
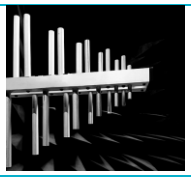
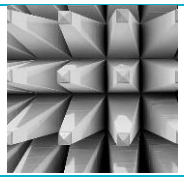

TEST REPORT

Test Report No.: 1-6411-23-01-40_TR1-R01

DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-00

Testing Laboratory

cetecom advanced GmbH
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Accredited Testing Laboratory:
The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2018-03) by the Deutsche Akkreditierungsstelle GmbH (DAkkS).
The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12047-01-00.
ISED Testing Laboratory Recognized Listing Number: DE0001
FCC designation number: DE0002

Applicant

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Manufacturer

Continental Automotive Technologies GmbH
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78052 Villingen-Schwenningen/GERMANY

Test Standards

IEC/IEEE 62209-1528-2020	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
RSS-102 Issue 6	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item:	Connected Infotainment Box / ConneCtivity Unit 3
Device type:	mobile device
Model name:	**CIBCCU3**
S/N serial number:	24312110001000000
FCC-ID:	2AJW5CIBCCU3
ISED Number:	21979-CIBCCU3
Product Marketing Name (PMN):	CIBCCU3
Hardware Version Identification No. (HVIN):	CIBCCU3
IMEI-Number:	866868060039438
Hardware status:	AAA2339020300
Software status:	SP27
Frequency:	see technical details
Antenna:	integrated antenna
Battery option:	12 V DC
Test sample status:	identical prototype
Exposure category:	general population / uncontrolled environment

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test Report authorised:

cn=Alexander Hnatovskiy, o=cetecom advanced GmbH, ou=HNA-230601, email=alexander.hnatovskiy@cetecomadvanced.com, c=DE
2025.05.26 22:03:34 +02'00'

Alexander Hnatovskiy
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Radio Labs

Test performed:

cn=Obada Abo Oun, o=cetecom advanced GmbH, ou=AON-230601, email=obada.aboun@cetecomadvanced.com, c=DE
2025.05.27 07:18:31 +02'00'

Obada Abo Oun
Testing Manager
Radio Labs

1 Table of contents

2 General information

2.1 Notes and disclaimer

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2.2 Application details

Date of receipt of order:	2024-05-27
Date of receipt of test item:	2024-11-14
Start of test:	2024-11-20
End of test:	2025-04-01

2.3 Statement of compliance

The SAR values found for the CIBCCU3 Connected Infotainment Box / ConneCtivity Unit 3 are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1 g tissue according to the FCC rule §2.1093, the Health Canada’s Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure.

2.4 Technical details

Band tested for this test report	Technology	Lowest transmit frequency/MHz	Highest transmit frequency/MHz	Lowest receive Frequency/MHz	Highest receive Frequency/MHz	Kind of modulation	Power Class	Tested power control level	Test channel low	Test channel middle	Test channel high	Maximum P_{avg}/dBm
☒	UMTS FDD II	1852.4	1907.6	1932.4	1987.6	QPSK	3	max	9262	9400	9538	22.7
☒	UMTS FDD IV	1712.4	1752.6	2112.4	2152.6	QPSK	3	max	1312	1412	1513	22.6
☒	UMTS FDD V	826.4	846.6	871.4	891.6	QPSK	3	max	4132	4182	4233	23.5
☒	LTE FDD 2	1850	1910	1930	1990	QPSK	3	max	18700	18900	19100	23.1
☒	LTE FDD 4	1710	1755	2110	2155	QPSK	3	max	20050	20175	20300	23.3
☒	LTE FDD 5	824	849	869	894	QPSK	3	max	20450	20525	20600	23.7
☒	LTE FDD 7	2500	2570	2620	2690	QPSK	3	max	20850	21100	21350	23.3
☒	LTE FDD 12	704	711	734	741	QPSK	3	max	23060	23095	23130	23.8
☒	LTE FDD 13	777	787	746	756	QPSK	3	max	23205	23230	23255	23.9
☒	LTE FDD 17	704	716	734	746	QPSK	3	max	23780	23790	23800	23.6
☒	LTE FDD 25	1850	1915	1930	1995	QPSK	3	max	26140	26340	26590	22.6
☒	LTE FDD 26	814	849	859	894	QPSK	3	max	26765	26865	26965	23.8
☒	LTE TDD 41	2496	2690	2496	2690	QPSK	3	max	39750	40620	41490	23.0
☒	LTE TDD 66	1710	1780	2110	2200	QPSK	3	max	132072	132322	132572	23.0
☒	WLAN	2412	2462	2412	2462	CCK OFDM	--	max	1	6	11	11.4
☒	WLAN	5180	5240	5180	5240	OFDM	--	max	40	44	48	5.9
☒	BT EDR	2402	2480	2402	2480	GFSK	3	max	0	39	78	4.3
☐	BT LE	2402	2480	2402	2480	GFSK	3	max	0	19	39	0.3

LTE Wireless Data Module SIM8918NA

2.5 Transmitter and Antenna Operating Configurations

Simultaneous transmission conditions				
		UMTS / HSPA	+	BT/BLE
		UMTS / HSPA	+	WLAN 2.4GHz
		UMTS / HSPA	+	WLAN 5GHz
		LTE	+	BT/BLE
		LTE	+	WLAN 2.4GHz
		LTE	+	WLAN 5GHz
UMTS	+	BT/BLE	+	WLAN 5GHz
LTE	+	BT/BLE	+	WLAN 5GHz

Table 1: Simultaneous transmission conditions

BLE[1] - Bluetooth low energy

3 Test standards/ procedures references

Test Standard	Version	Test Standard Description
RSS-102 Issue 6	2023-12	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)
RSS-102 Supplementary Procedures SPR-002	2022-10	SPR-002 — Supplementary Procedure for Assessing Compliance of Equipment Operating from 3 kHz to 10 MHz with RSS-102
Canada's Safety Code No. 6	2015-06	Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz
IEEE Std. C95-3	2002	IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave
IEC/IEEE 62209-1528-2020	2020-10-19	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)

FCC KDBs:

KDB 865664D01v01	August 7, 2015	FCC OET SAR measurement requirements 100 MHz to 6 GHz
KDB 865664D02v01	October 23, 2015	RF Exposure Compliance Reporting and Documentation Considerations
KDB 447498D01v06	October 23, 2015	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB 941225D01v03	October 23, 2015	SAR Measurements Procedures for 3G Devices
KDB 941225D05v02	October 23, 2015	SAR for LTE Devices
KDB 941225D05Av01	October 23, 2015	LTE Rel. 10 KDB Inquiry Sheet
KDB 248227D01v02	October 23, 2015	SAR Measurement Procedures for 802.11 a/b/g Transmitters

3.1 RF exposure limits

RF Exposure levels according CFR 47 – Part 1, §1.1310 / RSS 102 Issue 06 / safety Code 6:

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain and Trunk)	**1.60 W/kg**	8.00 W/kg
Spatial Average SAR** (Whole Body)	0.08 W/kg	0.40 W/kg
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	**4.00 W/kg**	20.00 W/kg

Table 2: RF exposure limits (100 kHz to 6 GHz)

The limit applied in this test report is shown in bold letters

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

** The Spatial Average value of the SAR averaged over the whole body.

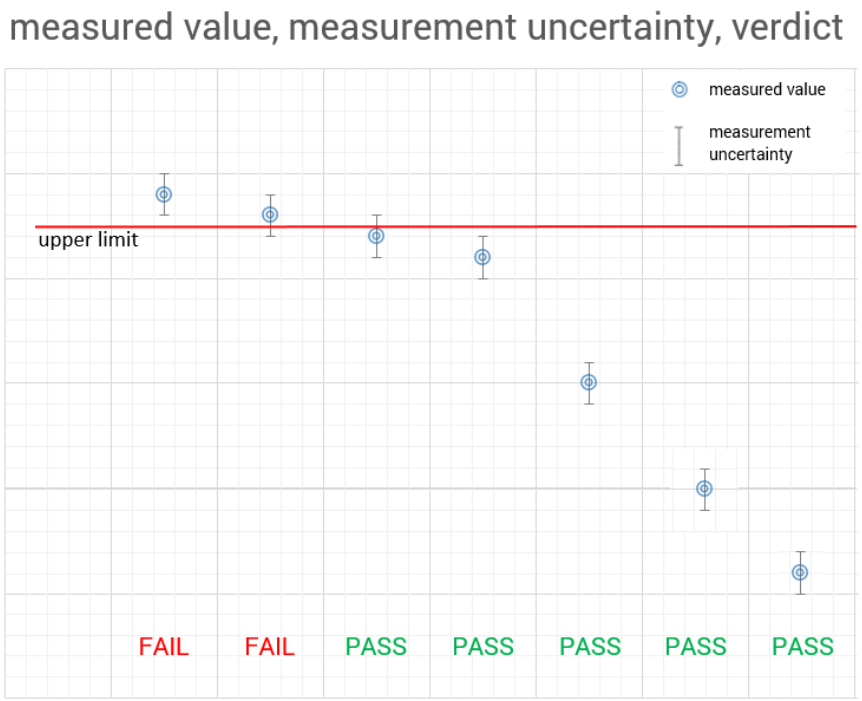
*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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

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

4 Reporting statements of conformity – decision rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3.
The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 20% that the decision might be wrong."



5 Summary of Measurement Results

☒	**No deviations from the technical specifications ascertained**
☐	Deviations from the technical specifications ascertained

Maximum SAR value reported (W/kg)

		PCB	DTS	UNII
body worn 20 mm distance for 1 g		**0.922**	**0.036**	**0.041**
collocated situations	**ΣSAR$_{1g}$ evaluation PCB & DTS**	**0.944**		
	ΣSAR$_{1g}$ evaluation PCB & UNII	**0.962**		
limb worn 20 mm distance for 10 g		**0.566**	**0.020**	**0.018**
collocated situations	**ΣSAR$_{10g}$ evaluation PCB & DTS**	**0.577**		
	ΣSAR$_{10g}$ evaluation PCB & UNII	**0.581**		

6 Test Environment

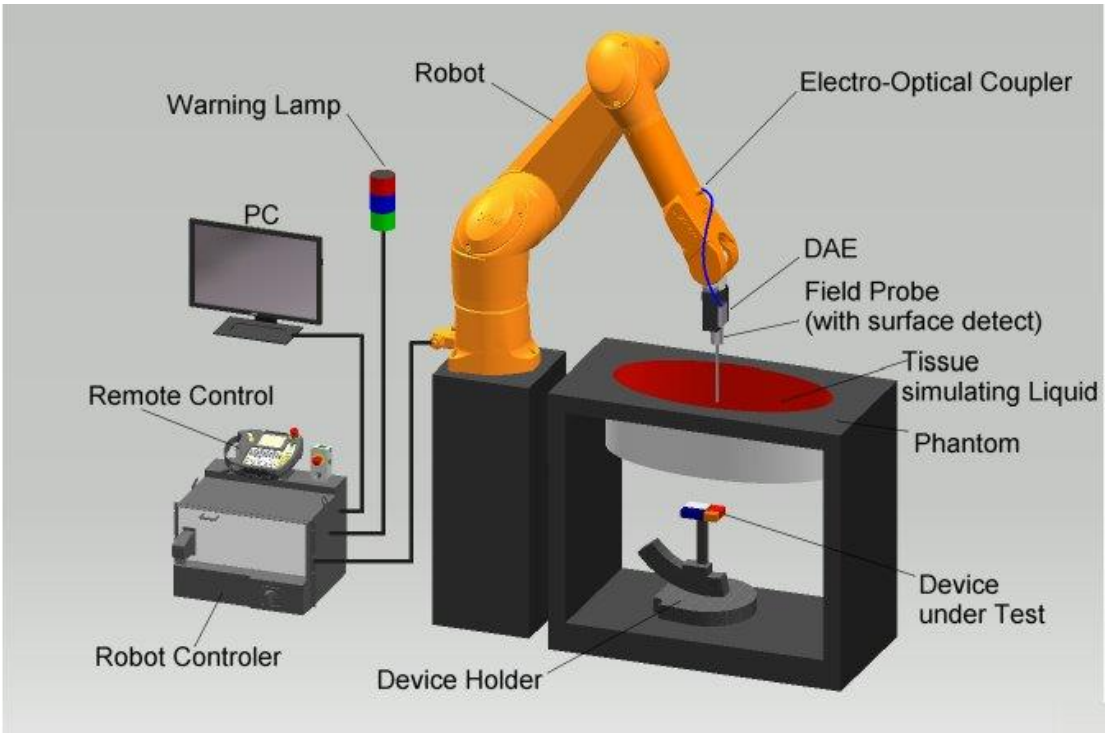
Ambient temperature:	20 – 24 °C
Tissue Simulating liquid:	20 – 24 °C
Relative humidity content:	40 – 50 %
Air pressure:	not relevant for this kind of testing
Power supply:	230 V / 50 Hz

NOTE: For the SAR measurements the exact temperature values for each test are shown in the SAR result tables and are also at the bottom of each measurement plot.

7 Test Set-up

7.1 Measurement system

7.1.1 System Description



- The DASY system for performing compliance tests consists of the following items:
- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY measurement server.
- The DASY measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows.
- DASY software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System check dipoles allowing to validate the proper functioning of the system.

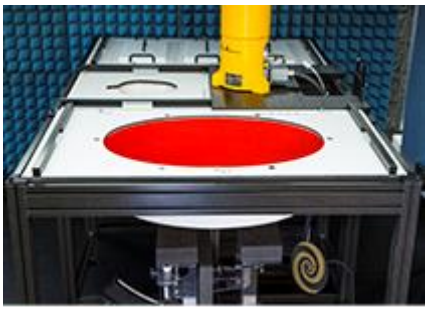
7.1.2 Test environment

The DASY measurement system is placed at the head end of a room with dimensions:
5 x 2.5 x 3 m³, the SAM phantom is placed in a distance of 75 cm from the side walls and 1.1m from the rear wall.
Above the test system a 1.5 x 1.5 m² array of pyramid absorbers is installed to reduce reflections from the ceiling.
Picture 1 of the photo documentation shows a complete view of the test environment.
The system allows the measurement of SAR values larger than 0.005 W/kg.

7.1.3 Probe description

Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements	
Technical data according to manufacturer information	
Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic range	10 µW/g to > 100 W/kg; Linearity: ± 0.2 dB (noise: typically<1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20mm) Tip length: 2.5 mm (Body: 12mm) Typical distance from probe tip to dipole centers: 1mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

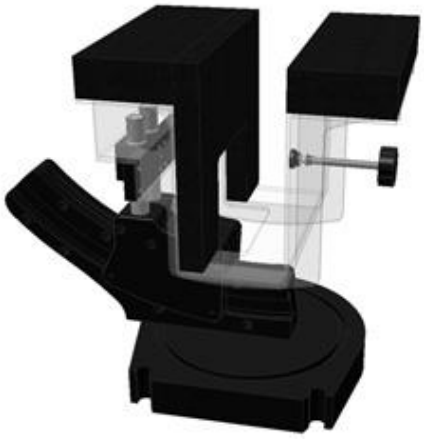
7.1.4 Phantom description



The used ELI Phantom is fully compatible with the IEC/IEEE 62209-1528 and all known tissue stimulating liquids. It meets the requirements specified in KDB865664 D01 for Specific Absorption Rate (SAR) measurements and is fully compatible with the standard IEC 62209-2. The phantom consists of a fibreglass shell integrated in a wooden table. The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4MHz to 10 GHz.

7.1.5 Laptop Extension Kit for Device holder

SPEAG released a simple but effective extension for their Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc).



The extension is lightweight and made of POM, PET-G acrylic glass and foam. It fits easily on the upper part of the Mounting Device in place of the phone positioner.
Larger DUT's cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.

7.1.6 Scanning procedure

- The DASY installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.
- The „reference“ and „drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. +/- 5 %.
- The highest integrated SAR value is the main concern in compliance test applications. These values can mostly be found at the inner surface of the phantom and cannot be measured directly due to the sensor offset in the probe. To extrapolate the surface values, the measurement distances to the surface must be known accurately. A distance error of 0.5mm could produce SAR errors of 6% at 1800 MHz. Measurements can be performed in a fixed plane or by following an arbitrary surface.
- For an automatic and accurate detection of the phantom surface, the DASY system uses Mechanical Surface Detection:

  Mechanical Surface Detection
  Mechanical surface detection uses the probe collision detector built into the DAE. It is extremely accurate if the probe is normal to the surface (0.05 mm). For angled probes, the distance increases, because the detection is at the edge of the probe tip. It can be used in any liquid with any kind of probe. If the surface is strongly angled with respect to the probe, the probe slides along the surface and is defected sideways. The second switch system in the DAE will detect this situation and the probe will move backward until the touch condition is cleared. However, there will be some remaining uncertainty in the final probe position. In the job description, the desired distance from the probe sensors to the phantom surface can be entered. The detection is always at touch, but the probe will move backward from the surface the indicated distance before starting the measurement.

  Mother Scan in cDASY6/DASY8 Module SAR
  The cDASY6/DASY8 Module SAR provides the possibility to do a Mother Scan in which a high resolution Area Scan is done in the phantom filled with liquid to a fixed level using a special teaching probe. This mother scan data is used to recreate the phantom inner surface in software, and all future area and/or zoom scans, and a surface detection check is no longer required.

- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The scan uses different grid spacings for different frequency measurements. Standard grid spacing for head measurements in frequency ranges ≤ 2GHz is 15 mm in x- and y- dimension. For higher frequencies a finer resolution is needed, thus for the grid spacing is reduced according the following table:

Area scan grid spacing for different frequency ranges	
Frequency range	Grid spacing
≤ 2 GHz	≤ 15 mm
2 – 4 GHz	≤ 12 mm
4 – 6 GHz	≤ 10 mm

  Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in annex B.

- A „zoom scan" measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse" scan. It uses a fine meshed grid where the robot moves the probe in steps along all the 3 axis (x, y and z-axis) starting at the bottom of the Phantom. The grid spacing for the cube measurement is varied according to the measured frequency range, the dimensions are given in the following table:

Zoom scan grid spacing and volume for different frequency ranges			
Frequency range	Grid spacing for x, y axis	Grid spacing for z axis	Minimum zoom scan volume
≤ 2 GHz	≤ 8 mm	≤ 5 mm	≥ 30 mm
2 – 3 GHz	≤ 5 mm*	≤ 5 mm	≥ 28 mm
3 – 4 GHz	≤ 5 mm*	≤ 4 mm	≥ 28 mm
4 – 5 GHz	≤ 4 mm*	≤ 3 mm	≥ 25 mm
5 – 6 GHz	≤ 4 mm*	≤ 2 mm	≥ 22 mm

* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

- DASY provides an auto-extending feature to expand the size of the measurement area of the zoom scan as long as the maximum is found too close to the edge of the measured range, which eliminates the need to re-measure cubes whose maximum is found on the boundary of the defined measurement cube.

- To meet the requirements of **IEC 62209-2 AMD1 from 2019** it is necessary to perform graded grid measurements to avoid measurement mistakes.

  Below 3 GHz it defines:
  Horizontal grid step ≤ 8mm
  Vertical grid step ≤ 5mm for uniform spacing

  For variable spacing in vertical direction the maximum distance between the two closest measured points to the phantom shell (M1 and M2) shall be ≤ 4 mm and the spacing between farther points shall increase by a factor ≤ 1.5. Zoom Scan size ≤ 30 mm by 30 mm by 30 mm.

  Above 3 GHz it defines:
  Horizontal grid step ≤ (24/*f* [GHz]) mm
  Vertical grid step ≤ (10/(*f* [GHz] − 1)) mm for uniform spacing

  For variable spacing in vertical direction the maximum distance between the two closest measured points to the phantom shell (M1 and M2) shall be ≤ (12/*f* [GHz]) mm and the spacing between farther points shall increase by a factor ≤ 1.5. Zoom Scan size ≤ 22 mm by 22 mm by 22 mm.

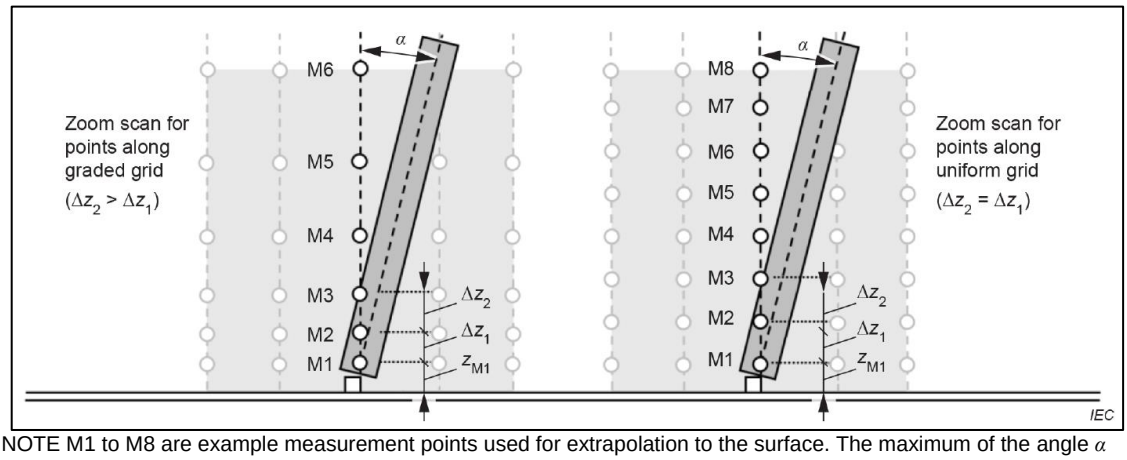
  <u>If the zoom scan measured as defined above complies with both of the following criteria, or if the peak spatial-average SAR is below 0.1 W/kg, no additional measurements are needed:</u>

  1) the smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both *x* and y directions (Δx, Δy). This shall be checked for the measured zoom scan plane conformal to the phantom at the distance z_{M1}. The minimum distance shall be recorded in the SAR test report;
  2) the ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the *x*-*y* location of the measured maximum SAR value shall be at least 30 %. This ratio (in %) shall be recorded in the SAR test report.

If one or both of the above criteria are not met, the zoom scan measurement shall be repeated using a finer resolution while keeping the other zoom scan parameters compatible with the basic requirements for zoom scans.

New horizontal and vertical grid steps shall be determined from the measured SAR distribution so that the above criteria are met. Compliance with the above two criteria shall be demonstrated for the new measured zoom scan. The size of the higher resolution zoom scan and all other parameters shall apply. The closest point to the phantom shell shall be 2 mm or less for graded grids and the grading factor shall be 1.5 or less. Uncertainties due to field distortion between the media boundary and the dielectric enclosure of the probe should also be minimized, which is achieved if the distance between the phantom surface and physical tip of the probe is larger than the probe tip diameter. Other methods may utilize correction procedures to compensate for boundary effects that enable high precision measurements closer than half the probe tip diameter. For all measurement points, the angle of the probe normal to the flat phantom surface shall be less than 5°. If this cannot be achieved, an additional uncertainty evaluation is required.

Orientation of the probe with respect to the line normal to the phantom surface, shown at two different locations:



NOTE M1 to M8 are example measurement points used for extrapolation to the surface. The maximum of the angle α between the evaluation axis and the surface normal line is called the probe angle. The distance z_{M1} is from the phantom shell to the first measurement point M1, and its maximum value is 1.4mm fixed for the DASY system equipped with an EX-Probe. The distances Δz_i (i = 1, 2, 3, ...) are the distances from measurement points M_i to M_{i-1}. For uniform grids, Δz_i are equal. For graded grids, $\Delta z_{i+1} > \Delta z_i$. $R_z = \Delta z_{i+1}/\Delta z_i$ is a ratio with a maximum value (defined in the table below). The z direction corresponds to the vertical direction, the x direction is horizontal and the y direction is horizontal into the page.

NOTE 1: The evaluation of the zoom scan is typically done by the post-processor by interpolation and extrapolation and without reconstruction of the field. More focused induced SAR distributions (e.g., for more localized sources such as capacitively coupled sources) require a more dense grid such that the same integration and extrapolation algorithms can be used for the same assessment uncertainty.

NOTE 2: The minimum ratio of 30 % is derived from the plane wave penetration depth at 6 GHz.

Detailed parameters can be seen in the following table:

Zoom scan parameters

Parameter	DUT transmit frequency being tested	
	$f \leq 3$ GHz	**3 GHz < $f \leq 6$ GHz (f in GHz)**
Maximum distance between the closest measured points and the phantom surface (zM1 in Figure 18 and Table 1, in mm)	5	$\delta \ln(2)/2$[a]
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20)	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Maximum spacing between measured points in the x- and y-directions (Δx and Δy, in mm)	8	24 / f[b]
For uniform grids: Maximum spacing between measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	5	10 / (f − 1)
For graded grids: Maximum spacing between the two closest measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	4	12/f
For graded grids: Maximum incremental increase in the spacing between measured points in the direction normal to the phantom shell ($R_z = \Delta z_2/\Delta z_1$ in Figure 20)	1.5	1.5
Minimum edge length of the zoom scan volume in the x- and y-directions (L_z in O.8.3.2, in mm)	30	22
Minimum edge length of the zoom scan volume in the direction normal to the phantom shell (L_h in O.8.3.2 in mm)	30	22
Tolerance in the probe angle	1°	1°

[a] δ is the penetration depth for a plane-wave incident normally on a planar half-space.
[b] This is the maximum spacing allowed, which might not work for all circumstances.

Minimum probe requirements as a function of frequency and parameters of the tissue equivalent liquid

1	2	3	4	5	6	7	8
Frequency MHz	Relative permittivity	Conductivity S/m	Wavelength in the medium (λ) mm	Plane wave Skin Depth (δ) mm	Maximum Diameter mm	50% Distance for M1 ($z_{50\%} = \delta \ln(2)/2$) mm	Min. distance for M1 (z_{M1}) mm
300	45.3	0.87	148.6	46.1	8.0	16.0	5.0
450	43.5	0.87	101.1	42.9	8.0	14.9	5.0
750	41.9	0.89	61.8	39.8	8.0	13.8	5.0
835	41.5	0.90	55.8	38.9	8.0	13.5	5.0
900	41.5	0.97	51.7	36.1	8.0	12.5	5.0
1450	40.5	1.20	32.5	28.6	8.0	9.9	5.0
1800	40.0	1.40	26.4	24.3	8.0	8.4	5.0
2000	40.0	1.40	23.7	24.2	8.0	8.4	5.0
2450	39.2	1.80	19.6	18.7	6.5	6.5	5.0
2600	39.0	1.96	18.5	17.2	6.2	5.9	5.0
3000	38.5	2.40	16.1	13.9	5.4	4.8	5.0
4000	37.4	3.43	12.3	9.6	4.1	3.3	3.3
5000	36.2	4.45	10.0	7.3	3.3	2.5	2.5
5200	36.0	4.66	9.6	7.0	3.2	2.4	2.4
5400	35.8	4.86	9.3	6.7	3.1	2.3	2.3
5600	35.5	5.07	9.0	6.4	3.0	2.2	2.2
5800	35.3	5.27	8.7	6.1	2.9	2.1	2.1
6000	35.1	5.48	8.4	5.9	2.8	2.0	2.0

Further probe parameters can be seen in Annex M of IEC 62209-2.

7.1.7 Spatial Peak SAR Evaluation

The cDASY6/DASY8 Module SAR software includes all numerical procedures necessary to evaluate the spatial peak SAR values. Based on the IEEE 1528 standard, a new algorithm has been implemented. The spatial-peak SAR can be computed over any required mass.
The base for the evaluation is a "cube" measurement in a volume of 30mm^3 below 3GHz or 22mm^3 above 3GHz. The measured volume must include the 1 g and 10 g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan. If the 10g cube or both cubes are not entirely inside the measured volumes, the system issues a warning regarding the evaluated spatial peak values within the post-processing engine. This means that if the measured volume is shifted, higher values might be possible. To get the correct values a finer measurement grid for the area scan is used. In complicated field distributions, a large grid spacing for the area scan might miss some details and give an incorrectly interpolated peak location. cDASY6/DASY8 Module SAR allows to automatically extend the grid to make sure that both cubes are inside the measured volume.

The entire evaluation of the spatial peak values is performed within the application in case of cDASY6/DASY8 Module SAR software. The system always gives the maximum values for the 1 g and 10 g cubes. The DASY6 software allow to automatically extend the grid to make sure that both cubes are inside the measured volume. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. extraction of the measured data (grid and values) from the Zoom Scan
2. calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. generation of a high-resolution mesh within the measured volume
4. interpolation of all measured values from the measurement grid to the high-resolution grid
5. extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. calculation of the averaged SAR within masses of 1 g and 10 g The significant parts are outlined in more detail within the following sections.

Interpolation, Extrapolation and Detection of Maxima

The probe is calibrated at the center of the dipole sensors which is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated.

The choice of the coordinate system defining the location of the measurement points has no influence on the uncertainty of the interpolation, Maxima Search and extrapolation routines. The interpolation, extrapolation and maximum search routines are all based on the modified Quadratic Shepard's method [Robert J. Renka, "Multivariate Interpolation Of Large Sets Of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148.].

Thereby, the interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation. The DASY6 routines construct a once-continuously differentiable function that interpolates the measurement values as follows:

- For each measurement point a trivariate (3-D) / bivariate (2-D) quadratic is computed. It interpolates the measurement values at the data point and forms a least-square fit to neighbouring measurement values.
- the spatial location of the quadratic with respect to the measurement values is attenuated by an inverse distance weighting. This is performed since the calculated quadratic will fit measurement values at nearby points more accurate than at points located further away.
- After the quadratics are calculated at all measurement points, the interpolating function is calculated as a weighted average of the quadratics.

There are two control parameters that govern the behavior of the interpolation method.

One specifies the number of measurement points to be used in computing the least-square fits for the local quadratics. These measurement points are the ones nearest the input point for which the quadratic is being computed.

The second parameter specifies the number of measurement points that will be used in calculating the weights for the quadratics to produce the final function. The input data points used there are the ones nearest the point at which the interpolation is desired. Appropriate defaults are chosen for each of the control parameters.

The trivariate quadratics that have been previously computed for the 3-D interpolation and whose input data are at the closest distance from the phantom surface, are used in order to extrapolate the fields to the surface of the phantom.

In order to determine all the field maxima in 2-D (Area Scan) and 3-D (Zoom Scan), the measurement grid is refined by a default factor of 10 (area) and 5 (zoom), respectively, and the interpolation function is used to evaluate all field values between corresponding measurement points. Subsequently, a linear search is applied to find all the candidate maxima. In a last step, non physical maxima are removed and only those maxima which are within 2 dB of the global maximum value are retained.

Important: To be processable by the interpolation/extrapolation scheme, the Area Scan requires at least6 measurement points. The Zoom Scan requires at least 10 measurement points to allow the application of these algorithms.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extrema of the SAR distribution. The uncertainty on the locations of the extrema is less than 1/20 of the grid size. Only local maxima within 2 dB of the global maximum are searched and passed for the Zoom Scan measurement.

In the Zoom Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

Averaging and Determination of spatial Peak SAR

Within cDASY6/DASY8 Module SAR software, the measured grid is interpolated to a high resolution grid, where the resolution is around 1mm and chosen such that the cube volume is a multiple of the resolution. Points which are outside of the measured grid are masked out and set to zero. Then, the antiderivative of the interpolated grid is computed by using a Gaussian quadrature consecutively for all spatial dimensions.

The antiderivative is used to compute all cube averages of the volume with the same resolution as the interpolated grid. The maximum of these SAR averages is reported. If the cube containing the maximum averaged SAR touches the surface of the measured volume, an appropriate warning is issued within the Post-processing engine.

7.1.8 Data Storage and Evaluation

Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4", ".DA5x". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [W/kg], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with	V_i	= compensated signal of channel i	(i = x, y, z)
	U_i	= input signal of channel i	(i = x, y, z)
	cf	= crest factor of exciting field	(DASY parameter)
	dcp_i	= diode compression point	(DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes: $$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes: $$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2)/f$$

with	V_i	= compensated signal of channel i	(i = x, y, z)
	$Norm_i$	= sensor sensitivity of channel i [mV/(V/m)^2] for E-field Probes	(i = x, y, z)
	ConvF	= sensitivity enhancement in solution	
	a_{ij}	= sensor sensitivity factors for H-field probes	
	f	= carrier frequency [GHz]	
	E_i	= electric field strength of channel i in V/m	
	H_i	= magnetic field strength of channel i in A/m	

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with	SAR	= local specific absorption rate in W/kg
	E_{tot}	= total field strength in V/m
	σ	= conductivity in [mho/m] or [Siemens/m]
	ρ	= equivalent tissue density in g/cm^3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with	P_{pwe}	= equivalent power density of a plane wave in mW/cm^2
	E_{tot}	= total electric field strength in V/m
	H_{tot}	= total magnetic field strength in A/m

Data Evaluation in cDASY6/DASY8

cDASY6/DASY8 features basic evaluation capabilities comparable to the above described SEMCAD evaluation.

7.1.9 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.
HBBL600-10000MHz Simulating Head Liquid, Manufactured by SPEAG:

Ingredients	(% by weight)
Water	50-65%
Mineral oil	10-30%
Emulsifiers	8-25%
Sodium salt	0-1.5%

Table 3: Head tissue dielectric properties

7.1.10 Tissue simulating liquids: parameters

Freq. (MHz)	Target head tissue		Measurement **head** tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity ε"	Conductivity [S/m]	Dev. %	
704	42.15	0.89	41.8	-0.9	22.32	0.87	-1.4	2024-11-21
707	42.13	0.89	41.8	-0.9	22.25	0.88	-1.3	
709	42.12	0.89	41.8	-0.8	22.21	0.88	-1.3	
710	42.11	0.89	41.8	-0.8	22.19	0.88	-1.2	
711	42.11	0.89	41.8	-0.8	22.16	0.88	-1.2	
750	41.90	0.89	41.7	-0.6	21.27	0.89	-0.3	
779	41.76	0.89	41.6	-0.3	20.68	0.90	0.3	
782	41.75	0.89	41.6	-0.3	20.62	0.90	0.4	
784	41.74	0.89	41.6	-0.3	20.58	0.90	0.4	
822	41.56	0.90	41.6	0.0	19.89	0.91	1.2	
825	41.55	0.90	41.6	0.1	19.83	0.91	1.3	
829	41.53	0.90	41.6	0.1	19.77	0.91	1.4	
832	41.51	0.90	41.6	0.1	19.71	0.91	1.4	
837	41.50	0.90	41.6	0.1	19.63	0.91	1.3	
842	41.50	0.91	41.6	0.1	19.54	0.92	0.9	
844	41.50	0.91	41.6	0.1	19.51	0.92	0.7	
847	41.50	0.91	41.5	0.1	19.46	0.92	0.4	
900	41.50	0.97	41.5	0.0	18.68	0.94	-3.6	
1712	40.13	1.35	39.9	-0.5	13.99	1.33	-1.3	2024-11-20
1720	40.11	1.35	39.9	-0.5	13.97	1.34	-1.3	
1732	40.10	1.36	39.9	-0.4	13.94	1.34	-1.3	
1745	40.08	1.37	39.9	-0.4	13.91	1.35	-1.3	
1750	40.07	1.37	39.9	-0.4	13.90	1.35	-1.3	
1767	40.05	1.38	39.9	-0.4	13.86	1.36	-1.4	
1775	40.04	1.39	39.9	-0.4	13.84	1.37	-1.4	
1860	40.00	1.40	39.8	-0.6	13.68	1.42	1.1	
1880	40.00	1.40	39.8	-0.6	13.64	1.43	1.9	
1900	40.00	1.40	39.7	-0.7	13.61	1.44	2.7	
1905	40.00	1.40	39.7	-0.7	13.60	1.44	2.9	
1712	40.13	1.35	39.7	-1.1	13.99	1.33	-1.3	2024-11-21
1732	40.10	1.36	39.7	-1.1	13.94	1.34	-1.4	
1750	40.07	1.37	39.6	-1.1	13.89	1.35	-1.4	
1752	40.07	1.37	39.6	-1.1	13.88	1.35	-1.4	
1852	40.00	1.40	39.5	-1.1	13.67	1.41	0.6	
1880	40.00	1.40	39.5	-1.2	13.61	1.42	1.7	
1900	40.00	1.40	39.5	-1.2	13.58	1.44	2.5	
1908	40.00	1.40	39.5	-1.3	13.57	1.44	2.9	

Freq. (MHz)	Target head tissue		Measurement **head** tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity ε"	Conductivity [S/m]	Dev. %	
2412	39.27	1.77	38.8	-1.3	13.61	1.83	3.4	2025-03-27
2437	39.22	1.79	38.7	-1.3	13.62	1.85	3.2	
2442	39.21	1.79	38.7	-1.3	13.62	1.85	3.2	
2450	39.20	1.80	38.7	-1.3	13.62	1.86	3.1	
2462	39.20	1.81	38.7	-1.3	13.63	1.87	3.0	
2472	39.19	1.82	38.7	-1.4	13.63	1.87	2.8	
2402	39.28	1.76	38.7	-1.5	13.61	1.82	3.5	2025-04-01
2437	39.22	1.79	38.6	-1.5	13.62	1.85	3.2	
2442	39.21	1.79	38.6	-1.5	13.62	1.85	3.2	
2450	39.20	1.80	38.6	-1.5	13.62	1.86	3.1	
2480	39.19	1.83	38.5	-1.7	13.63	1.88	2.6	
2506	39.18	1.86	39.5	0.7	13.40	1.87	0.5	2024-11-25
2510	39.18	1.86	39.5	0.7	13.40	1.87	0.4	
2535	39.17	1.89	39.4	0.7	13.40	1.89	-0.1	
2560	39.16	1.92	39.4	0.6	13.39	1.91	-0.5	
2593	39.15	1.95	39.3	0.5	13.39	1.93	-1.1	
2600	39.00	1.96	39.3	0.9	13.39	1.94	-1.2	
2680	38.90	2.05	39.2	0.8	13.42	2.00	-2.3	
5200	36.00	4.66	33.8	-6.2	15.46	4.47	-4.0	2025-03-26
5220	35.98	4.68	33.7	-6.2	15.47	4.49	-4.0	
5240	35.96	4.70	33.7	-6.3	15.49	4.51	-3.9	

Table 4: Parameter of the head tissue simulating liquid (HSL)

Note: The dielectric properties have been measured using the contact probe method at 22°C.

