# SAR TEST REPORT

## Test Report No.: 11143373S-C

**Applicant** : **FUJIFILM Corporation**

**Type of Equipment** : **Flat Panel Sensor**

**Model No.** : **RIC 24C** (*. With built-in wireless LAN module)

**FCC ID** : **W2Z-01000007**

**Test Standard** : **FCC 47CFR §2.1093**

**Test Result** : **Complied**

| Highest Reported SAR(1g) Value | SAR type | Operation Band [MHz] | Remarks |
|---|---|---|---|
| **0.16 W/kg** | Body | 2412~2462 | (DTS) Antenna#0, 2417MHz, 11g(6Mbps), Output power: 18.52 dBm |
| **0.18 W/kg** | Head | | (DTS) Antenna#0, 2417MHz, 11g(6Mbps), Output power: 18.52 dBm |
| **0.18 W/kg** | Body | 5180~5320, 5500~5700, 5745~5825 | (UNII) Antenna#0, 5500 MHz, 11a (6Mbps), Output power: 15.99 dBm |
| **0.19 W/kg** | Head | | (UNII) Antenna#0, 5500 MHz, 11a (6Mbps), Output power: 15.99 dBm |

*. **The highest reported SAR (1g) value across all exposure condition is "0.19 W/kg" = grant listing.**

*. **Co-location was not considered, because the SLLSR (SAR to peak location separation ratio) was smaller than 0.04.**

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)

**Date of test:** February 3~23, 2016

**Test engineer:** Hiroshi Naka
Engineer, Consumer Technology Division

**Approved by:** Toyokazu Imamura
Leader, Consumer Technology Division

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

JAB Testing RTL02610

## REVISION HISTORY

| Revision | Test report No. | Date | Page revised | Contents |
|---|---|---|---|---|
| Original | 11143373S-C | April 25, 2016 | - | - |
| -r01 | 11143373S-C | July 13, 2017 | p1,2,3 | (p3) Corrected writing error. |
| | | | | |
| | | | | |
| | | | | |

*. By issue of new revision report, the report of an old revision becomes invalid.

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## Contents of appendixes

# SECTION 1: Customer information

| | |
|---|---|
| Company Name | FUJIFILM Corporation |
| Address | 9-7-3 Akasaka Minato-ku, Tokyo 107-0052, Japan |
| Telephone Number | 81-3-6271-1654 |
| Facsimile Number | 81-3-6271-1189 |
| Contact Person | Takao Ozaki |

# SECTION 2: Equipment under test (EUT)

## 2.1 Identification of EUT

| | |
|---|---|
| Type of Equipment | Flat Panel Sensor |
| Model Number | RIC 24C |
| Serial Number | #001 |
| Condition of EUT | Engineering prototype (*. Not for sale. This sample is equivalent to mass-production items) |
| Receipt Date of Sample | February 1, 2016 (*. No modification by the Lab.) (*. The Wireless LAN Module (model: SX-PCEAN(FF-E)) that had been measured the SAR test reference power, was installed into the EUT by the Lab.) |
| Country of Mass-production | Taiwan |
| Rating | DC8V |
| Category Identified | Portable device (*. Since EUT may contact and/or very close to a human body and head during Wi-Fi operation, the partial-body SAR (1g) shall be observed.) |
| SAR Accessary | Any body-worn accessory was not applied. |
| Feature of EUT, SAR tested consideration | Model: RIC 24C (referred to as the EUT in this report) is a Flat Panel Sensor with a wireless function and used in the hospitality environment.<br>Since the EUT is the medical device, this only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface side (patient side) of the EUT. **Therefore, the SAR test was only considered to apply to the front surface (patient side) of the EUT.** |

## 2.2 Product Description (Wireless LAN module, antenna)

| | |
|---|---|
| Equipment type | Transceiver |
| Model | SX-PCEAN(FF-E) |

| **Frequency band** | **2.4GHz band** | | **5GHz band** | | | | |
|---|---|---|---|---|---|---|---|
| | | | - | **U-NII-1 (W52)** | **U-NII-2A (W53)** | **U-NII-2C (W56)** | **U-NII-3 (W58)** |
| Frequency of operation (MHz) (*.ch.: channel) | 11b,g, n(20HT) | 2412-2462 (*.ch.1-11) | 11a, n(20HT) | 5180-5240 (*.ch.36-48) | 5260-5320 (*.ch.52-64) | 5500-5700 (*.ch.100-140) | 5745-5825 (*.ch.149-165) |
| | n(40HT) | 2422-2452 (*.ch.3-9) | n(40HT) | 5190-5230 (*.ch.38-46) | 5270-5310 (*.ch.54-62) | 5510-5670 (*.ch.102-134) | 5755, 5795 (*.ch.151,159) |
| Channel spacing (MHz) | 5 (11b,g,n(20HT),n(40HT)) | | 20 (11b,g,n(20HT)) / 40 (11n(40HT)) | | | | |
| Bandwidth (MHz) | 20 (11b,g,n(20HT)) / 40 (11n(40HT)) | | 20 (11b,g,n(20HT)) / 40 (11n(40HT)) | | | | |
| Type of modulation | DSSS: DBPSK, DQPSK, CCK (11b), OFDM: BPSK, QPSK, 16QAM, 64QAM (11g,a,n(20HT),n(40HT)) | | | | | | |
| Transmit power (typical, maximum channel and data rate) and tolerance (as manufacture variation) (dBm) (*.ch.: channel) | 11b | 13.5 ±2.5 (*.ch.1-11, 1-11Mbps) | 11a: | 12.5±2.5 (*.ch.36-48, 6-54Mbps) | 12.5±2.5 (*.ch.52-64, 6-54Mbps) | 15.0±2.5 (*.ch.100-140, 6-48Mbps) | 15.0±2.5 (*.ch.149-165, 6-48Mbps) |
| | 11g | 17.0 ±2.5 (*.ch.2, 6-36Mbps) | | | | | |
| | n(20HT) | 14.5 ±2.5 (*.ch.2, MCS0-4/8-12)) | n(20HT) | 11.0±2.5 (*.ch.36-48, MCS0-6/8-14) | 11.0±2.5 (*.ch.52-64, MCS0-6/8-14) | 13.5±2.5 (*.ch.100-140, MCS0-4/8-12) | 13.5±2.5 (*.ch.149-165, MCS0-4/8-12) |
| | n(40HT) | 13.5 ±2.5 (*.ch.4, MCS0-4/8-12) | n(40HT) | 11.0±2.5 (*.ch.46, MCS0-7/8-15) | 11.0±2.5 (*.ch.54, MCS0-7/8-15) | 11.0±2.5 (*.ch.102-134, MCS0-5/8-13) | 11.0±2.5 (*.ch.151,159, MCS0-5/8-13) |
| | *. The value in a table shows the maximum power conditions of typical on each antenna. *. 3dBm is added to MIMO power.<br>*. Refer to clause 2.3 for more detail. Refer to clause 2.4 for the maximum output power which may possible.<br>*. The measured Tx output power (conducted) refers to section 6 in this report. | | | | | | |
| Power supply | DC 3.3V (*. DC3.3V is supplied from the main unit via constant voltage circuit.) | | | | | | |

| **Antenna** | **antenna #0 (Bottom, short-side-ant#0)** | **antenna #1 (Side, long-side-ant#1)** |
|---|---|---|
| Antenna quantity | 2 pcs. (*. Separation distance between the antenna #0 and the antenna #1: approx.315 mm )<br>11b,g,a: One selected Tx antenna operation.<br>11n(20HT),n(40HT): One selected Tx antenna operation (MCS0~7) / Two Tx antenna operation (MCS8~13) | |
| Antenna model | 113Y120216 (cable length: 300 mm) | 113Y120216 (cable length: 300 mm) |
| Antenna type / connector type | Monopole antenna / Connector; PCB side: U.FL, Antenna side: soldered | |
| Antenna gain (max.peak) (*.including cable loss) | -7.3 dBi (2.4GHz), -2.3 dBi (5GHz) (*.installed into the platform) | -6.5 dBi (2.4GHz), -0.3 dBi (5GHz) (*.installed into the platform) |

*. The EUT do not use the special transmitting technique such as "beam-forming" and "time-space code diversity."

## 2.3 Tx output power (typical) specification (antenna port terminal conducted)

| | | Target Power [dBm] (average) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11b | | | | 11g | | | | | | | | 11n(20HT) | | | | | | | | | | | | | | | |
| [MHz] | CH | 1 | 2 | 5.5 | 11 | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 |
| 2412 | 1 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 2417 | 2 | 13.5 | 13.5 | 13.5 | 13.5 | 17 | 17 | 17 | 17 | 17 | 17 | 16 | 15 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14 | 13.5 | 13 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17 | 16.5 | 16 |
| 2422 | 3 | 13.5 | 13.5 | 13.5 | 13.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 15 | 14 | 14 | 14 | 14 | 14 | 13.5 | 13 | 12.5 | 17 | 17 | 17 | 17 | 17 | 16.5 | 16 | 15.5 |
| 2427 | 4 | 13.5 | 13.5 | 13.5 | 13.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 12.5 | 12 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 | 15.5 | 15 |
| 2432 | 5 | 13.5 | 13.5 | 13.5 | 13.5 | 16 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15 | 13 | 13 | 13 | 13 | 13 | 12.5 | 12.5 | 12 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15.5 | 15 |
| 2437 | 6 | 13.5 | 13.5 | 13.5 | 13.5 | 16 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12 | 12 | 11.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15 | 15 | 14.5 |
| 2442 | 7 | 13.5 | 13.5 | 13.5 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15 | 15 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 11.5 | 15 | 15 | 15 | 15 | 15 | 15 | 14.5 | 14.5 |
| 2447 | 8 | 13.5 | 13.5 | 13.5 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15 | 15 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11 | 11 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14 | 14 |
| 2452 | 9 | 13.5 | 13.5 | 13.5 | 13.5 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 2457 | 10 | 13.5 | 13.5 | 13.5 | 13.5 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 2462 | 11 | 13.5 | 13.5 | 13.5 | 13.5 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |

| | | Target Power [dBm] (average) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11a | | | | | | | | 11n(20HT) | | | | | | | | | | | | | | | | | | | |
| [MHz] | CH | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 |
| 5180 | 36 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5200 | 40 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5220 | 44 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5240 | 48 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5260 | 52 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5280 | 56 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5300 | 60 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5320 | 64 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10.5 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 |
| 5500 | 100 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5520 | 104 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5540 | 108 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5560 | 112 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5580 | 116 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5600 | 120 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5620 | 124 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5640 | 128 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5660 | 132 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5680 | 136 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5700 | 140 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5745 | 149 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5765 | 153 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5785 | 157 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5805 | 161 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |
| 5825 | 165 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 8.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | 11.5 |

| | | Target Power [dBm] (average) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11n(40HT) | | | | | | | | | | | | | | | |
| [MHz] | CH | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 |
| 2422 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 2427 | 4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 12.5 | 12 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 | 15.5 | 15 |
| 2432 | 5 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 |
| 2437 | 6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10 | 10 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 13 |
| 2442 | 7 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9 | 9 | 9 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12 | 12 | 12 |
| 2447 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 2452 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 5190 | 38 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 5230 | 46 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 5270 | 54 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 5310 | 62 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 5510 | 102 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5550 | 110 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5590 | 118 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5630 | 126 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5670 | 134 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5755 | 151 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |
| 5795 | 159 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 8 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 11 |

## 2.4. Maximum output power which may possible

| | | Maximum output power which may possible [dBm] (average) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11b | | | | 11g | | | | | | | | 11n(20HT) | | | | | | | | | | | | | | | |
| [MHz] | CH | 1 | 2 | 5.5 | 11 | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 |
| 2412 | 1 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| 2417 | 2 | 16 | 16 | 16 | 16 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 18.5 | 17.5 | 17 | 17 | 17 | 17 | 17 | 16.5 | 16 | 15.5 | 20 | 20 | 20 | 20 | 20 | 19.5 | 19 | 18.5 |
| 2422 | 3 | 16 | 16 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 18 | 17.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 | 15.5 | 15 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19 | 18.5 | 18 |
| 2427 | 4 | 16 | 16 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 18 | 17.5 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15 | 14.5 | 19 | 19 | 19 | 19 | 19 | 18.5 | 18 | 17.5 |
| 2432 | 5 | 16 | 16 | 16 | 16 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18 | 17.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15 | 15 | 14.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18 | 18 | 17.5 |
| 2437 | 6 | 16 | 16 | 16 | 16 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18 | 17.5 | 15 | 15 | 15 | 15 | 15 | 14.5 | 14.5 | 14 | 18 | 18 | 18 | 18 | 18 | 17.5 | 17.5 | 17 |
| 2442 | 7 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 17.5 | 17.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14 | 14 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17 | 17 |
| 2447 | 8 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 17.5 | 17.5 | 14 | 14 | 14 | 14 | 14 | 14 | 13.5 | 13.5 | 17 | 17 | 17 | 17 | 17 | 17 | 16.5 | 16.5 |
| 2452 | 9 | 16 | 16 | 16 | 16 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 2457 | 10 | 16 | 16 | 16 | 16 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| 2462 | 11 | 16 | 16 | 16 | 16 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

| | | Maximum output power which may possible [dBm] (average) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11a | | | | | | | | 11n(20HT) | | | | | | | | | | | | | | | | | | | |
| [MHz] | CH | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 |
| 5180 | 36 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5200 | 40 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5220 | 44 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5240 | 48 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5260 | 52 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5280 | 56 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5300 | 60 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5320 | 64 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16 |
| 5500 | 100 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5520 | 104 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5540 | 108 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5560 | 112 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5580 | 116 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5600 | 120 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5620 | 124 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5640 | 128 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5660 | 132 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5680 | 136 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5700 | 140 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5745 | 149 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5765 | 153 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5785 | 157 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5805 | 161 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |
| 5825 | 165 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 11 | 19 | 19 | 19 | 19 | 19 | 18 | 16 | 14 |

| | | Maximum output power which may possible [dBm] (average) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11n(40HT) | | | | | | | | | | | | | | | | |
| [MHz] | CH | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 | MCS10 | MCS11 | MCS12 | MCS13 | MCS14 | MCS15 | |
| 2422 | 3 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | |
| 2427 | 4 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15 | 14.5 | 19 | 19 | 19 | 19 | 19 | 18.5 | 18 | 17.5 | |
| 2432 | 5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 13.5 | 13.5 | 13.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 16.5 | 16.5 | 16.5 | |
| 2437 | 6 | 13 | 13 | 13 | 13 | 13 | 13 | 12.5 | 12.5 | 16 | 16 | 16 | 16 | 16 | 16 | 15.5 | 15.5 | |
| 2442 | 7 | 12 | 12 | 12 | 12 | 12 | 11.5 | 11.5 | 11.5 | 15 | 15 | 15 | 15 | 15 | 14.5 | 14.5 | 14.5 | |
| 2447 | 8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | |
| 2452 | 9 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | |
| 5190 | 38 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | |
| 5230 | 46 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| 5270 | 54 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| 5310 | 62 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | |
| 5510 | 102 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5550 | 110 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5590 | 118 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5630 | 126 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5670 | 134 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5755 | 151 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |
| 5795 | 159 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 12.5 | 10.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 15.5 | 13.5 | |

# SECTION 3: Test specification, procedures and results

## 3.1 Test specification

The US Federal Communications Commission has released the report and order "Guidelines for Evaluating the Environmental Effects of RF Radiation", ET Docket No. 93-62 in August 1996. The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g for an uncontrolled environment and 8.0 mW/g for an occupational/controlled environment as recommended by the ANSI/IEEE standard C95.1-1992. The device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling in accordance with the following measurement procedures..

