | 24.00 | 0.24 |
| 3GPP Rel 6 | HSDPA Subtest-1 | 22.36 | 22.22 | 22.26 | 23.00 | 0.14 |
| 3GPP Rel 6 | HSDPA Subtest-2 | 22.27 | 22.01 | 22.11 | 23.00 | 0.26 |
| 3GPP Rel 6 | HSDPA Subtest-3 | 21.82 | 21.81 | 21.99 | 22.50 | 0.18 |
| 3GPP Rel 6 | HSDPA Subtest-4 | 21.68 | 21.84 | 21.73 | 22.50 | 0.16 |
| 3GPP Rel 8 | DC-HSDPA Subtest-1 | 22.28 | 22.25 | 22.34 | 23.00 | 0.09 |
| 3GPP Rel 8 | DC-HSDPA Subtest-2 | 22.27 | 22.00 | 22.02 | 23.00 | 0.27 |
| 3GPP Rel 8 | DC-HSDPA Subtest-3 | 21.86 | 21.75 | 22.00 | 22.50 | 0.25 |
| 3GPP Rel 8 | DC-HSDPA Subtest-4 | 21.67 | 21.83 | 21.83 | 22.50 | 0.16 |
| 3GPP Rel 6 | HSUPA Subtest-1 | 22.24 | 22.16 | 22.16 | 23.00 | 0.08 |
| 3GPP Rel 6 | HSUPA Subtest-2 | 20.69 | 20.63 | 20.76 | 21.00 | 0.13 |
| 3GPP Rel 6 | HSUPA Subtest-3 | 21.46 | 21.38 | 21.39 | 22.00 | 0.08 |
| 3GPP Rel 6 | HSUPA Subtest-4 | 20.71 | 20.69 | 20.65 | 21.00 | 0.06 |
| 3GPP Rel 6 | HSUPA Subtest-5 | 22.15 | 22.22 | 22.30 | 23.00 | 0.15 |
| Mode | | | Max. | 23.16 | | |

## WCDMA Power (Sensor on)

| Band | | WCDMA II | | | Tune-up Limit (dBm) | WCDMA II |
|---|---|---|---|---|---|---|
| TX Channel | | 9262 | 9400 | 9538 | | Ch Delta > 0.5 |
| Rx Channel | | 9662 | 9800 | 9938 | | |
| Frequency (MHz) | | 1852.4 | 1880 | 1907.6 | | |
| 3GPP Rel 99 | RMC 12.2Kbps | 17.32 | 17.48 | 17.45 | 18.50 | 0.16 |
| 3GPP Rel 6 | HSDPA Subtest-1 | 16.54 | 16.44 | 16.37 | 17.50 | 0.17 |
| 3GPP Rel 6 | HSDPA Subtest-2 | 16.38 | 16.10 | 16.15 | 17.50 | 0.28 |
| 3GPP Rel 6 | HSDPA Subtest-3 | 15.83 | 15.80 | 15.94 | 17.00 | 0.14 |
| 3GPP Rel 6 | HSDPA Subtest-4 | 15.79 | 15.83 | 15.94 | 17.00 | 0.15 |
| 3GPP Rel 8 | DC-HSDPA Subtest-1 | 16.31 | 16.29 | 16.36 | 17.50 | 0.07 |
| 3GPP Rel 8 | DC-HSDPA Subtest-2 | 16.26 | 16.15 | 16.11 | 17.50 | 0.15 |
| 3GPP Rel 8 | DC-HSDPA Subtest-3 | 15.87 | 15.96 | 16.02 | 17.00 | 0.15 |
| 3GPP Rel 8 | DC-HSDPA Subtest-4 | 15.76 | 16.03 | 15.98 | 17.00 | 0.27 |
| 3GPP Rel 6 | HSUPA Subtest-1 | 16.43 | 16.19 | 16.25 | 17.50 | 0.24 |
| 3GPP Rel 6 | HSUPA Subtest-2 | 14.87 | 14.67 | 14.80 | 15.50 | 0.20 |
| 3GPP Rel 6 | HSUPA Subtest-3 | 15.49 | 15.41 | 15.56 | 16.50 | 0.15 |
| 3GPP Rel 6 | HSUPA Subtest-4 | 14.75 | 14.64 | 14.62 | 15.50 | 0.13 |
| 3GPP Rel 6 | HSUPA Subtest-5 | 16.40 | 16.26 | 16.39 | 17.50 | 0.14 |
| Mode | | | Max. | 17.48 | | |

| Band | | WCDMA IV | | | Tune-up Limit (dBm) | WCDMA IV |
|---|---|---|---|---|---|---|
| TX Channel | | 1312 | 1413 | 1513 | | Ch Delta > 0.5 |
| Rx Channel | | 1537 | 1638 | 1738 | | |
| Frequency (MHz) | | 1712.4 | 1732.6 | 1752.6 | | |
| 3GPP Rel 99 | RMC 12.2Kbps | 19.38 | 19.47 | 19.36 | 20.50 | 0.11 |
| 3GPP Rel 6 | HSDPA Subtest-1 | 18.65 | 18.48 | 18.49 | 19.50 | 0.17 |
| 3GPP Rel 6 | HSDPA Subtest-2 | 18.60 | 18.24 | 18.34 | 19.50 | 0.36 |
| 3GPP Rel 6 | HSDPA Subtest-3 | 18.19 | 18.00 | 18.19 | 19.00 | 0.19 |
| 3GPP Rel 6 | HSDPA Subtest-4 | 18.08 | 18.06 | 17.93 | 19.00 | 0.15 |
| 3GPP Rel 8 | DC-HSDPA Subtest-1 | 18.58 | 18.57 | 18.63 | 19.50 | 0.06 |
| 3GPP Rel 8 | DC-HSDPA Subtest-2 | 18.52 | 18.39 | 18.41 | 19.50 | 0.13 |
| 3GPP Rel 8 | DC-HSDPA Subtest-3 | 18.29 | 17.95 | 18.44 | 19.00 | 0.49 |
| 3GPP Rel 8 | DC-HSDPA Subtest-4 | 17.89 | 18.17 | 18.09 | 19.00 | 0.28 |
| 3GPP Rel 6 | HSUPA Subtest-1 | 18.65 | 18.54 | 18.53 | 19.50 | 0.12 |
| 3GPP Rel 6 | HSUPA Subtest-2 | 16.92 | 17.01 | 17.09 | 17.50 | 0.17 |
| 3GPP Rel 6 | HSUPA Subtest-3 | 17.75 | 17.81 | 17.85 | 18.50 | 0.10 |
| 3GPP Rel 6 | HSUPA Subtest-4 | 17.08 | 16.92 | 16.94 | 17.50 | 0.16 |
| 3GPP Rel 6 | HSUPA Subtest-5 | 18.48 | 18.49 | 18.51 | 19.50 | 0.03 |
| Mode | | | Max. | 19.47 | | |

## LTE FDD Power (Full Power)

| Band 2 | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 18700 | 18900 | 19100 | | | | | |
| Frequency (MHz) | | | | 1860 | 1880 | 1900 | | | | | |
| 20 | QPSK | 1 | 0 | 22.16 | 22.17 | 22.26 | 24 | 0 | 1.84 | 1.74 | |
| 20 | QPSK | 1 | 49 | 22.39 | 22.43 | 22.34 | | | 1.66 | 1.57 | 0.35 |
| 20 | QPSK | 1 | 99 | 22.08 | 22.13 | 22.15 | | | 1.92 | 1.85 | |
| 20 | QPSK | 50 | 0 | 21.10 | 21.14 | 21.17 | 23 | 1 | 1.90 | 1.83 | |
| 20 | QPSK | 50 | 24 | 21.14 | 21.12 | 21.14 | | | 1.88 | 1.86 | 0.11 |
| 20 | QPSK | 50 | 50 | 21.07 | 21.07 | 21.06 | | | 1.94 | 1.93 | |
| 20 | QPSK | 100 | 0 | 21.12 | 21.09 | 21.21 | | | 1.91 | 1.79 | 0.12 |
| 20 | 16QAM | 1 | 0 | 21.60 | 21.66 | 21.66 | 23 | 1 | 1.40 | 1.34 | |
| 20 | 16QAM | 1 | 49 | 21.86 | 21.83 | 21.78 | | | 1.22 | 1.14 | 0.26 |
| 20 | 16QAM | 1 | 99 | 21.78 | 21.71 | 21.80 | | | 1.29 | 1.20 | |
| 20 | 16QAM | 50 | 0 | 20.24 | 20.18 | 20.29 | 22 | 2 | 1.82 | 1.71 | |
| 20 | 16QAM | 50 | 24 | 20.06 | 20.13 | 20.10 | | | 1.94 | 1.87 | 0.23 |
| 20 | 16QAM | 50 | 50 | 20.14 | 20.22 | 20.22 | | | 1.86 | 1.78 | |
| 20 | 16QAM | 100 | 0 | 20.06 | 20.12 | 20.10 | | | 1.94 | 1.88 | 0.06 |
| Channel | | | | 18675 | 18900 | 19125 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1857.5 | 1880 | 1902.5 | | | | | |
| 15 | QPSK | 1 | 0 | 22.07 | 22.04 | 22.17 | 24 | 0 | 1.96 | 1.83 | |
| 15 | QPSK | 1 | 37 | 22.30 | 22.30 | 22.25 | | | 1.75 | 1.70 | 0.29 |
| 15 | QPSK | 1 | 74 | 22.01 | 22.04 | 22.03 | | | 1.99 | 1.96 | |
| 15 | QPSK | 36 | 0 | 21.01 | 21.03 | 21.05 | 23 | 1 | 1.99 | 1.95 | |
| 15 | QPSK | 36 | 20 | 21.05 | 21.00 | 21.06 | | | 2.00 | 1.94 | 0.13 |
| 15 | QPSK | 36 | 39 | 21.13 | 21.11 | 21.11 | | | 1.89 | 1.87 | |
| 15 | QPSK | 75 | 0 | 21.01 | 21.01 | 21.13 | | | 1.99 | 1.87 | 0.12 |
| 15 | 16QAM | 1 | 0 | 21.49 | 21.55 | 21.55 | 23 | 1 | 1.51 | 1.45 | |
| 15 | 16QAM | 1 | 37 | 21.78 | 21.75 | 21.68 | | | 1.32 | 1.22 | 0.29 |
| 15 | 16QAM | 1 | 74 | 21.67 | 21.61 | 21.67 | | | 1.39 | 1.33 | |
| 15 | 16QAM | 36 | 0 | 20.14 | 20.10 | 20.16 | 22 | 2 | 1.90 | 1.84 | |
| 15 | 16QAM | 36 | 20 | 20.11 | 20.02 | 20.02 | | | 1.98 | 1.89 | 0.14 |
| 15 | 16QAM | 36 | 39 | 20.02 | 20.14 | 20.12 | | | 1.98 | 1.86 | |
| 15 | 16QAM | 75 | 0 | 20.03 | 20.02 | 20.01 | | | 1.99 | 1.97 | 0.02 |
| Channel | | | | 18650 | 18900 | 19150 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1855 | 1880 | 1905 | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 1 | 0 | 22.06 | 22.04 | 22.15 | 24 | 0 | 1.96 | 1.85 | 0.28 |
| 10 | QPSK | 1 | 25 | 22.30 | 22.31 | 22.23 | | | 1.77 | 1.69 | |
| 10 | QPSK | 1 | 49 | 22.03 | 22.05 | 22.07 | | | 1.97 | 1.93 | |
| 10 | QPSK | 25 | 0 | 21.02 | 21.05 | 21.09 | 23 | 1 | 1.98 | 1.91 | 0.09 |
| 10 | QPSK | 25 | 12 | 21.04 | 21.01 | 21.04 | | | 1.99 | 1.96 | |
| 10 | QPSK | 25 | 25 | 21.00 | 21.01 | 21.05 | | | 2.00 | 1.95 | |
| 10 | QPSK | 50 | 0 | 21.04 | 21.01 | 21.13 | | | 1.99 | 1.87 | 0.12 |
| 10 | 16QAM | 1 | 0 | 21.53 | 21.58 | 21.55 | 23 | 1 | 1.47 | 1.42 | 0.24 |
| 10 | 16QAM | 1 | 25 | 21.77 | 21.72 | 21.66 | | | 1.34 | 1.23 | |
| 10 | 16QAM | 1 | 49 | 21.69 | 21.58 | 21.68 | | | 1.42 | 1.31 | |
| 10 | 16QAM | 25 | 0 | 20.13 | 20.10 | 20.22 | 22 | 2 | 1.90 | 1.78 | 0.22 |
| 10 | 16QAM | 25 | 12 | 20.03 | 20.01 | 20.00 | | | 2.00 | 1.97 | |
| 10 | 16QAM | 25 | 25 | 20.03 | 20.09 | 20.11 | | | 1.97 | 1.89 | |
| 10 | 16QAM | 50 | 0 | 20.13 | 20.00 | 20.08 | | | 2.00 | 1.87 | 0.13 |
| Channel | | | | 18625 | 18900 | 19175 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1852.5 | 1880 | 1907.5 | | | | | |
| 5 | QPSK | 1 | 0 | 22.05 | 22.10 | 22.17 | 24 | 0 | 1.95 | 1.83 | 0.34 |
| 5 | QPSK | 1 | 12 | 22.32 | 22.34 | 22.27 | | | 1.73 | 1.66 | |
| 5 | QPSK | 1 | 24 | 22.00 | 22.06 | 22.06 | | | 2.00 | 1.94 | |
| 5 | QPSK | 12 | 0 | 21.02 | 21.05 | 21.06 | 23 | 1 | 1.98 | 1.94 | 0.13 |
| 5 | QPSK | 12 | 7 | 21.02 | 21.00 | 21.02 | | | 2.00 | 1.98 | |
| 5 | QPSK | 12 | 13 | 21.13 | 21.11 | 21.09 | | | 1.91 | 1.87 | |
| 5 | QPSK | 25 | 0 | 21.05 | 21.00 | 21.08 | | | 2.00 | 1.92 | 0.08 |
| 5 | 16QAM | 1 | 0 | 21.50 | 21.56 | 21.58 | 23 | 1 | 1.50 | 1.42 | 0.26 |
| 5 | 16QAM | 1 | 12 | 21.76 | 21.72 | 21.67 | | | 1.33 | 1.24 | |
| 5 | 16QAM | 1 | 24 | 21.67 | 21.59 | 21.69 | | | 1.41 | 1.31 | |
| 5 | 16QAM | 12 | 0 | 20.15 | 20.11 | 20.17 | 22 | 2 | 1.89 | 1.83 | 0.17 |
| 5 | 16QAM | 12 | 7 | 20.03 | 20.02 | 20.00 | | | 2.00 | 1.97 | |
| 5 | 16QAM | 12 | 13 | 20.05 | 20.13 | 20.09 | | | 1.95 | 1.87 | |
| 5 | 16QAM | 25 | 0 | 20.11 | 20.01 | 20.02 | | | 1.99 | 1.89 | 0.10 |
| Channel | | | | 18615 | 18900 | 19185 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1851.5 | 1880 | 1908.5 | | | | | |
| 3 | QPSK | 1 | 0 | 22.06 | 22.08 | 22.14 | 24 | 0 | 1.94 | 1.86 | 0.34 |
| 3 | QPSK | 1 | 8 | 22.30 | 22.35 | 22.22 | | | 1.78 | 1.65 | |
| 3 | QPSK | 1 | 14 | 22.01 | 22.01 | 22.08 | | | 1.99 | 1.92 | |
| 3 | QPSK | 8 | 0 | 21.11 | 21.06 | 21.06 | 23 | 1 | 1.94 | 1.89 | 0.10 |
| 3 | QPSK | 8 | 4 | 21.02 | 21.05 | 21.07 | | | 1.98 | 1.93 | |
| 3 | QPSK | 8 | 7 | 21.11 | 21.12 | 21.09 | | | 1.91 | 1.88 | |
| 3 | QPSK | 15 | 0 | 21.00 | 21.01 | 21.11 | | | 2.00 | 1.89 | 0.11 |
| 3 | 16QAM | 1 | 0 | 21.48 | 21.55 | 21.57 | 23 | 1 | 1.52 | 1.43 | 0.27 |
| 3 | 16QAM | 1 | 8 | 21.75 | 21.73 | 21.69 | | | 1.31 | 1.25 | |
| 3 | 16QAM | 1 | 14 | 21.69 | 21.62 | 21.71 | | | 1.38 | 1.29 | |
| 3 | 16QAM | 8 | 0 | 20.16 | 20.07 | 20.21 | 22 | 2 | 1.93 | 1.79 | 0.19 |
| 3 | 16QAM | 8 | 4 | 20.13 | 20.05 | 20.02 | | | 1.98 | 1.87 | |
| 3 | 16QAM | 8 | 7 | 20.04 | 20.15 | 20.09 | | | 1.96 | 1.85 | |
| 3 | 16QAM | 15 | 0 | 20.11 | 20.01 | 20.02 | | | 1.99 | 1.89 | 0.10 |
| Channel | | | | 18607 | 18900 | 19193 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1850.7 | 1880 | 1909.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 22.09 | 22.06 | 22.14 | 24 | 0 | 1.94 | 1.94 | 0.34 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | QPSK | 1 | 3 | 22.27 | 22.34 | 22.22 | | | 1.78 | 1.78 | |
| 1.4 | QPSK | 1 | 5 | 22.00 | 22.01 | 22.04 | | | 2.00 | 2.00 | |
| 1.4 | QPSK | 3 | 0 | 22.05 | 22.09 | 22.15 | | | 1.95 | 1.95 | |
| 1.4 | QPSK | 3 | 1 | 22.29 | 22.35 | 22.27 | | | 1.73 | 1.73 | 0.35 |
| 1.4 | QPSK | 3 | 3 | 22.03 | 22.00 | 22.04 | | | 2.00 | 2.00 | |
| 1.4 | QPSK | 6 | 0 | 21.01 | 21.00 | 21.09 | 23 | 1 | 2.00 | 2.00 | 0.09 |
| 1.4 | 16QAM | 1 | 0 | 21.51 | 21.59 | 21.57 | | | 1.49 | 1.49 | |
| 1.4 | 16QAM | 1 | 3 | 21.73 | 21.72 | 21.68 | | | 1.32 | 1.32 | 0.22 |
| 1.4 | 16QAM | 1 | 5 | 21.68 | 21.59 | 21.70 | | | 1.41 | 1.41 | |
| 1.4 | 16QAM | 3 | 0 | 21.11 | 21.02 | 21.08 | 23 | 1 | 1.98 | 1.98 | |
| 1.4 | 16QAM | 3 | 1 | 21.03 | 21.00 | 21.02 | | | 2.00 | 2.00 | 0.15 |
| 1.4 | 16QAM | 3 | 3 | 21.03 | 21.15 | 21.09 | | | 1.97 | 1.97 | |
| 1.4 | 16QAM | 6 | 0 | 20.11 | 20.02 | 20.11 | 22 | 2 | 1.98 | 1.98 | 0.09 |

# Band 4

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 20050 | 20175 | 20300 | | | | | |
| Frequency (MHz) | | | | 1720 | 1732.5 | 1745 | | | | | |
| 20 | QPSK | 1 | 0 | 22.61 | 22.63 | 22.53 | | | 1.47 | 1.37 | |
| 20 | QPSK | 1 | 49 | 22.30 | 22.29 | 22.48 | 24 | 0 | 1.71 | 1.52 | 0.35 |
| 20 | QPSK | 1 | 99 | 22.28 | 22.33 | 22.31 | | | 1.72 | 1.67 | |
| 20 | QPSK | 50 | 0 | 21.27 | 21.31 | 21.33 | | | 1.73 | 1.67 | |
| 20 | QPSK | 50 | 24 | 21.23 | 21.27 | 21.27 | 23 | 1 | 1.77 | 1.73 | 0.16 |
| 20 | QPSK | 50 | 50 | 21.17 | 21.29 | 21.25 | | | 1.83 | 1.71 | |
| 20 | QPSK | 100 | 0 | 21.25 | 21.20 | 21.35 | | | 1.80 | 1.65 | 0.15 |
| 20 | 16QAM | 1 | 0 | 21.78 | 21.86 | 21.76 | | | 1.24 | 1.14 | |
| 20 | 16QAM | 1 | 49 | 22.08 | 22.02 | 21.88 | 23 | 1 | 1.12 | 0.92 | 0.32 |
| 20 | 16QAM | 1 | 99 | 21.99 | 21.88 | 21.93 | | | 1.12 | 1.01 | |
| 20 | 16QAM | 50 | 0 | 20.43 | 20.32 | 20.47 | | | 1.68 | 1.53 | |
| 20 | 16QAM | 50 | 24 | 20.22 | 20.32 | 20.26 | 22 | 2 | 1.78 | 1.68 | 0.25 |
| 20 | 16QAM | 50 | 50 | 20.31 | 20.41 | 20.42 | | | 1.69 | 1.58 | |
| 20 | 16QAM | 100 | 0 | 20.17 | 20.31 | 20.29 | | | 1.83 | 1.69 | 0.14 |
| Channel | | | | 20025 | 20175 | 20325 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1717.5 | 1732.5 | 1747.5 | | | | | |
| 15 | QPSK | 1 | 0 | 22.20 | 22.24 | 22.31 | | | 1.80 | 1.69 | |
| 15 | QPSK | 1 | 37 | 22.49 | 22.49 | 22.37 | 24 | 0 | 1.63 | 1.51 | 0.33 |
| 15 | QPSK | 1 | 74 | 22.18 | 22.22 | 22.16 | | | 1.84 | 1.78 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | QPSK | 36 | 0 | 21.18 | 21.19 | 21.24 | 23 | 1 | 1.82 | 1.76 | 0.16 |
| 15 | QPSK | 36 | 20 | 21.21 | 21.22 | 21.15 | | | 1.85 | 1.78 | |
| 15 | QPSK | 36 | 39 | 21.16 | 21.08 | 21.14 | | | 1.92 | 1.84 | |
| 15 | QPSK | 75 | 0 | 21.20 | 21.14 | 21.28 | | | 1.86 | 1.72 | 0.14 |
| 15 | 16QAM | 1 | 0 | 21.64 | 21.68 | 21.75 | 23 | 1 | 1.36 | 1.25 | 0.31 |
| 15 | 16QAM | 1 | 37 | 21.95 | 21.86 | 21.82 | | | 1.18 | 1.05 | |
| 15 | 16QAM | 1 | 74 | 21.83 | 21.73 | 21.82 | | | 1.27 | 1.17 | |
| 15 | 16QAM | 36 | 0 | 20.38 | 20.28 | 20.31 | 22 | 2 | 1.72 | 1.62 | 0.25 |
| 15 | 16QAM | 36 | 20 | 20.20 | 20.13 | 20.17 | | | 1.87 | 1.80 | |
| 15 | 16QAM | 36 | 39 | 20.26 | 20.35 | 20.34 | | | 1.74 | 1.65 | |
| 15 | 16QAM | 75 | 0 | 20.07 | 20.18 | 20.22 | | | 1.93 | 1.78 | 0.15 |
| Channel | | | | 20000 | 20175 | 20350 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1715 | 1732.5 | 1750 | | | | | |
| 10 | QPSK | 1 | 0 | 22.25 | 22.24 | 22.38 | 24 | 0 | 1.76 | 1.62 | 0.33 |
| 10 | QPSK | 1 | 25 | 22.48 | 22.51 | 22.41 | | | 1.59 | 1.49 | |
| 10 | QPSK | 1 | 49 | 22.21 | 22.23 | 22.18 | | | 1.82 | 1.77 | |
| 10 | QPSK | 25 | 0 | 21.11 | 21.16 | 21.30 | 23 | 1 | 1.89 | 1.70 | 0.22 |
| 10 | QPSK | 25 | 12 | 21.24 | 21.17 | 21.20 | | | 1.83 | 1.76 | |
| 10 | QPSK | 25 | 25 | 21.08 | 21.18 | 21.17 | | | 1.92 | 1.82 | |
| 10 | QPSK | 50 | 0 | 21.17 | 21.17 | 21.21 | | | 1.83 | 1.79 | 0.04 |
| 10 | 16QAM | 1 | 0 | 21.64 | 21.66 | 21.69 | 23 | 1 | 1.36 | 1.31 | 0.30 |
| 10 | 16QAM | 1 | 25 | 21.94 | 21.91 | 21.92 | | | 1.09 | 1.06 | |
| 10 | 16QAM | 1 | 49 | 21.82 | 21.82 | 21.86 | | | 1.18 | 1.14 | |
| 10 | 16QAM | 25 | 0 | 20.34 | 20.25 | 20.42 | 22 | 2 | 1.75 | 1.58 | 0.32 |
| 10 | 16QAM | 25 | 12 | 20.16 | 20.25 | 20.10 | | | 1.90 | 1.75 | |
| 10 | 16QAM | 25 | 25 | 20.27 | 20.35 | 20.24 | | | 1.76 | 1.65 | |
| 10 | 16QAM | 50 | 0 | 20.18 | 20.14 | 20.19 | | | 1.86 | 1.81 | 0.05 |
| Channel | | | | 19975 | 20175 | 20375 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1712.5 | 1732.5 | 1752.5 | | | | | |
| 5 | QPSK | 1 | 0 | 22.24 | 22.18 | 22.30 | 24 | 0 | 1.82 | 1.70 | 0.35 |
| 5 | QPSK | 1 | 12 | 22.46 | 22.51 | 22.37 | | | 1.63 | 1.49 | |
| 5 | QPSK | 1 | 24 | 22.16 | 22.24 | 22.20 | | | 1.84 | 1.76 | |
| 5 | QPSK | 12 | 0 | 21.16 | 21.26 | 21.26 | 23 | 1 | 1.84 | 1.74 | 0.19 |
| 5 | QPSK | 12 | 7 | 21.23 | 21.23 | 21.27 | | | 1.77 | 1.73 | |
| 5 | QPSK | 12 | 13 | 21.17 | 21.16 | 21.08 | | | 1.92 | 1.83 | |
| 5 | QPSK | 25 | 0 | 21.17 | 21.14 | 21.27 | | | 1.86 | 1.73 | 0.13 |
| 5 | 16QAM | 1 | 0 | 21.63 | 21.68 | 21.73 | 23 | 1 | 1.37 | 1.27 | 0.30 |
| 5 | 16QAM | 1 | 12 | 21.93 | 21.85 | 21.88 | | | 1.15 | 1.07 | |
| 5 | 16QAM | 1 | 24 | 21.90 | 21.79 | 21.91 | | | 1.21 | 1.09 | |
| 5 | 16QAM | 12 | 0 | 20.32 | 20.20 | 20.30 | 22 | 2 | 1.80 | 1.68 | 0.19 |
| 5 | 16QAM | 12 | 7 | 20.13 | 20.26 | 20.18 | | | 1.87 | 1.74 | |
| 5 | 16QAM | 12 | 13 | 20.18 | 20.28 | 20.23 | | | 1.82 | 1.72 | |
| 5 | 16QAM | 25 | 0 | 20.16 | 20.25 | 20.16 | | | 1.84 | 1.75 | 0.09 |
| Channel | | | | 19965 | 20175 | 20385 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1711.5 | 1732.5 | 1753.5 | | | | | |
| 3 | QPSK | 1 | 0 | 22.23 | 22.20 | 22.34 | 24 | 0 | 1.80 | 1.66 | 0.42 |
| 3 | QPSK | 1 | 8 | 22.41 | 22.50 | 22.46 | | | 1.59 | 1.50 | |
| 3 | QPSK | 1 | 14 | 22.08 | 22.25 | 22.23 | | | 1.92 | 1.75 | |
| 3 | QPSK | 8 | 0 | 21.13 | 21.17 | 21.23 | 23 | 1 | 1.87 | 1.77 | 0.11 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | QPSK | 8 | 4 | 21.19 | 21.22 | 21.16 | | | 1.84 | 1.78 | |
| 3 | QPSK | 8 | 7 | 21.18 | 21.12 | 21.18 | | | 1.88 | 1.82 | |
| 3 | QPSK | 15 | 0 | 21.22 | 21.10 | 21.32 | | | 1.90 | 1.68 | 0.22 |
| 3 | 16QAM | 1 | 0 | 21.61 | 21.76 | 21.71 | | | 1.39 | 1.24 | |
| 3 | 16QAM | 1 | 8 | 21.96 | 21.85 | 21.89 | 23 | 1 | 1.15 | 1.04 | 0.35 |
| 3 | 16QAM | 1 | 14 | 21.83 | 21.72 | 21.94 | | | 1.28 | 1.06 | |
| 3 | 16QAM | 8 | 0 | 20.30 | 20.24 | 20.34 | | | 1.76 | 1.66 | |
| 3 | 16QAM | 8 | 4 | 20.19 | 20.20 | 20.20 | 22 | 2 | 1.81 | 1.80 | 0.16 |
| 3 | 16QAM | 8 | 7 | 20.18 | 20.28 | 20.25 | | | 1.82 | 1.72 | |
| 3 | 16QAM | 15 | 0 | 20.11 | 20.13 | 20.11 | | | 1.89 | 1.87 | 0.02 |
| Channel | | | | 19957 | 20175 | 20393 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1710.7 | 1732.5 | 1754.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 22.27 | 22.25 | 22.35 | | | 1.75 | 1.75 | |
| 1.4 | QPSK | 1 | 3 | 22.43 | 22.54 | 22.40 | | | 1.60 | 1.60 | 0.41 |
| 1.4 | QPSK | 1 | 5 | 22.22 | 22.13 | 22.19 | | | 1.87 | 1.87 | |
| 1.4 | QPSK | 3 | 0 | 22.16 | 22.30 | 22.29 | 24 | 0 | 1.84 | 1.84 | |
| 1.4 | QPSK | 3 | 1 | 22.48 | 22.56 | 22.44 | | | 1.56 | 1.56 | 0.49 |
| 1.4 | QPSK | 3 | 3 | 22.07 | 22.23 | 22.14 | | | 1.93 | 1.93 | |
| 1.4 | QPSK | 6 | 0 | 21.17 | 21.19 | 21.30 | 23 | 1 | 1.83 | 1.83 | 0.13 |
| 1.4 | 16QAM | 1 | 0 | 21.65 | 21.79 | 21.73 | | | 1.35 | 1.35 | |
| 1.4 | 16QAM | 1 | 3 | 21.88 | 21.82 | 21.91 | | | 1.18 | 1.18 | 0.26 |
| 1.4 | 16QAM | 1 | 5 | 21.89 | 21.71 | 21.83 | | | 1.29 | 1.29 | |
| 1.4 | 16QAM | 3 | 0 | 21.13 | 21.25 | 21.25 | 23 | 1 | 1.87 | 1.87 | |
| 1.4 | 16QAM | 3 | 1 | 21.24 | 21.13 | 21.13 | | | 1.87 | 1.87 | 0.13 |
| 1.4 | 16QAM | 3 | 3 | 21.20 | 21.12 | 21.15 | | | 1.88 | 1.88 | |
| 1.4 | 16QAM | 6 | 0 | 20.08 | 20.18 | 20.13 | 22 | 2 | 1.92 | 1.92 | 0.10 |

# Band 5

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 20450 | 20525 | 20600 | | | | | |
| Frequency (MHz) | | | | 829 | 836.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 23.15 | 23.22 | 23.15 | | | 0.85 | 0.78 | |
| 10 | QPSK | 1 | 25 | 23.03 | 23.11 | 23.15 | 24 | 0 | 0.97 | 0.85 | 0.19 |
| 10 | QPSK | 1 | 49 | 23.05 | 23.09 | 23.13 | | | 0.95 | 0.87 | |
| 10 | QPSK | 25 | 0 | 22.30 | 22.37 | 22.29 | | | 0.71 | 0.63 | |
| 10 | QPSK | 25 | 12 | 22.21 | 22.17 | 22.17 | 23 | 1 | 0.83 | 0.79 | 0.20 |
| 10 | QPSK | 25 | 25 | 22.19 | 22.18 | 22.19 | | | 0.82 | 0.81 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 50 | 0 | 22.15 | 22.21 | 22.37 | | | 0.85 | 0.63 | 0.22 |
| 10 | 16QAM | 1 | 0 | 22.20 | 22.32 | 22.20 | 23 | 1 | 0.80 | 0.68 | 0.24 |
| 10 | 16QAM | 1 | 25 | 22.14 | 22.12 | 22.08 | | | 0.92 | 0.86 | |
| 10 | 16QAM | 1 | 49 | 22.15 | 22.10 | 22.09 | | | 0.91 | 0.85 | |
| 10 | 16QAM | 25 | 0 | 21.22 | 21.37 | 21.45 | 22 | 2 | 0.78 | 0.55 | 0.41 |
| 10 | 16QAM | 25 | 12 | 21.04 | 21.32 | 21.33 | | | 0.96 | 0.67 | |
| 10 | 16QAM | 25 | 25 | 21.33 | 21.29 | 21.45 | | | 0.71 | 0.55 | |
| 10 | 16QAM | 50 | 0 | 21.02 | 21.25 | 21.22 | | | 0.98 | 0.75 | 0.23 |
| Channel | | | | 20425 | 20525 | 20625 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 826.5 | 836.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 23.00 | 23.09 | 23.09 | 24 | 0 | 1.00 | 0.91 | 0.19 |
| 5 | QPSK | 1 | 12 | 22.94 | 23.06 | 23.13 | | | 1.06 | 0.87 | |
| 5 | QPSK | 1 | 24 | 22.99 | 22.97 | 23.06 | | | 1.03 | 0.94 | |
| 5 | QPSK | 12 | 0 | 22.28 | 22.35 | 22.25 | 23 | 1 | 0.75 | 0.65 | 0.32 |
| 5 | QPSK | 12 | 7 | 22.18 | 22.11 | 22.03 | | | 0.97 | 0.82 | |
| 5 | QPSK | 12 | 13 | 22.16 | 22.13 | 22.14 | | | 0.87 | 0.84 | |
| 5 | QPSK | 25 | 0 | 22.05 | 22.16 | 22.29 | | | 0.95 | 0.71 | 0.24 |
| 5 | 16QAM | 1 | 0 | 22.27 | 22.29 | 22.18 | 23 | 1 | 0.82 | 0.71 | 0.22 |
| 5 | 16QAM | 1 | 12 | 22.11 | 22.12 | 22.07 | | | 0.93 | 0.88 | |
| 5 | 16QAM | 1 | 24 | 22.16 | 22.08 | 22.10 | | | 0.92 | 0.84 | |
| 5 | 16QAM | 12 | 0 | 21.08 | 21.33 | 21.35 | 22 | 2 | 0.92 | 0.65 | 0.45 |
| 5 | 16QAM | 12 | 7 | 20.90 | 21.21 | 21.23 | | | 1.10 | 0.77 | |
| 5 | 16QAM | 12 | 13 | 21.31 | 21.15 | 21.35 | | | 0.85 | 0.65 | |
| 5 | 16QAM | 25 | 0 | 20.91 | 21.15 | 21.18 | | | 1.09 | 0.82 | 0.27 |
| Channel | | | | 20415 | 20525 | 20635 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 825.5 | 836.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 23.04 | 23.19 | 23.13 | 24 | 0 | 0.96 | 0.81 | 0.29 |
| 3 | QPSK | 1 | 8 | 22.95 | 22.97 | 23.03 | | | 1.05 | 0.97 | |
| 3 | QPSK | 1 | 14 | 22.90 | 23.06 | 23.00 | | | 1.10 | 0.94 | |
| 3 | QPSK | 8 | 0 | 22.21 | 22.28 | 22.26 | 23 | 1 | 0.79 | 0.72 | 0.20 |
| 3 | QPSK | 8 | 4 | 22.15 | 22.10 | 22.09 | | | 0.91 | 0.85 | |
| 3 | QPSK | 8 | 7 | 22.12 | 22.09 | 22.08 | | | 0.92 | 0.88 | |
| 3 | QPSK | 15 | 0 | 22.10 | 22.15 | 22.32 | | | 0.90 | 0.68 | 0.22 |
| 3 | 16QAM | 1 | 0 | 22.24 | 22.31 | 22.17 | 23 | 1 | 0.83 | 0.69 | 0.27 |
| 3 | 16QAM | 1 | 8 | 22.09 | 22.08 | 22.04 | | | 0.96 | 0.91 | |
| 3 | 16QAM | 1 | 14 | 22.12 | 22.15 | 22.13 | | | 0.88 | 0.85 | |
| 3 | 16QAM | 8 | 0 | 21.14 | 21.29 | 21.37 | 22 | 2 | 0.86 | 0.63 | 0.40 |
| 3 | 16QAM | 8 | 4 | 20.97 | 21.27 | 21.18 | | | 1.03 | 0.73 | |
| 3 | 16QAM | 8 | 7 | 21.24 | 21.19 | 21.37 | | | 0.81 | 0.63 | |
| 3 | 16QAM | 15 | 0 | 20.94 | 21.15 | 21.09 | | | 1.06 | 0.85 | 0.21 |
| Channel | | | | 20407 | 20525 | 20643 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 824.7 | 836.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 23.14 | 23.08 | 23.11 | 24 | 0 | 0.92 | 0.92 | 0.24 |
| 1.4 | QPSK | 1 | 3 | 23.18 | 23.03 | 23.01 | | | 0.99 | 0.99 | |
| 1.4 | QPSK | 1 | 5 | 23.02 | 22.94 | 22.95 | | | 1.06 | 1.06 | |
| 1.4 | QPSK | 3 | 0 | 23.02 | 23.12 | 23.07 | | | 0.98 | 0.98 | 0.20 |
| 1.4 | QPSK | 3 | 1 | 23.05 | 23.01 | 23.03 | | | 0.99 | 0.99 | |
| 1.4 | QPSK | 3 | 3 | 22.92 | 23.08 | 23.02 | | | 1.08 | 1.08 | |
| 1.4 | QPSK | 6 | 0 | 22.00 | 22.03 | 22.06 | 23 | 1 | 1.00 | 1.00 | 0.06 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | 16QAM | 1 | 0 | 22.28 | 22.26 | 22.16 | 23 | 1 | 0.84 | 0.84 | 0.22 |
| 1.4 | 16QAM | 1 | 3 | 22.10 | 22.06 | 22.10 | | | 0.94 | 0.94 | |
| 1.4 | 16QAM | 1 | 5 | 22.13 | 22.12 | 22.08 | | | 0.92 | 0.92 | |
| 1.4 | 16QAM | 3 | 0 | 22.01 | 22.13 | 22.05 | | | 0.99 | 0.99 | 0.22 |
| 1.4 | 16QAM | 3 | 1 | 22.06 | 22.00 | 21.97 | | | 1.03 | 1.03 | |
| 1.4 | 16QAM | 3 | 3 | 22.04 | 21.99 | 21.91 | | | 1.09 | 1.09 | |
| 1.4 | 16QAM | 6 | 0 | 20.90 | 20.99 | 20.93 | 22 | 2 | 1.10 | 1.10 | 0.09 |

# Band 12

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 23060 | 23095 | 23130 | | | | | |
| Frequency (MHz) | | | | 704 | 707.5 | 711 | | | | | |
| 10 | QPSK | 1 | 0 | 23.08 | 23.15 | 23.09 | 24 | 0 | 0.92 | 0.85 | 0.22 |
| 10 | QPSK | 1 | 25 | 22.93 | 23.05 | 23.07 | | | 1.07 | 0.93 | |
| 10 | QPSK | 1 | 49 | 22.97 | 23.00 | 23.05 | | | 1.03 | 0.95 | |
| 10 | QPSK | 25 | 0 | 22.24 | 22.28 | 22.20 | 23 | 1 | 0.80 | 0.72 | 0.20 |
| 10 | QPSK | 25 | 12 | 22.13 | 22.10 | 22.08 | | | 0.92 | 0.87 | |
| 10 | QPSK | 25 | 25 | 22.13 | 22.12 | 22.11 | | | 0.89 | 0.87 | |
| 10 | QPSK | 50 | 0 | 22.05 | 22.14 | 22.29 | | | 0.95 | 0.71 | 0.24 |
| 10 | 16QAM | 1 | 0 | 22.22 | 22.23 | 22.18 | 23 | 1 | 0.82 | 0.77 | 0.19 |
| 10 | 16QAM | 1 | 25 | 22.11 | 22.08 | 22.04 | | | 0.96 | 0.89 | |
| 10 | 16QAM | 1 | 49 | 22.10 | 22.10 | 22.07 | | | 0.93 | 0.90 | |
| 10 | 16QAM | 25 | 0 | 21.16 | 21.28 | 21.39 | 22 | 2 | 0.84 | 0.61 | 0.43 |
| 10 | 16QAM | 25 | 12 | 20.96 | 21.22 | 21.23 | | | 1.04 | 0.77 | |
| 10 | 16QAM | 25 | 25 | 21.26 | 21.21 | 21.37 | | | 0.79 | 0.63 | |
| 10 | 16QAM | 50 | 0 | 20.96 | 21.18 | 21.13 | | | 1.04 | 0.82 | 0.22 |
| Channel | | | | 23035 | 23095 | 23155 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 701.5 | 707.5 | 713.5 | | | | | |
| 5 | QPSK | 1 | 0 | 23.03 | 23.07 | 23.04 | 24 | 0 | 0.97 | 0.93 | 0.15 |
| 5 | QPSK | 1 | 12 | 22.92 | 22.98 | 23.04 | | | 1.08 | 0.96 | |
| 5 | QPSK | 1 | 24 | 22.93 | 22.95 | 23.01 | | | 1.07 | 0.99 | |
| 5 | QPSK | 12 | 0 | 22.15 | 22.23 | 22.17 | 23 | 1 | 0.85 | 0.77 | 0.21 |
| 5 | QPSK | 12 | 7 | 22.06 | 22.02 | 22.04 | | | 0.98 | 0.94 | |
| 5 | QPSK | 12 | 13 | 22.05 | 22.07 | 22.06 | | | 0.95 | 0.93 | |
| 5 | QPSK | 25 | 0 | 22.03 | 22.08 | 22.25 | | | 0.97 | 0.75 | 0.22 |
| 5 | 16QAM | 1 | 0 | 22.19 | 22.27 | 22.17 | 23 | 1 | 0.83 | 0.73 | 0.24 |
| 5 | 16QAM | 1 | 12 | 22.11 | 22.07 | 22.03 | | | 0.97 | 0.89 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 16QAM | 1 | 24 | 22.09 | 22.08 | 22.09 | | | 0.92 | 0.91 | |
| 5 | 16QAM | 12 | 0 | 21.09 | 21.23 | 21.31 | 22 | 2 | 0.91 | 0.69 | 0.42 |
| 5 | 16QAM | 12 | 7 | 20.91 | 21.19 | 21.18 | | | 1.09 | 0.81 | |
| 5 | 16QAM | 12 | 13 | 21.22 | 21.18 | 21.33 | | | 0.82 | 0.67 | |
| 5 | 16QAM | 25 | 0 | 20.89 | 21.14 | 21.09 | | | 1.11 | 0.86 | 0.25 |
| Channel | | | | 23025 | 23095 | 23165 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 700.5 | 707.5 | 714.5 | | | | | |
| 3 | QPSK | 1 | 0 | 23.01 | 23.11 | 23.01 | 24 | 0 | 0.99 | 0.89 | 0.22 |
| 3 | QPSK | 1 | 8 | 22.89 | 22.96 | 23.03 | | | 1.11 | 0.97 | |
| 3 | QPSK | 1 | 14 | 22.90 | 22.95 | 23.02 | | | 1.10 | 0.98 | |
| 3 | QPSK | 8 | 0 | 22.18 | 22.22 | 22.15 | 23 | 1 | 0.85 | 0.78 | 0.18 |
| 3 | QPSK | 8 | 4 | 22.10 | 22.04 | 22.04 | | | 0.96 | 0.90 | |
| 3 | QPSK | 8 | 7 | 22.07 | 22.06 | 22.06 | | | 0.94 | 0.93 | |
| 3 | QPSK | 15 | 0 | 22.01 | 22.10 | 22.25 | | | 0.99 | 0.75 | 0.24 |
| 3 | 16QAM | 1 | 0 | 22.21 | 22.23 | 22.16 | 23 | 1 | 0.84 | 0.77 | 0.20 |
| 3 | 16QAM | 1 | 8 | 22.12 | 22.08 | 22.03 | | | 0.97 | 0.88 | |
| 3 | 16QAM | 1 | 14 | 22.09 | 22.10 | 22.09 | | | 0.91 | 0.90 | |
| 3 | 16QAM | 8 | 0 | 21.09 | 21.25 | 21.31 | 22 | 2 | 0.91 | 0.69 | 0.42 |
| 3 | 16QAM | 8 | 4 | 20.90 | 21.19 | 21.20 | | | 1.10 | 0.80 | |
| 3 | 16QAM | 8 | 7 | 21.19 | 21.15 | 21.32 | | | 0.85 | 0.68 | |
| 3 | 16QAM | 15 | 0 | 20.89 | 21.11 | 21.11 | | | 1.11 | 0.89 | 0.22 |
| Channel | | | | 23017 | 23095 | 23173 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 699.7 | 707.5 | 715.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 22.96 | 22.90 | 22.92 | 24 | 0 | 1.10 | 1.10 | 0.25 |
| 1.4 | QPSK | 1 | 3 | 23.00 | 22.85 | 22.84 | | | 1.16 | 1.16 | |
| 1.4 | QPSK | 1 | 5 | 22.86 | 22.75 | 22.78 | | | 1.25 | 1.25 | |
| 1.4 | QPSK | 3 | 0 | 22.85 | 22.94 | 22.91 | | | 1.15 | 1.15 | 0.21 |
| 1.4 | QPSK | 3 | 1 | 22.86 | 22.84 | 22.84 | | | 1.16 | 1.16 | |
| 1.4 | QPSK | 3 | 3 | 22.73 | 22.89 | 22.85 | | | 1.27 | 1.27 | |
| 1.4 | QPSK | 6 | 0 | 21.82 | 21.86 | 21.87 | 23 | 1 | 1.18 | 1.18 | 0.05 |
| 1.4 | 16QAM | 1 | 0 | 22.21 | 22.37 | 22.38 | 23 | 1 | 0.79 | 0.79 | 0.28 |
| 1.4 | 16QAM | 1 | 3 | 22.27 | 22.27 | 22.17 | | | 0.83 | 0.83 | |
| 1.4 | 16QAM | 1 | 5 | 22.10 | 22.11 | 22.12 | | | 0.90 | 0.90 | |
| 1.4 | 16QAM | 3 | 0 | 22.11 | 22.17 | 22.07 | | | 0.93 | 0.93 | 0.42 |
| 1.4 | 16QAM | 3 | 1 | 21.88 | 21.84 | 21.78 | | | 1.22 | 1.22 | |
| 1.4 | 16QAM | 3 | 3 | 21.87 | 21.81 | 21.75 | | | 1.25 | 1.25 | |
| 1.4 | 16QAM | 6 | 0 | 20.71 | 20.81 | 20.74 | 22 | 2 | 1.29 | 1.29 | 0.10 |