*) as the liquid parameters deviation is ≥ ± 5% an extrapolation according IEC / IEEE 62209-1528 chapter 7.8.2 approach 3 is necessary. The DASY software is capable to perform the necessary corrections directly from the tissue and measurement data. The uncertainties in this document have been adjusted accordingly.
For detailed information see chapter 8.2.4 SAR correction for deviations of complex permittivity from targetson page 92.

7.1.11 Measurement uncertainty evaluation for SAR test

DASY6/8 Uncertainty Budget According to IEC/IEEE 62209-1528 (Frequency band: 300 MHz - 3 GHz range)									
Symbol	Error Description	Uncertainty Value	Probability Distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty ± %, (1g)	Standard Uncertainty ± %, (10g)
Measurement System Errors								
CF	Probe Calibration Repeat.	± 12.0 %	Normal	2	1	1	± 6.0 %	± 6.0 %
CFdrift	Probe Calibration Drift	± 1.7 %	Rectangular	√3	1	1	± 1.0 %	± 1.0 %
LIN	Probe linearity	± 4.7 %	Rectangular	√3	1	1	± 2.7 %	± 2.7 %
BBS	Broadband Signal	± 3.0 %	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
ISO	Probe Isotropy (axial)	± 7.6 %	Rectangular	√3	1	1	± 4.4 %	± 4.4 %
DAE	Data Acquisition	± 0.3 %	Normal	1	1	1	± 0.3 %	± 0.3 %
AMB	RF Ambient	± 1.8 %	Normal	1	1	1	± 1.8 %	± 1.8 %
Δ_{sys}	Probe Positioning	± 0.006 mm	Normal	1	0.14	0.14	± 0.1 %	± 0.1 %
DAT	Data Processing	± 1.2 %	Normal	1	1	1	± 1.2 %	± 1.2 %
Phantom and Device Errors								
LIQ(σ)	Conductivity (meas.)[DAK]	± 2.5 %	Normal	1	0.78	0.71	± 2.0 %	± 1.8 %
LIQ(Tσ)	Conductivity (temp.)[BB]	± 3.3 %	Rectangular	√3	0.78	0.71	± 1.5 %	± 1.4 %
EPS	Phantom Permittivity	± 14.0 %	Rectangular	√3	0	0	± 0.0 %	± 0.0 %
DIS	Distance DUT - TSL	± 2.0 %	Normal	1	2	2	± 4.0 %	± 4.0 %
D_{xyz}	Device Positioning	± 1.0 %	Normal	1	1	1	± 1.0 %	± 1.0 %
H	Device Holder	± 3.6 %	Normal	1	1	1	± 3.6 %	± 3.6 %
MOD	DUT Modulation[m]	± 2.4 %	Rectangular	√3	1	1	± 1.4 %	± 1.4 %
TAS	Time-average SAR	± 1.7 %	Rectangular	√3	1	1	± 1.0 %	± 1.0 %
RF_{drift}	DUT drift	± 2.5 %	Normal	1	1	1	± 2.5 %	± 2.5 %
VAL	Val Antenna Unc.[val]	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
RF_{in}	Unc. Input Power[val]	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
Correction to the SAR results								
C(ε, σ)	Deviation to Target	± 1.9 %	Normal	1	1	0.84	± 1.9 %	± 1.6 %
C(R)	SAR scaling[p]	± 0.0 %	Rectangular	√3	1	1	± 0.0 %	± 0.0 %
u(ΔSAR)	**Combined Uncertainty**						± 11.0 %	± 10.9 %
U	**Expanded Uncertainty**						± **21.9** %	± **21.7** %

Table 5: Measurement uncertainties

Worst-Case uncertainty budget for DASY6/8 assessed according to IEC/IEEE 62209-1528 [4]. The budget is valid for the frequency range 300MHz - 3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller. All listed error components have ν_{eff} equal to ∞.

Footnote details:

[m] SMC calibration is a new method for determining the total deviation from linearity. The uncertainty is ≤ 2.4% for psSAR ≤ 2 W/kg, ≤ 4.8% for psSAR1g/10g ≤ 4 W/kg and ≤ 9.6% for psSAR1g/10g ≤ 10 W/kg (see modulation calibration parameter uncertainty in the probe calibration certificate);

[BB] if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;

[DAK] if SPEAG's high precision dielectric probe kit (DAK) is applied;

[p] if power scaling is used, error item "SAR Scaling" must be adjusted accordingly;

[val] only applies in case of validation measurements.

DASY8 Uncertainty Budget According to IEC/IEEE 62209-1528 (Frequency band: 3 GHz - 6 GHz range)									
Symbol	Error Description	Uncertainty Value	Probability Distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty ± %, (1g)	Standard Uncertainty ± %, (10g)	
Measurement System Errors									
CF	Probe Calibration Repeat.	± 13.1 %	Normal	2	1	1	± 6.6 %	± 6.6 %	
CFdrift	Probe Calibration Drift	± 1.7 %	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %	
LIN	Probe linearity	± 4.7 %	Rectangular	√ 3	1	1	± 2.7 %	± 2.7 %	
BBS	Broadband Signal	± 2.6 %	Rectangular	√ 3	1	1	± 1.5 %	± 1.5 %	
ISO	Probe Isotropy (axial)	± 7.6 %	Rectangular	√ 3	1	1	± 4.4 %	± 4.4 %	
DAE	Data Acquisition	± 0.3 %	Normal	1	1	1	± 0.3 %	± 0.3 %	
AMB	RF Ambient	± 1.8 %	Normal	1	1	1	± 1.8 %	± 1.8 %	
Δ_{sys}	Probe Positioning	± 0.005 mm	Normal	1	0.29	0.29	± 0.2 %	± 0.2 %	
DAT	Data Processing	± 2.3 %	Normal	1	1	1	± 2.3 %	± 2.3 %	
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.)[DAK]	± 2.5 %	Normal	1	0.78	0.71	± 2.0 %	± 1.8 %	
LIQ(Tσ)	Conductivity (temp.)[BB]	± 3.4 %	Rectangular	√ 3	0.78	0.71	± 1.5 %	± 1.4 %	
EPS	Phantom Permittivity	± 14.0 %	Rectangular	√ 3	0.25	0.25	± 2.0 %	± 2.0 %	
DIS	Distance DUT - TSL	± 2.0 %	Normal	1	2	2	± 4.0 %	± 4.0 %	
D_{xyz}	Device Positioning	± 1.0 %	Normal	1	1	1	± 1.0 %	± 1.0 %	
H	Device Holder	± 3.6 %	Normal	1	1	1	± 3.6 %	± 3.6 %	
MOD	DUT Modulation[m]	± 2.4 %	Rectangular	√ 3	1	1	± 1.4 %	± 1.4 %	
TAS	Time-average SAR	± 1.7 %	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %	
RF_{drift}	DUT drift	± 2.5 %	Normal	1	1	1	± 2.5 %	± 2.5 %	
VAL	Val Antenna Unc.[val]	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %	
RF_{in}	Unc. Input Power[val]	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %	
Correction to the SAR results									
C(ε, σ)	Deviation to Target	± 1.9 %	Normal	1	1	0.84	± 1.9 %	± 1.6 %	
C(R)	SAR scaling[p]	± 0.0 %	Rectangular	√ 3	1	1	± 0.0 %	± 0.0 %	
u(ΔSAR)	**Combined Uncertainty**						± 11.6 %	± 11.5 %	
U	**Expanded Uncertainty**						± **23.2** %	± **23.0** %	

Table 6: Measurement uncertainties

Worst-Case uncertainty budget for DASY8 assessed according to IEC/IEEE 62209-1528 [4]. The budget is valid for the frequency range 3 GHz – 6 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller. All listed error components have $\mathcal{V}eff$ equal to ∞.

Footnote details:

[m] SMC calibration is a new method for determining the total deviation from linearity. The uncertainty is ≤ 2.4% for psSAR ≤ 2 W/kg, ≤ 4.8% for psSAR1g/10g ≤ 4 W/kg and ≤ 9.6% for psSAR1g/10g ≤ 10 W/kg (see modulation calibration parameter uncertainty in the probe calibration certificate);

[BB] if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;

[DAK] if SPEAG's high precision dielectric probe kit (DAK) is applied;

[p] if power scaling is used, error item "SAR Scaling" must be adjusted accordingly;

[val] only applies in case of validation measurements.

7.1.12 Measurement uncertainty evaluation for System Check

Repeatability Budget for System Check (Frequency band: 300MHz - 6GHz range) with DASY6/8 System									
Symbol	Error Description	Uncertainty Value	Probability Distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty ± %, (1g)	Standard Uncertainty ± %, (10g)
Measurement System Errors								
CF	Probe Calibration Repeat.	± 3.6 %	Normal	2	2	1	± 5.1 %	± 2.5 %
CFdrift	Probe Calibration Drift	± 1.7 %	Rectangular	√3	1	1	± 1.0 %	± 1.0 %
LIN	Probe linearity	± 4.7 %	Rectangular	√3	0	0	± 0.0 %	± 0.0 %
BBS	Broadband Signal	± 0.0 %	Rectangular	√3	0	0	± 0.0 %	± 0.0 %
ISO	Probe Isotropy (axial)	± 4.7 %	Rectangular	√3	0	0	± 0.0 %	± 0.0 %
DAE	Data Acquisition	± 0.3 %	Normal	1	0	0	± 0.0 %	± 0.0 %
AMB	RF Ambient	± 0.6 %	Normal	1	0	0	± 0.0 %	± 0.0 %
Δ_{sys}	Probe Positioning	± 0.2 %	Normal	1	0.33	0.33	± 0.1 %	± 0.1 %
DAT	Data Processing	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
Phantom and Device Errors								
LIQ(σ)	Conductivity (meas.)[DAK]	± 2.5 %	Normal	1	0.78	0.71	± 2.0 %	± 1.8 %
LIQ(Tσ)	Conductivity (temp.)[BB]	± 3.4 %	Rectangular	√3	0.78	0.71	± 1.5 %	± 1.4 %
EPS	Phantom Permittivity	± 14.0 %	Rectangular	√3	0	0	± 0.0 %	± 0.0 %
DIS	Distance Phantom - DUT	± 1.0 %	Normal	1	2	2	± 2.0 %	± 2.0 %
MOD	DUT Modulation[m]	± 0.0 %	Rectangular	√3	1	1	± 0.0 %	± 0.0 %
TAS	Time-average SAR	± 0.0 %	Rectangular	√3	1	1	± 0.0 %	± 0.0 %
VAL	Validation antenna	± 0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
P_{in}	Accepted power	± 1.2 %	Normal	1	1	1	± 1.2 %	± 1.2 %
Correction to the SAR results								
C(ε, σ)	Deviation to Target	± 1.9 %	Normal	1	1	0.84	± 1.9 %	± 1.6 %
u(ΔSAR)	**Combined Uncertainty**						± 6.5 %	± 4.5 %
U	**Expanded Uncertainty**						± **13.0** %	± **9.1** %

Table 7: Repeatability of the system check (300MHz - 6 GHz).

All listed error components have ν_{eff} equal to ∞.

Footnote details:
[BB] if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;
[DAK] if SPEAG's high precision dielectric probe kit (DAK) is applied.

Note: Worst case probe calibration uncertainty has been applied for all probes used during the measurements.

7.1.13 System check

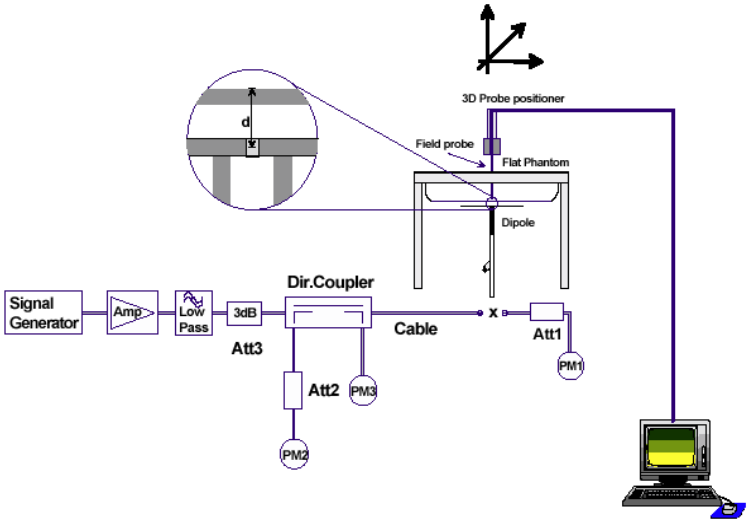
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The following table shows system check results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

System performence check (1000 mW)									
System validation Kit	Probe	Frequency	Target SAR_{1g}	Target SAR_{10g}	Measured SAR_{1g}	SAR_{1g}	Measured SAR_{10g}	SAR_{10g}	Measured date
		MHz	W/kg (+/- 10%)		W/kg	dev.	W/kg	dev.	
D750V3 S/N: 1041	EX3DV4 S/N: 7852	750	8.52	5.60	8.30	-2.6%	5.46	-2.5%	2024-11-21
D900V2 S/N: 102	EX3DV4 S/N: 7852	900	11.00	7.08	10.72	-2.5%	7.00	-1.1%	2024-11-22
D1750V2 S/N: 1093	EX3DV4 S/N: 7852	1750	36.10	19.30	34.80	-3.6%	18.54	-3.9%	2024-11-20
D1750V2 S/N: 1093	EX3DV4 S/N: 7852	1750	36.10	19.30	34.00	-5.8%	18.16	-5.9%	2024-11-21
D1900V2 S/N: 5d009	EX3DV4 S/N: 7852	1900	39.10	20.60	40.40	3.3%	21.20	2.9%	2024-11-20
D1900V2 S/N: 5d009	EX3DV4 S/N: 7852	1900	39.10	20.60	39.60	1.3%	20.80	1.0%	2024-11-21
D2450V2 S/N: 710	EX3DV4 S/N: 3944	2450	51.80	24.10	47.00	-9.3%	22.20	-7.9%	2025-03-27
D2450V2 S/N: 710	EX3DV4 S/N: 3944	2450	51.80	24.10	47.60	-8.1%	22.40	-7.1%	2025-04-01
D2600V2 S/N: 1040	EX3DV4 S/N: 7852	2600	56.20	25.40	55.40	-1.4%	25.00	-1.6%	2024-11-25
D2600V2 S/N: 1040	EX3DV4 S/N: 7852	2600	56.20	25.40	55.60	-1.1%	25.10	-1.2%	2024-11-26
D5GHzV2 S/N: 1055	EX3DV4 S/N: 3944	5200	78.30	22.30	73.00	-6.8%	21.20	-4.9%	2025-03-27

Table 8: Results system check

7.1.14 System check procedure

The system check is performed by using a validation dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100 mW or 50 mW if used Powersource1. To adjust this power a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).
System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



7.1.15 System validation

The system validation is performed in a similar way as a system check. It needs to be performed once a SAR measurement system has been established and allows an evaluation of the system accuracy with all components used together with the specified system. It has to be repeated at least once a year or when new system components are used (DAE, probe, phantom, dipole, liquid type).
In addition to the procedure used during system check a system validation also includes checks of probe isotropy, probe modulation factor and RF signal.

8 Detailed Test Results

8.1 Conducted power measurements

8.1.1 Conducted power measurements WCDMA FDD V (850 MHz)

Max. RMS output power 850 MHz (FDD V) / dBm			
mode	CH 4132 / 826.4 MHz	CH 4182 / 836.6 MHz	CH 4233 / 846.6 MHz
RMC 12.2 kbit/s	**23.4**	**23.5**	**23.5**
RMC 64 kbit/s	23.3	23.5	23.5
RMC 144 kbit/s	23.3	23.5	23.4
RMC 384 kbit/s	23.3	23.5	23.4
AMR 4.75 kbit/s	23.3	23.5	23.5
AMR 5.15 kbit/s	23.3	23.5	23.5
AMR 5.9 kbit/s	23.4	23.5	23.4
AMR 6.7 kbit/s	23.3	23.5	23.5
AMR 7.4 kbit/s	23.3	23.5	23.4
AMR 7.95 kbit/s	23.3	23.5	23.4
AMR 10.2 kbit/s	23.3	23.5	23.4
AMR 12.2 kbit/s	23.4	23.5	23.4
HSDPA Sub test 1	22.5	22.6	22.6
HSDPA Sub test 2	21.9	22.1	22.0
HSDPA Sub test 3	21.9	22.1	22.0
HSDPA Sub test 4	23.4	23.5	23.5
HSUPA Sub test 1	21.5	21.6	21.6
HSUPA Sub test 2	22.5	22.7	22.6
HSUPA Sub test 3	21.4	21.5	21.4
HSUPA Sub test 4	22.5	22.6	22.5
HSUPA Sub test 5	23.3	23.5	23.4

Table 9: Test results conducted power measurement UMTS FDD V 850MHz

8.1.2 Conducted power measurements WCDMA FDD IV (1700 MHz)

Max. RMS output power FDD IV (1700MHz) / dBm			
mode	CH 1312 / 1712.4 MHz	CH 1412 / 1732.4 MHz	CH 1513 / 1752.6 MHz
RMC 12.2 kbit/s	**22.6**	**22.3**	**22.5**
RMC 64 kbit/s	22.6	22.3	22.4
RMC 144 kbit/s	22.6	22.3	22.4
RMC 384 kbit/s	22.6	22.2	22.5
AMR 4.75 kbit/s	22.5	22.3	22.5
AMR 5.15 kbit/s	22.6	22.3	22.5
AMR 5.9 kbit/s	22.5	22.3	22.5
AMR 6.7 kbit/s	22.6	22.3	22.5
AMR 7.4 kbit/s	22.5	22.3	22.5
AMR 7.95 kbit/s	22.5	22.3	22.5
AMR 10.2 kbit/s	22.5	22.2	22.5
AMR 12.2 kbit/s	22.5	22.3	22.5
HSDPA Sub test 1	22.6	22.3	22.4
HSDPA Sub test 2	21.7	21.3	21.6
HSDPA Sub test 3	21.1	20.8	21.1
HSDPA Sub test 4	21.2	20.8	21.0
HSUPA Sub test 1	22.6	22.3	22.5
HSUPA Sub test 2	20.6	20.4	20.5
HSUPA Sub test 3	21.7	21.5	21.6
HSUPA Sub test 4	20.6	20.2	20.4
HSUPA Sub test 5	21.6	21.4	21.5

Table 10: Test results conducted power measurement UMTS FDD IV 1700MHz

8.1.3 Conducted power measurements WCDMA FDD II (1900 MHz)

Max. RMS output power 1900 MHz (FDD II) / dBm			
	Channel / frequency		
mode	9262 / 1852.4 MHz	9400 / 1880.0 MHz	9538 / 1907.6 MHz
RMC 12.2 kbit/s	**22.4**	**22.6**	**22.7**
RMC 64 kbit/s	22.4	22.6	22.6
RMC 144 kbit/s	22.4	22.6	22.6
RMC 384 kbit/s	22.3	22.5	22.7
AMR 4.75 kbit/s	22.4	22.5	22.7
AMR 5.15 kbit/s	22.4	22.5	22.7
AMR 5.9 kbit/s	22.4	22.5	22.6
AMR 6.7 kbit/s	22.4	22.6	22.6
AMR 7.4 kbit/s	22.4	22.5	22.6
AMR 7.95 kbit/s	22.4	22.5	22.6
AMR 10.2 kbit/s	22.4	22.5	22.6
AMR 12.2 kbit/s	22.4	22.5	22.6
HSDPA Sub test 1	22.4	22.6	22.7
HSDPA Sub test 2	21.4	21.7	21.7
HSDPA Sub test 3	20.9	21.1	21.3
HSDPA Sub test 4	21.0	21.2	21.3
HSUPA Sub test 1	22.4	22.5	22.6
HSUPA Sub test 2	20.5	20.7	20.8
HSUPA Sub test 3	21.6	21.7	21.9
HSUPA Sub test 4	20.3	20.6	20.7
HSUPA Sub test 5	21.5	21.6	21.7

Table 11: Test results conducted power measurement UMTS FDD II 1900MHz

Remark: None of the HSDPA/HSUPA settings leads to conducted power values exceeding the conducted power in RMC mode by more than 0.25 dB.
Therefore no additional SAR measurements were performed in HSDPA/HSUPA mode.

8.1.4 Test-set-up information for WCDMA / HSPDA / HSUPA

a) WCDMA RMC

In RMC (reference measurement channel) mode the conducted power at 4 different bit rates was measured. They correspond with the used spreading factors as follows:

Bit rate	***12.2 kbit/s***	***64 kbit/s***	***144 kbit/s***	***384 kbit/s***
Spreading factor (SF)	64	16	8	4

In RMC mode only DPCCH and DPDCH are active. As bit rate changes do not influence the relative power of any code channel the measured RMS output power remains on the same level which is set to maximum by TPC (Transmit power control) pattern type 'All 1'.

b) HSDPA

HSDPA adds the HS-DPCCH in uplink as a control channel for high speed data transfer in downlink.
In HSDPA mode 4 sub-tests are defined by 3GPP 34.121 according to the following table:

Sub-test	**β_c**	**β_d**	**β_d (SF)**	**β_c/β_d**	**β_{hs}(1)**	**CM(dB)(2)**
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5
Note 1: Δ_{ACK}, Δ_{NACK}, Δ_{CQI} = 8 $\Leftrightarrow$ A_{hs} = β_{hs}/β_c = 30/15 $\Leftrightarrow$ β_{hs} = 30/15 * β_c Note 2 : CM = 1 for β_c/β_d = 12/15, β_{hs}/β_c = 24/15 Note 3 : For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to β_c = 11/15 and β_d = 15/15						

Table 12: Sub-tests for UMTS Release 5 HSDPA

The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the above table, β_{hs} for HS-DPCCH is set automatically to the correct value when Δ_{ACK}, Δ_{NACK}, Δ_{CQI} = 8. The variation of the β_c/β_d ratio causes a power reduction at sub-tests 2 - 4.
The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	***Value***
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI's
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 13: settings of required H-Set 1 QPSK acc. to 3GPP 34.121

c) HSUPA

In HSUPA mode additional code channels (E-DPCCH, E-DPDCHn) are added for data transfer in uplink at higher bit rates.

5 sub-tests are defined by 3GPP 34.121 according to the following table:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK}, Δ_{CQI} = 8 $\Longleftrightarrow$ A_{hs} = β_{hs}/β_c = 30/15 $\Longleftrightarrow$ β_{hs} = 30/15 * β_c
Note 2 : CM = 1 for β_c/β_d = 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference
Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to β_c = 10/15 and β_d = 15/15
Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to β_c = 14/15 and β_d = 15/15
Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g
Note 6 : β_{ed} can not be set directly; it is set by Absolute Grant Value

Table 14: Subtests for UMTS Release 6 HSUPA

To achieve the settings above some additional procedures were defined by 3GPP 34.121. Those have been included in an application note for the CMU200 and were exactly followed:

- Test mode connection (BS signal tab):
RMC 12.2 kbit/s + HSPA 34.108 with loop mode 1
- HS-DSCH settings (BS signal tab):
- FRC with H-set 1 QPSK
- ACK-NACK repetition factor = 3
- CQI feedback cycle = 4ms
- CQI repetition factor = 2
- HSUPA-specific signalling settings (UE signal tab):
- E-TFCI table index = 0
- E-DCH minimum set E-TFCI = 9
- Puncturing limit non-max = 0.84
- max. number of channelisation codes = 2x SF4
- Initial Serving Grant Value = Off
- HSDPA and HSUPA Gain factors (UE signal tab)

Sub-test	β_c	β_d	Δ_{ACK}, Δ_{NACK}, Δ_{CQI}	ΔE–DPCCH)*
1	10	15	8	6
2	6	15	8	8
3	15	9	8	8
4	2	15	8	5
5	14	15	8	7

)* : β_{ec} and β_{ed} ratios (relative to β_c and β_d) are set by ΔE–DPCCH

- HSUPA Reference E-TFCIs (UE signal tab > HSUPA gain factors):

Sub-test	**1, 2, 4, 5**				
Number of E-TFCIs	5				
Reference E-TFCI	11	67	71	75	81
Reference E-TFCI power offset	4	18	23	26	27

Sub-test	**3**	
Number of E-TFCIs	2	
Reference E-TFCI	11	92
Reference E-TFCI power offset	4	18

- HSUPA-specific generator parameters (BS Signal tab > HSUPA > E-AGCH > AG Pattern)

Sub-test	***Absolute Grant Value (AG Index)***
1	20
2	12
3	15
4	17
5	21

- Power Level settings (BS Signal tab > Node B-settings):
- Level reference: Output Channel Power (Ior)
- Output Channel Power (Ior): -86 dBm

- Downlink Physical Channel Settings (BS signal tab)
- P-CPICH: -10 dB
- S-CPICH: Off
- P-SCH: -15 dB
- S-SCH : -15 dB
- P-CCPCH: -12 dB
- S-CCPCH: -12 dB
- PICH : -15 dB
- AICH : -12 dB
- DPDCH : -10 dB
- HS-SCCH : -8 dB
- HS-PDSCH : -3 dB
- E-AGCH : -20 dB
- E-RGCH/E-HICH - 20 dB
- E-RGCH Active: Off

The settings above were stored once for each sub-test and recalled before the measurement.

HSUPA test procedure:

To reach maximum output power in HSUPA mode the following procedures were followed:

3 different TPC patterns were defined:
Set 1 : Closed loop with target power 10 dBm
Set 2 : Single Pattern+Alternating with binary pattern '11111' for 1 dB steps 'up'
Set 3 : Single Pattern+Alternating with binary pattern '00000' for 1 dB steps 'down'

After recalling a certain HSUPA sub-test the HSUPA E-AGCH graph with E-TFCI event counter is displayed.
After starting with the closed loop command the power is increased in 1 dB steps by activating pattern set 2 until the UE decreases the transmitted E-TFCI.
At this point set 3 is activated once to reduce the output power to the value at which the original E-TFCI, which is required for the sub-test, appears again.

For conducted power measurements the same steps are repeated in the power menu to read out the corresponding maximum RMS output power with the target E-TFCI.
For SAR measurements it is useful to switch to Code Domain Power vs. Time display.
Here the CMU200 shows relative power values (max. and min.) of each code channel which should roughly correspond to the numerators of the gain factors e.g.:

Sub-test	β_c	β_d	β_{hs}	β_{ec}	β_{ed}
5	15	15	30	24	134

By this way a surveillance of signalling conditions is possible to make sure that HSUPA code channels are active during the complete SAR measurement.

8.1.5 Conducted power measurements LTE FDD 2 1900 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1850.7	18607	1.4	RB_1_low	QPSK	22.50
low	1850.7	18607	1.4	RB_1_low	16QAM	21.80
low	1850.7	18607	1.4	RB_1_mid	QPSK	22.63
low	1850.7	18607	1.4	RB_1_mid	16QAM	21.65
low	1850.7	18607	1.4	RB_1_high	QPSK	22.71
low	1850.7	18607	1.4	RB_1_high	16QAM	21.53
low	1850.7	18607	1.4	RB_50%_low	QPSK	22.59
low	1850.7	18607	1.4	RB_50%_low	16QAM	22.03
low	1850.7	18607	1.4	RB_50%_mid	QPSK	22.66
low	1850.7	18607	1.4	RB_50%_mid	16QAM	21.31
low	1850.7	18607	1.4	RB_50%_high	QPSK	22.46
low	1850.7	18607	1.4	RB_50%_high	16QAM	22.27
low	1850.7	18607	1.4	RB_100%	QPSK	21.48
low	1850.7	18607	1.4	RB_100%	16QAM	20.50
mid	1880	18900	1.4	RB_1_low	QPSK	22.48
mid	1880	18900	1.4	RB_1_low	16QAM	21.64
mid	1880	18900	1.4	RB_1_mid	QPSK	22.53
mid	1880	18900	1.4	RB_1_mid	16QAM	21.51
mid	1880	18900	1.4	RB_1_high	QPSK	22.57
mid	1880	18900	1.4	RB_1_high	16QAM	21.60
mid	1880	18900	1.4	RB_50%_low	QPSK	22.70
mid	1880	18900	1.4	RB_50%_low	16QAM	21.55
mid	1880	18900	1.4	RB_50%_mid	QPSK	22.45
mid	1880	18900	1.4	RB_50%_mid	16QAM	21.60
mid	1880	18900	1.4	RB_50%_high	QPSK	22.39
mid	1880	18900	1.4	RB_50%_high	16QAM	21.65
mid	1880	18900	1.4	RB_100%	QPSK	21.49
mid	1880	18900	1.4	RB_100%	16QAM	20.29
high	1909.3	19193	1.4	RB_1_low	QPSK	22.43
high	1909.3	19193	1.4	RB_1_low	16QAM	21.34
high	1909.3	19193	1.4	RB_1_mid	QPSK	22.80
high	1909.3	19193	1.4	RB_1_mid	16QAM	20.94
high	1909.3	19193	1.4	RB_1_high	QPSK	22.32
high	1909.3	19193	1.4	RB_1_high	16QAM	21.39
high	1909.3	19193	1.4	RB_50%_low	QPSK	22.59
high	1909.3	19193	1.4	RB_50%_low	16QAM	21.11
high	1909.3	19193	1.4	RB_50%_mid	QPSK	22.51
high	1909.3	19193	1.4	RB_50%_mid	16QAM	21.52
high	1909.3	19193	1.4	RB_50%_high	QPSK	22.50
high	1909.3	19193	1.4	RB_50%_high	16QAM	21.64
high	1909.3	19193	1.4	RB_100%	QPSK	21.58
high	1909.3	19193	1.4	RB_100%	16QAM	20.19
low	1851.5	18615	3	RB_1_low	QPSK	22.28
low	1851.5	18615	3	RB_1_low	16QAM	21.27
low	1851.5	18615	3	RB_1_mid	QPSK	22.78
low	1851.5	18615	3	RB_1_mid	16QAM	21.71
low	1851.5	18615	3	RB_1_high	QPSK	22.45
low	1851.5	18615	3	RB_1_high	16QAM	21.25

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1851.5	18615	3	RB_50%_low	QPSK	21.43
low	1851.5	18615	3	RB_50%_low	16QAM	20.60
low	1851.5	18615	3	RB_50%_mid	QPSK	21.45
low	1851.5	18615	3	RB_50%_mid	16QAM	20.40
low	1851.5	18615	3	RB_50%_high	QPSK	21.59
low	1851.5	18615	3	RB_50%_high	16QAM	20.31
low	1851.5	18615	3	RB_100%	QPSK	21.36
low	1851.5	18615	3	RB_100%	16QAM	20.34
mid	1880	18900	3	RB_1_low	QPSK	22.15
mid	1880	18900	3	RB_1_low	16QAM	21.52
mid	1880	18900	3	RB_1_mid	QPSK	22.53
mid	1880	18900	3	RB_1_mid	16QAM	21.89
mid	1880	18900	3	RB_1_high	QPSK	22.57
mid	1880	18900	3	RB_1_high	16QAM	21.92
mid	1880	18900	3	RB_50%_low	QPSK	21.40
mid	1880	18900	3	RB_50%_low	16QAM	20.24
mid	1880	18900	3	RB_50%_mid	QPSK	21.43
mid	1880	18900	3	RB_50%_mid	16QAM	20.14
mid	1880	18900	3	RB_50%_high	QPSK	21.47
mid	1880	18900	3	RB_50%_high	16QAM	20.07
mid	1880	18900	3	RB_100%	QPSK	21.48
mid	1880	18900	3	RB_100%	16QAM	20.47
high	1908.5	19185	3	RB_1_low	QPSK	22.36
high	1908.5	19185	3	RB_1_low	16QAM	21.76
high	1908.5	19185	3	RB_1_mid	QPSK	22.55
high	1908.5	19185	3	RB_1_mid	16QAM	21.93
high	1908.5	19185	3	RB_1_high	QPSK	22.39
high	1908.5	19185	3	RB_1_high	16QAM	21.36
high	1908.5	19185	3	RB_50%_low	QPSK	21.52
high	1908.5	19185	3	RB_50%_low	16QAM	20.35
high	1908.5	19185	3	RB_50%_mid	QPSK	21.43
high	1908.5	19185	3	RB_50%_mid	16QAM	20.45
high	1908.5	19185	3	RB_50%_high	QPSK	21.47
high	1908.5	19185	3	RB_50%_high	16QAM	20.42
high	1908.5	19185	3	RB_100%	QPSK	21.53
high	1908.5	19185	3	RB_100%	16QAM	20.70
low	1852.5	18625	5	RB_1_low	QPSK	22.15
low	1852.5	18625	5	RB_1_low	16QAM	21.46
low	1852.5	18625	5	RB_1_mid	QPSK	22.34
low	1852.5	18625	5	RB_1_mid	16QAM	21.14
low	1852.5	18625	5	RB_1_high	QPSK	22.33
low	1852.5	18625	5	RB_1_high	16QAM	20.96
low	1852.5	18625	5	RB_50%_low	QPSK	21.39
low	1852.5	18625	5	RB_50%_low	16QAM	20.50
low	1852.5	18625	5	RB_50%_mid	QPSK	21.51
low	1852.5	18625	5	RB_50%_mid	16QAM	20.45
low	1852.5	18625	5	RB_50%_high	QPSK	21.45
low	1852.5	18625	5	RB_50%_high	16QAM	20.27