**KDB 447498 D01 (v06):** General RF exposure guidance
**KDB 248227 D01 (v02r02):** SAR Guidance for IEEE 802.11 (Wi-Fi) transmitters
**KDB 865664 D01 (v01r04):** SAR measurement 100MHz to 6GHz
**IEEE Std. 1528-2013:** IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

## 3.2 Exposure limit

| Environments of exposure limit | Whole-Body (averaged over the entire body) | Partial-Body (averaged over any 1g of tissue) | Hands, Wrists, Feet and Ankles (averaged over any 10g of tissue) |
|---|---|---|---|
| (A) Limits for Occupational /Controlled Exposure (W/kg) | 0.4 | 8.0 | 20.0 |
| (B) Limits for General population /Uncontrolled Exposure (W/kg) | 0.08 | 1.6 | 4.0 |

***. Occupational/Controlled Environments:** are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

***. General Population/Uncontrolled Environments:** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**The limit applied in this test report is;**

**General population / uncontrolled exposure, Partial-Body (averaged over any 1g of tissue) limit: 1.6 W/kg**

## 3.3 Procedures and Results

| | Wi-Fi (DTS) (2412-2462MHz) | | Wi-Fi (U-NII-1) (5180~5240MHz)(W52) | | Wi-Fi (U-NII-2A) (5260~5320MHz)(W53) | | Wi-Fi (U-NII-2C) (5500~5700MHz)(W56) | | Wi-Fi (U-NII-3) (5745~5825MHz)(W58) | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Test Procedure** | SAR measurement; KDB 447498, KDB 248227, KDB 865664, IEEE Std.1528 | | | | | | | | | |
| **Category** | FCC 47CFR §2.1093 (Portable device) | | | | | | | | | |
| **Results (SAR(1g))** | **Complied** | | **Complied** | | **Complied** | | **Complied** | | **Complied** | |
| **Antenna#** | **ant#0** | **ant#1** | **ant#0** | **ant#1** | **ant#0** | **ant#1** | **ant#0** | **ant#1** | **ant#0** | **ant#1** |
| **Liquid type** | **Body liquid** | | | | | | | | | |
| **Reported SAR value** | **0.16 W/kg** | **0.11 W/kg** | **0.14 W/kg** | **0.10 W/kg** | **0.11 W/kg** | **0.06 W/kg** | **0.18 W/kg** | **0.16 W/kg** | **0.12 W/kg** | **0.15 W/kg** |
| **Measured SAR value** | 0.129 W/kg | 0.0693 W/kg | 0.103 W/kg | 0.0683 W/kg | 0.0781 W/kg | 0.0424 W/kg | 0.129 W/kg | 0.117 W/kg | 0.0808 W/kg | 0.106 W/kg |
| **Operation mode, frequency[MHz]** | 11g(6Mbps), 2417 | 11g(6Mbps), 2417 | 11a(6Mbps), 5180 | 11a(6Mbps), 5180 | 11a(6Mbps), 5260 | 11a(6Mbps), 5320 | 11a(6Mbps), 5500 | 11a(6Mbps), 5500 | 11a(6Mbps), 5785 | 11a(6Mbps), 5745 |
| **Duty cycle [%]** (scaled factor) | 99.8 (×1.00) | 99.8 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) |
| **Output power [dBm]** (max. power, scaled factor) | 18.52dBm (19.5,×1.25) | 17.63dBm (19.5,×1.54) | 13.70dBm (15.0,×1.35) | 13.50dBm (15.0,×1.41) | 13.67dBm (15.0,×1.36) | 13.84dBm (15.0,×1.31) | 15.99dBm (17.5,×1.42) | 16.18dBm (17.5,×1.36) | 15.93dBm (17.5,×1.44) | 15.91dBm (17.5,×1.44) |
| **Liquid type** | **Head liquid** (by Flat phantom) | | | | | | | | | |
| **Reported SAR value** | **0.18 W/kg** | **0.11 W/kg** | **0.15 W/kg** | **0.12 W/kg** | **0.11 W/kg** | **0.07 W/kg** | **0.19 W/kg** | **0.18 W/kg** | **0.14 W/kg** | **0.17 W/kg** |
| **Measured SAR value** | 0.145 W/kg | 0.0709 W/kg | 0.113 W/kg | 0.083 W/kg | 0.0833 W/kg | 0.0484 W/kg | 0.135 W/kg | 0.135 W/kg | 0.0982 W/kg | 0.118 W/kg |
| **Operation mode, frequency[MHz]** | 11g(6Mbps), 2417 | 11g(6Mbps), 2417 | 11a(6Mbps), 5180 | 11a(6Mbps), 5180 | 11a(6Mbps), 5260 | 11a(6Mbps), 5300 | 11a(6Mbps), 5500 | 11a(6Mbps), 5500 | 11a(6Mbps), 5785 | 11a(6Mbps), 5745 |
| **Duty cycle [%]** (scaled factor) | 99.8 (×1.00) | 99.8 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) | 99.7 (×1.00) |
| **Output power [dBm]** (max. power, scaled factor) | 18.52dBm (19.5,×1.25) | 17.63dBm (19.5,×1.54) | 13.70dBm (15.0,×1.35) | 13.50dBm (15.0,×1.41) | 13.67dBm (15.0,×1.36) | 13.56dBm (15.0,×1.39) | 15.99dBm (17.5,×1.42) | 16.18dBm (17.5,×1.36) | 15.93dBm (17.5,×1.44) | 15.91dBm (17.5,×1.44) |

**Note:** UL Japan's SAR Work Procedures No.13-EM-W0429 and 13-EM-W0430. No addition, deviation nor exclusion has been made from standards

## 3.4 Test Location

No.7 shielded room (2.76m (Width) × 3.76m (Depth) × 2.4m (Height)) for SAR testing.

**UL Japan, Inc., Shonan EMC Lab.**
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone number: +81 463 50 6400 / Facsimile number: +81 463 50 6401

## 3.5 Confirmation before SAR testing

### 3.5.1 Average power for SAR tests

Before SAR test, the RF wiring for the sample had been switched to the antenna conducted power measurement line from the antenna line and the average power was measured. The result is shown in Section 6.

*. The EUT transmission power was verified that it was within 2dB lower than the maximum tune-up tolerance limit when it was set the rated power. (Clause 4.1, KDB447498 D01 (v06))

**Step.1 Data rate check** (*****. The EUT supported the following data rate in each operation mode.)

| 11b | | 11g | | 11a | | 11n(20HT) | | | | | | 11n(40HT) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mod (DSSS) | Data rate | Mod (OFDM) | Data rate | Mod (OFDM) | Data rate | MCS Index | Spatial Stream | Mod (OFDM) | MCS Index | Spatial Stream | Mod (OFDM) | MCS Index | Spatial Stream | Mod (OFDM) | MCS Index | Spatial Stream | Mod (OFDM) |
| DBPSK | 1 Mbps | BPSK | 6 Mbps | BPSK | 6 Mbps | MCS0 | 1 | BPSK | MCS8 | 2 | BPSK | MCS0 | 1 | BPSK | MCS8 | 2 | BPSK |
| DQPSK | 2 Mbps | BPSK | 9 Mbps | BPSK | 9 Mbps | MCS1 | 1 | QPSK | MCS9 | 2 | QPSK | MCS1 | 1 | QPSK | MCS9 | 2 | QPSK |
| CCK | 5.5 Mbps | QPSK | 12 Mbps | QPSK | 12 Mbps | MCS2 | 1 | QPSK | MCS10 | 2 | QPSK | MCS2 | 1 | QPSK | MCS10 | 2 | QPSK |
| CCK | 11 Mbps | QPSK | 18 Mbps | QPSK | 18 Mbps | MCS3 | 1 | 16QAM | MCS11 | 2 | 16QAM | MCS3 | 1 | 16QAM | MCS11 | 2 | 16QAM |
| *:Mod; Modulation | | 16QAM | 24 Mbps | 16QAM | 24 Mbps | MCS4 | 1 | 16QAM | MCS12 | 2 | 16QAM | MCS4 | 1 | 16QAM | MCS12 | 2 | 16QAM |
| | | 16QAM | 36 Mbps | 16QAM | 36 Mbps | MCS5 | 1 | 64QAM | MCS13 | 2 | 64QAM | MCS5 | 1 | 64QAM | MCS13 | 2 | 64QAM |
| | | 64QAM | 48 Mbps | 64QAM | 48 Mbps | MCS6 | 1 | 64QAM | MCS14 | 2 | 64QAM | MCS6 | 1 | 64QAM | MCS14 | 2 | 64QAM |
| | | 64QAM | 54 Mbps | 64QAM | 54 Mbps | MCS7 | 1 | 64QAM | MCS15 | 2 | 64QAM | MCS7 | 1 | 64QAM | MCS15 | 2 | 64QAM |

**Step.2 Consideration of SAR test channel**

For the SAR test reference, on each operation band, the average output power was measured on the lower/middle/upper and specified channels with the worst data rate condition in step 1 in the above.

## 3.6 Confirmation after SAR testing

It was checked that the power drift [W] is within ±5% in the evaluation procedure of SAR testing. The verification of power drift during the SAR test is that DASY5 system calculates the power drift by measuring the e-filed at the same location at beginning and the end of the scan measurement for each test position.
The result is shown in APPENDIX 2.

*. DASY5 system calculation Power drift value[dB] =20log(Ea)/(Eb) (where, Before SAR testing: Eb[V/m] / After SAR testing: Ea[V/m])

Limit of power drift[W] = ±5%
Power drift limit (X) [dB] = 10log(P_drift)=10log(1.05/1)=10log(1.05)-10log(1)=0.21dB
from E-filed relations with power.
S=E×H=E^2/η=P/(4×π×r^2) (η: Space impedance) → P=(E^2×4×π×r^2)/η
Therefore, The correlation of power and the E-filed
Power drift limit (X) dB=10log(P_drift)=10log(E_drift)^2=20log(E_drift)
From the above mentioned, **the calculated power drift of DASY5 system must be the less than ±0.21dB.**

## 3.7 Test setup of EUT and SAR measurement procedure

After considering the outline of Flat Panel Sensor, the SAR test was carried out on the following setup conditions.

| Setup | Explanation of EUT setup position (*. Refer to Appendix 1 for test setup photographs.) | antenna #0 | | antenna #1 | |
|---|---|---|---|---|---|
| | | Separation [mm] | SAR Tested /Reduced | Separation [mm] | SAR Tested /Reduced |
| **Front** | The front surface (patient side) of EUT was touched to the Flat phantom. | **9.7** | **Tested (*1)** | **9.7** | **Tested (*1)** |
| **Back** | The back surface (operator side) of EUT was touched to the Flat phantom. | **2** | Reduced (*1) | **2** | Reduced (*1) |
| **Long side-ant#1 (antenna#1)** | The long side edge surface (near antenna #1 side) of EUT was touched to the Flat phantom. | **≈9** | **Tested** (*1) | **≈200** | Reduced (>200 mm) |
| **Long-side** | The long side edge surface (near antenna #1 side) of EUT was touched to the Flat phantom. | **≈28.7** | Reduced (*1) | **≈250** | Reduced (>200 mm) |
| **Short-side-ant#0 (antenna#0)** | The short side edge surface (near antenna #0 side) of EUT was touched to the Flat phantom. | **≈260** | Reduced (>200 mm) | **≈9** | **Tested** (*1) |
| **Short-side** | The short side edge surface (opposite to antenna#0) of EUT was touched to the Flat phantom. | **≈310** | Reduced (>200 mm) | **≈28.7** | Reduced (*1) |

*. **Separation:** Antenna separation distance. It is the distance from the antenna to the outer surface of Flat Panel Sensor form which a human may touch.

*. Size of EUT (Flat Panel Sensor, RIC 24C): 328 × 268 × 15 (thickness) [mm]

*(cont'd)*

*(cont'd)*

KDB 447498 D01 (v06) was taken into consideration to reduce SAR test.

| Consideration of SAR test reduction by the antenna separation distance (100MHz~6GHz, ≤50mm) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band, Mode | Setup Position | Minimum distance [mm] | Minimum distance [mm] (rounded) | Max.power or upper frequency [GHz] | Max. tune-up power [dBm] | Max. tune-up power [mW] | Max. tune-up power [mW] (rounded) | Calculation of exclusion: ≤ 3.0 (*2) | Standalone SAR Test Required? (If >3, -> Required) | | Remarks |
| WLAN 2.4GHz 11g | Back (ant#0, ant#1) | 2 | **2 (≤5)** | 2.417 | 19.5 | 89.1 | **89** | **27.7** | ***>3.0*** | ***Required*** | ->SAR test was reduced. (*1) |
| | Long-side-ant#1(ant#1), Short-side-ant#0(ant#0) | ≈9 | **9** | 2.417 | 19.5 | 89.1 | **89** | **15.4** | ***>3.0*** | ***Required*** | - |
| | Front (ant#0, ant#1) | 9.7 | **10** | 2.417 | 19.5 | 89.1 | **89** | **13.8** | ***>3.0*** | ***Required*** | - |
| | Long-side(ant#0), Short-side(ant#1) | ≈28.7 | **29** | 2.417 | 19.5 | 89.1 | **89** | **4.8** | ***>3.0*** | ***Required*** | - |
| WLAN W52&53 11a | Back (ant#0, ant#1) | 2 | **2 (≤5)** | 5.32 | 15.0 | 31.6 | **32** | **14.8** | ***>3.0*** | ***Required*** | ->SAR test was reduced. (*1) |
| | Long-side-ant#1(ant#1), Short-side-ant#0(ant#0) | ≈9 | **9** | 5.32 | 15.0 | 31.6 | **32** | **8.2** | ***>3.0*** | ***Required*** | - |
| | Front (ant#0, ant#1) | 9.7 | **10** | 5.32 | 15.0 | 31.6 | **32** | **7.4** | ***>3.0*** | ***Required*** | - |
| | Long-side(ant#0), Short-side(ant#1) | ≈28.7 | **29** | 5.32 | 15.0 | 31.6 | **32** | **2.5** | ≤3.0 | Not required | - |
| WLAN W56 11a | Back (ant#0, ant#1) | 2 | **2 (≤5)** | 5.7 | 17.5 | 56.2 | **56** | **26.7** | ***>3.0*** | ***Required*** | ->SAR test was reduced. (*1) |
| | Long-side-ant#1(ant#1), Short-side-ant#0(ant#0) | ≈9 | **9** | 5.7 | 17.5 | 56.2 | **56** | **14.9** | ***>3.0*** | ***Required*** | - |
| | Front (ant#0, ant#1) | 9.7 | **10** | 5.7 | 17.5 | 56.2 | **56** | **13.4** | ***>3.0*** | ***Required*** | - |
| | Long-side(ant#0), Short-side(ant#1) | ≈28.7 | **29** | 5.7 | 17.5 | 56.2 | **56** | **4.6** | ***>3.0*** | ***Required*** | - |
| WLAN W58 11a | Back (ant#0, ant#1) | 2 | **2 (≤5)** | 5.825 | 17.5 | 56.2 | **56** | **27.0** | ***>3.0*** | ***Required*** | ->SAR test was reduced. (*1) |
| | Long-side-ant#1(ant#1), Short-side-ant#0(ant#0) | ≈9 | **9** | 5.825 | 17.5 | 56.2 | **56** | **15.0** | ***>3.0*** | ***Required*** | - |
| | Front (ant#0, ant#1) | 9.7 | **10** | 5.825 | 17.5 | 56.2 | **56** | **13.5** | ***>3.0*** | ***Required*** | - |
| | Long-side(ant#0), Short-side(ant#1) | ≈28.7 | **29** | 5.825 | 17.5 | 56.2 | **56** | **4.7** | ***>3.0*** | ***Required*** | - |

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

*2. Parenthesis 1), Clause 4.3.1, KDB 447498 D01 (v06) gives the following formula to calculate the SAR(1g) test exclusion thresholds for 100MHz-6GHz at test separation distance ≤50mm.