## Band 13

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 23230 | | | | | | | |
| Frequency (MHz) | | | | 782 | | | | | | | |
| 10 | QPSK | 1 | 0 | 23.24 | | | 24 | 0 | 0.76 | 0.76 | 0.18 |
| 10 | QPSK | 1 | 25 | 23.10 | | | | | 0.90 | 0.90 | |
| 10 | QPSK | 1 | 49 | 23.06 | | | | | 0.94 | 0.94 | |
| 10 | QPSK | 25 | 0 | 22.33 | | | 23 | 1 | 0.67 | 0.67 | 0.15 |
| 10 | QPSK | 25 | 12 | 22.18 | | | | | 0.82 | 0.82 | |
| 10 | QPSK | 25 | 25 | 22.20 | | | | | 0.80 | 0.80 | |
| 10 | QPSK | 50 | 0 | 22.21 | | | | | 0.79 | 0.79 | 0.00 |
| 10 | 16QAM | 1 | 0 | 22.27 | | | 23 | 1 | 0.73 | 0.73 | 0.21 |
| 10 | 16QAM | 1 | 25 | 22.06 | | | | | 0.94 | 0.94 | |
| 10 | 16QAM | 1 | 49 | 22.10 | | | | | 0.90 | 0.90 | |
| 10 | 16QAM | 25 | 0 | 21.33 | | | 22 | 2 | 0.67 | 0.67 | 0.06 |
| 10 | 16QAM | 25 | 12 | 21.27 | | | | | 0.73 | 0.73 | |
| 10 | 16QAM | 25 | 25 | 21.28 | | | | | 0.72 | 0.72 | |
| 10 | 16QAM | 50 | 0 | 21.24 | | | | | 0.76 | 0.76 | 0.00 |
| Channel | | | | 23205 | 23230 | 23255 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 779.5 | 782 | 784.5 | | | | | |
| 5 | QPSK | 1 | 0 | 22.98 | 23.04 | 23.02 | 24 | 0 | 1.02 | 0.96 | 0.14 |
| 5 | QPSK | 1 | 12 | 22.90 | 22.96 | 23.01 | | | 1.10 | 0.99 | |
| 5 | QPSK | 1 | 24 | 22.91 | 22.92 | 22.96 | | | 1.09 | 1.04 | |
| 5 | QPSK | 12 | 0 | 22.12 | 22.20 | 22.12 | 23 | 1 | 0.88 | 0.80 | 0.21 |
| 5 | QPSK | 12 | 7 | 22.05 | 22.01 | 21.99 | | | 1.01 | 0.95 | |
| 5 | QPSK | 12 | 13 | 22.00 | 22.05 | 22.03 | | | 1.00 | 0.95 | |
| 5 | QPSK | 25 | 0 | 21.99 | 22.06 | 22.21 | | | 1.01 | 0.79 | 0.22 |
| 5 | 16QAM | 1 | 0 | 22.28 | 22.25 | 22.15 | 23 | 1 | 0.85 | 0.72 | 0.19 |
| 5 | 16QAM | 1 | 12 | 22.09 | 22.12 | 22.09 | | | 0.91 | 0.88 | |
| 5 | 16QAM | 1 | 24 | 22.16 | 22.11 | 22.09 | | | 0.91 | 0.84 | |
| 5 | 16QAM | 12 | 0 | 21.07 | 21.18 | 21.27 | 22 | 2 | 0.93 | 0.73 | 0.41 |
| 5 | 16QAM | 12 | 7 | 20.88 | 21.18 | 21.15 | | | 1.12 | 0.82 | |
| 5 | 16QAM | 12 | 13 | 21.19 | 21.15 | 21.29 | | | 0.85 | 0.71 | |
| 5 | 16QAM | 25 | 0 | 20.87 | 21.09 | 21.06 | | | 1.13 | 0.91 | 0.22 |

# Band 17

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Channel | | | | 23780 | 23790 | 23800 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | | | | 709 | 710 | 711 | | | | | |
| 10 | QPSK | 1 | 0 | 23.26 | 23.34 | 23.25 | 24 | 0 | 0.75 | 0.66 | 0.25 |
| 10 | QPSK | 1 | 25 | 23.09 | 23.22 | 23.24 | | | 0.91 | 0.76 | |
| 10 | QPSK | 1 | 49 | 23.14 | 23.15 | 23.22 | | | 0.86 | 0.78 | |
| 10 | QPSK | 25 | 0 | 22.40 | 22.46 | 22.37 | 23 | 1 | 0.63 | 0.54 | 0.20 |
| 10 | QPSK | 25 | 12 | 22.30 | 22.26 | 22.26 | | | 0.74 | 0.70 | |
| 10 | QPSK | 25 | 25 | 22.29 | 22.29 | 22.30 | | | 0.71 | 0.70 | |
| 10 | QPSK | 50 | 0 | 22.22 | 22.29 | 22.47 | | | 0.78 | 0.53 | 0.25 |
| 10 | 16QAM | 1 | 0 | 22.23 | 22.24 | 22.19 | 23 | 1 | 0.81 | 0.76 | 0.16 |
| 10 | 16QAM | 1 | 25 | 22.18 | 22.12 | 22.10 | | | 0.90 | 0.82 | |
| 10 | 16QAM | 1 | 49 | 22.12 | 22.12 | 22.08 | | | 0.92 | 0.88 | |
| 10 | 16QAM | 25 | 0 | 21.33 | 21.46 | 21.56 | 22 | 2 | 0.67 | 0.44 | 0.42 |
| 10 | 16QAM | 25 | 12 | 21.14 | 21.40 | 21.40 | | | 0.86 | 0.60 | |
| 10 | 16QAM | 25 | 25 | 21.44 | 21.37 | 21.53 | | | 0.63 | 0.47 | |
| 10 | 16QAM | 50 | 0 | 21.13 | 21.34 | 21.30 | | | 0.87 | 0.66 | 0.21 |
| Channel | | | | 23755 | 23790 | 23825 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 706.5 | 710 | 713.5 | | | | | |
| 5 | QPSK | 1 | 0 | 23.16 | 23.28 | 23.15 | 24 | 0 | 0.85 | 0.72 | 0.35 |
| 5 | QPSK | 1 | 12 | 22.93 | 23.15 | 23.13 | | | 1.07 | 0.85 | |
| 5 | QPSK | 1 | 24 | 23.02 | 23.02 | 23.13 | | | 0.98 | 0.87 | |
| 5 | QPSK | 12 | 0 | 22.33 | 22.32 | 22.21 | 23 | 1 | 0.79 | 0.67 | 0.17 |
| 5 | QPSK | 12 | 7 | 22.16 | 22.17 | 22.16 | | | 0.84 | 0.83 | |
| 5 | QPSK | 12 | 13 | 22.22 | 22.17 | 22.18 | | | 0.83 | 0.78 | |
| 5 | QPSK | 25 | 0 | 22.15 | 22.20 | 22.41 | | | 0.85 | 0.59 | 0.26 |
| 5 | 16QAM | 1 | 0 | 22.16 | 22.09 | 22.10 | 23 | 1 | 0.91 | 0.84 | 0.24 |
| 5 | 16QAM | 1 | 12 | 22.06 | 21.98 | 21.96 | | | 1.04 | 0.94 | |
| 5 | 16QAM | 1 | 24 | 22.02 | 22.05 | 21.92 | | | 1.08 | 0.95 | |
| 5 | 16QAM | 12 | 0 | 21.22 | 21.39 | 21.50 | 22 | 2 | 0.78 | 0.50 | 0.42 |
| 5 | 16QAM | 12 | 7 | 21.08 | 21.24 | 21.27 | | | 0.92 | 0.73 | |
| 5 | 16QAM | 12 | 13 | 21.30 | 21.24 | 21.43 | | | 0.76 | 0.57 | |
| 5 | 16QAM | 25 | 0 | 21.04 | 21.24 | 21.18 | | | 0.96 | 0.76 | 0.20 |

# Band 25

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26140 | 26365 | 26590 | | | | | |
| Frequency (MHz) | | | | 1860 | 1882.5 | 1905 | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | QPSK | 1 | 0 | 22.43 | 22.55 | 22.44 | 24 | 0 | 1.57 | 1.45 | 0.31 |
| 20 | QPSK | 1 | 49 | 22.37 | 22.42 | 22.39 | | | 1.63 | 1.58 | |
| 20 | QPSK | 1 | 99 | 22.24 | 22.26 | 22.31 | | | 1.76 | 1.69 | |
| 20 | QPSK | 50 | 0 | 21.28 | 21.33 | 21.38 | 23 | 1 | 1.72 | 1.62 | 0.17 |
| 20 | QPSK | 50 | 24 | 21.31 | 21.25 | 21.29 | | | 1.75 | 1.69 | |
| 20 | QPSK | 50 | 50 | 21.23 | 21.21 | 21.25 | | | 1.79 | 1.75 | |
| 20 | QPSK | 100 | 0 | 21.29 | 21.26 | 21.38 | | | 1.74 | 1.62 | 0.12 |
| 20 | 16QAM | 1 | 0 | 21.74 | 21.79 | 21.86 | 23 | 1 | 1.26 | 1.14 | 0.34 |
| 20 | 16QAM | 1 | 49 | 22.08 | 21.95 | 21.95 | | | 1.05 | 0.92 | |
| 20 | 16QAM | 1 | 99 | 22.00 | 21.91 | 21.94 | | | 1.09 | 1.00 | |
| 20 | 16QAM | 50 | 0 | 20.42 | 20.39 | 20.41 | 22 | 2 | 1.61 | 1.58 | 0.23 |
| 20 | 16QAM | 50 | 24 | 20.19 | 20.33 | 20.23 | | | 1.81 | 1.67 | |
| 20 | 16QAM | 50 | 50 | 20.32 | 20.35 | 20.37 | | | 1.68 | 1.63 | |
| 20 | 16QAM | 100 | 0 | 20.19 | 20.27 | 20.23 | | | 1.81 | 1.73 | 0.08 |
| Channel | | | | 26115 | 26365 | 26615 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1857.5 | 1882.5 | 1907.5 | | | | | |
| 15 | QPSK | 1 | 0 | 22.21 | 22.29 | 22.37 | 24 | 0 | 1.79 | 1.63 | 0.18 |
| 15 | QPSK | 1 | 37 | 22.22 | 22.23 | 22.27 | | | 1.78 | 1.73 | |
| 15 | QPSK | 1 | 74 | 22.19 | 22.19 | 22.23 | | | 1.81 | 1.77 | |
| 15 | QPSK | 36 | 0 | 21.17 | 21.23 | 21.23 | 23 | 1 | 1.83 | 1.77 | 0.09 |
| 15 | QPSK | 36 | 20 | 21.26 | 21.22 | 21.24 | | | 1.78 | 1.74 | |
| 15 | QPSK | 36 | 39 | 21.17 | 21.18 | 21.19 | | | 1.83 | 1.81 | |
| 15 | QPSK | 75 | 0 | 21.18 | 21.21 | 21.26 | | | 1.82 | 1.74 | 0.08 |
| 15 | 16QAM | 1 | 0 | 21.71 | 21.79 | 21.78 | 23 | 1 | 1.29 | 1.21 | 0.24 |
| 15 | 16QAM | 1 | 37 | 21.95 | 21.91 | 21.86 | | | 1.14 | 1.05 | |
| 15 | 16QAM | 1 | 74 | 21.83 | 21.83 | 21.90 | | | 1.17 | 1.10 | |
| 15 | 16QAM | 36 | 0 | 20.35 | 20.27 | 20.41 | 22 | 2 | 1.73 | 1.59 | 0.28 |
| 15 | 16QAM | 36 | 20 | 20.13 | 20.23 | 20.17 | | | 1.87 | 1.77 | |
| 15 | 16QAM | 36 | 39 | 20.24 | 20.32 | 20.29 | | | 1.76 | 1.68 | |
| 15 | 16QAM | 75 | 0 | 20.17 | 20.25 | 20.17 | | | 1.83 | 1.75 | 0.08 |
| Channel | | | | 26090 | 26365 | 26640 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1855 | 1882.5 | 1910 | | | | | |
| 10 | QPSK | 1 | 0 | 22.22 | 22.28 | 22.34 | 24 | 0 | 1.78 | 1.66 | 0.20 |
| 10 | QPSK | 1 | 25 | 22.15 | 22.20 | 22.28 | | | 1.85 | 1.72 | |
| 10 | QPSK | 1 | 49 | 22.14 | 22.23 | 22.25 | | | 1.86 | 1.75 | |
| 10 | QPSK | 25 | 0 | 21.17 | 21.26 | 21.29 | 23 | 1 | 1.83 | 1.71 | 0.12 |
| 10 | QPSK | 25 | 12 | 21.25 | 21.22 | 21.28 | | | 1.78 | 1.72 | |
| 10 | QPSK | 25 | 25 | 21.22 | 21.17 | 21.21 | | | 1.83 | 1.78 | |
| 10 | QPSK | 50 | 0 | 21.21 | 21.24 | 21.29 | | | 1.79 | 1.71 | 0.08 |
| 10 | 16QAM | 1 | 0 | 21.68 | 21.81 | 21.77 | 23 | 1 | 1.32 | 1.19 | 0.33 |
| 10 | 16QAM | 1 | 25 | 22.01 | 21.91 | 21.86 | | | 1.14 | 0.99 | |
| 10 | 16QAM | 1 | 49 | 21.90 | 21.80 | 21.86 | | | 1.20 | 1.10 | |
| 10 | 16QAM | 25 | 0 | 20.39 | 20.32 | 20.38 | 22 | 2 | 1.68 | 1.61 | 0.20 |
| 10 | 16QAM | 25 | 12 | 20.19 | 20.23 | 20.21 | | | 1.81 | 1.77 | |
| 10 | 16QAM | 25 | 25 | 20.24 | 20.36 | 20.34 | | | 1.76 | 1.64 | |
| 10 | 16QAM | 50 | 0 | 20.14 | 20.27 | 20.20 | | | 1.86 | 1.73 | 0.13 |
| Channel | | | | 26065 | 26365 | 26665 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1852.5 | 1882.5 | 1912.5 | | | | | |
| 5 | QPSK | 1 | 0 | 22.29 | 22.28 | 22.41 | 24 | 0 | 1.72 | 1.59 | 0.23 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | QPSK | 1 | 12 | 22.21 | 22.18 | 22.26 | | | 1.82 | 1.74 | |
| 5 | QPSK | 1 | 24 | 22.20 | 22.25 | 22.21 | | | 1.80 | 1.75 | |
| 5 | QPSK | 12 | 0 | 21.23 | 21.20 | 21.27 | 23 | 1 | 1.80 | 1.73 | 0.13 |
| 5 | QPSK | 12 | 7 | 21.20 | 21.21 | 21.20 | | | 1.80 | 1.79 | |
| 5 | QPSK | 12 | 13 | 21.18 | 21.14 | 21.16 | | | 1.86 | 1.82 | |
| 5 | QPSK | 25 | 0 | 21.25 | 21.15 | 21.30 | | | 1.85 | 1.70 | 0.15 |
| 5 | 16QAM | 1 | 0 | 21.72 | 21.80 | 21.81 | 23 | 1 | 1.28 | 1.19 | 0.23 |
| 5 | 16QAM | 1 | 12 | 21.95 | 21.93 | 21.88 | | | 1.12 | 1.05 | |
| 5 | 16QAM | 1 | 24 | 21.84 | 21.79 | 21.86 | | | 1.21 | 1.14 | |
| 5 | 16QAM | 12 | 0 | 20.32 | 20.25 | 20.36 | 22 | 2 | 1.75 | 1.64 | 0.19 |
| 5 | 16QAM | 12 | 7 | 20.17 | 20.21 | 20.23 | | | 1.83 | 1.77 | |
| 5 | 16QAM | 12 | 13 | 20.21 | 20.33 | 20.31 | | | 1.79 | 1.67 | |
| 5 | 16QAM | 25 | 0 | 20.14 | 20.19 | 20.18 | | | 1.86 | 1.81 | 0.05 |
| Channel | | | | 26055 | 26365 | 26675 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1851.5 | 1882.5 | 1913.5 | | | | | |
| 3 | QPSK | 1 | 0 | 22.28 | 22.29 | 22.34 | 24 | 0 | 1.72 | 1.66 | 0.14 |
| 3 | QPSK | 1 | 8 | 22.20 | 22.22 | 22.23 | | | 1.80 | 1.77 | |
| 3 | QPSK | 1 | 14 | 22.22 | 22.27 | 22.24 | | | 1.78 | 1.73 | |
| 3 | QPSK | 8 | 0 | 21.20 | 21.24 | 21.28 | 23 | 1 | 1.80 | 1.72 | 0.15 |
| 3 | QPSK | 8 | 4 | 21.20 | 21.22 | 21.26 | | | 1.80 | 1.74 | |
| 3 | QPSK | 8 | 7 | 21.19 | 21.21 | 21.13 | | | 1.87 | 1.79 | |
| 3 | QPSK | 15 | 0 | 21.25 | 21.20 | 21.28 | | | 1.80 | 1.72 | 0.08 |
| 3 | 16QAM | 1 | 0 | 21.74 | 21.73 | 21.77 | 23 | 1 | 1.27 | 1.23 | 0.26 |
| 3 | 16QAM | 1 | 8 | 21.99 | 21.92 | 21.93 | | | 1.08 | 1.01 | |
| 3 | 16QAM | 1 | 14 | 21.85 | 21.82 | 21.95 | | | 1.18 | 1.05 | |
| 3 | 16QAM | 8 | 0 | 20.38 | 20.26 | 20.39 | 22 | 2 | 1.74 | 1.61 | 0.19 |
| 3 | 16QAM | 8 | 4 | 20.20 | 20.23 | 20.21 | | | 1.80 | 1.77 | |
| 3 | 16QAM | 8 | 7 | 20.20 | 20.33 | 20.28 | | | 1.80 | 1.67 | |
| 3 | 16QAM | 15 | 0 | 20.19 | 20.20 | 20.20 | | | 1.81 | 1.80 | 0.01 |
| Channel | | | | 26047 | 26365 | 26683 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1850.7 | 1882.5 | 1914.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 22.28 | 22.24 | 22.30 | 24 | 0 | 1.76 | 1.76 | 0.18 |
| 1.4 | QPSK | 1 | 3 | 22.21 | 22.17 | 22.30 | | | 1.83 | 1.83 | |
| 1.4 | QPSK | 1 | 5 | 22.16 | 22.12 | 22.17 | | | 1.88 | 1.88 | |
| 1.4 | QPSK | 3 | 0 | 22.23 | 22.27 | 22.33 | | | 1.77 | 1.77 | 0.44 |
| 1.4 | QPSK | 3 | 1 | 22.41 | 22.50 | 22.41 | | | 1.59 | 1.59 | |
| 1.4 | QPSK | 3 | 3 | 22.06 | 22.15 | 22.23 | | | 1.94 | 1.94 | |
| 1.4 | QPSK | 6 | 0 | 21.13 | 21.14 | 21.24 | 23 | 1 | 1.87 | 1.87 | 0.11 |
| 1.4 | 16QAM | 1 | 0 | 21.68 | 21.79 | 21.74 | 23 | 1 | 1.32 | 1.32 | 0.22 |
| 1.4 | 16QAM | 1 | 3 | 21.85 | 21.90 | 21.86 | | | 1.15 | 1.15 | |
| 1.4 | 16QAM | 1 | 5 | 21.88 | 21.77 | 21.90 | | | 1.23 | 1.23 | |
| 1.4 | 16QAM | 3 | 0 | 21.18 | 21.16 | 21.24 | | | 1.84 | 1.84 | 0.16 |
| 1.4 | 16QAM | 3 | 1 | 21.16 | 21.15 | 21.13 | | | 1.87 | 1.87 | |
| 1.4 | 16QAM | 3 | 3 | 21.11 | 21.08 | 21.09 | | | 1.92 | 1.92 | |
| 1.4 | 16QAM | 6 | 0 | 20.10 | 20.14 | 20.17 | 22 | 2 | 1.90 | 1.90 | 0.07 |

# Band 26 For FCC

| | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26765 | 26865 | 26965 | | | | | |
| Frequency (MHz) | | | | 821.5 | 831.5 | 841.5 | | | | | |
| 15 | QPSK | 1 | 0 | 23.16 | 23.24 | 23.18 | 24 | 0 | 0.84 | 0.76 | 0.18 |
| 15 | QPSK | 1 | 37 | 23.06 | 23.13 | 23.16 | | | 0.94 | 0.84 | |
| 15 | QPSK | 1 | 74 | 23.06 | 23.11 | 23.13 | | | 0.94 | 0.87 | |
| 15 | QPSK | 36 | 0 | 22.33 | 22.38 | 22.29 | 23 | 1 | 0.71 | 0.62 | 0.21 |
| 15 | QPSK | 36 | 20 | 22.22 | 22.17 | 22.17 | | | 0.83 | 0.78 | |
| 15 | QPSK | 36 | 39 | 22.20 | 22.19 | 22.21 | | | 0.81 | 0.79 | |
| 15 | QPSK | 75 | 0 | 22.18 | 22.24 | 22.38 | | | 0.82 | 0.62 | 0.20 |
| 15 | 16QAM | 1 | 0 | 22.34 | 22.39 | 22.29 | 23 | 1 | 0.71 | 0.61 | 0.22 |
| 15 | 16QAM | 1 | 37 | 22.22 | 22.19 | 22.17 | | | 0.83 | 0.78 | |
| 15 | 16QAM | 1 | 74 | 22.22 | 22.21 | 22.23 | | | 0.79 | 0.77 | |
| 15 | 16QAM | 36 | 0 | 21.23 | 21.39 | 21.47 | 22 | 2 | 0.77 | 0.53 | 0.41 |
| 15 | 16QAM | 36 | 20 | 21.06 | 21.33 | 21.33 | | | 0.94 | 0.67 | |
| 15 | 16QAM | 36 | 39 | 21.34 | 21.32 | 21.46 | | | 0.68 | 0.54 | |
| 15 | 16QAM | 75 | 0 | 21.05 | 21.26 | 21.24 | | | 0.95 | 0.74 | 0.21 |
| Channel | | | | 26740 | 26865 | 26990 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 819 | 831.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 23.02 | 23.10 | 23.04 | 24 | 0 | 0.98 | 0.90 | 0.17 |
| 10 | QPSK | 1 | 25 | 22.93 | 23.00 | 23.01 | | | 1.07 | 0.99 | |
| 10 | QPSK | 1 | 49 | 22.94 | 22.97 | 22.98 | | | 1.06 | 1.02 | |
| 10 | QPSK | 25 | 0 | 22.18 | 22.23 | 22.17 | 23 | 1 | 0.83 | 0.77 | 0.20 |
| 10 | QPSK | 25 | 12 | 22.08 | 22.03 | 22.03 | | | 0.97 | 0.92 | |
| 10 | QPSK | 25 | 25 | 22.08 | 22.06 | 22.06 | | | 0.94 | 0.92 | |
| 10 | QPSK | 50 | 0 | 22.04 | 22.12 | 22.26 | | | 0.96 | 0.74 | 0.22 |
| 10 | 16QAM | 1 | 0 | 22.21 | 22.26 | 22.17 | 23 | 1 | 0.83 | 0.74 | 0.22 |
| 10 | 16QAM | 1 | 25 | 22.08 | 22.05 | 22.04 | | | 0.96 | 0.92 | |
| 10 | 16QAM | 1 | 49 | 22.09 | 22.08 | 22.11 | | | 0.92 | 0.89 | |
| 10 | 16QAM | 25 | 0 | 21.08 | 21.25 | 21.33 | 22 | 2 | 0.92 | 0.67 | 0.41 |
| 10 | 16QAM | 25 | 12 | 20.92 | 21.19 | 21.20 | | | 1.08 | 0.80 | |
| 10 | 16QAM | 25 | 25 | 21.19 | 21.18 | 21.31 | | | 0.82 | 0.69 | |
| 10 | 16QAM | 50 | 0 | 20.91 | 21.14 | 21.09 | | | 1.09 | 0.86 | 0.23 |
| Channel | | | | 26715 | 26865 | 27015 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 816.5 | 831.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 23.03 | 23.12 | 23.06 | 24 | 0 | 0.97 | 0.88 | 0.21 |
| 5 | QPSK | 1 | 12 | 22.92 | 22.99 | 23.01 | | | 1.08 | 0.99 | |
| 5 | QPSK | 1 | 24 | 22.91 | 22.98 | 23.00 | | | 1.09 | 1.00 | |
| 5 | QPSK | 12 | 0 | 22.19 | 22.24 | 22.16 | 23 | 1 | 0.84 | 0.76 | 0.20 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | QPSK | 12 | 7 | 22.07 | 22.04 | 22.04 | | | 0.96 | 0.93 | |
| 5 | QPSK | 12 | 13 | 22.08 | 22.05 | 22.08 | | | 0.95 | 0.92 | |
| 5 | QPSK | 25 | 0 | 22.05 | 22.10 | 22.24 | | | 0.95 | 0.76 | 0.19 |
| 5 | 16QAM | 1 | 0 | 22.20 | 22.25 | 22.16 | | | 0.84 | 0.75 | |
| 5 | 16QAM | 1 | 12 | 22.08 | 22.04 | 22.03 | 23 | 1 | 0.97 | 0.92 | 0.22 |
| 5 | 16QAM | 1 | 24 | 22.09 | 22.09 | 22.11 | | | 0.91 | 0.89 | |
| 5 | 16QAM | 12 | 0 | 21.11 | 21.25 | 21.32 | | | 0.89 | 0.68 | |
| 5 | 16QAM | 12 | 7 | 20.93 | 21.20 | 21.20 | 22 | 2 | 1.07 | 0.80 | 0.40 |
| 5 | 16QAM | 12 | 13 | 21.21 | 21.19 | 21.33 | | | 0.81 | 0.67 | |
| 5 | 16QAM | 25 | 0 | 20.92 | 21.12 | 21.10 | | | 1.08 | 0.88 | 0.20 |
| Channel | | | | 26705 | 26865 | 27025 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 815.5 | 831.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 23.01 | 23.09 | 23.05 | | | 0.99 | 0.91 | |
| 3 | QPSK | 1 | 8 | 22.93 | 23.00 | 23.03 | 24 | 0 | 1.07 | 0.97 | 0.18 |
| 3 | QPSK | 1 | 14 | 22.91 | 22.96 | 22.99 | | | 1.09 | 1.01 | |
| 3 | QPSK | 8 | 0 | 22.19 | 22.24 | 22.17 | | | 0.83 | 0.76 | |
| 3 | QPSK | 8 | 4 | 22.09 | 22.03 | 22.03 | 23 | 1 | 0.97 | 0.91 | 0.21 |
| 3 | QPSK | 8 | 7 | 22.05 | 22.05 | 22.09 | | | 0.95 | 0.91 | |
| 3 | QPSK | 15 | 0 | 22.03 | 22.11 | 22.23 | | | 0.97 | 0.77 | 0.20 |
| 3 | 16QAM | 1 | 0 | 22.22 | 22.25 | 22.17 | | | 0.83 | 0.75 | |
| 3 | 16QAM | 1 | 8 | 22.09 | 22.06 | 22.05 | 23 | 1 | 0.95 | 0.91 | 0.20 |
| 3 | 16QAM | 1 | 14 | 22.09 | 22.07 | 22.09 | | | 0.93 | 0.91 | |
| 3 | 16QAM | 8 | 0 | 21.09 | 21.26 | 21.34 | | | 0.91 | 0.66 | |
| 3 | 16QAM | 8 | 4 | 20.91 | 21.20 | 21.19 | 22 | 2 | 1.09 | 0.80 | 0.43 |
| 3 | 16QAM | 8 | 7 | 21.21 | 21.19 | 21.32 | | | 0.81 | 0.68 | |
| 3 | 16QAM | 15 | 0 | 20.92 | 21.12 | 21.09 | | | 1.08 | 0.88 | 0.20 |
| Channel | | | | 26697 | 26865 | 27033 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 814.7 | 831.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 23.15 | 23.05 | 23.07 | | | 0.95 | 0.95 | |
| 1.4 | QPSK | 1 | 3 | 23.17 | 23.00 | 22.98 | | | 1.02 | 1.02 | 0.22 |
| 1.4 | QPSK | 1 | 5 | 23.02 | 22.95 | 22.96 | 24 | 0 | 1.05 | 1.05 | |
| 1.4 | QPSK | 3 | 0 | 23.07 | 23.17 | 23.06 | | | 0.94 | 0.94 | |
| 1.4 | QPSK | 3 | 1 | 23.03 | 23.03 | 22.99 | | | 1.01 | 1.01 | 0.30 |
| 1.4 | QPSK | 3 | 3 | 22.87 | 23.12 | 22.98 | | | 1.13 | 1.13 | |
| 1.4 | QPSK | 6 | 0 | 21.96 | 22.08 | 22.08 | 23 | 1 | 1.04 | 1.04 | 0.12 |
| 1.4 | 16QAM | 1 | 0 | 22.44 | 22.51 | 22.61 | | | 0.56 | 0.56 | |
| 1.4 | 16QAM | 1 | 3 | 22.62 | 22.59 | 22.74 | | | 0.41 | 0.41 | 0.30 |
| 1.4 | 16QAM | 1 | 5 | 22.66 | 22.52 | 22.61 | 23 | 1 | 0.48 | 0.48 | |
| 1.4 | 16QAM | 3 | 0 | 22.02 | 22.17 | 22.07 | | | 0.98 | 0.98 | |
| 1.4 | 16QAM | 3 | 1 | 22.02 | 22.00 | 22.01 | | | 1.00 | 1.00 | 0.28 |
| 1.4 | 16QAM | 3 | 3 | 22.01 | 21.98 | 21.89 | | | 1.11 | 1.11 | |
| 1.4 | 16QAM | 6 | 0 | 20.86 | 21.05 | 20.92 | 22 | 2 | 1.14 | 1.14 | 0.19 |

# Band 26 For IC

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26865 | 26915 | 26965 | | | | | |
| Frequency (MHz) | | | | 831.5 | 836.5 | 841.5 | | | | | |
| 15 | QPSK | 1 | 0 | 23.24 | 23.15 | 23.18 | 24 | 0 | 0.85 | 0.76 | |
| 15 | QPSK | 1 | 37 | 23.13 | 23.17 | 23.16 | | | 0.87 | 0.83 | 0.14 |
| 15 | QPSK | 1 | 74 | 23.11 | 23.10 | 23.13 | | | 0.90 | 0.87 | |
| 15 | QPSK | 36 | 0 | 22.38 | 22.26 | 22.29 | 23 | 1 | 0.74 | 0.62 | |
| 15 | QPSK | 36 | 20 | 22.17 | 22.22 | 22.17 | | | 0.83 | 0.78 | 0.21 |
| 15 | QPSK | 36 | 39 | 22.19 | 22.26 | 22.21 | | | 0.81 | 0.74 | |
| 15 | QPSK | 75 | 0 | 22.24 | 22.38 | 22.38 | | | 0.76 | 0.62 | 0.14 |
| 15 | 16QAM | 1 | 0 | 22.39 | 22.30 | 22.29 | 23 | 1 | 0.71 | 0.61 | |
| 15 | 16QAM | 1 | 37 | 22.19 | 22.16 | 22.17 | | | 0.84 | 0.81 | 0.23 |
| 15 | 16QAM | 1 | 74 | 22.21 | 22.25 | 22.23 | | | 0.79 | 0.75 | |
| 15 | 16QAM | 36 | 0 | 21.39 | 21.44 | 21.47 | 22 | 2 | 0.61 | 0.53 | |
| 15 | 16QAM | 36 | 20 | 21.33 | 21.37 | 21.33 | | | 0.67 | 0.63 | 0.15 |
| 15 | 16QAM | 36 | 39 | 21.32 | 21.42 | 21.46 | | | 0.68 | 0.54 | |
| 15 | 16QAM | 75 | 0 | 21.26 | 21.28 | 21.24 | | | 0.76 | 0.72 | 0.04 |
| Channel | | | | 26840 | 26915 | 26990 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 829 | 836.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 23.10 | 23.03 | 23.04 | 24 | 0 | 0.97 | 0.90 | |
| 10 | QPSK | 1 | 25 | 23.00 | 23.02 | 23.01 | | | 1.00 | 0.98 | 0.13 |
| 10 | QPSK | 1 | 49 | 22.97 | 23.02 | 22.98 | | | 1.03 | 0.98 | |
| 10 | QPSK | 25 | 0 | 22.23 | 22.22 | 22.17 | 23 | 1 | 0.83 | 0.77 | |
| 10 | QPSK | 25 | 12 | 22.03 | 22.06 | 22.03 | | | 0.97 | 0.94 | 0.20 |
| 10 | QPSK | 25 | 25 | 22.06 | 22.08 | 22.06 | | | 0.94 | 0.92 | |
| 10 | QPSK | 50 | 0 | 22.12 | 22.23 | 22.26 | | | 0.88 | 0.74 | 0.14 |
| 10 | 16QAM | 1 | 0 | 22.26 | 22.19 | 22.17 | 23 | 1 | 0.83 | 0.74 | |
| 10 | 16QAM | 1 | 25 | 22.05 | 22.00 | 22.04 | | | 1.00 | 0.95 | 0.26 |
| 10 | 16QAM | 1 | 49 | 22.08 | 22.07 | 22.11 | | | 0.93 | 0.89 | |
| 10 | 16QAM | 25 | 0 | 21.25 | 21.37 | 21.33 | 22 | 2 | 0.75 | 0.63 | |
| 10 | 16QAM | 25 | 12 | 21.19 | 21.17 | 21.20 | | | 0.83 | 0.80 | 0.20 |
| 10 | 16QAM | 25 | 25 | 21.18 | 21.30 | 21.31 | | | 0.82 | 0.69 | |
| 10 | 16QAM | 50 | 0 | 21.14 | 21.11 | 21.09 | | | 0.91 | 0.86 | 0.05 |
| Channel | | | | 26815 | 26915 | 27015 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 826.5 | 836.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 23.12 | 23.07 | 23.06 | 24 | 0 | 0.94 | 0.88 | |
| 5 | QPSK | 1 | 12 | 22.99 | 23.08 | 23.01 | | | 1.01 | 0.92 | 0.14 |
| 5 | QPSK | 1 | 24 | 22.98 | 23.01 | 23.00 | | | 1.02 | 0.99 | |
| 5 | QPSK | 12 | 0 | 22.24 | 22.17 | 22.16 | 23 | 1 | 0.84 | 0.76 | |
| 5 | QPSK | 12 | 7 | 22.04 | 22.04 | 22.04 | | | 0.96 | 0.96 | 0.20 |
| 5 | QPSK | 12 | 13 | 22.05 | 22.14 | 22.08 | | | 0.95 | 0.86 | |
| 5 | QPSK | 25 | 0 | 22.10 | 22.29 | 22.24 | | | 0.90 | 0.71 | 0.19 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 16QAM | 1 | 0 | 22.25 | 22.17 | 22.16 | 23 | 1 | 0.84 | 0.75 | 0.23 |
| 5 | 16QAM | 1 | 12 | 22.04 | 22.02 | 22.03 | | | 0.98 | 0.96 | |
| 5 | 16QAM | 1 | 24 | 22.09 | 22.14 | 22.11 | | | 0.91 | 0.86 | |
| 5 | 16QAM | 12 | 0 | 21.25 | 21.29 | 21.32 | 22 | 2 | 0.75 | 0.68 | 0.14 |
| 5 | 16QAM | 12 | 7 | 21.20 | 21.22 | 21.20 | | | 0.80 | 0.78 | |
| 5 | 16QAM | 12 | 13 | 21.19 | 21.30 | 21.33 | | | 0.81 | 0.67 | |
| 5 | 16QAM | 25 | 0 | 21.12 | 21.07 | 21.10 | | | 0.93 | 0.88 | 0.05 |
| Channel | | | | 26805 | 26915 | 27025 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 825.5 | 836.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 23.09 | 23.11 | 23.05 | 24 | 0 | 0.95 | 0.89 | 0.15 |
| 3 | QPSK | 1 | 8 | 23.00 | 23.02 | 23.03 | | | 1.00 | 0.97 | |
| 3 | QPSK | 1 | 14 | 22.96 | 23.00 | 22.99 | | | 1.04 | 1.00 | |
| 3 | QPSK | 8 | 0 | 22.24 | 22.20 | 22.17 | 23 | 1 | 0.83 | 0.76 | 0.21 |
| 3 | QPSK | 8 | 4 | 22.03 | 22.04 | 22.03 | | | 0.97 | 0.96 | |
| 3 | QPSK | 8 | 7 | 22.05 | 22.12 | 22.09 | | | 0.95 | 0.88 | |
| 3 | QPSK | 15 | 0 | 22.11 | 22.26 | 22.23 | | | 0.89 | 0.74 | 0.15 |
| 3 | 16QAM | 1 | 0 | 22.25 | 22.14 | 22.17 | 23 | 1 | 0.86 | 0.75 | 0.23 |
| 3 | 16QAM | 1 | 8 | 22.06 | 22.02 | 22.05 | | | 0.98 | 0.94 | |
| 3 | 16QAM | 1 | 14 | 22.07 | 22.08 | 22.09 | | | 0.93 | 0.91 | |
| 3 | 16QAM | 8 | 0 | 21.26 | 21.29 | 21.34 | 22 | 2 | 0.74 | 0.66 | 0.19 |
| 3 | 16QAM | 8 | 4 | 21.20 | 21.22 | 21.19 | | | 0.81 | 0.78 | |
| 3 | 16QAM | 8 | 7 | 21.19 | 21.38 | 21.32 | | | 0.81 | 0.62 | |
| 3 | 16QAM | 15 | 0 | 21.12 | 21.11 | 21.09 | | | 0.91 | 0.88 | 0.03 |
| Channel | | | | 26797 | 26915 | 27033 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 824.7 | 836.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 23.05 | 23.08 | 23.07 | 24 | 0 | 0.95 | 0.95 | 0.13 |
| 1.4 | QPSK | 1 | 3 | 23.00 | 23.03 | 22.98 | | | 1.02 | 1.02 | |
| 1.4 | QPSK | 1 | 5 | 22.95 | 23.01 | 22.96 | | | 1.05 | 1.05 | |
| 1.4 | QPSK | 3 | 0 | 23.17 | 23.12 | 23.06 | | | 0.94 | 0.94 | 0.19 |
| 1.4 | QPSK | 3 | 1 | 23.03 | 23.11 | 22.99 | | | 1.01 | 1.01 | |
| 1.4 | QPSK | 3 | 3 | 23.12 | 23.01 | 22.98 | | | 1.02 | 1.02 | |
| 1.4 | QPSK | 6 | 0 | 22.08 | 22.30 | 22.08 | 23 | 1 | 0.92 | 0.92 | 0.22 |
| 1.4 | 16QAM | 1 | 0 | 22.51 | 22.34 | 22.61 | 23 | 1 | 0.66 | 0.66 | 0.40 |
| 1.4 | 16QAM | 1 | 3 | 22.59 | 22.54 | 22.74 | | | 0.46 | 0.46 | |
| 1.4 | 16QAM | 1 | 5 | 22.52 | 22.44 | 22.61 | | | 0.56 | 0.56 | |
| 1.4 | 16QAM | 3 | 0 | 22.17 | 22.01 | 22.07 | | | 0.99 | 0.99 | 0.28 |
| 1.4 | 16QAM | 3 | 1 | 22.00 | 22.03 | 22.01 | | | 1.00 | 1.00 | |
| 1.4 | 16QAM | 3 | 3 | 21.98 | 22.09 | 21.89 | | | 1.11 | 1.11 | |
| 1.4 | 16QAM | 6 | 0 | 21.05 | 21.16 | 20.92 | 22 | 2 | 1.08 | 1.08 | 0.24 |

## LTE TDD Power (Full Power)

| Band 41 | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 24 | 0 | 0 |
| QPSK | 50%/100% RB | 23 | 1 | 0~1 |
| 16QAM | 1 RB | 23 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 22 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 40340 | 40740 | 41140 | | | | | |
| Frequency (MHz) | | | | 2565 | 2605 | 2645 | | | | | |
| 20 | QPSK | 1 | 0 | 22.53 | 22.62 | 22.50 | 24 | 0 | 1.50 | 1.38 | 0.37 |
| 20 | QPSK | 1 | 49 | 22.25 | 22.28 | 22.28 | | | 1.75 | 1.72 | |
| 20 | QPSK | 1 | 99 | 22.25 | 22.28 | 22.26 | | | 1.75 | 1.72 | |
| 20 | QPSK | 50 | 0 | 21.24 | 21.31 | 21.32 | 23 | 1 | 1.76 | 1.68 | 0.14 |
| 20 | QPSK | 50 | 24 | 21.32 | 21.31 | 21.29 | | | 1.71 | 1.68 | |
| 20 | QPSK | 50 | 50 | 21.21 | 21.18 | 21.24 | | | 1.82 | 1.76 | |
| 20 | QPSK | 100 | 0 | 21.24 | 21.36 | 21.32 | | | 1.76 | 1.64 | 0.12 |
| 20 | 16QAM | 1 | 0 | 21.76 | 21.84 | 21.79 | 23 | 1 | 1.24 | 1.16 | 0.27 |
| 20 | 16QAM | 1 | 49 | 22.03 | 21.94 | 21.94 | | | 1.06 | 0.97 | |
| 20 | 16QAM | 1 | 99 | 21.88 | 21.95 | 21.98 | | | 1.12 | 1.02 | |
| 20 | 16QAM | 50 | 0 | 20.42 | 20.47 | 20.39 | 22 | 2 | 1.61 | 1.53 | 0.30 |
| 20 | 16QAM | 50 | 24 | 20.17 | 20.24 | 20.21 | | | 1.83 | 1.76 | |
| 20 | 16QAM | 50 | 50 | 20.33 | 20.34 | 20.33 | | | 1.67 | 1.66 | |
| 20 | 16QAM | 100 | 0 | 20.21 | 20.25 | 20.24 | | | 1.79 | 1.75 | 0.04 |
| Channel | | | | 40315 | 40740 | 41165 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2562.5 | 2605 | 2647.5 | | | | | |
| 15 | QPSK | 1 | 0 | 22.41 | 22.35 | 22.35 | 24 | 0 | 1.65 | 1.59 | 0.36 |
| 15 | QPSK | 1 | 37 | 22.12 | 22.12 | 22.16 | | | 1.88 | 1.84 | |
| 15 | QPSK | 1 | 74 | 22.05 | 22.20 | 22.19 | | | 1.95 | 1.80 | |
| 15 | QPSK | 36 | 0 | 21.14 | 21.20 | 21.13 | 23 | 1 | 1.87 | 1.80 | 0.18 |
| 15 | QPSK | 36 | 20 | 21.17 | 21.10 | 21.14 | | | 1.90 | 1.83 | |
| 15 | QPSK | 36 | 39 | 21.02 | 21.05 | 21.09 | | | 1.98 | 1.91 | |
| 15 | QPSK | 75 | 0 | 21.12 | 21.24 | 21.23 | | | 1.88 | 1.76 | 0.12 |
| 15 | 16QAM | 1 | 0 | 21.60 | 21.66 | 21.71 | 23 | 1 | 1.40 | 1.29 | 0.29 |
| 15 | 16QAM | 1 | 37 | 21.89 | 21.78 | 21.77 | | | 1.23 | 1.11 | |
| 15 | 16QAM | 1 | 74 | 21.74 | 21.80 | 21.78 | | | 1.26 | 1.20 | |
| 15 | 16QAM | 36 | 0 | 20.28 | 20.30 | 20.26 | 22 | 2 | 1.74 | 1.70 | 0.24 |
| 15 | 16QAM | 36 | 20 | 20.06 | 20.10 | 20.10 | | | 1.94 | 1.90 | |
| 15 | 16QAM | 36 | 39 | 20.12 | 20.26 | 20.26 | | | 1.88 | 1.74 | |
| 15 | 16QAM | 75 | 0 | 20.06 | 20.09 | 20.08 | | | 1.94 | 1.91 | 0.03 |
| Channel | | | | 40290 | 40740 | 41190 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2560 | 2605 | 2650 | | | | | |
| 10 | QPSK | 1 | 0 | 22.36 | 22.32 | 22.38 | 24 | 0 | 1.68 | 1.62 | 0.31 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 1 | 25 | 22.07 | 22.16 | 22.11 | | | 1.93 | 1.84 | |
| 10 | QPSK | 1 | 49 | 22.07 | 22.15 | 22.19 | | | 1.93 | 1.81 | |
| 10 | QPSK | 25 | 0 | 21.15 | 21.17 | 21.14 | 23 | 1 | 1.86 | 1.83 | 0.15 |
| 10 | QPSK | 25 | 12 | 21.18 | 21.14 | 21.17 | | | 1.86 | 1.82 | |
| 10 | QPSK | 25 | 25 | 21.03 | 21.07 | 21.06 | | | 1.97 | 1.93 | |
| 10 | QPSK | 50 | 0 | 21.08 | 21.21 | 21.25 | | | 1.92 | 1.75 | 0.17 |
| 10 | 16QAM | 1 | 0 | 21.58 | 21.64 | 21.69 | 23 | 1 | 1.42 | 1.31 | 0.28 |
| 10 | 16QAM | 1 | 25 | 21.86 | 21.81 | 21.78 | | | 1.22 | 1.14 | |
| 10 | 16QAM | 1 | 49 | 21.83 | 21.82 | 21.85 | | | 1.18 | 1.15 | |
| 10 | 16QAM | 25 | 0 | 20.26 | 20.33 | 20.24 | 22 | 2 | 1.76 | 1.67 | 0.26 |
| 10 | 16QAM | 25 | 12 | 20.07 | 20.09 | 20.13 | | | 1.93 | 1.87 | |
| 10 | 16QAM | 25 | 25 | 20.17 | 20.27 | 20.18 | | | 1.83 | 1.73 | |
| 10 | 16QAM | 50 | 0 | 20.04 | 20.09 | 20.08 | | | 1.96 | 1.91 | 0.05 |
| Channel | | | | 40265 | 40740 | 41215 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2557.5 | 2605 | 2652.5 | | | | | |
| 5 | QPSK | 1 | 0 | 22.36 | 22.39 | 22.34 | 24 | 0 | 1.66 | 1.61 | 0.33 |
| 5 | QPSK | 1 | 12 | 22.11 | 22.17 | 22.14 | | | 1.89 | 1.83 | |
| 5 | QPSK | 1 | 24 | 22.06 | 22.14 | 22.13 | | | 1.94 | 1.86 | |
| 5 | QPSK | 12 | 0 | 21.12 | 21.13 | 21.18 | 23 | 1 | 1.88 | 1.82 | 0.13 |
| 5 | QPSK | 12 | 7 | 21.17 | 21.16 | 21.16 | | | 1.84 | 1.83 | |
| 5 | QPSK | 12 | 13 | 21.10 | 21.10 | 21.05 | | | 1.95 | 1.90 | |
| 5 | QPSK | 25 | 0 | 21.13 | 21.21 | 21.17 | | | 1.87 | 1.79 | 0.08 |
| 5 | 16QAM | 1 | 0 | 21.58 | 21.61 | 21.65 | 23 | 1 | 1.42 | 1.35 | 0.30 |
| 5 | 16QAM | 1 | 12 | 21.88 | 21.73 | 21.81 | | | 1.27 | 1.12 | |
| 5 | 16QAM | 1 | 24 | 21.75 | 21.81 | 21.81 | | | 1.25 | 1.19 | |
| 5 | 16QAM | 12 | 0 | 20.19 | 20.26 | 20.31 | 22 | 2 | 1.81 | 1.69 | 0.23 |
| 5 | 16QAM | 12 | 7 | 20.08 | 20.11 | 20.09 | | | 1.92 | 1.89 | |
| 5 | 16QAM | 12 | 13 | 20.11 | 20.19 | 20.20 | | | 1.89 | 1.80 | |
| 5 | 16QAM | 25 | 0 | 20.11 | 20.09 | 20.14 | | | 1.91 | 1.86 | 0.05 |