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1852.5	18625	5	RB_100%	QPSK	21.47
low	1852.5	18625	5	RB_100%	16QAM	20.17
mid	1880	18900	5	RB_1_low	QPSK	21.97
mid	1880	18900	5	RB_1_low	16QAM	21.40
mid	1880	18900	5	RB_1_mid	QPSK	22.16
mid	1880	18900	5	RB_1_mid	16QAM	21.42
mid	1880	18900	5	RB_1_high	QPSK	22.22
mid	1880	18900	5	RB_1_high	16QAM	21.44
mid	1880	18900	5	RB_50%_low	QPSK	21.46
mid	1880	18900	5	RB_50%_low	16QAM	20.29
mid	1880	18900	5	RB_50%_mid	QPSK	21.54
mid	1880	18900	5	RB_50%_mid	16QAM	20.34
mid	1880	18900	5	RB_50%_high	QPSK	21.49
mid	1880	18900	5	RB_50%_high	16QAM	20.39
mid	1880	18900	5	RB_100%	QPSK	21.43
mid	1880	18900	5	RB_100%	16QAM	20.47
high	1907.5	19175	5	RB_1_low	QPSK	22.20
high	1907.5	19175	5	RB_1_low	16QAM	21.09
high	1907.5	19175	5	RB_1_mid	QPSK	22.32
high	1907.5	19175	5	RB_1_mid	16QAM	21.47
high	1907.5	19175	5	RB_1_high	QPSK	22.27
high	1907.5	19175	5	RB_1_high	16QAM	21.60
high	1907.5	19175	5	RB_50%_low	QPSK	21.49
high	1907.5	19175	5	RB_50%_low	16QAM	20.36
high	1907.5	19175	5	RB_50%_mid	QPSK	21.48
high	1907.5	19175	5	RB_50%_mid	16QAM	20.28
high	1907.5	19175	5	RB_50%_high	QPSK	21.60
high	1907.5	19175	5	RB_50%_high	16QAM	20.35
high	1907.5	19175	5	RB_100%	QPSK	21.50
high	1907.5	19175	5	RB_100%	16QAM	20.44
low	1855	18650	10	RB_1_low	QPSK	22.47
low	1855	18650	10	RB_1_low	16QAM	21.29
low	1855	18650	10	RB_1_mid	QPSK	22.50
low	1855	18650	10	RB_1_mid	16QAM	21.10
low	1855	18650	10	RB_1_high	QPSK	22.82
low	1855	18650	10	RB_1_high	16QAM	21.50
low	1855	18650	10	RB_50%_low	QPSK	21.50
low	1855	18650	10	RB_50%_low	16QAM	20.25
low	1855	18650	10	RB_50%_mid	QPSK	21.48
low	1855	18650	10	RB_50%_mid	16QAM	20.34
low	1855	18650	10	RB_50%_high	QPSK	21.55
low	1855	18650	10	RB_50%_high	16QAM	20.66
low	1855	18650	10	RB_100%	QPSK	21.45
low	1855	18650	10	RB_100%	16QAM	20.36
mid	1880	18900	10	RB_1_low	QPSK	22.26
mid	1880	18900	10	RB_1_low	16QAM	21.60
mid	1880	18900	10	RB_1_mid	QPSK	22.58
mid	1880	18900	10	RB_1_mid	16QAM	21.93
mid	1880	18900	10	RB_1_high	QPSK	22.47
mid	1880	18900	10	RB_1_high	16QAM	21.73

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1880	18900	10	RB_50%_low	QPSK	21.45
mid	1880	18900	10	RB_50%_low	16QAM	20.51
mid	1880	18900	10	RB_50%_mid	QPSK	21.45
mid	1880	18900	10	RB_50%_mid	16QAM	20.41
mid	1880	18900	10	RB_50%_high	QPSK	21.46
mid	1880	18900	10	RB_50%_high	16QAM	20.52
mid	1880	18900	10	RB_100%	QPSK	21.44
mid	1880	18900	10	RB_100%	16QAM	20.24
high	1905	19150	10	RB_1_low	QPSK	22.52
high	1905	19150	10	RB_1_low	16QAM	21.76
high	1905	19150	10	RB_1_mid	QPSK	23.01
high	1905	19150	10	RB_1_mid	16QAM	21.50
high	1905	19150	10	RB_1_high	QPSK	22.45
high	1905	19150	10	RB_1_high	16QAM	21.56
high	1905	19150	10	RB_50%_low	QPSK	21.49
high	1905	19150	10	RB_50%_low	16QAM	20.44
high	1905	19150	10	RB_50%_mid	QPSK	21.53
high	1905	19150	10	RB_50%_mid	16QAM	20.70
high	1905	19150	10	RB_50%_high	QPSK	21.51
high	1905	19150	10	RB_50%_high	16QAM	20.57
high	1905	19150	10	RB_100%	QPSK	21.55
high	1905	19150	10	RB_100%	16QAM	20.63
low	1857.5	18675	15	RB_1_low	QPSK	22.38
low	1857.5	18675	15	RB_1_low	16QAM	21.26
low	1857.5	18675	15	RB_1_mid	QPSK	22.35
low	1857.5	18675	15	RB_1_mid	16QAM	21.92
low	1857.5	18675	15	RB_1_high	QPSK	22.29
low	1857.5	18675	15	RB_1_high	16QAM	21.63
low	1857.5	18675	15	RB_50%_low	QPSK	21.45
low	1857.5	18675	15	RB_50%_low	16QAM	20.29
low	1857.5	18675	15	RB_50%_mid	QPSK	21.54
low	1857.5	18675	15	RB_50%_mid	16QAM	20.30
low	1857.5	18675	15	RB_50%_high	QPSK	21.54
low	1857.5	18675	15	RB_50%_high	16QAM	20.33
low	1857.5	18675	15	RB_100%	QPSK	21.53
low	1857.5	18675	15	RB_100%	16QAM	20.33
mid	1880	18900	15	RB_1_low	QPSK	22.20
mid	1880	18900	15	RB_1_low	16QAM	21.64
mid	1880	18900	15	RB_1_mid	QPSK	22.43
mid	1880	18900	15	RB_1_mid	16QAM	21.61
mid	1880	18900	15	RB_1_high	QPSK	22.34
mid	1880	18900	15	RB_1_high	16QAM	21.60
mid	1880	18900	15	RB_50%_low	QPSK	21.53
mid	1880	18900	15	RB_50%_low	16QAM	20.45
mid	1880	18900	15	RB_50%_mid	QPSK	21.43
mid	1880	18900	15	RB_50%_mid	16QAM	20.53
mid	1880	18900	15	RB_50%_high	QPSK	21.50
mid	1880	18900	15	RB_50%_high	16QAM	20.57
mid	1880	18900	15	RB_100%	QPSK	21.50
mid	1880	18900	15	RB_100%	16QAM	20.43

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	1902.5	19125	15	RB_1_low	QPSK	22.10
high	1902.5	19125	15	RB_1_low	16QAM	21.49
high	1902.5	19125	15	RB_1_mid	QPSK	**23.14**
high	1902.5	19125	15	RB_1_mid	16QAM	21.78
high	1902.5	19125	15	RB_1_high	QPSK	22.27
high	1902.5	19125	15	RB_1_high	16QAM	21.53
high	1902.5	19125	15	RB_50%_low	QPSK	21.41
high	1902.5	19125	15	RB_50%_low	16QAM	20.33
high	1902.5	19125	15	RB_50%_mid	QPSK	21.40
high	1902.5	19125	15	RB_50%_mid	16QAM	20.23
high	1902.5	19125	15	RB_50%_high	QPSK	21.50
high	1902.5	19125	15	RB_50%_high	16QAM	20.35
high	1902.5	19125	15	RB_100%	QPSK	21.44
high	1902.5	19125	15	RB_100%	16QAM	20.45
low	1860	18700	20	RB_1_low	QPSK	22.61
low	1860	18700	20	RB_1_low	16QAM	21.48
low	1860	18700	20	RB_1_mid	QPSK	22.34
low	1860	18700	20	RB_1_mid	16QAM	21.35
low	1860	18700	20	RB_1_high	QPSK	21.81
low	1860	18700	20	RB_1_high	16QAM	21.02
low	1860	18700	20	RB_50%_low	QPSK	21.42
low	1860	18700	20	RB_50%_low	16QAM	20.31
low	1860	18700	20	RB_50%_mid	QPSK	21.46
low	1860	18700	20	RB_50%_mid	16QAM	20.29
low	1860	18700	20	RB_50%_high	QPSK	21.35
low	1860	18700	20	RB_50%_high	16QAM	20.23
low	1860	18700	20	RB_100%	QPSK	21.32
low	1860	18700	20	RB_100%	16QAM	20.31
mid	1880	18900	20	RB_1_low	QPSK	22.18
mid	1880	18900	20	RB_1_low	16QAM	21.43
mid	1880	18900	20	RB_1_mid	QPSK	22.80
mid	1880	18900	20	RB_1_mid	16QAM	21.60
mid	1880	18900	20	RB_1_high	QPSK	22.27
mid	1880	18900	20	RB_1_high	16QAM	21.61
mid	1880	18900	20	RB_50%_low	QPSK	21.36
mid	1880	18900	20	RB_50%_low	16QAM	20.42
mid	1880	18900	20	RB_50%_mid	QPSK	21.48
mid	1880	18900	20	RB_50%_mid	16QAM	20.54
mid	1880	18900	20	RB_50%_high	QPSK	21.42
mid	1880	18900	20	RB_50%_high	16QAM	20.39
mid	1880	18900	20	RB_100%	QPSK	21.39
mid	1880	18900	20	RB_100%	16QAM	20.28
high	1900	19100	20	RB_1_low	QPSK	22.03
high	1900	19100	20	RB_1_low	16QAM	21.53
high	1900	19100	20	RB_1_mid	QPSK	22.11
high	1900	19100	20	RB_1_mid	16QAM	21.20
high	1900	19100	20	RB_1_high	QPSK	22.36
high	1900	19100	20	RB_1_high	16QAM	21.54
high	1900	19100	20	RB_50%_low	QPSK	21.40
high	1900	19100	20	RB_50%_low	16QAM	20.45
high	1900	19100	20	RB_50%_mid	QPSK	21.37
high	1900	19100	20	RB_50%_mid	16QAM	20.29
high	1900	19100	20	RB_50%_high	QPSK	21.49
high	1900	19100	20	RB_50%_high	16QAM	20.49
high	1900	19100	20	RB_100%	QPSK	21.43
high	1900	19100	20	RB_100%	16QAM	20.47

Table 15: Test results conducted power measurement LTE FDD 2 1900 MHz.

8.1.6 Conducted power measurements LTE FDD 4 1700 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1710.7	19957	1.4	RB_1_low	QPSK	22.23
low	1710.7	19957	1.4	RB_1_low	16QAM	21.32
low	1710.7	19957	1.4	RB_1_mid	QPSK	22.58
low	1710.7	19957	1.4	RB_1_mid	16QAM	21.67
low	1710.7	19957	1.4	RB_1_high	QPSK	22.49
low	1710.7	19957	1.4	RB_1_high	16QAM	21.41
low	1710.7	19957	1.4	RB_50%_low	QPSK	22.44
low	1710.7	19957	1.4	RB_50%_low	16QAM	21.43
low	1710.7	19957	1.4	RB_50%_mid	QPSK	22.62
low	1710.7	19957	1.4	RB_50%_mid	16QAM	21.27
low	1710.7	19957	1.4	RB_50%_high	QPSK	22.41
low	1710.7	19957	1.4	RB_50%_high	16QAM	21.84
low	1710.7	19957	1.4	RB_100%	QPSK	21.64
low	1710.7	19957	1.4	RB_100%	16QAM	20.53
mid	1732.5	20175	1.4	RB_1_low	QPSK	22.18
mid	1732.5	20175	1.4	RB_1_low	16QAM	21.33
mid	1732.5	20175	1.4	RB_1_mid	QPSK	22.12
mid	1732.5	20175	1.4	RB_1_mid	16QAM	21.46
mid	1732.5	20175	1.4	RB_1_high	QPSK	22.12
mid	1732.5	20175	1.4	RB_1_high	16QAM	21.68
mid	1732.5	20175	1.4	RB_50%_low	QPSK	22.27
mid	1732.5	20175	1.4	RB_50%_low	16QAM	21.35
mid	1732.5	20175	1.4	RB_50%_mid	QPSK	22.35
mid	1732.5	20175	1.4	RB_50%_mid	16QAM	21.05
mid	1732.5	20175	1.4	RB_50%_high	QPSK	22.29
mid	1732.5	20175	1.4	RB_50%_high	16QAM	21.45
mid	1732.5	20175	1.4	RB_100%	QPSK	21.31
mid	1732.5	20175	1.4	RB_100%	16QAM	20.32
high	1754.3	20393	1.4	RB_1_low	QPSK	22.31
high	1754.3	20393	1.4	RB_1_low	16QAM	21.57
high	1754.3	20393	1.4	RB_1_mid	QPSK	22.58
high	1754.3	20393	1.4	RB_1_mid	16QAM	21.41
high	1754.3	20393	1.4	RB_1_high	QPSK	22.22
high	1754.3	20393	1.4	RB_1_high	16QAM	21.36
high	1754.3	20393	1.4	RB_50%_low	QPSK	22.58
high	1754.3	20393	1.4	RB_50%_low	16QAM	21.49
high	1754.3	20393	1.4	RB_50%_mid	QPSK	22.53
high	1754.3	20393	1.4	RB_50%_mid	16QAM	22.00
high	1754.3	20393	1.4	RB_50%_high	QPSK	22.44
high	1754.3	20393	1.4	RB_50%_high	16QAM	21.65
high	1754.3	20393	1.4	RB_100%	QPSK	21.54
high	1754.3	20393	1.4	RB_100%	16QAM	20.24
low	1711.5	19965	3	RB_1_low	QPSK	22.38
low	1711.5	19965	3	RB_1_low	16QAM	21.38
low	1711.5	19965	3	RB_1_mid	QPSK	22.82
low	1711.5	19965	3	RB_1_mid	16QAM	21.75
low	1711.5	19965	3	RB_1_high	QPSK	22.84
low	1711.5	19965	3	RB_1_high	16QAM	21.37

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1711.5	19965	3	RB_50%_low	QPSK	21.48
low	1711.5	19965	3	RB_50%_low	16QAM	20.54
low	1711.5	19965	3	RB_50%_mid	QPSK	21.61
low	1711.5	19965	3	RB_50%_mid	16QAM	20.23
low	1711.5	19965	3	RB_50%_high	QPSK	21.59
low	1711.5	19965	3	RB_50%_high	16QAM	20.74
low	1711.5	19965	3	RB_100%	QPSK	21.55
low	1711.5	19965	3	RB_100%	16QAM	20.49
mid	1732.5	20175	3	RB_1_low	QPSK	22.00
mid	1732.5	20175	3	RB_1_low	16QAM	20.88
mid	1732.5	20175	3	RB_1_mid	QPSK	22.31
mid	1732.5	20175	3	RB_1_mid	16QAM	21.64
mid	1732.5	20175	3	RB_1_high	QPSK	22.02
mid	1732.5	20175	3	RB_1_high	16QAM	21.37
mid	1732.5	20175	3	RB_50%_low	QPSK	21.24
mid	1732.5	20175	3	RB_50%_low	16QAM	20.16
mid	1732.5	20175	3	RB_50%_mid	QPSK	21.43
mid	1732.5	20175	3	RB_50%_mid	16QAM	20.32
mid	1732.5	20175	3	RB_50%_high	QPSK	21.45
mid	1732.5	20175	3	RB_50%_high	16QAM	20.24
mid	1732.5	20175	3	RB_100%	QPSK	21.38
mid	1732.5	20175	3	RB_100%	16QAM	20.45
high	1753.5	20385	3	RB_1_low	QPSK	22.57
high	1753.5	20385	3	RB_1_low	16QAM	21.63
high	1753.5	20385	3	RB_1_mid	QPSK	22.68
high	1753.5	20385	3	RB_1_mid	16QAM	21.82
high	1753.5	20385	3	RB_1_high	QPSK	22.12
high	1753.5	20385	3	RB_1_high	16QAM	20.88
high	1753.5	20385	3	RB_50%_low	QPSK	21.70
high	1753.5	20385	3	RB_50%_low	16QAM	20.32
high	1753.5	20385	3	RB_50%_mid	QPSK	21.69
high	1753.5	20385	3	RB_50%_mid	16QAM	20.61
high	1753.5	20385	3	RB_50%_high	QPSK	21.75
high	1753.5	20385	3	RB_50%_high	16QAM	20.74
high	1753.5	20385	3	RB_100%	QPSK	21.68
high	1753.5	20385	3	RB_100%	16QAM	20.68
low	1712.5	19975	5	RB_1_low	QPSK	22.08
low	1712.5	19975	5	RB_1_low	16QAM	20.95
low	1712.5	19975	5	RB_1_mid	QPSK	22.08
low	1712.5	19975	5	RB_1_mid	16QAM	20.95
low	1712.5	19975	5	RB_1_high	QPSK	22.32
low	1712.5	19975	5	RB_1_high	16QAM	20.98
low	1712.5	19975	5	RB_50%_low	QPSK	21.44
low	1712.5	19975	5	RB_50%_low	16QAM	20.44
low	1712.5	19975	5	RB_50%_mid	QPSK	21.60
low	1712.5	19975	5	RB_50%_mid	16QAM	20.46
low	1712.5	19975	5	RB_50%_high	QPSK	21.46
low	1712.5	19975	5	RB_50%_high	16QAM	20.44
low	1712.5	19975	5	RB_100%	QPSK	21.49
low	1712.5	19975	5	RB_100%	16QAM	20.48

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1732.5	20175	5	RB_1_low	QPSK	21.88
mid	1732.5	20175	5	RB_1_low	16QAM	21.20
mid	1732.5	20175	5	RB_1_mid	QPSK	21.73
mid	1732.5	20175	5	RB_1_mid	16QAM	20.82
mid	1732.5	20175	5	RB_1_high	QPSK	21.93
mid	1732.5	20175	5	RB_1_high	16QAM	21.25
mid	1732.5	20175	5	RB_50%_low	QPSK	21.39
mid	1732.5	20175	5	RB_50%_low	16QAM	20.45
mid	1732.5	20175	5	RB_50%_mid	QPSK	21.38
mid	1732.5	20175	5	RB_50%_mid	16QAM	20.36
mid	1732.5	20175	5	RB_50%_high	QPSK	21.33
mid	1732.5	20175	5	RB_50%_high	16QAM	20.35
mid	1732.5	20175	5	RB_100%	QPSK	21.32
mid	1732.5	20175	5	RB_100%	16QAM	20.45
high	1752.5	20375	5	RB_1_low	QPSK	22.63
high	1752.5	20375	5	RB_1_low	16QAM	21.70
high	1752.5	20375	5	RB_1_mid	QPSK	22.47
high	1752.5	20375	5	RB_1_mid	16QAM	21.59
high	1752.5	20375	5	RB_1_high	QPSK	22.17
high	1752.5	20375	5	RB_1_high	16QAM	21.37
high	1752.5	20375	5	RB_50%_low	QPSK	21.79
high	1752.5	20375	5	RB_50%_low	16QAM	20.91
high	1752.5	20375	5	RB_50%_mid	QPSK	21.89
high	1752.5	20375	5	RB_50%_mid	16QAM	21.07
high	1752.5	20375	5	RB_50%_high	QPSK	21.75
high	1752.5	20375	5	RB_50%_high	16QAM	20.72
high	1752.5	20375	5	RB_100%	QPSK	21.74
high	1752.5	20375	5	RB_100%	16QAM	20.91
low	1715	20000	10	RB_1_low	QPSK	22.44
low	1715	20000	10	RB_1_low	16QAM	21.63
low	1715	20000	10	RB_1_mid	QPSK	22.76
low	1715	20000	10	RB_1_mid	16QAM	21.22
low	1715	20000	10	RB_1_high	QPSK	22.81
low	1715	20000	10	RB_1_high	16QAM	21.46
low	1715	20000	10	RB_50%_low	QPSK	21.59
low	1715	20000	10	RB_50%_low	16QAM	20.60
low	1715	20000	10	RB_50%_mid	QPSK	21.64
low	1715	20000	10	RB_50%_mid	16QAM	20.64
low	1715	20000	10	RB_50%_high	QPSK	21.62
low	1715	20000	10	RB_50%_high	16QAM	20.72
low	1715	20000	10	RB_100%	QPSK	21.54
low	1715	20000	10	RB_100%	16QAM	20.50
mid	1732.5	20175	10	RB_1_low	QPSK	22.25
mid	1732.5	20175	10	RB_1_low	16QAM	21.56
mid	1732.5	20175	10	RB_1_mid	QPSK	22.07
mid	1732.5	20175	10	RB_1_mid	16QAM	21.40
mid	1732.5	20175	10	RB_1_high	QPSK	22.12
mid	1732.5	20175	10	RB_1_high	16QAM	21.36

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1732.5	20175	10	RB_50%_low	QPSK	21.45
mid	1732.5	20175	10	RB_50%_low	16QAM	20.36
mid	1732.5	20175	10	RB_50%_mid	QPSK	21.28
mid	1732.5	20175	10	RB_50%_mid	16QAM	20.32
mid	1732.5	20175	10	RB_50%_high	QPSK	21.34
mid	1732.5	20175	10	RB_50%_high	16QAM	20.28
mid	1732.5	20175	10	RB_100%	QPSK	21.26
mid	1732.5	20175	10	RB_100%	16QAM	20.24
high	1750	20350	10	RB_1_low	QPSK	22.66
high	1750	20350	10	RB_1_low	16QAM	21.82
high	1750	20350	10	RB_1_mid	QPSK	23.28
high	1750	20350	10	RB_1_mid	16QAM	21.62
high	1750	20350	10	RB_1_high	QPSK	22.64
high	1750	20350	10	RB_1_high	16QAM	21.63
high	1750	20350	10	RB_50%_low	QPSK	21.86
high	1750	20350	10	RB_50%_low	16QAM	20.91
high	1750	20350	10	RB_50%_mid	QPSK	21.88
high	1750	20350	10	RB_50%_mid	16QAM	21.04
high	1750	20350	10	RB_50%_high	QPSK	21.86
high	1750	20350	10	RB_50%_high	16QAM	20.62
high	1750	20350	10	RB_100%	QPSK	21.92
high	1750	20350	10	RB_100%	16QAM	20.67
low	1717.5	20025	15	RB_1_low	QPSK	22.45
low	1717.5	20025	15	RB_1_low	16QAM	21.07
low	1717.5	20025	15	RB_1_mid	QPSK	22.54
low	1717.5	20025	15	RB_1_mid	16QAM	21.69
low	1717.5	20025	15	RB_1_high	QPSK	22.72
low	1717.5	20025	15	RB_1_high	16QAM	21.78
low	1717.5	20025	15	RB_50%_low	QPSK	21.49
low	1717.5	20025	15	RB_50%_low	16QAM	20.45
low	1717.5	20025	15	RB_50%_mid	QPSK	21.53
low	1717.5	20025	15	RB_50%_mid	16QAM	20.69
low	1717.5	20025	15	RB_50%_high	QPSK	21.46
low	1717.5	20025	15	RB_50%_high	16QAM	20.32
low	1717.5	20025	15	RB_100%	QPSK	21.50
low	1717.5	20025	15	RB_100%	16QAM	20.66
mid	1732.5	20175	15	RB_1_low	QPSK	22.34
mid	1732.5	20175	15	RB_1_low	16QAM	21.57
mid	1732.5	20175	15	RB_1_mid	QPSK	22.33
mid	1732.5	20175	15	RB_1_mid	16QAM	21.78
mid	1732.5	20175	15	RB_1_high	QPSK	22.14
mid	1732.5	20175	15	RB_1_high	16QAM	21.42
mid	1732.5	20175	15	RB_50%_low	QPSK	21.36
mid	1732.5	20175	15	RB_50%_low	16QAM	20.58
mid	1732.5	20175	15	RB_50%_mid	QPSK	21.35
mid	1732.5	20175	15	RB_50%_mid	16QAM	20.41
mid	1732.5	20175	15	RB_50%_high	QPSK	21.34
mid	1732.5	20175	15	RB_50%_high	16QAM	20.40
mid	1732.5	20175	15	RB_100%	QPSK	21.38
mid	1732.5	20175	15	RB_100%	16QAM	20.40

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	1747.5	20325	15	RB_1_low	QPSK	22.34
high	1747.5	20325	15	RB_1_low	16QAM	21.33
high	1747.5	20325	15	RB_1_mid	QPSK	**23.31**
high	1747.5	20325	15	RB_1_mid	16QAM	21.93
high	1747.5	20325	15	RB_1_high	QPSK	22.52
high	1747.5	20325	15	RB_1_high	16QAM	21.64
high	1747.5	20325	15	RB_50%_low	QPSK	21.52
high	1747.5	20325	15	RB_50%_low	16QAM	20.74
high	1747.5	20325	15	RB_50%_mid	QPSK	21.82
high	1747.5	20325	15	RB_50%_mid	16QAM	20.73
high	1747.5	20325	15	RB_50%_high	QPSK	21.90
high	1747.5	20325	15	RB_50%_high	16QAM	20.80
high	1747.5	20325	15	RB_100%	QPSK	21.83
high	1747.5	20325	15	RB_100%	16QAM	20.86
low	1720	20050	20	RB_1_low	QPSK	22.47
low	1720	20050	20	RB_1_low	16QAM	21.52
low	1720	20050	20	RB_1_mid	QPSK	22.28
low	1720	20050	20	RB_1_mid	16QAM	21.89
low	1720	20050	20	RB_1_high	QPSK	22.22
low	1720	20050	20	RB_1_high	16QAM	21.32
low	1720	20050	20	RB_50%_low	QPSK	21.65
low	1720	20050	20	RB_50%_low	16QAM	20.78
low	1720	20050	20	RB_50%_mid	QPSK	21.53
low	1720	20050	20	RB_50%_mid	16QAM	20.54
low	1720	20050	20	RB_50%_high	QPSK	21.46
low	1720	20050	20	RB_50%_high	16QAM	20.50
low	1720	20050	20	RB_100%	QPSK	21.53
low	1720	20050	20	RB_100%	16QAM	20.58
mid	1732.5	20175	20	RB_1_low	QPSK	22.30
mid	1732.5	20175	20	RB_1_low	16QAM	21.70
mid	1732.5	20175	20	RB_1_mid	QPSK	22.59
mid	1732.5	20175	20	RB_1_mid	16QAM	21.72
mid	1732.5	20175	20	RB_1_high	QPSK	22.45
mid	1732.5	20175	20	RB_1_high	16QAM	21.24
mid	1732.5	20175	20	RB_50%_low	QPSK	21.42
mid	1732.5	20175	20	RB_50%_low	16QAM	20.36
mid	1732.5	20175	20	RB_50%_mid	QPSK	21.28
mid	1732.5	20175	20	RB_50%_mid	16QAM	20.32
mid	1732.5	20175	20	RB_50%_high	QPSK	21.32
mid	1732.5	20175	20	RB_50%_high	16QAM	20.46
mid	1732.5	20175	20	RB_100%	QPSK	21.39
mid	1732.5	20175	20	RB_100%	16QAM	20.45
high	1745	20300	20	RB_1_low	QPSK	22.37
high	1745	20300	20	RB_1_low	16QAM	21.75
high	1745	20300	20	RB_1_mid	QPSK	22.41
high	1745	20300	20	RB_1_mid	16QAM	21.73
high	1745	20300	20	RB_1_high	QPSK	22.81
high	1745	20300	20	RB_1_high	16QAM	21.99
high	1745	20300	20	RB_50%_low	QPSK	21.59
high	1745	20300	20	RB_50%_low	16QAM	20.51
high	1745	20300	20	RB_50%_mid	QPSK	21.69
high	1745	20300	20	RB_50%_mid	16QAM	20.57
high	1745	20300	20	RB_50%_high	QPSK	21.81
high	1745	20300	20	RB_50%_high	16QAM	20.88
high	1745	20300	20	RB_100%	QPSK	21.69
high	1745	20300	20	RB_100%	16QAM	20.52

Table 16: Test results conducted power measurement LTE FDD 4 1700 MHz.

8.1.7 Conducted power measurements LTE FDD 5 850 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	824.7	20407	1.4	RB_1_low	QPSK	23.21
low	824.7	20407	1.4	RB_1_low	16QAM	22.11
low	824.7	20407	1.4	RB_1_mid	QPSK	23.36
low	824.7	20407	1.4	RB_1_mid	16QAM	22.44
low	824.7	20407	1.4	RB_1_high	QPSK	23.19
low	824.7	20407	1.4	RB_1_high	16QAM	22.17
low	824.7	20407	1.4	RB_50%_low	QPSK	23.14
low	824.7	20407	1.4	RB_50%_low	16QAM	22.39
low	824.7	20407	1.4	RB_50%_mid	QPSK	23.26
low	824.7	20407	1.4	RB_50%_mid	16QAM	22.12
low	824.7	20407	1.4	RB_50%_high	QPSK	23.07
low	824.7	20407	1.4	RB_50%_high	16QAM	22.44
low	824.7	20407	1.4	RB_100%	QPSK	22.20
low	824.7	20407	1.4	RB_100%	16QAM	21.37
mid	836.5	20525	1.4	RB_1_low	QPSK	23.19
mid	836.5	20525	1.4	RB_1_low	16QAM	22.52
mid	836.5	20525	1.4	RB_1_mid	QPSK	23.10
mid	836.5	20525	1.4	RB_1_mid	16QAM	22.55
mid	836.5	20525	1.4	RB_1_high	QPSK	23.36
mid	836.5	20525	1.4	RB_1_high	16QAM	22.51
mid	836.5	20525	1.4	RB_50%_low	QPSK	23.30
mid	836.5	20525	1.4	RB_50%_low	16QAM	22.15
mid	836.5	20525	1.4	RB_50%_mid	QPSK	23.31
mid	836.5	20525	1.4	RB_50%_mid	16QAM	22.17
mid	836.5	20525	1.4	RB_50%_high	QPSK	23.42
mid	836.5	20525	1.4	RB_50%_high	16QAM	22.21
mid	836.5	20525	1.4	RB_100%	QPSK	22.34
mid	836.5	20525	1.4	RB_100%	16QAM	21.43
high	848.3	20643	1.4	RB_1_low	QPSK	23.02
high	848.3	20643	1.4	RB_1_low	16QAM	22.78
high	848.3	20643	1.4	RB_1_mid	QPSK	23.32
high	848.3	20643	1.4	RB_1_mid	16QAM	22.23
high	848.3	20643	1.4	RB_1_high	QPSK	23.10
high	848.3	20643	1.4	RB_1_high	16QAM	22.09
high	848.3	20643	1.4	RB_50%_low	QPSK	23.22
high	848.3	20643	1.4	RB_50%_low	16QAM	22.11
high	848.3	20643	1.4	RB_50%_mid	QPSK	23.31
high	848.3	20643	1.4	RB_50%_mid	16QAM	22.33
high	848.3	20643	1.4	RB_50%_high	QPSK	23.15
high	848.3	20643	1.4	RB_50%_high	16QAM	22.15
high	848.3	20643	1.4	RB_100%	QPSK	22.21
high	848.3	20643	1.4	RB_100%	16QAM	21.21
low	825.5	20415	3	RB_1_low	QPSK	23.00
low	825.5	20415	3	RB_1_low	16QAM	22.02
low	825.5	20415	3	RB_1_mid	QPSK	23.36
low	825.5	20415	3	RB_1_mid	16QAM	22.46
low	825.5	20415	3	RB_1_high	QPSK	23.43
low	825.5	20415	3	RB_1_high	16QAM	22.08
low	825.5	20415	3	RB_50%_low	QPSK	22.12
low	825.5	20415	3	RB_50%_low	16QAM	21.32

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	825.5	20415	3	RB_50%_mid	QPSK	22.20
low	825.5	20415	3	RB_50%_mid	16QAM	21.01
low	825.5	20415	3	RB_50%_high	QPSK	22.20
low	825.5	20415	3	RB_50%_high	16QAM	21.21
low	825.5	20415	3	RB_100%	QPSK	22.18
low	825.5	20415	3	RB_100%	16QAM	21.20
mid	836.5	20525	3	RB_1_low	QPSK	23.19
mid	836.5	20525	3	RB_1_low	16QAM	22.47
mid	836.5	20525	3	RB_1_mid	QPSK	23.12
mid	836.5	20525	3	RB_1_mid	16QAM	22.58
mid	836.5	20525	3	RB_1_high	QPSK	23.12
mid	836.5	20525	3	RB_1_high	16QAM	22.57
mid	836.5	20525	3	RB_50%_low	QPSK	22.48
mid	836.5	20525	3	RB_50%_low	16QAM	21.15
mid	836.5	20525	3	RB_50%_mid	QPSK	22.49
mid	836.5	20525	3	RB_50%_mid	16QAM	21.36
mid	836.5	20525	3	RB_50%_high	QPSK	22.45
mid	836.5	20525	3	RB_50%_high	16QAM	21.21
mid	836.5	20525	3	RB_100%	QPSK	22.38
mid	836.5	20525	3	RB_100%	16QAM	21.48
high	847.5	20635	3	RB_1_low	QPSK	23.24
high	847.5	20635	3	RB_1_low	16QAM	22.53
high	847.5	20635	3	RB_1_mid	QPSK	23.45
high	847.5	20635	3	RB_1_mid	16QAM	22.49
high	847.5	20635	3	RB_1_high	QPSK	22.94
high	847.5	20635	3	RB_1_high	16QAM	22.19
high	847.5	20635	3	RB_50%_low	QPSK	22.30
high	847.5	20635	3	RB_50%_low	16QAM	21.15
high	847.5	20635	3	RB_50%_mid	QPSK	22.25
high	847.5	20635	3	RB_50%_mid	16QAM	21.31
high	847.5	20635	3	RB_50%_high	QPSK	22.19
high	847.5	20635	3	RB_50%_high	16QAM	21.17
high	847.5	20635	3	RB_100%	QPSK	22.12
high	847.5	20635	3	RB_100%	16QAM	21.24
low	826.5	20425	5	RB_1_low	QPSK	22.71
low	826.5	20425	5	RB_1_low	16QAM	22.14
low	826.5	20425	5	RB_1_mid	QPSK	23.14
low	826.5	20425	5	RB_1_mid	16QAM	22.13
low	826.5	20425	5	RB_1_high	QPSK	23.00
low	826.5	20425	5	RB_1_high	16QAM	21.98
low	826.5	20425	5	RB_50%_low	QPSK	22.19
low	826.5	20425	5	RB_50%_low	16QAM	21.49
low	826.5	20425	5	RB_50%_mid	QPSK	22.28
low	826.5	20425	5	RB_50%_mid	16QAM	21.11
low	826.5	20425	5	RB_50%_high	QPSK	22.21
low	826.5	20425	5	RB_50%_high	16QAM	21.23
low	826.5	20425	5	RB_100%	QPSK	22.16
low	826.5	20425	5	RB_100%	16QAM	21.02
mid	836.5	20525	5	RB_1_low	QPSK	22.93
mid	836.5	20525	5	RB_1_low	16QAM	22.17
mid	836.5	20525	5	RB_1_mid	QPSK	23.06
mid	836.5	20525	5	RB_1_mid	16QAM	22.36

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	836.5	20525	5	RB_1_high	QPSK	23.11
mid	836.5	20525	5	RB_1_high	16QAM	22.38
mid	836.5	20525	5	RB_50%_low	QPSK	22.38
mid	836.5	20525	5	RB_50%_low	16QAM	21.45
mid	836.5	20525	5	RB_50%_mid	QPSK	22.42
mid	836.5	20525	5	RB_50%_mid	16QAM	21.44
mid	836.5	20525	5	RB_50%_high	QPSK	22.34
mid	836.5	20525	5	RB_50%_high	16QAM	21.41
mid	836.5	20525	5	RB_100%	QPSK	22.36
mid	836.5	20525	5	RB_100%	16QAM	21.45
high	846.5	20625	5	RB_1_low	QPSK	23.00
high	846.5	20625	5	RB_1_low	16QAM	22.25
high	846.5	20625	5	RB_1_mid	QPSK	23.01
high	846.5	20625	5	RB_1_mid	16QAM	22.10
high	846.5	20625	5	RB_1_high	QPSK	22.67
high	846.5	20625	5	RB_1_high	16QAM	22.13
high	846.5	20625	5	RB_50%_low	QPSK	22.25
high	846.5	20625	5	RB_50%_low	16QAM	21.41
high	846.5	20625	5	RB_50%_mid	QPSK	22.40
high	846.5	20625	5	RB_50%_mid	16QAM	21.44
high	846.5	20625	5	RB_50%_high	QPSK	22.21
high	846.5	20625	5	RB_50%_high	16QAM	21.48
high	846.5	20625	5	RB_100%	QPSK	22.27
high	846.5	20625	5	RB_100%	16QAM	21.46
low	829	20450	10	RB_1_low	QPSK	23.02
low	829	20450	10	RB_1_low	16QAM	22.33
low	829	20450	10	RB_1_mid	QPSK	23.33
low	829	20450	10	RB_1_mid	16QAM	22.41
low	829	20450	10	RB_1_high	QPSK	23.56
low	829	20450	10	RB_1_high	16QAM	22.28
low	829	20450	10	RB_50%_low	QPSK	22.24
low	829	20450	10	RB_50%_low	16QAM	21.19
low	829	20450	10	RB_50%_mid	QPSK	22.33
low	829	20450	10	RB_50%_mid	16QAM	21.52
low	829	20450	10	RB_50%_high	QPSK	22.31
low	829	20450	10	RB_50%_high	16QAM	21.28
low	829	20450	10	RB_100%	QPSK	22.32
low	829	20450	10	RB_100%	16QAM	21.36
mid	836.5	20525	10	RB_1_low	QPSK	23.13
mid	836.5	20525	10	RB_1_low	16QAM	22.57
mid	836.5	20525	10	RB_1_mid	QPSK	23.17
mid	836.5	20525	10	RB_1_mid	16QAM	22.44
mid	836.5	20525	10	RB_1_high	QPSK	23.17
mid	836.5	20525	10	RB_1_high	16QAM	22.61
mid	836.5	20525	10	RB_50%_low	QPSK	22.42
mid	836.5	20525	10	RB_50%_low	16QAM	21.56
mid	836.5	20525	10	RB_50%_mid	QPSK	22.44
mid	836.5	20525	10	RB_50%_mid	16QAM	21.60
mid	836.5	20525	10	RB_50%_high	QPSK	22.39
mid	836.5	20525	10	RB_50%_high	16QAM	21.38
mid	836.5	20525	10	RB_100%	QPSK	22.43
mid	836.5	20525	10	RB_100%	16QAM	21.36

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	844	20600	10	RB_1_low	QPSK	23.26
high	844	20600	10	RB_1_low	16QAM	22.44
high	844	20600	10	RB_1_mid	QPSK	23.66
high	844	20600	10	RB_1_mid	16QAM	22.36
high	844	20600	10	RB_1_high	QPSK	23.02
high	844	20600	10	RB_1_high	16QAM	21.96
high	844	20600	10	RB_50%_low	QPSK	22.38
high	844	20600	10	RB_50%_low	16QAM	21.46
high	844	20600	10	RB_50%_mid	QPSK	22.46
high	844	20600	10	RB_50%_mid	16QAM	21.62
high	844	20600	10	RB_50%_high	QPSK	22.27
high	844	20600	10	RB_50%_high	16QAM	21.34
high	844	20600	10	RB_100%	QPSK	22.28
high	844	20600	10	RB_100%	16QAM	21.12

Table 17: Test results conducted power measurement LTE FDD 5 850 MHz.