[(max.power of channel, including tune-up tolerance, mW) / (min.test separation distance, mm)] × [ √f (GHz)] ≤ 3.0 (for SAR(1g)) ····· formula (1)

If power is calculated from the upper formula (1);

[SAR(1g) test exclusion thresholds, mW] = 3 × [test separation distance, mm] / [√f (GHz)] ····· formula (2)

[SAR(1g) test exclusion thresholds, mW] = 3 × 50 / SQRT(2.462) = 96mW, where test separation distance=50mm

*** Simultaneous transmission evaluation**

Parenthesis 2) and 3), Clause 4.3.2, KDB 447498 D01 (v06) gives the following formula to calculate the simultaneous transmission SAR test exclusion limit. (SPLSR: SAR to peak location separation ratio must be ≤ 0.04 for antenna pair.)

| Mode | Data rate | Band | Position | Minimum distance Ant#0 | Minimum distance Ant#1 | Max.power or Upper frequency | Max. power (with tune-up tolerance) | Estimate SAR(1g) [W/kg] Ant#0 | Ant#1 | Ant#0+#1 | Limit | Ant#0<->#1 distance | SPLSR | Simultaneous SAR test apply? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n20 | MCS8 | 2.4GHz | Front (Patient side) | 9.7 mm | 9.7 mm | 2.417GHz | 17.0dBm (50mW) | 1.07 | 1.07 | 2.14 | 1.6 | 315 mm | **0.010** | **Reduced** SPLSR: ≤0.04 |
| n20 | MCS8 | W52/53 | | | | 5.32GHz | 13.5dBm (22mW) | 0.70 | 0.70 | 1.40 | 1.6 | 315 mm | **0.005** | |
| n20 | MCS8 | W56 | | | | 5.7GHz | 16.0dBm (40mW) | 1.31 | 1.31 | 2.62 | 1.6 | 315 mm | **0.014** | |
| n20 | MCS8 | W58 | | | | 5.825GHz | 16.0dBm (40mW) | 1.33 | 1.33 | 2.66 | 1.6 | 315 mm | **0.014** | |

*. Calculating formula: Estimate standalone SAR(1g) = [(max.power, mW) / (min.test separation distance, mm)] × [ √f (GHz)] / [7.5]
SPLSR (SAR to Peak Location Separation Ratio) = {(SAR_Ant#0, W/kg) + (SAR_Ant#1, W/kg)} ^1.5 / (Ant#0<->#1 distance, mm)

By the determined test setup shown above, the SAR test was applied in the following procedures.

| | |
|---|---|
| Step 1 | Change the operation mode on each antenna independently with highest output power channel. |
| Step 2 | Repeat Step1 for other frequency band. |

*. During SAR test, the radiated power is always monitored by Spectrum Analyzer.

# SECTION 4: Operation of EUT during testing

## 4.1 Operating modes for SAR testing

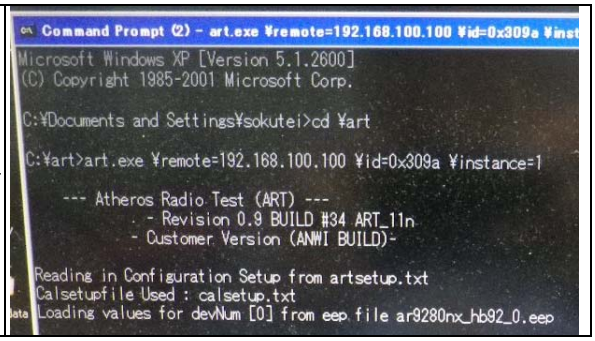
This EUT has IEEE 802.11b, g, a, n(HT20) and n(HT40) continuous transmitting modes.
The frequency and the modulation used in the SAR testing are shown as a following.

| Operation mode | | g | b | n20(1Tx) | n20(2Tx) | n40(1Tx) | n40(2Tx) | a | n20(1Tx) | n20(2Tx) | n40(1Tx) | n40(2Tx) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| band | | DTS | | | | | | W52 (U-NII-1) (*1) | | | | |
| Tx band [MHz] | | 2412~2462 | | | | 2422~2452 | | 5180~5240 | | | 5190~5230 | |
| Bandwidth [MHz] | | 20 | 20 | 20 | 20 | 40 | 40 | 20 | 20 | 20 | 40 | 40 |
| Max.power [dBm] | | **19.5** | 16 | 17 | 20 | 16 | 19 | **15** | 13.5 | 16.5 | 13.5 | 16.5 |
| Modulation | | OFDM | DSSS | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM |
| Data rate [Mbps] | | 6 | 1 | MCS0 | MCS8 | MCS0 | MCS8 | 6 | MCS0 | MCS8 | MCS0 | MCS8 |
| SAR Tested? | | Tested | Tested | Reduced | Reduced | Tested | Reduced | Tested | Reduced | Reduced | Reduced | Reduced |
| Frequency tested [MHz] | ant#0 | 2417, 2437, 2462 | 2412(*2) | -(*2) | -(*3) | 2427(*2) | -(*3) | 5180 | - | - | - | - |
| | ant#1 | 2417, 2437, 2462 | 2412(*2) | -(*2) | -(*3) | 2427(*2) | -(*3) | 5180 | - | - | - | - |

| Operation mode | | a | n20(1Tx) | n20(2Tx) | n40(1Tx) | n40(2Tx) | a | n20(1Tx) | n20(2Tx) | n40(1Tx) | n40(2Tx) | a | n20(1Tx) | n20(2Tx) | n40(1Tx) | n40(2Tx) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| band | | W53 (U-NII-2A) | | | | | W56 (U-NII-2C) | | | | | W56 (U-NII-2C) | | | | |
| Tx band [MHz] | | 5260~5320 | | | 5270~5310 | | 5500~5700 | | | 5510~5670 | | 5745~5825 | | | 5755~5795 | |
| Bandwidth [MHz] | | 20 | 20 | 20 | 40 | 40 | 20 | 20 | 20 | 40 | 40 | 20 | 20 | 20 | 40 | 40 |
| Max.power [dBm] | | **15** | 13.5 | 16.5 | 13.5 | 16.5 | **17.5** | 16 | 19 | 13.5 | 16.5 | **17.5** | 16 | 19 | 13.5 | 16.5 |
| Modulation | | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM | OFDM |
| Data rate [Mbps] | | 6 | MCS0 | MCS8 | MCS0 | MCS8 | 6 | MCS0 | MCS8 | MCS0 | MCS8 | 6 | MCS0 | MCS8 | MCS0 | MCS8 |
| SAR Tested? | | Tested | Reduced | Reduced | Tested | Reduced | Tested | Reduced | Reduced | Tested | Reduced | Tested | Reduced | Reduced | Tested | Reduced |
| Frequency tested [MHz] | ant#0 | 5260, 5300, 5320 | -(*2) | -(*3) | -(*2) | -(*3) | 5500, 5580, 5600, 5700 | -(*2) | -(*3) | -(*2) | -(*3) | 5745, 5785, 5825 | -(*2) | -(*3) | -(*2) | -(*3) |
| | ant#1 | 5260, 5300, 5320 | -(*2) | -(*3) | 5270 (*2) | -(*3) | 5500, 5580, 5600, 5700 | -(*2) | -(*3) | 5550 (*2) | -(*3) | 5745, 5785, 5825 | -(*2) | -(*3) | 5795 (*2) | -(*3) |

**Controlled software**

**Tx Controlled software: ART v09 (Build 34)**
Mode: Continuous transmit mode.
•Tx antenna chain:
Ant#0=100, Ant#0=010, Ant#0+Ant#1(MIMO)=110.
•Frequency: Selected the target frequency.
•Data Rate: Selected the target data rate.
•HT40: Selected when 11n(40HT) was tested.
•Setting target power: Defaults were used, but when measurement power didn't enter 2dB from maximum power, it was adjusted (tuned-up).
*. As for parameters other than the above, the initial value was used.




**Note: SAR test reduction consideration**

**[Table A-1. Output power measured and SAR test channel selection]**

| 802.11 Modes | | b | g | n | | a | n(1Tx) | |
|---|---|---|---|---|---|---|---|---|
| Ch. Bandwidth [MHz] | | 20 | 20 | 20 | 40 | 20 | 20 | 40 |
| Lowest data rate [Mbps] | | 1 | 6 | 6.5 | 6.5 | 6 | 6.5 | 13 |
| §15.247 (2.4GHz) | Ch. | 1/6/11 | 1/2/6/11 | - | - | | | |
| | mW (ant#0) | 32/29/31 | 29/71/51/41 | lower power | | | | |
| | mW (ant#1) | 33/31/30 | 29/58/53/39 | lower power | | | | |
| U-NII-1 (W52) | Ch. | | | | | 36/44/48 | - | - |
| | mW (ant#0) | | | | | 23/25/25 | lower power | |
| | mW (ant#1) | | | | | 22/23/23 | lower power | |
| U-NII-2A (W53) | Ch. | | | | | 52/60/64 | - | - |
| | mW (ant#0) | | | | | 23/25/24 | lower power | |
| | mW (ant#1) | | | | | 22/23/23 | lower power | |
| U-NII-2C (W56) | Ch. | | | | | 100/118/120/140 | - | - |
| | mW (ant#0) | | | | | 40/44/43/39 | lower power | |
| | mW (ant#1) | | | | | 42/41/41/38 | lower power | |
| U-NII-3 (W58) | Ch. | | | | | 149/157/165 | - | - |
| | mW (ant#0) | | | | | 39/39/40 | lower power | |
| | mW (ant#1) | | | | | 39/40/44 | lower power | |

**[Table A-2. Reported SAR(1g) and test reduction plan](Head)**

| b | g | n | | a | n(1Tx) | |
|---|---|---|---|---|---|---|
| 20 | 20 | 20 | 40 | 20 | 20 | 40 |
| 1 | 6 | 6.5 | 6.5 | 6 | 6.5 | 13 |
| 1 | 1/2/6/11 | - | - | | | |
| 0.08 | 0.18 | lower power | | | | |
| 0.04 | 0.11 | lower power | | | | |
| | | | | 36/44/48 | - | - |
| | | | | 0.15 | lower power | |
| | | | | 0.12 | lower power | |
| | | | | 52/60/64 | - | - |
| | | | | 0.10 | lower power | |
| | | | | 0.07 | lower power | |
| | | | | 100/118/120/140 | - | - |
| | | | | 0.19/0.07/0.05/0.07 | lower power | |
| | | | | 0.18/0.12/0.11/0.14 | lower power | |
| | | | | 149/157/165 | - | - |
| | | | | 0.11/0.14/0.09 | lower power | |
| | | | | 0.17/0.17/0.17 | lower power | |

*1. (KDB248227 D01 (v02r02)) Since highest reported SAR(1g) of U-NII-2A was ≤1.2 W/kg, SAR measurement of U-NII-1 band was omitted. However, SAR test was applied to 5180MHz as lower frequency of U-NII-1 and U-NII-2A band.
*2. (KDB248227 D01 (v02r02)) SAR test of other power mode was reduced, because the reported SAR(1g) of 11g, and 11a mode (highest power mode in each operation band) was ≤ 0.4 W/kg. However, in a representative frequency, 11b was evaluated for DSSS mode and 11n(40HT) mode was evaluated for BW=40MHz.
*3. (KDB447498 D01(v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. The SAR testing was applied to lower, middle and upper channels for the worst SAR condition in each operation band.

# SECTION 5: Uncertainty Assessment (SAR measurement)

| Uncertainty of SAR measurement (2.4-6GHz) (*.ε&σ: ≤ ± 5%, DAK3.5, Tx: ≈100% duty cycle) (v08) | 1g SAR | 10g SAR |
|---|---|---|
| Combined measurement uncertainty of the measurement system (k=1) | ± 13.7% | ± 13.6% |
| Expanded uncertainty (k=2) | ± 27.4% | ± 27.2% |

| | Error Description (2.4-6GHz) (v08) | Uncertainty Value | Probability distribution | Divisor | ci (1g) | ci (10g) | ui (1g) | ui (10g) | Vi, veff |
|---|---|---|---|---|---|---|---|---|---|
| A | **Measurement System** (DASY5) | | | | | | (std. uncertainty) | (std. uncertainty) | |
| 1 | Probe Calibration Error | ±6.55 % | Normal | 1 | 1 | 1 | ±6.55 % | ±6.55 % | ∞ |
| 2 | Axial isotropy Error | ±4.7 % | Rectangular | √3 | √0.5 | √0.5 | ±1.9 % | ±1.9 % | ∞ |
| 3 | Hemispherical isotropy Error | ±9.6 % | Rectangular | √3 | √0.5 | √0.5 | ±3.9 % | ±3.9 % | ∞ |
| 4 | Linearity Error | ±4.7 % | Rectangular | √3 | 1 | 1 | ±2.7 % | ±2.7 % | ∞ |
| 5 | Probe modulation response | ±2.4 % | Rectangular | √3 | 1 | 1 | ±1.4 % | ±1.4 % | ∞ |
| 6 | Sensitivity Error (detection limit) | ±1.0 % | Rectangular | √3 | 1 | 1 | ±0.6 % | ±0.6 % | ∞ |
| 7 | Boundary effects Error | ±4.3% | Rectangular | √3 | 1 | 1 | ±2.5 % | ±2.5 % | ∞ |
| 8 | Readout Electronics Error(DAE) | ±0.3 % | Rectangular | √3 | 1 | 1 | ±0.3 % | ±0.3 % | ∞ |
| 9 | Response Time Error | ±0.8 % | Normal | 1 | 1 | 1 | ±0.8 % | ±0.8 % | ∞ |
| 10 | Integration Time Error (≈100% duty cycle) | ±0 % | Rectangular | √3 | 1 | 1 | 0 % | 0 % | ∞ |
| 11 | RF ambient conditions-noise | ±3.0 % | Rectangular | √3 | 1 | 1 | ±1.7 % | ±1.7 % | ∞ |
| 12 | RF ambient conditions-reflections | ±3.0 % | Rectangular | √3 | 1 | 1 | ±1.7 % | ±1.7 % | ∞ |
| 13 | Probe positioner mechanical tolerance | ±3.3 % | Rectangular | √3 | 1 | 1 | ±1.9 % | ±1.9 % | ∞ |
| 14 | Probe Positioning with respect to phantom shell | ±6.7 % | Rectangular | √3 | 1 | 1 | ±3.9 % | ±3.9 % | ∞ |
| 15 | Max. SAR evaluation (Post-processing) | ±4.0 % | Rectangular | √3 | 1 | 1 | ±2.3 % | ±2.3 % | ∞ |
| B | **Test Sample Related** | | | | | | | | |
| 16 | Device Holder or Positioner Tolerance | ±3.6 % | Normal | 1 | 1 | 1 | ±3.6 % | ±3.6 % | 5 |
| 17 | Test Sample Positioning Error | ±5.0 % | Normal | 1 | 1 | 1 | ±5.0 % | ±5.0 % | 145 |
| 18 | Power scaling | ±0% | Rectangular | √3 | 1 | 1 | ±0 % | ±0 % | ∞ |
| 19 | Drift of output power (measured, <0.2dB) | ±2.3% | Rectangular | √3 | 1 | 1 | ±2.9 % | ±2.9 % | ∞ |
| C | **Phantom and Setup** | | | | | | | | |
| 20 | Phantom uncertainty (shape, thickness tolerances) | ±7.5 % | Rectangular | √3 | 1 | 1 | ±4.3 % | ±4.3 % | ∞ |
| 21 | Algorithm for correcting SAR (e',σ: ≤5%) | ±1.2 % | Normal | 1 | 1 | 0.84 | ±1.2 % | ±0.97 % | ∞ |
| 22 | Measurement Liquid Conductivity Error (DAK3.5) | ±3.0 % | Normal | 1 | 0.78 | 0.71 | ±2.3 % | ±2.1 % | 7 |
| 23 | Measurement Liquid Permittivity Error (DAK3.5) | ±3.1 % | Normal | 1 | 0.23 | 0.26 | ±0.7 % | ±0.8 % | 7 |
| 24 | Liquid Conductivity-temp.uncertainty (≤2deg.C.) | ±5.3 % | Rectangular | √3 | 0.78 | 0.71 | ±2.4 % | ±2.2 % | ∞ |
| 25 | Liquid Permittivity-temp.uncertainty (≤2deg.C.) | ±0.9 % | Rectangular | √3 | 0.23 | 0.26 | ±0.1 % | ±0.1 % | ∞ |
| | **Combined Standard Uncertainty** | | | | | | **±13.7** % | **±13.6** % | 733 |
| | **Expanded Uncertainty (k=2)** | | | | | | **±27.4 %** | **±27.2 %** | |