## LTE FDD Power (Sensor on)

| Band 2 | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 17 | 0 | 0 |
| QPSK | 50%/100% RB | 16 | 1 | 0~1 |
| 16QAM | 1 RB | 16 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 15 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 18700 | 18900 | 19100 | | | | | |
| Frequency (MHz) | | | | 1860 | 1880 | 1900 | | | | | |
| 20 | QPSK | 1 | 0 | 15.92 | 15.98 | 15.88 | 17 | 0 | 1.12 | 1.02 | |
| 20 | QPSK | 1 | 49 | 15.74 | 15.87 | 15.79 | | | 1.26 | 1.13 | 0.55 |
| 20 | QPSK | 1 | 99 | 15.43 | 15.87 | 15.71 | | | 1.57 | 1.13 | |
| 20 | QPSK | 50 | 0 | 14.82 | 14.89 | 14.87 | 16 | 1 | 1.18 | 1.11 | |
| 20 | QPSK | 50 | 24 | 14.72 | 14.75 | 14.85 | | | 1.28 | 1.15 | 0.36 |
| 20 | QPSK | 50 | 50 | 14.63 | 14.69 | 14.53 | | | 1.47 | 1.31 | |
| 20 | QPSK | 100 | 0 | 14.78 | 14.85 | 14.76 | | | 1.24 | 1.15 | 0.09 |
| 20 | 16QAM | 1 | 0 | 14.64 | 14.65 | 14.66 | 16 | 1 | 1.36 | 1.34 | |
| 20 | 16QAM | 1 | 49 | 14.52 | 14.53 | 14.67 | | | 1.48 | 1.33 | 0.37 |
| 20 | 16QAM | 1 | 99 | 14.45 | 14.49 | 14.30 | | | 1.70 | 1.51 | |
| 20 | 16QAM | 50 | 0 | 13.63 | 13.77 | 13.59 | 15 | 2 | 1.41 | 1.23 | |
| 20 | 16QAM | 50 | 24 | 13.59 | 13.52 | 13.70 | | | 1.48 | 1.30 | 0.30 |
| 20 | 16QAM | 50 | 50 | 13.48 | 13.47 | 13.55 | | | 1.53 | 1.45 | |
| 20 | 16QAM | 100 | 0 | 13.47 | 13.41 | 13.38 | | | 1.62 | 1.53 | 0.09 |
| Channel | | | | 18675 | 18900 | 19125 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1857.5 | 1880 | 1902.5 | | | | | |
| 15 | QPSK | 1 | 0 | 15.70 | 15.79 | 15.62 | 17 | 0 | 1.38 | 1.21 | |
| 15 | QPSK | 1 | 37 | 15.56 | 15.66 | 15.66 | | | 1.44 | 1.34 | 0.60 |
| 15 | QPSK | 1 | 74 | 15.19 | 15.67 | 15.52 | | | 1.81 | 1.33 | |
| 15 | QPSK | 36 | 0 | 14.64 | 14.70 | 14.62 | 16 | 1 | 1.38 | 1.30 | |
| 15 | QPSK | 36 | 20 | 14.52 | 14.52 | 14.65 | | | 1.48 | 1.35 | 0.40 |
| 15 | QPSK | 36 | 39 | 14.48 | 14.45 | 14.30 | | | 1.70 | 1.52 | |
| 15 | QPSK | 75 | 0 | 14.54 | 14.57 | 14.62 | | | 1.46 | 1.38 | 0.08 |
| 15 | 16QAM | 1 | 0 | 14.51 | 14.38 | 14.44 | 16 | 1 | 1.62 | 1.49 | |
| 15 | 16QAM | 1 | 37 | 14.37 | 14.36 | 14.39 | | | 1.64 | 1.61 | 0.39 |
| 15 | 16QAM | 1 | 74 | 14.30 | 14.35 | 14.12 | | | 1.88 | 1.65 | |
| 15 | 16QAM | 36 | 0 | 13.46 | 13.50 | 13.37 | 15 | 2 | 1.63 | 1.50 | |
| 15 | 16QAM | 36 | 20 | 13.34 | 13.34 | 13.58 | | | 1.66 | 1.42 | 0.37 |
| 15 | 16QAM | 36 | 39 | 13.21 | 13.25 | 13.22 | | | 1.79 | 1.75 | |
| 15 | 16QAM | 75 | 0 | 13.27 | 13.26 | 13.25 | | | 1.75 | 1.73 | 0.02 |
| Channel | | | | 18650 | 18900 | 19150 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1855 | 1880 | 1905 | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 1 | 0 | 15.79 | 15.74 | 15.65 | 17 | 0 | 1.35 | 1.21 | 0.62 |
| 10 | QPSK | 1 | 25 | 15.60 | 15.62 | 15.55 | | | 1.45 | 1.38 | |
| 10 | QPSK | 1 | 49 | 15.17 | 15.61 | 15.48 | | | 1.83 | 1.39 | |
| 10 | QPSK | 25 | 0 | 14.67 | 14.76 | 14.61 | 16 | 1 | 1.39 | 1.24 | 0.46 |
| 10 | QPSK | 25 | 12 | 14.45 | 14.61 | 14.68 | | | 1.55 | 1.32 | |
| 10 | QPSK | 25 | 25 | 14.43 | 14.51 | 14.30 | | | 1.70 | 1.49 | |
| 10 | QPSK | 50 | 0 | 14.57 | 14.69 | 14.50 | | | 1.50 | 1.31 | 0.19 |
| 10 | 16QAM | 1 | 0 | 14.47 | 14.47 | 14.41 | 16 | 1 | 1.59 | 1.53 | 0.33 |
| 10 | 16QAM | 1 | 25 | 14.40 | 14.38 | 14.50 | | | 1.62 | 1.50 | |
| 10 | 16QAM | 1 | 49 | 14.21 | 14.26 | 14.17 | | | 1.83 | 1.74 | |
| 10 | 16QAM | 25 | 0 | 13.46 | 13.62 | 13.42 | 15 | 2 | 1.58 | 1.38 | 0.39 |
| 10 | 16QAM | 25 | 12 | 13.46 | 13.25 | 13.53 | | | 1.75 | 1.47 | |
| 10 | 16QAM | 25 | 25 | 13.28 | 13.29 | 13.23 | | | 1.77 | 1.71 | |
| 10 | 16QAM | 50 | 0 | 13.30 | 13.25 | 13.15 | | | 1.85 | 1.70 | 0.15 |
| Channel | | | | 18625 | 18900 | 19175 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1852.5 | 1880 | 1907.5 | | | | | |
| 5 | QPSK | 1 | 0 | 15.76 | 15.83 | 15.76 | 17 | 0 | 1.24 | 1.17 | 0.68 |
| 5 | QPSK | 1 | 12 | 15.47 | 15.65 | 15.59 | | | 1.53 | 1.35 | |
| 5 | QPSK | 1 | 24 | 15.15 | 15.73 | 15.57 | | | 1.85 | 1.27 | |
| 5 | QPSK | 12 | 0 | 14.62 | 14.72 | 14.67 | 16 | 1 | 1.38 | 1.28 | 0.47 |
| 5 | QPSK | 12 | 7 | 14.52 | 14.55 | 14.70 | | | 1.48 | 1.30 | |
| 5 | QPSK | 12 | 13 | 14.37 | 14.47 | 14.25 | | | 1.75 | 1.53 | |
| 5 | QPSK | 25 | 0 | 14.60 | 14.68 | 14.52 | | | 1.48 | 1.32 | 0.16 |
| 5 | 16QAM | 1 | 0 | 14.44 | 14.40 | 14.50 | 16 | 1 | 1.60 | 1.50 | 0.40 |
| 5 | 16QAM | 1 | 12 | 14.24 | 14.29 | 14.48 | | | 1.76 | 1.52 | |
| 5 | 16QAM | 1 | 24 | 14.29 | 14.34 | 14.10 | | | 1.90 | 1.66 | |
| 5 | 16QAM | 12 | 0 | 13.50 | 13.58 | 13.37 | 15 | 2 | 1.63 | 1.42 | 0.38 |
| 5 | 16QAM | 12 | 7 | 13.40 | 13.39 | 13.52 | | | 1.61 | 1.48 | |
| 5 | 16QAM | 12 | 13 | 13.30 | 13.20 | 13.23 | | | 1.80 | 1.70 | |
| 5 | 16QAM | 25 | 0 | 13.28 | 13.18 | 13.23 | | | 1.82 | 1.72 | 0.10 |
| Channel | | | | 18615 | 18900 | 19185 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1851.5 | 1880 | 1908.5 | | | | | |
| 3 | QPSK | 1 | 0 | 15.74 | 15.85 | 15.63 | 17 | 0 | 1.37 | 1.15 | 0.66 |
| 3 | QPSK | 1 | 8 | 15.51 | 15.74 | 15.59 | | | 1.49 | 1.26 | |
| 3 | QPSK | 1 | 14 | 15.19 | 15.59 | 15.48 | | | 1.81 | 1.41 | |
| 3 | QPSK | 8 | 0 | 14.55 | 14.62 | 14.68 | 16 | 1 | 1.45 | 1.32 | 0.34 |
| 3 | QPSK | 8 | 4 | 14.48 | 14.48 | 14.60 | | | 1.52 | 1.40 | |
| 3 | QPSK | 8 | 7 | 14.47 | 14.45 | 14.34 | | | 1.66 | 1.53 | |
| 3 | QPSK | 15 | 0 | 14.57 | 14.67 | 14.54 | | | 1.46 | 1.33 | 0.13 |
| 3 | 16QAM | 1 | 0 | 14.36 | 14.50 | 14.39 | 16 | 1 | 1.64 | 1.50 | 0.49 |
| 3 | 16QAM | 1 | 8 | 14.26 | 14.41 | 14.52 | | | 1.74 | 1.48 | |
| 3 | 16QAM | 1 | 14 | 14.31 | 14.25 | 14.03 | | | 1.97 | 1.69 | |
| 3 | 16QAM | 8 | 0 | 13.38 | 13.64 | 13.43 | 15 | 2 | 1.62 | 1.36 | 0.50 |
| 3 | 16QAM | 8 | 4 | 13.34 | 13.37 | 13.45 | | | 1.66 | 1.55 | |
| 3 | 16QAM | 8 | 7 | 13.26 | 13.33 | 13.14 | | | 1.86 | 1.67 | |
| 3 | 16QAM | 15 | 0 | 13.21 | 13.19 | 13.21 | | | 1.81 | 1.79 | 0.02 |
| Channel | | | | 18607 | 18900 | 19193 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1850.7 | 1880 | 1909.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 15.79 | 15.71 | 15.64 | 17 | 0 | 1.36 | 1.36 | 0.62 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | QPSK | 1 | 3 | 15.50 | 15.69 | 15.54 | | | 1.50 | 1.50 | |
| 1.4 | QPSK | 1 | 5 | 15.17 | 15.71 | 15.47 | | | 1.83 | 1.83 | |
| 1.4 | QPSK | 3 | 0 | 15.75 | 15.85 | 15.74 | | | 1.26 | 1.26 | |
| 1.4 | QPSK | 3 | 1 | 15.47 | 15.64 | 15.66 | | | 1.53 | 1.53 | 0.55 |
| 1.4 | QPSK | 3 | 3 | 15.30 | 15.68 | 15.47 | | | 1.70 | 1.70 | |
| 1.4 | QPSK | 6 | 0 | 14.55 | 14.69 | 14.58 | 16 | 1 | 1.45 | 1.45 | 0.14 |
| 1.4 | 16QAM | 1 | 0 | 14.45 | 14.44 | 14.46 | | | 1.56 | 1.56 | |
| 1.4 | 16QAM | 1 | 3 | 14.35 | 14.33 | 14.50 | | | 1.67 | 1.67 | 0.45 |
| 1.4 | 16QAM | 1 | 5 | 14.22 | 14.28 | 14.05 | | | 1.95 | 1.95 | |
| 1.4 | 16QAM | 3 | 0 | 14.62 | 14.62 | 14.64 | 16 | 1 | 1.38 | 1.38 | |
| 1.4 | 16QAM | 3 | 1 | 14.50 | 14.48 | 14.54 | | | 1.52 | 1.52 | 0.32 |
| 1.4 | 16QAM | 3 | 3 | 14.38 | 14.32 | 14.43 | | | 1.68 | 1.68 | |
| 1.4 | 16QAM | 6 | 0 | 13.26 | 13.20 | 13.14 | 15 | 2 | 1.86 | 1.86 | 0.12 |

# Band 4

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 20 | 0 | 0 |
| QPSK | 50%/100% RB | 19 | 1 | 0~1 |
| 16QAM | 1 RB | 19 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 18 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 20050 | 20175 | 20300 | | | | | |
| Frequency (MHz) | | | | 1720 | 1732.5 | 1745 | | | | | |
| 20 | QPSK | 1 | 0 | 18.85 | 18.93 | 18.90 | | | 1.15 | 1.07 | |
| 20 | QPSK | 1 | 49 | 18.77 | 18.66 | 18.61 | 20 | 0 | 1.39 | 1.23 | 0.48 |
| 20 | QPSK | 1 | 99 | 18.45 | 18.54 | 18.65 | | | 1.55 | 1.35 | |
| 20 | QPSK | 50 | 0 | 17.88 | 17.95 | 17.73 | | | 1.27 | 1.05 | |
| 20 | QPSK | 50 | 24 | 17.85 | 17.76 | 17.66 | 19 | 1 | 1.34 | 1.15 | 0.62 |
| 20 | QPSK | 50 | 50 | 17.51 | 17.33 | 17.38 | | | 1.67 | 1.49 | |
| 20 | QPSK | 100 | 0 | 17.44 | 17.69 | 17.51 | | | 1.56 | 1.31 | 0.25 |
| 20 | 16QAM | 1 | 0 | 17.83 | 17.94 | 17.89 | | | 1.17 | 1.06 | |
| 20 | 16QAM | 1 | 49 | 17.85 | 17.66 | 17.64 | 19 | 1 | 1.36 | 1.15 | 0.47 |
| 20 | 16QAM | 1 | 99 | 17.50 | 17.47 | 17.72 | | | 1.53 | 1.28 | |
| 20 | 16QAM | 50 | 0 | 16.93 | 16.93 | 16.79 | | | 1.21 | 1.07 | |
| 20 | 16QAM | 50 | 24 | 16.91 | 16.75 | 16.72 | 18 | 2 | 1.28 | 1.09 | 0.56 |
| 20 | 16QAM | 50 | 50 | 16.46 | 16.37 | 16.39 | | | 1.63 | 1.54 | |
| 20 | 16QAM | 100 | 0 | 16.45 | 16.66 | 16.54 | | | 1.55 | 1.34 | 0.21 |
| Channel | | | | 20025 | 20175 | 20325 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1717.5 | 1732.5 | 1747.5 | | | | | |
| 15 | QPSK | 1 | 0 | 18.82 | 18.85 | 18.78 | | | 1.22 | 1.15 | |
| 15 | QPSK | 1 | 37 | 18.60 | 18.57 | 18.46 | 20 | 0 | 1.54 | 1.40 | 0.48 |
| 15 | QPSK | 1 | 74 | 18.37 | 18.39 | 18.49 | | | 1.63 | 1.51 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | QPSK | 36 | 0 | 17.79 | 17.92 | 17.67 | 19 | 1 | 1.33 | 1.08 | 0.63 |
| 15 | QPSK | 36 | 20 | 17.79 | 17.70 | 17.57 | | | 1.43 | 1.21 | |
| 15 | QPSK | 36 | 39 | 17.39 | 17.29 | 17.34 | | | 1.71 | 1.61 | |
| 15 | QPSK | 75 | 0 | 17.35 | 17.62 | 17.48 | | | 1.65 | 1.38 | 0.27 |
| 15 | 16QAM | 1 | 0 | 17.81 | 17.91 | 17.86 | 19 | 1 | 1.19 | 1.09 | 0.56 |
| 15 | 16QAM | 1 | 37 | 17.74 | 17.49 | 17.52 | | | 1.51 | 1.26 | |
| 15 | 16QAM | 1 | 74 | 17.35 | 17.37 | 17.64 | | | 1.65 | 1.36 | |
| 15 | 16QAM | 36 | 0 | 16.76 | 16.89 | 16.63 | 18 | 2 | 1.37 | 1.11 | 0.55 |
| 15 | 16QAM | 36 | 20 | 16.88 | 16.68 | 16.62 | | | 1.38 | 1.12 | |
| 15 | 16QAM | 36 | 39 | 16.41 | 16.34 | 16.35 | | | 1.66 | 1.59 | |
| 15 | 16QAM | 75 | 0 | 16.31 | 16.50 | 16.43 | | | 1.69 | 1.50 | 0.19 |
| Channel | | | | 20000 | 20175 | 20350 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1715 | 1732.5 | 1750 | | | | | |
| 10 | QPSK | 1 | 0 | 18.70 | 18.88 | 18.79 | 20 | 0 | 1.30 | 1.12 | 0.61 |
| 10 | QPSK | 1 | 25 | 18.60 | 18.62 | 18.57 | | | 1.43 | 1.38 | |
| 10 | QPSK | 1 | 49 | 18.27 | 18.40 | 18.62 | | | 1.73 | 1.38 | |
| 10 | QPSK | 25 | 0 | 17.80 | 17.80 | 17.63 | 19 | 1 | 1.37 | 1.20 | 0.55 |
| 10 | QPSK | 25 | 12 | 17.80 | 17.69 | 17.61 | | | 1.39 | 1.20 | |
| 10 | QPSK | 25 | 25 | 17.49 | 17.25 | 17.27 | | | 1.75 | 1.51 | |
| 10 | QPSK | 50 | 0 | 17.41 | 17.62 | 17.42 | | | 1.59 | 1.38 | 0.21 |
| 10 | 16QAM | 1 | 0 | 17.74 | 17.88 | 17.84 | 19 | 1 | 1.26 | 1.12 | 0.44 |
| 10 | 16QAM | 1 | 25 | 17.71 | 17.61 | 17.55 | | | 1.45 | 1.29 | |
| 10 | 16QAM | 1 | 49 | 17.44 | 17.44 | 17.57 | | | 1.56 | 1.43 | |
| 10 | 16QAM | 25 | 0 | 16.76 | 16.78 | 16.66 | 18 | 2 | 1.34 | 1.22 | 0.53 |
| 10 | 16QAM | 25 | 12 | 16.77 | 16.61 | 16.58 | | | 1.42 | 1.23 | |
| 10 | 16QAM | 25 | 25 | 16.31 | 16.25 | 16.33 | | | 1.75 | 1.67 | |
| 10 | 16QAM | 50 | 0 | 16.32 | 16.58 | 16.42 | | | 1.68 | 1.42 | 0.26 |
| Channel | | | | 19975 | 20175 | 20375 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1712.5 | 1732.5 | 1752.5 | | | | | |
| 5 | QPSK | 1 | 0 | 18.78 | 18.75 | 18.88 | 20 | 0 | 1.25 | 1.12 | 0.55 |
| 5 | QPSK | 1 | 12 | 18.66 | 18.57 | 18.44 | | | 1.56 | 1.34 | |
| 5 | QPSK | 1 | 24 | 18.33 | 18.37 | 18.61 | | | 1.67 | 1.39 | |
| 5 | QPSK | 12 | 0 | 17.83 | 17.84 | 17.66 | 19 | 1 | 1.34 | 1.16 | 0.61 |
| 5 | QPSK | 12 | 7 | 17.68 | 17.62 | 17.49 | | | 1.51 | 1.32 | |
| 5 | QPSK | 12 | 13 | 17.45 | 17.30 | 17.23 | | | 1.77 | 1.55 | |
| 5 | QPSK | 25 | 0 | 17.28 | 17.56 | 17.47 | | | 1.72 | 1.44 | 0.28 |
| 5 | 16QAM | 1 | 0 | 17.72 | 17.79 | 17.80 | 19 | 1 | 1.28 | 1.20 | 0.50 |
| 5 | 16QAM | 1 | 12 | 17.74 | 17.50 | 17.49 | | | 1.51 | 1.26 | |
| 5 | 16QAM | 1 | 24 | 17.44 | 17.30 | 17.62 | | | 1.70 | 1.38 | |
| 5 | 16QAM | 12 | 0 | 16.85 | 16.79 | 16.65 | 18 | 2 | 1.35 | 1.15 | 0.68 |
| 5 | 16QAM | 12 | 7 | 16.88 | 16.59 | 16.63 | | | 1.41 | 1.12 | |
| 5 | 16QAM | 12 | 13 | 16.41 | 16.20 | 16.36 | | | 1.80 | 1.59 | |
| 5 | 16QAM | 25 | 0 | 16.33 | 16.61 | 16.44 | | | 1.67 | 1.39 | 0.28 |
| Channel | | | | 19965 | 20175 | 20385 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1711.5 | 1732.5 | 1753.5 | | | | | |
| 3 | QPSK | 1 | 0 | 18.83 | 18.89 | 18.85 | 20 | 0 | 1.17 | 1.11 | 0.46 |
| 3 | QPSK | 1 | 8 | 18.64 | 18.49 | 18.57 | | | 1.51 | 1.36 | |
| 3 | QPSK | 1 | 14 | 18.43 | 18.46 | 18.58 | | | 1.57 | 1.42 | |
| 3 | QPSK | 8 | 0 | 17.83 | 17.91 | 17.69 | 19 | 1 | 1.31 | 1.09 | 0.71 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | QPSK | 8 | 4 | 17.70 | 17.68 | 17.50 | | | 1.50 | 1.30 | |
| 3 | QPSK | 8 | 7 | 17.40 | 17.30 | 17.20 | | | 1.80 | 1.60 | |
| 3 | QPSK | 15 | 0 | 17.39 | 17.63 | 17.45 | | | 1.61 | 1.37 | 0.24 |
| 3 | 16QAM | 1 | 0 | 17.75 | 17.76 | 17.80 | | | 1.25 | 1.20 | |
| 3 | 16QAM | 1 | 8 | 17.69 | 17.51 | 17.53 | 19 | 1 | 1.49 | 1.31 | 0.43 |
| 3 | 16QAM | 1 | 14 | 17.37 | 17.40 | 17.65 | | | 1.63 | 1.35 | |
| 3 | 16QAM | 8 | 0 | 16.83 | 16.84 | 16.62 | | | 1.38 | 1.16 | |
| 3 | 16QAM | 8 | 4 | 16.76 | 16.70 | 16.61 | 18 | 2 | 1.39 | 1.24 | 0.57 |
| 3 | 16QAM | 8 | 7 | 16.40 | 16.27 | 16.30 | | | 1.73 | 1.60 | |
| 3 | 16QAM | 15 | 0 | 16.38 | 16.49 | 16.43 | | | 1.62 | 1.51 | 0.11 |
| Channel | | | | 19957 | 20175 | 20393 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1710.7 | 1732.5 | 1754.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 18.80 | 18.83 | 18.80 | | | 1.20 | 1.20 | |
| 1.4 | QPSK | 1 | 3 | 18.69 | 18.60 | 18.51 | | | 1.49 | 1.49 | 0.55 |
| 1.4 | QPSK | 1 | 5 | 18.28 | 18.41 | 18.50 | | | 1.72 | 1.72 | |
| 1.4 | QPSK | 3 | 0 | 18.71 | 18.89 | 18.83 | 20 | 0 | 1.29 | 1.29 | |
| 1.4 | QPSK | 3 | 1 | 18.60 | 18.55 | 18.47 | | | 1.53 | 1.53 | 0.55 |
| 1.4 | QPSK | 3 | 3 | 18.34 | 18.40 | 18.62 | | | 1.66 | 1.66 | |
| 1.4 | QPSK | 6 | 0 | 17.34 | 17.66 | 17.34 | 19 | 1 | 1.66 | 1.66 | 0.32 |
| 1.4 | 16QAM | 1 | 0 | 17.70 | 17.76 | 17.77 | | | 1.30 | 1.30 | |
| 1.4 | 16QAM | 1 | 3 | 17.74 | 17.59 | 17.59 | | | 1.41 | 1.41 | 0.37 |
| 1.4 | 16QAM | 1 | 5 | 17.42 | 17.40 | 17.67 | | | 1.60 | 1.60 | |
| 1.4 | 16QAM | 3 | 0 | 17.74 | 17.92 | 17.71 | 19 | 1 | 1.29 | 1.29 | |
| 1.4 | 16QAM | 3 | 1 | 17.80 | 17.59 | 17.46 | | | 1.54 | 1.54 | 0.57 |
| 1.4 | 16QAM | 3 | 3 | 17.35 | 17.43 | 17.64 | | | 1.65 | 1.65 | |
| 1.4 | 16QAM | 6 | 0 | 16.29 | 16.53 | 16.48 | 18 | 2 | 1.71 | 1.71 | 0.24 |

# Band 5

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 22.5 | 0 | 0 |
| QPSK | 50%/100% RB | 21.5 | 1 | 0~1 |
| 16QAM | 1 RB | 21.5 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 20.5 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 20450 | 20525 | 20600 | | | | | |
| Frequency (MHz) | | | | 829 | 836.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 20.94 | 21.00 | 20.99 | | | 1.56 | 1.50 | |
| 10 | QPSK | 1 | 25 | 20.82 | 20.69 | 20.63 | 22.5 | 0 | 1.87 | 1.68 | 0.42 |
| 10 | QPSK | 1 | 49 | 20.58 | 20.69 | 20.78 | | | 1.92 | 1.72 | |
| 10 | QPSK | 25 | 0 | 20.04 | 19.99 | 19.83 | | | 1.67 | 1.46 | |
| 10 | QPSK | 25 | 12 | 20.01 | 19.85 | 19.80 | 21.5 | 1 | 1.70 | 1.49 | 0.58 |
| 10 | QPSK | 25 | 25 | 19.64 | 19.50 | 19.46 | | | 2.04 | 1.86 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 50 | 0 | 19.57 | 19.86 | 19.64 | | | 1.93 | 1.64 | 0.29 |
| 10 | 16QAM | 1 | 0 | 19.90 | 20.02 | 19.93 | 21.5 | 1 | 1.60 | 1.48 | 0.48 |
| 10 | 16QAM | 1 | 25 | 19.93 | 19.83 | 19.67 | | | 1.83 | 1.57 | |
| 10 | 16QAM | 1 | 49 | 19.54 | 19.60 | 19.89 | | | 1.96 | 1.61 | |
| 10 | 16QAM | 25 | 0 | 19.06 | 19.10 | 18.85 | 20.5 | 2 | 1.65 | 1.40 | 0.60 |
| 10 | 16QAM | 25 | 12 | 18.99 | 18.79 | 18.80 | | | 1.71 | 1.51 | |
| 10 | 16QAM | 25 | 25 | 18.61 | 18.50 | 18.53 | | | 2.00 | 1.89 | |
| 10 | 16QAM | 50 | 0 | 18.51 | 18.71 | 18.65 | | | 1.99 | 1.79 | 0.20 |
| Channel | | | | 20425 | 20525 | 20625 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 826.5 | 836.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 20.98 | 21.07 | 21.02 | 22.5 | 0 | 1.52 | 1.43 | 0.57 |
| 5 | QPSK | 1 | 12 | 20.83 | 20.68 | 20.63 | | | 1.87 | 1.67 | |
| 5 | QPSK | 1 | 24 | 20.50 | 20.67 | 20.81 | | | 2.00 | 1.69 | |
| 5 | QPSK | 12 | 0 | 19.98 | 19.98 | 19.79 | 21.5 | 1 | 1.71 | 1.52 | 0.57 |
| 5 | QPSK | 12 | 7 | 19.98 | 19.81 | 19.84 | | | 1.69 | 1.52 | |
| 5 | QPSK | 12 | 13 | 19.59 | 19.43 | 19.41 | | | 2.09 | 1.91 | |
| 5 | QPSK | 25 | 0 | 19.58 | 19.79 | 19.69 | | | 1.92 | 1.71 | 0.21 |
| 5 | 16QAM | 1 | 0 | 19.96 | 19.96 | 19.99 | 21.5 | 1 | 1.54 | 1.51 | 0.44 |
| 5 | 16QAM | 1 | 12 | 19.93 | 19.83 | 19.69 | | | 1.81 | 1.57 | |
| 5 | 16QAM | 1 | 24 | 19.56 | 19.55 | 19.93 | | | 1.95 | 1.57 | |
| 5 | 16QAM | 12 | 0 | 19.03 | 19.15 | 18.93 | 20.5 | 2 | 1.57 | 1.35 | 0.69 |
| 5 | 16QAM | 12 | 7 | 19.00 | 18.77 | 18.85 | | | 1.73 | 1.50 | |
| 5 | 16QAM | 12 | 13 | 18.64 | 18.46 | 18.54 | | | 2.04 | 1.86 | |
| 5 | 16QAM | 25 | 0 | 18.48 | 18.69 | 18.61 | | | 2.02 | 1.81 | 0.21 |
| Channel | | | | 20415 | 20525 | 20635 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 825.5 | 836.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 20.98 | 20.98 | 20.97 | 22.5 | 0 | 1.53 | 1.52 | 0.46 |
| 3 | QPSK | 1 | 8 | 20.87 | 20.65 | 20.58 | | | 1.92 | 1.63 | |
| 3 | QPSK | 1 | 14 | 20.52 | 20.62 | 20.78 | | | 1.98 | 1.72 | |
| 3 | QPSK | 8 | 0 | 20.00 | 19.92 | 19.86 | 21.5 | 1 | 1.64 | 1.50 | 0.61 |
| 3 | QPSK | 8 | 4 | 20.07 | 19.89 | 19.79 | | | 1.71 | 1.43 | |
| 3 | QPSK | 8 | 7 | 19.68 | 19.46 | 19.46 | | | 2.04 | 1.82 | |
| 3 | QPSK | 15 | 0 | 19.53 | 19.86 | 19.68 | | | 1.97 | 1.64 | 0.33 |
| 3 | 16QAM | 1 | 0 | 19.93 | 20.01 | 19.87 | 21.5 | 1 | 1.63 | 1.49 | 0.53 |
| 3 | 16QAM | 1 | 8 | 19.95 | 19.76 | 19.63 | | | 1.87 | 1.55 | |
| 3 | 16QAM | 1 | 14 | 19.48 | 19.57 | 19.81 | | | 2.02 | 1.69 | |
| 3 | 16QAM | 8 | 0 | 19.09 | 19.13 | 18.93 | 20.5 | 2 | 1.57 | 1.37 | 0.69 |
| 3 | 16QAM | 8 | 4 | 18.98 | 18.84 | 18.79 | | | 1.71 | 1.52 | |
| 3 | 16QAM | 8 | 7 | 18.62 | 18.44 | 18.60 | | | 2.06 | 1.88 | |
| 3 | 16QAM | 15 | 0 | 18.49 | 18.65 | 18.72 | | | 2.01 | 1.78 | 0.23 |
| Channel | | | | 20407 | 20525 | 20643 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 824.7 | 836.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 20.89 | 20.97 | 21.04 | 22.5 | 0 | 1.61 | 1.61 | 0.48 |
| 1.4 | QPSK | 1 | 3 | 20.80 | 20.75 | 20.57 | | | 1.93 | 1.93 | |
| 1.4 | QPSK | 1 | 5 | 20.56 | 20.70 | 20.75 | | | 1.94 | 1.94 | |
| 1.4 | QPSK | 3 | 0 | 20.92 | 20.97 | 21.06 | | | 1.58 | 1.58 | 0.52 |
| 1.4 | QPSK | 3 | 1 | 20.85 | 20.74 | 20.61 | | | 1.89 | 1.89 | |
| 1.4 | QPSK | 3 | 3 | 20.54 | 20.70 | 20.79 | | | 1.96 | 1.96 | |
| 1.4 | QPSK | 6 | 0 | 19.61 | 19.81 | 19.60 | 21.5 | 1 | 1.90 | 1.90 | 0.21 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | 16QAM | 1 | 0 | 19.97 | 20.00 | 19.90 | 21.5 | 1 | 1.60 | 1.60 | 0.45 |
| 1.4 | 16QAM | 1 | 3 | 19.90 | 19.83 | 19.73 | | | 1.77 | 1.77 | |
| 1.4 | 16QAM | 1 | 5 | 19.57 | 19.55 | 19.82 | | | 1.95 | 1.95 | |
| 1.4 | 16QAM | 3 | 0 | 19.86 | 20.02 | 19.94 | | | 1.64 | 1.64 | 0.50 |
| 1.4 | 16QAM | 3 | 1 | 19.86 | 19.83 | 19.67 | | | 1.83 | 1.83 | |
| 1.4 | 16QAM | 3 | 3 | 19.59 | 19.52 | 19.88 | | | 1.98 | 1.98 | |
| 1.4 | 16QAM | 6 | 0 | 18.51 | 18.67 | 18.72 | 20.5 | 2 | 1.99 | 1.99 | 0.21 |

# Band 12

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 23 | 0 | 0 |
| QPSK | 50%/100% RB | 22 | 1 | 0~1 |
| 16QAM | 1 RB | 22 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 21 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 23060 | 23095 | 23130 | | | | | |
| Frequency (MHz) | | | | 704 | 707.5 | 711 | | | | | |
| 10 | QPSK | 1 | 0 | 21.46 | 21.50 | 21.49 | 23 | 0 | 1.54 | 1.50 | 0.37 |
| 10 | QPSK | 1 | 25 | 21.26 | 21.25 | 21.33 | | | 1.75 | 1.67 | |
| 10 | QPSK | 1 | 49 | 21.23 | 21.13 | 21.24 | | | 1.87 | 1.76 | |
| 10 | QPSK | 25 | 0 | 20.54 | 20.59 | 20.33 | 22 | 1 | 1.67 | 1.41 | 0.40 |
| 10 | QPSK | 25 | 12 | 20.48 | 20.36 | 20.32 | | | 1.68 | 1.52 | |
| 10 | QPSK | 25 | 25 | 20.19 | 20.33 | 20.23 | | | 1.81 | 1.67 | |
| 10 | QPSK | 50 | 0 | 20.11 | 20.34 | 20.23 | | | 1.89 | 1.66 | 0.23 |
| 10 | 16QAM | 1 | 0 | 20.47 | 20.55 | 20.47 | 22 | 1 | 1.53 | 1.45 | 0.43 |
| 10 | 16QAM | 1 | 25 | 20.44 | 20.30 | 20.13 | | | 1.87 | 1.56 | |
| 10 | 16QAM | 1 | 49 | 20.23 | 20.12 | 20.33 | | | 1.88 | 1.67 | |
| 10 | 16QAM | 25 | 0 | 19.56 | 19.66 | 19.42 | 21 | 2 | 1.58 | 1.34 | 0.53 |
| 10 | 16QAM | 25 | 12 | 19.48 | 19.32 | 19.24 | | | 1.76 | 1.52 | |
| 10 | 16QAM | 25 | 25 | 19.13 | 19.22 | 19.27 | | | 1.87 | 1.73 | |
| 10 | 16QAM | 50 | 0 | 19.33 | 19.26 | 19.18 | | | 1.82 | 1.67 | 0.15 |
| Channel | | | | 23035 | 23095 | 23155 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 701.5 | 707.5 | 713.5 | | | | | |
| 5 | QPSK | 1 | 0 | 21.31 | 21.41 | 21.35 | 23 | 0 | 1.69 | 1.59 | 0.38 |
| 5 | QPSK | 1 | 12 | 21.19 | 21.16 | 21.31 | | | 1.84 | 1.69 | |
| 5 | QPSK | 1 | 24 | 21.21 | 21.03 | 21.22 | | | 1.97 | 1.78 | |
| 5 | QPSK | 12 | 0 | 20.43 | 20.31 | 20.19 | 22 | 1 | 1.81 | 1.57 | 0.48 |
| 5 | QPSK | 12 | 7 | 20.37 | 20.26 | 20.17 | | | 1.83 | 1.63 | |
| 5 | QPSK | 12 | 13 | 20.16 | 19.95 | 20.20 | | | 2.05 | 1.80 | |
| 5 | QPSK | 25 | 0 | 19.97 | 20.29 | 20.13 | | | 2.03 | 1.71 | 0.32 |
| 5 | 16QAM | 1 | 0 | 20.33 | 20.51 | 20.31 | 22 | 1 | 1.69 | 1.49 | 0.50 |
| 5 | 16QAM | 1 | 12 | 20.31 | 20.16 | 20.10 | | | 1.90 | 1.69 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 16QAM | 1 | 24 | 20.19 | 20.01 | 20.19 | | | 1.99 | 1.81 | |
| 5 | 16QAM | 12 | 0 | 19.47 | 19.51 | 19.39 | 21 | 2 | 1.61 | 1.49 | 0.48 |
| 5 | 16QAM | 12 | 7 | 19.45 | 19.23 | 19.14 | | | 1.86 | 1.55 | |
| 5 | 16QAM | 12 | 13 | 19.03 | 19.15 | 19.13 | | | 1.97 | 1.85 | |
| 5 | 16QAM | 25 | 0 | 19.16 | 19.21 | 19.06 | | | 1.94 | 1.79 | 0.15 |
| Channel | | | | 23025 | 23095 | 23165 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 700.5 | 707.5 | 714.5 | | | | | |
| 3 | QPSK | 1 | 0 | 21.31 | 21.41 | 21.35 | 23 | 0 | 1.69 | 1.59 | 0.38 |
| 3 | QPSK | 1 | 8 | 21.19 | 21.16 | 21.31 | | | 1.84 | 1.69 | |
| 3 | QPSK | 1 | 14 | 21.21 | 21.03 | 21.22 | | | 1.97 | 1.78 | |
| 3 | QPSK | 8 | 0 | 20.43 | 20.31 | 20.19 | 22 | 1 | 1.81 | 1.57 | 0.48 |
| 3 | QPSK | 8 | 4 | 20.37 | 20.26 | 20.17 | | | 1.83 | 1.63 | |
| 3 | QPSK | 8 | 7 | 20.16 | 19.95 | 20.20 | | | 2.05 | 1.80 | |
| 3 | QPSK | 15 | 0 | 19.97 | 20.29 | 20.13 | | | 2.03 | 1.71 | 0.32 |
| 3 | 16QAM | 1 | 0 | 20.33 | 20.51 | 20.31 | 22 | 1 | 1.69 | 1.49 | 0.50 |
| 3 | 16QAM | 1 | 8 | 20.31 | 20.16 | 20.10 | | | 1.90 | 1.69 | |
| 3 | 16QAM | 1 | 14 | 20.19 | 20.01 | 20.19 | | | 1.99 | 1.81 | |
| 3 | 16QAM | 8 | 0 | 19.47 | 19.51 | 19.39 | 21 | 2 | 1.61 | 1.49 | 0.48 |
| 3 | 16QAM | 8 | 4 | 19.45 | 19.23 | 19.14 | | | 1.86 | 1.55 | |
| 3 | 16QAM | 8 | 7 | 19.03 | 19.15 | 19.13 | | | 1.97 | 1.85 | |
| 3 | 16QAM | 15 | 0 | 19.16 | 19.21 | 19.06 | | | 1.94 | 1.79 | 0.15 |
| Channel | | | | 23017 | 23095 | 23173 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 699.7 | 707.5 | 715.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 21.31 | 21.41 | 21.35 | 23 | 0 | 1.69 | 1.69 | 0.38 |
| 1.4 | QPSK | 1 | 3 | 21.19 | 21.16 | 21.31 | | | 1.84 | 1.84 | |
| 1.4 | QPSK | 1 | 5 | 21.21 | 21.03 | 21.22 | | | 1.97 | 1.97 | |
| 1.4 | QPSK | 3 | 0 | 20.43 | 20.31 | 20.19 | | | 2.81 | 2.81 | 0.48 |
| 1.4 | QPSK | 3 | 1 | 20.37 | 20.26 | 20.17 | | | 2.83 | 2.83 | |
| 1.4 | QPSK | 3 | 3 | 20.16 | 19.95 | 20.20 | | | 3.05 | 3.05 | |
| 1.4 | QPSK | 6 | 0 | 19.97 | 20.29 | 20.13 | 22 | 1 | 2.03 | 2.03 | 0.32 |
| 1.4 | 16QAM | 1 | 0 | 20.33 | 20.51 | 20.31 | 22 | 1 | 1.69 | 1.69 | 0.50 |
| 1.4 | 16QAM | 1 | 3 | 20.31 | 20.16 | 20.10 | | | 1.90 | 1.90 | |
| 1.4 | 16QAM | 1 | 5 | 20.19 | 20.01 | 20.19 | | | 1.99 | 1.99 | |
| 1.4 | 16QAM | 3 | 0 | 19.47 | 19.51 | 19.39 | | | 2.61 | 2.61 | 0.48 |
| 1.4 | 16QAM | 3 | 1 | 19.45 | 19.23 | 19.14 | | | 2.86 | 2.86 | |
| 1.4 | 16QAM | 3 | 3 | 19.03 | 19.15 | 19.13 | | | 2.97 | 2.97 | |
| 1.4 | 16QAM | 6 | 0 | 19.16 | 19.21 | 19.06 | 21 | 2 | 1.94 | 1.94 | 0.15 |

# Band 13

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 23.5 | 0 | 0 |
| QPSK | 50%/100% RB | 22.5 | 1 | 0~1 |
| 16QAM | 1 RB | 22.5 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 21.5 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 23230 | | | | | | | |
| Frequency (MHz) | | | | 782 | | | | | | | |
| 10 | QPSK | 1 | 0 | 22.14 | | | 23.5 | 0 | 1.36 | 1.36 | 0.26 |
| 10 | QPSK | 1 | 25 | 22.09 | | | | | 1.41 | 1.41 | |
| 10 | QPSK | 1 | 49 | 21.88 | | | | | 1.62 | 1.62 | |
| 10 | QPSK | 25 | 0 | 21.32 | | | 22.5 | 1 | 1.18 | 1.18 | 0.51 |
| 10 | QPSK | 25 | 12 | 21.31 | | | | | 1.19 | 1.19 | |
| 10 | QPSK | 25 | 25 | 20.81 | | | | | 1.69 | 1.69 | |
| 10 | QPSK | 50 | 0 | 21.12 | | | | | 1.38 | 1.38 | 0.00 |
| 10 | 16QAM | 1 | 0 | 21.50 | | | 22.5 | 1 | 1.00 | 1.00 | 0.97 |
| 10 | 16QAM | 1 | 25 | 21.06 | | | | | 1.44 | 1.44 | |
| 10 | 16QAM | 1 | 49 | 20.53 | | | | | 1.97 | 1.97 | |
| 10 | 16QAM | 25 | 0 | 20.16 | | | 21.5 | 2 | 1.34 | 1.34 | 0.49 |
| 10 | 16QAM | 25 | 12 | 20.14 | | | | | 1.36 | 1.36 | |
| 10 | 16QAM | 25 | 25 | 19.67 | | | | | 1.83 | 1.83 | |
| 10 | 16QAM | 50 | 0 | 19.90 | | | | | 1.60 | 1.60 | 0.00 |
| Channel | | | | 23205 | 23230 | 23255 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 779.5 | 782 | 784.5 | | | | | |
| 5 | QPSK | 1 | 0 | 21.92 | 22.05 | 21.92 | 23.5 | 0 | 1.58 | 1.45 | 0.36 |
| 5 | QPSK | 1 | 12 | 21.90 | 21.94 | 21.96 | | | 1.60 | 1.54 | |
| 5 | QPSK | 1 | 24 | 21.73 | 21.80 | 21.69 | | | 1.81 | 1.70 | |
| 5 | QPSK | 12 | 0 | 21.00 | 21.08 | 21.05 | 22.5 | 1 | 1.50 | 1.42 | 0.55 |
| 5 | QPSK | 12 | 7 | 21.09 | 21.13 | 21.17 | | | 1.41 | 1.33 | |
| 5 | QPSK | 12 | 13 | 20.64 | 20.62 | 20.63 | | | 1.88 | 1.86 | |
| 5 | QPSK | 25 | 0 | 21.04 | 20.99 | 21.04 | | | 1.51 | 1.46 | 0.05 |
| 5 | 16QAM | 1 | 0 | 21.36 | 21.43 | 21.29 | 22.5 | 1 | 1.21 | 1.07 | 1.12 |
| 5 | 16QAM | 1 | 12 | 20.94 | 20.92 | 20.94 | | | 1.58 | 1.56 | |
| 5 | 16QAM | 1 | 24 | 20.34 | 20.44 | 20.31 | | | 2.19 | 2.06 | |
| 5 | 16QAM | 12 | 0 | 20.06 | 20.07 | 19.94 | 21.5 | 2 | 1.56 | 1.43 | 0.62 |
| 5 | 16QAM | 12 | 7 | 19.99 | 20.01 | 19.94 | | | 1.56 | 1.49 | |
| 5 | 16QAM | 12 | 13 | 19.51 | 19.45 | 19.49 | | | 2.05 | 1.99 | |
| 5 | 16QAM | 25 | 0 | 19.76 | 19.69 | 19.82 | | | 1.81 | 1.68 | 0.13 |

# Band 17

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 23 | 0 | 0 |
| QPSK | 50%/100% RB | 22 | 1 | 0~1 |
| 16QAM | 1 RB | 22 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 21 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Channel | | | | 23780 | 23790 | 23800 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | | | | 709 | 710 | 711 | | | | | |
| 10 | QPSK | 1 | 0 | 21.40 | 21.47 | 21.40 | 23 | 0 | 1.60 | 1.53 | 0.51 |
| 10 | QPSK | 1 | 25 | 21.20 | 21.15 | 21.30 | | | 1.85 | 1.70 | |
| 10 | QPSK | 1 | 49 | 21.06 | 20.96 | 21.09 | | | 2.04 | 1.91 | |
| 10 | QPSK | 25 | 0 | 20.42 | 20.44 | 20.18 | 22 | 1 | 1.82 | 1.56 | 0.39 |
| 10 | QPSK | 25 | 12 | 20.31 | 20.34 | 20.27 | | | 1.73 | 1.66 | |
| 10 | QPSK | 25 | 25 | 20.12 | 20.05 | 20.08 | | | 1.95 | 1.88 | |
| 10 | QPSK | 50 | 0 | 20.08 | 20.22 | 20.09 | | | 1.92 | 1.78 | 0.14 |
| 10 | 16QAM | 1 | 0 | 20.37 | 20.42 | 20.32 | 22 | 1 | 1.68 | 1.58 | 0.44 |
| 10 | 16QAM | 1 | 25 | 20.34 | 20.15 | 20.07 | | | 1.93 | 1.66 | |
| 10 | 16QAM | 1 | 49 | 20.10 | 19.98 | 20.28 | | | 2.02 | 1.72 | |
| 10 | 16QAM | 25 | 0 | 19.43 | 19.59 | 19.33 | 21 | 2 | 1.67 | 1.41 | 0.57 |
| 10 | 16QAM | 25 | 12 | 19.44 | 19.16 | 19.21 | | | 1.84 | 1.56 | |
| 10 | 16QAM | 25 | 25 | 19.02 | 19.10 | 19.13 | | | 1.98 | 1.87 | |
| 10 | 16QAM | 50 | 0 | 19.29 | 19.19 | 19.07 | | | 1.93 | 1.71 | 0.22 |
| Channel | | | | 23755 | 23790 | 23825 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 706.5 | 710 | 713.5 | | | | | |
| 5 | QPSK | 1 | 0 | 21.43 | 21.36 | 21.45 | 23 | 0 | 1.64 | 1.55 | 0.43 |
| 5 | QPSK | 1 | 12 | 21.18 | 21.11 | 21.22 | | | 1.89 | 1.78 | |
| 5 | QPSK | 1 | 24 | 21.17 | 21.02 | 21.06 | | | 1.98 | 1.83 | |
| 5 | QPSK | 12 | 0 | 20.48 | 20.38 | 20.24 | 22 | 1 | 1.76 | 1.52 | 0.40 |
| 5 | QPSK | 12 | 7 | 20.31 | 20.19 | 20.21 | | | 1.81 | 1.69 | |
| 5 | QPSK | 12 | 13 | 20.12 | 20.08 | 20.19 | | | 1.92 | 1.81 | |
| 5 | QPSK | 25 | 0 | 19.95 | 20.18 | 20.21 | | | 2.05 | 1.79 | 0.26 |
| 5 | 16QAM | 1 | 0 | 20.39 | 20.44 | 20.45 | 22 | 1 | 1.61 | 1.55 | 0.48 |
| 5 | 16QAM | 1 | 12 | 20.32 | 20.19 | 20.06 | | | 1.94 | 1.68 | |
| 5 | 16QAM | 1 | 24 | 20.08 | 19.97 | 20.26 | | | 2.03 | 1.74 | |
| 5 | 16QAM | 12 | 0 | 19.49 | 19.57 | 19.39 | 21 | 2 | 1.61 | 1.43 | 0.50 |
| 5 | 16QAM | 12 | 7 | 19.39 | 19.28 | 19.08 | | | 1.92 | 1.61 | |
| 5 | 16QAM | 12 | 13 | 19.07 | 19.18 | 19.20 | | | 1.93 | 1.80 | |
| 5 | 16QAM | 25 | 0 | 19.23 | 19.21 | 19.03 | | | 1.97 | 1.77 | 0.20 |