8.1.8 Conducted power measurements LTE FDD 7 2600 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	2502.5	20775	5	RB_1_low	QPSK	22.29
low	2502.5	20775	5	RB_1_low	16QAM	21.63
low	2502.5	20775	5	RB_1_mid	QPSK	22.57
low	2502.5	20775	5	RB_1_mid	16QAM	21.56
low	2502.5	20775	5	RB_1_high	QPSK	22.54
low	2502.5	20775	5	RB_1_high	16QAM	21.74
low	2502.5	20775	5	RB_50%_low	QPSK	21.50
low	2502.5	20775	5	RB_50%_low	16QAM	20.53
low	2502.5	20775	5	RB_50%_mid	QPSK	21.70
low	2502.5	20775	5	RB_50%_mid	16QAM	20.86
low	2502.5	20775	5	RB_50%_high	QPSK	21.64
low	2502.5	20775	5	RB_50%_high	16QAM	20.87
low	2502.5	20775	5	RB_100%	QPSK	21.65
low	2502.5	20775	5	RB_100%	16QAM	20.47
mid	2535	21100	5	RB_1_low	QPSK	22.61
mid	2535	21100	5	RB_1_low	16QAM	21.54
mid	2535	21100	5	RB_1_mid	QPSK	22.75
mid	2535	21100	5	RB_1_mid	16QAM	21.82
mid	2535	21100	5	RB_1_high	QPSK	22.74
mid	2535	21100	5	RB_1_high	16QAM	21.97
mid	2535	21100	5	RB_50%_low	QPSK	21.95
mid	2535	21100	5	RB_50%_low	16QAM	20.98
mid	2535	21100	5	RB_50%_mid	QPSK	21.95
mid	2535	21100	5	RB_50%_mid	16QAM	20.95
mid	2535	21100	5	RB_50%_high	QPSK	21.85
mid	2535	21100	5	RB_50%_high	16QAM	20.97
mid	2535	21100	5	RB_100%	QPSK	21.91
mid	2535	21100	5	RB_100%	16QAM	21.12
high	2567.5	21425	5	RB_1_low	QPSK	22.80
high	2567.5	21425	5	RB_1_low	16QAM	21.84
high	2567.5	21425	5	RB_1_mid	QPSK	22.76
high	2567.5	21425	5	RB_1_mid	16QAM	21.93
high	2567.5	21425	5	RB_1_high	QPSK	22.43
high	2567.5	21425	5	RB_1_high	16QAM	21.98
high	2567.5	21425	5	RB_50%_low	QPSK	21.98
high	2567.5	21425	5	RB_50%_low	16QAM	21.12
high	2567.5	21425	5	RB_50%_mid	QPSK	22.01
high	2567.5	21425	5	RB_50%_mid	16QAM	21.32
high	2567.5	21425	5	RB_50%_high	QPSK	21.96
high	2567.5	21425	5	RB_50%_high	16QAM	21.04
high	2567.5	21425	5	RB_100%	QPSK	21.97
high	2567.5	21425	5	RB_100%	16QAM	21.16
low	2505	20800	10	RB_1_low	QPSK	22.35
low	2505	20800	10	RB_1_low	16QAM	21.75
low	2505	20800	10	RB_1_mid	QPSK	23.01
low	2505	20800	10	RB_1_mid	16QAM	21.74
low	2505	20800	10	RB_1_high	QPSK	22.99
low	2505	20800	10	RB_1_high	16QAM	21.47
low	2505	20800	10	RB_50%_low	QPSK	21.71
low	2505	20800	10	RB_50%_low	16QAM	20.83
low	2505	20800	10	RB_50%_mid	QPSK	21.76

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	2505	20800	10	RB_50%_mid	16QAM	20.86
low	2505	20800	10	RB_50%_high	QPSK	21.70
low	2505	20800	10	RB_50%_high	16QAM	20.80
low	2505	20800	10	RB_100%	QPSK	21.74
low	2505	20800	10	RB_100%	16QAM	20.73
mid	2535	21100	10	RB_1_low	QPSK	22.74
mid	2535	21100	10	RB_1_low	16QAM	22.04
mid	2535	21100	10	RB_1_mid	QPSK	22.98
mid	2535	21100	10	RB_1_mid	16QAM	21.93
mid	2535	21100	10	RB_1_high	QPSK	22.81
mid	2535	21100	10	RB_1_high	16QAM	21.97
mid	2535	21100	10	RB_50%_low	QPSK	21.99
mid	2535	21100	10	RB_50%_low	16QAM	21.06
mid	2535	21100	10	RB_50%_mid	QPSK	21.95
mid	2535	21100	10	RB_50%_mid	16QAM	21.00
mid	2535	21100	10	RB_50%_high	QPSK	21.82
mid	2535	21100	10	RB_50%_high	16QAM	21.04
mid	2535	21100	10	RB_100%	QPSK	21.87
mid	2535	21100	10	RB_100%	16QAM	20.86
high	2565	21400	10	RB_1_low	QPSK	22.94
high	2565	21400	10	RB_1_low	16QAM	22.22
high	2565	21400	10	RB_1_mid	QPSK	23.27
high	2565	21400	10	RB_1_mid	16QAM	22.05
high	2565	21400	10	RB_1_high	QPSK	22.68
high	2565	21400	10	RB_1_high	16QAM	21.96
high	2565	21400	10	RB_50%_low	QPSK	22.19
high	2565	21400	10	RB_50%_low	16QAM	21.10
high	2565	21400	10	RB_50%_mid	QPSK	22.08
high	2565	21400	10	RB_50%_mid	16QAM	21.12
high	2565	21400	10	RB_50%_high	QPSK	21.97
high	2565	21400	10	RB_50%_high	16QAM	21.04
high	2565	21400	10	RB_100%	QPSK	22.09
high	2565	21400	10	RB_100%	16QAM	20.94
low	2507.5	20825	15	RB_1_low	QPSK	22.48
low	2507.5	20825	15	RB_1_low	16QAM	21.57
low	2507.5	20825	15	RB_1_mid	QPSK	22.87
low	2507.5	20825	15	RB_1_mid	16QAM	21.97
low	2507.5	20825	15	RB_1_high	QPSK	22.85
low	2507.5	20825	15	RB_1_high	16QAM	22.01
low	2507.5	20825	15	RB_50%_low	QPSK	21.68
low	2507.5	20825	15	RB_50%_low	16QAM	20.75
low	2507.5	20825	15	RB_50%_mid	QPSK	21.67
low	2507.5	20825	15	RB_50%_mid	16QAM	20.80
low	2507.5	20825	15	RB_50%_high	QPSK	21.84
low	2507.5	20825	15	RB_50%_high	16QAM	20.68
low	2507.5	20825	15	RB_100%	QPSK	21.72
low	2507.5	20825	15	RB_100%	16QAM	20.71
mid	2535	21100	15	RB_1_low	QPSK	22.92
mid	2535	21100	15	RB_1_low	16QAM	22.23
mid	2535	21100	15	RB_1_mid	QPSK	23.05
mid	2535	21100	15	RB_1_mid	16QAM	22.35
mid	2535	21100	15	RB_1_high	QPSK	22.57
mid	2535	21100	15	RB_1_high	16QAM	21.88

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	2535	21100	15	RB_50%_low	QPSK	22.03
mid	2535	21100	15	RB_50%_low	16QAM	21.12
mid	2535	21100	15	RB_50%_mid	QPSK	21.95
mid	2535	21100	15	RB_50%_mid	16QAM	21.09
mid	2535	21100	15	RB_50%_high	QPSK	21.81
mid	2535	21100	15	RB_50%_high	16QAM	20.95
mid	2535	21100	15	RB_100%	QPSK	21.94
mid	2535	21100	15	RB_100%	16QAM	21.05
high	2562.5	21375	15	RB_1_low	QPSK	22.81
high	2562.5	21375	15	RB_1_low	16QAM	22.02
high	2562.5	21375	15	RB_1_mid	QPSK	23.25
high	2562.5	21375	15	RB_1_mid	16QAM	22.38
high	2562.5	21375	15	RB_1_high	QPSK	22.71
high	2562.5	21375	15	RB_1_high	16QAM	21.60
high	2562.5	21375	15	RB_50%_low	QPSK	21.98
high	2562.5	21375	15	RB_50%_low	16QAM	21.02
high	2562.5	21375	15	RB_50%_mid	QPSK	22.06
high	2562.5	21375	15	RB_50%_mid	16QAM	21.20
high	2562.5	21375	15	RB_50%_high	QPSK	22.07
high	2562.5	21375	15	RB_50%_high	16QAM	20.95
high	2562.5	21375	15	RB_100%	QPSK	22.05
high	2562.5	21375	15	RB_100%	16QAM	21.14
low	2510	20850	20	RB_1_low	QPSK	22.54
low	2510	20850	20	RB_1_low	16QAM	21.71
low	2510	20850	20	RB_1_mid	QPSK	22.74
low	2510	20850	20	RB_1_mid	16QAM	22.02
low	2510	20850	20	RB_1_high	QPSK	22.45
low	2510	20850	20	RB_1_high	16QAM	21.41
low	2510	20850	20	RB_50%_low	QPSK	21.78
low	2510	20850	20	RB_50%_low	16QAM	20.89
low	2510	20850	20	RB_50%_mid	QPSK	21.85
low	2510	20850	20	RB_50%_mid	16QAM	20.94
low	2510	20850	20	RB_50%_high	QPSK	21.80
low	2510	20850	20	RB_50%_high	16QAM	20.55
low	2510	20850	20	RB_100%	QPSK	21.84
low	2510	20850	20	RB_100%	16QAM	20.83
mid	2535	21100	20	RB_1_low	QPSK	22.81
mid	2535	21100	20	RB_1_low	16QAM	22.11
mid	2535	21100	20	RB_1_mid	QPSK	23.19
mid	2535	21100	20	RB_1_mid	16QAM	21.93
mid	2535	21100	20	RB_1_high	QPSK	22.31
mid	2535	21100	20	RB_1_high	16QAM	21.93
mid	2535	21100	20	RB_50%_low	QPSK	22.09
mid	2535	21100	20	RB_50%_low	16QAM	21.23
mid	2535	21100	20	RB_50%_mid	QPSK	21.95
mid	2535	21100	20	RB_50%_mid	16QAM	20.98
mid	2535	21100	20	RB_50%_high	QPSK	21.81
mid	2535	21100	20	RB_50%_high	16QAM	20.85
mid	2535	21100	20	RB_100%	QPSK	21.90
mid	2535	21100	20	RB_100%	16QAM	20.94
high	2560	21350	20	RB_1_low	QPSK	22.66
high	2560	21350	20	RB_1_low	16QAM	21.95

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	2560	21350	20	RB_1_mid	QPSK	22.76
high	2560	21350	20	RB_1_mid	16QAM	22.16
high	2560	21350	20	RB_1_high	QPSK	22.65
high	2560	21350	20	RB_1_high	16QAM	22.02
high	2560	21350	20	RB_50%_low	QPSK	21.95
high	2560	21350	20	RB_50%_low	16QAM	20.93
high	2560	21350	20	RB_50%_mid	QPSK	22.03
high	2560	21350	20	RB_50%_mid	16QAM	20.91
high	2560	21350	20	RB_50%_high	QPSK	22.08
high	2560	21350	20	RB_50%_high	16QAM	20.92
high	2560	21350	20	RB_100%	QPSK	21.96
high	2560	21350	20	RB_100%	16QAM	21.06

Table 18: Test results conducted power measurement LTE FDD 7 2600 MHz.

8.1.9 Conducted power measurements LTE FDD 12 700 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	699.7	23017	1.4	RB_1_low	QPSK	23.12
low	699.7	23017	1.4	RB_1_low	16QAM	22.24
low	699.7	23017	1.4	RB_1_mid	QPSK	23.27
low	699.7	23017	1.4	RB_1_mid	16QAM	22.26
low	699.7	23017	1.4	RB_1_high	QPSK	23.13
low	699.7	23017	1.4	RB_1_high	16QAM	22.15
low	699.7	23017	1.4	RB_50%_low	QPSK	23.25
low	699.7	23017	1.4	RB_50%_low	16QAM	22.51
low	699.7	23017	1.4	RB_50%_mid	QPSK	23.25
low	699.7	23017	1.4	RB_50%_mid	16QAM	22.32
low	699.7	23017	1.4	RB_50%_high	QPSK	23.13
low	699.7	23017	1.4	RB_50%_high	16QAM	22.63
low	699.7	23017	1.4	RB_100%	QPSK	22.28
low	699.7	23017	1.4	RB_100%	16QAM	21.09
mid	707.5	23095	1.4	RB_1_low	QPSK	23.23
mid	707.5	23095	1.4	RB_1_low	16QAM	22.57
mid	707.5	23095	1.4	RB_1_mid	QPSK	23.10
mid	707.5	23095	1.4	RB_1_mid	16QAM	22.46
mid	707.5	23095	1.4	RB_1_high	QPSK	23.20
mid	707.5	23095	1.4	RB_1_high	16QAM	22.48
mid	707.5	23095	1.4	RB_50%_low	QPSK	23.36
mid	707.5	23095	1.4	RB_50%_low	16QAM	22.35
mid	707.5	23095	1.4	RB_50%_mid	QPSK	23.40
mid	707.5	23095	1.4	RB_50%_mid	16QAM	22.48
mid	707.5	23095	1.4	RB_50%_high	QPSK	23.22
mid	707.5	23095	1.4	RB_50%_high	16QAM	22.52
mid	707.5	23095	1.4	RB_100%	QPSK	22.34
mid	707.5	23095	1.4	RB_100%	16QAM	21.20
high	715.3	23173	1.4	RB_1_low	QPSK	23.36
high	715.3	23173	1.4	RB_1_low	16QAM	22.86
high	715.3	23173	1.4	RB_1_mid	QPSK	23.57
high	715.3	23173	1.4	RB_1_mid	16QAM	22.31
high	715.3	23173	1.4	RB_1_high	QPSK	23.36
high	715.3	23173	1.4	RB_1_high	16QAM	22.49
high	715.3	23173	1.4	RB_50%_low	QPSK	23.65
high	715.3	23173	1.4	RB_50%_low	16QAM	22.48
high	715.3	23173	1.4	RB_50%_mid	QPSK	23.47
high	715.3	23173	1.4	RB_50%_mid	16QAM	22.79
high	715.3	23173	1.4	RB_50%_high	QPSK	23.47
high	715.3	23173	1.4	RB_50%_high	16QAM	22.72
high	715.3	23173	1.4	RB_100%	QPSK	22.48
high	715.3	23173	1.4	RB_100%	16QAM	21.16
low	700.5	23025	3	RB_1_low	QPSK	23.11
low	700.5	23025	3	RB_1_low	16QAM	22.13
low	700.5	23025	3	RB_1_mid	QPSK	23.33
low	700.5	23025	3	RB_1_mid	16QAM	22.48
low	700.5	23025	3	RB_1_high	QPSK	23.37
low	700.5	23025	3	RB_1_high	16QAM	22.30
low	700.5	23025	3	RB_50%_low	QPSK	22.20
low	700.5	23025	3	RB_50%_low	16QAM	21.40
low	700.5	23025	3	RB_50%_mid	QPSK	22.19
low	700.5	23025	3	RB_50%_mid	16QAM	21.13

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	700.5	23025	3	RB_50%_high	QPSK	22.16
low	700.5	23025	3	RB_50%_high	16QAM	21.58
low	700.5	23025	3	RB_100%	QPSK	22.28
low	700.5	23025	3	RB_100%	16QAM	21.24
mid	707.5	23095	3	RB_1_low	QPSK	23.25
mid	707.5	23095	3	RB_1_low	16QAM	22.44
mid	707.5	23095	3	RB_1_mid	QPSK	23.38
mid	707.5	23095	3	RB_1_mid	16QAM	22.66
mid	707.5	23095	3	RB_1_high	QPSK	23.31
mid	707.5	23095	3	RB_1_high	16QAM	22.48
mid	707.5	23095	3	RB_50%_low	QPSK	22.37
mid	707.5	23095	3	RB_50%_low	16QAM	21.14
mid	707.5	23095	3	RB_50%_mid	QPSK	22.38
mid	707.5	23095	3	RB_50%_mid	16QAM	21.42
mid	707.5	23095	3	RB_50%_high	QPSK	22.37
mid	707.5	23095	3	RB_50%_high	16QAM	21.49
mid	707.5	23095	3	RB_100%	QPSK	22.41
mid	707.5	23095	3	RB_100%	16QAM	21.61
high	714.5	23165	3	RB_1_low	QPSK	23.58
high	714.5	23165	3	RB_1_low	16QAM	22.59
high	714.5	23165	3	RB_1_mid	QPSK	23.76
high	714.5	23165	3	RB_1_mid	16QAM	22.92
high	714.5	23165	3	RB_1_high	QPSK	23.38
high	714.5	23165	3	RB_1_high	16QAM	22.40
high	714.5	23165	3	RB_50%_low	QPSK	22.57
high	714.5	23165	3	RB_50%_low	16QAM	21.12
high	714.5	23165	3	RB_50%_mid	QPSK	22.53
high	714.5	23165	3	RB_50%_mid	16QAM	21.79
high	714.5	23165	3	RB_50%_high	QPSK	22.51
high	714.5	23165	3	RB_50%_high	16QAM	21.63
high	714.5	23165	3	RB_100%	QPSK	22.46
high	714.5	23165	3	RB_100%	16QAM	21.52
low	701.5	23035	5	RB_1_low	QPSK	22.71
low	701.5	23035	5	RB_1_low	16QAM	22.04
low	701.5	23035	5	RB_1_mid	QPSK	22.95
low	701.5	23035	5	RB_1_mid	16QAM	22.36
low	701.5	23035	5	RB_1_high	QPSK	23.17
low	701.5	23035	5	RB_1_high	16QAM	22.00
low	701.5	23035	5	RB_50%_low	QPSK	22.25
low	701.5	23035	5	RB_50%_low	16QAM	21.45
low	701.5	23035	5	RB_50%_mid	QPSK	22.27
low	701.5	23035	5	RB_50%_mid	16QAM	21.32
low	701.5	23035	5	RB_50%_high	QPSK	22.34
low	701.5	23035	5	RB_50%_high	16QAM	21.45
low	701.5	23035	5	RB_100%	QPSK	22.25
low	701.5	23035	5	RB_100%	16QAM	21.23
mid	707.5	23095	5	RB_1_low	QPSK	22.78
mid	707.5	23095	5	RB_1_low	16QAM	21.95
mid	707.5	23095	5	RB_1_mid	QPSK	23.04
mid	707.5	23095	5	RB_1_mid	16QAM	22.24
mid	707.5	23095	5	RB_1_high	QPSK	23.03
mid	707.5	23095	5	RB_1_high	16QAM	22.41

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	707.5	23095	5	RB_50%_low	QPSK	22.43
mid	707.5	23095	5	RB_50%_low	16QAM	21.39
mid	707.5	23095	5	RB_50%_mid	QPSK	22.45
mid	707.5	23095	5	RB_50%_mid	16QAM	21.42
mid	707.5	23095	5	RB_50%_high	QPSK	22.46
mid	707.5	23095	5	RB_50%_high	16QAM	21.42
mid	707.5	23095	5	RB_100%	QPSK	22.34
mid	707.5	23095	5	RB_100%	16QAM	21.42
high	713.5	23155	5	RB_1_low	QPSK	23.40
high	713.5	23155	5	RB_1_low	16QAM	22.30
high	713.5	23155	5	RB_1_mid	QPSK	23.32
high	713.5	23155	5	RB_1_mid	16QAM	22.56
high	713.5	23155	5	RB_1_high	QPSK	23.06
high	713.5	23155	5	RB_1_high	16QAM	22.35
high	713.5	23155	5	RB_50%_low	QPSK	22.38
high	713.5	23155	5	RB_50%_low	16QAM	21.37
high	713.5	23155	5	RB_50%_mid	QPSK	22.52
high	713.5	23155	5	RB_50%_mid	16QAM	21.62
high	713.5	23155	5	RB_50%_high	QPSK	22.37
high	713.5	23155	5	RB_50%_high	16QAM	21.57
high	713.5	23155	5	RB_100%	QPSK	22.42
high	713.5	23155	5	RB_100%	16QAM	21.33
low	704	23060	10	RB_1_low	QPSK	22.87
low	704	23060	10	RB_1_low	16QAM	21.99
low	704	23060	10	RB_1_mid	QPSK	23.29
low	704	23060	10	RB_1_mid	16QAM	22.21
low	704	23060	10	RB_1_high	QPSK	23.51
low	704	23060	10	RB_1_high	16QAM	22.15
low	704	23060	10	RB_50%_low	QPSK	22.28
low	704	23060	10	RB_50%_low	16QAM	21.28
low	704	23060	10	RB_50%_mid	QPSK	22.28
low	704	23060	10	RB_50%_mid	16QAM	21.46
low	704	23060	10	RB_50%_high	QPSK	22.33
low	704	23060	10	RB_50%_high	16QAM	21.49
low	704	23060	10	RB_100%	QPSK	22.33
low	704	23060	10	RB_100%	16QAM	21.31
mid	707.5	23095	10	RB_1_low	QPSK	22.95
mid	707.5	23095	10	RB_1_low	16QAM	22.31
mid	707.5	23095	10	RB_1_mid	QPSK	23.46
mid	707.5	23095	10	RB_1_mid	16QAM	22.54
mid	707.5	23095	10	RB_1_high	QPSK	23.09
mid	707.5	23095	10	RB_1_high	16QAM	22.45
mid	707.5	23095	10	RB_50%_low	QPSK	22.24
mid	707.5	23095	10	RB_50%_low	16QAM	21.54
mid	707.5	23095	10	RB_50%_mid	QPSK	22.37
mid	707.5	23095	10	RB_50%_mid	16QAM	21.46
mid	707.5	23095	10	RB_50%_high	QPSK	22.35
mid	707.5	23095	10	RB_50%_high	16QAM	21.45
mid	707.5	23095	10	RB_100%	QPSK	22.38
mid	707.5	23095	10	RB_100%	16QAM	21.41

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	711	23130	10	RB_1_low	QPSK	23.38
high	711	23130	10	RB_1_low	16QAM	22.56
high	711	23130	10	RB_1_mid	QPSK	23.74
high	711	23130	10	RB_1_mid	16QAM	22.25
high	711	23130	10	RB_1_high	QPSK	23.31
high	711	23130	10	RB_1_high	16QAM	22.28
high	711	23130	10	RB_50%_low	QPSK	22.42
high	711	23130	10	RB_50%_low	16QAM	21.51
high	711	23130	10	RB_50%_mid	QPSK	22.51
high	711	23130	10	RB_50%_mid	16QAM	21.49
high	711	23130	10	RB_50%_high	QPSK	22.50
high	711	23130	10	RB_50%_high	16QAM	21.58
high	711	23130	10	RB_100%	QPSK	22.43
high	711	23130	10	RB_100%	16QAM	21.33

Table 19: Test results conducted power measurement LTE FDD12 700 MHz.

8.1.10 Conducted power measurements LTE FDD 13 700 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	779.5	23205	5	RB_1_low	QPSK	23.10
low	779.5	23205	5	RB_1_low	16QAM	22.53
low	779.5	23205	5	RB_1_mid	QPSK	23.36
low	779.5	23205	5	RB_1_mid	16QAM	22.63
low	779.5	23205	5	RB_1_high	QPSK	23.33
low	779.5	23205	5	RB_1_high	16QAM	22.29
low	779.5	23205	5	RB_50%_low	QPSK	22.55
low	779.5	23205	5	RB_50%_low	16QAM	21.43
low	779.5	23205	5	RB_50%_mid	QPSK	22.65
low	779.5	23205	5	RB_50%_mid	16QAM	21.57
low	779.5	23205	5	RB_50%_high	QPSK	22.59
low	779.5	23205	5	RB_50%_high	16QAM	21.59
low	779.5	23205	5	RB_100%	QPSK	22.52
low	779.5	23205	5	RB_100%	16QAM	21.46
mid	782	23230	5	RB_1_low	QPSK	23.07
mid	782	23230	5	RB_1_low	16QAM	22.46
mid	782	23230	5	RB_1_mid	QPSK	23.23
mid	782	23230	5	RB_1_mid	16QAM	22.53
mid	782	23230	5	RB_1_high	QPSK	23.22
mid	782	23230	5	RB_1_high	16QAM	22.71
mid	782	23230	5	RB_50%_low	QPSK	22.62
mid	782	23230	5	RB_50%_low	16QAM	21.51
mid	782	23230	5	RB_50%_mid	QPSK	22.58
mid	782	23230	5	RB_50%_mid	16QAM	21.53
mid	782	23230	5	RB_50%_high	QPSK	22.61
mid	782	23230	5	RB_50%_high	16QAM	21.48
mid	782	23230	5	RB_100%	QPSK	22.54
mid	782	23230	5	RB_100%	16QAM	21.60
high	784.5	23255	5	RB_1_low	QPSK	23.34
high	784.5	23255	5	RB_1_low	16QAM	22.40
high	784.5	23255	5	RB_1_mid	QPSK	23.45
high	784.5	23255	5	RB_1_mid	16QAM	22.73

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	784.5	23255	5	RB_1_high	QPSK	23.29
high	784.5	23255	5	RB_1_high	16QAM	22.81
high	784.5	23255	5	RB_50%_low	QPSK	22.65
high	784.5	23255	5	RB_50%_low	16QAM	21.89
high	784.5	23255	5	RB_50%_mid	QPSK	22.73
high	784.5	23255	5	RB_50%_mid	16QAM	21.67
high	784.5	23255	5	RB_50%_high	QPSK	22.57
high	784.5	23255	5	RB_50%_high	16QAM	21.74
high	784.5	23255	5	RB_100%	QPSK	22.68
high	784.5	23255	5	RB_100%	16QAM	21.77
low	782	23230	10	RB_50%_low	16QAM	21.53
low	782	23230	10	RB_50%_mid	16QAM	21.47
low	782	23230	10	RB_50%_high	16QAM	21.67
low	782	23230	10	RB_100%	16QAM	21.48
mid	782	23230	10	RB_1_low	QPSK	23.72
mid	782	23230	10	RB_1_low	16QAM	22.54
mid	782	23230	10	RB_1_mid	QPSK	23.79
mid	782	23230	10	RB_1_mid	16QAM	22.46
mid	782	23230	10	RB_1_high	QPSK	23.90
mid	782	23230	10	RB_1_high	16QAM	22.62
mid	782	23230	10	RB_50%_low	QPSK	22.53
mid	782	23230	10	RB_50%_low	16QAM	21.53
mid	782	23230	10	RB_50%_mid	QPSK	22.60
mid	782	23230	10	RB_50%_mid	16QAM	21.47
mid	782	23230	10	RB_50%_high	QPSK	22.72
mid	782	23230	10	RB_50%_high	16QAM	21.78
mid	782	23230	10	RB_100%	QPSK	22.55
mid	782	23230	10	RB_100%	16QAM	21.58
high	782	23230	10	RB_50%_low	16QAM	21.54
high	782	23230	10	RB_50%_mid	16QAM	21.48
high	782	23230	10	RB_50%_high	16QAM	21.68
high	782	23230	10	RB_100%	16QAM	21.49

Table 20: Test results conducted power measurement LTE FDD13 700 MHz.

8.1.11 Conducted power measurements LTE FDD 17 700 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	706.5	23755	5	RB_1_low	QPSK	22.91
low	706.5	23755	5	RB_1_low	16QAM	22.15
low	706.5	23755	5	RB_1_mid	QPSK	23.20
low	706.5	23755	5	RB_1_mid	16QAM	22.17
low	706.5	23755	5	RB_1_high	QPSK	23.06
low	706.5	23755	5	RB_1_high	16QAM	22.32
low	706.5	23755	5	RB_50%_low	QPSK	22.16
low	706.5	23755	5	RB_50%_low	16QAM	21.35
low	706.5	23755	5	RB_50%_mid	QPSK	22.20
low	706.5	23755	5	RB_50%_mid	16QAM	20.99
low	706.5	23755	5	RB_50%_high	QPSK	22.18
low	706.5	23755	5	RB_50%_high	16QAM	21.21
low	706.5	23755	5	RB_100%	QPSK	22.17
low	706.5	23755	5	RB_100%	16QAM	21.05
mid	710	23790	5	RB_1_low	QPSK	22.75
mid	710	23790	5	RB_1_low	16QAM	22.12
mid	710	23790	5	RB_1_mid	QPSK	23.05
mid	710	23790	5	RB_1_mid	16QAM	21.75
mid	710	23790	5	RB_1_high	QPSK	22.93
mid	710	23790	5	RB_1_high	16QAM	22.19
mid	710	23790	5	RB_50%_low	QPSK	22.18
mid	710	23790	5	RB_50%_low	16QAM	21.04
mid	710	23790	5	RB_50%_mid	QPSK	22.23
mid	710	23790	5	RB_50%_mid	16QAM	21.19
mid	710	23790	5	RB_50%_high	QPSK	22.20
mid	710	23790	5	RB_50%_high	16QAM	21.17
mid	710	23790	5	RB_100%	QPSK	22.18
mid	710	23790	5	RB_100%	16QAM	21.17
high	713.5	23825	5	RB_1_low	QPSK	23.13
high	713.5	23825	5	RB_1_low	16QAM	22.11
high	713.5	23825	5	RB_1_mid	QPSK	23.15
high	713.5	23825	5	RB_1_mid	16QAM	22.39
high	713.5	23825	5	RB_1_high	QPSK	22.88
high	713.5	23825	5	RB_1_high	16QAM	22.34
high	713.5	23825	5	RB_50%_low	QPSK	22.28
high	713.5	23825	5	RB_50%_low	16QAM	21.35
high	713.5	23825	5	RB_50%_mid	QPSK	22.21
high	713.5	23825	5	RB_50%_mid	16QAM	21.25
high	713.5	23825	5	RB_50%_high	QPSK	22.36
high	713.5	23825	5	RB_50%_high	16QAM	21.36
high	713.5	23825	5	RB_100%	QPSK	22.29
high	713.5	23825	5	RB_100%	16QAM	21.22
low	709	23780	10	RB_1_low	QPSK	23.07
low	709	23780	10	RB_1_low	16QAM	22.41
low	709	23780	10	RB_1_mid	QPSK	23.54
low	709	23780	10	RB_1_mid	16QAM	22.57
low	709	23780	10	RB_1_high	QPSK	23.57
low	709	23780	10	RB_1_high	16QAM	22.42
low	709	23780	10	RB_50%_low	QPSK	22.33
low	709	23780	10	RB_50%_low	16QAM	21.42
low	709	23780	10	RB_50%_mid	QPSK	22.37
low	709	23780	10	RB_50%_mid	16QAM	21.45

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	709	23780	10	RB_50%_high	QPSK	22.28
low	709	23780	10	RB_50%_high	16QAM	21.42
low	709	23780	10	RB_100%	QPSK	22.30
low	709	23780	10	RB_100%	16QAM	21.26
mid	710	23790	10	RB_1_low	QPSK	23.10
mid	710	23790	10	RB_1_low	16QAM	22.28
mid	710	23790	10	RB_1_mid	QPSK	23.27
mid	710	23790	10	RB_1_mid	16QAM	22.33
mid	710	23790	10	RB_1_high	QPSK	23.29
mid	710	23790	10	RB_1_high	16QAM	22.21
mid	710	23790	10	RB_50%_low	QPSK	22.25
mid	710	23790	10	RB_50%_low	16QAM	21.43
mid	710	23790	10	RB_50%_mid	QPSK	22.20
mid	710	23790	10	RB_50%_mid	16QAM	21.20
mid	710	23790	10	RB_50%_high	QPSK	22.22
mid	710	23790	10	RB_50%_high	16QAM	21.23
mid	710	23790	10	RB_100%	QPSK	22.23
mid	710	23790	10	RB_100%	16QAM	21.27
high	711	23800	10	RB_1_low	QPSK	23.07
high	711	23800	10	RB_1_low	16QAM	22.29
high	711	23800	10	RB_1_mid	QPSK	23.55
high	711	23800	10	RB_1_mid	16QAM	22.15
high	711	23800	10	RB_1_high	QPSK	23.12
high	711	23800	10	RB_1_high	16QAM	22.17
high	711	23800	10	RB_50%_low	QPSK	22.24
high	711	23800	10	RB_50%_low	16QAM	21.13
high	711	23800	10	RB_50%_mid	QPSK	22.22
high	711	23800	10	RB_50%_mid	16QAM	21.21
high	711	23800	10	RB_50%_high	QPSK	22.28
high	711	23800	10	RB_50%_high	16QAM	21.25
high	711	23800	10	RB_100%	QPSK	22.22
high	711	23800	10	RB_100%	16QAM	21.23

Table 21: Test results conducted power measurement LTE FDD 17 700 MHz.