*. Table of uncertainties are listed for ISO/IEC 17025.
*. This measurement uncertainty budget is suggested by IEEE Std.1528(2013) and determined by Schmid & Partner Engineering AG (DASY5 Uncertainty Budget). Per KDB 865664 D01 (v01r04) SAR Measurement 100 MHz to 6 GHz Section 2.8.1., when the highest measured SAR(1g) within a frequency band is < 1.5W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std.1528 (2013) is not required in SAR reports submitted for equipment approval.

# SECTION 6: Confirmation before testing

## 6.1 Assessment for the antenna terminal port conducted power of EUT (Worst data rate, worst channel determination)

### 6.1.1 2.4GHz band

| Mode | Freq. | Data rate | Power spec. | | Duty cycle | | | Antenna #0 (chain #0) power | | | | | Antenna #1 (chain #1) power | | | | | MIMO Ant.#0+Ant.#1 power | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Typical | Max. | duty cycle | factor | scaled factor | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | MIMO target | MIMO max. | SUM Ave. | Δ Max. | Power Tune-up? |
| | [MHz] | [Mbps] | [dBm] | [dBm] | [%] | [dB] | [-] | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dBm] | [dB] | |
| 11b | 2412 | 1 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 13.5 | 14.13 | -1.87 | ×1.54 | - | 13.5 | 13.92 | -2.08 | ×1.61 | - | | | | | - |
| | 2412 | 2 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 13.5 | 14.13 | -1.87 | - | - | 13.5 | 13.92 | -2.08 | - | - | | | | | - |
| | 2412 | 5.5 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 13.5 | 14.13 | -1.87 | - | - | 13.5 | 13.92 | -2.08 | - | - | | | | | - |
| | 2412 | 11 | 13.5 | 16.0 | 99.4 | 0.03 | ×1.01 | 13.5 | 14.13 | -1.87 | - | - | 13.5 | 13.92 | -2.08 | - | - | | | | | - |
| | 2412 | 1 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 15.0 | **14.99** | -1.01 | ×1.26 | **Tested** | 15.0 | **15.20** | -0.80 | ×1.20 | **Tested** | | | | | tune-up |
| | 2437 | 1 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 15.0 | 14.57 | -1.43 | ×1.39 | - | 15.0 | 14.91 | -1.09 | ×1.29 | - | | | | | tune-up |
| | 2462 | 1 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 15.0 | 14.97 | -1.03 | ×1.27 | - | 15.0 | 14.70 | -1.30 | ×1.35 | - | | | | | tune-up |
| 11g | 2417 | 6 | 17.0 | 19.5 | 99.8 | 0.01 | ×1.00 | 17.0 | 17.44 | -2.06 | ×1.61 | - | 17.0 | **17.63** | -1.87 | ×1.54 | **Tested** | | | | | - |
| | 2417 | 9 | 17.0 | 19.5 | 99.6 | 0.02 | ×1.00 | 17.0 | 17.37 | -2.13 | - | - | 17.0 | 17.51 | -1.99 | - | - | | | | | - |
| | 2417 | 12 | 17.0 | 19.5 | 99.4 | 0.03 | ×1.01 | 17.0 | 17.31 | -2.19 | - | - | 17.0 | 17.47 | -2.03 | - | - | | | | | - |
| | 2417 | 18 | 17.0 | 19.5 | 99.0 | 0.04 | ×1.01 | 17.0 | 17.30 | -2.20 | - | - | 17.0 | 17.37 | -2.13 | - | - | | | | | - |
| | 2417 | 24 | 17.0 | 19.5 | 98.8 | 0.05 | ×1.01 | 17.0 | 17.20 | -2.30 | - | - | 17.0 | 17.35 | -2.15 | - | - | | | | | - |
| | 2417 | 36 | 17.0 | 19.5 | 98.4 | 0.07 | ×1.02 | 17.0 | 17.21 | -2.29 | - | - | 17.0 | 17.39 | -2.11 | - | - | | | | | - |
| | 2417 | 48 | 16.0 | 18.5 | 97.4 | 0.11 | ×1.03 | 16.0 | 15.92 | -2.58 | - | - | 16.0 | 16.29 | -2.21 | - | - | | | | | - |
| | 2417 | 56 | 15.0 | 17.5 | 97.1 | 0.13 | ×1.03 | 15.0 | 15.02 | -2.48 | - | - | 15.0 | 15.45 | -2.05 | - | - | | | | | - |
| | 2412 | 6 | 13.5 | 16.0 | 99.8 | 0.01 | ×1.00 | 13.5 | 14.57 | -1.43 | ×1.39 | - | 13.5 | 14.63 | -1.37 | ×1.37 | - | | | | | - |
| | 2417 | 6 | 17.0 | 19.5 | 99.8 | 0.01 | ×1.00 | 18.0 | **18.52** | -0.98 | ×1.25 | **Tested** | - | - | - | - | - | | | | | tune-up |
| | 2437 | 6 | 15.5 | 18.0 | 99.8 | 0.01 | ×1.00 | 17.0 | 17.09 | -1.41 | ×1.38 | **Tested** | 17.0 | 17.25 | -1.25 | ×1.33 | **Tested** | | | | | tune-up |
| | 2462 | 6 | 15.0 | 17.5 | 99.8 | 0.01 | ×1.00 | 16.0 | 16.08 | -1.42 | ×1.39 | **Tested** | 16.0 | 15.87 | -1.63 | ×1.46 | **Tested** | | | | | tune-up |
| 11n (20HT) (1Tx) | 2417 | MCS0 | 14.5 | 17.0 | 99.6 | 0.02 | ×1.00 | 14.5 | **15.16** | -1.84 | ×1.53 | no (*1) | 14.5 | **15.12** | -1.88 | ×1.54 | no (*1) | | | | | - |
| | 2417 | MCS1 | 14.5 | 17.0 | 99.3 | 0.03 | ×1.01 | 14.5 | 14.87 | -2.13 | - | - | 14.5 | 14.99 | -2.01 | - | - | | | | | - |
| | 2417 | MCS2 | 14.5 | 17.0 | 98.8 | 0.05 | ×1.01 | 14.5 | 14.74 | -2.26 | - | - | 14.5 | 14.80 | -2.20 | - | - | | | | | - |
| | 2417 | MCS3 | 14.5 | 17.0 | 98.6 | 0.06 | ×1.01 | 14.5 | 14.72 | -2.28 | - | - | 14.5 | 14.79 | -2.21 | - | - | | | | | - |
| | 2417 | MCS4 | 14.5 | 17.0 | 97.9 | 0.09 | ×1.02 | 14.5 | 14.62 | -2.38 | - | - | 14.5 | 14.78 | -2.22 | - | - | | | | | - |
| | 2417 | MCS5 | 14.5 | 17.0 | 97.3 | 0.12 | ×1.03 | 14.0 | 14.39 | -2.11 | - | - | 14.0 | 14.29 | -2.21 | - | - | | | | | - |
| | 2417 | MCS6 | 14.5 | 17.0 | 96.8 | 0.14 | ×1.03 | 13.5 | 13.95 | -2.05 | - | - | 13.5 | 13.83 | -2.17 | - | - | | | | | - |
| | 2417 | MCS7 | 14.5 | 17.0 | 96.4 | 0.16 | ×1.04 | 13.0 | 13.54 | -1.96 | - | - | 13.0 | 13.53 | -1.97 | - | - | | | | | - |
| | 2412 | MCS0 | 10.5 | 13.0 | 99.6 | 0.02 | ×1.00 | 10.5 | 11.71 | -1.29 | ×1.35 | - | 10.5 | 11.36 | -1.64 | ×1.46 | - | | | | | - |
| | 2437 | MCS0 | 12.5 | 15.0 | 99.6 | 0.02 | ×1.00 | 13.5 | 13.73 | -1.27 | ×1.34 | - | 13.5 | 14.04 | -0.96 | ×1.25 | - | | | | | tune-up |
| | 2462 | MCS0 | 10.5 | 13.0 | 99.6 | 0.02 | ×1.00 | 11.5 | 11.34 | -1.66 | ×1.47 | - | 11.5 | 11.79 | -1.21 | ×1.32 | - | | | | | tune-up |
| 11n (40HT) (1Tx) | 2427 | MCS0 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 13.5 | **14.19** | -1.81 | ×1.52 | **Tested** | 13.5 | **14.34** | -1.66 | ×1.47 | **Tested** | | | | | - |
| | 2427 | MCS1 | 13.5 | 16.0 | 98.6 | 0.06 | ×1.01 | 13.5 | 13.99 | -2.01 | - | - | 13.5 | 14.26 | -1.74 | - | - | | | | | - |
| | 2427 | MCS2 | 13.5 | 16.0 | 97.8 | 0.10 | ×1.02 | 13.5 | 14.00 | -2.00 | - | - | 13.5 | 14.16 | -1.84 | - | - | | | | | - |
| | 2427 | MCS3 | 13.5 | 16.0 | 97.2 | 0.12 | ×1.03 | 13.5 | 14.05 | -1.95 | - | - | 13.5 | 14.21 | -1.79 | - | - | | | | | - |
| | 2427 | MCS4 | 13.5 | 16.0 | 96.9 | 0.14 | ×1.03 | 13.5 | 13.98 | -2.02 | - | - | 13.5 | 14.09 | -1.91 | - | - | | | | | - |
| | 2427 | MCS5 | 13.0 | 15.5 | 94.8 | 0.23 | ×1.05 | 13.0 | 13.52 | -1.98 | - | - | 13.0 | 13.72 | -1.78 | - | - | | | | | - |
| | 2427 | MCS6 | 12.5 | 15.0 | 94.3 | 0.25 | ×1.06 | 12.5 | 12.94 | -2.06 | - | - | 12.5 | 13.07 | -1.93 | - | - | | | | | - |
| | 2427 | MCS7 | 12.0 | 14.5 | 93.9 | 0.27 | ×1.06 | 12.0 | 12.59 | -1.91 | - | - | 12.0 | 12.72 | -1.78 | - | - | | | | | - |
| | 2422 | MCS0 | 6.0 | 8.5 | 99.3 | 0.03 | ×1.01 | 6.0 | 7.29 | -1.21 | ×1.32 | - | 6.0 | 6.79 | -1.71 | ×1.48 | - | | | | | - |
| | 2437 | MCS0 | 10.5 | 13.0 | 99.3 | 0.03 | ×1.01 | 10.5 | 10.57 | -2.43 | ×1.75 | - | 10.5 | 11.24 | -1.76 | ×1.50 | - | | | | | - |
| | 2452 | MCS0 | 7.0 | 9.5 | 99.3 | 0.03 | ×1.01 | 7.0 | 7.54 | -1.96 | ×1.57 | - | 7.0 | 7.69 | -1.81 | ×1.52 | - | | | | | - |
| 11n (20HT) (2Tx) | 2417 | MCS8 | 14.5 | 17.0 | 99.6 | 0.02 | ×1.00 | 14.5 | 15.02 | -1.98 | ×1.58 | no (*2) | 14.5 | 15.16 | -1.84 | ×1.53 | no (*2) | 17.5 | 20.0 | **18.10** | -1.90 | - |
| | 2417 | MCS9 | 14.5 | 17.0 | 99.3 | 0.03 | ×1.01 | 14.5 | 14.76 | -2.24 | - | - | 14.5 | 14.93 | -2.07 | - | - | 17.5 | 20.0 | 17.86 | -2.14 | - |
| | 2417 | MCS10 | 14.5 | 17.0 | 98.8 | 0.05 | ×1.01 | 14.5 | 14.81 | -2.19 | - | - | 14.5 | 14.86 | -2.14 | - | - | 17.5 | 20.0 | 17.85 | -2.15 | - |
| | 2417 | MCS11 | 14.5 | 17.0 | 98.6 | 0.06 | ×1.01 | 14.5 | 14.82 | -2.18 | - | - | 14.5 | 14.77 | -2.23 | - | - | 17.5 | 20.0 | 17.81 | -2.19 | - |
| | 2417 | MCS12 | 14.5 | 17.0 | 97.9 | 0.09 | ×1.02 | 14.5 | 14.87 | -2.13 | - | - | 14.5 | 14.74 | -2.26 | - | - | 17.5 | 20.0 | 17.82 | -2.18 | - |
| | 2417 | MCS13 | 14.0 | 16.5 | 97.3 | 0.12 | ×1.03 | 14.0 | 14.37 | -2.13 | - | - | 14.0 | 14.19 | -2.31 | - | - | 17.0 | 19.5 | 17.29 | -2.21 | - |
| | 2417 | MCS14 | 13.5 | 16.0 | 96.8 | 0.14 | ×1.03 | 13.5 | 13.79 | -2.21 | - | - | 13.5 | 13.73 | -2.27 | - | - | 16.5 | 19.0 | 16.77 | -2.23 | - |
| | 2417 | MCS15 | 13.0 | 15.5 | 96.4 | 0.16 | ×1.04 | 13.0 | 13.31 | -2.19 | - | - | 13.0 | 13.26 | -2.24 | - | - | 16.0 | 18.5 | 16.30 | -2.20 | - |
| | 2412 | MCS8 | 10.5 | 13.0 | 99.6 | 0.02 | ×1.00 | 10.5 | 11.79 | -1.21 | ×1.32 | - | 10.5 | 11.27 | -1.73 | ×1.49 | - | 13.5 | 16.0 | 14.55 | -1.45 | - |
| | 2437 | MCS8 | 12.5 | 15.0 | 99.6 | 0.02 | ×1.00 | 13.5 | 13.66 | -1.34 | ×1.36 | - | 13.5 | 14.00 | -1.00 | ×1.26 | - | 15.5 | 18.0 | 16.84 | -1.16 | tune-up |
| | 2462 | MCS8 | 10.5 | 13.0 | 99.6 | 0.02 | ×1.00 | 11.5 | 11.50 | -1.50 | ×1.41 | - | 11.5 | 11.70 | -1.30 | ×1.35 | - | 13.5 | 16.0 | 14.61 | -1.39 | tune-up |
| 11n (40HT) (2Tx) | 2427 | MCS8 | 13.5 | 16.0 | 98.9 | 0.05 | ×1.01 | 13.5 | 14.18 | -1.82 | ×1.52 | no (*2) | 13.5 | 14.26 | -1.74 | ×1.49 | no (*2) | 16.5 | 19.0 | **17.23** | -1.77 | - |
| | 2427 | MCS9 | 13.5 | 16.0 | 97.4 | 0.11 | ×1.03 | 13.5 | 14.04 | -1.96 | - | - | 13.5 | 14.10 | -1.90 | - | - | 16.5 | 19.0 | 17.08 | -1.92 | - |
| | 2427 | MCS10 | 13.5 | 16.0 | 96.3 | 0.16 | ×1.04 | 13.5 | 14.04 | -1.96 | - | - | 13.5 | 14.11 | -1.89 | - | - | 16.5 | 19.0 | 17.09 | -1.91 | - |
| | 2427 | MCS11 | 13.5 | 16.0 | 95.5 | 0.20 | ×1.05 | 13.5 | 13.99 | -2.01 | - | - | 13.5 | 13.98 | -2.02 | - | - | 16.5 | 19.0 | 16.99 | -2.01 | - |
| | 2427 | MCS12 | 13.5 | 16.0 | 93.8 | 0.28 | ×1.07 | 13.5 | 13.85 | -2.15 | - | - | 13.5 | 13.90 | -2.10 | - | - | 16.5 | 19.0 | 16.89 | -2.11 | - |
| | 2427 | MCS13 | 13.0 | 15.5 | 92.8 | 0.32 | ×1.08 | 13.0 | 13.40 | -2.10 | - | - | 13.0 | 13.28 | -2.22 | - | - | 16.0 | 18.5 | 16.35 | -2.15 | - |
| | 2427 | MCS14 | 12.5 | 15.0 | 92.1 | 0.36 | ×1.09 | 12.5 | 13.02 | -1.98 | - | - | 12.5 | 12.88 | -2.12 | - | - | 15.5 | 18.0 | 15.96 | -2.04 | - |
| | 2427 | MCS15 | 12.0 | 14.5 | 91.4 | 0.39 | ×1.09 | 12.0 | 12.61 | -1.89 | - | - | 12.0 | 12.58 | -1.92 | - | - | 15.0 | 17.5 | 15.61 | -1.89 | - |
| | 2422 | MCS8 | 6.0 | 8.5 | 98.9 | 0.05 | ×1.01 | 6.0 | 7.37 | -1.13 | ×1.30 | - | 6.0 | 6.97 | -1.53 | ×1.42 | - | 9.0 | 11.5 | 10.19 | -1.31 | - |
| | 2452 | MCS8 | 7.0 | 9.5 | 98.9 | 0.05 | ×1.01 | 7.0 | 7.62 | -1.88 | ×1.54 | - | 7.0 | 7.52 | -1.98 | ×1.58 | - | 10.0 | 12.5 | 10.58 | -1.92 | - |
| | 2437 | MCS8 | 10.5 | 13.0 | 98.9 | 0.05 | ×1.01 | 11.5 | 11.98 | -1.02 | ×1.26 | - | 11.5 | 12.08 | -0.92 | ×1.24 | - | 13.5 | 16.0 | 15.04 | -0.96 | tune-up |