# Band 25

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|
| QPSK | 1 RB | 17 | 0 | 0 |
| QPSK | 50%/100% RB | 16 | 1 | 0~1 |
| 16QAM | 1 RB | 16 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 15 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26140 | 26365 | 26590 | | | | | |
| Frequency (MHz) | | | | 1860 | 1882.5 | 1905 | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | QPSK | 1 | 0 | 16.22 | 16.29 | 16.14 | 17 | 0 | 0.86 | 0.71 | 0.76 |
| 20 | QPSK | 1 | 49 | 15.77 | 15.92 | 15.92 | | | 1.23 | 1.08 | |
| 20 | QPSK | 1 | 99 | 15.53 | 15.99 | 15.86 | | | 1.47 | 1.01 | |
| 20 | QPSK | 50 | 0 | 14.91 | 15.02 | 14.94 | 16 | 1 | 1.09 | 0.98 | 0.35 |
| 20 | QPSK | 50 | 24 | 14.77 | 14.82 | 15.00 | | | 1.23 | 1.00 | |
| 20 | QPSK | 50 | 50 | 14.79 | 14.82 | 14.67 | | | 1.33 | 1.18 | |
| 20 | QPSK | 100 | 0 | 14.84 | 14.99 | 14.87 | | | 1.16 | 1.01 | 0.15 |
| 20 | 16QAM | 1 | 0 | 14.77 | 14.81 | 14.77 | 16 | 1 | 1.23 | 1.19 | 0.40 |
| 20 | 16QAM | 1 | 49 | 14.63 | 14.58 | 14.69 | | | 1.42 | 1.31 | |
| 20 | 16QAM | 1 | 99 | 14.53 | 14.53 | 14.41 | | | 1.59 | 1.47 | |
| 20 | 16QAM | 50 | 0 | 13.74 | 13.80 | 13.62 | 15 | 2 | 1.38 | 1.20 | 0.33 |
| 20 | 16QAM | 50 | 24 | 13.70 | 13.54 | 13.87 | | | 1.46 | 1.13 | |
| 20 | 16QAM | 50 | 50 | 13.58 | 13.62 | 13.67 | | | 1.42 | 1.33 | |
| 20 | 16QAM | 100 | 0 | 13.61 | 13.44 | 13.55 | | | 1.56 | 1.39 | 0.17 |
| Channel | | | | 26115 | 26365 | 26615 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1857.5 | 1882.5 | 1907.5 | | | | | |
| 15 | QPSK | 1 | 0 | 15.80 | 15.91 | 15.82 | 17 | 0 | 1.20 | 1.09 | 0.63 |
| 15 | QPSK | 1 | 37 | 15.65 | 15.70 | 15.64 | | | 1.36 | 1.30 | |
| 15 | QPSK | 1 | 74 | 15.28 | 15.78 | 15.64 | | | 1.72 | 1.22 | |
| 15 | QPSK | 36 | 0 | 14.68 | 14.81 | 14.78 | 16 | 1 | 1.32 | 1.19 | 0.39 |
| 15 | QPSK | 36 | 20 | 14.58 | 14.64 | 14.82 | | | 1.42 | 1.18 | |
| 15 | QPSK | 36 | 39 | 14.55 | 14.65 | 14.43 | | | 1.57 | 1.35 | |
| 15 | QPSK | 75 | 0 | 14.71 | 14.76 | 14.60 | | | 1.40 | 1.24 | 0.16 |
| 15 | 16QAM | 1 | 0 | 14.57 | 14.52 | 14.61 | 16 | 1 | 1.48 | 1.39 | 0.35 |
| 15 | 16QAM | 1 | 37 | 14.42 | 14.49 | 14.58 | | | 1.58 | 1.42 | |
| 15 | 16QAM | 1 | 74 | 14.36 | 14.36 | 14.26 | | | 1.74 | 1.64 | |
| 15 | 16QAM | 36 | 0 | 13.49 | 13.71 | 13.54 | 15 | 2 | 1.51 | 1.29 | 0.36 |
| 15 | 16QAM | 36 | 20 | 13.55 | 13.38 | 13.52 | | | 1.62 | 1.45 | |
| 15 | 16QAM | 36 | 39 | 13.35 | 13.42 | 13.42 | | | 1.65 | 1.58 | |
| 15 | 16QAM | 75 | 0 | 13.43 | 13.32 | 13.20 | | | 1.80 | 1.57 | 0.23 |
| Channel | | | | 26090 | 26365 | 26640 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1855 | 1882.5 | 1910 | | | | | |
| 10 | QPSK | 1 | 0 | 15.85 | 15.87 | 15.78 | 17 | 0 | 1.22 | 1.13 | 0.56 |
| 10 | QPSK | 1 | 25 | 15.66 | 15.83 | 15.62 | | | 1.38 | 1.17 | |
| 10 | QPSK | 1 | 49 | 15.31 | 15.77 | 15.58 | | | 1.69 | 1.23 | |
| 10 | QPSK | 25 | 0 | 14.68 | 14.74 | 14.72 | 16 | 1 | 1.32 | 1.26 | 0.46 |
| 10 | QPSK | 25 | 12 | 14.63 | 14.73 | 14.81 | | | 1.37 | 1.19 | |
| 10 | QPSK | 25 | 25 | 14.52 | 14.55 | 14.35 | | | 1.65 | 1.45 | |
| 10 | QPSK | 50 | 0 | 14.71 | 14.74 | 14.73 | | | 1.29 | 1.26 | 0.03 |
| 10 | 16QAM | 1 | 0 | 14.50 | 14.53 | 14.54 | 16 | 1 | 1.50 | 1.46 | 0.45 |
| 10 | 16QAM | 1 | 25 | 14.44 | 14.41 | 14.63 | | | 1.59 | 1.37 | |
| 10 | 16QAM | 1 | 49 | 14.38 | 14.38 | 14.18 | | | 1.82 | 1.62 | |
| 10 | 16QAM | 25 | 0 | 13.51 | 13.65 | 13.45 | 15 | 2 | 1.55 | 1.35 | 0.25 |
| 10 | 16QAM | 25 | 12 | 13.54 | 13.48 | 13.64 | | | 1.52 | 1.36 | |
| 10 | 16QAM | 25 | 25 | 13.43 | 13.40 | 13.53 | | | 1.60 | 1.47 | |
| 10 | 16QAM | 50 | 0 | 13.37 | 13.31 | 13.35 | | | 1.69 | 1.63 | 0.06 |
| Channel | | | | 26065 | 26365 | 26665 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1852.5 | 1882.5 | 1912.5 | | | | | |
| 5 | QPSK | 1 | 0 | 15.79 | 15.95 | 15.84 | 17 | 0 | 1.21 | 1.05 | 0.64 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | QPSK | 1 | 12 | 15.59 | 15.69 | 15.75 | | | 1.41 | 1.25 | |
| 5 | QPSK | 1 | 24 | 15.31 | 15.83 | 15.57 | | | 1.69 | 1.17 | |
| 5 | QPSK | 12 | 0 | 14.71 | 14.80 | 14.74 | 16 | 1 | 1.29 | 1.20 | 0.45 |
| 5 | QPSK | 12 | 7 | 14.61 | 14.71 | 14.83 | | | 1.39 | 1.17 | |
| 5 | QPSK | 12 | 13 | 14.49 | 14.54 | 14.38 | | | 1.62 | 1.46 | |
| 5 | QPSK | 25 | 0 | 14.75 | 14.75 | 14.74 | | | 1.26 | 1.25 | 0.01 |
| 5 | 16QAM | 1 | 0 | 14.51 | 14.47 | 14.57 | 16 | 1 | 1.53 | 1.43 | 0.34 |
| 5 | 16QAM | 1 | 12 | 14.34 | 14.49 | 14.60 | | | 1.66 | 1.40 | |
| 5 | 16QAM | 1 | 24 | 14.30 | 14.41 | 14.26 | | | 1.74 | 1.59 | |
| 5 | 16QAM | 12 | 0 | 13.47 | 13.74 | 13.50 | 15 | 2 | 1.53 | 1.26 | 0.38 |
| 5 | 16QAM | 12 | 7 | 13.56 | 13.48 | 13.60 | | | 1.52 | 1.40 | |
| 5 | 16QAM | 12 | 13 | 13.45 | 13.36 | 13.47 | | | 1.64 | 1.53 | |
| 5 | 16QAM | 25 | 0 | 13.33 | 13.29 | 13.23 | | | 1.77 | 1.67 | 0.10 |
| Channel | | | | 26055 | 26365 | 26675 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1851.5 | 1882.5 | 1913.5 | | | | | |
| 3 | QPSK | 1 | 0 | 15.77 | 15.89 | 15.75 | 17 | 0 | 1.25 | 1.11 | 0.61 |
| 3 | QPSK | 1 | 8 | 15.61 | 15.84 | 15.76 | | | 1.39 | 1.16 | |
| 3 | QPSK | 1 | 14 | 15.28 | 15.79 | 15.62 | | | 1.72 | 1.21 | |
| 3 | QPSK | 8 | 0 | 14.69 | 14.81 | 14.74 | 16 | 1 | 1.31 | 1.19 | 0.38 |
| 3 | QPSK | 8 | 4 | 14.63 | 14.61 | 14.77 | | | 1.39 | 1.23 | |
| 3 | QPSK | 8 | 7 | 14.45 | 14.52 | 14.43 | | | 1.57 | 1.48 | |
| 3 | QPSK | 15 | 0 | 14.71 | 14.67 | 14.65 | | | 1.35 | 1.29 | 0.06 |
| 3 | 16QAM | 1 | 0 | 14.56 | 14.51 | 14.53 | 16 | 1 | 1.49 | 1.44 | 0.42 |
| 3 | 16QAM | 1 | 8 | 14.44 | 14.37 | 14.62 | | | 1.63 | 1.38 | |
| 3 | 16QAM | 1 | 14 | 14.35 | 14.44 | 14.20 | | | 1.80 | 1.56 | |
| 3 | 16QAM | 8 | 0 | 13.53 | 13.73 | 13.43 | 15 | 2 | 1.57 | 1.27 | 0.39 |
| 3 | 16QAM | 8 | 4 | 13.44 | 13.45 | 13.59 | | | 1.56 | 1.41 | |
| 3 | 16QAM | 8 | 7 | 13.34 | 13.43 | 13.41 | | | 1.66 | 1.57 | |
| 3 | 16QAM | 15 | 0 | 13.37 | 13.33 | 13.29 | | | 1.71 | 1.63 | 0.08 |
| Channel | | | | 26047 | 26365 | 26683 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 1850.7 | 1882.5 | 1914.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 15.90 | 15.92 | 15.92 | 17 | 0 | 1.10 | 1.10 | 0.50 |
| 1.4 | QPSK | 1 | 3 | 15.80 | 15.88 | 15.77 | | | 1.23 | 1.23 | |
| 1.4 | QPSK | 1 | 5 | 15.42 | 15.91 | 15.77 | | | 1.58 | 1.58 | |
| 1.4 | QPSK | 3 | 0 | 15.90 | 16.00 | 15.84 | | | 1.16 | 1.16 | 0.53 |
| 1.4 | QPSK | 3 | 1 | 15.75 | 15.79 | 15.78 | | | 1.25 | 1.25 | |
| 1.4 | QPSK | 3 | 3 | 15.47 | 15.80 | 15.70 | | | 1.53 | 1.53 | |
| 1.4 | QPSK | 6 | 0 | 14.85 | 14.85 | 14.80 | 16 | 1 | 1.20 | 1.20 | 0.05 |
| 1.4 | 16QAM | 1 | 0 | 14.60 | 14.71 | 14.62 | 16 | 1 | 1.40 | 1.40 | 0.37 |
| 1.4 | 16QAM | 1 | 3 | 14.54 | 14.54 | 14.62 | | | 1.46 | 1.46 | |
| 1.4 | 16QAM | 1 | 5 | 14.40 | 14.54 | 14.34 | | | 1.66 | 1.66 | |
| 1.4 | 16QAM | 3 | 0 | 14.71 | 14.88 | 14.76 | | | 1.29 | 1.29 | 0.34 |
| 1.4 | 16QAM | 3 | 1 | 14.58 | 14.60 | 14.70 | | | 1.42 | 1.42 | |
| 1.4 | 16QAM | 3 | 3 | 14.54 | 14.56 | 14.60 | | | 1.46 | 1.46 | |
| 1.4 | 16QAM | 6 | 0 | 13.40 | 13.39 | 13.40 | 15 | 2 | 1.61 | 1.61 | 0.01 |

# Band 26 For FCC

| | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 22.5 | 0 | 0 |
| QPSK | 50%/100% RB | 21.5 | 1 | 0~1 |
| 16QAM | 1 RB | 21.5 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 20.5 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26765 | 26865 | 26965 | | | | | |
| Frequency (MHz) | | | | 821.5 | 831.5 | 841.5 | | | | | |
| 15 | QPSK | 1 | 0 | 21.11 | 21.19 | 21.18 | 22.5 | 0 | 1.39 | 1.31 | 0.49 |
| 15 | QPSK | 1 | 37 | 21.04 | 20.85 | 20.70 | | | 1.80 | 1.46 | |
| 15 | QPSK | 1 | 74 | 20.70 | 20.76 | 20.93 | | | 1.80 | 1.57 | |
| 15 | QPSK | 36 | 0 | 20.21 | 20.20 | 20.01 | 21.5 | 1 | 1.49 | 1.29 | 0.59 |
| 15 | QPSK | 36 | 20 | 20.22 | 19.96 | 20.03 | | | 1.54 | 1.28 | |
| 15 | QPSK | 36 | 39 | 19.73 | 19.63 | 19.67 | | | 1.87 | 1.77 | |
| 15 | QPSK | 75 | 0 | 19.79 | 20.07 | 19.78 | | | 1.72 | 1.43 | 0.29 |
| 15 | 16QAM | 1 | 0 | 20.12 | 20.11 | 20.10 | 21.5 | 1 | 1.40 | 1.38 | 0.39 |
| 15 | 16QAM | 1 | 37 | 20.06 | 19.96 | 19.75 | | | 1.75 | 1.44 | |
| 15 | 16QAM | 1 | 74 | 19.73 | 19.73 | 20.10 | | | 1.77 | 1.40 | |
| 15 | 16QAM | 36 | 0 | 19.13 | 19.19 | 19.04 | 20.5 | 2 | 1.46 | 1.31 | 0.56 |
| 15 | 16QAM | 36 | 20 | 19.18 | 18.87 | 18.87 | | | 1.63 | 1.32 | |
| 15 | 16QAM | 36 | 39 | 18.68 | 18.63 | 18.71 | | | 1.87 | 1.79 | |
| 15 | 16QAM | 75 | 0 | 18.63 | 18.82 | 18.84 | | | 1.87 | 1.66 | 0.21 |
| Channel | | | | 26740 | 26865 | 26990 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 819 | 831.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 20.93 | 20.96 | 21.01 | 22.5 | 0 | 1.57 | 1.49 | 0.47 |
| 10 | QPSK | 1 | 25 | 20.78 | 20.67 | 20.58 | | | 1.92 | 1.72 | |
| 10 | QPSK | 1 | 49 | 20.54 | 20.61 | 20.77 | | | 1.96 | 1.73 | |
| 10 | QPSK | 25 | 0 | 20.04 | 20.01 | 19.79 | 21.5 | 1 | 1.71 | 1.46 | 0.65 |
| 10 | QPSK | 25 | 12 | 19.91 | 19.76 | 19.68 | | | 1.82 | 1.59 | |
| 10 | QPSK | 25 | 25 | 19.66 | 19.45 | 19.39 | | | 2.11 | 1.84 | |
| 10 | QPSK | 50 | 0 | 19.59 | 19.75 | 19.66 | | | 1.91 | 1.75 | 0.16 |
| 10 | 16QAM | 1 | 0 | 19.79 | 19.97 | 19.85 | 21.5 | 1 | 1.71 | 1.53 | 0.53 |
| 10 | 16QAM | 1 | 25 | 19.82 | 19.73 | 19.70 | | | 1.80 | 1.68 | |
| 10 | 16QAM | 1 | 49 | 19.44 | 19.58 | 19.90 | | | 2.06 | 1.60 | |
| 10 | 16QAM | 25 | 0 | 19.09 | 19.04 | 18.85 | 20.5 | 2 | 1.65 | 1.41 | 0.64 |
| 10 | 16QAM | 25 | 12 | 18.87 | 18.76 | 18.81 | | | 1.74 | 1.63 | |
| 10 | 16QAM | 25 | 25 | 18.55 | 18.45 | 18.52 | | | 2.05 | 1.95 | |
| 10 | 16QAM | 50 | 0 | 18.48 | 18.59 | 18.60 | | | 2.02 | 1.90 | 0.12 |
| Channel | | | | 26715 | 26865 | 27015 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 816.5 | 831.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 20.92 | 20.88 | 21.01 | 22.5 | 0 | 1.62 | 1.49 | 0.56 |
| 5 | QPSK | 1 | 12 | 20.81 | 20.64 | 20.52 | | | 1.98 | 1.69 | |
| 5 | QPSK | 1 | 24 | 20.45 | 20.69 | 20.71 | | | 2.05 | 1.79 | |
| 5 | QPSK | 12 | 0 | 19.98 | 19.98 | 19.71 | 21.5 | 1 | 1.79 | 1.52 | 0.61 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | QPSK | 12 | 7 | 19.98 | 19.85 | 19.69 | | | 1.81 | 1.52 | |
| 5 | QPSK | 12 | 13 | 19.55 | 19.37 | 19.44 | | | 2.13 | 1.95 | |
| 5 | QPSK | 25 | 0 | 19.58 | 19.77 | 19.65 | | | 1.92 | 1.73 | 0.19 |
| 5 | 16QAM | 1 | 0 | 19.89 | 19.99 | 19.86 | | | 1.64 | 1.51 | |
| 5 | 16QAM | 1 | 12 | 19.95 | 19.85 | 19.55 | 21.5 | 1 | 1.95 | 1.55 | 0.56 |
| 5 | 16QAM | 1 | 24 | 19.43 | 19.52 | 19.84 | | | 2.07 | 1.66 | |
| 5 | 16QAM | 12 | 0 | 18.94 | 19.07 | 18.78 | | | 1.72 | 1.43 | |
| 5 | 16QAM | 12 | 7 | 18.91 | 18.70 | 18.74 | 20.5 | 2 | 1.80 | 1.59 | 0.60 |
| 5 | 16QAM | 12 | 13 | 18.56 | 18.47 | 18.54 | | | 2.03 | 1.94 | |
| 5 | 16QAM | 25 | 0 | 18.43 | 18.60 | 18.65 | | | 2.07 | 1.85 | 0.22 |
| Channel | | | | 26705 | 26865 | 27025 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 815.5 | 831.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 20.93 | 21.03 | 20.87 | | | 1.63 | 1.47 | |
| 3 | QPSK | 1 | 8 | 20.74 | 20.69 | 20.62 | 22.5 | 0 | 1.88 | 1.76 | 0.43 |
| 3 | QPSK | 1 | 14 | 20.60 | 20.69 | 20.72 | | | 1.90 | 1.78 | |
| 3 | QPSK | 8 | 0 | 19.95 | 20.00 | 19.71 | | | 1.79 | 1.50 | |
| 3 | QPSK | 8 | 4 | 20.02 | 19.84 | 19.70 | 21.5 | 1 | 1.80 | 1.48 | 0.64 |
| 3 | QPSK | 8 | 7 | 19.66 | 19.44 | 19.38 | | | 2.12 | 1.84 | |
| 3 | QPSK | 15 | 0 | 19.50 | 19.79 | 19.54 | | | 2.00 | 1.71 | 0.29 |
| 3 | 16QAM | 1 | 0 | 19.85 | 19.91 | 19.89 | | | 1.65 | 1.59 | |
| 3 | 16QAM | 1 | 8 | 19.95 | 19.78 | 19.54 | 21.5 | 1 | 1.96 | 1.55 | 0.49 |
| 3 | 16QAM | 1 | 14 | 19.46 | 19.62 | 19.86 | | | 2.04 | 1.64 | |
| 3 | 16QAM | 8 | 0 | 19.06 | 19.07 | 18.77 | | | 1.73 | 1.43 | |
| 3 | 16QAM | 8 | 4 | 18.91 | 18.82 | 18.73 | 20.5 | 2 | 1.77 | 1.59 | 0.59 |
| 3 | 16QAM | 8 | 7 | 18.55 | 18.48 | 18.49 | | | 2.02 | 1.95 | |
| 3 | 16QAM | 15 | 0 | 18.41 | 18.71 | 18.61 | | | 2.09 | 1.79 | 0.30 |
| Channel | | | | 26697 | 26865 | 27033 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 814.7 | 831.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 20.90 | 20.93 | 20.89 | | | 1.61 | 1.61 | |
| 1.4 | QPSK | 1 | 3 | 20.79 | 20.70 | 20.59 | | | 1.91 | 1.91 | 0.34 |
| 1.4 | QPSK | 1 | 5 | 20.61 | 20.69 | 20.71 | 22.5 | 0 | 1.89 | 1.89 | |
| 1.4 | QPSK | 3 | 0 | 20.97 | 20.98 | 20.94 | | | 1.56 | 1.56 | |
| 1.4 | QPSK | 3 | 1 | 20.75 | 20.56 | 20.57 | | | 1.94 | 1.94 | 0.42 |
| 1.4 | QPSK | 3 | 3 | 20.56 | 20.60 | 20.74 | | | 1.94 | 1.94 | |
| 1.4 | QPSK | 6 | 0 | 19.59 | 19.80 | 19.56 | 21.5 | 1 | 1.94 | 1.94 | 0.24 |
| 1.4 | 16QAM | 1 | 0 | 19.79 | 20.04 | 19.85 | | | 1.71 | 1.71 | |
| 1.4 | 16QAM | 1 | 3 | 19.92 | 19.86 | 19.61 | | | 1.89 | 1.89 | 0.53 |
| 1.4 | 16QAM | 1 | 5 | 19.53 | 19.51 | 19.90 | 21.5 | 1 | 1.99 | 1.99 | |
| 1.4 | 16QAM | 3 | 0 | 19.92 | 19.96 | 19.88 | | | 1.62 | 1.62 | |
| 1.4 | 16QAM | 3 | 1 | 19.90 | 19.82 | 19.69 | | | 1.81 | 1.81 | 0.44 |
| 1.4 | 16QAM | 3 | 3 | 19.55 | 19.52 | 19.88 | | | 1.98 | 1.98 | |
| 1.4 | 16QAM | 6 | 0 | 18.52 | 18.68 | 18.64 | 20.5 | 2 | 1.98 | 1.98 | 0.16 |

# Band 26 For IC

| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| QPSK | 1 RB | 22.5 | 0 | 0 |
| QPSK | 50%/100% RB | 21.5 | 1 | 0~1 |
| 16QAM | 1 RB | 21.5 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 20.5 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 26865 | 26915 | 26965 | | | | | |
| Frequency (MHz) | | | | 831.5 | 836.5 | 841.5 | | | | | |
| 15 | QPSK | 1 | 0 | 21.19 | 21.15 | 21.18 | 22.5 | 0 | 1.35 | 1.31 | |
| 15 | QPSK | 1 | 37 | 20.85 | 20.89 | 20.70 | | | 1.80 | 1.61 | 0.49 |
| 15 | QPSK | 1 | 74 | 20.76 | 20.79 | 20.93 | | | 1.74 | 1.57 | |
| 15 | QPSK | 36 | 0 | 20.20 | 20.16 | 20.01 | 21.5 | 1 | 1.49 | 1.30 | |
| 15 | QPSK | 36 | 20 | 19.96 | 20.04 | 20.03 | | | 1.54 | 1.46 | 0.57 |
| 15 | QPSK | 36 | 39 | 19.63 | 19.63 | 19.67 | | | 1.87 | 1.83 | |
| 15 | QPSK | 75 | 0 | 20.07 | 20.06 | 19.78 | | | 1.72 | 1.43 | 0.29 |
| 15 | 16QAM | 1 | 0 | 20.11 | 20.17 | 20.10 | 21.5 | 1 | 1.40 | 1.33 | |
| 15 | 16QAM | 1 | 37 | 19.96 | 19.89 | 19.75 | | | 1.75 | 1.54 | 0.44 |
| 15 | 16QAM | 1 | 74 | 19.73 | 19.75 | 20.10 | | | 1.77 | 1.40 | |
| 15 | 16QAM | 36 | 0 | 19.19 | 19.24 | 19.04 | 20.5 | 2 | 1.46 | 1.26 | |
| 15 | 16QAM | 36 | 20 | 18.87 | 18.81 | 18.87 | | | 1.69 | 1.63 | 0.61 |
| 15 | 16QAM | 36 | 39 | 18.63 | 18.64 | 18.71 | | | 1.87 | 1.79 | |
| 15 | 16QAM | 75 | 0 | 18.82 | 18.76 | 18.84 | | | 1.74 | 1.66 | 0.08 |
| Channel | | | | 26840 | 26915 | 26990 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 829 | 836.5 | 844 | | | | | |
| 10 | QPSK | 1 | 0 | 20.85 | 20.95 | 21.01 | 22.5 | 0 | 1.65 | 1.49 | |
| 10 | QPSK | 1 | 25 | 20.76 | 20.73 | 20.58 | | | 1.92 | 1.74 | 0.49 |
| 10 | QPSK | 1 | 49 | 20.52 | 20.54 | 20.77 | | | 1.98 | 1.73 | |
| 10 | QPSK | 25 | 0 | 20.05 | 20.06 | 19.79 | 21.5 | 1 | 1.71 | 1.44 | |
| 10 | QPSK | 25 | 12 | 19.92 | 19.76 | 19.68 | | | 1.82 | 1.58 | 0.67 |
| 10 | QPSK | 25 | 25 | 19.71 | 19.52 | 19.39 | | | 2.11 | 1.79 | |
| 10 | QPSK | 50 | 0 | 19.62 | 19.77 | 19.66 | | | 1.88 | 1.73 | 0.15 |
| 10 | 16QAM | 1 | 0 | 19.84 | 19.96 | 19.85 | 21.5 | 1 | 1.66 | 1.54 | |
| 10 | 16QAM | 1 | 25 | 19.90 | 19.67 | 19.70 | | | 1.83 | 1.60 | 0.59 |
| 10 | 16QAM | 1 | 49 | 19.37 | 19.54 | 19.90 | | | 2.13 | 1.60 | |
| 10 | 16QAM | 25 | 0 | 19.01 | 19.01 | 18.85 | 20.5 | 2 | 1.65 | 1.49 | |
| 10 | 16QAM | 25 | 12 | 18.89 | 18.74 | 18.81 | | | 1.76 | 1.61 | 0.55 |
| 10 | 16QAM | 25 | 25 | 18.62 | 18.46 | 18.52 | | | 2.04 | 1.88 | |
| 10 | 16QAM | 50 | 0 | 18.50 | 18.57 | 18.60 | | | 2.00 | 1.90 | 0.10 |
| Channel | | | | 26815 | 26915 | 27015 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 826.5 | 836.5 | 846.5 | | | | | |
| 5 | QPSK | 1 | 0 | 20.95 | 20.85 | 21.01 | 22.5 | 0 | 1.65 | 1.49 | |
| 5 | QPSK | 1 | 12 | 20.78 | 20.67 | 20.52 | | | 1.98 | 1.72 | 0.58 |
| 5 | QPSK | 1 | 24 | 20.43 | 20.76 | 20.71 | | | 2.07 | 1.74 | |
| 5 | QPSK | 12 | 0 | 19.94 | 19.97 | 19.71 | 21.5 | 1 | 1.79 | 1.53 | |
| 5 | QPSK | 12 | 7 | 20.04 | 19.86 | 19.69 | | | 1.81 | 1.46 | 0.71 |
| 5 | QPSK | 12 | 13 | 19.55 | 19.33 | 19.44 | | | 2.17 | 1.95 | |
| 5 | QPSK | 25 | 0 | 19.57 | 19.75 | 19.65 | | | 1.93 | 1.75 | 0.18 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 16QAM | 1 | 0 | 19.91 | 20.02 | 19.86 | 21.5 | 1 | 1.64 | 1.48 | 0.65 |
| 5 | 16QAM | 1 | 12 | 19.89 | 19.93 | 19.55 | | | 1.95 | 1.57 | |
| 5 | 16QAM | 1 | 24 | 19.37 | 19.60 | 19.84 | | | 2.13 | 1.66 | |
| 5 | 16QAM | 12 | 0 | 18.93 | 19.01 | 18.78 | 20.5 | 2 | 1.72 | 1.49 | 0.54 |
| 5 | 16QAM | 12 | 7 | 18.87 | 18.78 | 18.74 | | | 1.76 | 1.63 | |
| 5 | 16QAM | 12 | 13 | 18.51 | 18.47 | 18.54 | | | 2.03 | 1.96 | |
| 5 | 16QAM | 25 | 0 | 18.46 | 18.55 | 18.65 | | | 2.04 | 1.85 | 0.19 |
| Channel | | | | 26805 | 26915 | 27025 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 825.5 | 836.5 | 847.5 | | | | | |
| 3 | QPSK | 1 | 0 | 20.95 | 21.04 | 20.87 | 22.5 | 0 | 1.63 | 1.46 | 0.51 |
| 3 | QPSK | 1 | 8 | 20.67 | 20.73 | 20.62 | | | 1.88 | 1.77 | |
| 3 | QPSK | 1 | 14 | 20.53 | 20.66 | 20.72 | | | 1.97 | 1.78 | |
| 3 | QPSK | 8 | 0 | 19.92 | 20.07 | 19.71 | 21.5 | 1 | 1.79 | 1.43 | 0.69 |
| 3 | QPSK | 8 | 4 | 20.06 | 19.80 | 19.70 | | | 1.80 | 1.44 | |
| 3 | QPSK | 8 | 7 | 19.61 | 19.44 | 19.38 | | | 2.12 | 1.89 | |
| 3 | QPSK | 15 | 0 | 19.52 | 19.78 | 19.54 | | | 1.98 | 1.72 | 0.26 |
| 3 | 16QAM | 1 | 0 | 19.78 | 19.96 | 19.89 | 21.5 | 1 | 1.72 | 1.54 | 0.48 |
| 3 | 16QAM | 1 | 8 | 19.99 | 19.70 | 19.54 | | | 1.96 | 1.51 | |
| 3 | 16QAM | 1 | 14 | 19.51 | 19.58 | 19.86 | | | 1.99 | 1.64 | |
| 3 | 16QAM | 8 | 0 | 19.10 | 19.02 | 18.77 | 20.5 | 2 | 1.73 | 1.40 | 0.61 |
| 3 | 16QAM | 8 | 4 | 18.85 | 18.81 | 18.73 | | | 1.77 | 1.65 | |
| 3 | 16QAM | 8 | 7 | 18.54 | 18.52 | 18.49 | | | 2.01 | 1.96 | |
| 3 | 16QAM | 15 | 0 | 18.41 | 18.74 | 18.61 | | | 2.09 | 1.76 | 0.33 |
| Channel | | | | 26797 | 26915 | 27033 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 824.7 | 836.5 | 848.3 | | | | | |
| 1.4 | QPSK | 1 | 0 | 20.91 | 20.95 | 20.89 | 22.5 | 0 | 1.61 | 1.61 | 0.36 |
| 1.4 | QPSK | 1 | 3 | 20.73 | 20.78 | 20.59 | | | 1.91 | 1.91 | |
| 1.4 | QPSK | 1 | 5 | 20.67 | 20.68 | 20.71 | | | 1.83 | 1.83 | |
| 1.4 | QPSK | 3 | 0 | 20.90 | 20.91 | 20.94 | | | 1.60 | 1.60 | 0.38 |
| 1.4 | QPSK | 3 | 1 | 20.81 | 20.58 | 20.57 | | | 1.93 | 1.93 | |
| 1.4 | QPSK | 3 | 3 | 20.56 | 20.64 | 20.74 | | | 1.94 | 1.94 | |
| 1.4 | QPSK | 6 | 0 | 19.66 | 19.86 | 19.56 | 21.5 | 1 | 1.94 | 1.94 | 0.30 |
| 1.4 | 16QAM | 1 | 0 | 19.71 | 20.00 | 19.85 | 21.5 | 1 | 1.79 | 1.79 | 0.54 |
| 1.4 | 16QAM | 1 | 3 | 19.85 | 19.83 | 19.61 | | | 1.89 | 1.89 | |
| 1.4 | 16QAM | 1 | 5 | 19.46 | 19.55 | 19.90 | | | 2.04 | 2.04 | |
| 1.4 | 16QAM | 3 | 0 | 19.93 | 19.92 | 19.88 | | | 1.62 | 1.62 | 0.43 |
| 1.4 | 16QAM | 3 | 1 | 19.83 | 19.74 | 19.69 | | | 1.81 | 1.81 | |
| 1.4 | 16QAM | 3 | 3 | 19.52 | 19.50 | 19.88 | | | 2.00 | 2.00 | |
| 1.4 | 16QAM | 6 | 0 | 18.45 | 18.65 | 18.64 | 20.5 | 2 | 2.05 | 2.05 | 0.20 |

## LTE TDD Power (Sensor on)

| Band 41 | | | | |
|---|---|---|---|---|
| Modulation | RB size | Tune-up Limit Power | Target MPR | 3GPP MPR |
| QPSK | 1 RB | 19 | 0 | 0 |
| QPSK | 50%/100% RB | 18 | 1 | 0~1 |
| 16QAM | 1 RB | 18 | 1 | 0~1 |
| 16QAM | 50%/100% RB | 17 | 2 | 0~2 |

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 40340 | 40740 | 41140 | | | | | |
| Frequency (MHz) | | | | 2565 | 2605 | 2645 | | | | | |
| 20 | QPSK | 1 | 0 | 17.29 | 17.32 | 17.31 | 19 | 0 | 1.71 | 1.68 | |
| 20 | QPSK | 1 | 49 | 17.22 | 17.11 | 17.15 | | | 1.89 | 1.78 | 0.21 |
| 20 | QPSK | 1 | 99 | 17.25 | 17.17 | 17.23 | | | 1.83 | 1.75 | |
| 20 | QPSK | 50 | 0 | 16.38 | 16.39 | 16.30 | 18 | 1 | 1.70 | 1.61 | |
| 20 | QPSK | 50 | 24 | 16.32 | 16.28 | 16.19 | | | 1.81 | 1.68 | 0.27 |
| 20 | QPSK | 50 | 50 | 16.12 | 16.23 | 16.19 | | | 1.88 | 1.77 | |
| 20 | QPSK | 100 | 0 | 16.23 | 16.25 | 16.14 | | | 1.86 | 1.75 | 0.11 |
| 20 | 16QAM | 1 | 0 | 16.43 | 16.46 | 16.28 | 18 | 1 | 1.72 | 1.54 | |
| 20 | 16QAM | 1 | 49 | 16.43 | 16.15 | 16.17 | | | 1.85 | 1.57 | 0.35 |
| 20 | 16QAM | 1 | 99 | 16.11 | 16.11 | 16.17 | | | 1.89 | 1.83 | |
| 20 | 16QAM | 50 | 0 | 15.33 | 15.41 | 15.20 | 17 | 2 | 1.80 | 1.59 | |
| 20 | 16QAM | 50 | 24 | 15.28 | 15.31 | 15.25 | | | 1.75 | 1.69 | 0.36 |
| 20 | 16QAM | 50 | 50 | 15.56 | 15.23 | 15.33 | | | 1.77 | 1.44 | |
| 20 | 16QAM | 100 | 0 | 15.44 | 15.19 | 15.23 | | | 1.81 | 1.56 | 0.25 |
| Channel | | | | 40315 | 40740 | 41165 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2562.5 | 2605 | 2647.5 | | | | | |
| 15 | QPSK | 1 | 0 | 17.22 | 17.29 | 17.19 | 19 | 0 | 1.81 | 1.71 | |
| 15 | QPSK | 1 | 37 | 17.15 | 17.12 | 17.02 | | | 1.98 | 1.85 | 0.28 |
| 15 | QPSK | 1 | 74 | 17.23 | 17.01 | 17.20 | | | 1.99 | 1.77 | |
| 15 | QPSK | 36 | 0 | 16.31 | 16.30 | 16.24 | 18 | 1 | 1.76 | 1.69 | |
| 15 | QPSK | 36 | 20 | 16.23 | 16.14 | 16.03 | | | 1.97 | 1.77 | 0.28 |
| 15 | QPSK | 36 | 39 | 16.03 | 16.09 | 16.17 | | | 1.97 | 1.83 | |
| 15 | QPSK | 75 | 0 | 16.10 | 16.05 | 16.10 | | | 1.95 | 1.90 | 0.05 |
| 15 | 16QAM | 1 | 0 | 16.36 | 16.39 | 16.16 | 18 | 1 | 1.84 | 1.61 | |
| 15 | 16QAM | 1 | 37 | 16.34 | 16.12 | 16.23 | | | 1.88 | 1.66 | 0.36 |
| 15 | 16QAM | 1 | 74 | 16.08 | 16.03 | 16.08 | | | 1.97 | 1.92 | |
| 15 | 16QAM | 36 | 0 | 15.28 | 15.30 | 15.07 | 17 | 2 | 1.93 | 1.70 | |
| 15 | 16QAM | 36 | 20 | 15.12 | 15.24 | 15.09 | | | 1.91 | 1.76 | 0.40 |
| 15 | 16QAM | 36 | 39 | 15.47 | 15.13 | 15.17 | | | 1.87 | 1.53 | |
| 15 | 16QAM | 75 | 0 | 15.26 | 15.11 | 15.10 | | | 1.90 | 1.74 | 0.16 |
| Channel | | | | 40290 | 40740 | 41190 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2560 | 2605 | 2650 | | | | | |
| 10 | QPSK | 1 | 0 | 17.22 | 17.20 | 17.17 | 19 | 0 | 1.83 | 1.78 | 0.21 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | QPSK | 1 | 25 | 17.16 | 17.01 | 17.03 | | | 1.99 | 1.84 | |
| 10 | QPSK | 1 | 49 | 17.11 | 17.07 | 17.12 | | | 1.93 | 1.88 | |
| 10 | QPSK | 25 | 0 | 16.30 | 16.32 | 16.27 | 18 | 1 | 1.73 | 1.68 | 0.22 |
| 10 | QPSK | 25 | 12 | 16.16 | 16.11 | 16.11 | | | 1.89 | 1.84 | |
| 10 | QPSK | 25 | 25 | 16.12 | 16.10 | 16.12 | | | 1.90 | 1.88 | |
| 10 | QPSK | 50 | 0 | 16.17 | 16.03 | 16.04 | | | 1.97 | 1.83 | 0.14 |
| 10 | 16QAM | 1 | 0 | 16.27 | 16.41 | 16.22 | 18 | 1 | 1.78 | 1.59 | 0.39 |
| 10 | 16QAM | 1 | 25 | 16.29 | 16.02 | 16.06 | | | 1.98 | 1.71 | |
| 10 | 16QAM | 1 | 49 | 16.03 | 16.08 | 16.07 | | | 1.97 | 1.92 | |
| 10 | 16QAM | 25 | 0 | 15.24 | 15.25 | 15.11 | 17 | 2 | 1.89 | 1.75 | 0.38 |
| 10 | 16QAM | 25 | 12 | 15.18 | 15.26 | 15.19 | | | 1.82 | 1.74 | |
| 10 | 16QAM | 25 | 25 | 15.49 | 15.20 | 15.23 | | | 1.80 | 1.51 | |
| 10 | 16QAM | 50 | 0 | 15.37 | 15.08 | 15.08 | | | 1.92 | 1.63 | 0.29 |
| Channel | | | | 40265 | 40740 | 41215 | Tune-up limit (dBm) | MPR (dB) | < Tune-up-2 | > Tune-up | Ch Delta > 0.5 |
| Frequency (MHz) | | | | 2557.5 | 2605 | 2652.5 | | | | | |
| 5 | QPSK | 1 | 0 | 17.12 | 17.21 | 17.18 | 19 | 0 | 1.88 | 1.79 | 0.21 |
| 5 | QPSK | 1 | 12 | 17.08 | 17.06 | 17.04 | | | 1.96 | 1.92 | |
| 5 | QPSK | 1 | 24 | 17.22 | 17.01 | 17.05 | | | 1.99 | 1.78 | |
| 5 | QPSK | 12 | 0 | 16.22 | 16.30 | 16.13 | 18 | 1 | 1.87 | 1.70 | 0.26 |
| 5 | QPSK | 12 | 7 | 16.20 | 16.26 | 16.15 | | | 1.85 | 1.74 | |
| 5 | QPSK | 12 | 13 | 16.04 | 16.06 | 16.11 | | | 1.96 | 1.89 | |
| 5 | QPSK | 25 | 0 | 16.15 | 16.12 | 16.03 | | | 1.97 | 1.85 | 0.12 |
| 5 | 16QAM | 1 | 0 | 16.31 | 16.32 | 16.23 | 18 | 1 | 1.77 | 1.68 | 0.31 |
| 5 | 16QAM | 1 | 12 | 16.29 | 16.11 | 16.01 | | | 1.99 | 1.71 | |
| 5 | 16QAM | 1 | 24 | 16.14 | 16.23 | 16.07 | | | 1.93 | 1.77 | |
| 5 | 16QAM | 12 | 0 | 15.31 | 15.33 | 15.15 | 17 | 2 | 1.85 | 1.67 | 0.37 |
| 5 | 16QAM | 12 | 7 | 15.22 | 15.18 | 15.22 | | | 1.82 | 1.78 | |
| 5 | 16QAM | 12 | 13 | 15.52 | 15.18 | 15.17 | | | 1.83 | 1.48 | |
| 5 | 16QAM | 25 | 0 | 15.37 | 15.11 | 15.12 | | | 1.89 | 1.63 | 0.26 |

## Wi-Fi 2.4G Power (Full Power)

| 2.4GHz WLAN | | | | Ant 1 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | 17.45 | 18.00 | 18.00 | 99.20 |
| | | 6 | 2437 | 17.47 | 18.00 | 17.00 | |
| | | 11 | 2462 | 16.93 | 18.00 | 16.50 | |
| | 802.11g 6Mbps | 1 | 2412 | 15.61 | 17.00 | 16.50 | 98.10 |
| | | 6 | 2437 | 15.95 | 17.00 | 16.00 | |
| | | 11 | 2462 | 15.53 | 17.00 | 15.00 | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 13.91 | 15.00 | 15.00 | 97.96 |
| | | 6 | 2437 | 13.73 | 15.00 | 14.00 | |
| | | 11 | 2462 | 13.56 | 15.00 | 13.50 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 13.78 | 15.00 | 13.00 | 94.00 |
| | | 6 | 2437 | 13.47 | 15.00 | 13.00 | |
| | | 9 | 2452 | 13.62 | 15.00 | 12.50 | |

| 2.4GHz WLAN | | | | Ant 2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | 17.26 | 18.00 | 18.00 | 99.20 |
| | | 6 | 2437 | 17.06 | 18.00 | 16.50 | |
| | | 11 | 2462 | 17.17 | 18.00 | 16.50 | |
| | 802.11g 6Mbps | 1 | 2412 | 15.41 | 17.00 | 16.50 | 98.10 |
| | | 6 | 2437 | 15.67 | 17.00 | 15.50 | |
| | | 11 | 2462 | 15.70 | 17.00 | 15.50 | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 13.99 | 15.00 | 15.00 | 97.96 |
| | | 6 | 2437 | 13.70 | 15.00 | 13.50 | |
| | | 11 | 2462 | 13.73 | 15.00 | 13.50 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 13.62 | 15.00 | 12.50 | 94.00 |
| | | 6 | 2437 | 13.49 | 15.00 | 12.50 | |
| | | 9 | 2452 | 13.54 | 15.00 | 12.50 | |

| 2.4GHz WLAN | | | | Ant 1+2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | N/A | | | 99.20 |
| | | 6 | 2437 | | | | |
| | | 11 | 2462 | | | | |
| | 802.11g 6Mbps | 1 | 2412 | | | | 98.10 |
| | | 6 | 2437 | | | | |
| | | 11 | 2462 | | | | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 16.71 | 17.00 | 15.00 | 97.96 |
| | | 6 | 2437 | 16.36 | 17.00 | 13.50 | |
| | | 11 | 2462 | 16.54 | 17.00 | 13.50 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 16.33 | 17.00 | 12.50 | 94.00 |
| | | 6 | 2437 | 16.12 | 17.00 | 12.50 | |
| | | 9 | 2452 | 16.58 | 17.00 | 12.50 | |