8.1.12 Conducted power measurements LTE FDD 25 1900 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1850.7	26047	1.4	RB_1_low	QPSK	21.69
low	1850.7	26047	1.4	RB_1_low	16QAM	20.90
low	1850.7	26047	1.4	RB_1_mid	QPSK	22.05
low	1850.7	26047	1.4	RB_1_mid	16QAM	21.18
low	1850.7	26047	1.4	RB_1_high	QPSK	22.12
low	1850.7	26047	1.4	RB_1_high	16QAM	20.88
low	1850.7	26047	1.4	RB_50%_low	QPSK	21.95
low	1850.7	26047	1.4	RB_50%_low	16QAM	21.44
low	1850.7	26047	1.4	RB_50%_mid	QPSK	22.04
low	1850.7	26047	1.4	RB_50%_mid	16QAM	21.39
low	1850.7	26047	1.4	RB_50%_high	QPSK	21.93
low	1850.7	26047	1.4	RB_50%_high	16QAM	21.65
low	1850.7	26047	1.4	RB_100%	QPSK	20.84
low	1850.7	26047	1.4	RB_100%	16QAM	19.86

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1882.5	26365	1.4	RB_1_low	QPSK	22.06
mid	1882.5	26365	1.4	RB_1_low	16QAM	21.14
mid	1882.5	26365	1.4	RB_1_mid	QPSK	21.72
mid	1882.5	26365	1.4	RB_1_mid	16QAM	21.02
mid	1882.5	26365	1.4	RB_1_high	QPSK	21.87
mid	1882.5	26365	1.4	RB_1_high	16QAM	21.15
mid	1882.5	26365	1.4	RB_50%_low	QPSK	22.10
mid	1882.5	26365	1.4	RB_50%_low	16QAM	21.03
mid	1882.5	26365	1.4	RB_50%_mid	QPSK	22.12
mid	1882.5	26365	1.4	RB_50%_mid	16QAM	21.15
mid	1882.5	26365	1.4	RB_50%_high	QPSK	21.83
mid	1882.5	26365	1.4	RB_50%_high	16QAM	21.08
mid	1882.5	26365	1.4	RB_100%	QPSK	20.95
mid	1882.5	26365	1.4	RB_100%	16QAM	20.07
high	1914.3	26683	1.4	RB_1_low	QPSK	21.72
high	1914.3	26683	1.4	RB_1_low	16QAM	20.97
high	1914.3	26683	1.4	RB_1_mid	QPSK	22.06
high	1914.3	26683	1.4	RB_1_mid	16QAM	20.73
high	1914.3	26683	1.4	RB_1_high	QPSK	21.73
high	1914.3	26683	1.4	RB_1_high	16QAM	20.73
high	1914.3	26683	1.4	RB_50%_low	QPSK	21.87
high	1914.3	26683	1.4	RB_50%_low	16QAM	20.75
high	1914.3	26683	1.4	RB_50%_mid	QPSK	21.88
high	1914.3	26683	1.4	RB_50%_mid	16QAM	21.63
high	1914.3	26683	1.4	RB_50%_high	QPSK	21.80
high	1914.3	26683	1.4	RB_50%_high	16QAM	21.05
high	1914.3	26683	1.4	RB_100%	QPSK	20.92
high	1914.3	26683	1.4	RB_100%	16QAM	19.72
low	1851.5	26055	3	RB_1_low	QPSK	21.72
low	1851.5	26055	3	RB_1_low	16QAM	20.85
low	1851.5	26055	3	RB_1_mid	QPSK	22.19
low	1851.5	26055	3	RB_1_mid	16QAM	21.38
low	1851.5	26055	3	RB_1_high	QPSK	22.07
low	1851.5	26055	3	RB_1_high	16QAM	20.85
low	1851.5	26055	3	RB_50%_low	QPSK	20.90
low	1851.5	26055	3	RB_50%_low	16QAM	19.76
low	1851.5	26055	3	RB_50%_mid	QPSK	20.93
low	1851.5	26055	3	RB_50%_mid	16QAM	19.69
low	1851.5	26055	3	RB_50%_high	QPSK	20.81
low	1851.5	26055	3	RB_50%_high	16QAM	20.18
low	1851.5	26055	3	RB_100%	QPSK	20.98
low	1851.5	26055	3	RB_100%	16QAM	20.29
mid	1882.5	26365	3	RB_1_low	QPSK	22.10
mid	1882.5	26365	3	RB_1_low	16QAM	21.07
mid	1882.5	26365	3	RB_1_mid	QPSK	22.01
mid	1882.5	26365	3	RB_1_mid	16QAM	21.27
mid	1882.5	26365	3	RB_1_high	QPSK	22.02
mid	1882.5	26365	3	RB_1_high	16QAM	21.07
mid	1882.5	26365	3	RB_50%_low	QPSK	20.94
mid	1882.5	26365	3	RB_50%_low	16QAM	19.87
mid	1882.5	26365	3	RB_50%_mid	QPSK	21.03
mid	1882.5	26365	3	RB_50%_mid	16QAM	19.85
mid	1882.5	26365	3	RB_50%_high	QPSK	21.09
mid	1882.5	26365	3	RB_50%_high	16QAM	19.89

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1882.5	26365	3	RB_100%	QPSK	21.05
mid	1882.5	26365	3	RB_100%	16QAM	20.13
high	1913.5	26675	3	RB_1_low	QPSK	22.09
high	1913.5	26675	3	RB_1_low	16QAM	20.97
high	1913.5	26675	3	RB_1_mid	QPSK	22.17
high	1913.5	26675	3	RB_1_mid	16QAM	20.76
high	1913.5	26675	3	RB_1_high	QPSK	21.80
high	1913.5	26675	3	RB_1_high	16QAM	20.77
high	1913.5	26675	3	RB_50%_low	QPSK	20.99
high	1913.5	26675	3	RB_50%_low	16QAM	19.62
high	1913.5	26675	3	RB_50%_mid	QPSK	20.95
high	1913.5	26675	3	RB_50%_mid	16QAM	19.98
high	1913.5	26675	3	RB_50%_high	QPSK	21.02
high	1913.5	26675	3	RB_50%_high	16QAM	20.21
high	1913.5	26675	3	RB_100%	QPSK	20.94
high	1913.5	26675	3	RB_100%	16QAM	20.01
low	1852.5	26065	5	RB_1_low	QPSK	21.30
low	1852.5	26065	5	RB_1_low	16QAM	20.89
low	1852.5	26065	5	RB_1_mid	QPSK	21.78
low	1852.5	26065	5	RB_1_mid	16QAM	20.31
low	1852.5	26065	5	RB_1_high	QPSK	21.80
low	1852.5	26065	5	RB_1_high	16QAM	20.48
low	1852.5	26065	5	RB_50%_low	QPSK	20.94
low	1852.5	26065	5	RB_50%_low	16QAM	19.90
low	1852.5	26065	5	RB_50%_mid	QPSK	20.97
low	1852.5	26065	5	RB_50%_mid	16QAM	20.05
low	1852.5	26065	5	RB_50%_high	QPSK	20.81
low	1852.5	26065	5	RB_50%_high	16QAM	19.83
low	1852.5	26065	5	RB_100%	QPSK	20.93
low	1852.5	26065	5	RB_100%	16QAM	19.67
mid	1882.5	26365	5	RB_1_low	QPSK	21.67
mid	1882.5	26365	5	RB_1_low	16QAM	20.99
mid	1882.5	26365	5	RB_1_mid	QPSK	21.73
mid	1882.5	26365	5	RB_1_mid	16QAM	21.09
mid	1882.5	26365	5	RB_1_high	QPSK	21.62
mid	1882.5	26365	5	RB_1_high	16QAM	21.04
mid	1882.5	26365	5	RB_50%_low	QPSK	20.99
mid	1882.5	26365	5	RB_50%_low	16QAM	20.11
mid	1882.5	26365	5	RB_50%_mid	QPSK	21.01
mid	1882.5	26365	5	RB_50%_mid	16QAM	20.13
mid	1882.5	26365	5	RB_50%_high	QPSK	20.96
mid	1882.5	26365	5	RB_50%_high	16QAM	20.09
mid	1882.5	26365	5	RB_100%	QPSK	21.08
mid	1882.5	26365	5	RB_100%	16QAM	19.93
high	1912.5	26665	5	RB_1_low	QPSK	21.72
high	1912.5	26665	5	RB_1_low	16QAM	20.81
high	1912.5	26665	5	RB_1_mid	QPSK	21.75
high	1912.5	26665	5	RB_1_mid	16QAM	20.40
high	1912.5	26665	5	RB_1_high	QPSK	21.49
high	1912.5	26665	5	RB_1_high	16QAM	20.90
high	1912.5	26665	5	RB_50%_low	QPSK	20.97
high	1912.5	26665	5	RB_50%_low	16QAM	20.02

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	1912.5	26665	5	RB_50%_mid	QPSK	20.99
high	1912.5	26665	5	RB_50%_mid	16QAM	20.09
high	1912.5	26665	5	RB_50%_high	QPSK	20.96
high	1912.5	26665	5	RB_50%_high	16QAM	20.22
high	1912.5	26665	5	RB_100%	QPSK	20.96
high	1912.5	26665	5	RB_100%	16QAM	20.21
low	1855	26090	10	RB_1_low	QPSK	21.97
low	1855	26090	10	RB_1_low	16QAM	20.67
low	1855	26090	10	RB_1_mid	QPSK	22.13
low	1855	26090	10	RB_1_mid	16QAM	20.92
low	1855	26090	10	RB_1_high	QPSK	21.94
low	1855	26090	10	RB_1_high	16QAM	20.92
low	1855	26090	10	RB_50%_low	QPSK	20.91
low	1855	26090	10	RB_50%_low	16QAM	19.85
low	1855	26090	10	RB_50%_mid	QPSK	20.92
low	1855	26090	10	RB_50%_mid	16QAM	20.08
low	1855	26090	10	RB_50%_high	QPSK	20.97
low	1855	26090	10	RB_50%_high	16QAM	20.18
low	1855	26090	10	RB_100%	QPSK	20.98
low	1855	26090	10	RB_100%	16QAM	19.99
mid	1882.5	26365	10	RB_1_low	QPSK	21.95
mid	1882.5	26365	10	RB_1_low	16QAM	21.29
mid	1882.5	26365	10	RB_1_mid	QPSK	22.00
mid	1882.5	26365	10	RB_1_mid	16QAM	21.08
mid	1882.5	26365	10	RB_1_high	QPSK	21.84
mid	1882.5	26365	10	RB_1_high	16QAM	21.20
mid	1882.5	26365	10	RB_50%_low	QPSK	21.10
mid	1882.5	26365	10	RB_50%_low	16QAM	20.35
mid	1882.5	26365	10	RB_50%_mid	QPSK	21.06
mid	1882.5	26365	10	RB_50%_mid	16QAM	20.12
mid	1882.5	26365	10	RB_50%_high	QPSK	21.10
mid	1882.5	26365	10	RB_50%_high	16QAM	20.15
mid	1882.5	26365	10	RB_100%	QPSK	21.03
mid	1882.5	26365	10	RB_100%	16QAM	20.03
high	1910	26640	10	RB_1_low	QPSK	21.97
high	1910	26640	10	RB_1_low	16QAM	21.12
high	1910	26640	10	RB_1_mid	QPSK	22.30
high	1910	26640	10	RB_1_mid	16QAM	21.04
high	1910	26640	10	RB_1_high	QPSK	21.69
high	1910	26640	10	RB_1_high	16QAM	20.79
high	1910	26640	10	RB_50%_low	QPSK	21.01
high	1910	26640	10	RB_50%_low	16QAM	20.08
high	1910	26640	10	RB_50%_mid	QPSK	21.10
high	1910	26640	10	RB_50%_mid	16QAM	20.13
high	1910	26640	10	RB_50%_high	QPSK	20.91
high	1910	26640	10	RB_50%_high	16QAM	20.15
high	1910	26640	10	RB_100%	QPSK	21.09
high	1910	26640	10	RB_100%	16QAM	20.08
low	1857.5	26115	15	RB_1_low	QPSK	21.95
low	1857.5	26115	15	RB_1_low	16QAM	20.62
low	1857.5	26115	15	RB_1_mid	QPSK	21.80
low	1857.5	26115	15	RB_1_mid	16QAM	21.26
low	1857.5	26115	15	RB_1_high	QPSK	21.93
low	1857.5	26115	15	RB_1_high	16QAM	21.27

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1857.5	26115	15	RB_50%_low	QPSK	21.00
low	1857.5	26115	15	RB_50%_low	16QAM	20.03
low	1857.5	26115	15	RB_50%_mid	QPSK	20.98
low	1857.5	26115	15	RB_50%_mid	16QAM	19.94
low	1857.5	26115	15	RB_50%_high	QPSK	20.97
low	1857.5	26115	15	RB_50%_high	16QAM	19.86
low	1857.5	26115	15	RB_100%	QPSK	20.99
low	1857.5	26115	15	RB_100%	16QAM	19.96
mid	1882.5	26365	15	RB_1_low	QPSK	22.06
mid	1882.5	26365	15	RB_1_low	16QAM	21.19
mid	1882.5	26365	15	RB_1_mid	QPSK	22.12
mid	1882.5	26365	15	RB_1_mid	16QAM	21.38
mid	1882.5	26365	15	RB_1_high	QPSK	21.90
mid	1882.5	26365	15	RB_1_high	16QAM	21.08
mid	1882.5	26365	15	RB_50%_low	QPSK	21.06
mid	1882.5	26365	15	RB_50%_low	16QAM	20.07
mid	1882.5	26365	15	RB_50%_mid	QPSK	21.10
mid	1882.5	26365	15	RB_50%_mid	16QAM	20.10
mid	1882.5	26365	15	RB_50%_high	QPSK	21.00
mid	1882.5	26365	15	RB_50%_high	16QAM	20.07
mid	1882.5	26365	15	RB_100%	QPSK	21.01
mid	1882.5	26365	15	RB_100%	16QAM	20.18
high	1907.5	26615	15	RB_1_low	QPSK	21.77
high	1907.5	26615	15	RB_1_low	16QAM	21.26
high	1907.5	26615	15	RB_1_mid	QPSK	22.63
high	1907.5	26615	15	RB_1_mid	16QAM	21.22
high	1907.5	26615	15	RB_1_high	QPSK	21.77
high	1907.5	26615	15	RB_1_high	16QAM	21.02
high	1907.5	26615	15	RB_50%_low	QPSK	21.01
high	1907.5	26615	15	RB_50%_low	16QAM	20.05
high	1907.5	26615	15	RB_50%_mid	QPSK	21.01
high	1907.5	26615	15	RB_50%_mid	16QAM	19.86
high	1907.5	26615	15	RB_50%_high	QPSK	21.01
high	1907.5	26615	15	RB_50%_high	16QAM	19.88
high	1907.5	26615	15	RB_100%	QPSK	21.01
high	1907.5	26615	15	RB_100%	16QAM	20.15
low	1860	26140	20	RB_1_low	QPSK	21.86
low	1860	26140	20	RB_1_low	16QAM	20.53
low	1860	26140	20	RB_1_mid	QPSK	21.88
low	1860	26140	20	RB_1_mid	16QAM	20.95
low	1860	26140	20	RB_1_high	QPSK	21.51
low	1860	26140	20	RB_1_high	16QAM	20.53
low	1860	26140	20	RB_50%_low	QPSK	20.99
low	1860	26140	20	RB_50%_low	16QAM	20.18
low	1860	26140	20	RB_50%_mid	QPSK	20.90
low	1860	26140	20	RB_50%_mid	16QAM	19.94
low	1860	26140	20	RB_50%_high	QPSK	20.98
low	1860	26140	20	RB_50%_high	16QAM	19.86
low	1860	26140	20	RB_100%	QPSK	20.98
low	1860	26140	20	RB_100%	16QAM	19.96
mid	1882.5	26365	20	RB_1_low	QPSK	21.96
mid	1882.5	26365	20	RB_1_low	16QAM	21.09

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1882.5	26365	20	RB_1_mid	QPSK	22.30
mid	1882.5	26365	20	RB_1_mid	16QAM	21.27
mid	1882.5	26365	20	RB_1_high	QPSK	21.86
mid	1882.5	26365	20	RB_1_high	16QAM	21.20
mid	1882.5	26365	20	RB_50%_low	QPSK	21.11
mid	1882.5	26365	20	RB_50%_low	16QAM	20.11
mid	1882.5	26365	20	RB_50%_mid	QPSK	21.11
mid	1882.5	26365	20	RB_50%_mid	16QAM	20.17
mid	1882.5	26365	20	RB_50%_high	QPSK	21.02
mid	1882.5	26365	20	RB_50%_high	16QAM	20.06
mid	1882.5	26365	20	RB_100%	QPSK	21.11
mid	1882.5	26365	20	RB_100%	16QAM	20.17
high	1905	26590	20	RB_1_low	QPSK	21.81
high	1905	26590	20	RB_1_low	16QAM	21.11
high	1905	26590	20	RB_1_mid	QPSK	21.74
high	1905	26590	20	RB_1_mid	16QAM	20.95
high	1905	26590	20	RB_1_high	QPSK	21.95
high	1905	26590	20	RB_1_high	16QAM	20.95
high	1905	26590	20	RB_50%_low	QPSK	21.00
high	1905	26590	20	RB_50%_low	16QAM	19.95
high	1905	26590	20	RB_50%_mid	QPSK	20.98
high	1905	26590	20	RB_50%_mid	16QAM	19.99
high	1905	26590	20	RB_50%_high	QPSK	20.96
high	1905	26590	20	RB_50%_high	16QAM	19.95
high	1905	26590	20	RB_100%	QPSK	21.05
high	1905	26590	20	RB_100%	16QAM	20.11

Table 22: Test results conducted power measurement LTE FDD 25 1900 MHz.

8.1.13 Conducted power measurements LTE FDD 26 850 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	814.7	26697	1.4	RB_1_low	QPSK	22.96
low	814.7	26697	1.4	RB_1_low	16QAM	21.86
low	814.7	26697	1.4	RB_1_mid	QPSK	23.29
low	814.7	26697	1.4	RB_1_mid	16QAM	22.31
low	814.7	26697	1.4	RB_1_high	QPSK	23.02
low	814.7	26697	1.4	RB_1_high	16QAM	21.91
low	814.7	26697	1.4	RB_50%_low	QPSK	23.12
low	814.7	26697	1.4	RB_50%_low	16QAM	22.28
low	814.7	26697	1.4	RB_50%_mid	QPSK	23.07
low	814.7	26697	1.4	RB_50%_mid	16QAM	22.16
low	814.7	26697	1.4	RB_50%_high	QPSK	23.06
low	814.7	26697	1.4	RB_50%_high	16QAM	22.35
low	814.7	26697	1.4	RB_100%	QPSK	21.96
low	814.7	26697	1.4	RB_100%	16QAM	21.13
mid	831.5	26865	1.4	RB_1_low	QPSK	23.21
mid	831.5	26865	1.4	RB_1_low	16QAM	22.35
mid	831.5	26865	1.4	RB_1_mid	QPSK	23.02
mid	831.5	26865	1.4	RB_1_mid	16QAM	22.31
mid	831.5	26865	1.4	RB_1_high	QPSK	23.11
mid	831.5	26865	1.4	RB_1_high	16QAM	22.30

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	831.5	26865	1.4	RB_50%_low	QPSK	23.19
mid	831.5	26865	1.4	RB_50%_low	16QAM	22.26
mid	831.5	26865	1.4	RB_50%_mid	QPSK	23.07
mid	831.5	26865	1.4	RB_50%_mid	16QAM	21.66
mid	831.5	26865	1.4	RB_50%_high	QPSK	23.04
mid	831.5	26865	1.4	RB_50%_high	16QAM	22.30
mid	831.5	26865	1.4	RB_100%	QPSK	22.11
mid	831.5	26865	1.4	RB_100%	16QAM	21.05
high	848.3	27033	1.4	RB_1_low	QPSK	22.96
high	848.3	27033	1.4	RB_1_low	16QAM	22.52
high	848.3	27033	1.4	RB_1_mid	QPSK	23.08
high	848.3	27033	1.4	RB_1_mid	16QAM	22.06
high	848.3	27033	1.4	RB_1_high	QPSK	22.93
high	848.3	27033	1.4	RB_1_high	16QAM	22.10
high	848.3	27033	1.4	RB_50%_low	QPSK	23.16
high	848.3	27033	1.4	RB_50%_low	16QAM	22.26
high	848.3	27033	1.4	RB_50%_mid	QPSK	23.15
high	848.3	27033	1.4	RB_50%_mid	16QAM	22.47
high	848.3	27033	1.4	RB_50%_high	QPSK	23.00
high	848.3	27033	1.4	RB_50%_high	16QAM	22.44
high	848.3	27033	1.4	RB_100%	QPSK	22.19
high	848.3	27033	1.4	RB_100%	16QAM	21.10
low	815.5	26705	3	RB_1_low	QPSK	22.85
low	815.5	26705	3	RB_1_low	16QAM	21.96
low	815.5	26705	3	RB_1_mid	QPSK	23.30
low	815.5	26705	3	RB_1_mid	16QAM	22.29
low	815.5	26705	3	RB_1_high	QPSK	23.11
low	815.5	26705	3	RB_1_high	16QAM	22.03
low	815.5	26705	3	RB_50%_low	QPSK	21.96
low	815.5	26705	3	RB_50%_low	16QAM	20.88
low	815.5	26705	3	RB_50%_mid	QPSK	22.07
low	815.5	26705	3	RB_50%_mid	16QAM	20.97
low	815.5	26705	3	RB_50%_high	QPSK	22.01
low	815.5	26705	3	RB_50%_high	16QAM	21.12
low	815.5	26705	3	RB_100%	QPSK	22.00
low	815.5	26705	3	RB_100%	16QAM	21.20
mid	831.5	26865	3	RB_1_low	QPSK	23.01
mid	831.5	26865	3	RB_1_low	16QAM	22.28
mid	831.5	26865	3	RB_1_mid	QPSK	23.23
mid	831.5	26865	3	RB_1_mid	16QAM	22.47
mid	831.5	26865	3	RB_1_high	QPSK	23.10
mid	831.5	26865	3	RB_1_high	16QAM	21.78
mid	831.5	26865	3	RB_50%_low	QPSK	22.23
mid	831.5	26865	3	RB_50%_low	16QAM	20.99
mid	831.5	26865	3	RB_50%_mid	QPSK	22.40
mid	831.5	26865	3	RB_50%_mid	16QAM	21.34
mid	831.5	26865	3	RB_50%_high	QPSK	22.19
mid	831.5	26865	3	RB_50%_high	16QAM	21.30
mid	831.5	26865	3	RB_100%	QPSK	22.26
mid	831.5	26865	3	RB_100%	16QAM	21.27
high	847.5	27025	3	RB_1_low	QPSK	23.17
high	847.5	27025	3	RB_1_low	16QAM	22.14

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	847.5	27025	3	RB_1_mid	QPSK	23.28
high	847.5	27025	3	RB_1_mid	16QAM	22.52
high	847.5	27025	3	RB_1_high	QPSK	22.87
high	847.5	27025	3	RB_1_high	16QAM	21.94
high	847.5	27025	3	RB_50%_low	QPSK	22.18
high	847.5	27025	3	RB_50%_low	16QAM	21.04
high	847.5	27025	3	RB_50%_mid	QPSK	22.13
high	847.5	27025	3	RB_50%_mid	16QAM	21.29
high	847.5	27025	3	RB_50%_high	QPSK	22.17
high	847.5	27025	3	RB_50%_high	16QAM	21.16
high	847.5	27025	3	RB_100%	QPSK	22.20
high	847.5	27025	3	RB_100%	16QAM	21.12
low	816.5	26715	5	RB_1_low	QPSK	22.55
low	816.5	26715	5	RB_1_low	16QAM	21.87
low	816.5	26715	5	RB_1_mid	QPSK	22.73
low	816.5	26715	5	RB_1_mid	16QAM	22.08
low	816.5	26715	5	RB_1_high	QPSK	23.02
low	816.5	26715	5	RB_1_high	16QAM	21.90
low	816.5	26715	5	RB_50%_low	QPSK	22.05
low	816.5	26715	5	RB_50%_low	16QAM	21.02
low	816.5	26715	5	RB_50%_mid	QPSK	22.11
low	816.5	26715	5	RB_50%_mid	16QAM	21.04
low	816.5	26715	5	RB_50%_high	QPSK	22.00
low	816.5	26715	5	RB_50%_high	16QAM	21.19
low	816.5	26715	5	RB_100%	QPSK	22.07
low	816.5	26715	5	RB_100%	16QAM	21.01
mid	831.5	26865	5	RB_1_low	QPSK	22.68
mid	831.5	26865	5	RB_1_low	16QAM	22.04
mid	831.5	26865	5	RB_1_mid	QPSK	22.77
mid	831.5	26865	5	RB_1_mid	16QAM	22.23
mid	831.5	26865	5	RB_1_high	QPSK	22.73
mid	831.5	26865	5	RB_1_high	16QAM	21.90
mid	831.5	26865	5	RB_50%_low	QPSK	22.20
mid	831.5	26865	5	RB_50%_low	16QAM	21.14
mid	831.5	26865	5	RB_50%_mid	QPSK	22.25
mid	831.5	26865	5	RB_50%_mid	16QAM	21.31
mid	831.5	26865	5	RB_50%_high	QPSK	22.26
mid	831.5	26865	5	RB_50%_high	16QAM	21.21
mid	831.5	26865	5	RB_100%	QPSK	22.23
mid	831.5	26865	5	RB_100%	16QAM	21.30
high	846.5	27015	5	RB_1_low	QPSK	22.94
high	846.5	27015	5	RB_1_low	16QAM	22.04
high	846.5	27015	5	RB_1_mid	QPSK	22.91
high	846.5	27015	5	RB_1_mid	16QAM	21.70
high	846.5	27015	5	RB_1_high	QPSK	22.71
high	846.5	27015	5	RB_1_high	16QAM	22.07
high	846.5	27015	5	RB_50%_low	QPSK	22.22
high	846.5	27015	5	RB_50%_low	16QAM	21.18
high	846.5	27015	5	RB_50%_mid	QPSK	22.19
high	846.5	27015	5	RB_50%_mid	16QAM	21.32
high	846.5	27015	5	RB_50%_high	QPSK	22.18
high	846.5	27015	5	RB_50%_high	16QAM	21.37

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	846.5	27015	5	RB_100%	QPSK	22.14
high	846.5	27015	5	RB_100%	16QAM	21.24
low	819	26740	10	RB_1_low	QPSK	22.84
low	819	26740	10	RB_1_low	16QAM	21.89
low	819	26740	10	RB_1_mid	QPSK	23.38
low	819	26740	10	RB_1_mid	16QAM	22.11
low	819	26740	10	RB_1_high	QPSK	23.08
low	819	26740	10	RB_1_high	16QAM	21.89
low	819	26740	10	RB_50%_low	QPSK	22.03
low	819	26740	10	RB_50%_low	16QAM	21.11
low	819	26740	10	RB_50%_mid	QPSK	22.12
low	819	26740	10	RB_50%_mid	16QAM	21.27
low	819	26740	10	RB_50%_high	QPSK	22.14
low	819	26740	10	RB_50%_high	16QAM	21.28
low	819	26740	10	RB_100%	QPSK	22.03
low	819	26740	10	RB_100%	16QAM	21.07
mid	831.5	26865	10	RB_1_low	QPSK	22.92
mid	831.5	26865	10	RB_1_low	16QAM	22.19
mid	831.5	26865	10	RB_1_mid	QPSK	23.22
mid	831.5	26865	10	RB_1_mid	16QAM	22.01
mid	831.5	26865	10	RB_1_high	QPSK	23.30
mid	831.5	26865	10	RB_1_high	16QAM	22.47
mid	831.5	26865	10	RB_50%_low	QPSK	22.25
mid	831.5	26865	10	RB_50%_low	16QAM	21.34
mid	831.5	26865	10	RB_50%_mid	QPSK	22.27
mid	831.5	26865	10	RB_50%_mid	16QAM	21.45
mid	831.5	26865	10	RB_50%_high	QPSK	22.22
mid	831.5	26865	10	RB_50%_high	16QAM	21.29
mid	831.5	26865	10	RB_100%	QPSK	22.19
mid	831.5	26865	10	RB_100%	16QAM	21.11
high	844	26990	10	RB_1_low	QPSK	23.21
high	844	26990	10	RB_1_low	16QAM	22.42
high	844	26990	10	RB_1_mid	QPSK	23.56
high	844	26990	10	RB_1_mid	16QAM	22.05
high	844	26990	10	RB_1_high	QPSK	22.90
high	844	26990	10	RB_1_high	16QAM	22.05
high	844	26990	10	RB_50%_low	QPSK	22.28
high	844	26990	10	RB_50%_low	16QAM	21.35
high	844	26990	10	RB_50%_mid	QPSK	22.27
high	844	26990	10	RB_50%_mid	16QAM	21.32
high	844	26990	10	RB_50%_high	QPSK	22.16
high	844	26990	10	RB_50%_high	16QAM	21.13
high	844	26990	10	RB_100%	QPSK	22.29
high	844	26990	10	RB_100%	16QAM	21.20
low	821.5	26765	15	RB_1_low	QPSK	22.89
low	821.5	26765	15	RB_1_low	16QAM	21.87
low	821.5	26765	15	RB_1_mid	QPSK	23.34
low	821.5	26765	15	RB_1_mid	16QAM	22.37
low	821.5	26765	15	RB_1_high	QPSK	23.13
low	821.5	26765	15	RB_1_high	16QAM	22.13
low	821.5	26765	15	RB_50%_low	QPSK	22.04
low	821.5	26765	15	RB_50%_low	16QAM	20.98

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	821.5	26765	15	RB_50%_mid	QPSK	22.10
low	821.5	26765	15	RB_50%_mid	16QAM	21.00
low	821.5	26765	15	RB_50%_high	QPSK	22.10
low	821.5	26765	15	RB_50%_high	16QAM	21.02
low	821.5	26765	15	RB_100%	QPSK	22.11
low	821.5	26765	15	RB_100%	16QAM	21.05
mid	831.5	26865	15	RB_1_low	QPSK	23.02
mid	831.5	26865	15	RB_1_low	16QAM	22.25
mid	831.5	26865	15	RB_1_mid	QPSK	23.61
mid	831.5	26865	15	RB_1_mid	16QAM	22.60
mid	831.5	26865	15	RB_1_high	QPSK	23.29
mid	831.5	26865	15	RB_1_high	16QAM	22.66
mid	831.5	26865	15	RB_50%_low	QPSK	22.27
mid	831.5	26865	15	RB_50%_low	16QAM	21.39
mid	831.5	26865	15	RB_50%_mid	QPSK	22.21
mid	831.5	26865	15	RB_50%_mid	16QAM	21.32
mid	831.5	26865	15	RB_50%_high	QPSK	22.18
mid	831.5	26865	15	RB_50%_high	16QAM	21.27
mid	831.5	26865	15	RB_100%	QPSK	22.25
mid	831.5	26865	15	RB_100%	16QAM	21.14
high	841.5	26965	15	RB_1_low	QPSK	23.18
high	841.5	26965	15	RB_1_low	16QAM	22.48
high	841.5	26965	15	RB_1_mid	QPSK	23.75
high	841.5	26965	15	RB_1_mid	16QAM	22.84
high	841.5	26965	15	RB_1_high	QPSK	22.86
high	841.5	26965	15	RB_1_high	16QAM	22.31
high	841.5	26965	15	RB_50%_low	QPSK	22.32
high	841.5	26965	15	RB_50%_low	16QAM	21.45
high	841.5	26965	15	RB_50%_mid	QPSK	22.20
high	841.5	26965	15	RB_50%_mid	16QAM	21.24
high	841.5	26965	15	RB_50%_high	QPSK	22.22
high	841.5	26965	15	RB_50%_high	16QAM	21.19
high	841.5	26965	15	RB_100%	QPSK	22.26
high	841.5	26965	15	RB_100%	16QAM	21.23

Table 23: Test results conducted power measurement LTE FDD 26 850 MHz.