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

*1. (KDB248227 D01 (v02r02)) The reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg.
*2. (KDB447498 D01 (v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

## 6.1.2 5GHz band

| Mode | Freq. | Data rate | Power spec. | | Duty cycle | | | Antenna #0 (chain #0) power | | | | | Antenna #1 (chain #1) power | | | | | MIMO Ant.#0+Ant.#1 power | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Typical | Max. | duty cycle | factor | scaled factor | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | MIMO target | MIMO max. | SUM Ave. | Δ Max. | Power Tune -up? |
| | [MHz] | [Mbps] | [dBm] | [dBm] | [%] | [dB] | [-] | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dBm] | [dB] | |
| 11a | 5500 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 15.0 | 14.93 | -2.57 | ×1.81 | - | 15.0 | 14.60 | -2.90 | ×1.95 | - | | | | | - |
| | 5500 | 9 | 15.0 | 17.5 | 99.6 | 0.02 | ×1.00 | 15.0 | 14.92 | -2.58 | - | - | 15.0 | 14.54 | -2.96 | - | - | | | | | - |
| | 5500 | 12 | 15.0 | 17.5 | 99.2 | 0.03 | ×1.01 | 15.0 | 14.87 | -2.63 | - | - | 15.0 | 14.51 | -2.99 | - | - | | | | | - |
| | 5500 | 18 | 15.0 | 17.5 | 98.9 | 0.05 | ×1.01 | 15.0 | 14.81 | -2.69 | - | - | 15.0 | 14.54 | -2.96 | - | - | | | | | - |
| | 5500 | 24 | 15.0 | 17.5 | 98.8 | 0.05 | ×1.01 | 15.0 | 14.72 | -2.78 | - | - | 15.0 | 14.53 | -2.97 | - | - | | | | | - |
| | 5500 | 36 | 15.0 | 17.5 | 98.1 | 0.08 | ×1.02 | 15.0 | 14.77 | -2.73 | - | - | 15.0 | 14.49 | -3.01 | - | - | | | | | - |
| | 5500 | 48 | 15.0 | 17.5 | 97.3 | 0.12 | ×1.03 | 15.0 | 14.76 | -2.74 | - | - | 15.0 | 14.46 | -3.04 | - | - | | | | | - |
| | 5500 | 56 | 14.0 | 16.5 | 97.0 | 0.13 | ×1.03 | 14.0 | 13.78 | -2.72 | - | - | 14.0 | 13.16 | -3.34 | - | - | | | | | - |
| | 5180 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | 13.70 | -1.30 | ×1.35 | **Tested** | 15.0 | 13.50 | -1.50 | ×1.41 | **Tested** | | | | | tune-up |
| | 5220 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | 13.91 | -1.09 | ×1.29 | - | 15.0 | 13.58 | -1.42 | ×1.39 | - | | | | | tune-up |
| | 5240 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | **14.00** | -1.00 | ×1.26 | - | 15.0 | **13.69** | -1.31 | ×1.35 | - | | | | | tune-up |
| | 5260 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | 13.67 | -1.33 | ×1.36 | **Tested** | 15.0 | 13.55 | -1.45 | ×1.40 | **Tested** | | | | | tune-up |
| | 5300 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | **13.94** | -1.06 | ×1.28 | **Tested** | 15.0 | 13.56 | -1.44 | ×1.39 | **Tested** | | | | | tune-up |
| | 5320 | 6 | 12.5 | 15.0 | 99.7 | 0.01 | ×1.00 | 15.0 | 13.88 | -1.12 | ×1.29 | **Tested** | 15.0 | **13.84** | -1.16 | ×1.31 | **Tested** | | | | | tune-up |
| | 5500 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 16.5 | 15.99 | -1.51 | ×1.42 | **Tested** | 16.5 | **16.18** | -1.32 | ×1.36 | **Tested** | | | | | tune-up |
| | 5580 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 16.5 | **16.39** | -1.11 | ×1.29 | **Tested** | 16.5 | 16.14 | -1.36 | ×1.37 | **Tested** | | | | | tune-up |
| | 5600 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 16.5 | 16.38 | -1.12 | ×1.29 | **Tested** | 16.5 | 16.13 | -1.37 | ×1.37 | **Tested** | | | | | tune-up |
| | 5700 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 16.5 | 15.95 | -1.55 | ×1.43 | **Tested** | 16.5 | 15.80 | -1.70 | ×1.48 | **Tested** | | | | | tune-up |
| | 5745 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 17.0 | 15.95 | -1.55 | ×1.43 | **Tested** | 17.0 | 15.91 | -1.59 | ×1.44 | **Tested** | | | | | tune-up |
| | 5785 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 17.0 | 15.93 | -1.57 | ×1.44 | **Tested** | 17.0 | 15.99 | -1.51 | ×1.42 | **Tested** | | | | | tune-up |
| | 5825 | 6 | 15.0 | 17.5 | 99.7 | 0.01 | ×1.00 | 17.0 | **16.05** | -1.45 | ×1.40 | **Tested** | 17.0 | **16.39** | -1.11 | ×1.29 | **Tested** | | | | | tune-up |
| 11n (20HT) (1Tx) | 5500 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 13.5 | 13.66 | -2.34 | ×1.71 | - | 13.5 | 12.76 | -3.24 | ×2.11 | - | | | | | - |
| | 5500 | MCS1 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 13.5 | 13.62 | -2.38 | - | - | 13.5 | 12.75 | -3.25 | - | - | | | | | - |
| | 5500 | MCS2 | 13.5 | 16.0 | 98.9 | 0.05 | ×1.01 | 13.5 | 13.61 | -2.39 | - | - | 13.5 | 12.74 | -3.26 | - | - | | | | | - |
| | 5500 | MCS3 | 13.5 | 16.0 | 98.6 | 0.06 | ×1.01 | 13.5 | 13.47 | -2.53 | - | - | 13.5 | 12.74 | -3.26 | - | - | | | | | - |
| | 5500 | MCS4 | 13.5 | 16.0 | 98.1 | 0.08 | ×1.02 | 13.5 | 13.47 | -2.53 | - | - | 13.5 | 12.69 | -3.31 | - | - | | | | | - |
| | 5500 | MCS5 | 12.5 | 15.0 | 97.6 | 0.11 | ×1.03 | 12.5 | 12.28 | -2.72 | - | - | 12.5 | 12.18 | -2.82 | - | - | | | | | - |
| | 5500 | MCS6 | 10.5 | 13.0 | 97.0 | 0.13 | ×1.03 | 10.5 | 10.02 | -2.98 | - | - | 10.5 | 9.87 | -3.13 | - | - | | | | | - |
| | 5500 | MCS7 | 8.5 | 11.0 | 96.7 | 0.15 | ×1.04 | 8.5 | 8.18 | -2.82 | - | - | 8.5 | 7.35 | -3.65 | - | - | | | | | - |
| | 5180 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | 12.04 | -1.46 | ×1.40 | - | 13.5 | 12.56 | -0.94 | ×1.24 | - | | | | | tune-up |
| | 5220 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | 12.26 | -1.24 | ×1.33 | - | 13.5 | **12.75** | -0.75 | ×1.19 | no (*1) | | | | | tune-up |
| | 5240 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | **12.37** | -1.13 | ×1.30 | no (*1) | 13.5 | 12.30 | -1.20 | ×1.32 | - | | | | | tune-up |
| | 5260 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | 12.22 | -1.28 | ×1.34 | - | 13.5 | **12.41** | -1.09 | ×1.29 | no (*1) | | | | | tune-up |
| | 5300 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | 12.54 | -0.96 | ×1.25 | - | 13.5 | 12.38 | -1.12 | ×1.29 | - | | | | | tune-up |
| | 5320 | MCS0 | 11.0 | 13.5 | 99.6 | 0.02 | ×1.00 | 13.5 | **12.65** | -0.85 | ×1.22 | no (*1) | 13.5 | 12.27 | -1.23 | ×1.33 | - | | | | | tune-up |
| | 5500 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 15.0 | 14.90 | -1.10 | ×1.29 | - | 15.0 | 14.60 | -1.40 | ×1.38 | - | | | | | tune-up |
| | 5580 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 15.0 | **15.03** | -0.97 | ×1.25 | - | 15.0 | **14.74** | -1.26 | ×1.34 | no (*1) | | | | | tune-up |
| | 5600 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 15.0 | **15.03** | -0.97 | ×1.25 | no (*1) | 15.0 | 14.70 | -1.30 | ×1.35 | - | | | | | tune-up |
| | 5700 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 15.0 | 14.76 | -1.24 | ×1.33 | - | 15.0 | 14.63 | -1.37 | ×1.37 | - | | | | | tune-up |
| | 5745 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 16.0 | **15.02** | -0.98 | ×1.25 | no (*1) | 16.0 | 14.98 | -1.02 | ×1.26 | - | | | | | tune-up |
| | 5785 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 16.0 | 14.81 | -1.19 | ×1.32 | - | 16.0 | 14.98 | -1.02 | ×1.26 | - | | | | | tune-up |
| | 5825 | MCS0 | 13.5 | 16.0 | 99.6 | 0.02 | ×1.00 | 16.0 | 14.82 | -1.18 | ×1.31 | - | 16.0 | **15.37** | -0.63 | ×1.16 | no (*1) | | | | | tune-up |
| 11n (40HT) (1Tx) | 5510 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 11 | 10.82 | -2.68 | ×1.85 | - | 13.5 | 10.44 | -3.06 | ×2.02 | - | | | | | - |
| | 5510 | MCS1 | 11.0 | 13.5 | 98.9 | 0.05 | ×1.01 | 11 | 10.81 | -2.69 | - | - | 13.5 | 10.33 | -3.17 | - | - | | | | | - |
| | 5510 | MCS2 | 11.0 | 13.5 | 98.0 | 0.09 | ×1.02 | 11 | 10.81 | -2.69 | - | - | 13.5 | 10.21 | -3.29 | - | - | | | | | - |
| | 5510 | MCS3 | 11.0 | 13.5 | 97.4 | 0.11 | ×1.03 | 11 | 10.81 | -2.69 | - | - | 13.5 | 10.27 | -3.23 | - | - | | | | | - |
| | 5510 | MCS4 | 11.0 | 13.5 | 96.4 | 0.16 | ×1.04 | 11 | 10.77 | -2.73 | - | - | 13.5 | 10.13 | -3.37 | - | - | | | | | - |
| | 5510 | MCS5 | 11.0 | 13.5 | 95.4 | 0.20 | ×1.05 | 11 | 10.80 | -2.70 | - | - | 12.5 | 10.11 | -3.39 | - | - | | | | | - |
| | 5510 | MCS6 | 10.0 | 12.5 | 94.9 | 0.23 | ×1.05 | 10 | 9.60 | -2.90 | - | - | 10.5 | 9.44 | -3.06 | - | - | | | | | - |
| | 5510 | MCS7 | 8.0 | 10.5 | 94.2 | 0.26 | ×1.06 | 8.0 | 8.00 | -2.50 | - | - | 8.5 | 7.37 | -3.13 | - | - | | | | | - |
| | 5230 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | **12.21** | -1.29 | ×1.35 | - | 13.5 | **12.45** | -1.05 | ×1.27 | - | | | | | tune-up |
| | 5270 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | **12.23** | -1.27 | ×1.34 | - | 13.5 | **12.16** | -1.34 | ×1.36 | **Tested** | | | | | tune-up |
| | 5510 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 12.5 | 12.32 | -1.18 | ×1.31 | - | 12.5 | 12.16 | -1.34 | ×1.36 | - | | | | | tune-up |
| | 5550 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 12.5 | **12.59** | -0.91 | ×1.23 | - | 12.5 | **12.22** | -1.28 | ×1.34 | **Tested** | | | | | tune-up |
| | 5590 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 12.5 | 12.49 | -1.01 | ×1.26 | - | 12.5 | 11.95 | -1.55 | ×1.43 | - | | | | | tune-up |
| | 5670 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 12.5 | 12.09 | -1.41 | ×1.38 | - | 12.5 | 11.99 | -1.51 | ×1.42 | - | | | | | tune-up |
| | 5755 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | **12.25** | -1.25 | ×1.33 | - | 13.5 | 12.06 | -1.44 | ×1.39 | - | | | | | tune-up |
| | 5795 | MCS0 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 11.94 | -1.56 | ×1.43 | - | 13.5 | **12.21** | -1.29 | ×1.35 | **Tested** | | | | | tune-up |
| 11n (20HT) (2Tx) | 5500 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 13.5 | 13.83 | -2.17 | ×1.65 | - | 13.5 | 12.74 | -3.26 | ×2.12 | - | 16.5 | 19.0 | 16.33 | -2.67 | - |
| | 5500 | MCS9 | 13.5 | 16.0 | 98.6 | 0.06 | ×1.01 | 13.5 | 13.47 | -2.53 | - | - | 13.5 | 12.64 | -3.36 | - | - | 16.5 | 19.0 | 16.09 | -2.91 | - |
| | 5500 | MCS10 | 13.5 | 16.0 | 97.9 | 0.09 | ×1.02 | 13.5 | 13.43 | -2.57 | - | - | 13.5 | 12.66 | -3.34 | - | - | 16.5 | 19.0 | 16.07 | -2.93 | - |
| | 5500 | MCS11 | 13.5 | 16.0 | 97.3 | 0.12 | ×1.03 | 13.5 | 13.40 | -2.60 | - | - | 13.5 | 12.66 | -3.34 | - | - | 16.5 | 19.0 | 16.06 | -2.94 | - |
| | 5500 | MCS12 | 13.5 | 16.0 | 96.1 | 0.17 | ×1.04 | 13.5 | 13.35 | -2.65 | - | - | 13.5 | 12.55 | -3.45 | - | - | 16.5 | 19.0 | 15.98 | -3.02 | - |
| | 5500 | MCS13 | 12.5 | 15.0 | 94.9 | 0.23 | ×1.05 | 12.5 | 12.71 | -2.29 | - | - | 12.5 | 11.64 | -3.36 | - | - | 15.5 | 18.0 | 15.22 | -2.78 | - |
| | 5500 | MCS14 | 10.5 | 13.0 | 94.7 | 0.24 | ×1.06 | 10.5 | 10.28 | -2.72 | - | - | 10.5 | 9.82 | -3.18 | - | - | 13.5 | 16.0 | 13.07 | -2.93 | - |
| | 5500 | MCS15 | 8.5 | 11.0 | 94.0 | 0.27 | ×1.06 | 8.5 | 8.53 | -2.47 | - | - | 8.5 | 7.81 | -3.19 | - | - | 11.5 | 14.0 | 11.20 | -2.80 | - |