## Wi-Fi 5G Power (Full Power)

| 5GHz WLAN | | | | Ant 1 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5.2GHz WLAN | 802.11a 6Mbps | 36 | 5180 | 15.27 | 16.00 | 15.50 | 98.10 |
| | | 44 | 5220 | 15.13 | 16.00 | 16.00 | |
| | | 48 | 5240 | 15.25 | 16.00 | 16.50 | |
| | | 52 | 5260 | 15.21 | 16.00 | 16.00 | |
| | | 60 | 5300 | 14.90 | 16.00 | 14.00 | |
| | | 64 | 5320 | 15.00 | 16.00 | 14.50 | |
| | | 100 | 5500 | 15.04 | 16.00 | 14.50 | |
| | | 116 | 5580 | 15.47 | 16.00 | 15.50 | |
| | | 140 | 5700 | 15.45 | 16.00 | 14.00 | |
| | | 149 | 5745 | 15.48 | 16.00 | 14.00 | |
| | | 157 | 5785 | 15.13 | 16.00 | 15.00 | |
| | | 165 | 5825 | 15.06 | 16.00 | 15.50 | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 13.32 | 14.00 | 13.50 | 97.96 |
| | | 44 | 5220 | 13.36 | 14.00 | 14.00 | |
| | | 48 | 5240 | 13.33 | 14.00 | 14.50 | |
| | | 52 | 5260 | 13.41 | 14.00 | 14.50 | |
| | | 60 | 5300 | 13.30 | 14.00 | 12.50 | |
| | | 64 | 5320 | 13.36 | 14.00 | 13.00 | |
| | | 100 | 5500 | 13.16 | 14.00 | 13.00 | |
| | | 116 | 5580 | 13.30 | 14.00 | 13.50 | |
| | | 140 | 5700 | 13.32 | 14.00 | 12.00 | |
| | | 149 | 5745 | 13.40 | 14.00 | 12.00 | |
| | | 157 | 5785 | 13.12 | 14.00 | 13.00 | |
| | | 165 | 5825 | 13.49 | 14.00 | 14.00 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 13.29 | 14.00 | 13.00 | 96.94 |
| | | 46 | 5230 | 13.35 | 14.00 | 13.50 | |
| | | 54 | 5270 | 13.22 | 14.00 | 13.00 | |
| | | 62 | 5310 | 13.29 | 14.00 | 12.00 | |
| | | 102 | 5510 | 13.14 | 14.00 | 11.50 | |
| | | 118 | 5590 | 13.13 | 14.00 | 13.00 | |
| | | 134 | 5670 | 13.49 | 14.00 | 12.00 | |
| | | 151 | 5755 | 13.17 | 14.00 | 11.50 | |
| | | 159 | 5795 | 13.33 | 14.00 | 12.50 | |
| | | 36 | 5180 | 13.33 | 14.00 | 13.50 | 98.48 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 802.11ac-VHT20 MCS0 | 44 | 5220 | 13.16 | 14.00 | 14.00 | |
| | | 48 | 5240 | 13.32 | 14.00 | 14.50 | |
| | | 52 | 5260 | 13.46 | 14.00 | 14.50 | |
| | | 60 | 5300 | 13.32 | 14.00 | 12.50 | |
| | | 64 | 5320 | 13.33 | 14.00 | 13.00 | |
| | | 100 | 5500 | 13.23 | 14.00 | 13.00 | |
| | | 116 | 5580 | 13.29 | 14.00 | 13.50 | |
| | | 140 | 5700 | 13.36 | 14.00 | 12.00 | |
| | | 149 | 5745 | 13.42 | 14.00 | 12.00 | |
| | | 157 | 5785 | 13.09 | 14.00 | 13.00 | |
| | | 165 | 5825 | 13.47 | 14.00 | 14.00 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 13.32 | 14.00 | 13.00 | 95.96 |
| | | 46 | 5230 | 13.35 | 14.00 | 13.50 | |
| | | 54 | 5270 | 13.12 | 14.00 | 13.00 | |
| | | 62 | 5310 | 13.29 | 14.00 | 12.00 | |
| | | 102 | 5510 | 13.11 | 14.00 | 11.50 | |
| | | 118 | 5590 | 13.09 | 14.00 | 13.00 | |
| | | 134 | 5670 | 13.49 | 14.00 | 12.00 | |
| | | 151 | 5755 | 13.16 | 14.00 | 11.50 | |
| | | 159 | 5795 | 13.23 | 14.00 | 12.50 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 13.23 | 14.00 | 14.00 | 94.00 |
| | | 58 | 5290 | 13.38 | 14.00 | 12.50 | |
| | | 106 | 5530 | 13.48 | 14.00 | 12.50 | |
| | | 112 | 5610 | 13.05 | 14.00 | 13.00 | |
| | | 155 | 5775 | 13.40 | 14.00 | 13.00 | |

| 5GHz WLAN | | | | Ant 2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5GHz WLAN | 802.11a 6Mbps | 36 | 5180 | 14.92 | 16.00 | 15.50 | 98.10 |
| | | 44 | 5220 | 15.14 | 16.00 | 14.50 | |
| | | 48 | 5240 | 15.36 | 16.00 | 15.00 | |
| | | 52 | 5260 | 15.38 | 16.00 | 14.50 | |
| | | 60 | 5300 | 15.19 | 16.00 | 15.00 | |
| | | 64 | 5320 | 15.04 | 16.00 | 15.00 | |
| | | 100 | 5500 | 15.00 | 16.00 | 15.00 | |
| | | 116 | 5580 | 15.16 | 16.00 | 14.00 | |
| | | 140 | 5700 | 15.14 | 16.00 | 16.00 | |
| | | 149 | 5745 | 15.04 | 16.00 | 14.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 157 | 5785 | 15.16 | 16.00 | 13.50 | |
| | | 165 | 5825 | 15.26 | 16.00 | 13.50 | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 12.87 | 14.00 | 14.00 | 97.96 |
| | | 44 | 5220 | 13.08 | 14.00 | 12.50 | |
| | | 48 | 5240 | 13.47 | 14.00 | 13.00 | |
| | | 52 | 5260 | 12.91 | 14.00 | 12.00 | |
| | | 60 | 5300 | 13.27 | 14.00 | 13.00 | |
| | | 64 | 5320 | 13.02 | 14.00 | 13.00 | |
| | | 100 | 5500 | 13.12 | 14.00 | 13.00 | |
| | | 116 | 5580 | 13.21 | 14.00 | 12.00 | |
| | | 140 | 5700 | 13.24 | 14.00 | 14.00 | |
| | | 149 | 5745 | 13.30 | 14.00 | 12.00 | |
| | | 157 | 5785 | 13.20 | 14.00 | 11.50 | |
| | | 165 | 5825 | 13.40 | 14.00 | 11.50 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 13.07 | 14.00 | 13.00 | 96.94 |
| | | 46 | 5230 | 13.49 | 14.00 | 12.00 | |
| | | 54 | 5270 | 13.23 | 14.00 | 11.50 | |
| | | 62 | 5310 | 13.48 | 14.00 | 12.50 | |
| | | 102 | 5510 | 13.16 | 14.00 | 12.00 | |
| | | 118 | 5590 | 13.42 | 14.00 | 12.00 | |
| | | 134 | 5670 | 13.26 | 14.00 | 13.50 | |
| | | 151 | 5755 | 13.24 | 14.00 | 11.00 | |
| | | 159 | 5795 | 13.23 | 14.00 | 10.50 | |
| | 802.11ac-VHT20 MCS0 | 36 | 5180 | 13.07 | 14.00 | 14.00 | 98.48 |
| | | 44 | 5220 | 13.21 | 14.00 | 12.50 | |
| | | 48 | 5240 | 13.36 | 14.00 | 13.00 | |
| | | 52 | 5260 | 12.91 | 14.00 | 12.00 | |
| | | 60 | 5300 | 13.16 | 14.00 | 13.00 | |
| | | 64 | 5320 | 12.96 | 14.00 | 13.00 | |
| | | 100 | 5500 | 13.07 | 14.00 | 13.00 | |
| | | 116 | 5580 | 13.18 | 14.00 | 12.00 | |
| | | 140 | 5700 | 13.13 | 14.00 | 14.00 | |
| | | 149 | 5745 | 13.27 | 14.00 | 12.00 | |
| | | 157 | 5785 | 13.19 | 14.00 | 11.50 | |
| | | 165 | 5825 | 13.34 | 14.00 | 11.50 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 13.01 | 14.00 | 13.00 | 95.96 |
| | | 46 | 5230 | 13.44 | 14.00 | 12.00 | |
| | | 54 | 5270 | 13.17 | 14.00 | 11.50 | |
| | | 62 | 5310 | 13.42 | 14.00 | 12.50 | |
| | | 102 | 5510 | 13.14 | 14.00 | 12.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 118 | 5590 | 13.43 | 14.00 | 12.00 | |
| | | 134 | 5670 | 13.30 | 14.00 | 13.50 | |
| | | 151 | 5755 | 13.28 | 14.00 | 11.00 | |
| | | 159 | 5795 | 13.25 | 14.00 | 10.50 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 13.42 | 14.00 | 13.00 | 94.00 |
| | | 58 | 5290 | 13.46 | 14.00 | 12.50 | |
| | | 106 | 5530 | 13.16 | 14.00 | 12.50 | |
| | | 112 | 5610 | 13.42 | 14.00 | 12.50 | |
| | | 155 | 5775 | 13.38 | 14.00 | 12.00 | |

| 5GHz WLAN | | | | Ant 1+2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5GHz WLAN | 802.11a 6Mbps | 36 | 5180 | N/A | | | 98.10 |
| | | 44 | 5220 | | | | |
| | | 48 | 5240 | | | | |
| | | 52 | 5260 | | | | |
| | | 60 | 5300 | | | | |
| | | 64 | 5320 | | | | |
| | | 100 | 5500 | | | | |
| | | 116 | 5580 | | | | |
| | | 140 | 5700 | | | | |
| | | 149 | 5745 | | | | |
| | | 157 | 5785 | | | | |
| | | 165 | 5825 | | | | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 14.51 | 16.50 | 12.00 | 97.96 |
| | | 44 | 5220 | 14.05 | 16.50 | 11.00 | |
| | | 48 | 5240 | 13.76 | 16.50 | 11.00 | |
| | | 52 | 5260 | 15.13 | 16.50 | 12.00 | |
| | | 60 | 5300 | 16.26 | 16.50 | 12.50 | |
| | | 64 | 5320 | 16.27 | 16.50 | 13.00 | |
| | | 100 | 5500 | 16.26 | 16.50 | 13.00 | |
| | | 116 | 5580 | 15.35 | 16.50 | 11.50 | |
| | | 140 | 5700 | 15.64 | 16.50 | 12.00 | |
| | | 149 | 5745 | 16.13 | 16.50 | 11.50 | |
| | | 157 | 5785 | 15.51 | 16.50 | 11.50 | |
| | | 165 | 5825 | 15.23 | 16.50 | 11.50 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 16.36 | 16.50 | 13.00 | 96.94 |
| | | 46 | 5230 | 15.43 | 16.50 | 11.50 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 54 | 5270 | 15.54 | 16.50 | 11.50 | |
| | | 62 | 5310 | 16.25 | 16.50 | 12.00 | |
| | | 102 | 5510 | 16.14 | 16.50 | 11.50 | |
| | | 118 | 5590 | 15.61 | 16.50 | 11.50 | |
| | | 134 | 5670 | 15.41 | 16.50 | 11.50 | |
| | | 151 | 5755 | 16.06 | 16.50 | 11.00 | |
| | | 159 | 5795 | 15.55 | 16.50 | 10.50 | |
| | 802.11ac-VHT20 MCS0 | 36 | 5180 | 14.47 | 16.50 | 12.00 | 98.48 |
| | | 44 | 5220 | 14.37 | 16.50 | 11.00 | |
| | | 48 | 5240 | 13.70 | 16.50 | 11.00 | |
| | | 52 | 5260 | 15.21 | 16.50 | 12.00 | |
| | | 60 | 5300 | 16.31 | 16.50 | 12.50 | |
| | | 64 | 5320 | 16.37 | 16.50 | 13.00 | |
| | | 100 | 5500 | 16.30 | 16.50 | 13.00 | |
| | | 116 | 5580 | 15.37 | 16.50 | 11.50 | |
| | | 140 | 5700 | 15.64 | 16.50 | 12.00 | |
| | | 149 | 5745 | 16.46 | 16.50 | 12.00 | |
| | | 157 | 5785 | 15.55 | 16.50 | 11.50 | |
| | | 165 | 5825 | 15.24 | 16.50 | 11.50 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 16.35 | 16.50 | 13.00 | 95.96 |
| | | 46 | 5230 | 15.42 | 16.50 | 11.50 | |
| | | 54 | 5270 | 15.59 | 16.50 | 11.50 | |
| | | 62 | 5310 | 16.21 | 16.50 | 12.00 | |
| | | 102 | 5510 | 16.07 | 16.50 | 11.50 | |
| | | 118 | 5590 | 15.59 | 16.50 | 11.50 | |
| | | 134 | 5670 | 15.86 | 16.50 | 12.00 | |
| | | 151 | 5755 | 15.63 | 16.50 | 10.50 | |
| | | 159 | 5795 | 15.46 | 16.50 | 10.50 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 15.65 | 16.50 | 12.50 | 94.00 |
| | | 58 | 5290 | 16.14 | 16.50 | 12.00 | |
| | | 106 | 5530 | 16.12 | 16.50 | 12.00 | |
| | | 112 | 5610 | 15.83 | 16.50 | 12.00 | |
| | | 155 | 5775 | 15.58 | 16.50 | 11.50 | |

## Bluetooth Power

| Mode | Channel | Frequency (MHz) | Average power (dBm) | | | Duty cycle: | 77.50 |
|---|---|---|---|---|---|---|---|
| | | | 1Mbps | 2Mbps | 3Mbps | | |
| BR / EDR | CH 00 | 2402 | 11.69 | 9.29 | 8.98 | PDF Factor : | 1.290 |
| | CH 39 | 2441 | 11.55 | 8.78 | 8.88 | | |
| | CH 78 | 2480 | 11.25 | 9.56 | 9.61 | SAR Excel : | 1.075 |
| Tune-up Limit | | | 12.00 | 10.00 | 10.00 | | |

| Mode | Channel | Frequency (MHz) | Average power (dBm) | |
|---|---|---|---|---|
| | | | 1Mbps | 2Mbps |
| LE | CH 00 | 2402 | 6.40 | 6.30 |
| | CH 19 | 2440 | 4.72 | 5.46 |
| | CH 39 | 2480 | 7.57 | 7.75 |
| Tune-up Limit | | | 8.00 | 8.00 |

## Wi-Fi 2.4G Power (Sensor on)

| 2.4GHz WLAN | | | | Ant 1 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | 11.78 | 12.00 | 11.00 | 99.20 |
| | | 6 | 2437 | 11.93 | 12.00 | 11.50 | |
| | | 11 | 2462 | 11.76 | 12.00 | 10.50 | |
| | 802.11g 6Mbps | 1 | 2412 | 11.39 | 12.00 | 11.00 | 98.10 |
| | | 6 | 2437 | 11.76 | 12.00 | 11.50 | |
| | | 11 | 2462 | 11.56 | 12.00 | 10.50 | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 11.19 | 12.00 | 11.00 | 97.96 |
| | | 6 | 2437 | 11.29 | 12.00 | 11.50 | |
| | | 11 | 2462 | 11.23 | 12.00 | 10.50 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 11.18 | 12.00 | 9.50 | 94.00 |
| | | 6 | 2437 | 11.36 | 12.00 | 10.50 | |
| | | 9 | 2452 | 11.50 | 12.00 | 10.00 | |

| 2.4GHz WLAN | | | | Ant 2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | 11.23 | 12.00 | 11.50 | 99.20 |
| | | 6 | 2437 | 11.78 | 12.00 | 11.00 | |
| | | 11 | 2462 | 11.57 | 12.00 | 10.50 | |
| | 802.11g 6Mbps | 1 | 2412 | 11.12 | 12.00 | 11.50 | 98.10 |
| | | 6 | 2437 | 11.56 | 12.00 | 11.00 | |
| | | 11 | 2462 | 11.47 | 12.00 | 11.00 | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 10.11 | 12.00 | 11.00 | 97.96 |
| | | 6 | 2437 | 11.38 | 12.00 | 11.00 | |
| | | 11 | 2462 | 11.35 | 12.00 | 11.00 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 11.26 | 12.00 | 10.00 | 94.00 |
| | | 6 | 2437 | 11.34 | 12.00 | 10.50 | |
| | | 9 | 2452 | 11.17 | 12.00 | 10.50 | |

| 2.4GHz WLAN | | | | Ant 1+2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 2.4GHz WLAN | 802.11b 1Mbps | 1 | 2412 | N/A | | | 99.20 |
| | | 6 | 2437 | | | | |
| | | 11 | 2462 | | | | |
| | 802.11g 6Mbps | 1 | 2412 | | | | 98.10 |
| | | 6 | 2437 | | | | |
| | | 11 | 2462 | | | | |
| | 802.11n-HT20 MCS0 | 1 | 2412 | 11.14 | 12.00 | 9.00 | 97.96 |
| | | 6 | 2437 | 11.00 | 12.00 | 8.00 | |
| | | 11 | 2462 | 11.31 | 12.00 | 8.00 | |
| | 802.11n-HT40 MCS0 | 3 | 2422 | 11.29 | 12.00 | 7.00 | 94.00 |
| | | 6 | 2437 | 11.36 | 12.00 | 7.50 | |
| | | 9 | 2452 | 11.05 | 12.00 | 7.00 | |

## Wi-Fi 5G Power (Sensor on)

| 5GHz WLAN | | | | Ant 1 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5.2GHz WLAN | 802.11a 6Mbps | 36 | 5180 | 11.55 | 12.50 | 11.00 | 98.10 |
| | | 44 | 5220 | 11.86 | 12.50 | 12.00 | |
| | | 48 | 5240 | 11.61 | 12.50 | 12.50 | |
| | | 52 | 5260 | 12.13 | 12.50 | 13.00 | |
| | | 60 | 5300 | 12.05 | 12.50 | 11.00 | |
| | | 64 | 5320 | 12.02 | 12.50 | 11.00 | |
| | | 100 | 5500 | 12.17 | 12.50 | 12.00 | |
| | | 116 | 5580 | 12.02 | 12.50 | 12.50 | |
| | | 140 | 5700 | 12.09 | 12.50 | 10.00 | |
| | | 149 | 5745 | 12.23 | 12.50 | 10.50 | |
| | | 157 | 5785 | 12.14 | 12.50 | 12.00 | |
| | | 165 | 5825 | 12.09 | 12.50 | 13.00 | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 11.89 | 12.50 | 11.50 | 97.96 |
| | | 44 | 5220 | 11.58 | 12.50 | 12.00 | |
| | | 48 | 5240 | 11.79 | 12.50 | 13.00 | |
| | | 52 | 5260 | 11.59 | 12.50 | 12.50 | |
| | | 60 | 5300 | 11.65 | 12.50 | 10.50 | |
| | | 64 | 5320 | 11.74 | 12.50 | 11.00 | |
| | | 100 | 5500 | 11.62 | 12.50 | 11.00 | |
| | | 116 | 5580 | 12.02 | 12.50 | 12.00 | |
| | | 140 | 5700 | 11.64 | 12.50 | 10.00 | |
| | | 149 | 5745 | 11.90 | 12.50 | 10.50 | |
| | | 157 | 5785 | 11.88 | 12.50 | 11.50 | |
| | | 165 | 5825 | 11.59 | 12.50 | 12.00 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 11.78 | 12.00 | 11.00 | 96.94 |
| | | 46 | 5230 | 11.79 | 12.00 | 11.50 | |
| | | 54 | 5270 | 11.88 | 12.00 | 11.50 | |
| | | 62 | 5310 | 11.55 | 12.00 | 10.00 | |
| | | 102 | 5510 | 11.94 | 12.00 | 10.00 | |
| | | 118 | 5590 | 11.74 | 12.00 | 11.50 | |
| | | 134 | 5670 | 11.67 | 12.00 | 10.50 | |
| | | 151 | 5755 | 11.91 | 12.00 | 10.00 | |
| | | 159 | 5795 | 11.89 | 12.00 | 11.00 | |
| | | 36 | 5180 | 11.82 | 12.50 | 11.50 | 98.48 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 802.11ac-VHT20 MCS0 | 44 | 5220 | 11.63 | 12.50 | 12.00 | |
| | | 48 | 5240 | 11.76 | 12.50 | 13.00 | |
| | | 52 | 5260 | 11.65 | 12.50 | 12.50 | |
| | | 60 | 5300 | 11.66 | 12.50 | 10.50 | |
| | | 64 | 5320 | 11.74 | 12.50 | 11.00 | |
| | | 100 | 5500 | 11.63 | 12.50 | 11.00 | |
| | | 116 | 5580 | 12.01 | 12.50 | 12.00 | |
| | | 140 | 5700 | 11.63 | 12.50 | 10.00 | |
| | | 149 | 5745 | 11.92 | 12.50 | 10.50 | |
| | | 157 | 5785 | 11.88 | 12.50 | 11.50 | |
| | | 165 | 5825 | 11.53 | 12.50 | 12.00 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 11.77 | 12.00 | 11.00 | 95.96 |
| | | 46 | 5230 | 11.80 | 12.00 | 11.50 | |
| | | 54 | 5270 | 11.86 | 12.00 | 11.50 | |
| | | 62 | 5310 | 11.53 | 12.00 | 10.00 | |
| | | 102 | 5510 | 11.97 | 12.00 | 10.00 | |
| | | 118 | 5590 | 11.77 | 12.00 | 11.50 | |
| | | 134 | 5670 | 11.78 | 12.00 | 10.50 | |
| | | 151 | 5755 | 11.93 | 12.00 | 10.00 | |
| | | 159 | 5795 | 11.91 | 12.00 | 11.00 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 11.92 | 12.00 | 12.00 | 94.00 |
| | | 58 | 5290 | 11.78 | 12.00 | 10.50 | |
| | | 106 | 5530 | 11.85 | 12.00 | 10.50 | |
| | | 112 | 5610 | 11.82 | 12.00 | 11.50 | |
| | | 155 | 5775 | 11.93 | 12.00 | 11.50 | |

| 5GHz WLAN | | | | Ant 2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5GHz WLAN | 802.11a 6Mbps | 36 | 5180 | 11.72 | 12.50 | 12.00 | 98.10 |
| | | 44 | 5220 | 11.90 | 12.50 | 11.00 | |
| | | 48 | 5240 | 11.67 | 12.50 | 11.00 | |
| | | 52 | 5260 | 12.21 | 12.50 | 11.00 | |
| | | 60 | 5300 | 11.98 | 12.50 | 11.50 | |
| | | 64 | 5320 | 12.06 | 12.50 | 12.00 | |
| | | 100 | 5500 | 12.23 | 12.50 | 12.50 | |
| | | 116 | 5580 | 12.08 | 12.50 | 11.00 | |
| | | 140 | 5700 | 12.11 | 12.50 | 13.00 | |
| | | 149 | 5745 | 12.35 | 12.50 | 11.50 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 157 | 5785 | 12.21 | 12.50 | 10.50 | |
| | | 165 | 5825 | 12.33 | 12.50 | 11.00 | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 11.55 | 12.50 | 12.00 | 97.96 |
| | | 44 | 5220 | 11.76 | 12.50 | 11.00 | |
| | | 48 | 5240 | 11.93 | 12.50 | 11.50 | |
| | | 52 | 5260 | 11.96 | 12.50 | 11.00 | |
| | | 60 | 5300 | 11.77 | 12.50 | 11.50 | |
| | | 64 | 5320 | 11.98 | 12.50 | 12.00 | |
| | | 100 | 5500 | 11.91 | 12.50 | 12.00 | |
| | | 116 | 5580 | 12.07 | 12.50 | 11.00 | |
| | | 140 | 5700 | 11.79 | 12.50 | 12.50 | |
| | | 149 | 5745 | 11.66 | 12.50 | 10.50 | |
| | | 157 | 5785 | 11.65 | 12.50 | 10.00 | |
| | | 165 | 5825 | 11.80 | 12.50 | 10.00 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 11.78 | 12.00 | 12.00 | 96.94 |
| | | 46 | 5230 | 11.65 | 12.00 | 11.00 | |
| | | 54 | 5270 | 11.45 | 12.00 | 10.50 | |
| | | 62 | 5310 | 11.79 | 12.00 | 11.00 | |
| | | 102 | 5510 | 11.54 | 12.00 | 11.00 | |
| | | 118 | 5590 | 11.93 | 12.00 | 10.50 | |
| | | 134 | 5670 | 11.75 | 12.00 | 12.00 | |
| | | 151 | 5755 | 11.78 | 12.00 | 10.00 | |
| | | 159 | 5795 | 11.61 | 12.00 | 9.00 | |
| | 802.11ac-VHT20 MCS0 | 36 | 5180 | 11.50 | 12.50 | 12.00 | 98.48 |
| | | 44 | 5220 | 11.73 | 12.50 | 11.00 | |
| | | 48 | 5240 | 11.89 | 12.50 | 11.50 | |
| | | 52 | 5260 | 11.96 | 12.50 | 11.00 | |
| | | 60 | 5300 | 11.69 | 12.50 | 11.50 | |
| | | 64 | 5320 | 11.96 | 12.50 | 12.00 | |
| | | 100 | 5500 | 11.82 | 12.50 | 12.00 | |
| | | 116 | 5580 | 12.06 | 12.50 | 11.00 | |
| | | 140 | 5700 | 11.56 | 12.50 | 12.50 | |
| | | 149 | 5745 | 12.04 | 12.50 | 11.00 | |
| | | 157 | 5785 | 11.98 | 12.50 | 10.50 | |
| | | 165 | 5825 | 11.47 | 12.50 | 10.00 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 11.59 | 12.00 | 12.00 | 95.96 |
| | | 46 | 5230 | 11.78 | 12.00 | 11.00 | |
| | | 54 | 5270 | 11.71 | 12.00 | 10.50 | |
| | | 62 | 5310 | 11.95 | 12.00 | 11.00 | |
| | | 102 | 5510 | 11.83 | 12.00 | 11.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 118 | 5590 | 11.79 | 12.00 | 10.50 | |
| | | 134 | 5670 | 11.77 | 12.00 | 12.00 | |
| | | 151 | 5755 | 11.67 | 12.00 | 10.00 | |
| | | 159 | 5795 | 11.77 | 12.00 | 9.00 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 11.77 | 12.00 | 12.00 | 94.00 |
| | | 58 | 5290 | 11.83 | 12.00 | 11.00 | |
| | | 106 | 5530 | 11.50 | 12.00 | 11.50 | |
| | | 112 | 5610 | 11.91 | 12.00 | 11.00 | |
| | | 155 | 5775 | 11.88 | 12.00 | 10.50 | |

| 5GHz WLAN | | | | Ant 1+2 | | | |
|---|---|---|---|---|---|---|---|
| | Mode | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Power Setting | Duty Cycle % |
| 5GHz WLAN | 802.11a 6Mbps | 36 | 5180 | N/A | | | 98.10 |
| | | 44 | 5220 | | | | |
| | | 48 | 5240 | | | | |
| | | 52 | 5260 | | | | |
| | | 60 | 5300 | | | | |
| | | 64 | 5320 | | | | |
| | | 100 | 5500 | | | | |
| | | 116 | 5580 | | | | |
| | | 140 | 5700 | | | | |
| | | 149 | 5745 | | | | |
| | | 157 | 5785 | | | | |
| | | 165 | 5825 | | | | |
| | 802.11n-HT20 MCS0 | 36 | 5180 | 11.82 | 12.50 | 9.50 | 97.96 |
| | | 44 | 5220 | 12.05 | 12.50 | 9.50 | |
| | | 48 | 5240 | 11.74 | 12.50 | 9.50 | |
| | | 52 | 5260 | 12.08 | 12.50 | 9.50 | |
| | | 60 | 5300 | 11.82 | 12.50 | 8.50 | |
| | | 64 | 5320 | 11.79 | 12.50 | 9.00 | |
| | | 100 | 5500 | 12.12 | 12.50 | 9.00 | |
| | | 116 | 5580 | 11.82 | 12.50 | 8.50 | |
| | | 140 | 5700 | 12.06 | 12.50 | 8.50 | |
| | | 149 | 5745 | 12.05 | 12.50 | 8.00 | |
| | | 157 | 5785 | 11.75 | 12.50 | 8.00 | |
| | | 165 | 5825 | 11.99 | 12.50 | 8.50 | |
| | 802.11n-HT40 MCS0 | 38 | 5190 | 11.74 | 12.50 | 9.00 | 96.94 |
| | | 46 | 5230 | 11.67 | 12.50 | 9.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 54 | 5270 | 11.73 | 12.50 | 8.00 | |
| | | 62 | 5310 | 11.80 | 12.50 | 8.00 | |
| | | 102 | 5510 | 11.69 | 12.50 | 7.50 | |
| | | 118 | 5590 | 11.82 | 12.50 | 8.50 | |
| | | 134 | 5670 | 11.99 | 12.50 | 8.50 | |
| | | 151 | 5755 | 11.91 | 12.50 | 7.00 | |
| | | 159 | 5795 | 11.78 | 12.50 | 7.50 | |
| | 802.11ac-VHT20 MCS0 | 36 | 5180 | 11.74 | 12.50 | 9.50 | 98.48 |
| | | 44 | 5220 | 11.95 | 12.50 | 9.50 | |
| | | 48 | 5240 | 11.70 | 12.50 | 9.50 | |
| | | 52 | 5260 | 12.01 | 12.50 | 9.50 | |
| | | 60 | 5300 | 11.83 | 12.50 | 8.50 | |
| | | 64 | 5320 | 11.79 | 12.50 | 9.00 | |
| | | 100 | 5500 | 11.88 | 12.50 | 8.50 | |
| | | 116 | 5580 | 11.79 | 12.50 | 8.50 | |
| | | 140 | 5700 | 12.00 | 12.50 | 8.50 | |
| | | 149 | 5745 | 11.70 | 12.50 | 7.50 | |
| | | 157 | 5785 | 11.73 | 12.50 | 8.00 | |
| | | 165 | 5825 | 11.97 | 12.50 | 8.50 | |
| | 802.11ac-VHT40 MCS0 | 38 | 5190 | 11.81 | 12.50 | 9.00 | 95.96 |
| | | 46 | 5230 | 11.76 | 12.50 | 8.50 | |
| | | 54 | 5270 | 11.72 | 12.50 | 8.00 | |
| | | 62 | 5310 | 11.81 | 12.50 | 8.00 | |
| | | 102 | 5510 | 11.72 | 12.50 | 7.50 | |
| | | 118 | 5590 | 11.79 | 12.50 | 8.50 | |
| | | 134 | 5670 | 11.81 | 12.50 | 8.50 | |
| | | 151 | 5755 | 11.99 | 12.50 | 7.00 | |
| | | 159 | 5795 | 11.95 | 12.50 | 7.50 | |
| | 802.11ac-VHT80 MCS0 | 42 | 5210 | 11.86 | 12.50 | 9.50 | 94.00 |
| | | 58 | 5290 | 11.79 | 12.50 | 8.50 | |
| | | 106 | 5530 | 11.98 | 12.50 | 8.00 | |
| | | 112 | 5610 | 11.99 | 12.50 | 9.00 | |
| | | 155 | 5775 | 11.90 | 12.50 | 8.50 | |

Note：The device has two versions of power setting, full power and reduction power. When the P-sensor HX9031AS senses a human body approaching, it automatically adjusts the power to reduction power.
The HX9031AS integrates a capacitance sense AFE used for Specific Absorption Rate (SAR) application. The HX9031AS has high sensitivity which enables the detection of human body proximity. The device can reduce the emission power upon the presence of human body according to the detection result of HX9031AS.