8.1.14 Conducted power measurements LTE TDD 41 2600 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	2498.5	39675	5	RB_1_low	QPSK	22.01
low	2498.5	39675	5	RB_1_low	16QAM	20.40
low	2498.5	39675	5	RB_1_mid	QPSK	22.13
low	2498.5	39675	5	RB_1_mid	16QAM	21.08
low	2498.5	39675	5	RB_1_high	QPSK	22.24
low	2498.5	39675	5	RB_1_high	16QAM	21.31
low	2498.5	39675	5	RB_50%_low	QPSK	21.34
low	2498.5	39675	5	RB_50%_low	16QAM	20.61
low	2498.5	39675	5	RB_50%_mid	QPSK	21.53
low	2498.5	39675	5	RB_50%_mid	16QAM	20.29
low	2498.5	39675	5	RB_50%_high	QPSK	21.21
low	2498.5	39675	5	RB_50%_high	16QAM	20.23

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	2498.5	39675	5	RB_100%	QPSK	21.41
low	2498.5	39675	5	RB_100%	16QAM	20.20
mid	2593	40620	5	RB_1_low	QPSK	22.20
mid	2593	40620	5	RB_1_low	16QAM	21.29
mid	2593	40620	5	RB_1_mid	QPSK	22.09
mid	2593	40620	5	RB_1_mid	16QAM	21.33
mid	2593	40620	5	RB_1_high	QPSK	22.34
mid	2593	40620	5	RB_1_high	16QAM	21.48
mid	2593	40620	5	RB_50%_low	QPSK	21.60
mid	2593	40620	5	RB_50%_low	16QAM	20.35
mid	2593	40620	5	RB_50%_mid	QPSK	21.66
mid	2593	40620	5	RB_50%_mid	16QAM	20.34
mid	2593	40620	5	RB_50%_high	QPSK	21.72
mid	2593	40620	5	RB_50%_high	16QAM	20.44
mid	2593	40620	5	RB_100%	QPSK	21.61
mid	2593	40620	5	RB_100%	16QAM	20.57
high	2687.5	41565	5	RB_1_low	QPSK	21.98
high	2687.5	41565	5	RB_1_low	16QAM	21.19
high	2687.5	41565	5	RB_1_mid	QPSK	22.22
high	2687.5	41565	5	RB_1_mid	16QAM	21.65
high	2687.5	41565	5	RB_1_high	QPSK	21.94
high	2687.5	41565	5	RB_1_high	16QAM	20.32
high	2687.5	41565	5	RB_50%_low	QPSK	21.34
high	2687.5	41565	5	RB_50%_low	16QAM	20.38
high	2687.5	41565	5	RB_50%_mid	QPSK	21.34
high	2687.5	41565	5	RB_50%_mid	16QAM	20.12
high	2687.5	41565	5	RB_50%_high	QPSK	21.65
high	2687.5	41565	5	RB_50%_high	16QAM	20.37
high	2687.5	41565	5	RB_100%	QPSK	21.40
high	2687.5	41565	5	RB_100%	16QAM	20.40
low	2501	39700	10	RB_1_low	QPSK	22.40
low	2501	39700	10	RB_1_low	16QAM	21.90
low	2501	39700	10	RB_1_mid	QPSK	22.75
low	2501	39700	10	RB_1_mid	16QAM	21.12
low	2501	39700	10	RB_1_high	QPSK	22.79
low	2501	39700	10	RB_1_high	16QAM	22.19
low	2501	39700	10	RB_50%_low	QPSK	21.43
low	2501	39700	10	RB_50%_low	16QAM	20.51
low	2501	39700	10	RB_50%_mid	QPSK	21.55
low	2501	39700	10	RB_50%_mid	16QAM	20.54
low	2501	39700	10	RB_50%_high	QPSK	21.52
low	2501	39700	10	RB_50%_high	16QAM	20.37
low	2501	39700	10	RB_100%	QPSK	21.38
low	2501	39700	10	RB_100%	16QAM	20.35
mid	2593	40620	10	RB_1_low	QPSK	22.54
mid	2593	40620	10	RB_1_low	16QAM	21.05
mid	2593	40620	10	RB_1_mid	QPSK	22.54
mid	2593	40620	10	RB_1_mid	16QAM	21.16
mid	2593	40620	10	RB_1_high	QPSK	22.62
mid	2593	40620	10	RB_1_high	16QAM	21.32
mid	2593	40620	10	RB_50%_low	QPSK	21.53
mid	2593	40620	10	RB_50%_low	16QAM	20.61

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	2593	40620	10	RB_50%_mid	QPSK	21.57
mid	2593	40620	10	RB_50%_mid	16QAM	20.52
mid	2593	40620	10	RB_50%_high	QPSK	21.80
mid	2593	40620	10	RB_50%_high	16QAM	20.67
mid	2593	40620	10	RB_100%	QPSK	21.59
mid	2593	40620	10	RB_100%	16QAM	20.66
high	2685	41540	10	RB_1_low	QPSK	22.50
high	2685	41540	10	RB_1_low	16QAM	21.01
high	2685	41540	10	RB_1_mid	QPSK	22.48
high	2685	41540	10	RB_1_mid	16QAM	22.23
high	2685	41540	10	RB_1_high	QPSK	22.47
high	2685	41540	10	RB_1_high	16QAM	21.96
high	2685	41540	10	RB_50%_low	QPSK	21.41
high	2685	41540	10	RB_50%_low	16QAM	20.66
high	2685	41540	10	RB_50%_mid	QPSK	21.50
high	2685	41540	10	RB_50%_mid	16QAM	20.34
high	2685	41540	10	RB_50%_high	QPSK	21.40
high	2685	41540	10	RB_50%_high	16QAM	20.55
high	2685	41540	10	RB_100%	QPSK	21.41
high	2685	41540	10	RB_100%	16QAM	20.55
low	2503.5	39725	15	RB_1_low	QPSK	22.38
low	2503.5	39725	15	RB_1_low	16QAM	21.99
low	2503.5	39725	15	RB_1_mid	QPSK	22.75
low	2503.5	39725	15	RB_1_mid	16QAM	21.20
low	2503.5	39725	15	RB_1_high	QPSK	22.68
low	2503.5	39725	15	RB_1_high	16QAM	21.58
low	2503.5	39725	15	RB_50%_low	QPSK	21.32
low	2503.5	39725	15	RB_50%_low	16QAM	20.28
low	2503.5	39725	15	RB_50%_mid	QPSK	21.22
low	2503.5	39725	15	RB_50%_mid	16QAM	20.54
low	2503.5	39725	15	RB_50%_high	QPSK	21.40
low	2503.5	39725	15	RB_50%_high	16QAM	20.39
low	2503.5	39725	15	RB_100%	QPSK	21.37
low	2503.5	39725	15	RB_100%	16QAM	20.46
mid	2593	40620	15	RB_1_low	QPSK	22.52
mid	2593	40620	15	RB_1_low	16QAM	21.27
mid	2593	40620	15	RB_1_mid	QPSK	22.60
mid	2593	40620	15	RB_1_mid	16QAM	21.36
mid	2593	40620	15	RB_1_high	QPSK	22.70
mid	2593	40620	15	RB_1_high	16QAM	21.52
mid	2593	40620	15	RB_50%_low	QPSK	21.57
mid	2593	40620	15	RB_50%_low	16QAM	20.66
mid	2593	40620	15	RB_50%_mid	QPSK	21.68
mid	2593	40620	15	RB_50%_mid	16QAM	20.69
mid	2593	40620	15	RB_50%_high	QPSK	21.83
mid	2593	40620	15	RB_50%_high	16QAM	20.84
mid	2593	40620	15	RB_100%	QPSK	21.64
mid	2593	40620	15	RB_100%	16QAM	20.66
high	2682.5	41515	15	RB_1_low	QPSK	22.19
high	2682.5	41515	15	RB_1_low	16QAM	20.78
high	2682.5	41515	15	RB_1_mid	QPSK	22.68
high	2682.5	41515	15	RB_1_mid	16QAM	21.92

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	2682.5	41515	15	RB_1_high	QPSK	22.52
high	2682.5	41515	15	RB_1_high	16QAM	21.86
high	2682.5	41515	15	RB_50%_low	QPSK	21.36
high	2682.5	41515	15	RB_50%_low	16QAM	20.41
high	2682.5	41515	15	RB_50%_mid	QPSK	21.48
high	2682.5	41515	15	RB_50%_mid	16QAM	20.65
high	2682.5	41515	15	RB_50%_high	QPSK	21.57
high	2682.5	41515	15	RB_50%_high	16QAM	20.56
high	2682.5	41515	15	RB_100%	QPSK	21.21
high	2682.5	41515	15	RB_100%	16QAM	20.49
low	2506	39750	20	RB_1_low	QPSK	22.73
low	2506	39750	20	RB_1_low	16QAM	21.06
low	2506	39750	20	RB_1_mid	QPSK	22.52
low	2506	39750	20	RB_1_mid	16QAM	20.55
low	2506	39750	20	RB_1_high	QPSK	22.29
low	2506	39750	20	RB_1_high	16QAM	22.10
low	2506	39750	20	RB_50%_low	QPSK	21.25
low	2506	39750	20	RB_50%_low	16QAM	20.31
low	2506	39750	20	RB_50%_mid	QPSK	21.53
low	2506	39750	20	RB_50%_mid	16QAM	20.59
low	2506	39750	20	RB_50%_high	QPSK	21.44
low	2506	39750	20	RB_50%_high	16QAM	20.54
low	2506	39750	20	RB_100%	QPSK	21.34
low	2506	39750	20	RB_100%	16QAM	20.67
mid	2593	40620	20	RB_1_low	QPSK	22.99
mid	2593	40620	20	RB_1_low	16QAM	20.27
mid	2593	40620	20	RB_1_mid	QPSK	22.85
mid	2593	40620	20	RB_1_mid	16QAM	20.62
mid	2593	40620	20	RB_1_high	QPSK	22.90
mid	2593	40620	20	RB_1_high	16QAM	20.39
mid	2593	40620	20	RB_50%_low	QPSK	21.66
mid	2593	40620	20	RB_50%_low	16QAM	20.59
mid	2593	40620	20	RB_50%_mid	QPSK	21.67
mid	2593	40620	20	RB_50%_mid	16QAM	20.75
mid	2593	40620	20	RB_50%_high	QPSK	21.75
mid	2593	40620	20	RB_50%_high	16QAM	20.75
mid	2593	40620	20	RB_100%	QPSK	21.66
mid	2593	40620	20	RB_100%	16QAM	20.45
high	2680	41490	20	RB_1_low	QPSK	22.11
high	2680	41490	20	RB_1_low	16QAM	20.13
high	2680	41490	20	RB_1_mid	QPSK	22.21
high	2680	41490	20	RB_1_mid	16QAM	21.97
high	2680	41490	20	RB_1_high	QPSK	22.49
high	2680	41490	20	RB_1_high	16QAM	21.25
high	2680	41490	20	RB_50%_low	QPSK	21.25
high	2680	41490	20	RB_50%_low	16QAM	20.37
high	2680	41490	20	RB_50%_mid	QPSK	21.43
high	2680	41490	20	RB_50%_mid	16QAM	20.32
high	2680	41490	20	RB_50%_high	QPSK	21.36
high	2680	41490	20	RB_50%_high	16QAM	20.58
high	2680	41490	20	RB_100%	QPSK	21.43
high	2680	41490	20	RB_100%	16QAM	20.45

Table 24: Test results conducted power measurement LTE TDD 41 2600 MHz.

8.1.15 Conducted power measurements LTE FDD 66 1750 MHz

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1710.7	131979	1.4	RB_1_low	QPSK	22.40
low	1710.7	131979	1.4	RB_1_low	16QAM	21.26
low	1710.7	131979	1.4	RB_1_mid	QPSK	22.63
low	1710.7	131979	1.4	RB_1_mid	16QAM	21.72
low	1710.7	131979	1.4	RB_1_high	QPSK	22.64
low	1710.7	131979	1.4	RB_1_high	16QAM	21.45
low	1710.7	131979	1.4	RB_50%_low	QPSK	22.60
low	1710.7	131979	1.4	RB_50%_low	16QAM	21.69
low	1710.7	131979	1.4	RB_50%_mid	QPSK	22.75
low	1710.7	131979	1.4	RB_50%_mid	16QAM	21.42
low	1710.7	131979	1.4	RB_50%_high	QPSK	22.56
low	1710.7	131979	1.4	RB_50%_high	16QAM	21.99
low	1710.7	131979	1.4	RB_100%	QPSK	21.35
low	1710.7	131979	1.4	RB_100%	16QAM	20.57
mid	1745	132322	1.4	RB_1_low	QPSK	22.67
mid	1745	132322	1.4	RB_1_low	16QAM	21.80
mid	1745	132322	1.4	RB_1_mid	QPSK	22.62
mid	1745	132322	1.4	RB_1_mid	16QAM	21.86
mid	1745	132322	1.4	RB_1_high	QPSK	22.66
mid	1745	132322	1.4	RB_1_high	16QAM	21.94
mid	1745	132322	1.4	RB_50%_low	QPSK	22.62
mid	1745	132322	1.4	RB_50%_low	16QAM	21.64
mid	1745	132322	1.4	RB_50%_mid	QPSK	22.67
mid	1745	132322	1.4	RB_50%_mid	16QAM	21.49
mid	1745	132322	1.4	RB_50%_high	QPSK	22.60
mid	1745	132322	1.4	RB_50%_high	16QAM	21.65
mid	1745	132322	1.4	RB_100%	QPSK	21.68
mid	1745	132322	1.4	RB_100%	16QAM	20.60
high	1779.3	132665	1.4	RB_1_low	QPSK	22.12
high	1779.3	132665	1.4	RB_1_low	16QAM	21.32
high	1779.3	132665	1.4	RB_1_mid	QPSK	22.33
high	1779.3	132665	1.4	RB_1_mid	16QAM	21.21
high	1779.3	132665	1.4	RB_1_high	QPSK	22.21
high	1779.3	132665	1.4	RB_1_high	16QAM	21.21
high	1779.3	132665	1.4	RB_50%_low	QPSK	22.28
high	1779.3	132665	1.4	RB_50%_low	16QAM	21.35
high	1779.3	132665	1.4	RB_50%_mid	QPSK	22.41
high	1779.3	132665	1.4	RB_50%_mid	16QAM	21.61
high	1779.3	132665	1.4	RB_50%_high	QPSK	22.27
high	1779.3	132665	1.4	RB_50%_high	16QAM	21.64
high	1779.3	132665	1.4	RB_100%	QPSK	21.28
high	1779.3	132665	1.4	RB_100%	16QAM	20.17
low	1711.5	131987	3	RB_1_low	QPSK	22.33
low	1711.5	131987	3	RB_1_low	16QAM	21.28
low	1711.5	131987	3	RB_1_mid	QPSK	22.85
low	1711.5	131987	3	RB_1_mid	16QAM	21.68
low	1711.5	131987	3	RB_1_high	QPSK	22.76
low	1711.5	131987	3	RB_1_high	16QAM	21.30

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
low	1711.5	131987	3	RB_50%_low	QPSK	21.40
low	1711.5	131987	3	RB_50%_low	16QAM	20.67
low	1711.5	131987	3	RB_50%_mid	QPSK	21.52
low	1711.5	131987	3	RB_50%_mid	16QAM	20.46
low	1711.5	131987	3	RB_50%_high	QPSK	21.52
low	1711.5	131987	3	RB_50%_high	16QAM	20.77
low	1711.5	131987	3	RB_100%	QPSK	21.46
low	1711.5	131987	3	RB_100%	16QAM	20.51
mid	1745	132322	3	RB_1_low	QPSK	22.48
mid	1745	132322	3	RB_1_low	16QAM	21.73
mid	1745	132322	3	RB_1_mid	QPSK	22.71
mid	1745	132322	3	RB_1_mid	16QAM	21.80
mid	1745	132322	3	RB_1_high	QPSK	22.59
mid	1745	132322	3	RB_1_high	16QAM	21.74
mid	1745	132322	3	RB_50%_low	QPSK	21.68
mid	1745	132322	3	RB_50%_low	16QAM	20.52
mid	1745	132322	3	RB_50%_mid	QPSK	21.71
mid	1745	132322	3	RB_50%_mid	16QAM	20.52
mid	1745	132322	3	RB_50%_high	QPSK	21.64
mid	1745	132322	3	RB_50%_high	16QAM	20.55
mid	1745	132322	3	RB_100%	QPSK	21.74
mid	1745	132322	3	RB_100%	16QAM	20.63
high	1778.5	132657	3	RB_1_low	QPSK	22.27
high	1778.5	132657	3	RB_1_low	16QAM	21.18
high	1778.5	132657	3	RB_1_mid	QPSK	22.49
high	1778.5	132657	3	RB_1_mid	16QAM	21.59
high	1778.5	132657	3	RB_1_high	QPSK	22.21
high	1778.5	132657	3	RB_1_high	16QAM	21.26
high	1778.5	132657	3	RB_50%_low	QPSK	21.22
high	1778.5	132657	3	RB_50%_low	16QAM	20.14
high	1778.5	132657	3	RB_50%_mid	QPSK	21.20
high	1778.5	132657	3	RB_50%_mid	16QAM	20.23
high	1778.5	132657	3	RB_50%_high	QPSK	21.29
high	1778.5	132657	3	RB_50%_high	16QAM	20.38
high	1778.5	132657	3	RB_100%	QPSK	21.18
high	1778.5	132657	3	RB_100%	16QAM	20.26
low	1712.5	131997	5	RB_1_low	QPSK	22.11
low	1712.5	131997	5	RB_1_low	16QAM	21.28
low	1712.5	131997	5	RB_1_mid	QPSK	22.26
low	1712.5	131997	5	RB_1_mid	16QAM	20.87
low	1712.5	131997	5	RB_1_high	QPSK	22.45
low	1712.5	131997	5	RB_1_high	16QAM	20.90
low	1712.5	131997	5	RB_50%_low	QPSK	21.47
low	1712.5	131997	5	RB_50%_low	16QAM	20.47
low	1712.5	131997	5	RB_50%_mid	QPSK	21.54
low	1712.5	131997	5	RB_50%_mid	16QAM	20.49
low	1712.5	131997	5	RB_50%_high	QPSK	21.49
low	1712.5	131997	5	RB_50%_high	16QAM	20.33
low	1712.5	131997	5	RB_100%	QPSK	21.52
low	1712.5	131997	5	RB_100%	16QAM	20.50
mid	1745	132322	5	RB_1_low	QPSK	22.15
mid	1745	132322	5	RB_1_low	16QAM	21.47

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1745	132322	5	RB_1_mid	QPSK	22.29
mid	1745	132322	5	RB_1_mid	16QAM	21.64
mid	1745	132322	5	RB_1_high	QPSK	22.60
mid	1745	132322	5	RB_1_high	16QAM	21.77
mid	1745	132322	5	RB_50%_low	QPSK	21.67
mid	1745	132322	5	RB_50%_low	16QAM	20.66
mid	1745	132322	5	RB_50%_mid	QPSK	21.70
mid	1745	132322	5	RB_50%_mid	16QAM	20.72
mid	1745	132322	5	RB_50%_high	QPSK	21.64
mid	1745	132322	5	RB_50%_high	16QAM	20.76
mid	1745	132322	5	RB_100%	QPSK	21.68
mid	1745	132322	5	RB_100%	16QAM	20.64
high	1777.5	132647	5	RB_1_low	QPSK	21.75
high	1777.5	132647	5	RB_1_low	16QAM	20.54
high	1777.5	132647	5	RB_1_mid	QPSK	22.08
high	1777.5	132647	5	RB_1_mid	16QAM	21.24
high	1777.5	132647	5	RB_1_high	QPSK	21.84
high	1777.5	132647	5	RB_1_high	16QAM	21.17
high	1777.5	132647	5	RB_50%_low	QPSK	21.03
high	1777.5	132647	5	RB_50%_low	16QAM	20.08
high	1777.5	132647	5	RB_50%_mid	QPSK	21.19
high	1777.5	132647	5	RB_50%_mid	16QAM	20.09
high	1777.5	132647	5	RB_50%_high	QPSK	21.22
high	1777.5	132647	5	RB_50%_high	16QAM	20.19
high	1777.5	132647	5	RB_100%	QPSK	21.16
high	1777.5	132647	5	RB_100%	16QAM	20.14
low	1715	132022	10	RB_1_low	QPSK	22.47
low	1715	132022	10	RB_1_low	16QAM	21.65
low	1715	132022	10	RB_1_mid	QPSK	22.78
low	1715	132022	10	RB_1_mid	16QAM	21.55
low	1715	132022	10	RB_1_high	QPSK	22.84
low	1715	132022	10	RB_1_high	16QAM	21.25
low	1715	132022	10	RB_50%_low	QPSK	21.49
low	1715	132022	10	RB_50%_low	16QAM	20.62
low	1715	132022	10	RB_50%_mid	QPSK	21.52
low	1715	132022	10	RB_50%_mid	16QAM	20.32
low	1715	132022	10	RB_50%_high	QPSK	21.55
low	1715	132022	10	RB_50%_high	16QAM	20.74
low	1715	132022	10	RB_100%	QPSK	21.40
low	1715	132022	10	RB_100%	16QAM	20.36
mid	1745	132322	10	RB_1_low	QPSK	22.56
mid	1745	132322	10	RB_1_low	16QAM	21.86
mid	1745	132322	10	RB_1_mid	QPSK	22.72
mid	1745	132322	10	RB_1_mid	16QAM	21.97
mid	1745	132322	10	RB_1_high	QPSK	22.62
mid	1745	132322	10	RB_1_high	16QAM	21.97
mid	1745	132322	10	RB_50%_low	QPSK	21.61
mid	1745	132322	10	RB_50%_low	16QAM	20.88
mid	1745	132322	10	RB_50%_mid	QPSK	21.67
mid	1745	132322	10	RB_50%_mid	16QAM	20.73
mid	1745	132322	10	RB_50%_high	QPSK	21.79
mid	1745	132322	10	RB_50%_high	16QAM	20.72

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
mid	1745	132322	10	RB_100%	QPSK	21.70
mid	1745	132322	10	RB_100%	16QAM	20.71
high	1775	132622	10	RB_1_low	QPSK	21.70
high	1775	132622	10	RB_1_low	16QAM	20.78
high	1775	132622	10	RB_1_mid	QPSK	22.27
high	1775	132622	10	RB_1_mid	16QAM	20.95
high	1775	132622	10	RB_1_high	QPSK	22.01
high	1775	132622	10	RB_1_high	16QAM	21.38
high	1775	132622	10	RB_50%_low	QPSK	20.81
high	1775	132622	10	RB_50%_low	16QAM	19.86
high	1775	132622	10	RB_50%_mid	QPSK	20.97
high	1775	132622	10	RB_50%_mid	16QAM	20.00
high	1775	132622	10	RB_50%_high	QPSK	21.08
high	1775	132622	10	RB_50%_high	16QAM	20.05
high	1775	132622	10	RB_100%	QPSK	21.00
high	1775	132622	10	RB_100%	16QAM	19.87
low	1717.5	132047	15	RB_1_low	QPSK	22.59
low	1717.5	132047	15	RB_1_low	16QAM	21.62
low	1717.5	132047	15	RB_1_mid	QPSK	22.57
low	1717.5	132047	15	RB_1_mid	16QAM	21.92
low	1717.5	132047	15	RB_1_high	QPSK	22.78
low	1717.5	132047	15	RB_1_high	16QAM	21.65
low	1717.5	132047	15	RB_50%_low	QPSK	21.50
low	1717.5	132047	15	RB_50%_low	16QAM	20.55
low	1717.5	132047	15	RB_50%_mid	QPSK	21.56
low	1717.5	132047	15	RB_50%_mid	16QAM	20.72
low	1717.5	132047	15	RB_50%_high	QPSK	21.51
low	1717.5	132047	15	RB_50%_high	16QAM	20.36
low	1717.5	132047	15	RB_100%	QPSK	21.54
low	1717.5	132047	15	RB_100%	16QAM	20.51
mid	1745	132322	15	RB_1_low	QPSK	22.58
mid	1745	132322	15	RB_1_low	16QAM	21.71
mid	1745	132322	15	RB_1_mid	QPSK	22.99
mid	1745	132322	15	RB_1_mid	16QAM	22.06
mid	1745	132322	15	RB_1_high	QPSK	22.69
mid	1745	132322	15	RB_1_high	16QAM	21.79
mid	1745	132322	15	RB_50%_low	QPSK	21.50
mid	1745	132322	15	RB_50%_low	16QAM	20.70
mid	1745	132322	15	RB_50%_mid	QPSK	21.66
mid	1745	132322	15	RB_50%_mid	16QAM	20.63
mid	1745	132322	15	RB_50%_high	QPSK	21.77
mid	1745	132322	15	RB_50%_high	16QAM	20.71
mid	1745	132322	15	RB_100%	QPSK	21.74
mid	1745	132322	15	RB_100%	16QAM	20.66
high	1772.5	132597	15	RB_1_low	QPSK	21.71
high	1772.5	132597	15	RB_1_low	16QAM	20.99
high	1772.5	132597	15	RB_1_mid	QPSK	22.57
high	1772.5	132597	15	RB_1_mid	16QAM	20.84
high	1772.5	132597	15	RB_1_high	QPSK	21.95
high	1772.5	132597	15	RB_1_high	16QAM	21.39
high	1772.5	132597	15	RB_50%_low	QPSK	20.78
high	1772.5	132597	15	RB_50%_low	16QAM	19.80

Channel	Frequency [MHz]	Channel	Bandwidth [MHz]	Resource block allocation	Modulatio	P_{avg} [dBm]
high	1772.5	132597	15	RB_50%_mid	QPSK	20.79
high	1772.5	132597	15	RB_50%_mid	16QAM	19.80
high	1772.5	132597	15	RB_50%_high	QPSK	20.98
high	1772.5	132597	15	RB_50%_high	16QAM	20.03
high	1772.5	132597	15	RB_100%	QPSK	20.89
high	1772.5	132597	15	RB_100%	16QAM	19.80
low	1720	132072	20	RB_1_low	QPSK	22.40
low	1720	132072	20	RB_1_low	16QAM	21.42
low	1720	132072	20	RB_1_mid	QPSK	22.60
low	1720	132072	20	RB_1_mid	16QAM	21.41
low	1720	132072	20	RB_1_high	QPSK	22.10
low	1720	132072	20	RB_1_high	16QAM	21.30
low	1720	132072	20	RB_50%_low	QPSK	21.42
low	1720	132072	20	RB_50%_low	16QAM	20.44
low	1720	132072	20	RB_50%_mid	QPSK	21.47
low	1720	132072	20	RB_50%_mid	16QAM	20.47
low	1720	132072	20	RB_50%_high	QPSK	21.39
low	1720	132072	20	RB_50%_high	16QAM	20.34
low	1720	132072	20	RB_100%	QPSK	21.46
low	1720	132072	20	RB_100%	16QAM	20.61
mid	1745	132322	20	RB_1_low	QPSK	22.81
mid	1745	132322	20	RB_1_low	16QAM	21.55
mid	1745	132322	20	RB_1_mid	QPSK	23.02
mid	1745	132322	20	RB_1_mid	16QAM	21.96
mid	1745	132322	20	RB_1_high	QPSK	22.95
mid	1745	132322	20	RB_1_high	16QAM	21.91
mid	1745	132322	20	RB_50%_low	QPSK	21.57
mid	1745	132322	20	RB_50%_low	16QAM	20.66
mid	1745	132322	20	RB_50%_mid	QPSK	21.75
mid	1745	132322	20	RB_50%_mid	16QAM	20.79
mid	1745	132322	20	RB_50%_high	QPSK	21.77
mid	1745	132322	20	RB_50%_high	16QAM	20.69
mid	1745	132322	20	RB_100%	QPSK	21.71
mid	1745	132322	20	RB_100%	16QAM	20.59
high	1770	132572	20	RB_1_low	QPSK	21.88
high	1770	132572	20	RB_1_low	16QAM	21.16
high	1770	132572	20	RB_1_mid	QPSK	21.67
high	1770	132572	20	RB_1_mid	16QAM	21.26
high	1770	132572	20	RB_1_high	QPSK	22.11
high	1770	132572	20	RB_1_high	16QAM	21.27
high	1770	132572	20	RB_50%_low	QPSK	20.83
high	1770	132572	20	RB_50%_low	16QAM	19.85
high	1770	132572	20	RB_50%_mid	QPSK	20.77
high	1770	132572	20	RB_50%_mid	16QAM	19.75
high	1770	132572	20	RB_50%_high	QPSK	20.93
high	1770	132572	20	RB_50%_high	16QAM	19.82
high	1770	132572	20	RB_100%	QPSK	20.84
high	1770	132572	20	RB_100%	16QAM	19.88

Table 25: Test results conducted power measurement LTE FDD 66 1750 MHz.

8.1.16 Justification of SAR measurements in LTE mode

According to Chapter 5 'SAR test procedures for LTE devices of FCC KDB Publication 941225 D05 the following test configurations for standalone measurements of the largest channel bandwidth (chapter 5.2) had to be taken into consideration:

5.2.1. QPSK with 1 RB allocation
Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and *required test channel* combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each *required test channel*. When the *reported* SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and *required test channels* is not required for 1 RB allocation; otherwise, SAR is required for the remaining *required test channels* and only for the RB offset configuration with the highest output power for that channel.6 When the *reported* SAR of a *required test channel* is > 1.45 W/kg, SAR is required for all three RB offset configurations for that *required test channel*.

5.2.2. QPSK with 50% RB allocation
The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

5.2.3. QPSK with 100% RB allocation
For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest *reported* SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the *reported* SAR is > 1.45 W/kg, the remaining *required test channels* must also be tested.

5.2.4. Higher order modulations
For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the *reported* SAR for the QPSK configuration is > 1.45 W/kg.

Testing of other channel bandwidths was not necessary because the output power of equivalent channel configurations was less than ½ dB larger compared to the largest channel bandwidth and reported SAR was < 1.45 W/kg.

Conducted and radiated measurements were performed with the maximum number of bundled TTIs supported by the DUT (see section 2.4 for details).

8.1.17 MPR information in LTE mode

There is a permanently applied MPR implemented by the manufacturer.
MPR is enabled for this device according to 3GPP TS36.101.

Modulation	Channel bandwidth / resource block configuration						Target MPR	3 GPP MPR
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1	≤ 1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1	≤ 1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2	≤ 2

Therefore there is no power reduction at 1.4 MHz bandwidth with 50% RB allocation (3 RBs).

Additional differences in conducted power are not caused by implemented MPR but depend on measurement uncertainty and allowable tolerances per 3GPP or tune-up.
A-MPR was disabled for all SAR tests.

8.1.18 Conducted power measurements WLAN 2.4 GHz

802.11b		maximum avg. conducted output power [dBm]			
Freq. [MHz]	Ch	1Mbps	2Mbps	5.5Mbps	11Mbps
2412	1	10.1	10.2	10.2	10.2
2437	6	10.2	10.4	10.4	10.3
2462	11	11.4	11.4	11.6	11.5

802.11g		maximum average conducted output power [dBm]							
Freq. [MHz]	Ch	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
2412	1	10.5	10.5	10.4	10.4	10.3	10.3	10.2	10.2
2437	6	10.3	10.3	10.3	10.2	10.1	10.1	10.0	10.0
2462	11	11.5	11.5	11.5	11.4	11.3	11.2	11.2	11.1

802.11n HT-20		maximum average conducted output power [dBm]							
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7
		6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
2412	1	10.4	10.2	10.3	10.3	10.4	10.2	10.2	10.2
2437	6	10.6	10.4	10.5	10.5	10.6	10.4	10.4	10.4
2462	11	11.4	11.2	11.3	11.3	11.2	11.1	11.1	11.0

802.11n HT-40		maximum average conducted output power [dBm]							
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7
		13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps
2422	3	10.6	10.4	10.2	10.0	9.7	9.5	9.4	9.2
2437	6	11.1	10.9	10.7	10.5	10.4	10.1	10.1	9.9
2452	9	10.8	10.7	10.5	10.3	10.1	9.9	9.8	9.7

Table 26: Test results conducted power measurement WLAN 2.4 GHz

8.1.19 Conducted power measurements WLAN 5 GHz

802.11a		**maximum average conducted output power [dBm]**							
Freq. [MHz]	**Ch**	**6Mbps**	**9Mbps**	**12Mbps**	**18Mbps**	**24Mbps**	**36Mbps**	**48Mbps**	**54Mbps**
5180	36	5.5	5.4	5.3	5.3	5.2	5.1	5.0	5.0
5200	40	5.6	5.6	5.5	5.5	5.4	5.3	5.3	5.2
5220	44	5.9	5.8	5.7	5.7	5.6	5.6	5.5	5.4
5240	48	5.8	5.8	5.7	5.7	5.6	5.6	5.5	5.4

802.11n HT-20 / 802.11ac VHT-20 maximum average conducted output power [dBm]										
Freq. [MHz]	**Ch**	**MCS-0**	**MCS-1**	**MCS-2**	**MCS-3**	**MCS-4**	**MCS-5**	**MCS-6**	**MCS-7**	**MCS-8**
		6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps	78Mbps
5180	36	5.3	5.1	5.1	5.1	5.2	5.1	5.0	5.0	4.9
5200	40	5.5	5.3	5.4	5.3	5.4	5.3	5.2	5.2	5.1
5220	44	5.8	5.6	5.6	5.6	5.6	5.5	5.5	5.4	5.3
5240	48	5.7	5.5	5.6	5.5	5.6	5.4	5.4	5.4	5.3

802.11n HT-40 / 802.11ac VHT-40 maximum average conducted output power [dBm]											
Freq. [MHz]	**Ch**	**MCS-0**	**MCS-1**	**MCS-2**	**MCS-3**	**MCS-4**	**MCS-5**	**MCS-6**	**MCS-7**	**MCS-8**	**MCS-9**
		13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps	162Mbps	180Mbps
5190	38	5.6	5.5	5.3	5.1	5.0	4.9	4.8	4.7	4.6	4.5
5230	46	6.0	5.9	5.8	5.6	5.5	5.4	5.3	5.1	5.0	5.0

Table 27: Test results conducted power measurement WLAN 5 GHz

8.1.20 Conducted average power measurements Bluetooth Classic 2.4 GHz

Conducted output power BT EDR 2450 MHz (dBm)							
		Peak. power			Avg. power		
mod.	rate	CH 0	CH 39	CH 78	CH 0	CH 39	CH 78
		2402 MHz	2441 MHz	2480 MHz	2402 MHz	2441 MHz	2480 MHz
GFSK	DH5	2.6	3.1	3.0	1.4	**1.9**	1.8
Pi/4 DQPSK	DH5	4.5	4.9	4.9	0.7	1.1	1.1
8-DPSK	DH5	4.8	5.1	5.2	0.7	1.0	1.1

Table 28: Test results conducted average power measurement BT-EDR Chip-set-SIM8918-(WCN3950)

Conducted output power BT EDR 2450 MHz (dBm)							
		Peak. power			Avg. power		
mod.	rate	CH 0	CH 39	CH 78	CH 0	CH 39	CH 78
		2402 MHz	2441 MHz	2480 MHz	2402 MHz	2441 MHz	2480 MHz
GFSK	DH5	5.4	5.5	5.5	4.2	**4.3**	**4.3**
Pi/4 DQPSK	DH5	7.5	7.7	7.6	3.7	3.9	3.8
8-DPSK	DH5	7.8	8.0	7.9	3.7	3.9	3.8

Table 29: Test results conducted average power measurement BT-EDR Chip-set-AW611

8.1.21 Conducted average power measurements Bluetooth LE 2.4 GHz

Conducted output power BT LE 2450 MHz (dBm)							
		Peak. power			Avg. power		
mod.	rate	CH 0	CH 19	CH 39	CH 0	CH 19	CH 39
		2402 MHz	2440 MHz	2480 MHz	2402 MHz	2440 MHz	2480 MHz
GFSK	1Mbps	-1.2	-1.4	-0.5	-3.7	-4.0	**-3.0**

Table 30: Test results conducted average power measurement BT-LE Chip-set-SIM8918-(WCN3950)

Conducted output power BT LE 2450 MHz (dBm)							
		Peak. power			Avg. power		
mod.	rate	CH 0	CH 19	CH 39	CH 0	CH 19	CH 39
		2402 MHz	2440 MHz	2480 MHz	2402 MHz	2440 MHz	2480 MHz
GFSK	1Mbps	2.8	2.7	2.5	**0.3**	0.2	0.0

Table 31: Test results conducted average power measurement BT-LE Chip-set-AW611

8.1.22 SAR measurement positions

SAR measurement positions						
mode	front	rear	left edge	right edge	top edge	bottom edge
WWAN	yes	no	yes	yes	no	yes
WLAN 2.4GHz	yes	no	yes	yes	no	yes
WLAN 5GHz	yes	no	yes	yes	no	yes
BT 2.4GHz	yes	no	yes	yes	no	yes

The DUT positioned against the flat phantom that correspond to the intended use as specified by the manufacturer.