*(cont'd)*

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

*1. (KDB248227 D01 (v02r02)) The reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

*(cont'd)* **6.1.2 5GHz band (cont'd)**

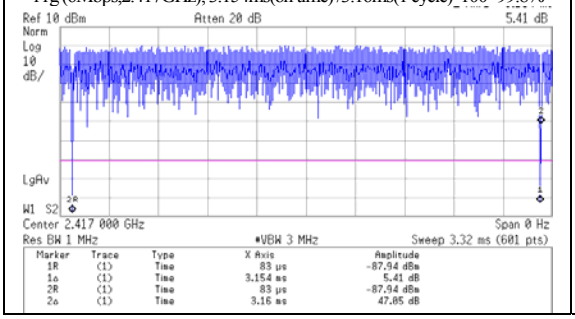
| Mode | Freq. | Data rate | Power spec. | | Duty cycle | | | Antenna #0 (chain #0) power | | | | | Antenna #1 (chain #1) power | | | | | MIMO Ant.#0+Ant.#1 power | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Typical | Max. | duty cycle | factor | scaled factor | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | Set pwr. | Ave. | Δ Max. | Tune-up factor | SAR Tested? | MIMO target | MIMO max. | SUM Ave. | Δ Max. | Power Tune -up? |
| | [MHz] | [Mbps] | [dBm] | [dBm] | [%] | [dB] | [-] | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dB] | [-] | | [dBm] | [dBm] | [dBm] | [dB] | |
| 11n (20HT) (2Tx) | 5180 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 11.84 | -1.66 | ×1.47 | - | 13.5 | 12.42 | -1.08 | ×1.28 | - | 14.0 | 16.5 | 15.15 | -1.35 | tune-up |
| | 5220 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 12.32 | -1.18 | ×1.31 | - | 13.5 | 12.43 | -1.07 | ×1.28 | - | 14.0 | 16.5 | 15.39 | -1.11 | tune-up |
| | 5240 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 12.43 | -1.07 | ×1.28 | no (*1) | 13.5 | 12.54 | -0.96 | ×1.25 | no (*1) | 14.0 | 16.5 | **15.50** | -1.00 | tune-up |
| | 5260 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 12.54 | -0.96 | ×1.25 | - | 13.5 | 12.68 | -0.82 | ×1.21 | - | 14.0 | 16.5 | 15.62 | -0.88 | tune-up |
| | 5300 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 12.81 | -0.69 | ×1.17 | no (*1) | 13.5 | 12.63 | -0.87 | ×1.22 | no (*1) | 14.0 | 16.5 | **15.73** | -0.77 | tune-up |
| | 5320 | MCS8 | 11.0 | 13.5 | 99.3 | 0.03 | ×1.01 | 13.5 | 12.92 | -0.58 | ×1.14 | - | 13.5 | 12.40 | -1.10 | ×1.29 | - | 14.0 | 16.5 | 15.68 | -0.82 | tune-up |
| | 5500 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 15.0 | 14.96 | -1.04 | ×1.27 | - | 15.0 | 14.51 | -1.49 | ×1.41 | - | 16.5 | 19.0 | 17.75 | -1.25 | tune-up |
| | 5580 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 15.0 | 15.00 | -1.00 | ×1.26 | - | 15.0 | 14.69 | -1.31 | ×1.35 | - | 16.5 | 19.0 | 17.86 | -1.14 | tune-up |
| | 5600 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 15.0 | 15.03 | -0.97 | ×1.25 | no (*1) | 15.0 | 14.72 | -1.28 | ×1.34 | no (*1) | 16.5 | 19.0 | **17.89** | -1.11 | tune-up |
| | 5700 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 15.0 | 14.77 | -1.23 | ×1.33 | - | 15.0 | 14.54 | -1.46 | ×1.40 | - | 16.5 | 19.0 | 17.67 | -1.33 | tune-up |
| | 5745 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 16.0 | 14.89 | -1.11 | ×1.29 | - | 16.0 | 14.82 | -1.18 | ×1.31 | - | 16.5 | 19.0 | 17.87 | -1.13 | tune-up |
| | 5785 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 16.0 | 14.85 | -1.15 | ×1.30 | - | 16.0 | 15.13 | -0.87 | ×1.22 | - | 16.5 | 19.0 | 18.00 | -1.00 | tune-up |
| | 5825 | MCS8 | 13.5 | 16.0 | 99.3 | 0.03 | ×1.01 | 16.0 | 14.83 | -1.17 | ×1.31 | no (*1) | 16.0 | 15.18 | -0.82 | ×1.21 | no (*1) | 16.5 | 19.0 | **18.02** | -0.98 | tune-up |
| 11n (40HT) (2Tx) | 5510 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 11.0 | 10.88 | -2.62 | ×1.83 | - | 11.0 | 10.69 | -2.81 | ×1.91 | - | 14.0 | 16.5 | 13.80 | -2.70 | - |
| | 5510 | MCS9 | 11.0 | 13.5 | 98.0 | 0.09 | ×1.02 | 11.0 | 10.84 | -2.66 | - | - | 11.0 | 10.56 | -2.94 | - | - | 14.0 | 16.5 | 13.71 | -2.79 | - |
| | 5510 | MCS10 | 11.0 | 13.5 | 96.8 | 0.14 | ×1.03 | 11.0 | 10.80 | -2.70 | - | - | 11.0 | 10.22 | -3.28 | - | - | 14.0 | 16.5 | 13.53 | -2.97 | - |
| | 5510 | MCS11 | 11.0 | 13.5 | 95.4 | 0.20 | ×1.05 | 11.0 | 10.83 | -2.67 | - | - | 11.0 | 10.11 | -3.39 | - | - | 14.0 | 16.5 | 13.50 | -3.00 | - |
| | 5510 | MCS12 | 11.0 | 13.5 | 93.6 | 0.29 | ×1.07 | 11.0 | 10.79 | -2.71 | - | - | 11.0 | 10.22 | -3.28 | - | - | 14.0 | 16.5 | 13.52 | -2.98 | - |
| | 5510 | MCS13 | 11.0 | 13.5 | 92.8 | 0.32 | ×1.08 | 11.0 | 10.63 | -2.87 | - | - | 11.0 | 10.14 | -3.36 | - | - | 14.0 | 16.5 | 13.40 | -3.10 | - |
| | 5510 | MCS14 | 10.0 | 12.5 | 91.8 | 0.37 | ×1.09 | 10.0 | 9.67 | -2.83 | - | - | 10.0 | 9.55 | -2.95 | - | - | 13.0 | 15.5 | 12.62 | -2.88 | - |
| | 5510 | MCS15 | 8.0 | 10.5 | 91.3 | 0.40 | ×1.10 | 8.0 | 7.99 | -2.51 | - | - | 8.0 | 7.36 | -3.14 | - | - | 11.0 | 13.5 | 10.70 | -2.80 | - |
| | 5230 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 13.5 | 12.29 | -1.21 | ×1.32 | no (*1) | 13.5 | 12.30 | -1.20 | ×1.32 | no (*1) | 14.0 | 16.5 | **15.30** | -1.20 | tune-up |
| | 5270 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 13.5 | 12.17 | -1.33 | ×1.36 | no (*1) | 13.5 | 12.39 | -1.11 | ×1.29 | no (*1) | 14.0 | 16.5 | **15.29** | -1.21 | tune-up |
| | 5510 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 12.5 | 12.76 | -0.74 | ×1.19 | no (*1) | 12.5 | 11.72 | -1.78 | ×1.51 | no (*1) | 14.0 | 16.5 | **15.28** | -1.22 | tune-up |
| | 5550 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 12.5 | 12.45 | -1.05 | ×1.27 | - | 12.5 | 11.85 | -1.65 | ×1.46 | - | 14.0 | 16.5 | 15.17 | -1.33 | tune-up |
| | 5590 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 12.5 | 12.51 | -0.99 | ×1.26 | - | 12.5 | 11.81 | -1.69 | ×1.48 | - | 14.0 | 16.5 | 15.18 | -1.32 | tune-up |
| | 5670 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 12.5 | 12.17 | -1.33 | ×1.36 | - | 12.5 | 12.21 | -1.29 | ×1.35 | - | 14.0 | 16.5 | 15.20 | -1.30 | tune-up |
| | 5755 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 13.5 | 12.45 | -1.05 | ×1.27 | no (*1) | 13.5 | 12.36 | -1.14 | ×1.30 | no (*1) | 14.0 | 16.5 | **15.42** | -1.08 | tune-up |
| | 5795 | MCS8 | 11.0 | 13.5 | 98.7 | 0.06 | ×1.01 | 13.5 | 11.93 | -1.57 | ×1.44 | - | 13.5 | 12.12 | -1.38 | ×1.37 | - | 14.0 | 16.5 | 15.04 | -1.46 | tune-up |

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

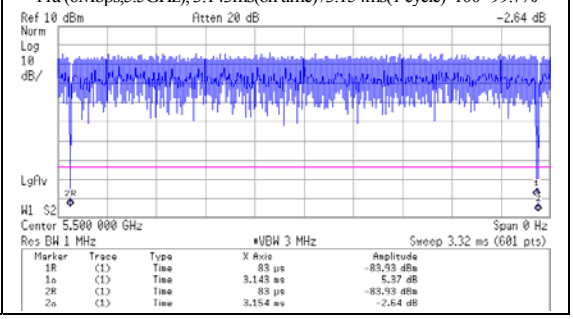
*1. (KDB447498 D01 (v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

(Common definition)
*. Freq.: Frequency, Max.: Maximum, Power spec.: Power specification, Set pwr: Setting power for the measurement, Ave.: Average
*. Calculating formula: Average power (dBm) = (P/M Reading, dBm)+(Cable loss, dB)+(Attenuator, dB)+(duty factor, dB)
Duty cycle: (duty cycle, %) = (Tx on time, ms) / (1 cycle time, ms) × 100; Duty factor: (duty factor, dBm) = 10 × log (100/(duty cycle, %))
Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
ΔMax. (Deviation form maximum power, dB) = (results power (average, dBm)) - (Max.-specification output power (average, dBm))
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))
*. Date measured: February 3 and 4, 2016 / Measured by: Hiroshi Naka / Place: preparation room of No. 7 shielded room. (21 ±1 deg.C./45 ±10 %RH)
*. Uncertainty of antenna port conducted test; Power measurement uncertainty above 1GHz for this test was: (±) 0.76 dB.
*. Uncertainty of antenna port conducted test; Duty cycle and time measurement: (±) 0.012 %.