# 9 TEST RESULTS

## 9.1 SAR Test Results Summary

| Band | Mode | Test Position | Gap (mm) | Channel | Frequency | Antenna | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dBm) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Body SAR Limit 1g 1.6(W/kg) | | | | | | | | | | | | | | |
| WCDMA II | RMC 12.2K | Back | 0 | 9400 | 1880 | N/A | 17.48 | 18.50 | 1.265 | 100 | 1.000 | 0.13 | 0.956 | 1.209 |
| WCDMA II | RMC 12.2K | Back | 0 | 9262 | 1852.4 | N/A | 17.32 | 18.50 | 1.312 | 100 | 1.000 | -0.13 | 0.823 | 1.080 |
| WCDMA II | RMC 12.2K | Back | 0 | 9538 | 1907.6 | N/A | 17.45 | 18.50 | 1.274 | 100 | 1.000 | -0.09 | 0.927 | 1.181 |
| WCDMA II | RMC 12.2K | Left Side | 0 | 9400 | 1880 | N/A | 17.48 | 18.50 | 1.265 | 100 | 1.000 | -0.12 | 0.975 | 1.233 |
| WCDMA II | RMC 12.2K | Left Side | 0 | 9262 | 1852.4 | N/A | 17.32 | 18.50 | 1.312 | 100 | 1.000 | -0.13 | 0.896 | 1.176 |
| WCDMA II | RMC 12.2K | Left Side | 0 | 9538 | 1907.6 | N/A | 17.45 | 18.50 | 1.274 | 100 | 1.000 | -0.09 | 0.988 | 1.258 |
| WCDMA II | RMC 12.2K | Bottom Side | 0 | 9400 | 1880 | N/A | 22.69 | 24.00 | 1.352 | 100 | 1.000 | -0.03 | 0.342 | 0.462 |
| WCDMA II | RMC 12.2K | Right Side | 0 | 9400 | 1880 | N/A | 22.69 | 24.00 | 1.352 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| WCDMA II | RMC 12.2K | Top Side | 0 | 9400 | 1880 | N/A | 22.69 | 24.00 | 1.352 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| WCDMA II | RMC 12.2K | Back | 15 | 9400 | 1880 | N/A | 22.69 | 24.00 | 1.352 | 100 | 1.000 | 0.03 | 0.543 | 0.734 |
| WCDMA II | RMC 12.2K | Left Side | 15 | 9400 | 1880 | N/A | 22.69 | 24.00 | 1.352 | 100 | 1.000 | -0.11 | 0.710 | 0.960 |
| WCDMA II | RMC 12.2K | Left Side | 15 | 9262 | 1852.4 | N/A | 22.64 | 24.00 | 1.368 | 100 | 1.000 | 0.12 | 0.599 | 0.819 |
| WCDMA II | RMC 12.2K | Left Side | 15 | 9538 | 1907.6 | N/A | 22.59 | 24.00 | 1.384 | 100 | 1.000 | 0.03 | 0.612 | 0.847 |
| | | | | | | | | | | | | | | |
| WCDMA IV | RMC 12.2K | Back | 0 | 1413 | 1732.6 | N/A | 19.47 | 20.50 | 1.268 | 100 | 1.000 | 0.08 | 0.807 | 1.023 |
| WCDMA IV | RMC 12.2K | Back | 0 | 1312 | 1712.4 | N/A | 19.38 | 20.50 | 1.294 | 100 | 1.000 | 0.03 | 0.787 | 1.019 |
| WCDMA IV | RMC 12.2K | Back | 0 | 1513 | 1752.6 | N/A | 19.36 | 20.50 | 1.300 | 100 | 1.000 | 0.11 | 0.781 | 1.015 |
| WCDMA IV | RMC 12.2K | Left Side | 0 | 1413 | 1732.6 | N/A | 19.47 | 20.50 | 1.268 | 100 | 1.000 | -0.14 | 0.589 | 0.747 |
| WCDMA IV | RMC 12.2K | Bottom Side | 0 | 1413 | 1732.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | -0.12 | 0.325 | 0.417 |
| WCDMA IV | RMC 12.2K | Right Side | 0 | 1413 | 1732.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| WCDMA IV | RMC 12.2K | Top Side | 0 | 1413 | 1732.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| WCDMA IV | RMC 12.2K | Back | 15 | 1413 | 1732.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | 0.13 | 0.301 | 0.386 |
| WCDMA IV | RMC 12.2K | Left Side | 15 | 1413 | 1732.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | 0.11 | 0.375 | 0.481 |
| | | | | | | | | | | | | | | |
| WCDMA V | RMC 12.2K | Back | 0 | 4183 | 836.6 | N/A | 23.16 | 24.00 | 1.213 | 100 | 1.000 | 0.01 | 0.950 | 1.153 |
| WCDMA V | RMC 12.2K | Back | 0 | 4132 | 826.4 | N/A | 23.07 | 24.00 | 1.239 | 100 | 1.000 | 0.03 | 0.890 | 1.103 |
| WCDMA V | RMC 12.2K | Back | 0 | 4233 | 846.6 | N/A | 22.92 | 24.00 | 1.282 | 100 | 1.000 | 0.04 | 0.893 | 1.145 |
| WCDMA V | RMC 12.2K | Left Side | 0 | 4183 | 836.6 | N/A | 23.16 | 24.00 | 1.213 | 100 | 1.000 | -0.02 | 0.590 | 0.716 |
| WCDMA V | RMC 12.2K | Right Side | 0 | 4183 | 836.6 | N/A | 23.16 | 24.00 | 1.213 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| WCDMA V | RMC 12.2K | Top Side | 0 | 4183 | 836.6 | N/A | 23.16 | 24.00 | 1.213 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| WCDMA V | RMC 12.2K | Bottom Side | 0 | 4183 | 836.6 | N/A | 23.16 | 24.00 | 1.213 | 100 | 1.000 | 0.04 | 0.102 | 0.124 |
| | | | | | | | | | | | | | | |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Back | 0 | 26365 | 1882.5 | N/A | 16.29 | 17.00 | 1.178 | 100 | 1.000 | -0.06 | 0.887 | 1.045 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Back | 0 | 26140 | 1860 | N/A | 16.22 | 17.00 | 1.197 | 100 | 1.000 | -0.17 | 0.815 | 0.975 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Back | 0 | 26590 | 1905 | N/A | 16.14 | 17.00 | 1.219 | 100 | 1.000 | -0.15 | 0.853 | 1.040 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Back | 0 | 26365 | 1882.5 | N/A | 15.02 | 16.00 | 1.253 | 100 | 1.000 | 0.01 | 0.732 | 0.917 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Back | 0 | 26140 | 1860 | N/A | 14.91 | 16.00 | 1.285 | 100 | 1.000 | -0.19 | 0.741 | 0.952 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Back | 0 | 26590 | 1905 | N/A | 14.94 | 16.00 | 1.276 | 100 | 1.000 | 0.04 | 0.733 | 0.936 |
| LTE Band25/2 | BW20_QPSK_1 00RB0Offset | Back | 0 | 26365 | 1882.5 | N/A | 14.99 | 16.00 | 1.262 | 100 | 1.000 | 0.12 | 0.725 | 0.915 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 26365 | 1882.5 | N/A | 16.29 | 17.00 | 1.178 | 100 | 1.000 | -0.09 | 1.020 | 1.201 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 26140 | 1860 | N/A | 16.22 | 17.00 | 1.197 | 100 | 1.000 | -0.07 | 0.873 | 1.045 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 26590 | 1905 | N/A | 16.14 | 17.00 | 1.219 | 100 | 1.000 | 0.01 | 0.916 | 1.117 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 26365 | 1882.5 | N/A | 15.02 | 16.00 | 1.253 | 100 | 1.000 | -0.13 | 0.863 | 1.081 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 26140 | 1860 | N/A | 14.91 | 16.00 | 1.285 | 100 | 1.000 | 0.04 | 0.810 | 1.041 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 26590 | 1905 | N/A | 14.94 | 16.00 | 1.276 | 100 | 1.000 | 0.11 | 0.823 | 1.051 |
| LTE Band25/2 | BW20_QPSK_1 00RB0Offset | Left Side | 0 | 26365 | 1882.5 | N/A | 14.99 | 16.00 | 1.262 | 100 | 1.000 | 0.19 | 0.856 | 1.080 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Bottom Side | 0 | 26365 | 1882.5 | N/A | 22.55 | 24.00 | 1.396 | 100 | 1.000 | 0.01 | 0.221 | 0.309 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Bottom Side | 0 | 26365 | 1882.5 | N/A | 21.38 | 23.00 | 1.452 | 100 | 1.000 | 0.03 | 0.189 | 0.274 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Right Side | 0 | 26365 | 1882.5 | N/A | 22.55 | 24.00 | 1.396 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Right Side | 0 | 26365 | 1882.5 | N/A | 21.38 | 23.00 | 1.452 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Top Side | 0 | 26365 | 1882.5 | N/A | 22.55 | 24.00 | 1.396 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Top Side | 0 | 26365 | 1882.5 | N/A | 21.38 | 23.00 | 1.452 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Back | 15 | 26365 | 1882.5 | N/A | 22.55 | 24.00 | 1.396 | 100 | 1.000 | 0.01 | 0.550 | 0.768 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Back | 15 | 26365 | 1882.5 | N/A | 21.38 | 23.00 | 1.452 | 100 | 1.000 | -0.12 | 0.473 | 0.687 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 15 | 26365 | 1882.5 | N/A | 22.55 | 24.00 | 1.396 | 100 | 1.000 | -0.03 | 0.857 | 1.197 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 15 | 26140 | 1860 | N/A | 22.43 | 24.00 | 1.435 | 100 | 1.000 | -0.01 | 0.834 | 1.197 |
| LTE Band25/2 | BW20_QPSK_1 RB0Offset | Left Side | 15 | 26590 | 1905 | N/A | 22.44 | 24.00 | 1.432 | 100 | 1.000 | 0.11 | 0.836 | 1.197 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 15 | 26365 | 1882.5 | N/A | 21.38 | 23.00 | 1.452 | 100 | 1.000 | 0.01 | 0.785 | 1.140 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 15 | 26140 | 1860 | N/A | 21.28 | 23.00 | 1.486 | 100 | 1.000 | 0.04 | 0.694 | 1.031 |
| LTE Band25/2 | BW20_QPSK_5 0RB0Offset | Left Side | 15 | 26590 | 1905 | N/A | 21.33 | 23.00 | 1.469 | 100 | 1.000 | 0.02 | 0.725 | 1.065 |
| LTE Band25/2 | BW20_QPSK_1 00RB0Offset | Left Side | 15 | 26365 | 1882.5 | N/A | 21.33 | 23.00 | 1.469 | 100 | 1.000 | 0.01 | 0.751 | 1.103 |
| | | | | | | | | | | | | | | |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Back | 0 | 20175 | 1732.5 | N/A | 18.93 | 20.00 | 1.279 | 100 | 1.000 | -0.12 | 0.929 | 1.189 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Back | 0 | 20050 | 1720 | N/A | 18.85 | 20.00 | 1.303 | 100 | 1.000 | -0.18 | 0.903 | 1.177 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Back | 0 | 20300 | 1745 | N/A | 18.90 | 20.00 | 1.288 | 100 | 1.000 | 0.15 | 0.973 | 1.253 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Back | 0 | 20175 | 1732.5 | N/A | 17.95 | 19.00 | 1.274 | 100 | 1.000 | -0.12 | 0.770 | 0.981 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Back | 0 | 20050 | 1720 | N/A | 17.88 | 19.00 | 1.294 | 100 | 1.000 | -0.11 | 0.723 | 0.936 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Back | 0 | 20300 | 1745 | N/A | 17.73 | 19.00 | 1.340 | 100 | 1.000 | -0.06 | 0.865 | 1.159 |
| LTE Band4 | BW20_QPSK_1 00RB0Offset | Back | 0 | 20175 | 1732.5 | N/A | 17.69 | 19.00 | 1.352 | 100 | 1.000 | 0.01 | 0.761 | 1.029 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 20175 | 1732.5 | N/A | 18.93 | 20.00 | 1.279 | 100 | 1.000 | 0.12 | 0.775 | 0.992 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 20050 | 1720 | N/A | 18.85 | 20.00 | 1.303 | 100 | 1.000 | -0.12 | 0.816 | 1.063 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Left Side | 0 | 20300 | 1745 | N/A | 18.90 | 20.00 | 1.288 | 100 | 1.000 | -0.07 | 0.911 | 1.174 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 20175 | 1732.5 | N/A | 17.95 | 19.00 | 1.274 | 100 | 1.000 | -0.03 | 0.662 | 0.843 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 20050 | 1720 | N/A | 17.88 | 19.00 | 1.294 | 100 | 1.000 | 0.12 | 0.712 | 0.921 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Left Side | 0 | 20300 | 1745 | N/A | 17.73 | 19.00 | 1.340 | 100 | 1.000 | 0.05 | 0.778 | 1.042 |
| LTE Band4 | BW20_QPSK_1 00RB0Offset | Left Side | 0 | 20175 | 1732.5 | N/A | 17.69 | 19.00 | 1.352 | 100 | 1.000 | 0.03 | 0.685 | 0.926 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Bottom Side | 0 | 20175 | 1732.5 | N/A | 22.63 | 24.00 | 1.371 | 100 | 1.000 | 0.07 | 0.312 | 0.428 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Bottom Side | 0 | 20175 | 1732.5 | N/A | 21.34 | 23.00 | 1.466 | 100 | 1.000 | 0.11 | 0.231 | 0.339 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Right Side | 0 | 20175 | 1732.5 | N/A | 22.63 | 24.00 | 1.371 | 100 | 1.000 | 0.00 | 0.001 | 0.001 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Right Side | 0 | 20175 | 1732.5 | N/A | 21.34 | 23.00 | 1.466 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Top Side | 0 | 20175 | 1732.5 | N/A | 22.63 | 24.00 | 1.371 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| LTE Band4 | BW20_QPSK_5 0RB0Offset | Top Side | 0 | 20175 | 1732.5 | N/A | 21.34 | 23.00 | 1.466 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| LTE Band4 | BW20_QPSK_1 RB0Offset | Back | 15 | 20175 | 1732.5 | N/A | 22.63 | 24.00 | 1.371 | 100 | 1.000 | 0.05 | 0.309 | 0.424 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band4 | BW20_QPSK_50RB0Offset | Back | 15 | 20175 | 1732.5 | N/A | 21.34 | 23.00 | 1.466 | 100 | 1.000 | 0.13 | 0.266 | 0.390 |
| LTE Band4 | BW20_QPSK_1RB0Offset | Left Side | 15 | 20175 | 1732.5 | N/A | 22.63 | 24.00 | 1.371 | 100 | 1.000 | 0.04 | 0.380 | 0.521 |
| LTE Band4 | BW20_QPSK_50RB0Offset | Left Side | 15 | 20175 | 1732.5 | N/A | 21.34 | 23.00 | 1.466 | 100 | 1.000 | -0.03 | 0.310 | 0.454 |
| | | | | | | | | | | | | | | |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Back | 0 | 26865 | 831.5 | N/A | 21.19 | 22.50 | 1.352 | 100 | 1.000 | 0.09 | 0.663 | 0.896 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Back | 0 | 26765 | 821.5 | N/A | 21.11 | 22.50 | 1.377 | 100 | 1.000 | **-0.17** | **0.783** | **1.078** |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Back | 0 | 26915 | 836.5 | N/A | 21.15 | 22.50 | 1.365 | 100 | 1.000 | 0.03 | 0.610 | 0.832 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Back | 0 | 26965 | 841.5 | N/A | 21.18 | 22.50 | 1.355 | 100 | 1.000 | 0.01 | 0.640 | 0.867 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Back | 0 | 26865 | 831.5 | N/A | 20.20 | 21.50 | 1.349 | 100 | 1.000 | 0.11 | 0.583 | 0.786 |
| LTE Band26/5 | BW15_QPSK_75RB0Offset | Back | 0 | 26865 | 831.5 | N/A | 20.07 | 21.50 | 1.390 | 100 | 1.000 | 0.11 | 0.563 | 0.783 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Left Side | 0 | 26865 | 831.5 | N/A | 21.19 | 22.50 | 1.352 | 100 | 1.000 | -0.15 | 0.539 | 0.729 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Left Side | 0 | 26865 | 831.5 | N/A | 20.20 | 21.50 | 1.349 | 100 | 1.000 | -0.11 | 0.433 | 0.584 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Bottom Side | 0 | 26865 | 831.5 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | -0.03 | 0.311 | 0.370 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Bottom Side | 0 | 26865 | 831.5 | N/A | 22.38 | 23.00 | 1.153 | 100 | 1.000 | 0.11 | 0.212 | 0.245 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Right Side | 0 | 26865 | 831.5 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Right Side | 0 | 26865 | 831.5 | N/A | 22.38 | 23.00 | 1.153 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Top Side | 0 | 26865 | 831.5 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Top Side | 0 | 26865 | 831.5 | N/A | 22.38 | 23.00 | 1.153 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Back | 15 | 26865 | 831.5 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.03 | 0.209 | 0.249 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Back | 15 | 26865 | 831.5 | N/A | 22.38 | 23.00 | 1.153 | 100 | 1.000 | -0.03 | 0.177 | 0.204 |
| LTE Band26/5 | BW15_QPSK_1RB0Offset | Left Side | 15 | 26865 | 831.5 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | -0.15 | 0.131 | 0.156 |
| LTE Band26/5 | BW15_QPSK_36RB0Offset | Left Side | 15 | 26865 | 831.5 | N/A | 22.38 | 23.00 | 1.153 | 100 | 1.000 | 0.03 | 0.115 | 0.133 |
| | | | | | | | | | | | | | | |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Back | 0 | 23095 | 707.5 | N/A | 21.50 | 23.00 | 1.413 | 100 | 1.000 | 0.03 | 0.640 | 0.904 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Back | 0 | 23060 | 704 | N/A | 21.46 | 23.00 | 1.426 | 100 | 1.000 | **0.14** | **0.773** | **1.102** |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Back | 0 | 23130 | 711 | N/A | 21.49 | 23.00 | 1.416 | 100 | 1.000 | 0.05 | 0.680 | 0.963 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Back | 0 | 23095 | 707.5 | N/A | 20.59 | 22.00 | 1.384 | 100 | 1.000 | 0.03 | 0.553 | 0.765 |
| LTE Band12/17 | BW10_QPSK_50RB0Offset | Back | 0 | 23095 | 707.5 | N/A | 20.34 | 22.00 | 1.466 | 100 | 1.000 | -0.03 | 0.551 | 0.808 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Left Side | 0 | 23095 | 707.5 | N/A | 21.50 | 23.00 | 1.413 | 100 | 1.000 | -0.03 | 0.478 | 0.675 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Left Side | 0 | 23095 | 707.5 | N/A | 20.59 | 22.00 | 1.384 | 100 | 1.000 | -0.01 | 0.432 | 0.598 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Bottom Side | 0 | 23095 | 707.5 | N/A | 23.15 | 24.00 | 1.216 | 100 | 1.000 | 0.03 | 0.194 | 0.236 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Bottom Side | 0 | 23095 | 707.5 | N/A | 22.28 | 23.00 | 1.180 | 100 | 1.000 | 0.01 | 0.147 | 0.174 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Right Side | 0 | 23095 | 707.5 | N/A | 23.15 | 24.00 | 1.216 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Right Side | 0 | 23095 | 707.5 | N/A | 22.28 | 23.00 | 1.180 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Top Side | 0 | 23095 | 707.5 | N/A | 23.15 | 24.00 | 1.216 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Top Side | 0 | 23095 | 707.5 | N/A | 22.28 | 23.00 | 1.180 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Back | 15 | 23095 | 707.5 | N/A | 23.15 | 24.00 | 1.216 | 100 | 1.000 | 0.03 | 0.202 | 0.246 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Back | 15 | 23095 | 707.5 | N/A | 22.28 | 23.00 | 1.180 | 100 | 1.000 | 0.13 | 0.163 | 0.192 |
| LTE Band12/17 | BW10_QPSK_1RB0Offset | Left Side | 15 | 23095 | 707.5 | N/A | 23.15 | 24.00 | 1.216 | 100 | 1.000 | -0.11 | 0.117 | 0.142 |
| LTE Band12/17 | BW10_QPSK_25RB0Offset | Left Side | 15 | 23095 | 707.5 | N/A | 22.28 | 23.00 | 1.180 | 100 | 1.000 | -0.03 | 0.101 | 0.119 |
| | | | | | | | | | | | | | | |
| LTE Band13 | BW10_QPSK_1RB0Offset | Back | 0 | 23230 | 782 | N/A | 22.14 | 23.50 | 1.368 | 100 | 1.000 | **-0.12** | **0.720** | **0.985** |
| LTE Band13 | BW10_QPSK_25RB0Offset | Back | 0 | 23230 | 782 | N/A | 21.32 | 22.50 | 1.312 | 100 | 1.000 | -0.09 | 0.678 | 0.890 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band13 | BW10_QPSK_50RB0Offset | Back | 0 | 23230 | 782 | N/A | 21.12 | 22.50 | 1.374 | 100 | 1.000 | -0.04 | 0.655 | 0.900 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Left Side | 0 | 23230 | 782 | N/A | 22.14 | 23.50 | 1.368 | 100 | 1.000 | 0.05 | 0.716 | 0.979 |
| LTE Band13 | BW10_QPSK_25RB0Offset | Left Side | 0 | 23230 | 782 | N/A | 21.32 | 22.50 | 1.312 | 100 | 1.000 | 0.01 | 0.654 | 0.858 |
| LTE Band13 | BW10_QPSK_50RB0Offset | Left Side | 0 | 23230 | 782 | N/A | 21.12 | 22.50 | 1.374 | 100 | 1.000 | -0.04 | 0.651 | 0.895 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Bottom Side | 0 | 23230 | 782 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | -0.03 | 0.213 | 0.254 |
| LTE Band13 | BW10_QPSK_25RB0Offset | Bottom Side | 0 | 23230 | 782 | N/A | 22.33 | 23.00 | 1.167 | 100 | 1.000 | 0.09 | 0.162 | 0.189 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Right Side | 0 | 23230 | 782 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.04 | 0.001 | 0.001 |
| LTE Band13 | BW10_QPSK_25RB0Offset | Right Side | 0 | 23230 | 782 | N/A | 22.33 | 23.00 | 1.167 | 100 | 1.000 | 0.02 | 0.001 | 0.001 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Top Side | 0 | 23230 | 782 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.01 | 0.001 | 0.001 |
| LTE Band13 | BW10_QPSK_25RB0Offset | Top Side | 0 | 23230 | 782 | N/A | 22.33 | 23.00 | 1.167 | 100 | 1.000 | 0.03 | 0.001 | 0.001 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Back | 15 | 23230 | 782 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.03 | 0.217 | 0.258 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Back | 15 | 23230 | 782 | N/A | 22.33 | 23.00 | 1.167 | 100 | 1.000 | -0.01 | 0.199 | 0.232 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Left Side | 15 | 23230 | 782 | N/A | 23.24 | 24.00 | 1.191 | 100 | 1.000 | 0.01 | 0.108 | 0.129 |
| LTE Band13 | BW10_QPSK_1RB0Offset | Left Side | 15 | 23230 | 782 | N/A | 22.33 | 23.00 | 1.167 | 100 | 1.000 | 0.13 | 0.089 | 0.104 |
| | | | | | | | | | | | | | | |
| LTE Band41 | BW20_QPSK_1RB0Offset | Back | 0 | 40740 | 2605 | N/A | 17.32 | 19.00 | 1.472 | 62.90 | 1.006 | **-0.15** | **0.552** | **0.818** |
| LTE Band41 | BW20_QPSK_1RB0Offset | Back | 0 | 40340 | 2565 | N/A | 17.29 | 19.00 | 1.483 | 62.90 | 1.006 | -0.03 | 0.483 | 0.720 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Back | 0 | 41140 | 2645 | N/A | 17.31 | 19.00 | 1.476 | 62.90 | 1.006 | 0.19 | 0.466 | 0.692 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Back | 0 | 40740 | 2605 | N/A | 16.39 | 18.00 | 1.449 | 62.90 | 1.006 | -0.03 | 0.477 | 0.695 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Back | 0 | 40340 | 2565 | N/A | 16.38 | 18.00 | 1.452 | 62.90 | 1.006 | 0.11 | 0.433 | 0.633 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Back | 0 | 41140 | 2645 | N/A | 16.30 | 18.00 | 1.479 | 62.90 | 1.006 | 0.14 | 0.412 | 0.613 |
| LTE Band41 | BW20_QPSK_100RB0Offset | Back | 0 | 40740 | 2605 | N/A | 16.25 | 18.00 | 1.496 | 62.90 | 1.006 | 0.09 | 0.423 | 0.637 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 0 | 40740 | 2605 | N/A | 17.32 | 19.00 | 1.472 | 62.90 | 1.006 | 0.06 | 0.724 | 1.072 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 0 | 40340 | 2565 | N/A | 17.29 | 19.00 | 1.483 | 62.90 | 1.006 | **-0.03** | **0.769** | **1.147** |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 0 | 41140 | 2645 | N/A | 17.31 | 19.00 | 1.476 | 62.90 | 1.006 | 0.01 | 0.727 | 1.079 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 0 | 40740 | 2605 | N/A | 16.39 | 18.00 | 1.449 | 62.90 | 1.006 | -0.03 | 0.603 | 0.879 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 0 | 40340 | 2565 | N/A | 16.38 | 18.00 | 1.452 | 62.90 | 1.006 | 0.11 | 0.588 | 0.859 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 0 | 41140 | 2645 | N/A | 16.30 | 18.00 | 1.479 | 62.90 | 1.006 | 0.14 | 0.591 | 0.879 |
| LTE Band41 | BW20_QPSK_100RB0Offset | Left Side | 0 | 40740 | 2605 | N/A | 16.25 | 18.00 | 1.496 | 62.90 | 1.006 | 0.09 | 0.592 | 0.891 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Bottom Side | 0 | 40740 | 2605 | N/A | 22.62 | 24.00 | 1.374 | 62.90 | 1.006 | 0.03 | 0.278 | 0.384 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Bottom Side | 0 | 40740 | 2605 | N/A | 21.33 | 23.00 | 1.469 | 62.90 | 1.006 | -0.01 | 0.195 | 0.288 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Right Side | 0 | 40740 | 2605 | N/A | 22.62 | 24.00 | 1.374 | 62.90 | 1.006 | 0.04 | 0.001 | 0.001 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Right Side | 0 | 40740 | 2605 | N/A | 21.33 | 23.00 | 1.469 | 62.90 | 1.006 | 0.02 | 0.001 | 0.001 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Top Side | 0 | 40740 | 2605 | N/A | 22.62 | 24.00 | 1.374 | 62.90 | 1.006 | 0.01 | 0.001 | 0.001 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Top Side | 0 | 40740 | 2605 | N/A | 21.33 | 23.00 | 1.469 | 62.90 | 1.006 | 0.04 | 0.001 | 0.001 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Back | 15 | 40740 | 2605 | N/A | 22.62 | 24.00 | 1.374 | 62.90 | 1.006 | 0.04 | 0.231 | 0.319 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Back | 15 | 40740 | 2605 | N/A | 21.33 | 23.00 | 1.469 | 62.90 | 1.006 | -0.03 | 0.214 | 0.316 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 15 | 40740 | 2605 | N/A | 22.62 | 24.00 | 1.374 | 62.90 | 1.006 | 0.03 | 0.580 | 0.802 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 15 | 40340 | 2565 | N/A | 22.53 | 24.00 | 1.403 | 62.90 | 1.006 | 0.03 | 0.554 | 0.782 |
| LTE Band41 | BW20_QPSK_1RB0Offset | Left Side | 15 | 41140 | 2645 | N/A | 22.50 | 24.00 | 1.413 | 62.90 | 1.006 | 0.12 | 0.561 | 0.797 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 15 | 40740 | 2605 | N/A | 21.33 | 23.00 | 1.469 | 62.90 | 1.006 | 0.03 | 0.433 | 0.640 |
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 15 | 40340 | 2565 | N/A | 21.24 | 23.00 | 1.500 | 62.90 | 1.006 | 0.04 | 0.421 | 0.635 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band41 | BW20_QPSK_50RB0Offset | Left Side | 15 | 41140 | 2645 | N/A | 21.32 | 23.00 | 1.472 | 62.90 | 1.006 | 0.01 | 0.435 | 0.644 |
| LTE Band41 | BW20_QPSK_100RB0Offset | Left Side | 15 | 40740 | 2605 | N/A | 21.36 | 23.00 | 1.459 | 62.90 | 1.006 | -0.03 | 0.422 | 0.619 |
| | | | | | | | | | | | | | | |
| WLAN 2.4G | 802.11b_1Mbps | Back | 0 | 6 | 2437 | Ant 1 | 11.93 | 12.00 | 1.016 | 99.20 | 1.008 | 0.01 | 0.651 | 0.667 |
| WLAN 2.4G | 802.11b_1Mbps | Back | 0 | 1 | 2412 | Ant 1 | 11.78 | 12.00 | 1.052 | 99.20 | 1.008 | -0.05 | 0.680 | 0.721 |
| WLAN 2.4G | 802.11b_1Mbps | Back | 0 | 11 | 2462 | Ant 1 | 11.76 | 12.00 | 1.057 | 99.20 | 1.008 | **0.12** | **0.709** | **0.755** |
| WLAN 2.4G | 802.11b_1Mbps | Back | 0 | 6 | 2437 | Ant 2 | 11.78 | 12.00 | 1.052 | 99.20 | 1.008 | 0.05 | 0.125 | 0.133 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 0 | 6 | 2437 | Ant 1 | 11.93 | 12.00 | 1.016 | 99.20 | 1.008 | 0.10 | 1.050 | 1.076 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 0 | 1 | 2412 | Ant 1 | 11.78 | 12.00 | 1.052 | 99.20 | 1.008 | 0.02 | 1.080 | 1.145 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 0 | 11 | 2462 | Ant 1 | 11.76 | 12.00 | 1.057 | 99.20 | 1.008 | **0.15** | **1.080** | **1.150** |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 0 | 1 | 2412 | Ant 2 | 17.26 | 18.00 | 1.186 | 99.20 | 1.008 | 0.03 | 0.001 | 0.001 |
| WLAN 2.4G | 802.11b_1Mbps | Right Side | 0 | 6 | 2437 | Ant 1 | 17.47 | 18.00 | 1.130 | 99.20 | 1.008 | 0.02 | 0.001 | 0.001 |
| WLAN 2.4G | 802.11b_1Mbps | Right Side | 0 | 6 | 2437 | Ant 2 | 11.78 | 12.00 | 1.052 | 99.20 | 1.008 | 0.04 | 0.128 | 0.136 |
| WLAN 2.4G | 802.11b_1Mbps | Top Side | 0 | 6 | 2437 | Ant 1 | 17.47 | 18.00 | 1.130 | 99.20 | 1.008 | -0.12 | 0.010 | 0.012 |
| WLAN 2.4G | 802.11b_1Mbps | Top Side | 0 | 6 | 2437 | Ant 2 | 17.26 | 18.00 | 1.186 | 99.20 | 1.008 | 0.01 | 0.001 | 0.001 |
| WLAN 2.4G | 802.11b_1Mbps | Bottom Side | 0 | 6 | 2437 | Ant 1 | 17.47 | 18.00 | 1.130 | 99.20 | 1.008 | 0.03 | 0.001 | 0.001 |
| WLAN 2.4G | 802.11b_1Mbps | Bottom Side | 0 | 1 | 2412 | Ant 2 | 17.26 | 18.00 | 1.186 | 99.20 | 1.008 | 0.02 | 0.001 | 0.001 |
| WLAN 2.4G | 802.11b_1Mbps | Back | 10 | 6 | 2437 | Ant 1 | 17.47 | 18.00 | 1.130 | 99.20 | 1.008 | 0.03 | 0.364 | 0.415 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 10 | 6 | 2437 | Ant 1 | 17.47 | 18.00 | 1.130 | 99.20 | 1.008 | -0.02 | 0.843 | 0.960 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 10 | 1 | 2412 | Ant 1 | 17.45 | 18.00 | 1.135 | 99.20 | 1.008 | 0.14 | 0.792 | 0.906 |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 10 | 11 | 2462 | Ant 1 | 16.93 | 18.00 | 1.279 | 99.20 | 1.008 | 0.11 | 0.781 | 1.007 |
| WLAN 2.4G | 802.11b_1Mbps | Back | 5 | 1 | 2412 | Ant 2 | 17.26 | 18.00 | 1.186 | 99.20 | 1.008 | 0.01 | 0.140 | 0.167 |
| WLAN 2.4G | 802.11b_1Mbps | Right Side | 5 | 1 | 2412 | Ant 2 | 17.26 | 18.00 | 1.186 | 99.20 | 1.008 | 0.01 | 0.114 | 0.136 |
| WLAN 2.4G | 802.11n-HT40 MCS0 | Back | 0 | 6 | 2437 | Ant 1+2 | 11.36 | 12.00 | 1.159 | 94.00 | 1.064 | 0.12 | 0.270 | 0.333 |
| WLAN 2.4G | 802.11n-HT40 MCS0 | Left Side | 0 | 6 | 2437 | Ant 1+2 | 11.36 | 12.00 | 1.159 | 94.00 | 1.064 | 0.10 | 0.035 | 0.043 |
| WLAN 2.4G | 802.11n-HT40 MCS0 | Right Side | 0 | 6 | 2437 | Ant 1+2 | 11.36 | 12.00 | 1.159 | 94.00 | 1.064 | 0.03 | 0.044 | 0.054 |
| WLAN 2.4G | 802.11n-HT40 MCS0 | Top Side | 0 | 6 | 2437 | Ant 1+2 | 16.12 | 17.00 | 1.225 | 94.00 | 1.064 | 0.00 | 0.034 | 0.044 |
| WLAN 2.4G | 802.11n-HT40 MCS0 | Bottom Side | 0 | 6 | 2437 | Ant 1+2 | 16.12 | 17.00 | 1.225 | 94.00 | 1.064 | 0.02 | 0.001 | 0.001 |
| | | | | | | | | | | | | | | |
| Bluetooth | DH5_1Mbps | Back | 0 | 39 | 2441 | Ant 1 | 11.93 | 12.00 | 1.016 | 77.50 | 1.290 | **0.12** | **0.163** | **0.214** |
| Bluetooth | DH5_1Mbps | Back | 0 | 00 | 2402 | Ant 1 | 11.78 | 12.00 | 1.052 | 77.50 | 1.290 | -0.03 | 0.144 | 0.195 |
| Bluetooth | DH5_1Mbps | Back | 0 | 78 | 2480 | Ant 1 | 11.76 | 12.00 | 1.057 | 77.50 | 1.290 | 0.04 | 0.147 | 0.200 |
| Bluetooth | DH5_1Mbps | Left Side | 0 | 39 | 2441 | Ant 1 | 11.93 | 12.00 | 1.016 | 77.50 | 1.290 | 0.01 | 0.158 | 0.207 |
| Bluetooth | DH5_1Mbps | Right Side | 0 | 39 | 2441 | Ant 1 | 11.93 | 12.00 | 1.016 | 77.50 | 1.290 | 0.01 | 0.001 | 0.001 |
| Bluetooth | DH5_1Mbps | Top Side | 0 | 39 | 2441 | Ant 1 | 11.93 | 12.00 | 1.016 | 77.50 | 1.290 | 0.03 | 0.001 | 0.001 |
| Bluetooth | DH5_1Mbps | Bottom Side | 0 | 39 | 2441 | Ant 1 | 11.93 | 12.00 | 1.016 | 77.50 | 1.290 | 0.04 | 0.001 | 0.001 |
| | | | | | | | | | | | | | | |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 52 | 5260 | Ant 1 | 12.13 | 12.50 | 1.089 | 98.10 | 1.019 | 0.15 | 0.469 | 0.520 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 60 | 5300 | Ant 1 | 12.05 | 12.50 | 1.109 | 98.10 | 1.019 | 0.12 | 0.433 | 0.489 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 64 | 5320 | Ant 1 | 12.02 | 12.50 | 1.117 | 98.10 | 1.019 | 0.03 | 0.453 | 0.516 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 52 | 5260 | Ant 2 | 12.21 | 12.50 | 1.069 | 98.10 | 1.019 | 0.07 | 0.327 | 0.356 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 52 | 5260 | Ant 1 | 12.13 | 12.50 | 1.089 | 98.10 | 1.019 | 0.17 | 0.965 | 1.071 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 60 | 5300 | Ant 1 | 12.05 | 12.50 | 1.109 | 98.10 | 1.019 | 0.02 | 0.911 | 1.030 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 64 | 5320 | Ant 1 | 12.02 | 12.50 | 1.117 | 98.10 | 1.019 | **-0.11** | **0.964** | **1.097** |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 52 | 5260 | Ant 2 | 15.21 | 16.00 | 1.199 | 98.10 | 1.019 | 0.01 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 52 | 5260 | Ant 1 | 15.38 | 16.00 | 1.153 | 98.10 | 1.019 | 0.03 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 52 | 5260 | Ant 2 | 12.21 | 12.50 | 1.069 | 98.10 | 1.019 | **0.02** | **0.639** | **0.696** |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 60 | 5300 | Ant 2 | 11.98 | 12.50 | 1.127 | 98.10 | 1.019 | 0.01 | 0.534 | 0.613 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 64 | 5320 | Ant 2 | 12.06 | 12.50 | 1.107 | 98.10 | 1.019 | -0.12 | 0.505 | 0.569 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 52 | 5260 | Ant 1 | 15.21 | 16.00 | 1.199 | 98.10 | 1.019 | 0.12 | 0.388 | 0.474 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 52 | 5260 | Ant 2 | 15.38 | 16.00 | 1.153 | 98.10 | 1.019 | 0.01 | 0.001 | 0.001 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 52 | 5260 | Ant 1 | 15.21 | 16.00 | 1.199 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 52 | 5260 | Ant 2 | 15.38 | 16.00 | 1.153 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Back | 10 | 52 | 5260 | Ant 1 | 15.21 | 16.00 | 1.199 | 98.10 | 1.019 | 0.03 | 0.265 | 0.324 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 10 | 52 | 5260 | Ant 1 | 15.21 | 16.00 | 1.199 | 98.10 | 1.019 | 0.01 | 0.482 | 0.589 |
| WLAN 5G | 802.11a_6Mbps | Back | 5 | 52 | 5260 | Ant 2 | 15.38 | 16.00 | 1.153 | 98.10 | 1.019 | -0.03 | 0.355 | 0.417 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 5 | 52 | 5260 | Ant 2 | 15.38 | 16.00 | 1.153 | 98.10 | 1.019 | 0.01 | 0.578 | 0.679 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Back | 0 | 58 | 5290 | Ant 1+2 | 11.79 | 12.50 | 1.178 | 94.00 | 1.064 | 0.02 | 0.158 | 0.198 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Left Side | 0 | 58 | 5290 | Ant 1+2 | 11.79 | 12.50 | 1.178 | 94.00 | 1.064 | 0.09 | 0.264 | 0.331 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Right Side | 0 | 58 | 5290 | Ant 1+2 | 11.79 | 12.50 | 1.178 | 94.00 | 1.064 | 0.01 | 0.408 | 0.511 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Top Side | 0 | 58 | 5290 | Ant 1+2 | 16.14 | 16.50 | 1.086 | 94.00 | 1.064 | -0.03 | 0.021 | 0.024 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Bottom Side | 0 | 58 | 5290 | Ant 1+2 | 16.14 | 16.50 | 1.086 | 94.00 | 1.064 | 0.01 | 0.001 | 0.001 |
| | | | | | | | | | | | | | | |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 100 | 5500 | Ant 1 | 12.17 | 12.50 | 1.079 | 98.10 | 1.019 | 0.02 | 0.454 | 0.499 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 116 | 5580 | Ant 1 | 12.02 | 12.50 | 1.117 | 98.10 | 1.019 | 0.03 | 0.476 | 0.542 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 140 | 5700 | Ant 1 | 12.09 | 12.50 | 1.099 | 98.10 | 1.019 | 0.12 | 0.493 | 0.552 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 100 | 5500 | Ant 2 | 12.23 | 12.50 | 1.064 | 98.10 | 1.019 | 0.15 | 0.342 | 0.371 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 100 | 5500 | Ant 1 | 12.17 | 12.50 | 1.079 | 98.10 | 1.019 | 0.05 | 0.915 | 1.006 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 116 | 5580 | Ant 1 | 12.02 | 12.50 | 1.117 | 98.10 | 1.019 | **0.16** | **0.973** | **1.107** |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 140 | 5700 | Ant 1 | 12.09 | 12.50 | 1.099 | 98.10 | 1.019 | 0.09 | 0.967 | 1.083 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 116 | 5580 | Ant 2 | 15.16 | 16.00 | 1.213 | 98.10 | 1.019 | 0.03 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 116 | 5580 | Ant 1 | 15.47 | 16.00 | 1.130 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 100 | 5500 | Ant 2 | 12.23 | 12.50 | 1.064 | 98.10 | 1.019 | 0.01 | 0.723 | 0.784 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 116 | 5580 | Ant 2 | 12.08 | 12.50 | 1.102 | 98.10 | 1.019 | **0.12** | **0.971** | **1.090** |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 140 | 5700 | Ant 2 | 12.11 | 12.50 | 1.094 | 98.10 | 1.019 | -0.12 | 0.890 | 0.992 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 100 | 5500 | Ant 1 | 15.47 | 16.00 | 1.130 | 98.10 | 1.019 | 0.02 | 0.263 | 0.303 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 100 | 5500 | Ant 2 | 15.16 | 16.00 | 1.213 | 98.10 | 1.019 | 0.01 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 116 | 5580 | Ant 1 | 15.47 | 16.00 | 1.130 | 98.10 | 1.019 | 0.03 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 116 | 5580 | Ant 2 | 15.16 | 16.00 | 1.213 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Back | 10 | 116 | 5580 | Ant 1 | 15.47 | 16.00 | 1.130 | 98.10 | 1.019 | 0.14 | 0.210 | 0.242 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 10 | 116 | 5580 | Ant 1 | 15.47 | 16.00 | 1.130 | 98.10 | 1.019 | -0.03 | 0.260 | 0.299 |
| WLAN 5G | 802.11a_6Mbps | Back | 5 | 116 | 5580 | Ant 2 | 15.16 | 16.00 | 1.213 | 98.10 | 1.019 | 0.03 | 0.365 | 0.451 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 5 | 100 | 5500 | Ant 2 | 15.00 | 16.00 | 1.259 | 98.10 | 1.019 | 0.09 | 0.625 | 0.802 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 5 | 116 | 5580 | Ant 2 | 15.16 | 16.00 | 1.213 | 98.10 | 1.019 | 0.01 | 0.633 | 0.783 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 5 | 140 | 5700 | Ant 2 | 15.14 | 16.00 | 1.219 | 98.10 | 1.019 | -0.02 | 0.679 | 0.843 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Back | 0 | 112 | 5610 | Ant 1+2 | 11.99 | 12.50 | 1.125 | 94.00 | 1.064 | 0.01 | 0.164 | 0.196 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Left Side | 0 | 112 | 5610 | Ant 1+2 | 11.99 | 12.50 | 1.125 | 94.00 | 1.064 | 0.11 | 0.281 | 0.336 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Right Side | 0 | 112 | 5610 | Ant 1+2 | 11.99 | 12.50 | 1.125 | 94.00 | 1.064 | 0.03 | 0.407 | 0.487 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Top Side | 0 | 112 | 5610 | Ant 1+2 | 15.83 | 16.50 | 1.167 | 94.00 | 1.064 | -0.03 | 0.032 | 0.040 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Bottom Side | 0 | 112 | 5610 | Ant 1+2 | 15.83 | 16.50 | 1.167 | 94.00 | 1.064 | 0.03 | 0.001 | 0.001 |
| | | | | | | | | | | | | | | |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 149 | 5745 | Ant 1 | 12.23 | 12.50 | 1.064 | 98.10 | 1.019 | 0.02 | 0.447 | 0.485 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 157 | 5785 | Ant 1 | 12.14 | 12.50 | 1.086 | 98.10 | 1.019 | -0.03 | 0.423 | 0.468 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 165 | 5825 | Ant 1 | 12.09 | 12.50 | 1.099 | 98.10 | 1.019 | 0.12 | 0.431 | 0.483 |
| WLAN 5G | 802.11a_6Mbps | Back | 0 | 149 | 5745 | Ant 2 | 12.35 | 12.50 | 1.035 | 98.10 | 1.019 | 0.05 | 0.235 | 0.248 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 149 | 5745 | Ant 1 | 12.23 | 12.50 | 1.064 | 98.10 | 1.019 | 0.06 | 0.937 | 1.016 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 157 | 5785 | Ant 1 | 12.14 | 12.50 | 1.086 | 98.10 | 1.019 | 0.02 | 0.850 | 0.941 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 165 | 5825 | Ant 1 | 12.09 | 12.50 | 1.099 | 98.10 | 1.019 | **0.02** | **0.991** | **1.110** |
| WLAN 5G | 802.11a_6Mbps | Left Side | 0 | 165 | 5825 | Ant 2 | 15.26 | 16.00 | 1.186 | 98.10 | 1.019 | 0.03 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 149 | 5745 | Ant 1 | 15.48 | 16.00 | 1.127 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 149 | 5745 | Ant 2 | 12.35 | 12.50 | 1.035 | 98.10 | 1.019 | 0.02 | 0.907 | 0.957 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 157 | 5785 | Ant 2 | 12.21 | 12.50 | 1.069 | 98.10 | 1.019 | **0.16** | **0.974** | **1.061** |
| WLAN 5G | 802.11a_6Mbps | Right Side | 0 | 165 | 5825 | Ant 2 | 12.33 | 12.50 | 1.040 | 98.10 | 1.019 | 0.03 | 0.806 | 0.854 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 149 | 5745 | Ant 1 | 15.48 | 16.00 | 1.127 | 98.10 | 1.019 | 0.02 | 0.472 | 0.542 |
| WLAN 5G | 802.11a_6Mbps | Top Side | 0 | 149 | 5745 | Ant 2 | 12.35 | 12.50 | 1.035 | 98.10 | 1.019 | 0.04 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 149 | 5745 | Ant 1 | 15.48 | 16.00 | 1.127 | 98.10 | 1.019 | 0.02 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Bottom Side | 0 | 165 | 5825 | Ant 2 | 15.26 | 16.00 | 1.186 | 98.10 | 1.019 | 0.01 | 0.001 | 0.001 |
| WLAN 5G | 802.11a_6Mbps | Back | 10 | 149 | 5745 | Ant 1 | 15.48 | 16.00 | 1.127 | 98.10 | 1.019 | 0.11 | 0.130 | 0.149 |
| WLAN 5G | 802.11a_6Mbps | Left Side | 10 | 149 | 5745 | Ant 1 | 15.48 | 16.00 | 1.127 | 98.10 | 1.019 | 0.03 | 0.190 | 0.218 |
| WLAN 5G | 802.11a_6Mbps | Back | 5 | 165 | 5825 | Ant 2 | 15.26 | 16.00 | 1.186 | 98.10 | 1.019 | 0.03 | 0.219 | 0.265 |
| WLAN 5G | 802.11a_6Mbps | Right Side | 5 | 165 | 5825 | Ant 2 | 15.26 | 16.00 | 1.186 | 98.10 | 1.019 | 0.09 | 0.430 | 0.520 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Back | 0 | 155 | 5775 | Ant 1+2 | 11.90 | 12.50 | 1.148 | 94.00 | 1.064 | 0.01 | 0.127 | 0.155 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Left Side | 0 | 155 | 5775 | Ant 1+2 | 11.90 | 12.50 | 1.148 | 94.00 | 1.064 | 0.13 | 0.267 | 0.326 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Right Side | 0 | 155 | 5775 | Ant 1+2 | 11.90 | 12.50 | 1.148 | 94.00 | 1.064 | 0.12 | 0.480 | 0.586 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Top Side | 0 | 155 | 5775 | Ant 1+2 | 15.58 | 16.50 | 1.236 | 94.00 | 1.064 | -0.03 | 0.098 | 0.129 |
| WLAN 5G | 802.11ac-VHT80 MCS0 | Bottom Side | 0 | 155 | 5775 | Ant 1+2 | 15.58 | 16.50 | 1.236 | 94.00 | 1.064 | 0.08 | 0.001 | 0.001 |

SAR Test Note:

1. Per KDB648474 D04y01r03.this device is considered a phablet since the display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm. Therefore, phablet SAR tests are required when wireless mode does not apply or if wireless router1g SAR >1.2W/kg.
2. Due to the distance between the antenna and the test edge, the result of 0.001 in the table is the result of decimal point rounding, and the actual test results are ⩽ 0.001.
3. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
4. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA/ HSUPA/ DC-HSDPA is ≤1/4 dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance Of HSDPA / HSUPA/ DC-HSDPA to RMC12.2Kbps and the adjusted SAR is s 1.2 W/kg, SAR measurement is not required for HSDPA/ HSUPA/ DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than 1/4 dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA/ HSUPA/ DC-HSDPA.
5. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
6. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
7. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
8. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

9. Duty cycle of TDD was fixed, therefore not require scaled to 100% of duty cycle. For SAR system, the crest factor 1:1.59 (62.9%) was used perform testing.
10. Considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* scaling factor for extended cyclic prefix.
11. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not 1/2 dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225D05v02r05.16QAM SAR testing is not required.
12. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not 1/2 dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
13. LTE Band 2/5/17 SAR test was covered by LTE Band 25/26/12, due to the output power level and have duplicate frequency range.
14. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band. The largest channel bandwidth, lowest or demodulation, lowest data rate and lowest order 802.11algin/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
15. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.

- 0.4 W/ka. SAR is repeated using the same wireless mode test configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions are tested For subsequent test position with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested. When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the initial test position and subsequent test positions, when the

reported SAR is > 0.8 W/kg, measure the SAR for positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤1.2 W/kg or all required test channels are considered.

- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

16. The Bluetooth duty cycle is 77.50%, Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 100%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.
17. The ratio is the difference in percentage between original and repeated measured SAR.
18. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

## 9.2 SAR Measurement Variability

| Band | Mode | Test Position | Ch. | Antenna | Freq. (MHz) | Original 1g SAR (W/kg) | First 1g SAR (W/kg) | First Ratio SAR 1g |
|---|---|---|---|---|---|---|---|---|
| WCDMA II | RMC 12.2K | Back | 9400 | N/A | 1880 | 0.956 | 0.921 | 3.8% |
| WCDMA II | RMC 12.2K | Left Side | 9538 | N/A | 1907.6 | 0.975 | 0.943 | 3.4% |
| WCDMA IV | RMC 12.2K | Back | 1413 | N/A | 1732.6 | 0.807 | 0.779 | 3.6% |
| WCDMA V | RMC 12.2K | Back | 4183 | N/A | 836.6 | 0.95 | 0.926 | 2.6% |
| LTE Band25/2 | BW20_QPSK_1RB0Offset | Back | 26365 | N/A | 1882.5 | 0.887 | 0.833 | 6.5% |
| LTE Band25/2 | BW20_QPSK_1RB0Offset | Left Side | 26365 | N/A | 1882.5 | 1.02 | 0.978 | 4.3% |
| LTE Band4 | BW20_QPSK_1RB0Offset | Back | 20300 | N/A | 1745 | 0.973 | 0.961 | 1.2% |
| LTE Band4 | BW20_QPSK_1RB0Offset | Left Side | 20300 | N/A | 1745 | 0.911 | 0.903 | 0.9% |
| WLAN 2.4G | 802.11b_1Mbps | Left Side | 11 | Ant 1 | 2462 | 1.08 | 1.03 | 4.9% |
| WLAN 5G | 802.11a_6Mbps | Left Side | 64 | Ant 1 | 5320 | 0.964 | 0.954 | 1.0% |
| WLAN 5G | 802.11a_6Mbps | Left Side | 116 | Ant 1 | 5580 | 0.973 | 0.965 | 0.8% |
| WLAN 5G | 802.11a_6Mbps | Right Side | 116 | Ant 2 | 5580 | 0.971 | 0.966 | 0.5% |
| WLAN 5G | 802.11a_6Mbps | Left Side | 165 | Ant 1 | 5825 | 0.991 | 0.988 | 0.3% |
| WLAN 5G | 802.11a_6Mbps | Right Side | 157 | Ant 2 | 5785 | 0.974 | 0.971 | 0.3% |

Note:

According to KDB 865664 D01v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required:

1. The original highest measured Reported SAR 1-g ≥ 0.80 W/kg, repeated that measurement once.

2. Perform a second repeated measurement the ratio of the largest to the smallest SAR for the original and first repeated measurements is <1.2 W/kg, or when the original or repeated measurement ≥ 1.45 W/kg (~10% from the 1-g SAR limit).

## 9.3 Simultaneous Transmission Analysis

| NO. | Simultaneous Transmission Configurations | Body SAR |
|---|---|---|
| 1. | WWAN+ 2.4GHz WLAN Ant 1+2 | Yes |
| 2. | WWAN+ 5GHz WLAN Ant 1+2 | Yes |
| 3. | WWAN+ Bluetooth Ant 1 | Yes |
| 4. | 2.4GHz WLAN Ant 1+2 + Bluetooth Ant 1 | Yes |
| 5. | 5GHz WLAN Ant 1+2 + Bluetooth Ant 1 | Yes |

| Reported SAR | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| WWAN Band | Exposure Position | WWAN | 2.4GHz WLAN Ant 1+2 | 5GHz WLAN Ant 1+2 | Bluetooth Ant 1 | NO.1 Summed | NO.2 Summed | NO.3 Summed | NO.4 Summed | NO.5 Summed |
| | | 1g SAR (W/kg) | 1g SAR (W/kg) | 1g SAR (W/kg) | 10g SAR (W/kg) | 1g SAR (W/kg) | 1g SAR (W/kg) | 1g SAR (W/kg) | 1g SAR (W/kg) | 1g SAR (W/kg) |
| WCDMA II | Back | 1.209 | 0.333 | 0.198 | 0.214 | **1.54** | **1.41** | **1.42** | **0.55** | **0.41** |
| | Left Side | 1.258 | 0.043 | 0.336 | 0.207 | **1.30** | **1.59** | **1.47** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.462 | 0.001 | 0.001 | 0.001 | **0.46** | **0.46** | **0.46** | **0.00** | **0.00** |
| WCDMA IV | Back | 1.023 | 0.333 | 0.198 | 0.214 | **1.36** | **1.22** | **1.24** | **0.55** | **0.41** |
| | Left Side | 0.747 | 0.043 | 0.336 | 0.207 | **0.79** | **1.08** | **0.95** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.417 | 0.001 | 0.001 | 0.001 | **0.42** | **0.42** | **0.42** | **0.00** | **0.00** |
| WCDMA V | Back | 1.153 | 0.333 | 0.198 | 0.214 | **1.49** | **1.35** | **1.37** | **0.55** | **0.41** |
| | Left Side | 0.716 | 0.043 | 0.336 | 0.207 | **0.76** | **1.05** | **0.92** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.124 | 0.001 | 0.001 | 0.001 | **0.13** | **0.13** | **0.13** | **0.00** | **0.00** |
| LTE Band25/2 | Back | 1.045 | 0.333 | 0.198 | 0.214 | **1.38** | **1.24** | **1.26** | **0.55** | **0.41** |
| | Left Side | 1.201 | 0.043 | 0.336 | 0.207 | **1.24** | **1.54** | **1.41** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.309 | 0.001 | 0.001 | 0.001 | **0.31** | **0.31** | **0.31** | **0.00** | **0.00** |
| LTE Band4 | Back | 1.253 | 0.333 | 0.198 | 0.214 | **1.59** | **1.45** | **1.47** | **0.55** | **0.41** |
| | Left Side | 1.174 | 0.043 | 0.336 | 0.207 | **1.22** | **1.51** | **1.38** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.428 | 0.001 | 0.001 | 0.001 | **0.43** | **0.43** | **0.43** | **0.00** | **0.00** |
| LTE Band26/5 | Back | 1.078 | 0.333 | 0.198 | 0.214 | **1.41** | **1.28** | **1.29** | **0.55** | **0.41** |
| | Left Side | 0.729 | 0.043 | 0.336 | 0.207 | **0.77** | **1.07** | **0.94** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bottom Side | 0.584 | 0.001 | 0.001 | 0.001 | **0.59** | **0.59** | **0.59** | **0.00** | **0.00** |
| LTE Band12/17 | Back | 1.102 | 0.333 | 0.198 | 0.214 | **1.44** | **1.30** | **1.32** | **0.55** | **0.41** |
| | Left Side | 0.675 | 0.043 | 0.336 | 0.207 | **0.72** | **1.01** | **0.88** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.236 | 0.001 | 0.001 | 0.001 | **0.24** | **0.24** | **0.24** | **0.00** | **0.00** |
| LTE Band13 | Back | 0.985 | 0.333 | 0.198 | 0.214 | **1.32** | **1.18** | **1.20** | **0.55** | **0.41** |
| | Left Side | 0.979 | 0.043 | 0.336 | 0.207 | **1.02** | **1.32** | **1.19** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.254 | 0.001 | 0.001 | 0.001 | **0.26** | **0.26** | **0.26** | **0.00** | **0.00** |
| LTE Band41 | Back | 0.818 | 0.333 | 0.198 | 0.214 | **1.15** | **1.02** | **1.03** | **0.55** | **0.41** |
| | Left Side | 1.147 | 0.043 | 0.336 | 0.207 | **1.19** | **1.48** | **1.35** | **0.25** | **0.54** |
| | Right Side | 0.001 | 0.054 | 0.586 | 0.001 | **0.06** | **0.59** | **0.00** | **0.06** | **0.59** |
| | Top Side | 0.001 | 0.044 | 0.129 | 0.001 | **0.05** | **0.13** | **0.00** | **0.05** | **0.13** |
| | Bottom Side | 0.384 | 0.001 | 0.001 | 0.001 | **0.39** | **0.39** | **0.39** | **0.00** | **0.00** |

Note：

1. The maximum SAR summation is calculated based on the same configuration and test position.

2. If 1g-SAR scalar summation < 1.6 W/kg, simultaneous SAR measurement is not necessary.

# Appendix A. SAR System Validation Data

**Date: 15/01/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 750MHz

**DUT: Dipole D750MHzV2**

Communication System: UID 0, CW (0); Communication System Band: D750MHz; Duty Cycle: 1:1; Frequency: 750 MHz; Medium parameters used: f = 750 MHz; $\sigma$ = 0.894 S/m; $\varepsilon r$ = 41.699; $\rho$ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.48, 9.03, 9.03); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check/Area Scan (9x9x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.74 W/kg

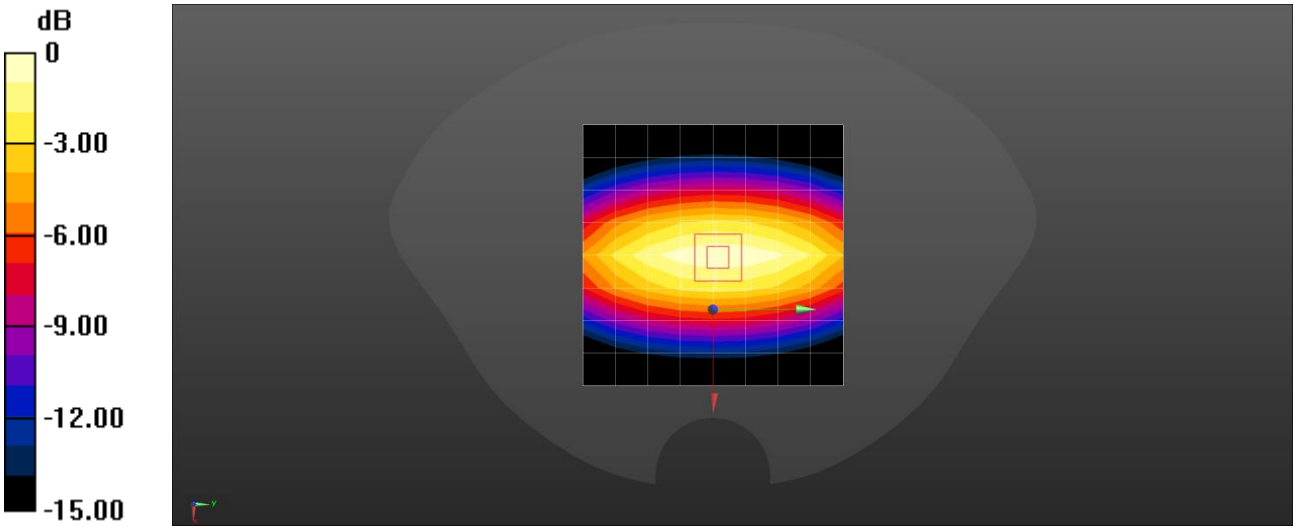
**System Check/Zoom Scan (5x5x7)/Cube 0: Measurement grid:** dx=8mm, dy=8mm, dz=5mm

Reference Value = 59.43 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.02 W/kg

**SAR(1 g) = 2.14 W/kg; SAR(10 g) = 1.43 W/kg**

Maximum value of SAR (measured) = 2.77 W/kg




0 dB = 2.77 W/kg = 4.42 dBW/kg

**Date: 20/01/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 835MHz

**DUT: Dipole D835MhzV2**

Communication System: UID 0, CW (0); Communication System Band: D835MHz; Duty Cycle: 1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.901 S/m; εr = 41.16; ρ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.3, 8.98, 8.83) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check/Area Scan (9x9x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.89 W/kg

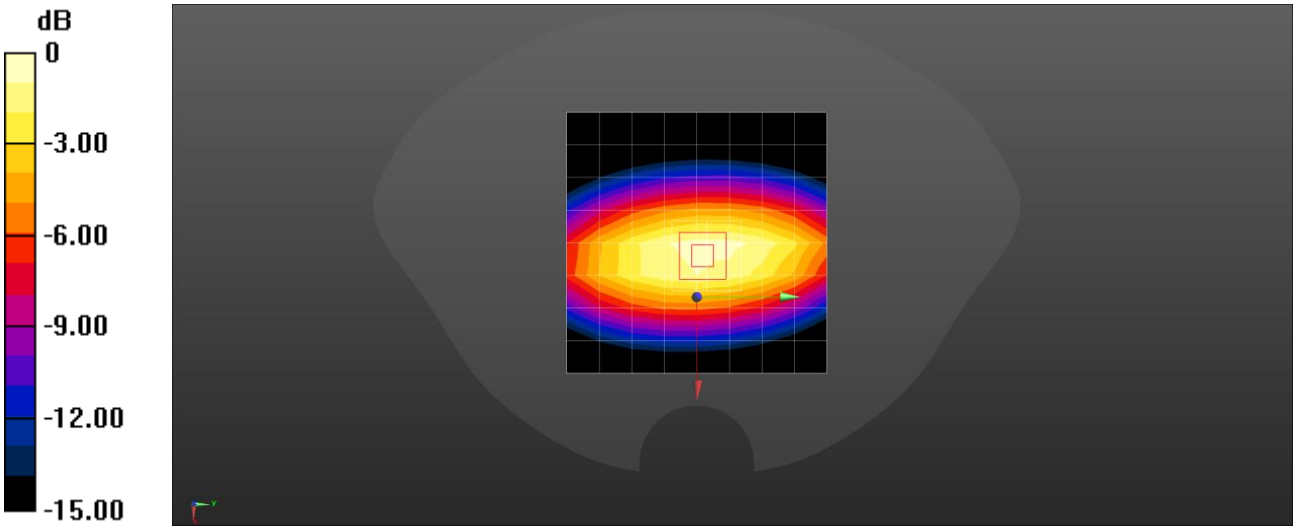
**System Check/Zoom Scan (5x5x7)/Cube 0: Measurement grid:** dx=8mm, dy=8mm, dz=5mm

Reference Value = 60.73 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 3.58 W/kg

**SAR(1 g) = 2.51 W/kg; SAR(10 g) = 1.66 W/kg**

Maximum value of SAR (measured) = 3.27 W/kg




0 dB = 3.27 W/kg = 5.15 dBW/kg

**Date: 25/01/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 1800MHz

**DUT: Dipole D1800MHzV2**

Communication System: UID 0, CW (0); Communication System Band: D1800MHz; Duty Cycle: 1:1; Frequency: 1800 MHz; Medium parameters used: f = 1800 MHz; $\sigma$ = 1.41 S/m; $\varepsilon r$ = 38.82; $\rho$ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.46, 8.26, 8.16) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 1800MHz/Area Scan (9x9x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 13.1 W/kg

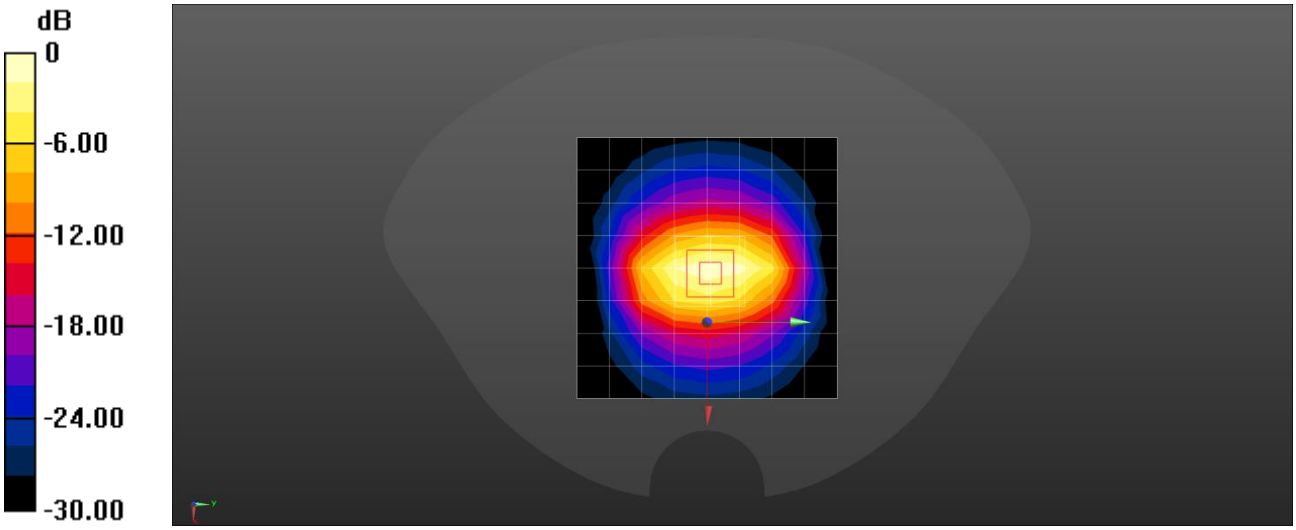
**System Check Head 1800MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid:** dx=8mm, dy=8mm, dz=5mm

Reference Value = 102.3 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 16.2 W/kg

**SAR(1 g) = 8.99 W/kg; SAR(10 g) = 4.69 W/kg**

Maximum value of SAR (measured) = 13.9 W/kg




0 dB = 13.9 W/kg = 11.43 dBW/kg

**Date: 30/01/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 1900MHz

**DUT: Dipole D1900MHzV2**

Communication System: UID 0, CW (0); Communication System Band: D1900MHz; Duty Cycle: 1:1; Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; $\sigma$ = 1.403 S/m; $\varepsilon r$ = 39.09; $\rho$ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.39, 8.14, 8.04) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 1900MHz/Area Scan (9x9x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 13.8 W/kg

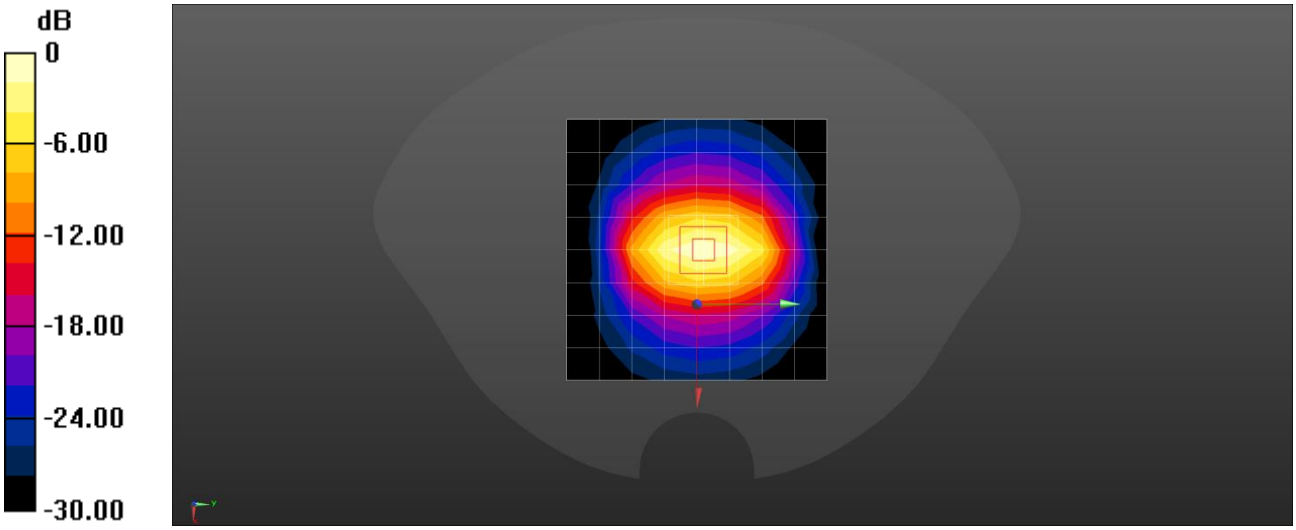
**System Check Head 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid:** dx=8mm, dy=8mm, dz=5mm

Reference Value = 104.7 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 16.6 W/kg