8.2 SAR test results

8.2.1 General description of test procedures

- The DUT is tested using CMW 500 communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.
- Test positions as described in the tables below are in accordance with the specified test standard.
- The DUT positioned against the flat phantom that correspond to the intended use as specified by the manufacturer.
- UMTS was tested in RMC mode with 12.2 kbit/s and TPC bits set to 'all 1'.
- WLAN was tested using a test software in 802.11a/b mode with 1 MBit/s and 6 MBit/s.
- Required WLAN test channels were selected according to KDB 248227
- The DUT was tested using a CBT communication tester in BT-test mode to adjust maximum output power, test channels and operating mode.
  (GFSK - DH5 - STATIC PBRS - 76% duty cycle)
- According to IEC/IEEE 62209-1528 the SAR test shall be performed at the channel producing the highest rated output power.
  - When the width of the transmit frequency band ($\Delta f = f_{high} - f_{low}$) exceeds 1 % of its centre frequency fc, the channels at the lowest and highest frequencies of the transmit band shall also be tested.
  - When the width of the transmit frequency band exceeds 10 % of its centre frequency. The following formula shall be used to determine the number of channels, N_c, to be tested:

$$\mathrm{Nc} = 2 \times roundup\left[\frac{10 * (fhigh - flow)}{fc}\right] + 1$$

    where
    f_c is the centre frequency channel of the transmission band in Hz;
    f_{high} is the highest frequency channel of the transmission band in Hz;
    f_{low} is the lowest frequency channel of the transmission band in Hz;
    N_c is the number of channels
- According to KDB 447498 D01 testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
  - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

8.2.2 Results overview

measured / extrapolated SAR numbers - UMTS FDD II 1880 MHz - 20 mm disatnce											
Ch.	Freq. (MHz)	test cond.	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
				declared*	measured	meas.	extrap.	meas.	extrap.		
9400	1880.0	RMC	front	24.0	22.6	0.345	0.476	0.212	0.293	-0.10	20.9
9400	1880.0	RMC	left	24.0	22.6	0.369	0.509	0.227	0.313	0.12	20.9
9400	1880.0	RMC	right	24.0	22.6	0.015	0.021	0.009	0.012	0.08	20.9
9400	1880.0	RMC	bottom	24.0	22.6	0.062	0.086	0.039	0.054	0.10	20.9
9262	1852.4	RMC	left	24.0	22.4	**0.409**	**0.587**	**0.252**	**0.362**	0.13	20.9
9538	1907.6	RMC	left	24.0	22.7	0.330	0.446	0.203	0.274	0.03	20.9
measured / extrapolated SAR numbers - UMTS FDD IV 1700 MHz - 20 mm disatnce											
Ch.	Freq. (MHz)	test cond.	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
				declared*	measured	meas.	extrap.	meas.	extrap.		
1413	1732	RMC	front	24.0	22.3	**0.628**	**0.922**	**0.385**	**0.566**	-0.05	20.9
1413	1732	RMC	left	24.0	22.3	0.616	0.905	0.383	0.563	-0.07	20.9
1413	1732	RMC	right	24.0	22.3	0.023	0.034	0.014	0.021	0.09	20.9
1413	1732	RMC	bottom	24.0	22.3	0.068	0.100	0.044	0.065	0.05	20.9
1312	1712	RMC	front	24.0	22.6	0.626	0.866	0.382	0.529	0.00	20.9
1513	1753	RMC	front	24.0	22.5	0.616	0.866	0.379	0.533	0.08	20.9
measured / extrapolated SAR numbers - UMTS FDD V 850 MHz - 20 mm disatnce											
Ch.	Freq. (MHz)	test cond.	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
				declared*	measured	meas.	extrap.	meas.	extrap.		
4182	836.4	RMC	front	24.0	23.5	0.153	0.170	0.106	0.118	0.12	21.0
4182	836.4	RMC	left	24.0	23.5	0.261	0.290	0.178	0.198	0.13	21.0
4182	836.4	RMC	right	24.0	23.5	0.026	0.029	0.018	0.020	0.09	21.0
4182	836.4	RMC	bottom	24.0	23.5	0.034	0.038	0.024	0.027	0.08	21.0
4132	826.4	RMC	left	24.0	23.4	**0.266**	**0.306**	**0.180**	**0.207**	0.05	21.0
4233	846.6	RMC	left	24.0	23.5	0.260	0.293	0.175	0.197	0.02	21.0

Table 32: Test results SAR UMTS (see max. SAR plot Annex B.1: SAR results WWAN page 105)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 2 1900 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
1RB/QPSK												
19125	1902.5	15	mid	front	24.0	23.1	0.276	0.336	0.171	0.208	-0.11	21.5
19125	1902.5	15	mid	left	24.0	23.1	0.310	0.378	0.190	0.232	0.13	21.5
19125	1902.5	15	mid	right	24.0	23.1	0.018	0.022	0.011	0.013	0.09	21.5
19125	1902.5	15	mid	bottom	24.0	23.1	0.065	0.079	0.041	0.050	0.04	21.5
18700	1860	20	low	left	24.0	22.6	**0.423**	**0.583**	**0.263**	**0.362**	0.03	21.5
18900	1880	20	mid	left	24.0	22.8	0.401	0.529	0.248	0.327	-0.15	21.5
50RB/QPSK												
18900	1880	20	mid	front	24.0	23.1	0.226	0.275	0.134	0.163	0.01	21.5
18900	1880	20	mid	left	24.0	23.1	0.295	0.360	0.182	0.222	0.16	21.5
18900	1880	20	mid	right	24.0	23.1	0.018	0.022	0.011	0.013	0.09	21.5
18900	1880	20	mid	bottom	24.0	23.1	0.054	0.066	0.034	0.041	0.08	21.5
measured / extrapolated SAR numbers - LTE FDD 4 1700 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
1RB/QPSK												
20325	1747.5	15	mid	front	24.0	23.3	0.565	0.662	0.351	0.411	-0.15	21.5
20325	1747.5	15	mid	left	24.0	23.3	0.615	0.721	0.382	0.448	0.09	21.5
20325	1747.5	15	mid	right	24.0	23.3	0.023	0.027	0.015	0.018	0.09	21.5
20325	1747.5	15	mid	bottom	24.0	23.3	0.068	0.080	0.044	0.052	0.08	21.5
20025	1717.5	15	high	left	24.0	22.7	**0.646**	**0.867**	**0.396**	**0.532**	-0.13	21.5
20175	1732.5	20	mid	left	24.0	22.6	0.616	0.852	0.378	0.523	0.11	21.5
50RB/QPSK												
20300	1745.0	20	high	front	23.0	21.8	0.441	0.580	0.262	0.345	-0.01	21.5
20300	1745.0	20	high	left	23.0	21.8	0.460	0.605	0.280	0.368	0.00	21.5
20300	1745.0	20	high	right	23.0	21.8	0.023	0.030	0.014	0.018	0.09	21.5
20300	1745.0	20	high	bottom	23.0	21.8	0.058	0.076	0.037	0.049	0.04	21.5
100RB/QPSK												
20300	1745.0	20	high	front	24.0	21.7	0.493	0.839	0.301	0.512	-0.02	21.5
20300	1745.0	20	high	left	24.0	21.7	0.425	0.723	0.267	0.454	0.04	21.5
measured / extrapolated SAR numbers - LTE FDD 5 850 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
20600	844.0	10	mid	front	24.0	23.7	0.181	0.196	0.125	0.135	0.08	21.0
20600	844.0	10	mid	left	24.0	23.7	0.272	0.294	0.184	0.199	0.02	21.0
20600	844.0	10	mid	right	24.0	23.7	0.024	0.026	0.017	0.018	0.15	21.0
20600	844.0	10	mid	bottom	24.0	23.7	0.033	0.036	0.023	0.025	0.08	21.0
20450	829.0	10	high	left	24.0	23.6	0.270	0.299	0.182	0.201	-0.18	21.0
20525	836.5	10	high	left	24.0	23.2	**0.273**	**0.330**	**0.185**	**0.224**	0.01	21.0
10MHz BW/25RB/QPSK												
20600	844.0	10	mid	front	23.0	22.5	0.134	0.152	0.092	0.104	-0.01	21.0
20600	844.0	10	mid	left	23.0	22.5	0.214	0.242	0.145	0.164	-0.03	21.0
20600	844.0	10	mid	right	23.0	22.5	0.019	0.022	0.013	0.015	0.12	21.0
20600	844.0	10	mid	bottom	23.0	22.5	0.026	0.029	0.018	0.020	0.09	21.0

Table 33: Test results SAR LTE (see max. SAR plot Annex B.1: SAR results WWAN)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 7 2600 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
21100	2535.0	20	mid	front	24.0	23.2	0.292	0.352	0.164	0.198	0.16	21.7
21100	2535.0	20	mid	left	24.0	23.2	0.295	0.355	0.165	0.199	-0.04	21.7
21100	2535.0	20	mid	right	24.0	23.2	0.027	0.033	0.015	0.018	0.10	21.7
21100	2535.0	20	mid	bottom	24.0	23.2	0.054	0.065	0.029	0.035	0.08	21.7
20850	2510.0	20	mid	left	24.0	22.7	**0.303**	**0.405**	**0.169**	**0.226**	0.10	21.7
21350	2560.0	20	mid	left	24.0	22.8	0.266	0.354	0.146	0.194	0.10	21.7
20MHz BW/50RB/QPSK												
21100	2535.0	20	low	front	23.0	22.1	0.225	0.277	0.126	0.155	-0.12	21.7
21100	2535.0	20	low	left	23.0	22.1	0.234	0.289	0.131	0.162	0.06	21.7
21100	2535.0	20	low	right	23.0	22.1	0.022	0.027	0.012	0.015	0.09	21.7
21100	2535.0	20	low	bottom	23.0	22.1	0.043	0.053	0.023	0.028	0.15	21.7
measured / extrapolated SAR numbers - LTE FDD 12 700 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
23130	711.0	10	mid	front	24.0	23.7	0.091	0.097	0.070	0.074	0.01	20.9
23130	711.0	10	mid	left	24.0	23.7	**0.113**	**0.120**	**0.075**	**0.080**	0.15	20.9
23130	711.0	10	mid	right	24.0	23.7	0.059	0.063	0.041	0.044	0.12	20.9
23130	711.0	10	mid	bottom	24.0	23.7	0.019	0.020	0.014	0.015	0.08	20.9
23060	704.0	10	high	left	24.0	23.5	0.106	0.119	0.071	0.079	0.19	20.9
23095	707.5	10	mid	left	24.0	23.5	0.097	0.110	0.067	0.076	0.02	20.9
10MHz BW/25RB/QPSK												
23130	711.0	10	mid	front	23.0	22.5	0.067	0.075	0.052	0.058	0.03	20.9
23130	711.0	10	mid	left	23.0	22.5	0.087	0.097	0.059	0.066	0.06	20.9
23130	711.0	10	mid	right	23.0	22.5	0.047	0.053	0.032	0.036	0.10	20.9
23130	711.0	10	mid	bottom	23.0	22.5	0.015	0.017	0.011	0.012	0.09	20.9
measured / extrapolated SAR numbers - LTE FDD 13 750 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
23230	782.0	10	high	front	24.0	23.9	0.156	0.160	0.111	0.114	-0.06	20.9
23230	782.0	10	high	left	24.0	23.9	0.265	0.271	0.177	0.181	-0.07	20.9
23230	782.0	10	high	right	24.0	23.9	0.026	0.027	0.018	0.018	0.10	20.9
23230	782.0	10	high	bottom	24.0	23.9	0.075	0.077	0.053	0.054	0.11	20.9
23205	779.5	5	mid	left	24.0	23.4	0.259	0.300	0.173	0.200	-0.08	20.9
23255	784.5	5	mid	left	24.0	23.5	**0.266**	**0.302**	**0.178**	**0.202**	0.07	20.9
10MHz BW/25RB/QPSK												
23230	782.0	10	high	front	23.0	22.7	0.124	0.132	0.088	0.094	0.01	20.9
23230	782.0	10	high	left	23.0	22.7	0.218	0.233	0.146	0.156	0.10	20.9
23230	782.0	10	high	right	23.0	22.7	0.021	0.022	0.015	0.016	0.09	20.9
23230	782.0	10	high	bottom	23.0	22.7	0.058	0.062	0.041	0.044	0.07	20.9

Table 34: Test results SAR LTE (see max. SAR plot Annex B.1: SAR results WWAN)
* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 17 700 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
23780	709.0	10	high	front	24.0	23.6	0.099	0.109	0.076	0.084	0.12	20.9
23780	709.0	10	high	left	24.0	23.6	0.110	0.121	0.075	0.083	-0.05	20.9
23780	709.0	10	high	right	24.0	23.6	0.064	0.071	0.044	0.049	0.06	20.9
23780	709.0	10	high	bottom	24.0	23.6	0.023	0.025	0.016	0.018	0.08	20.9
23790	710.0	10	high	left	24.0	23.3	**0.114**	**0.134**	**0.077**	**0.091**	0.03	20.9
23800	711.0	10	high	left	24.0	23.6	0.112	0.124	0.076	0.084	-0.08	20.9
10MHz BW/25RB/QPSK												
23780	709.0	10	mid	front	24.0	23.4	0.064	0.074	0.049	0.057	0.12	20.9
23780	709.0	10	mid	left	24.0	23.4	0.076	0.088	0.052	0.060	0.10	20.9
23780	709.0	10	mid	right	24.0	23.4	0.047	0.054	0.032	0.037	0.05	20.9
23780	709.0	10	mid	bottom	24.0	23.4	0.014	0.016	0.010	0.012	0.10	20.9
measured / extrapolated SAR numbers - LTE FDD 25 1900 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
26365	1882.5	20	mid	front	24.0	22.3	0.273	0.404	0.168	0.248	0.03	21.5
26365	1882.5	20	mid	left	24.0	22.3	0.305	0.451	0.189	0.280	0.06	21.5
26365	1882.5	20	mid	right	24.0	22.3	0.020	0.030	0.012	0.018	-0.12	21.5
26365	1882.5	20	mid	bottom	24.0	22.3	0.045	0.067	0.028	0.041	0.01	21.5
26140	1860.0	20	mid	left	24.0	21.9	**0.371**	**0.604**	**0.229**	**0.373**	0.12	21.5
26590	1905.0	20	high	left	24.0	22.0	0.306	0.491	0.188	0.301	-0.14	21.5
20MHz BW/50RB/QPSK												
26365	1882.5	20	low	front	23.0	21.1	0.224	0.346	0.138	0.213	0.05	21.5
26365	1882.5	20	low	left	23.0	21.1	0.258	0.399	0.159	0.246	0.09	21.5
26365	1882.5	20	low	right	23.0	21.1	0.015	0.023	0.009	0.014	-0.19	21.5
26365	1882.5	20	low	bottom	23.0	21.1	0.036	0.056	0.023	0.036	0.14	21.5
measured / extrapolated SAR numbers - LTE FDD 26 850 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
15MHz BW/1RB/QPSK												
26965	841.5	15	mid	front	24.0	23.8	0.171	0.181	0.118	0.125	0.07	21.0
26965	841.5	15	mid	left	24.0	23.8	**0.278**	**0.294**	**0.188**	**0.199**	0.18	21.0
26965	841.5	15	mid	right	24.0	23.8	0.022	0.023	0.016	0.017	0.09	21.0
26965	841.5	15	mid	bottom	24.0	23.8	0.033	0.035	0.024	0.025	0.05	21.0
26765	821.5	15	mid	left	24.0	23.3	0.248	0.289	0.171	0.199	-0.08	21.0
26865	831.5	15	mid	left	24.0	23.6	0.267	0.292	0.179	0.196	0.19	21.0
15MHz BW/37RB/QPSK												
26965	841.5	15	mid	front	23.0	22.3	0.138	0.161	0.095	0.111	-0.02	21.0
26965	841.5	15	mid	left	23.0	22.3	0.219	0.256	0.148	0.173	0.00	21.0
26965	841.5	15	mid	right	23.0	22.3	0.018	0.021	0.012	0.014	0.10	21.0
26965	841.5	15	mid	bottom	23.0	22.3	0.027	0.032	0.019	0.022	0.15	21.0

Table 35: Test results SAR LTE (see max. SAR plot Annex B.1: SAR results WWAN)
* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE TDD 41 2600 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
40620	2593.0	20	low	front	24.0	23.0	**0.164**	**0.207**	**0.091**	**0.115**	-0.06	21.7
40620	2593.0	20	low	left	24.0	23.0	0.117	0.148	0.064	0.081	-0.06	21.7
40620	2593.0	20	low	right	24.0	23.0	0.013	0.016	0.007	0.009	0.08	21.7
40620	2593.0	20	low	bottom	24.0	23.0	0.015	0.019	0.008	0.010	0.14	21.7
39750	2506.0	20	low	front	24.0	22.7	0.132	0.177	0.074	0.099	0.02	21.7
41490	2680.0	20	high	front	24.0	22.5	0.119	0.168	0.068	0.096	0.03	21.7
20MHz BW/50RB/QPSK												
40620	2593.0	20	low	front	23.0	21.8	0.125	0.167	0.069	0.092	-0.05	21.7
40620	2593.0	20	low	left	23.0	21.8	0.096	0.128	0.053	0.071	-0.17	21.7
40620	2593.0	20	low	right	23.0	21.8	0.008	0.011	0.005	0.007	-0.09	21.7
40620	2593.0	20	low	bottom	23.0	21.8	0.011	0.015	0.005	0.007	0.15	21.7
measured / extrapolated SAR numbers - LTE FDD 66 1750 MHz - 20 mm disatnce												
Ch.	Freq. (MHz)	BW (MHz)	RB offset	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		P_{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
132322	1745.0	20	mid	front	24.0	23.0	0.572	0.717	0.352	0.441	-0.03	21.5
132322	1745.0	20	mid	left	24.0	23.0	0.609	0.763	0.378	0.474	-0.09	21.5
132322	1745.0	20	mid	right	24.0	23.0	0.029	0.036	0.018	0.023	0.09	21.5
132322	1745.0	20	mid	bottom	24.0	23.0	0.076	0.095	0.049	0.061	0.05	21.5
132072	1720.0	20	mid	left	24.0	22.6	**0.614**	**0.848**	**0.380**	**0.525**	0.11	21.5
132572	1770.0	20	high	left	24.0	22.1	0.514	0.794	0.319	0.493	-0.02	21.5
20MHz BW/50RB/QPSK												
132322	1745.0	20	high	front	23.0	21.8	0.452	0.600	0.278	0.369	-0.01	21.5
132322	1745.0	20	high	left	23.0	21.8	0.460	0.611	0.286	0.380	0.03	21.5
132322	1745.0	20	high	right	23.0	21.8	0.022	0.029	0.014	0.019	0.08	21.5
132322	1745.0	20	high	bottom	23.0	21.8	0.049	0.065	0.032	0.042	-0.17	21.5
20MHz BW/100RB/QPSK												
132322	1745.0	20	low	front	23.0	21.7	0.464	0.624	0.286	0.385	-0.01	21.5
132322	1745.0	20	low	left	23.0	21.7	0.470	0.633	0.292	0.393	0.07	21.5

Table 36: Test results SAR LTE (see max. SAR plot Annex B.1: SAR results WWAN)
* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - WLAN 2.4 GHz - 20 mm distance													
Ch.	Freq. (MHz)	test cond.	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)			SAR_{10g} (W/kg)			P_{drift} (dB)	liquid (°C)
				decl.*	meas.	meas.	extrap.	100% DF	meas.	extrap.	100% DF		
11	2462	1Mbit/s	front	12.0	11.4	0.018	0.021	0.021	0.010	0.011	0.012	0.18	21.7
11	2462	1Mbit/s	left	12.0	11.4	0.020	0.023	0.023	0.011	0.013	0.013	0.13	21.7
11	2462	1Mbit/s	right	12.0	11.4	0.012	0.014	0.014	0.006	0.007	0.007	0.15	21.7
11	2462	1Mbit/s	bottom	12.0	11.4	0.022	0.025	0.026	0.012	0.014	0.014	-0.12	21.7
1	2412	1Mbit/s	bottom	12.0	10.1	0.022	0.034	0.035	0.012	0.019	0.019	0.17	21.7
6	2437	1Mbit/s	bottom	12.0	10.2	**0.023**	**0.035**	**0.036**	**0.013**	**0.020**	**0.020**	-0.05	21.7

Table 37: Test results SAR WLAN 2.4 GHz (see max. SAR plot Annex B.2: SAR results – WLAN 2.4 & 5.2GHz page 119)

measured / extrapolated SAR numbers - WLAN 5.2 GHz - 20 mm distance													
Ch.	Freq. (MHz)	test cond.	Position	cond. P_{max} (dBm)		SAR_{1g} (W/kg)			SAR_{10g} (W/kg)			P_{drift} (dB)	liquid (°C)
				decl.*	meas.	meas.	extrap.	100% DF	meas.	extrap.	100% DF		
44	5220	6Mbit/s	front	7.0	5.9	0.030	0.039	0.039	0.012	0.015	0.016	-0.15	21.7
44	5220	6Mbit/s	left	7.0	5.9	0.015	0.019	0.020	0.004	0.005	0.005	-0.09	21.7
44	5220	6Mbit/s	right	7.0	5.9	0.016	0.021	0.021	0.004	0.005	0.005	0.11	21.7
44	5220	6Mbit/s	bottom	7.0	5.9	**0.031**	**0.040**	**0.041**	**0.014**	**0.018**	**0.018**	-0.15	21.7
40	5200	6Mbit/s	bottom	7.0	5.6	0.028	0.039	0.039	0.012	0.017	0.017	0.18	21.7
48	5240	6Mbit/s	bottom	7.0	5.8	0.027	0.036	0.036	0.012	0.016	0.016	0.19	21.7

Table 38: Test results SAR WLAN 5 GHz Hz (see max. SAR plot Annex B.2: SAR results – WLAN 2.4 & 5.2GHz)

measured / extrapolated SAR numbers - BT-EDR 2.4GHz Chip-set-SIM8918-(WCN3950)										
Ch.	Freq. (MHz)	test cond.	Position	avg. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		liquid (°C)
				declared*	meas.	meas.	extrap.	meas.	extrap.	
39	2441	DH5	front	3.0	1.9	**0.000**	**0.000**	**0.000**	**0.000**	21.5
39	2441	DH5	left	3.0	1.9	0.000	0.000	0.000	0.000	21.5
39	2441	DH5	right	3.0	1.9	0.000	0.000	0.000	0.000	21.5
39	2441	DH5	bottom	3.0	1.9	0.000	0.000	0.000	0.000	21.5

Table 39: Test results SAR BT 2.4 GHz Chip-set-SIM8918-(WCN3950) Hz (see max. SAR plot Annex B.3: SAR results – BT 2.4GHz page 121)

measured / extrapolated SAR numbers - BT-EDR 2.4GHz Chip-set-AW611										
Ch.	Freq. (MHz)	test cond.	Position	avg. P_{max} (dBm)		SAR_{1g} (W/kg)		SAR_{10g} (W/kg)		liquid (°C)
				declared*	meas.	meas.	extrap.	meas.	extrap.	
39	2441	DH5	front	5.0	4.3	**0.000**	**0.000**	**0.000**	**0.000**	21.5
39	2441	DH5	left	5.0	4.3	0.000	0.000	0.000	0.000	21.5
39	2441	DH5	right	5.0	4.3	0.000	0.000	0.000	0.000	21.5
39	2441	DH5	bottom	5.0	4.3	0.000	0.000	0.000	0.000	21.5

Table 40: Test results SAR BT 2.4 GHz Chip-set-AW611 (see max. SAR plot Annex B.3: SAR results – BT 2.4GHz)

* - maximum possible output power declared by manufacturer.

8.2.3 Multiple Transmitter Information

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498D01 General RF Exposure Guidance v05.

reported SAR **WWAN** and **WLAN 2.4GHz**, **ΣSAR$_{1g}$** evaluation.				
Frequency band	Position	SAR$_{max}$ /W/kg		**ΣSAR$_{1g}$**
		WWAN	WLAN	<1.6W/kg
UMTS FDD II	front	0.476	0.021	0.497
	left	0.587	0.023	0.610
	right	0.021	0.014	0.035
	bottom	0.086	0.036	0.122
UMTS FDD IV	front	0.922	0.021	**0.944**
	left	0.905	0.023	0.928
	right	0.034	0.014	0.048
	bottom	0.100	0.036	0.136
UMTS FDD V	front	0.170	0.021	0.191
	left	0.306	0.023	0.329
	right	0.029	0.014	0.043
	bottom	0.038	0.036	0.074
LTE FDD 2	front	0.336	0.021	0.358
	left	0.583	0.023	0.606
	right	0.022	0.014	0.036
	bottom	0.079	0.036	0.115
LTE FDD 4	front	0.662	0.021	0.683
	left	0.867	0.023	0.890
	right	0.027	0.014	0.041
	bottom	0.080	0.036	0.116
LTE FDD 5	front	0.196	0.021	0.217
	left	0.330	0.023	0.353
	right	0.026	0.014	0.040
	bottom	0.036	0.036	0.072
LTE FDD 7	front	0.352	0.021	0.373
	left	0.405	0.023	0.428
	right	0.033	0.014	0.047
	bottom	0.065	0.036	0.101
LTE FDD 12	front	0.097	0.021	0.118
	left	0.120	0.023	0.143
	right	0.063	0.014	0.077
	bottom	0.020	0.036	0.056
LTE FDD 13	front	0.160	0.021	0.181
	left	0.302	0.023	0.325
	right	0.027	0.014	0.041
	bottom	0.077	0.036	0.113
LTE FDD 17	front	0.109	0.021	0.130
	left	0.134	0.023	0.157
	right	0.071	0.014	0.085
	bottom	0.025	0.036	0.061
LTE FDD 25	front	0.404	0.021	0.425
	left	0.604	0.023	0.627
	right	0.030	0.014	0.044
	bottom	0.067	0.036	0.103
LTE FDD 26	front	0.181	0.021	0.202
	left	0.294	0.023	0.318
	right	0.023	0.014	0.037
	bottom	0.035	0.036	0.071
LTE TDD 41	front	0.207	0.021	0.228
	left	0.148	0.023	0.171
	right	0.016	0.014	0.030
	bottom	0.019	0.036	0.055
LTE FDD 66	front	0.717	0.021	0.738
	left	0.848	0.023	0.871
	right	0.036	0.014	0.050
	bottom	0.095	0.036	0.131

Table 41: SAR$_{max}$ WWAN and **WLAN 2.4GHz**, ΣSAR$_{1g}$ evaluation

reported SAR **WWAN** and **WLAN 5.2GHz**, **ΣSAR$_{1g}$** evaluation.				
Frequency band	Position	SAR$_{max}$ /W/kg		**ΣSAR$_{1g}$**
		WWAN	WLAN	<1.6W/kg
UMTS FDD II	front	0.476	0.039	0.516
	left	0.587	0.020	0.607
	right	0.021	0.021	0.042
	bottom	0.086	0.041	0.126
UMTS FDD IV	front	0.922	0.039	**0.962**
	left	0.905	0.020	0.925
	right	0.034	0.021	0.055
	bottom	0.100	0.041	0.141
UMTS FDD V	front	0.170	0.039	0.210
	left	0.306	0.020	0.326
	right	0.029	0.021	0.050
	bottom	0.038	0.041	0.079
LTE FDD 2	front	0.336	0.039	0.376
	left	0.583	0.020	0.603
	right	0.022	0.021	0.043
	bottom	0.079	0.041	0.120
LTE FDD 4	front	0.662	0.039	0.702
	left	0.867	0.020	0.887
	right	0.027	0.021	0.048
	bottom	0.080	0.041	0.120
LTE FDD 5	front	0.196	0.039	0.235
	left	0.330	0.020	0.350
	right	0.026	0.021	0.047
	bottom	0.036	0.041	0.076
LTE FDD 7	front	0.352	0.039	0.391
	left	0.405	0.020	0.425
	right	0.033	0.021	0.054
	bottom	0.065	0.041	0.106
LTE FDD 12	front	0.097	0.039	0.136
	left	0.120	0.020	0.140
	right	0.063	0.021	0.084
	bottom	0.020	0.041	0.061
LTE FDD 13	front	0.160	0.039	0.199
	left	0.302	0.020	0.322
	right	0.027	0.021	0.048
	bottom	0.077	0.041	0.117
LTE FDD 17	front	0.109	0.039	0.149
	left	0.134	0.020	0.154
	right	0.071	0.021	0.092
	bottom	0.025	0.041	0.066
LTE FDD 25	front	0.404	0.039	0.443
	left	0.604	0.020	0.624
	right	0.030	0.021	0.051
	bottom	0.067	0.041	0.107
LTE FDD 26	front	0.181	0.039	0.221
	left	0.294	0.020	0.314
	right	0.023	0.021	0.044
	bottom	0.035	0.041	0.076
LTE TDD 41	front	0.207	0.039	0.246
	left	0.148	0.020	0.167
	right	0.016	0.021	0.037
	bottom	0.019	0.041	0.060
LTE FDD 66	front	0.717	0.039	0.756
	left	0.848	0.020	0.868
	right	0.036	0.021	0.057
	bottom	0.095	0.041	0.136

Table 42: SAR$_{max}$ WWAN and **WLAN 5.2GHz**, ΣSAR$_{1g}$ evaluation

reported SAR **WWAN** and **WLAN 2.4GHz**, **ΣSAR$_{10g}$** evaluation.				
Frequency band	Position	SAR$_{max}$ /W/kg		**ΣSAR$_{10g}$**
		WWAN	WLAN	<4W/kg
UMTS FDD II	front	0.293	0.012	0.304
	left	0.362	0.013	0.375
	right	0.012	0.007	0.019
	bottom	0.054	0.020	0.074
UMTS FDD IV	front	0.566	0.012	**0.577**
	left	0.563	0.013	0.575
	right	0.021	0.007	0.028
	bottom	0.065	0.020	0.085
UMTS FDD V	front	0.118	0.012	0.130
	left	0.207	0.013	0.220
	right	0.020	0.007	0.027
	bottom	0.027	0.020	0.047
LTE FDD 2	front	0.208	0.012	0.220
	left	0.362	0.013	0.375
	right	0.013	0.007	0.020
	bottom	0.050	0.020	0.070
LTE FDD 4	front	0.411	0.012	0.423
	left	0.532	0.013	0.545
	right	0.018	0.007	0.025
	bottom	0.052	0.020	0.072
LTE FDD 5	front	0.135	0.012	0.147
	left	0.224	0.013	0.237
	right	0.018	0.007	0.025
	bottom	0.025	0.020	0.045
LTE FDD 7	front	0.198	0.012	0.209
	left	0.226	0.013	0.239
	right	0.018	0.007	0.025
	bottom	0.035	0.020	0.055
LTE FDD 12	front	0.074	0.012	0.086
	left	0.080	0.013	0.093
	right	0.044	0.007	0.051
	bottom	0.015	0.020	0.035
LTE FDD 13	front	0.114	0.012	0.125
	left	0.202	0.013	0.215
	right	0.018	0.007	0.025
	bottom	0.054	0.020	0.074
LTE FDD 17	front	0.084	0.012	0.096
	left	0.091	0.013	0.104
	right	0.049	0.007	0.056
	bottom	0.018	0.020	0.038
LTE FDD 25	front	0.248	0.012	0.260
	left	0.373	0.013	0.386
	right	0.018	0.007	0.025
	bottom	0.041	0.020	0.061
LTE FDD 26	front	0.125	0.012	0.137
	left	0.199	0.013	0.212
	right	0.017	0.007	0.024
	bottom	0.025	0.020	0.045
LTE TDD 41	front	0.115	0.012	0.127
	left	0.081	0.013	0.094
	right	0.009	0.007	0.016
	bottom	0.010	0.020	0.030
LTE FDD 66	front	0.441	0.012	0.453
	left	0.525	0.013	0.538
	right	0.023	0.007	0.030
	bottom	0.061	0.020	0.081

Table 43: SAR$_{max}$ WWAN and **WLAN 2.4GHz**, ΣSAR$_{10g}$ evaluation

reported SAR **WWAN** and **WLAN 5.2GHz**, **ΣSAR$_{10g}$** evaluation.				
Frequency band	Position	SAR$_{max}$ /W/kg		**ΣSAR$_{10g}$**
		WWAN	WLAN	<4W/kg
UMTS FDD II	front	0.293	0.016	0.308
	left	0.362	0.005	0.367
	right	0.012	0.005	0.018
	bottom	0.054	0.018	0.072
UMTS FDD IV	front	0.566	0.016	**0.581**
	left	0.563	0.005	0.568
	right	0.021	0.005	0.026
	bottom	0.065	0.018	0.083
UMTS FDD V	front	0.118	0.016	0.134
	left	0.207	0.005	0.212
	right	0.020	0.005	0.025
	bottom	0.027	0.018	0.045
LTE FDD 2	front	0.208	0.016	0.224
	left	0.362	0.005	0.367
	right	0.013	0.005	0.019
	bottom	0.050	0.018	0.068
LTE FDD 4	front	0.411	0.016	0.427
	left	0.532	0.005	0.537
	right	0.018	0.005	0.023
	bottom	0.052	0.018	0.070
LTE FDD 5	front	0.135	0.016	0.151
	left	0.224	0.005	0.229
	right	0.018	0.005	0.024
	bottom	0.025	0.018	0.043
LTE FDD 7	front	0.198	0.016	0.213
	left	0.226	0.005	0.231
	right	0.018	0.005	0.023
	bottom	0.035	0.018	0.053
LTE FDD 12	front	0.074	0.016	0.090
	left	0.080	0.005	0.085
	right	0.044	0.005	0.049
	bottom	0.015	0.018	0.033
LTE FDD 13	front	0.114	0.016	0.129
	left	0.202	0.005	0.207
	right	0.018	0.005	0.024
	bottom	0.054	0.018	0.073
LTE FDD 17	front	0.084	0.016	0.100
	left	0.091	0.005	0.096
	right	0.049	0.005	0.054
	bottom	0.018	0.018	0.036
LTE FDD 25	front	0.248	0.016	0.264
	left	0.373	0.005	0.378
	right	0.018	0.005	0.023
	bottom	0.041	0.018	0.060
LTE FDD 26	front	0.125	0.016	0.141
	left	0.199	0.005	0.204
	right	0.017	0.005	0.022
	bottom	0.025	0.018	0.044
LTE TDD 41	front	0.115	0.016	0.131
	left	0.081	0.005	0.086
	right	0.009	0.005	0.014
	bottom	0.010	0.018	0.028
LTE FDD 66	front	0.441	0.016	0.457
	left	0.525	0.005	0.530
	right	0.023	0.005	0.028
	bottom	0.061	0.018	0.080

Table 44: SAR$_{max}$ WWAN and **WLAN 5.2GHz**, ΣSAR$_{10g}$ evaluation

Conclusion:

ΣSAR < 1.6 W/kg, therefore simultaneous transmissions SAR measurement with the enlarged zoom scan measurement and volume scan post-processing procedures is **not** required.

8.2.4 SAR correction for deviations of complex permittivity from targets

The max reported SAR values are once more corrected wherever the deviation of the liquid parameters is larger than ± 5%.

According IEC / IEEE 62209-1528 chapter 7.8.2 SAR correction formula
there is a linear relationship between the percentage change in SAR (denoted ΔSAR) and the percentage change in the permittivity and conductivity from the target values (denoted $\Delta\varepsilon_r$ and $\Delta\sigma$, respectively).
The relationship is given by:

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

where

$c_\varepsilon = \partial(\Delta SAR)\,\partial(\Delta\varepsilon)$ is the coefficient representing the sensitivity of SAR to permittivity where SAR is normalized to output power;

$c_\sigma = \partial(\Delta SAR)\,\partial(\Delta\sigma)$ is the coefficient representing the sensitivity of SAR to conductivity, where SAR is normalized to output power.

The values of c_ε and c_σ have a simple relationship with frequency that can be described using polynomial equations. For dipole antennas at frequencies from 4 MHz to 6 GHz, the **1 g averaged SAR** c_ε and c_σ are given by

$$c_\varepsilon = -7.854\times10^{-4} \times f^3 + 9.402\times10^{-3} \times f^2 - 2.742\times10^{-2} \times f - 0.2026$$
$$c_\sigma = 9.804\times10^{-3} \times f^3 - 8.661\times10^{-2} \times f^2 + 2.981\times10^{-2} \times f + 0.7829$$

where f is the frequency in GHz. Above 6 GHz, the sensitivity is non-varying with frequency due to the small penetration depth; the values of $c_\varepsilon = -0{,}198$ and $c_\sigma = 0$ shall be used.

For frequencies from 4 MHz to 6 GHz, the **10 g averaged SAR** c_ε and c_σ are given by:

$$c_\varepsilon = 3.456\times10^{-3} \times f^3 - 3.531\times10^{-2} \times f^2 + 7.675\times10^{-2} \times f - 0.1860$$
$$c_\sigma = 4.479\times10^{-3} \times f^3 - 1.586\times10^{-2} \times f^2 - 0.197\,2 \times f + 0.7717$$

where f is the frequency in GHz. Above 6 GHz, the sensitivity is non-varying with frequency due to the small penetration depth; the values of $c_\varepsilon = -0{,}250$ and $c_\sigma = 0$ shall be used.

NOTE:
The Tables in the uncertainties of this report are updated accordingly with the values from table 6 – Root-mean-squared error SAR correction formula as a function of the maximum change in permittivity or conductivity:

Max. change in ε_r or σ	RMS uncertainty for SAR_{1g} %	RMS uncertainty for SAR_{10g} %
±5 %	1.2	0.97
±10 %	1.9	1.6

NOTE:
The DASY software is capable of directly correcting the measured values according to the above-described procedure, fully compliant to IEC / IEEE 62209-1528, so that no further evaluation is necessary.