11g (6Mbps,2.417GHz); 3.154ms(on time) /3.16ms(1 cycle)*100=99.8%




11a (6Mbps,5.5GHz); 3.143ms(on time) /3.154ms(1 cycle)*100=99.7%



# SECTION 7: SAR Measurement results

Measurement date: February 16~19, 22 and 23, 2016 Measurement by: Hiroshi Naka

## 7.1 Liquid measurement

| Target Frequency [MHz] | Liquid type | Liquid parameters (*a) | | | | | | | | Temp. [deg.C.] | Depth [mm] | ΔSAR Coefficients(*c) | | Date measured |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Permittivity (εr) [-] | | | | Conductivity [S/m] | | | | | | ΔSAR (1g) [%] | Correction required? | |
| | | Target | Measured | | Limit (*b) | Target | Measured | | Limit (*b) | | | | | |
| | | | Meas. | Δεr [%] | | | Meas. | Δσ [%] | | | | | | |
| 5745 | Head | 35.36 | 34.97 | -1.1 | -5% ≤ εr-meas. ≤ 0% | 5.214 | 5.102 | -2.1 | -5% ≤ σ-meas. ≤ +5% | 22.9 | 149 | +0.32 | not required. | February 16, 2016 before SAR test |
| 5785 | | 35.32 | 34.98 | -1.0 | | 5.255 | 5.130 | -2.4 | | | | +0.30 | not required. | |
| 5795 | | 35.31 | 35.01 | -0.8 | | 5.265 | 5.129 | -2.6 | | | | +0.28 | not required. | |
| 5825 | | 35.27 | 34.88 | -1.1 | | 5.296 | 5.193 | -1.9 | | | | +0.31 | not required. | |
| 5180 | Head | 36.01 | 35.73 | -0.8 | | 4.635 | 4.538 | -2.1 | | 22.9 | 149 | +0.21 | not required. | February 17, 2016 before SAR test |
| 5260 | | 35.92 | 35.64 | -0.8 | | 4.717 | 4.610 | -2.3 | | | | +0.22 | not required. | |
| 5270 | | 35.91 | 35.60 | -0.9 | | 4.727 | 4.617 | -2.3 | | | | +0.24 | not required. | |
| 5300 | | 35.87 | 35.66 | -0.6 | | 4.758 | 4.633 | -2.6 | | | | +0.20 | not required. | |
| 5320 | | 35.85 | 35.60 | -0.7 | | 4.778 | 4.645 | -2.8 | | | | +0.23 | not required. | |
| 5500 | | 35.64 | 35.36 | -0.8 | | 4.963 | 4.825 | -2.8 | | | | +0.27 | not required. | |
| 5550 | | 35.59 | 35.24 | -1.0 | | 5.014 | 4.885 | -2.6 | | | | +0.31 | not required. | |
| 5580 | | 35.55 | 35.24 | -0.9 | | 5.045 | 4.890 | -3.1 | | | | +0.31 | not required. | |
| 5600 | | 35.53 | 35.20 | -0.9 | | 5.065 | 4.945 | -2.4 | | | | +0.29 | not required. | |
| 5700 | | 35.41 | 35.02 | -1.1 | | 5.168 | 5.047 | -2.3 | | | | +0.33 | not required. | |
| 5500 | Body | 48.61 | 47.19 | -2.9 | -5% ≤ εr-meas. ≤ 0% | 5.650 | 5.859 | +3.7 | 0% ≤ σ-meas. ≤ +5% | 22.6 | 147 | +0.43 | not required. | February 18, 2016 before SAR test |
| 5580 | | 48.50 | 47.06 | -3.0 | | 5.743 | 5.968 | +3.9 | | | | +0.42 | not required. | |
| 5600 | | 48.47 | 47.03 | -3.0 | | 5.766 | 6.003 | +4.1 | | | | +0.41 | not required. | |
| 5700 | | 48.34 | 46.95 | -2.9 | | 5.883 | 6.150 | +4.5 | | | | +0.36 | not required. | |
| 5745 | | 48.27 | 46.83 | -3.0 | | 5.936 | 6.192 | +4.3 | | | | +0.40 | not required. | |
| 5785 | | 48.22 | 46.83 | -2.9 | | 5.982 | 6.253 | +4.5 | | | | +0.37 | not required. | |
| 5825 | | 48.17 | 46.77 | -2.9 | | 6.029 | 6.306 | +4.6 | | | | +0.37 | not required. | |
| 5180 | Body | 49.04 | 47.81 | -2.5 | | 5.424 | 5.424 | +2.8 | | 22.6 | 147 | +0.44 | not required. | February 19, 2016 before SAR test |
| 5260 | | 48.93 | 47.61 | -2.7 | | 5.369 | 5.559 | +3.5 | | | | +0.44 | not required. | |
| 5300 | | 48.88 | 47.56 | -2.7 | | 5.416 | 5.616 | +3.7 | | | | +0.42 | not required. | |
| 5320 | | 48.85 | 47.57 | -2.6 | | 5.439 | 5.608 | +3.1 | | | | +0.42 | not required. | |
| 2412 | Body | 52.75 | 50.55 | -4.2 | -5% ≤ εr-meas. ≤ 0% | 1.914 | 1.949 | +1.8 | 0% ≤ σ-meas. ≤ +5% | 22.4 | 153 | +1.83 | not required. | February 22, 2016 before SAR test |
| 2417 | | 52.74 | 50.51 | -4.2 | | 1.918 | 1.949 | +1.6 | | | | +1.73 | not required. | |
| 2427 | | 52.73 | 50.48 | -4.3 | | 1.928 | 1.969 | +2.1 | | | | +1.99 | not required. | |
| 2437 | | 52.72 | 50.39 | -4.4 | | 1.938 | 1.991 | +2.7 | | | | +2.32 | not required. | |
| 2462 | | 52.68 | 50.31 | -4.5 | | 1.967 | 2.017 | +2.5 | | | | +2.22 | not required. | |
| 2412 | Head | 39.27 | 38.13 | -2.9 | -5% ≤ εr-meas. ≤ 0% | 1.766 | 1.808 | +2.4 | 0% ≤ σ-meas. ≤ +5% | 23.8 | 151 | +1.82 | not required. | February 22~23, 2016 before SAR test (*1) |
| 2417 | | 39.26 | 38.10 | -3.0 | | 1.771 | 1.817 | +2.6 | | | | +1.95 | not required. | |
| 2427 | | 39.24 | 38.08 | -3.0 | | 1.780 | 1.834 | +3.1 | | | | +2.16 | not required. | |
| 2437 | | 39.22 | 38.01 | -3.1 | | 1.788 | 1.843 | +3.1 | | | | +2.18 | not required. | |
| 2462 | | 39.18 | 37.96 | -3.1 | | 1.813 | 1.877 | +3.5 | | | | +2.39 | not required. | |

*1. It was within 24 hours from measurement on February 22, so measured parameters on February 22 were used on February 23.

*a. The target value is a parameter defined in Appendix A of KDB865664 D01 (v01r04), the dielectric parameters suggested for head and body tissue simulating liquid are given at 2000, 2450, 3000 and 5800MHz. (*.The parameters of the head liquid are the same value as IEC 62209-2.) Parameters for the frequencies between 2000-3000, 3000-5800MHz were obtained using linear interpolation. Above 5800MHz were obtained using linear extrapolation.

*b. Refer to KDB865664 D01 (v01r04), item 4), Clause 2.6; "When nominal tissue dielectric parameters are recorded in the probe calibration data; for example, only target values and tolerance are reported, the measured εr and σ of the liquid used in routine measurements must be: ≤ the target εr and ≥ the target σ values and also within 5% of the required target dielectric parameters."

*c. Calculating formula: $\Delta SAR(1g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = -7.854E\text{-}4 \times f^3 + 9.402E\text{-}3 \times f^2 - 2.742E\text{-}2 \times f + 0.2026$ / $C\sigma = 9.804E\text{-}3 \times f^3 - 8.661E\text{-}2 \times f^2 + 2.981E\text{-}2 \times f + 0.7829$

## 7.2 SAR measurement results (Body)

### [Measured and Reported (Scaled) SAR results]

| SAR measurement results | | | | | | | | | | | Reported SAR [W/kg] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mode | Freq. [MHz] (Channel) | Data rate [Mbps] | EUT setup (*1) Antenna *.SAR measured | Position | Gap [mm] | Bty. ID | SAR [W/kg] Max. value of multi-peak Meas. | ΔSAR [%] | ΔSAR corrected | SAR plot # in Appendix 2-2 | Duty cycle correction Duty [%] | Duty scaled | Output average power correction Meas. [dBm]. | Max. [dBm] | Tune-up factor | SAR Corrected (Scaled) (*b) | Remarks (*.Interpolated max.SAR in area scan result.) |
| **Step 1: 2.4GHz Band (Body)** | | | | | | | | | | | | | | | | | |
| 11g | 2417(2) | 6 | ant#0 | Front (Patient) | 0 | #2 | too small | +1.73 | n/a (*a) | Plot 1-3 | 99.8 | ×1.00 | 18.57 | 19.5 | ×1.25 | n/a | (*.0.0115W/kg) |
| | 2417(2) | | ant#1 | | 0 | #2 | not detected | +1.73 | n/a (*a) | Plot 1-4 | 99.8 | ×1.00 | 17.63 | 19.5 | ×1.54 | n/a | (*.0W/kg) |
| 11g | 2417(2) | 6 | ant#0 | Short -side -an#0 | 0 | #2 | **0.129** | +1.73 | n/a (*a) | **Plot 1-1** | 99.8 | ×1.00 | 18.57 | 19.5 | ×1.25 | **0.161** | ant#0-worst,body,2.4GHz |
| | 2437(6) | | | | 0 | #2 | **0.109** | +2.32 | n/a (*a) | Plot 1-5 | 99.8 | ×1.00 | 17.09 | 18.0 | ×1.38 | **0.150** | - |
| | 2462(11) | | | | 0 | #2 | **0.072** | +2.22 | n/a (*a) | Plot 1-6 | 99.8 | ×1.00 | 16.08 | 17.5 | ×1.39 | **0.100** | - |
| 11b | 2412(1) | 1 | | | 0 | #2 | **0.059** | +1.82 | n/a (*a) | Plot 1-7 | 99.8 | ×1.00 | 14.99 | 16.0 | ×1.26 | **0.074** | - |
| n40HT | 2427(4) | MCS0 | | | 0 | #2 | **0.052** | +2.16 | n/a (*a) | Plot 1-8 | 99.3 | ×1.01 | 14.19 | 16.0 | ×1.52 | **0.079** | - |
| 11g | 2417(2) | 6 | ant#1 | Long -side -an#1 | 0 | #3 | **0.069** | +1.73 | n/a (*a) | **Plot 1-2** | 99.8 | ×1.00 | 17.63 | 19.5 | ×1.54 | **0.106** | ant#1-worst,body,2.4GHz |
| | 2437(6) | | | | 0 | #3 | **0.057** | +2.32 | n/a (*a) | Plot 1-9 | 99.8 | ×1.00 | 17.25 | 18.0 | ×1.33 | **0.076** | - |
| | 2462(11) | | | | 0 | #3 | **0.037** | +2.22 | n/a (*a) | Plot 1-10 | 99.8 | ×1.00 | 15.87 | 17.5 | ×1.46 | **0.054** | - |
| 11b | 2412(1) | 1 | | | 0 | #3 | **0.036** | +1.82 | n/a (*a) | Plot 1-11 | 99.8 | ×1.00 | 15.20 | 16.0 | ×1.20 | **0.043** | - |
| n40HT | 2427(4) | MCS0 | | | 0 | #3 | **0.030** | +2.16 | n/a (*a) | Plot 1-12 | 99.3 | ×1.01 | 14.34 | 16.0 | ×1.47 | **0.044** | - |
| **Step 2: 5GHz Band (Body)** | | | | | | | | | | | | | | | | | |
| 11a | 5300(60) | 6 | ant#0 | Front (Patient) | 0 | #3 | not detected | +0.42 | n/a (*a) | Plot 2-3 | 99.7 | ×1.00 | 13.88 | 15.0 | ×1.29 | n/a | (*.0.00834W/kg) |
| | 5580(118) | | | | 0 | #3 | not detected | +0.42 | n/a (*a) | Plot 2-4 | 99.7 | ×1.00 | 16.38 | 17.5 | ×1.29 | n/a | (*.0.00218W/kg) |
| | 5825(165) | | | | 0 | #3 | too small | +0.37 | n/a (*a) | Plot 2-5 | 99.7 | ×1.00 | 16.05 | 17.5 | ×1.40 | n/a | (*.0.0473W/kg) |
| | 5300(60) | | ant#1 | | 0 | #3 | not detected | +0.42 | n/a (*a) | Plot 2-6 | 99.7 | ×1.00 | 13.56 | 15.0 | ×1.39 | n/a | (*.0.00117W/kg) |
| | 5580(116) | | | | 0 | #3 | not detected | +0.42 | n/a (*a) | Plot 2-7 | 99.7 | ×1.00 | 16.14 | 17.5 | ×1.37 | n/a | (*.0.00162W/kg) |
| | 5825(165) | | | | 0 | #3 | not detected | +0.37 | n/a (*a) | Plot 2-8 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | n/a | (*.0.0642W/kg) |
| 11a | 5180(36) | 6 | ant#0 | Short -side -an#0 | 0 | #2 | **0.103** | +0.44 | n/a (*a) | Plot 2-9 | 99.7 | ×1.00 | 13.70 | 15.0 | ×1.35 | **0.139** | ant#0-worst,body,w52/53 |
| | 5260(52) | | | | 0 | #2 | **0.078** | +0.44 | n/a (*a) | Plot 2-10 | 99.7 | ×1.00 | 13.67 | 15.0 | ×1.36 | **0.106** | - |
| | 5300(60) | | | | 0 | #2 | **0.068** | +0.42 | n/a (*a) | Plot 2-11 | 99.7 | ×1.00 | 13.94 | 15.0 | ×1.28 | **0.087** | - |
| | 5320(64) | | | | 0 | #2 | **0.071** | +0.42 | n/a (*a) | Plot 2-12 | 99.7 | ×1.00 | 13.88 | 15.0 | ×1.29 | **0.092** | - |
| | 5500(100) | | | | 0 | #3 | **0.129** | +0.43 | n/a (*a) | **Plot 2-1** | 99.7 | ×1.00 | 15.99 | 17.5 | ×1.42 | **0.183** | ant#0-worst,body,w56 |
| | 5580(116) | | | | 0 | #3 | **0.051** | +0.42 | n/a (*a) | Plot 2-13 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | **0.066** | - |
| | 5600(120) | | | | 0 | #3 | **0.037** | +0.41 | n/a (*a) | Plot 2-14 | 99.7 | ×1.00 | 16.38 | 17.5 | ×1.29 | **0.048** | - |
| | 5700(140) | | | | 0 | #3 | **0.041** | +0.36 | n/a (*a) | Plot 2-15 | 99.7 | ×1.00 | 15.95 | 17.5 | ×1.43 | **0.059** | - |
| | 5745(149) | | | | 0 | #3 | **0.067** | +0.40 | n/a (*a) | Plot 2-16 | 99.7 | ×1.00 | 15.95 | 17.5 | ×1.43 | **0.096** | - |
| | 5785(157) | | | | 0 | #3 | **0.081** | +0.37 | n/a (*a) | Plot 2-17 | 99.7 | ×1.00 | 15.93 | 17.5 | ×1.44 | **0.117** | ant#0-worst,body,w58 |
| | 5825(165) | | | | 0 | #3 | **0.058** | +0.37 | n/a (*a) | Plot 2-18 | 99.7 | ×1.00 | 16.05 | 17.5 | ×1.40 | **0.081** | - |
| 11a | 5180(36) | 6 | ant#1 | Long -side -an#1 | 0 | #2 | **0.068** | +0.44 | n/a (*a) | Plot 2-19 | 99.7 | ×1.00 | 13.50 | 15.0 | ×1.41 | **0.096** | ant#0-worst,body,w52/53 |
| | 5260(52) | | | | 0 | #2 | **0.039** | +0.44 | n/a (*a) | Plot 2-20 | 99.7 | ×1.00 | 13.55 | 15.0 | ×1.40 | **0.055** | - |
| | 5300(60) | | | | 0 | #2 | **0.040** | +0.42 | n/a (*a) | Plot 2-21 | 99.7 | ×1.00 | 13.56 | 15.0 | ×1.39 | **0.056** | - |
| | 5320(64) | | | | 0 | #2 | **0.042** | +0.42 | n/a (*a) | Plot 2-22 | 99.7 | ×1.00 | 13.84 | 15.0 | ×1.31 | **0.055** | - |
| | 5500(100) | | | | 0 | #2 | **0.117** | +0.43 | n/a (*a) | **Plot 2-2** | 99.7 | ×1.00 | 16.18 | 17.5 | ×1.36 | **0.159** | ant#1-worst,body,w56 |
| | 5580(116) | | | | 0 | #2 | **0.073** | +0.42 | n/a (*a) | Plot 2-23 | 99.7 | ×1.00 | 16.14 | 17.5 | ×1.37 | **0.100** | - |
| | 5600(120) | | | | 0 | #2 | **0.069** | +0.41 | n/a (*a) | Plot 2-24 | 99.7 | ×1.00 | 16.13 | 17.5 | ×1.37 | **0.095** | - |
| | 5700(140) | | | | 0 | #2 | **0.092** | +0.36 | n/a (*a) | Plot 2-25 | 99.7 | ×1.00 | 15.80 | 17.5 | ×1.48 | **0.136** | - |
| | 5745(149) | | | | 0 | #2 | **0.106** | +0.40 | n/a (*a) | Plot 2-26 | 99.7 | ×1.00 | 15.91 | 17.5 | ×1.44 | **0.153** | ant#1-worst,body,w58 |
| | 5785(157) | | | | 0 | #2 | **0.100** | +0.37 | n/a (*a) | Plot 2-27 | 99.7 | ×1.00 | 15.99 | 17.5 | ×1.42 | **0.142** | - |
| | 5825(165) | | | | 0 | #2 | **0.112** | +0.37 | n/a (*a) | Plot 2-28 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | **0.144** | - |

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

**Notes:** *. Gap: It is the separation distance between the platform outer surface and the bottom outer surface of phantom; Freq.: Frequency; Bty.ID: Battery ID (Battery #2 and #3 were same model. Refer to Appendix 1 for more detail); Max.: Maximum, Meas.: Measured value; n/a: not applied.