**SAR(1 g) = 9.14 W/kg; SAR(10 g) = 4.73 W/kg**

Maximum value of SAR (measured) = 14.2 W/kg




0 dB = 14.2 W/kg = 11.52 dBW/kg

**Date: 20/02/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 2450MHz

**DUT: Dipole D2450V2**

Communication System: UID 0, CW; Communication System Band: D2450MHz; Duty Cycle: 1:1; Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; $\sigma$ = 1.86 S/m; $\varepsilon r$ = 38.54; $\rho$ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.55, 7.31, 7.22) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 2450MHz/Area Scan (11x11x1)**: Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 12.3 W/kg

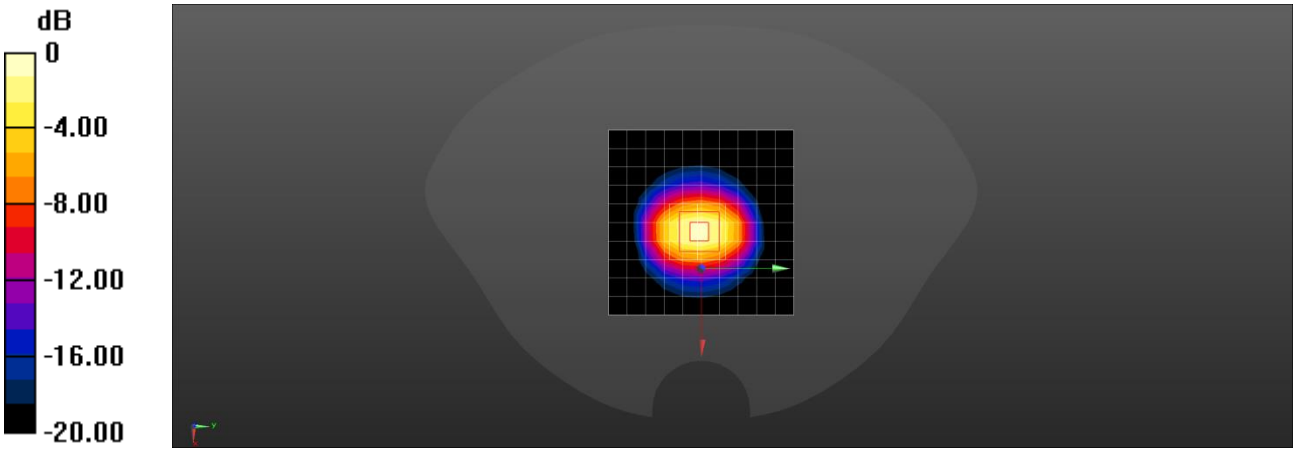
**System Check Head 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 81.98 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 26.1 W/kg

**SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.93 W/kg**

Maximum value of SAR (measured) = 14.6 W/kg




0 dB = 14.6 W/kg = 11.64 dBW/kg

**Date: 05/02/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 2600MHz

**DUT: Dipole 2600 MHz**

Communication System: UID 0, CW (0); Communication System Band: D2600MHz; Duty Cycle: 1:1; Frequency: 2600 MHz; Medium parameters used: f = 2600 MHz; $\sigma$ = 2.032 S/m; $\varepsilon r$ = 37.93; $\rho$ = 1000 kg/m3 ; Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.5, 7.28, 7.2) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 2600MHz/Area Scan (11x11x1): Measurement grid**: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 14.0 W/kg

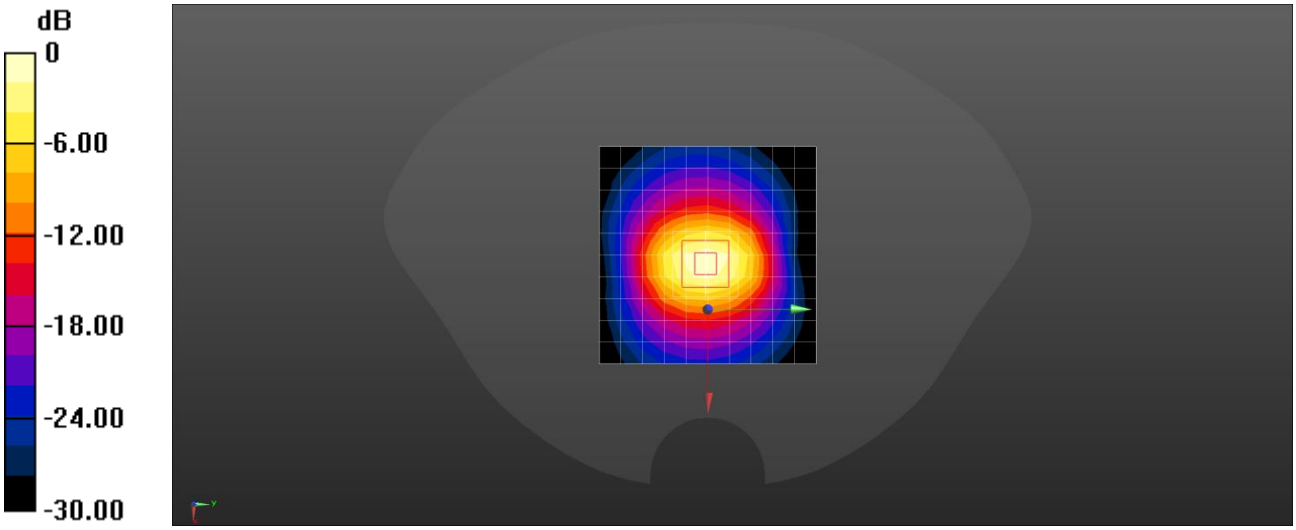
**System Check Head 2600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid:** dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.55 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 29.0 W/kg

**SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.1 W/kg**

Maximum value of SAR (measured) = 15.5 W/kg




0 dB = 15.5 W/kg = 11.90 dBW/kg

**Date: 25/02/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 5250MHz

**DUT: Dipole D5GHzV2**

Communication System: UID 0, CW (0); Communication System Band: 5GHz; Duty Cycle: 1:1; Frequency: 5250 MHz;

Medium parameters used: f = 5250 MHz; σ = 4.6 S/m; εr = 36.38; ρ = 1000 kg/m3 ; Phantom section: Flat Section ;

Input Power=100mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.57, 5.5, 5.46) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 5250MHz/Area Scan (11x11x1): Measurement grid**: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.02 W/kg

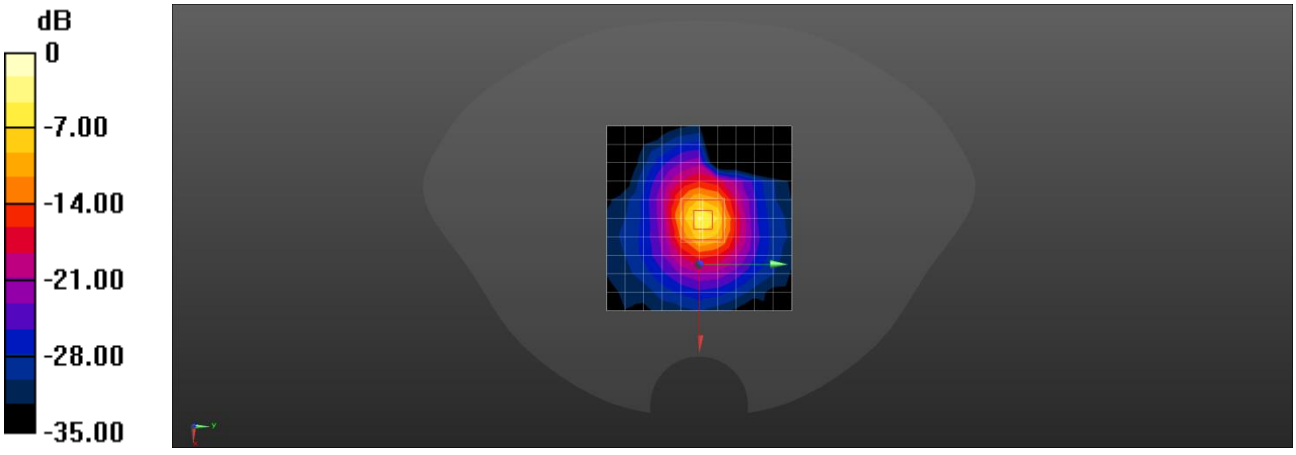
**System Check Head 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 42.33 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 33.7 W/kg

**SAR(1 g) = 7.7 W/kg; SAR(10 g) = 2.17 W/kg**

Maximum value of SAR (measured) = 20.2 W/kg




0 dB = 20.2 W/kg = 13.05 dBW/kg

**Date: 03/03/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 5600MHz

**DUT: Dipole D5GHzV2; Type: D5GHzV2**

Communication System: UID 0, CW (0); Communication System Band: 5GHz; Duty Cycle: 1:1; Frequency: 5600 MHz;

Medium parameters used: f = 5600 MHz; σ = 4.99 S/m; εr = 35.8; ρ = 1000 kg/m3 ; Phantom section: Flat Section ;

Input Power=100mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(4.84, 4.73, 4.74) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 5600MHz/Area Scan (11x11x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 7.88 W/kg

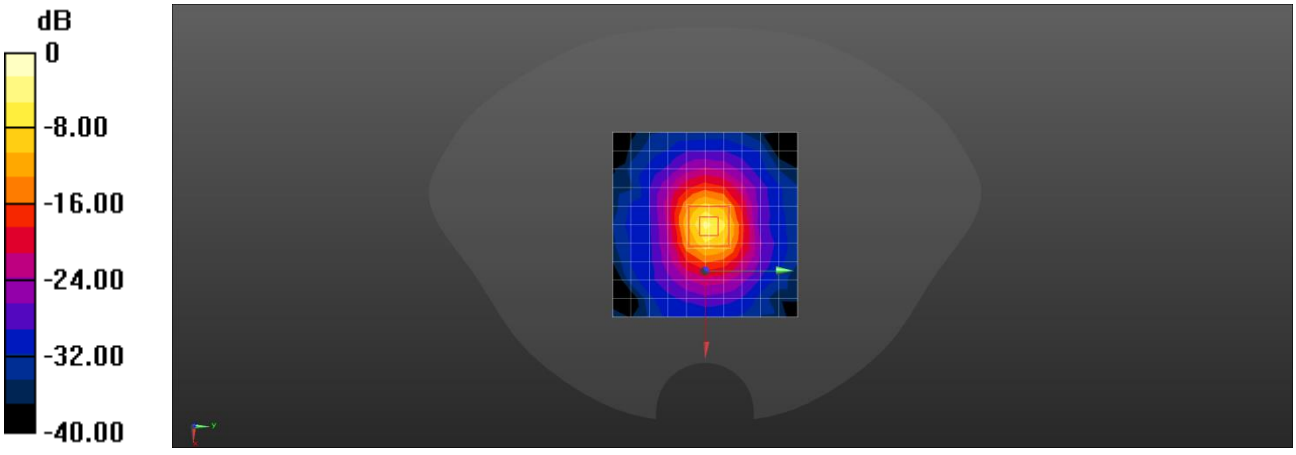
**System Check Head 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 40.48 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 37.5 W/kg

**SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.2 W/kg**

Maximum value of SAR (measured) = 21.1 W/kg




0 dB = 21.1 W/kg = 13.24 dBW/kg

**Date: 15/03/2024**

**Test Laboratory: DEKRA Lab**

System Check Head 5750MHz

**DUT: Dipole D5GHzV2**

Communication System: UID 0, CW (0); Communication System Band: 5GHz; Duty Cycle: 1:1; Frequency: 5750 MHz;

Medium parameters used: f = 5750 MHz; σ = 5.167 S/m; εr = 35.55; ρ = 1000 kg/m3 ; Phantom section: Flat Section ;

Input Power=100mW

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.1, 4.88, 4.91); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**System Check Head 5750MHz/Area Scan (11x11x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 18.9 W/kg

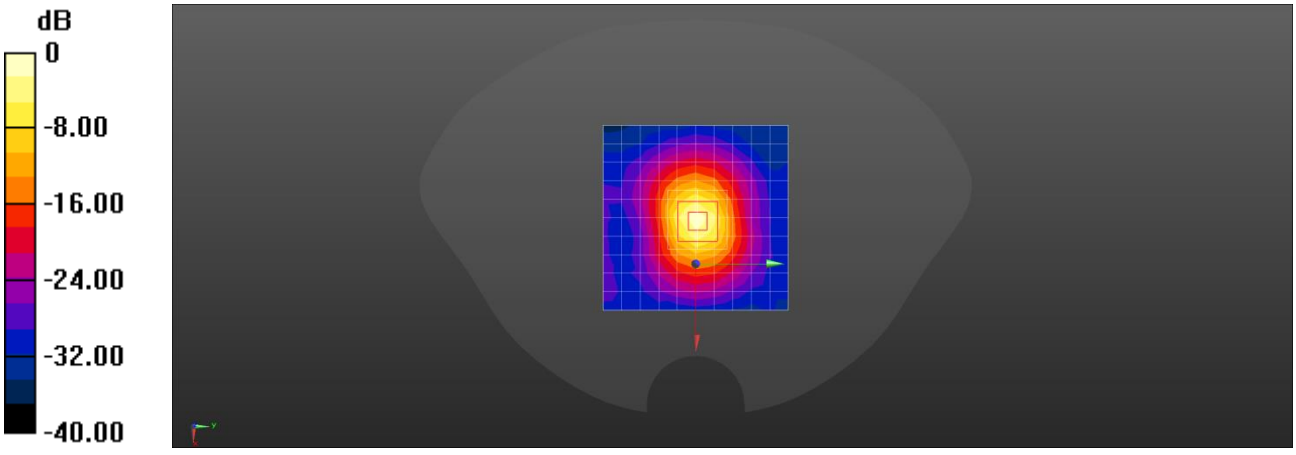
**System Check Head 5750MHz/Zoom Scan (9x9x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 67.41 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 34.8 W/kg

**SAR(1 g) = 7.33 W/kg; SAR(10 g) = 2.08 W/kg**

Maximum value of SAR (measured) = 19.6 W/kg




0 dB = 19.6 W/kg = 12.92 dBW/kg

# Appendix B. SAR measurement Data

**Date: 30/01/2024**

**Test Laboratory: DEKRA Lab**

WCDMA II_RMC 12.2K_Back_CH9400_1880MHz

**DUT: TABLET_MT578**

Communication System: UID 0, WCDMA (0); Communication System Band: WCDMA II; Duty Cycle: 1:1.0;

Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; εr = 39.189; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.39, 8.14, 8.04); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.38 W/kg

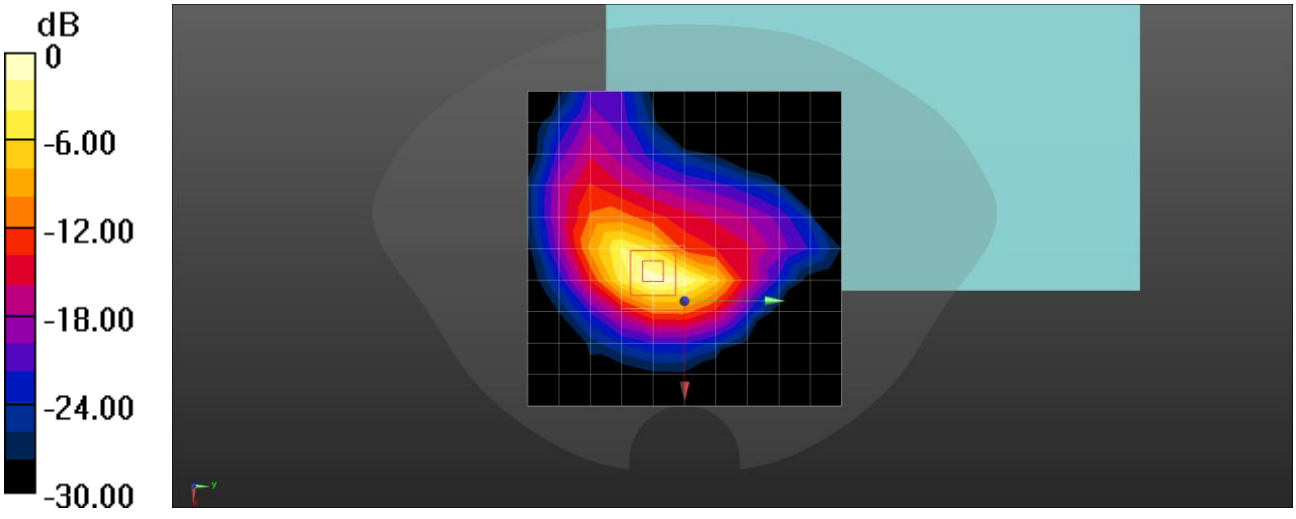
**Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.172 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 2.12 W/kg

**SAR(1 g) = 0.956 W/kg; SAR(10 g) = 0.437 W/kg**

Maximum value of SAR (measured) = 1.58 W/kg




0 dB = 1.58 W/kg = 1.99 dBW/kg

**Date: 30/01/2024**

**Test Laboratory: DEKRA Lab**

WCDMA II_RMC 12.2K_Left Side_CH9538_1907.6MHz

**DUT: TABLET_MT578**

Communication System: UID 0, WCDMA (0); Communication System Band: WCDMA II; Duty Cycle: 1:1.0;

Frequency: 1907.6 MHz; Medium parameters used: f = 1908 MHz; σ = 1.41 S/m; εr = 39.056; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.39, 8.14, 8.04) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x9x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.78 W/kg

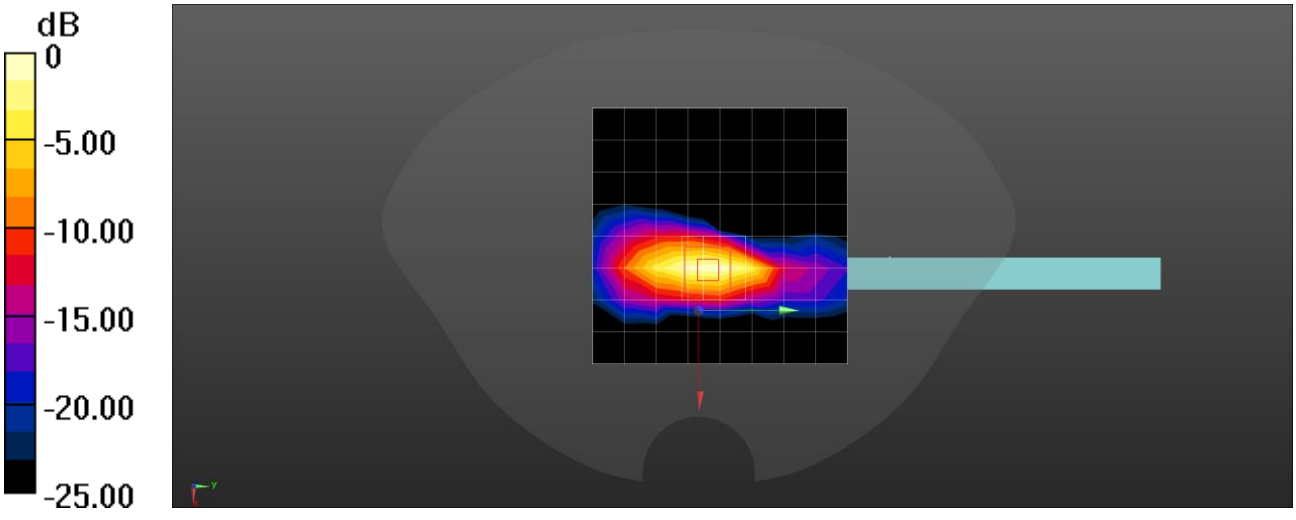
**Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.84 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 2.59 W/kg

**SAR(1 g) = 0.988 W/kg; SAR(10 g) = 0.464 W/kg**

Maximum value of SAR (measured) = 1.91 W/kg




0 dB = 1.91 W/kg = 2.81 dBW/kg

**Date: 25/01/2024**

**Test Laboratory: DEKRA Lab**

WCDMA IV_RMC 12.2K_Back_CH1413_1732.6MHz

**DUT: TABLET_MT578**

Communication System: UID 0, WCDMA (0); Communication System Band: WCDMA IV; Duty Cycle: 1:1.0;

Frequency: 1732.6 MHz; Medium parameters used: f = 1733 MHz; σ = 1.341 S/m; εr = 39.13; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.46, 8.26, 8.16) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.15 W/kg

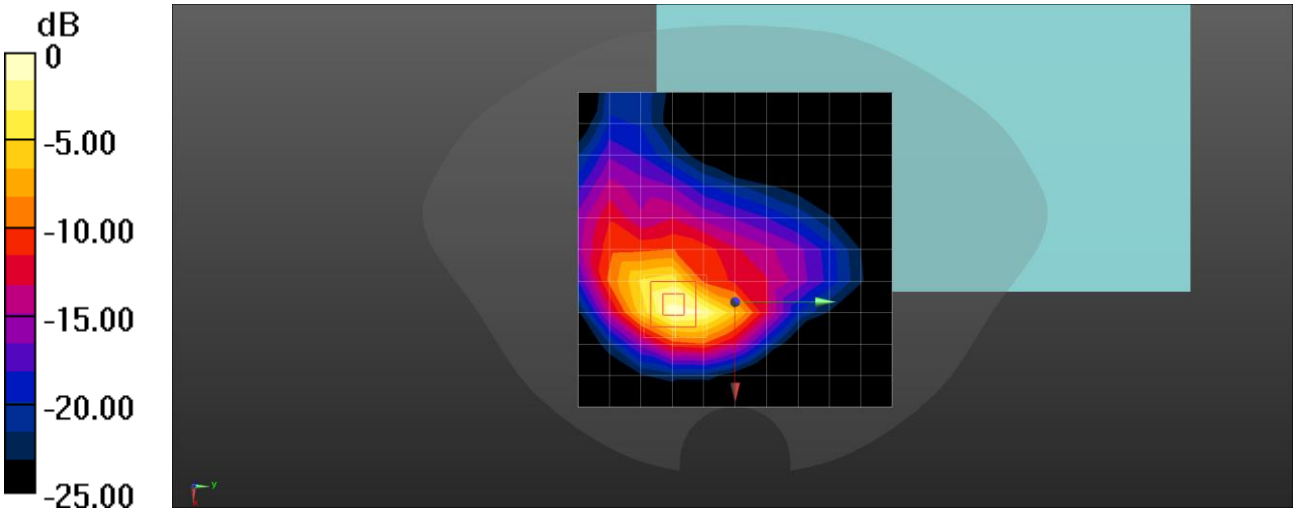
**Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.419 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.75 W/kg

**SAR(1 g) = 0.807 W/kg; SAR(10 g) = 0.378 W/kg**

Maximum value of SAR (measured) = 1.39 W/kg




0 dB = 1.39 W/kg = 1.43 dBW/kg

**Date: 20/01/2024**

**Test Laboratory: DEKRA Lab**

WCDMA V_RMC-12.2K_Back_CH4183_836.6MHz

**DUT: TABLET_MT578**

Communication System: UID 0, WCDMA (0); Communication System Band: WCDMA V; Duty Cycle: 1:1.0;

Frequency: 836.6 MHz; Medium parameters used: f = 837 MHz; σ = 0.903 S/m; εr = 41.139; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.3, 8.98, 8.83) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.72 W/kg

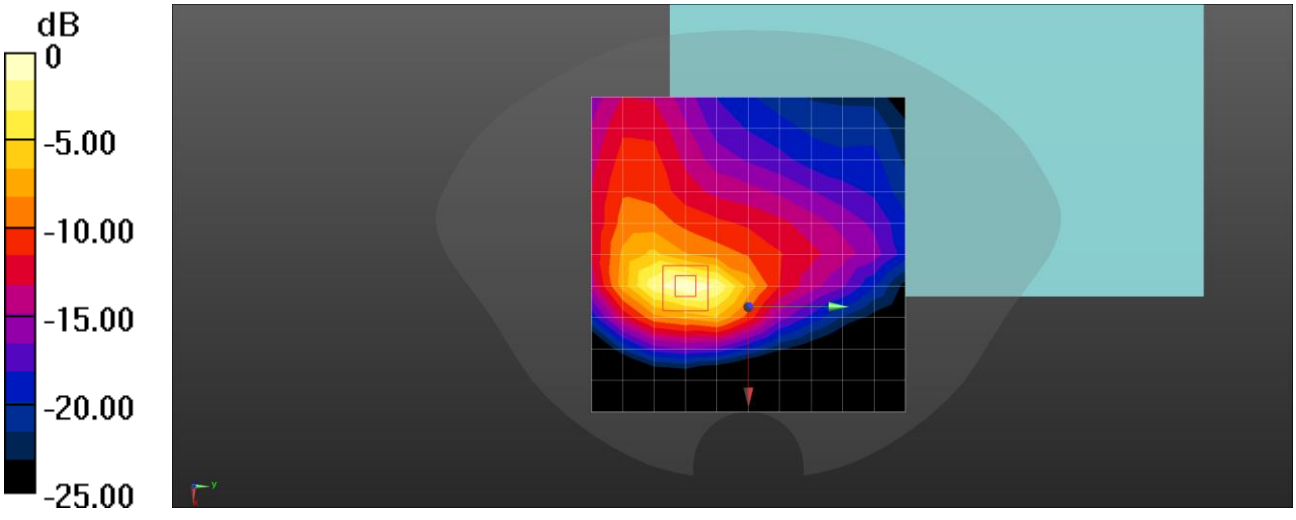
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.86 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.20 W/kg

**SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.464 W/kg**

Maximum value of SAR (measured) = 1.70 W/kg




0 dB = 1.70 W/kg = 2.30 dBW/kg

**Date: 30/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band25_BW20_QPSK_1RB0Offset_Back_CH26365_1882.5MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band25; Duty Cycle: 1:1.0; Frequency: 1882.5 MHz; Medium parameters used: f = 1882.5 MHz; σ = 1.384 S/m; εr = 39.188; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.39, 8.14, 8.04) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.27 W/kg

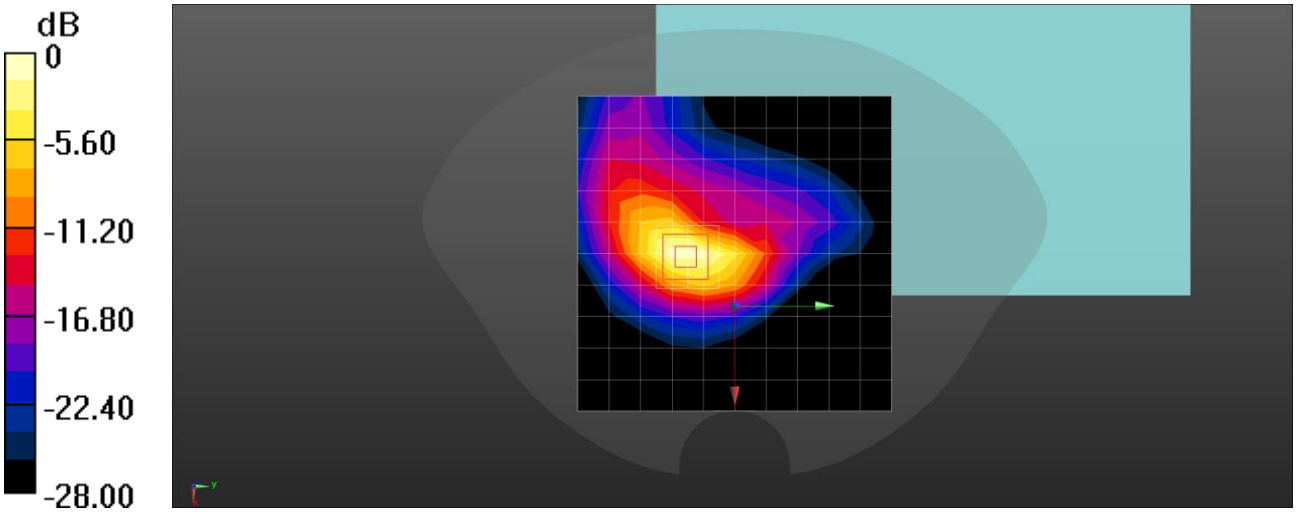
**Zoom Scan (7x7x5)/Cube 0: Measurement grid:** dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.38 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.88 W/kg

**SAR(1 g) = 0.887 W/kg; SAR(10 g) = 0.411 W/kg**

Maximum value of SAR (measured) = 1.49 W/kg




0 dB = 1.49 W/kg = 1.73 dBW/kg

**Date: 30/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band25_BW20_QPSK_1RB0Offset_Left Side_CH26365_1882.5MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band25; Duty Cycle: 1:1.0; Frequency: 1882.5 MHz; Medium parameters used: f = 1882.5 MHz; σ = 1.384 S/m; εr = 39.188; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.39, 8.14, 8.04) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.83 W/kg

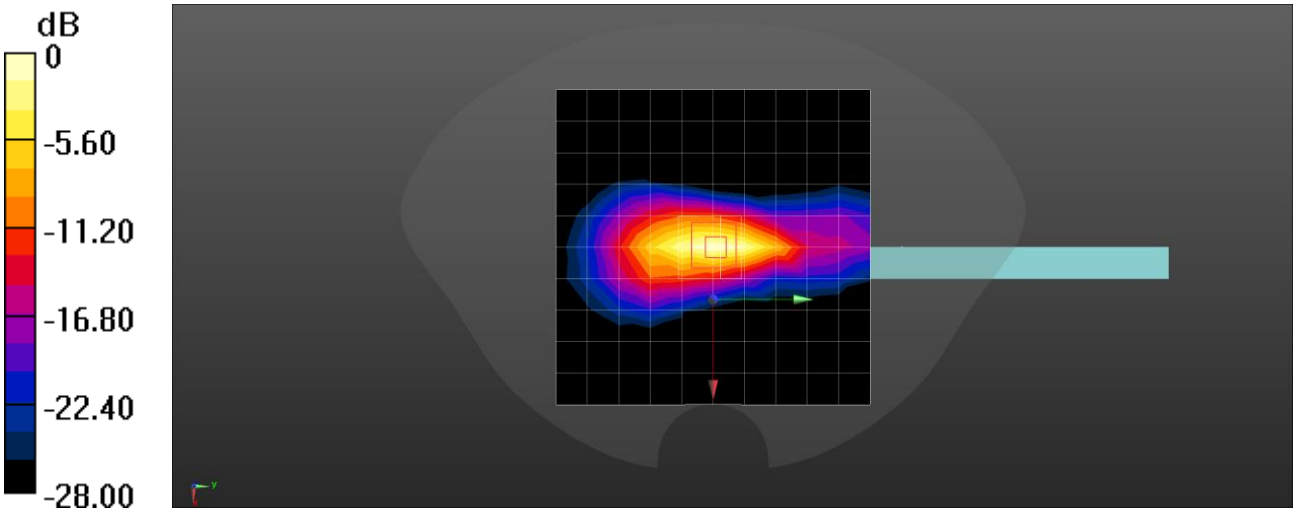
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.58 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 2.36 W/kg

**SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.441 W/kg**

Maximum value of SAR (measured) = 1.83 W/kg




0 dB = 1.83 W/kg = 2.62 dBW/kg

**Date: 25/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band4_BW20_QPSK_1RB0Offset_Back_CH20300_1745MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band4; Duty Cycle: 1:1.0; Frequency: 1745 MHz; Medium parameters used: f = 1745 MHz; σ = 1.355 S/m; εr = 39.075; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(8.46, 8.26, 8.16) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.52 W/kg

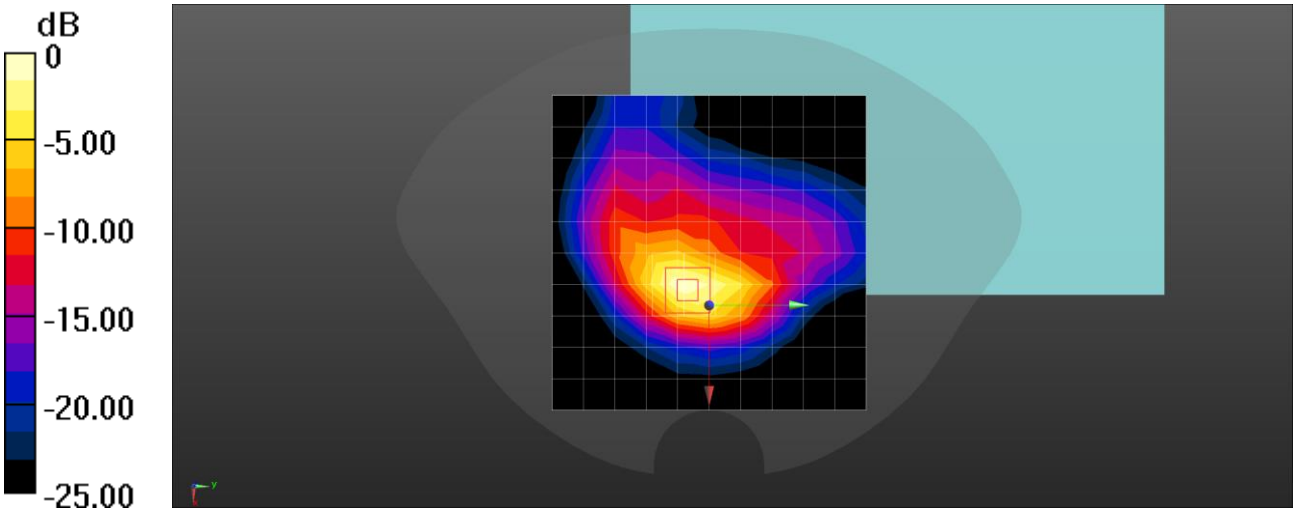
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.97 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 2.06 W/kg

**SAR(1 g) = 0.973 W/kg; SAR(10 g) = 0.462 W/kg**

Maximum value of SAR (measured) = 1.60 W/kg




0 dB = 1.60 W/kg = 2.04 dBW/kg

**Date: 20/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band26_BW15_QPSK_1RB0Offset_Back_CH26765_821.5MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band26; Duty Cycle: 1:1.0; Frequency: 821.5 MHz; Medium parameters used: f = 821.5 MHz; σ = 0.891 S/m; εr = 41.333; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.3, 8.98, 8.83) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.918 W/kg

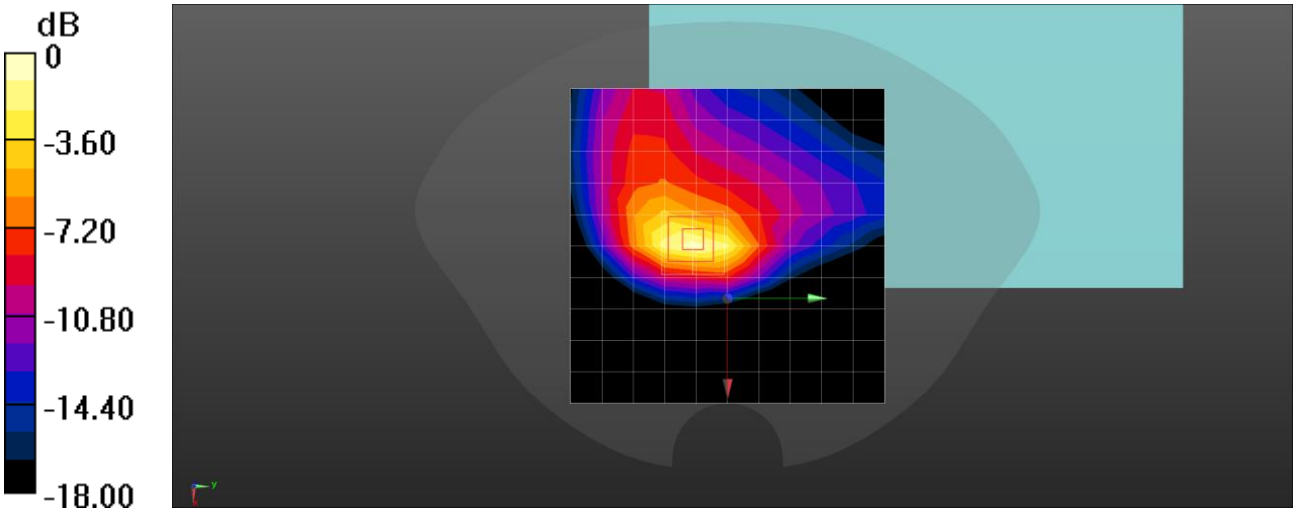
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.51 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.783 W/kg; SAR(10 g) = 0.388 W/kg**

Maximum value of SAR (measured) = 1.05 W/kg




0 dB = 1.05 W/kg = 0.21 dBW/kg

**Date: 15/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band12_BW10_QPSK_1RB0Offset_Back_CH23060_704MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band12; Duty Cycle: 1:1.0; Frequency: 704 MHz; Medium parameters used: f = 704 MHz; σ = 0.852 S/m; εr = 42.309; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.48, 9.03, 9.03) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.21 W/kg

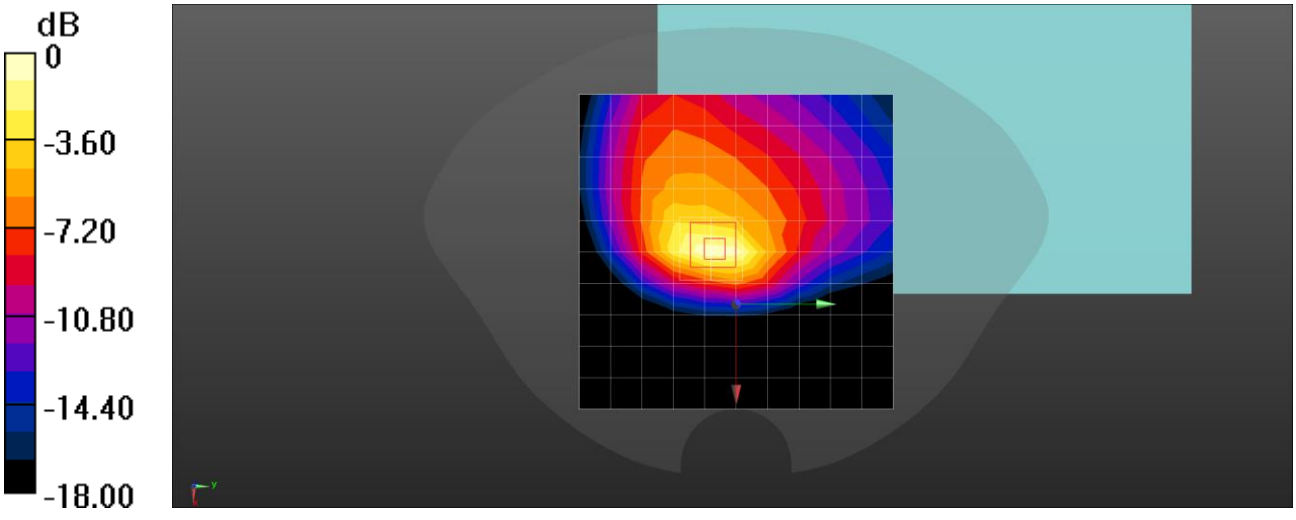
**Zoom Scan (7x7x5)/Cube 0: Measurement grid:** dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.75 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.61 W/kg

**SAR(1 g) = 0.773 W/kg; SAR(10 g) = 0.419 W/kg**

Maximum value of SAR (measured) = 1.30 W/kg




0 dB = 1.30 W/kg = 1.14 dBW/kg

**Date: 15/01/2024**

**Test Laboratory: DEKRA Lab**

LTE Band13_BW10_QPSK_1RB0Offset_Back_CH23230_782MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE FDD (0); Communication System Band: Band13; Duty Cycle: 1:1.0; Frequency: 782 MHz; Medium parameters used: f = 782 MHz; σ = 0.923 S/m; εr = 41.271; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(9.48, 9.03, 9.03) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid:** dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.990 W/kg

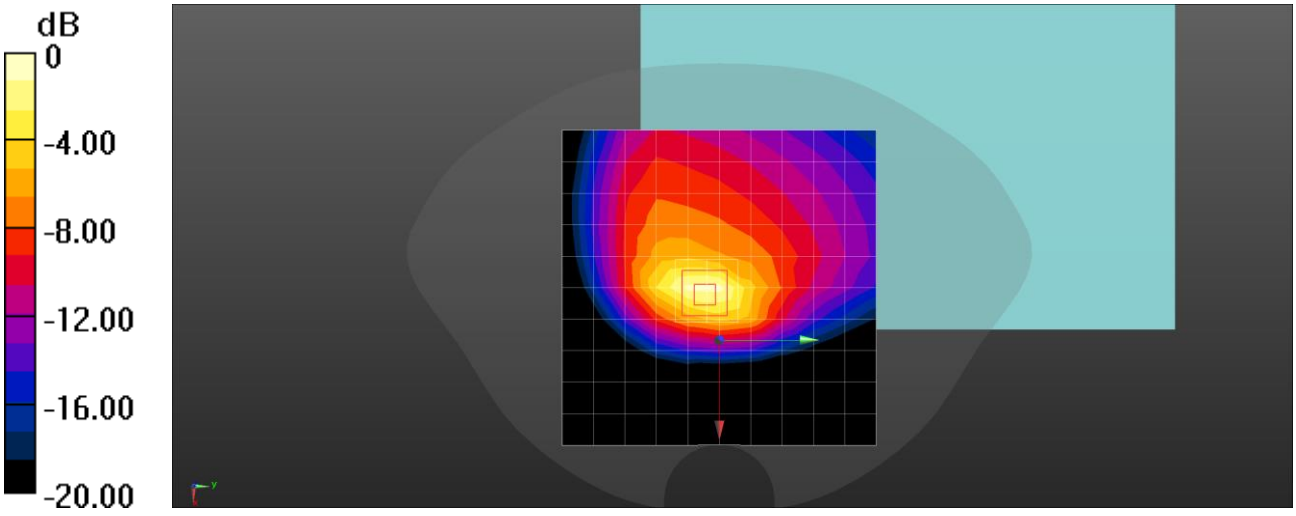
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.42 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.56 W/kg

**SAR(1 g) = 0.720 W/kg; SAR(10 g) = 0.366 W/kg**

Maximum value of SAR (measured) = 1.19 W/kg




0 dB = 1.19 W/kg = 0.76 dBW/kg

**Date: 05/02/2024**

**Test Laboratory: DEKRA Lab**

LTE Band41_BW20_QPSK_1RB0Offset_Back_CH40740_2605MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE TDD (0); Communication System Band: Band 41; Duty Cycle: 1:1.59; Frequency: 2605 MHz; Medium parameters used: f = 2605 MHz; σ = 2.04 S/m; εr = 39.921; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.5, 7.28, 7.2) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.693 W/kg

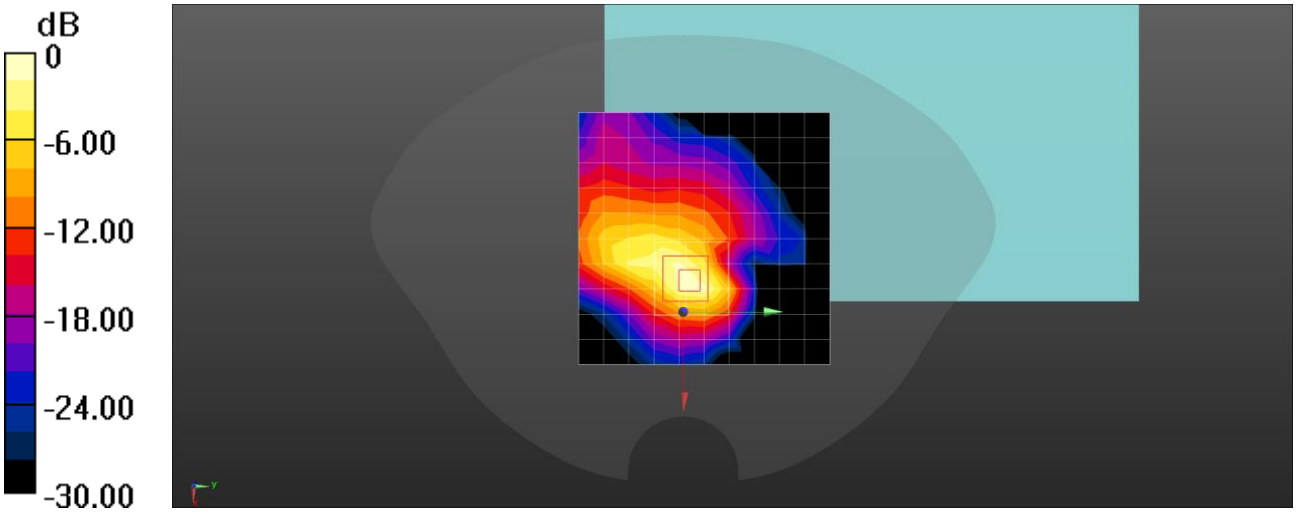
**Zoom Scan (8x8x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.12 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.27 W/kg

**SAR(1 g) = 0.552 W/kg; SAR(10 g) = 0.231 W/kg**

Maximum value of SAR (measured) = 0.932 W/kg




0 dB = 0.932 W/kg = -0.31 dBW/kg

**Date: 05/02/2024**

**Test Laboratory: DEKRA Lab**

LTE Band41_BW20_QPSK_1RB0Offset_Left Side_CH40340_2565MHz

**DUT: TABLET_MT578**

Communication System: UID 0, LTE TDD (0); Communication System Band: Band 41; Duty Cycle: 1:1.59; Frequency: 2565 MHz; Medium parameters used: f = 2565 MHz; σ = 1.991 S/m; εr = 38.084; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.5, 7.28, 7.2); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (7x11x1): Measurement grid**: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 1.28 W/kg

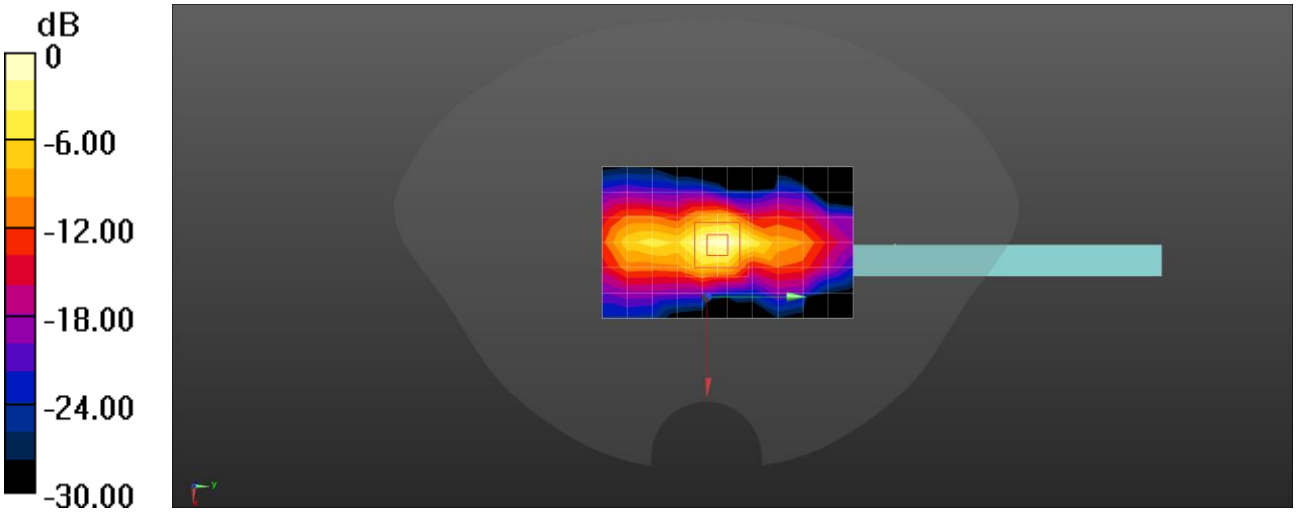
**Zoom Scan (7x7x5)/Cube 0: Measurement grid:** dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.74 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.81 W/kg

**SAR(1 g) = 0.769 W/kg; SAR(10 g) = 0.306 W/kg**

Maximum value of SAR (measured) = 1.41 W/kg




0 dB = 1.41 W/kg = 1.49 dBW/kg

**Date: 20/2/2024**

**Test Laboratory: DEKRA Lab**

WLAN2.4GHz_802.11b 1Mbps_Back_CH11_2462MHz_Ant 1

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 2.4G (0); Communication System Band: 802.11b(20M); Duty Cycle: 1:1.008;

Frequency: 2462 MHz; Medium parameters used: f = 2462 MHz; σ = 1.874 S/m; εr = 38.504; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.55, 7.31, 7.22) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.992 W/kg

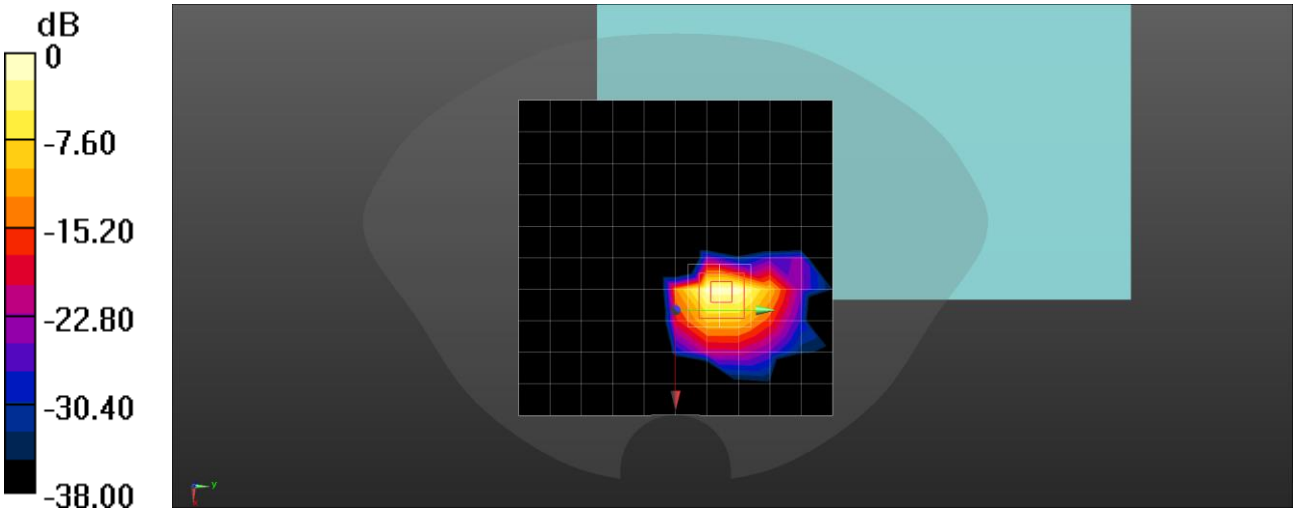
**Zoom Scan (7x7x5)/Cube 0: Measurement grid:** dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.2950 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.66 W/kg

**SAR(1 g) = 0.709 W/kg; SAR(10 g) = 0.279 W/kg**

Maximum value of SAR (measured) = 1.23 W/kg




0 dB = 1.23 W/kg = 0.90 dBW/kg

**Date: 20/2/2024**

**Test Laboratory: DEKRA Lab**

WLAN2.4GHz_802.11b 1Mbps_Left side_CH11_2462MHz_Ant 1

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 2.4G (0); Communication System Band: 802.11b(20M); Duty Cycle: 1:1.008;

Frequency: 2462 MHz; Medium parameters used: f = 2462 MHz; σ = 1.874 S/m; εr = 38.504; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.55, 7.31, 7.22) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.78 W/kg

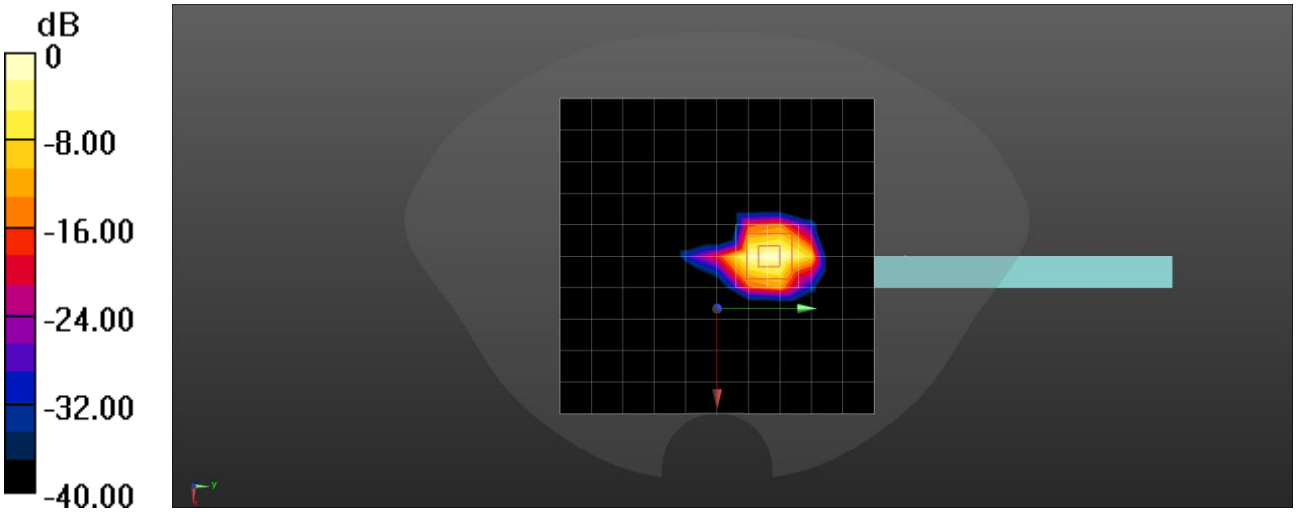
**Zoom Scan (7x7x5)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.932 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 2.48 W/kg

**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.412 W/kg**

Maximum value of SAR (measured) = 1.93 W/kg




0 dB = 1.93 W/kg = 2.86 dBW/kg

**Date: 20/02/2024**

**Test Laboratory: DEKRA Lab**

Bluetooth_DH5_1Mbps_Back_CH39_2441MHz

**DUT: TABLET_MT578**

Communication System: UID 0, Bluetooth (0); Communication System Band: BLE; Duty Cycle: 1:1.29; Frequency: 2480 MHz; Medium parameters used: f = 2480 MHz; σ = 1.853 S/m; εr = 38.576; ρ = 1000 kg/m3 ; Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(7.55, 7.31, 7.22) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (11x11x1): Measurement grid**: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.172 W/kg

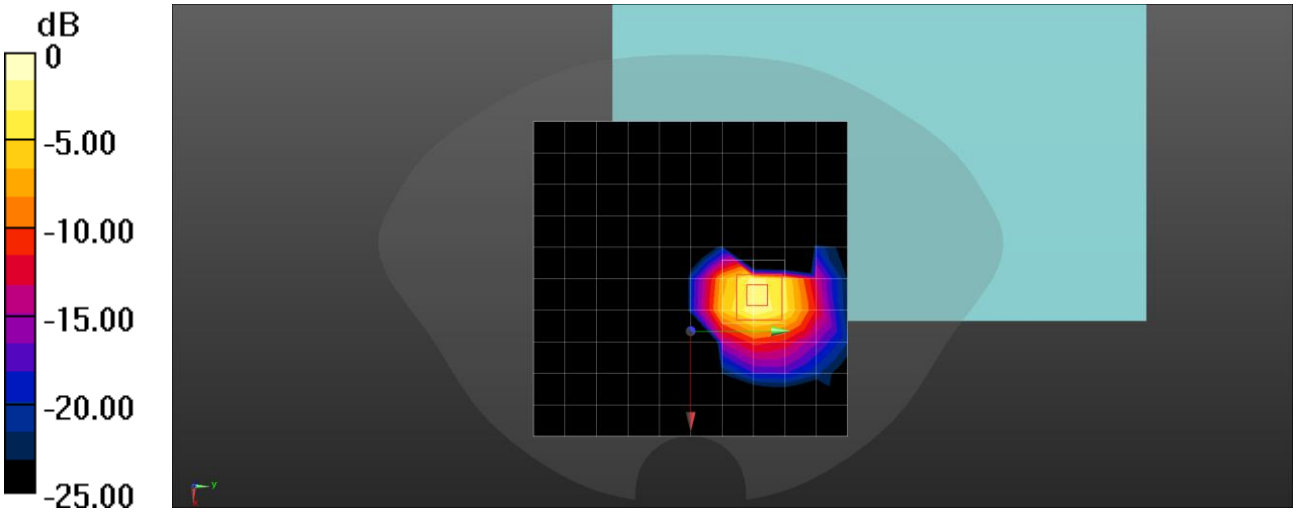
**Zoom Scan (7x7x7)/Cube 0: Measurement grid**: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8440 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.334 W/kg

**SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.073 W/kg**

Maximum value of SAR (measured) = 0.264 W/kg




0 dB = 0.264 W/kg = -5.78 dBW/kg

**Date: 25/2/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Left Side_CH64_5320MHz_Ant 1

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5320 MHz; Medium parameters used: f = 5320 MHz; σ = 4.671 S/m; εr = 36.279; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.57, 5.5, 5.46) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x13x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.29 W/kg

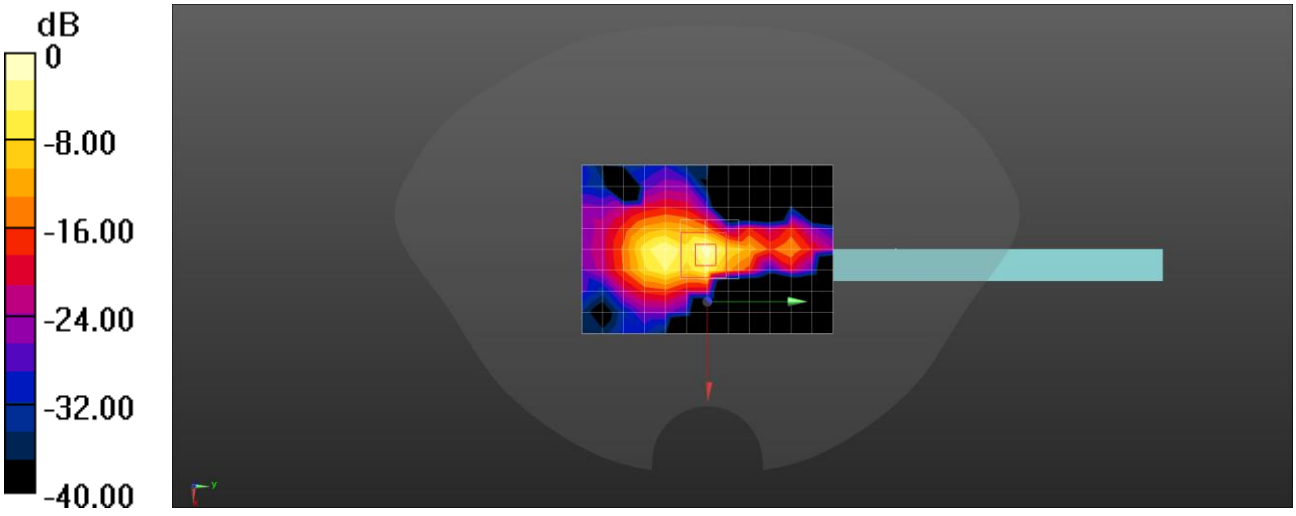
**Zoom Scan (8x8x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 15.15 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 4.67 W/kg

**SAR(1 g) = 0.964 W/kg; SAR(10 g) = 0.209 W/kg**

Maximum value of SAR (measured) = 2.76 W/kg




0 dB = 2.76 W/kg = 4.41 dBW/kg

**Date/Time: 25/02/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Right Side_CH52_5260MHz_Ant 2

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5260 MHz; Medium parameters used: f = 5260 MHz; σ = 4.617 S/m; εr = 36.368; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.57, 5.5, 5.46); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x13x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.13 W/kg

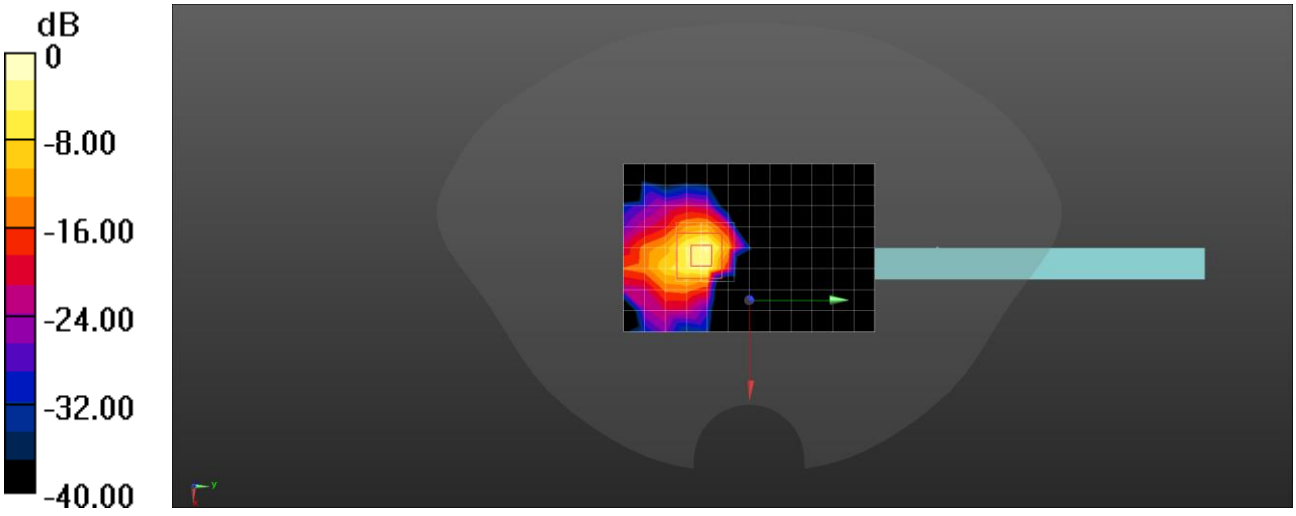
**Zoom Scan (8x8x7)/Cube 0: Measurement grid:** dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 0.4550 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.06 W/kg

**SAR(1 g) = 0.639 W/kg; SAR(10 g) = 0.144 W/kg**

Maximum value of SAR (measured) = 1.81 W/kg




0 dB = 1.81 W/kg = 2.58 dBW/kg

**Date: 03/03/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Left Side_CH116_5580MHz_Ant 1

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5580 MHz; Medium parameters used: f = 5580 MHz; σ = 4.971 S/m; εr = 35.869; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(4.84, 4.73, 4.74); Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x13x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.02 W/kg

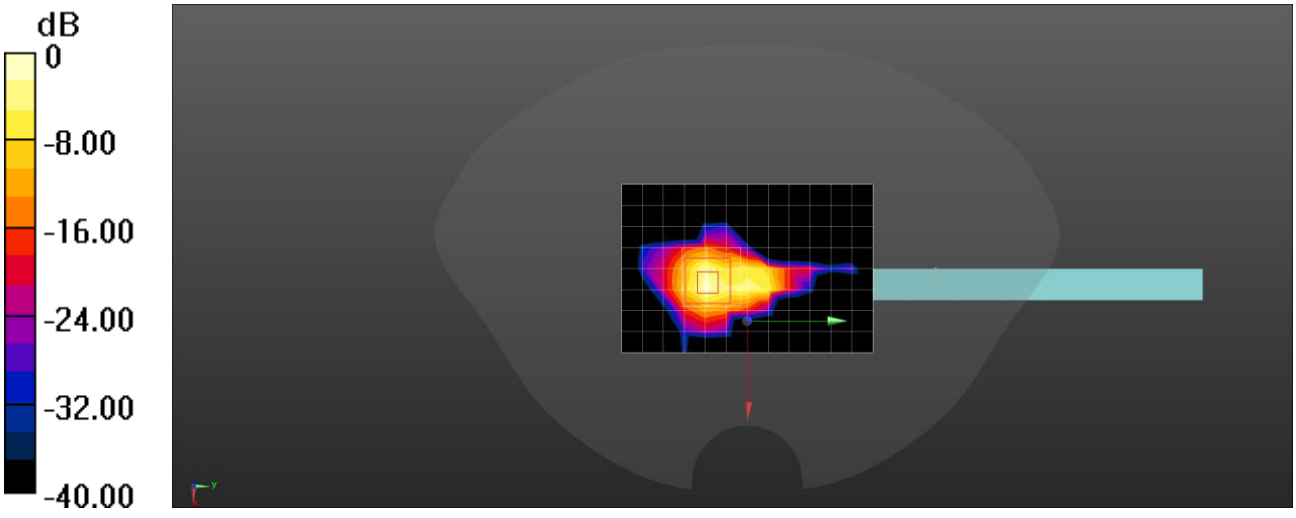
**Zoom Scan (8x8x7)/Cube 0: Measurement grid:** dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 7.751 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 4.61 W/kg

**SAR(1 g) = 0.973 W/kg; SAR(10 g) = 0.226 W/kg**

Maximum value of SAR (measured) = 2.76 W/kg




0 dB = 2.76 W/kg = 4.41 dBW/kg

**Date: 03/03/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Right Side_CH116_5580MHz_Ant 2

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5580 MHz; Medium parameters used: f = 5580 MHz; σ = 4.971 S/m; εr = 35.869; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(4.84, 4.73, 4.74) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x13x1): Measurement grid**: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.42 W/kg

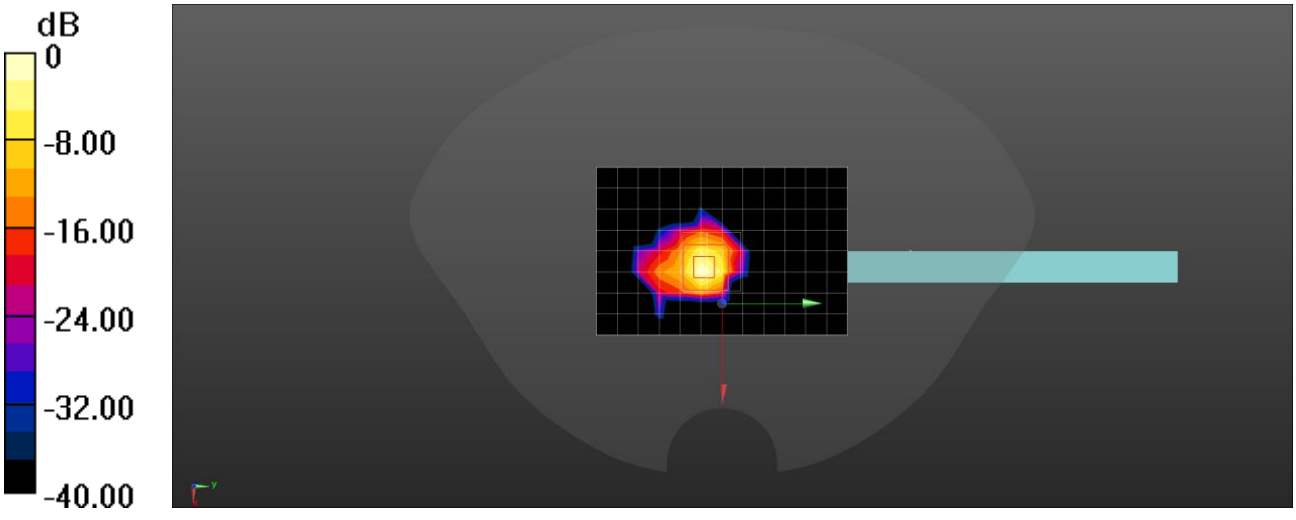
**Zoom Scan (8x8x7)/Cube 0: Measurement grid:** dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 5.062 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 4.82 W/kg

**SAR(1 g) = 0.971 W/kg; SAR(10 g) = 0.220 W/kg**

Maximum value of SAR (measured) = 2.51 W/kg




0 dB = 2.51 W/kg = 4.00 dBW/kg

**Date: 15/03/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Left Side_CH165_5825MHz_Ant 1

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5825 MHz; Medium parameters used: f = 5825 MHz; σ = 5.25 S/m; εr = 35.438; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.1, 4.88, 4.91) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (7x13x1): Measurement grid**: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.00 W/kg

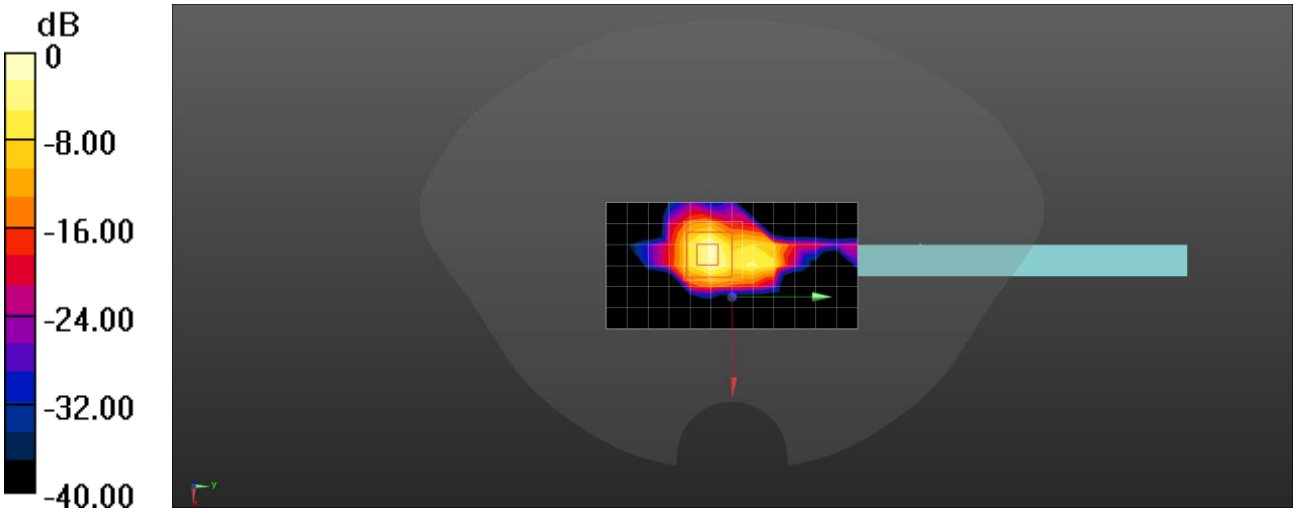
**Zoom Scan (8x8x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 4.930 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 5.16 W/kg

**SAR(1 g) = 0.991 W/kg; SAR(10 g) = 0.224 W/kg**

Maximum value of SAR (measured) = 2.94 W/kg




0 dB = 2.94 W/kg = 4.68 dBW/kg

**Date: 15/03/2024**

**Test Laboratory: DEKRA Lab**

WLAN5GHz_802.11a 6Mbps_Right Side_CH157_5785MHz_Ant 2

**DUT: TABLET_MT578**

Communication System: UID 0, WIFI 5G (0); Communication System Band: 802.11a(20M); Duty Cycle: 1:1.019;

Frequency: 5785 MHz; Medium parameters used: f = 5785 MHz; σ = 5.204 S/m; εr = 35.531; ρ = 1000 kg/m3 ;

Phantom section: Flat Section

Ambient temperature (℃): 22.5, Liquid temperature (℃): 22.0

DASY5 Configuration:

- Probe: EX3DV4 - SN7761; ConvF(5.1, 4.88, 4.91) ; Calibrated: 13/9/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 20/3/2023
- Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP-1562
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Area Scan (9x13x1): Measurement grid:** dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.23 W/kg

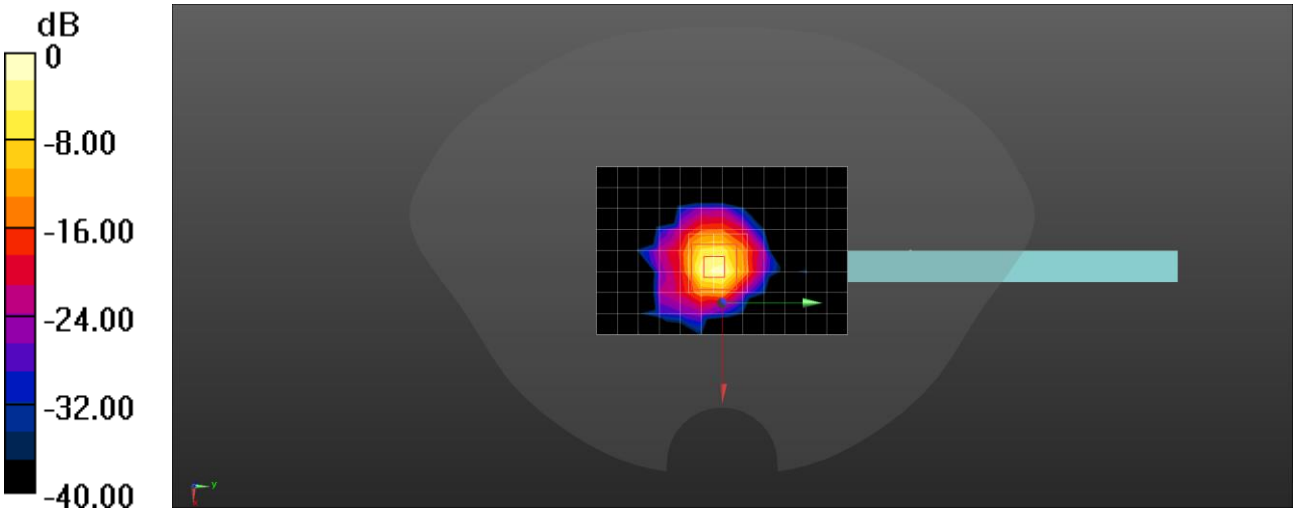
**Zoom Scan (8x8x7)/Cube 0: Measurement grid**: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 7.755 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 5.09 W/kg

**SAR(1 g) = 0.974 W/kg; SAR(10 g) = 0.215 W/kg**

Maximum value of SAR (measured) = 2.87 W/kg




0 dB = 2.87 W/kg = 4.58 dBW/kg

Note: We evaluated all channels, antennas, and RB, providing data for only the worst channel mode.

# Appendix C. Probe Calibration Data

**Calibration Laboratory of**
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS)
**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

| Client | Dekra Suzhou | Certificate No. | EX-7761_Sep23 |
|---|---|---|---|

## CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | EX3DV4 - SN:7761 |
| Calibration procedure(s) | QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6, QA CAL-25.v8<br>Calibration procedure for dosimetric E-field probes |
| Calibration date | September 13, 2023 |

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 (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter NRP2 | SN: 104778 | 30-Mar-23 (No. 217-03804/03805) | Mar-24 |
| Power sensor NRP-Z91 | SN: 103244 | 30-Mar-23 (No. 217-03804) | Mar-24 |
| OCP DAK-3.5 (weighted) | SN: 1249 | 20-Oct-22 (OCP-DAK3.5-1249_Oct22) | Oct-23 |
| OCP DAK-12 | SN: 1016 | 20-Oct-22 (OCP-DAK12-1016_Oct22) | Oct-23 |
| Reference 20 dB Attenuator | SN: CC2552 (20x) | 30-Mar-23 (No. 217-03809) | Mar-24 |
| DAE4 | SN: 660 | 16-Mar-23 (No. DAE4-660_Mar23) | Mar-24 |
| Reference Probe ES3DV2 | SN: 3013 | 06-Jan-23 (No. ES3-3013_Jan23) | Jan-24 |

| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| Power meter E4419B | SN: GB41293874 | 06-Apr-16 (in house check Jun-22) | In house check: Jun-24 |
| Power sensor E4412A | SN: MY41498087 | 06-Apr-16 (in house check Jun-22) | In house check: Jun-24 |
| Power sensor E4412A | SN: 000110210 | 06-Apr-16 (in house check Jun-22) | In house check: Jun-24 |
| RF generator HP 8648C | SN: US3642U01700 | 04-Aug-99 (in house check Jun-22) | In house check: Jun-24 |
| Network Analyzer E8358A | SN: US41080477 | 31-Mar-14 (in house check Oct-22) | In house check: Oct-24 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by | Aidonia Georgiadou | Laboratory Technician | |
| Approved by | Sven Kühn | Technical Manager | |

Issued: September 13, 2023

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

**Calibration Laboratory of**
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS)
**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

## Glossary

| | |
|---|---|
| TSL | tissue simulating liquid |
| NORMx,y,z | sensitivity in free space |
| ConvF | sensitivity in TSL / NORMx,y,z |
| DCP | diode compression point |
| CF | crest factor (1/duty_cycle) of the RF signal |
| A, B, C, D | modulation dependent linearization parameters |
| Polarization $\varphi$ | $\varphi$ rotation around probe axis |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis |
| Connector Angle | information used in DASY system to align probe sensor X to the robot coordinate system |

## 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-Worn 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"

## Methods Applied and Interpretation of Parameters:

- *NORMx,y,z*: Assessed for E-field polarization $\vartheta = 0$ ($f \le 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the $E^2$-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- *DCPx,y,z*: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP does not depend on frequency nor media.
- *PAR*: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \le 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ±50 MHz to ±100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

## Parameters of Probe: EX3DV4 - SN:7761

### Basic Calibration Parameters

| | Sensor X | Sensor Y | Sensor Z | Unc ($k = 2$) |
|---|---|---|---|---|
| Norm ($\mu$V/(V/m)$^2$) [A] | 0.62 | 0.61 | 0.68 | ±10.1% |
| DCP (mV) [B] | 107.9 | 109.9 | 108.1 | ±4.7% |

### Calibration Results for Modulation Response

| UID | Communication System Name | | A dB | B dB$\sqrt{\mu V}$ | C | D dB | VR mV | Max dev. | Max Unc[E] $k = 2$ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | CW | X | 0.00 | 0.00 | 1.00 | 0.00 | 123.8 | ±1.6% | ±4.7% |
| | | Y | 0.00 | 0.00 | 1.00 | | 131.7 | | |
| | | Z | 0.00 | 0.00 | 1.00 | | 128.2 | | |
| 10352 | Pulse Waveform (200Hz, 10%) | X | 1.49 | 60.35 | 6.07 | 10.00 | 60.0 | ±3.4% | ±9.6% |
| | | Y | 1.50 | 60.00 | 5.95 | | 60.0 | | |
| | | Z | 1.45 | 60.35 | 6.39 | | 60.0 | | |
| 10353 | Pulse Waveform (200Hz, 20%) | X | 20.00 | 74.00 | 9.00 | 6.99 | 80.0 | ±2.7% | ±9.6% |
| | | Y | 1.02 | 60.00 | 5.06 | | 80.0 | | |
| | | Z | 0.81 | 60.00 | 5.05 | | 80.0 | | |
| 10354 | Pulse Waveform (200Hz, 40%) | X | 0.20 | 143.63 | 0.15 | 3.98 | 95.0 | ±3.1% | ±9.6% |
| | | Y | 0.68 | 60.00 | 4.06 | | 95.0 | | |
| | | Z | 0.09 | 132.31 | 0.06 | | 95.0 | | |
| 10355 | Pulse Waveform (200Hz, 60%) | X | 6.92 | 159.98 | 12.10 | 2.22 | 120.0 | ±1.9% | ±9.6% |
| | | Y | 15.04 | 148.39 | 0.01 | | 120.0 | | |
| | | Z | 5.85 | 159.99 | 13.73 | | 120.0 | | |
| 10387 | QPSK Waveform, 1 MHz | X | 0.50 | 62.19 | 10.27 | 1.00 | 150.0 | ±5.0% | ±9.6% |
| | | Y | 0.42 | 60.73 | 9.99 | | 150.0 | | |
| | | Z | 0.52 | 61.86 | 10.36 | | 150.0 | | |
| 10388 | QPSK Waveform, 10 MHz | X | 1.23 | 64.29 | 12.69 | 0.00 | 150.0 | ±1.2% | ±9.6% |
| | | Y | 1.26 | 65.10 | 13.06 | | 150.0 | | |
| | | Z | 1.24 | 63.98 | 12.77 | | 150.0 | | |
| 10396 | 64-QAM Waveform, 100 kHz | X | 1.83 | 66.04 | 16.68 | 3.01 | 150.0 | ±0.9% | ±9.6% |
| | | Y | 1.79 | 65.41 | 16.18 | | 150.0 | | |
| | | Z | 1.67 | 64.09 | 15.79 | | 150.0 | | |
| 10399 | 64-QAM Waveform, 40 MHz | X | 2.73 | 65.63 | 14.50 | 0.00 | 150.0 | ±3.0% | ±9.6% |
| | | Y | 2.78 | 66.19 | 14.75 | | 150.0 | | |
| | | Z | 2.73 | 65.32 | 14.44 | | 150.0 | | |
| 10414 | WLAN CCDF, 64-QAM, 40 MHz | X | 3.76 | 65.43 | 14.84 | 0.00 | 150.0 | ±5.1% | ±9.6% |
| | | Y | 3.77 | 65.93 | 15.00 | | 150.0 | | |
| | | Z | 3.96 | 65.90 | 15.17 | | 150.0 | | |

Note: For details on UID parameters see Appendix

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the $E^2$-field uncertainty inside TSL (see Pages 5 and 6).
[B] Linearization parameter uncertainty for maximum specified field strength.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## Parameters of Probe: EX3DV4 - SN:7761

### Sensor Model Parameters

| | C1 fF | C2 fF | $\alpha$ $V^{-1}$ | T1 $ms\,V^{-2}$ | T2 $ms\,V^{-1}$ | T3 ms | T4 $V^{-2}$ | T5 $V^{-1}$ | T6 |
|---|---|---|---|---|---|---|---|---|---|
| x | 10.9 | 78.78 | 33.07 | 3.82 | 0.00 | 4.93 | 0.65 | 0.00 | 1.01 |
| y | 9.8 | 68.53 | 31.49 | 10.46 | 0.00 | 4.90 | 0.73 | 0.00 | 1.01 |
| z | 11.9 | 86.75 | 33.70 | 3.52 | 0.00 | 4.96 | 0.00 | 0.10 | 1.01 |

### Other Probe Parameters

| | |
|---|---|
| Sensor Arrangement | Triangular |
| Connector Angle | 27.6° |
| Mechanical Surface Detection Mode | enabled |
| Optical Surface Detection Mode | disabled |
| Probe Overall Length | 337 mm |
| Probe Body Diameter | 10 mm |
| Tip Length | 9 mm |
| Tip Diameter | 2.5 mm |
| Probe Tip to Sensor X Calibration Point | 1 mm |
| Probe Tip to Sensor Y Calibration Point | 1 mm |
| Probe Tip to Sensor Z Calibration Point | 1 mm |
| Recommended Measurement Distance from Surface | 1.4 mm |

**Note:** Measurement distance from surface can be increased to 3–4 mm for an *Area Scan* job.

## Parameters of Probe: EX3DV4 - SN:7761

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz)[C] | Relative Permittivity[F] | Conductivity[F] (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha[G] | Depth[G] (mm) | Unc ($k = 2$) |
|---|---|---|---|---|---|---|---|---|
| 450 | 43.5 | 0.87 | 10.32 | 10.32 | 10.32 | 0.16 | 1.30 | ±13.3% |
| 750 | 41.9 | 0.89 | 9.48 | 9.03 | 9.03 | 0.41 | 1.27 | ±12.0% |
| 835 | 41.5 | 0.90 | 9.30 | 8.98 | 8.83 | 0.39 | 1.27 | ±12.0% |
| 900 | 41.5 | 0.97 | 9.06 | 8.36 | 8.53 | 0.38 | 1.27 | ±12.0% |
| 1750 | 40.1 | 1.37 | 8.46 | 8.26 | 8.16 | 0.28 | 1.27 | ±12.0% |
| 1900 | 40.0 | 1.40 | 8.39 | 8.14 | 8.04 | 0.30 | 1.27 | ±12.0% |
| 2100 | 39.8 | 1.49 | 8.16 | 7.89 | 7.80 | 0.31 | 1.27 | ±12.0% |
| 2300 | 39.5 | 1.67 | 8.00 | 7.77 | 7.66 | 0.32 | 1.27 | ±12.0% |
| 2450 | 39.2 | 1.80 | 7.55 | 7.31 | 7.22 | 0.31 | 1.27 | ±12.0% |
| 2600 | 39.0 | 1.96 | 7.50 | 7.28 | 7.20 | 0.30 | 1.27 | ±12.0% |
| 3300 | 38.2 | 2.71 | 7.00 | 6.80 | 6.69 | 0.36 | 1.27 | ±14.0% |
| 3500 | 37.9 | 2.91 | 6.99 | 6.77 | 6.68 | 0.35 | 1.27 | ±14.0% |
| 3700 | 37.7 | 3.12 | 6.83 | 6.62 | 6.53 | 0.36 | 1.27 | ±14.0% |
| 3900 | 37.5 | 3.32 | 6.54 | 6.36 | 6.30 | 0.37 | 1.27 | ±14.0% |
| 4100 | 37.2 | 3.53 | 6.42 | 6.22 | 6.18 | 0.37 | 1.27 | ±14.0% |
| 4200 | 37.1 | 3.63 | 6.41 | 6.21 | 6.16 | 0.38 | 1.27 | ±14.0% |
| 4400 | 36.9 | 3.84 | 6.34 | 6.13 | 6.09 | 0.39 | 1.27 | ±14.0% |
| 4600 | 36.7 | 4.04 | 6.26 | 6.05 | 6.01 | 0.40 | 1.27 | ±14.0% |
| 4800 | 36.4 | 4.25 | 6.25 | 6.04 | 6.00 | 0.38 | 1.27 | ±14.0% |
| 4950 | 36.3 | 4.40 | 6.01 | 5.76 | 5.74 | 0.41 | 1.36 | ±14.0% |
| 5250 | 35.9 | 4.71 | 5.57 | 5.50 | 5.46 | 0.37 | 1.53 | ±14.0% |
| 5600 | 35.5 | 5.07 | 4.84 | 4.73 | 4.74 | 0.36 | 1.75 | ±14.0% |
| 5750 | 35.4 | 5.22 | 5.10 | 4.88 | 4.91 | 0.35 | 1.84 | ±14.0% |

[C] Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–9 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.
[F] The probes are calibrated using tissue simulating liquids (TSL) that deviate for $\varepsilon$ and $\sigma$ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10%. If TSL with deviations from the target of less than ±5% are used, the calibration uncertainties are 11.1% for 0.7 - 3 GHz and 13.1% for 3 - 6 GHz.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.

## Parameters of Probe: EX3DV4 - SN:7761

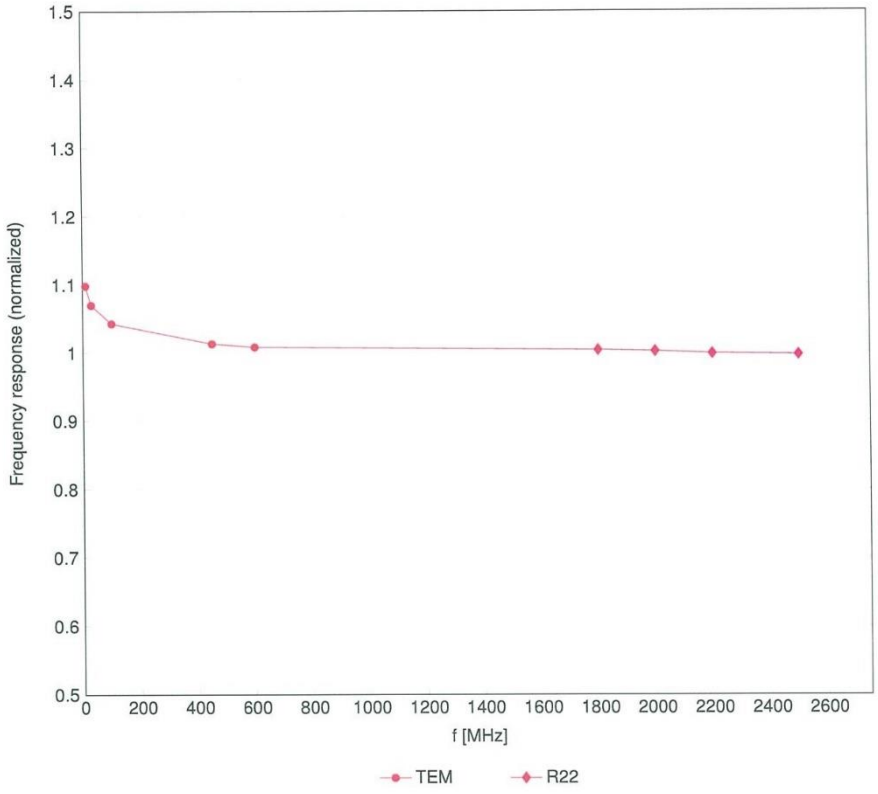
### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz)[C] | Relative Permittivity[F] | Conductivity[F] (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha[G] | Depth[G] (mm) | Unc ($k = 2$) |
|---|---|---|---|---|---|---|---|---|
| 6500 | 34.5 | 6.07 | 5.35 | 5.08 | 5.06 | 0.20 | 2.00 | ±18.6% |

[C] Frequency validity at 6.5 GHz is −600/+700 MHz, and ±700 MHz at or above 7 GHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] The probes are calibrated using tissue simulating liquids (TSL) that deviate for $\varepsilon$ and $\sigma$ by less than ±10% from the target values (typically better than ±6%) and are valid for TSL with deviations of up to ±10%.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz; below ±2% for frequencies between 3–6 GHz; and below ±4% for frequencies between 6–10 GHz at any distance larger than half the probe tip diameter from the boundary.

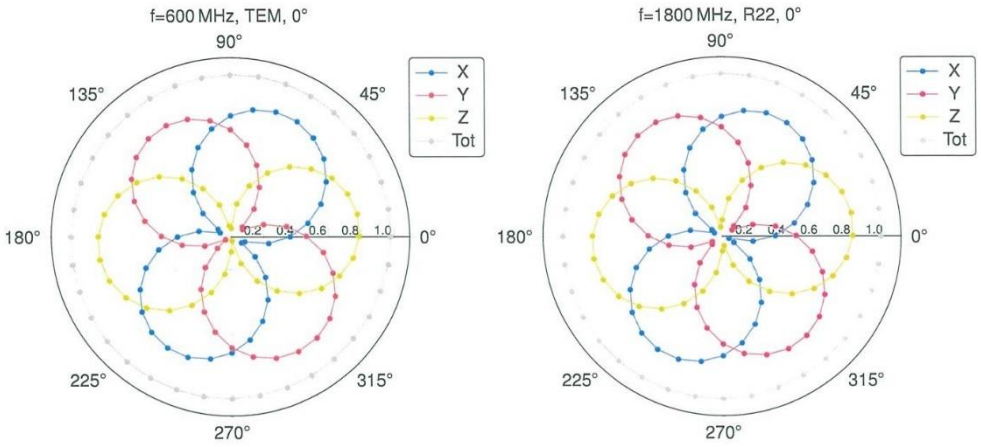
## Frequency Response of E-Field

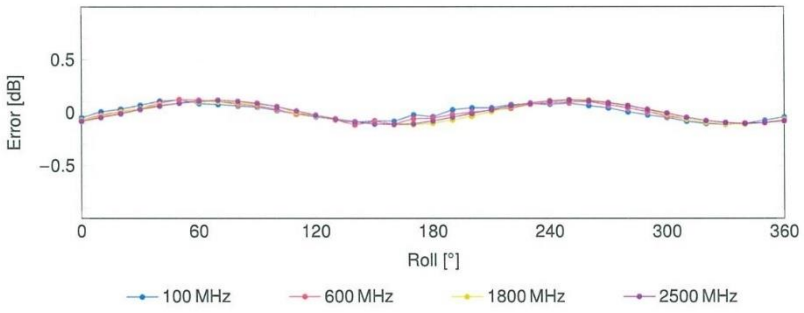
(TEM-Cell:ifi110 EXX, Waveguide:R22)




Uncertainty of Frequency Response of E-field: ±6.3% (k=2)

## Receiving Pattern ($\phi$), $\vartheta = 0°$

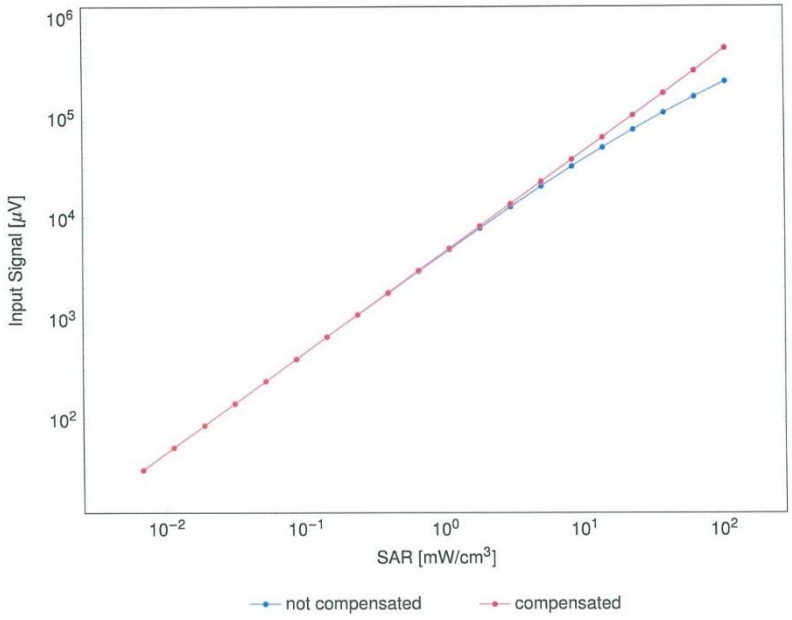


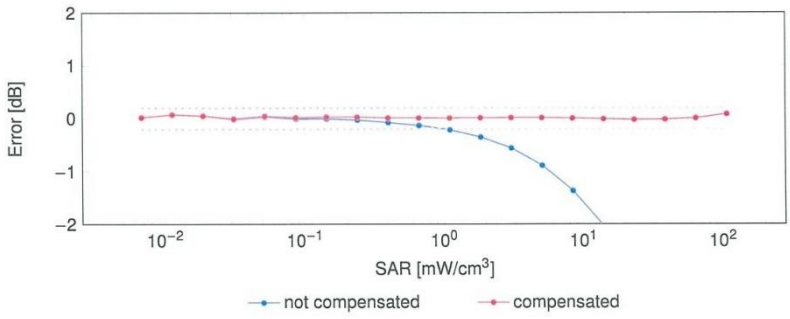




Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

## Dynamic Range f($SAR_{head}$)

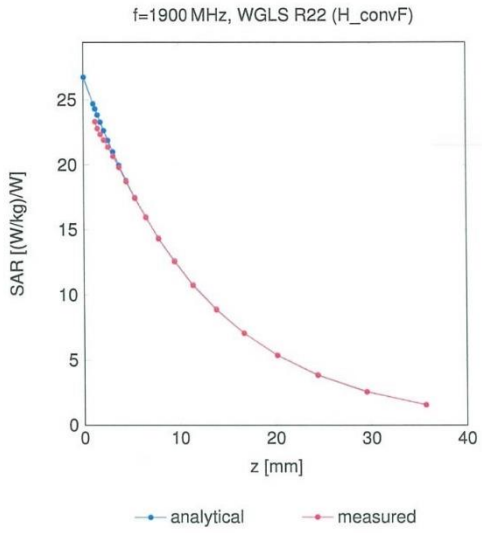
(TEM cell, $f_{eval}$ = 1900 MHz)



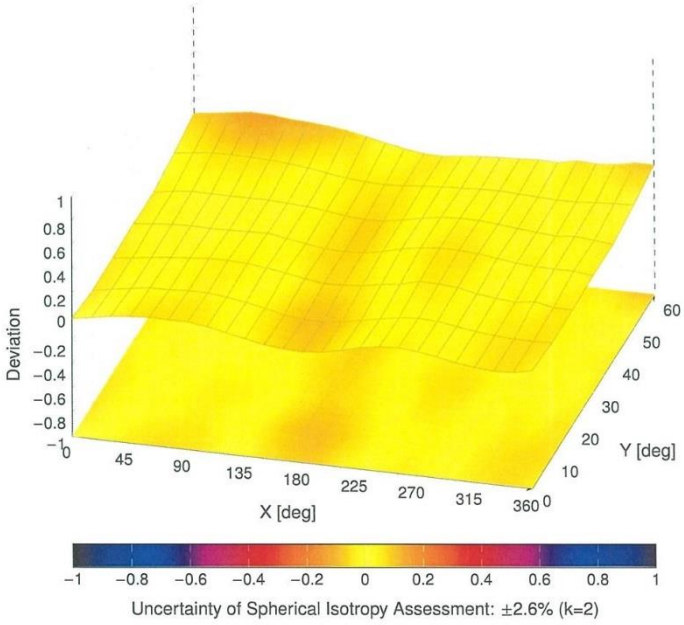

Uncertainty of Linearity Assessment: ±0.6% (k=2)

## Conversion Factor Assessment




## Deviation from Isotropy in Liquid

**Error ($\phi$,$\theta$), f = 900 MHz**




Uncertainty of Spherical Isotropy Assessment: ±2.6% (k=2)