*. Calibration frequency of the SAR measurement probe (and used conversion factors)

| SAR test frequency | Probe calibration frequency | Validity | Conversion factor | Uncertainty |
|---|---|---|---|---|
| 2412, 2417, 2427, 2437, 2462 MHz | 2450 MHz | within ±50MHz of calibration frequency | 7.17 | ±12.0% |
| 5180, 5260, 5300, 5320 MHz | 5250 MHz | within ±110 MHz of calibration frequency | 4.53 | ±13.1 % |
| 5500, 5580, 5600, 5700 MHz | 5600 MHz | within ±110 MHz of calibration frequency | 3.78 | ±13.1 % |
| 5745, 5785, 5825 MHz | 5750 MHz | within ±110 MHz of calibration frequency | 4.06 | ±13.1 % |

*. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

*a. Since the calculated ΔSAR values of the tested liquid had shown positive correction, the measured SAR was not converted by ΔSAR correction.
Calculating formula: ΔSAR corrected SAR (W/kg) = (Meas. SAR (W/kg)) × (100 - (ΔSAR(%)) / 100

*b. Calculating formula: Reported SAR (W/kg) = (Measured SAR (W/kg)) × (Duty scaled) × (Tune-up factor)
Duty scaled = Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))

## 7.3 SAR measurement results (Head)

### [Measured and Reported (Scaled) SAR results]

| SAR measurement results | | | | | | | | | | | | Reported SAR [W/kg] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mode | Freq. [MHz] (Channel) | Data rate [Mbps] | EUT setup (*1) Antenna *.SAR measured | Position | Gap [mm] | Bty. ID | SAR [W/kg] Max. value of multi-peak Meas. | ΔSAR [%] | ΔSAR corrected | SAR plot # in Appendix 2-2 | Duty cycle correction Duty [%] | Duty scaled | Output average power correction Meas. [dBm]. | Max. [dBm] | Tune-up factor | SAR Corrected (Scaled) (*b) | Remarks (*.Interpolated max.SAR in area scan result.) |
| **Step 3: 2.4GHz Band (Head)** | | | | | | | | | | | | | | | | | | |
| 11g | 2417(2) | 6 | ant#0 | Front (Patient) | 0 | #3 | too small | +1.95 | n/a (*a) | Plot 3-3 | 99.8 | ×1.00 | 18.57 | 19.5 | ×1.25 | n/a | (*.0.0152W/kg) |
| | 2417(2) | | ant#1 | | 0 | #3 | not detected | +1.95 | n/a (*a) | Plot 3-4 | 99.8 | ×1.00 | 17.63 | 19.5 | ×1.54 | n/a | (*.0.000789W/kg) |
| 11g | 2417(2) | 6 | ant#0 | Short -side -an#0 | 0 | #3 | **0.145** | +1.95 | n/a (*a) | Plot 3-1 | 99.8 | ×1.00 | 18.57 | 19.5 | ×1.25 | **0.181** | ant#0-worst,head,2.4GHz |
| | 2437(6) | | | | 0 | #3 | **0.113** | +2.18 | n/a (*a) | Plot 3-5 | 99.8 | ×1.00 | 17.09 | 18.0 | ×1.38 | **0.156** | - |
| | 2462(11) | | | | 0 | #3 | **0.080** | +2.39 | n/a (*a) | Plot 3-6 | 99.8 | ×1.00 | 16.08 | 17.5 | ×1.39 | **0.111** | - |
| 11b | 2412(1) | 1 | | | 0 | #3 | **0.064** | +1.82 | n/a (*a) | Plot 3-7 | 99.8 | ×1.00 | 14.99 | 16.0 | ×1.26 | **0.081** | - |
| n40HT | 2427(4) | MCS0 | | | 0 | #2 | **0.056** | +2.16 | n/a (*a) | Plot 3-8 | 99.3 | ×1.01 | 14.19 | 16.0 | ×1.52 | **0.085** | - |
| 11g | 2417(2) | 6 | ant#1 | Long -side -an#1 | 0 | #2 | **0.071** | +1.95 | n/a (*a) | Plot 3-2 | 99.8 | ×1.00 | 17.63 | 19.5 | ×1.54 | **0.109** | ant#1-worst,head,2.4GHz |
| | 2437(6) | | | | 0 | #2 | **0.058** | +2.18 | n/a (*a) | Plot 3-9 | 99.8 | ×1.00 | 17.25 | 18.0 | ×1.33 | **0.077** | - |
| | 2462(11) | | | | 0 | #2 | **0.037** | +2.39 | n/a (*a) | Plot 3-10 | 99.8 | ×1.00 | 15.87 | 17.5 | ×1.46 | **0.054** | - |
| 11b | 2412(1) | 1 | | | 0 | #2 | **0.037** | +1.82 | n/a (*a) | Plot 3-11 | 99.8 | ×1.00 | 15.20 | 16.0 | ×1.20 | **0.044** | - |
| n40HT | 2427(4) | MCS0 | | | 0 | #2 | **0.029** | +2.16 | n/a (*a) | Plot 3-12 | 99.3 | ×1.01 | 14.34 | 16.0 | ×1.47 | **0.043** | - |
| **Step body-4: 5GHz Band (Head)** | | | | | | | | | | | | | | | | | | |
| 11a | 5300(60) | 6 | ant#0 | Front (Patient) | 0 | #3 | not detected | +0.20 | n/a (*a) | Plot 4-3 | 99.7 | ×1.00 | 13.88 | 15.0 | ×1.29 | n/a | (*.0.0000645W/kg) |
| | 5580(118) | | | | 0 | #3 | too small | +0.31 | n/a (*a) | Plot 4-4 | 99.7 | ×1.00 | 16.38 | 17.5 | ×1.29 | n/a | (*.0.0131W/kg) |
| | 5825(165) | | | | 0 | #3 | too small | +0.31 | n/a (*a) | Plot 4-5 | 99.7 | ×1.00 | 16.05 | 17.5 | ×1.40 | n/a | (*.0.0554W/kg) |
| | 5300(60) | | ant#1 | | 0 | #3 | not detected | +0.20 | n/a (*a) | Plot 4-6 | 99.7 | ×1.00 | 13.56 | 15.0 | ×1.39 | n/a | (*.0.000862W/kg) |
| | 5580(116) | | | | 0 | #3 | too small | +0.31 | n/a (*a) | Plot 4-7 | 99.7 | ×1.00 | 16.14 | 17.5 | ×1.37 | n/a | (*.0.0174W/kg) |
| | 5825(165) | | | | 0 | #3 | too small | +0.31 | n/a (*a) | Plot 4-8 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | n/a | (*.0.0215W/kg) |
| 11a | 5180(36) | 6 | ant#0 | Short -side -an#0 | 0 | #2 | **0.113** | +0.21 | n/a (*a) | Plot 4-9 | 99.7 | ×1.00 | 13.70 | 15.0 | ×1.35 | **0.153** | ant#0-worst,body,w52/53 |
| | 5260(52) | | | | 0 | #2 | **0.083** | +0.22 | n/a (*a) | Plot 4-10 | 99.7 | ×1.00 | 13.67 | 15.0 | ×1.36 | **0.113** | - |
| | 5300(60) | | | | 0 | #2 | **0.074** | +0.20 | n/a (*a) | Plot 4-11 | 99.7 | ×1.00 | 13.94 | 15.0 | ×1.28 | **0.095** | - |
| | 5320(64) | | | | 0 | #2 | **0.077** | +0.23 | n/a (*a) | Plot 4-12 | 99.7 | ×1.00 | 13.88 | 15.0 | ×1.29 | **0.099** | - |
| | 5500(100) | | | | 0 | #3 | **0.135** | +0.27 | n/a (*a) | Plot 4-1 | 99.7 | ×1.00 | 15.99 | 17.5 | ×1.42 | **0.192** | ant#0-worst,body,w56 |
| | 5580(116) | | | | 0 | #3 | **0.051** | +0.31 | n/a (*a) | Plot 4-13 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | **0.066** | - |
| | 5600(120) | | | | 0 | #3 | **0.039** | +0.29 | n/a (*a) | Plot 4-14 | 99.7 | ×1.00 | 16.38 | 17.5 | ×1.29 | **0.050** | - |
| | 5700(140) | | | | 0 | #3 | **0.046** | +0.33 | n/a (*a) | Plot 4-15 | 99.7 | ×1.00 | 15.95 | 17.5 | ×1.43 | **0.066** | - |
| | 5745(149) | | | | 0 | #3 | **0.075** | +0.32 | n/a (*a) | Plot 4-16 | 99.7 | ×1.00 | 15.95 | 17.5 | ×1.43 | **0.107** | - |
| | 5785(157) | | | | 0 | #3 | **0.098** | +0.30 | n/a (*a) | Plot 4-17 | 99.7 | ×1.00 | 15.93 | 17.5 | ×1.44 | **0.141** | ant#0-worst,body,w58 |
| | 5825(165) | | | | 0 | #3 | **0.064** | +0.31 | n/a (*a) | Plot 4-18 | 99.7 | ×1.00 | 16.05 | 17.5 | ×1.40 | **0.090** | - |
| 11a | 5180(36) | 6 | ant#1 | Long -side -an#1 | 0 | #2 | **0.083** | +0.21 | n/a (*a) | Plot 4-19 | 99.7 | ×1.00 | 13.55 | 15.0 | ×1.40 | **0.117** | ant#1-worst,body,w52/53 |
| | 5260(52) | | | | 0 | #2 | **0.046** | +0.22 | n/a (*a) | Plot 4-20 | 99.7 | ×1.00 | 13.50 | 15.0 | ×1.41 | **0.064** | - |
| | 5300(60) | | | | 0 | #2 | **0.048** | +0.20 | n/a (*a) | Plot 4-21 | 99.7 | ×1.00 | 13.56 | 15.0 | ×1.39 | **0.067** | - |
| | 5320(64) | | | | 0 | #2 | **0.050** | +0.23 | n/a (*a) | Plot 4-22 | 99.7 | ×1.00 | 13.84 | 15.0 | ×1.31 | **0.066** | - |
| | 5500(100) | | | | 0 | #2 | **0.135** | +0.27 | n/a (*a) | Plot 4-2 | 99.7 | ×1.00 | 16.18 | 17.5 | ×1.36 | **0.184** | ant#1-worst,body,w56 |
| | 5580(116) | | | | 0 | #2 | **0.086** | +0.31 | n/a (*a) | Plot 4-23 | 99.7 | ×1.00 | 16.14 | 17.5 | ×1.37 | **0.118** | - |
| | 5600(120) | | | | 0 | #2 | **0.078** | +0.29 | n/a (*a) | Plot 4-24 | 99.7 | ×1.00 | 16.13 | 17.5 | ×1.37 | **0.107** | - |
| | 5700(140) | | | | 0 | #2 | **0.093** | +0.33 | n/a (*a) | Plot 4-25 | 99.7 | ×1.00 | 15.80 | 17.5 | ×1.48 | **0.138** | - |
| | 5745(149) | | | | 0 | #2 | **0.118** | +0.32 | n/a (*a) | Plot 4-26 | 99.7 | ×1.00 | 15.91 | 17.5 | ×1.44 | **0.170** | ant#1-worst,body,w58 |
| | 5785(157) | | | | 0 | #2 | **0.118** | +0.30 | n/a (*a) | Plot 4-27 | 99.7 | ×1.00 | 15.99 | 17.5 | ×1.42 | **0.168** | - |
| | 5825(165) | | | | 0 | #2 | **0.129** | +0.31 | n/a (*a) | Plot 4-28 | 99.7 | ×1.00 | 16.39 | 17.5 | ×1.29 | **0.166** | - |
| n40HT | 5270(54) | MCS0 | | | 0 | #2 | **0.028** | +0.24 | n/a (*a) | Plot 2-29 | 99.3 | ×1.01 | 12.16 | 13.5 | ×1.36 | **0.038** | - |
| | 5550(110) | | | | 0 | #2 | **0.025** | +0.31 | n/a (*a) | Plot 2-30 | 99.3 | ×1.01 | 12.22 | 13.5 | ×1.34 | **0.034** | - |
| | 5795(159) | | | | 0 | #2 | **0.043** | +0.28 | n/a (*a) | Plot 2-31 | 99.3 | ×1.01 | 12.21 | 13.5 | ×1.35 | **0.058** | - |

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

**Notes:** *. Gap: It is the separation distance between the platform outer surface and the bottom outer surface of phantom; Freq.: Frequency; Bty.ID: Battery ID (Battery #2 and #3 were same model. Refer to Appendix 1 for more detail); Max.: Maximum, Meas.: Measured value; n/a: not applied.

*. Calibration frequency of the SAR measurement probe (and used conversion factors)

| SAR test frequency | Probe calibration frequency | Validity | Conversion factor | Uncertainty |
|---|---|---|---|---|
| 2412, 2417, 2427, 2437, 2462 MHz | 2450 MHz | within ±50MHz of calibration frequency | 7 | ±12.0% |
| 5180, 5260, 5270, 5300, 5320 MHz | 5250 MHz | within ±110 MHz of calibration frequency | 5.04 | ±13.1 % |
| 5500, 5550, 5580, 5600, 5700 MHz | 5600 MHz | within ±110 MHz of calibration frequency | 4.61 | ±13.1 % |
| 5745, 5785, 5795, 5825 MHz | 5750 MHz | within ±110 MHz of calibration frequency | 4.66 | ±13.1 % |

*. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

*a. Since the calculated ΔSAR values of the tested liquid had shown positive correction, the measured SAR was not converted by ΔSAR correction.
Calculating formula: ΔSAR corrected SAR (W/kg) = (Meas. SAR (W/kg)) × (100 - (ΔSAR(%)) / 100

*b. Calculating formula: Reported SAR (W/kg) = (Measured SAR (W/kg)) × (Duty scaled) × (Tune-up factor)
Duty scaled = Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))