9 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

Equipment	Type	Manufacturer	Serial No.	Last Calibration	Frequency (months)
Dosimetric E-Field Probe	EX3DV4	Schmid & Partner Engineering AG	3944	May 21, 2024	12
Dosimetric E-Field Probe	EX3DV4	Schmid & Partner Engineering AG	7852	November 08, 2023	12
750 MHz System Validation Dipole	D750V3	Schmid & Partner Engineering AG	1041	May 11, 2023	36
900 MHz System Validation Dipole	D900V2	Schmid & Partner Engineering AG	102	January 10, 2024	36
1750 MHz System Validation Dipole	D1750V2	Schmid & Partner Engineering AG	1093	August 15, 2024	36
1900 MHz System Validation Dipole	D1900V2	Schmid & Partner Engineering AG	5d009	May 12, 2023	36
2450 MHz System Validation Dipole	D2450V2	Schmid & Partner Engineering AG	710	May 11, 2022	36
2600 MHz System Validation Dipole	D2600V2	Schmid & Partner Engineering AG	1040	May 11, 2023	36
5 GHz System Validation Dipole	D5GHzV2	Schmid & Partner Engineering AG	1055	May 16, 2024	36
Data acquisition electronics	DAE4	Schmid & Partner Engineering AG	477	May 22, 2024	12
Data acquisition electronics	DAE4ip	Schmid & Partner Engineering AG	1842	November 02, 2023	12
Software	V16.4.0.5005	Schmid & Partner Engineering AG	---	N/A	--
Phantom ELI 8.0	QD OVA 004 AA	Schmid & Partner Engineering AG	2101 2214	N/A	--
Universal Radio Communication Tester	CMW500	Rohde & Schwarz	166977	December 13, 2023	24
Bluetooth Tester	CMW270	Rohde & Schwarz	102550	December 6, 2023	24
Network Analyser 300 kHz to 6 GHz	8753ES	Agilent Technologies)*	US39174 436	December 14, 2023	24
Dielectric Assessment Kit (DAK)	DAK 200MHz – 20GHz Package	Schmid & Partner Engineering AG	1127	N/A	--
Powersource1	SE UMS 160 CC	Schmid & Partner Engineering AG	4342	May 15, 2024	24
Signal Generator	8671B	Hewlett Packard	2823A006 56	December 09, 2022	24
Signal Generator	SML03	Rohde & Schwarz	102519	December 05, 2023	24
RF Power Amplifier	BLMA 0760-6 (6 Watt)	BONN Elektronik	1510273	N/A	--
Power Meter	NRP	Rohde & Schwarz	101367	December 05, 2023	12
Power Meter Sensor	NRP Z22	Rohde & Schwarz	100227	December 05, 2023	12
Power Meter Sensor	NRP Z22	Rohde & Schwarz	100234	December 05, 2023	12
Directional Coupler	778D	Hewlett Packard	19171	December 05, 2023	12

)* : Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

10 Observations

No observations exceeding those reported with the single test cases have been made.

Annex A: System performance check

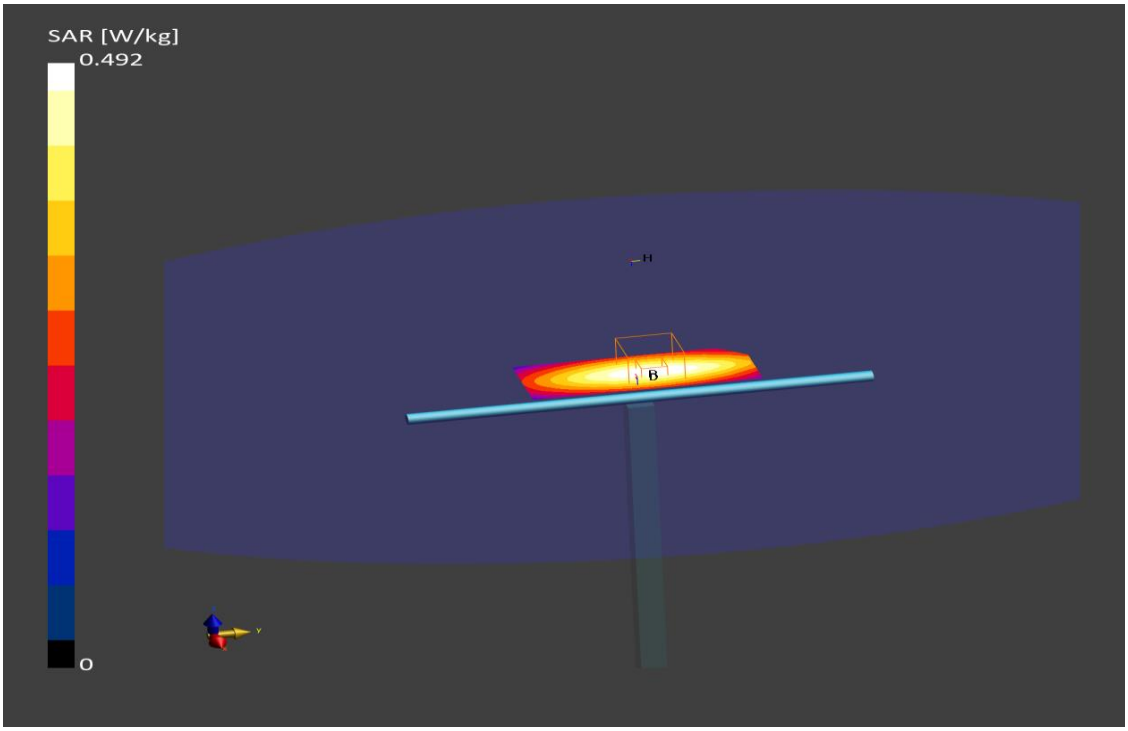
Date/Time: 2024-11-21, 09:53 2024-11-21, 10:02

SystemPerformanceCheck-D750

DUT: Dipole; Type: D750V3; Serial: SN1041
Communication System: CW; Communication System Frequency: 750.0 MHz
Medium parameters used: f = 750.0 MHz, σ = 0.887 S/m; ε_r=41.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(8.44, 8.71, 9.08); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.412 W/kg; SAR(10 g) = 0.275 W/kg

HBBL-600-10000/750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = -0.08 dB
SAR(1 g) = 0.415 W/kg; SAR(10 g) = 0.273 W/kg



Additional information:
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

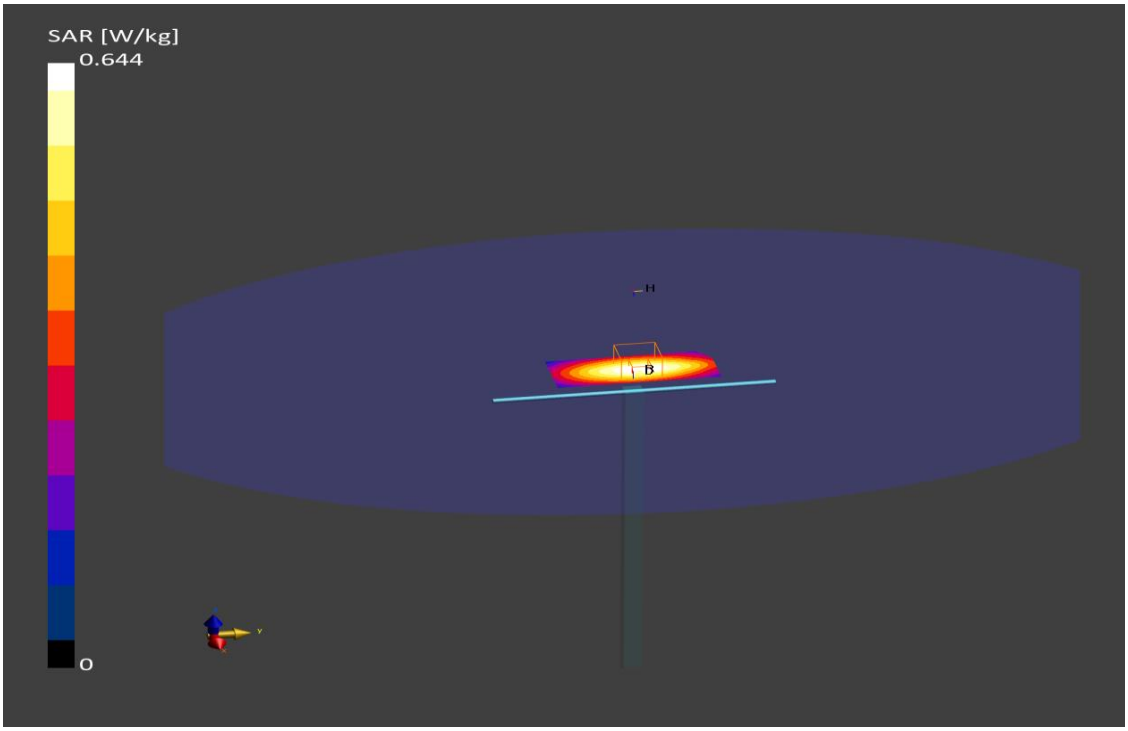
Date/Time: 2024-11-22, 12:12 2024-11-22, 12:19

SystemPerformanceCheck-D900

DUT: Dipole; Type: D900V2; Serial: SN102
Communication System: CW; Communication System Frequency: 900.0 MHz
Medium parameters used: f = 900.0 MHz, σ = 0.935 S/m; ε_r=41.5; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(8.07, 8.33, 8.68); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.538 W/kg; SAR(10 g) = 0.348 W/kg

HBBL-600-10000/900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = 0.04 dB
SAR(1 g) = 0.536 W/kg; SAR(10 g) = 0.350 W/kg



Additional information:
ambient temperature: 21.3°C; liquid temperature: 21.0°C;

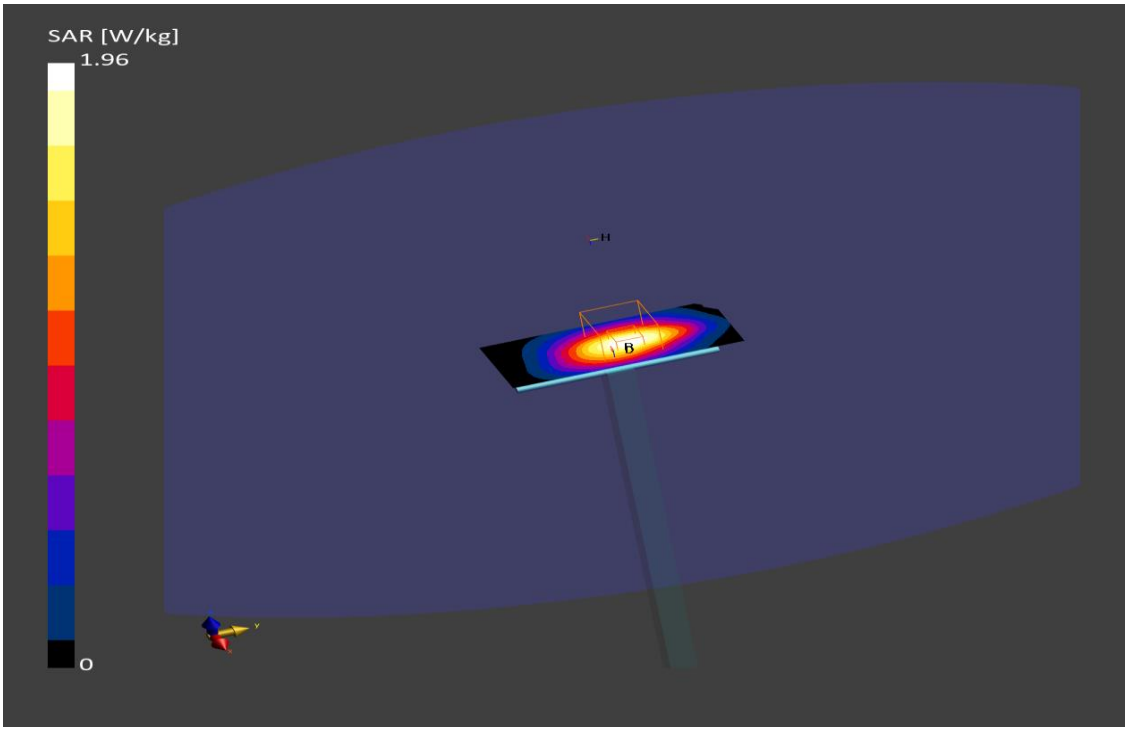
Date/Time: 2024-11-20, 10:49 2024-11-20, 10:55

SystemPerformanceCheck-D1750

DUT: Dipole; Type: D1750V2; Serial: SN1093
Communication System: CW; Communication System Frequency: 1750.0 MHz
Medium parameters used: f = 1750.0 MHz, σ = 1.35 S/m; ε_r=39.9; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.33, 7.57, 7.89); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/1750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 1.76 W/kg; SAR(10 g) = 0.940 W/kg

HBBL-600-10000/1750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = -0.08 dB
SAR(1 g) = 1.74 W/kg; SAR(10 g) = 0.927 W/kg



Additional information:
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

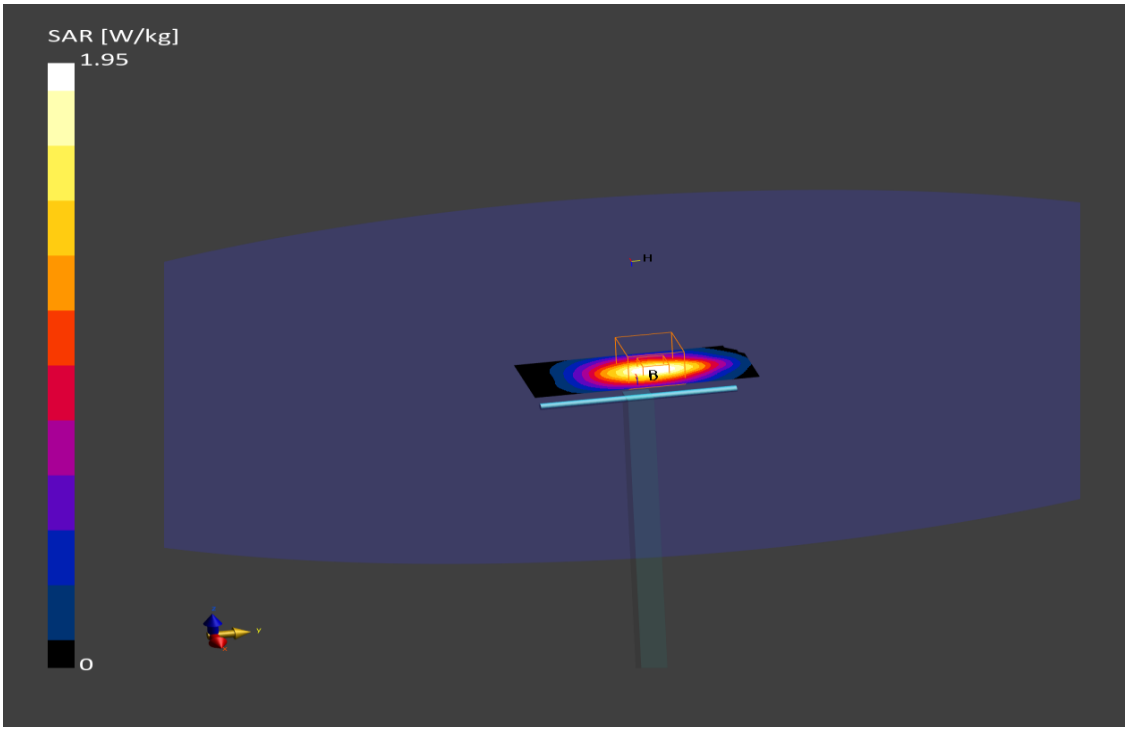
Date/Time: 2024-11-21, 09:23 2024-11-21, 09:28

SystemPerformanceCheck-D1750

DUT: Dipole; Type: D1750V2; Serial: SN1093
Communication System: CW; Communication System Frequency: 1750.0 MHz
Medium parameters used: f = 1750.0 MHz, σ = 1.35 S/m; ε_r=39.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.33, 7.57, 7.89); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/1750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 1.74 W/kg; SAR(10 g) = 0.933 W/kg

HBBL-600-10000/1750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = 0.01 dB
SAR(1 g) = 1.70 W/kg; SAR(10 g) = 0.908 W/kg



Additional information:
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

Date/Time: 2024-11-20, 10:35 2024-11-20, 10:40

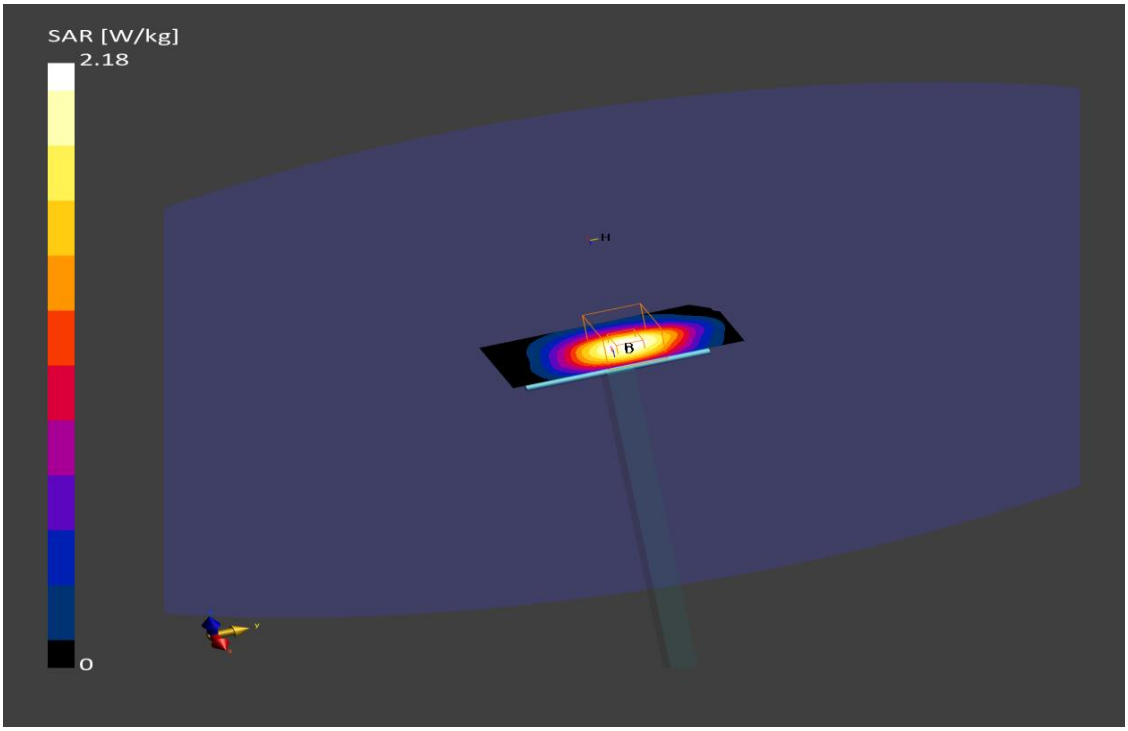
SystemPerformanceCheck-D1900

DUT: Dipole; Type: D1900V2; Serial: SN5d009

Communication System: CW; Communication System Frequency: 1900.0 MHz
Medium parameters used: f = 1900.0 MHz, σ = 1.44 S/m; ε_r=39.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.86, 7.08, 7.38); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/1900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 2.00 W/kg; SAR(10 g) = 1.07 W/kg

HBBL-600-10000/1900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = -0.07 dB
SAR(1 g) = 2.02 W/kg; SAR(10 g) = 1.06 W/kg



Additional information:
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

Date/Time: 2024-11-21, 09:38 2024-11-21, 09:45

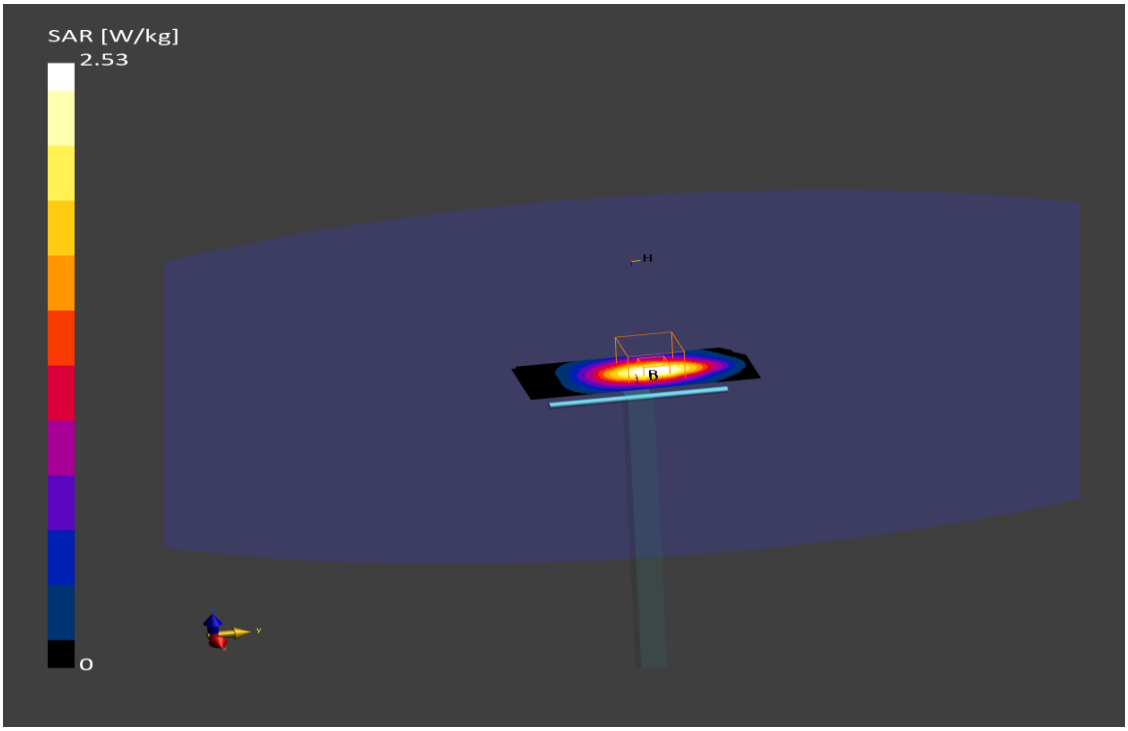
SystemPerformanceCheck-D1900

DUT: Dipole; Type: D1900V2; Serial: SN5d009

Communication System: CW; Communication System Frequency: 1900.0 MHz
Medium parameters used: f = 1900.0 MHz, σ = 1.44 S/m; ε_r=39.5; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.86, 7.08, 7.38); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/1900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :
Grid Extents [mm]: 40.0 x 90.0
Maximum value of SAR (interpolated) - SAR(1 g) = 1.96 W/kg; SAR(10 g) = 1.02 W/kg

HBBL-600-10000/1900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 17.0 dBm
Power Drift = 0.02 dB
SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.04 W/kg



Additional information:
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

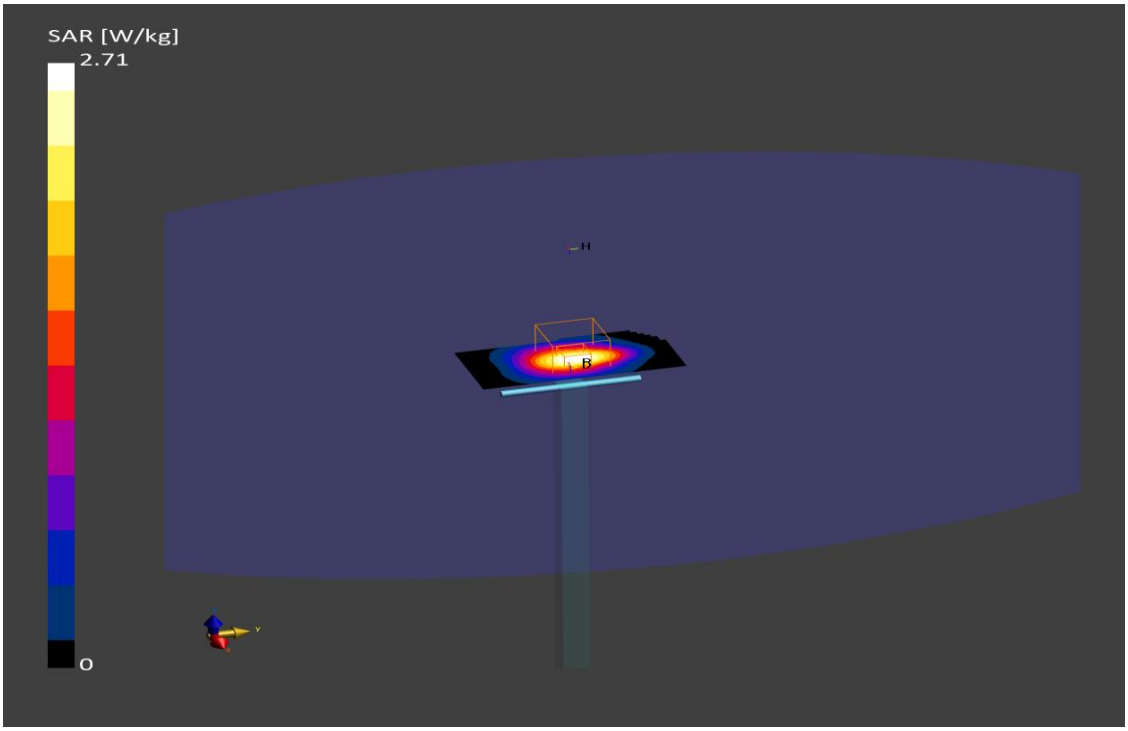
Date/Time: 2025-03-27, 15:02 2025-03-27, 15:08

SystemPerformanceCheck-D2450

DUT: Dipole; Type: D2450V2; Serial: SN710
Communication System: CW; Communication System Frequency: 2450.0 MHz
Medium parameters used: f = 2450.0 MHz, σ = 1.86 S/m; ε_r=38.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(7.33, 7.85, 7.49); Calibrated: 2024-05-21
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/2450.0MHz/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 40.0 x 80.0
Maximum value of SAR (interpolated) - SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.12 W/kg

HBBL-600-10000/2450.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPCPower = 17.0 dBm
Power Drift = -0.08 dB
SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.11 W/kg



Additional information:
ambient temperature: 22.6°C; liquid temperature: 21.7°C;

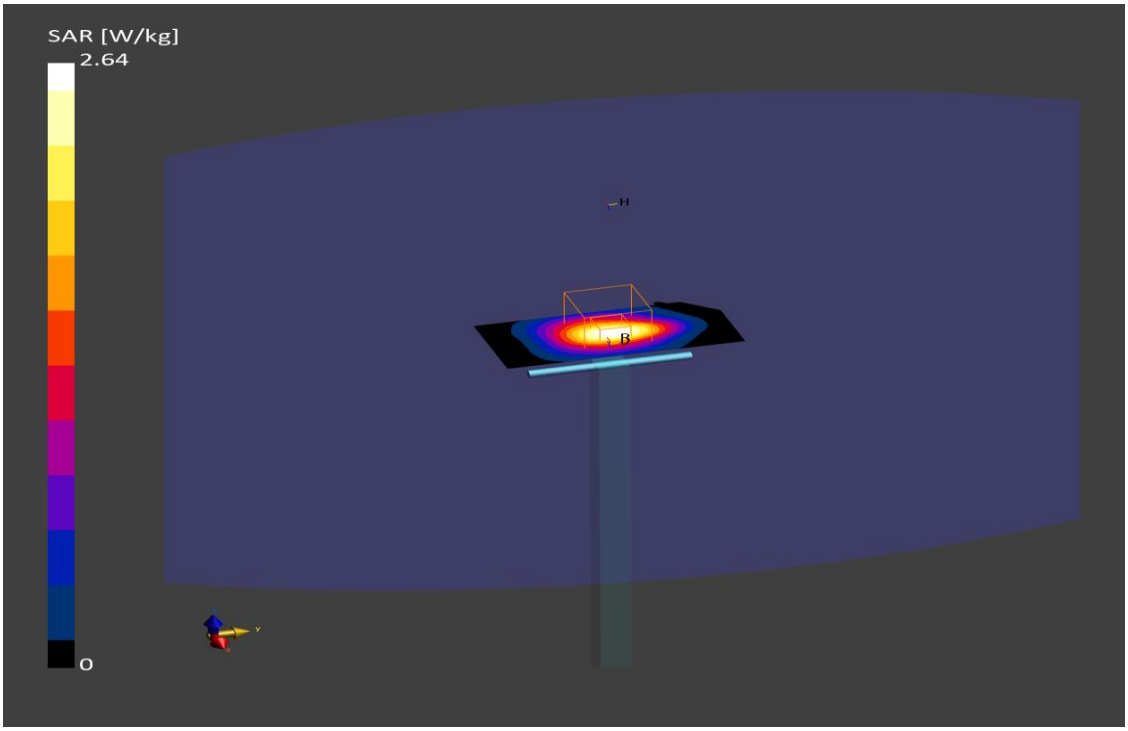
Date/Time: 2025-04-01, 16:25 2025-04-01, 16:31

SystemPerformanceCheck-D2450

DUT: Dipole; Type: D2450V2; Serial: SN710
Communication System: CW; Communication System Frequency: 2450.0 MHz
Medium parameters used: f = 2450.0 MHz, σ = 1.86 S/m; ε_r=38.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(7.33, 7.85, 7.49); Calibrated: 2024-05-21
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/2450.0MHz/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 40.0 x 80.0
Maximum value of SAR (interpolated) - SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.12 W/kg

HBBL-600-10000/2450.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPCPower = 17.0 dBm
Power Drift = 0.09 dB
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.12 W/kg



Additional information:
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

Date/Time: 2024-11-25, 09:54 2024-11-25, 10:01

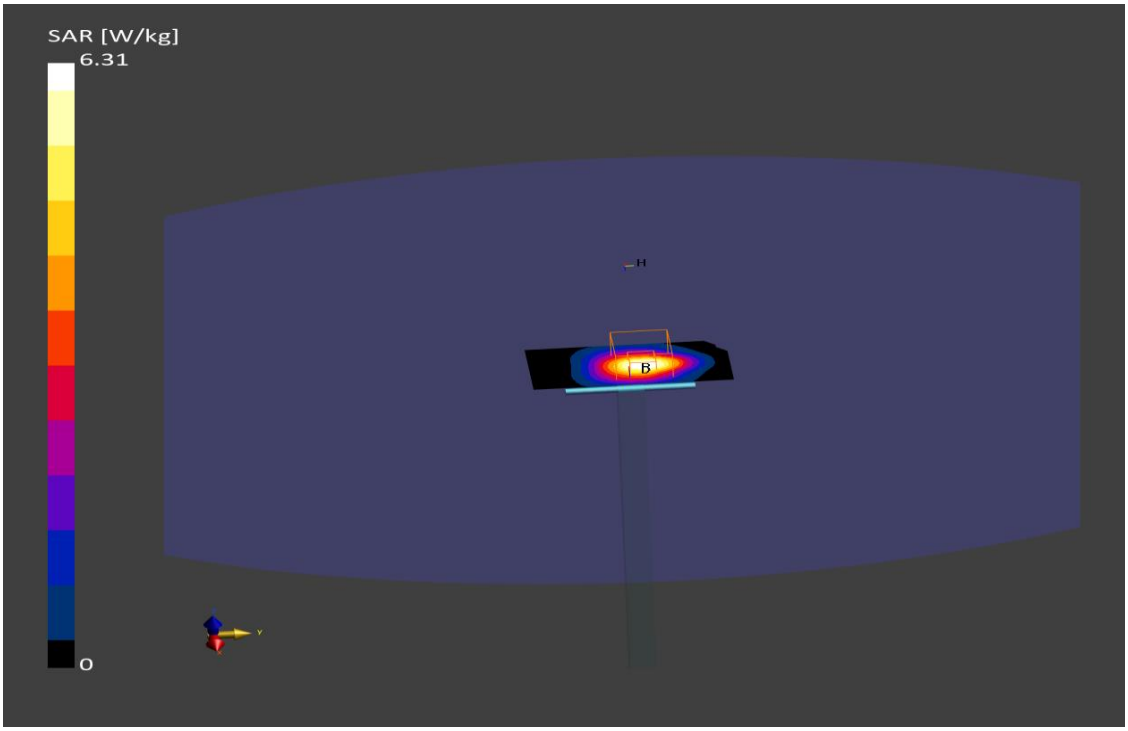
SystemPerformanceCheck-D2600

DUT: Dipole; Type: D2600V2; Serial: SN1040

Communication System: CW; Communication System Frequency: 2600.0 MHz
Medium parameters used: f = 2600.0 MHz, σ = 1.94 S/m; ε_r=39.3; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.55, 6.76, 7.04); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/2600.0MHz/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 40.0 x 80.0
Maximum value of SAR (interpolated) - SAR(1 g) = 5.60 W/kg; SAR(10 g) = 2.53 W/kg

HBBL-600-10000/2600.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 20.0 dBm
Power Drift = -0.03 dB
SAR(1 g) = 5.54 W/kg; SAR(10 g) = 2.50 W/kg



Additional information:
ambient temperature: 21.9°C; liquid temperature: 21.7°C;

Date/Time: 2024-11-26, 10:07 2024-11-26, 10:14

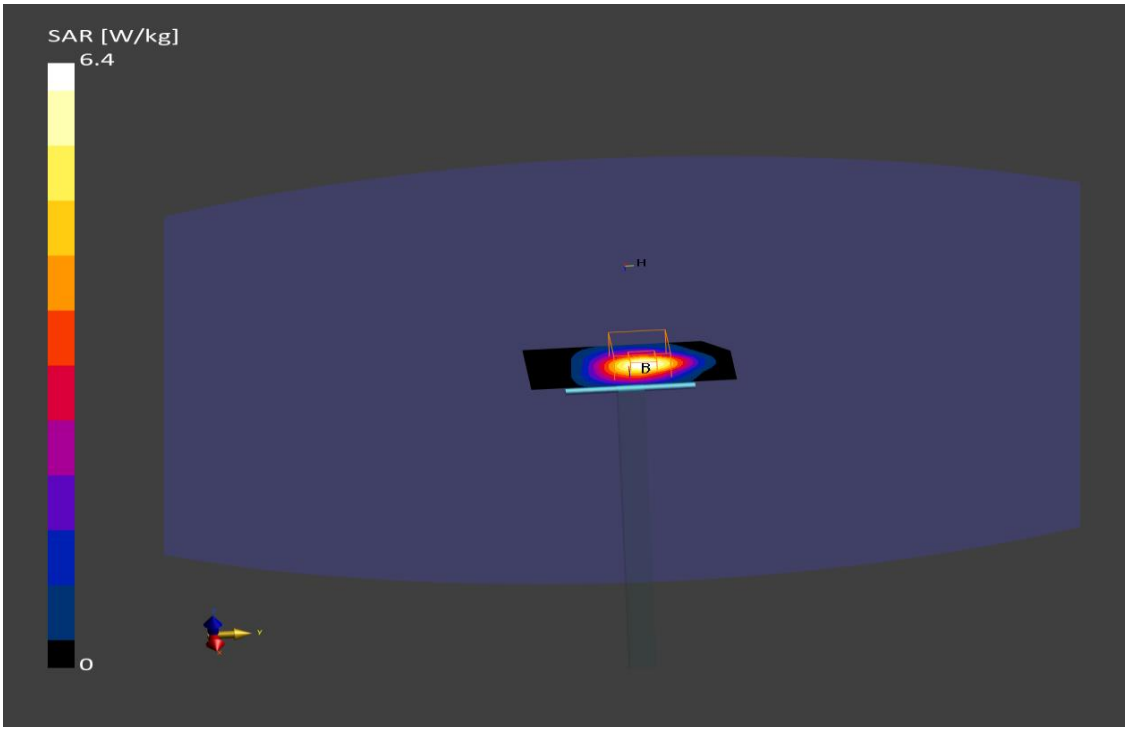
SystemPerformanceCheck-D2600

DUT: Dipole; Type: D2600V2; Serial: SN1040

Communication System: CW; Communication System Frequency: 2600.0 MHz
Medium parameters used: f = 2600.0 MHz, σ = 1.94 S/m; ε_r=39.3; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.55, 6.76, 7.04); Calibrated: 2024-11-13
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/2600.0MHz/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 40.0 x 80.0
Maximum value of SAR (interpolated) - SAR(1 g) = 5.60 W/kg; SAR(10 g) = 2.53 W/kg

HBBL-600-10000/2600.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
SPC Power = 20.0 dBm
Power Drift = -0.03 dB
SAR(1 g) = 5.56 W/kg; SAR(10 g) = 2.51 W/kg



Additional information:
ambient temperature: 21.6°C; liquid temperature: 21.4°C;

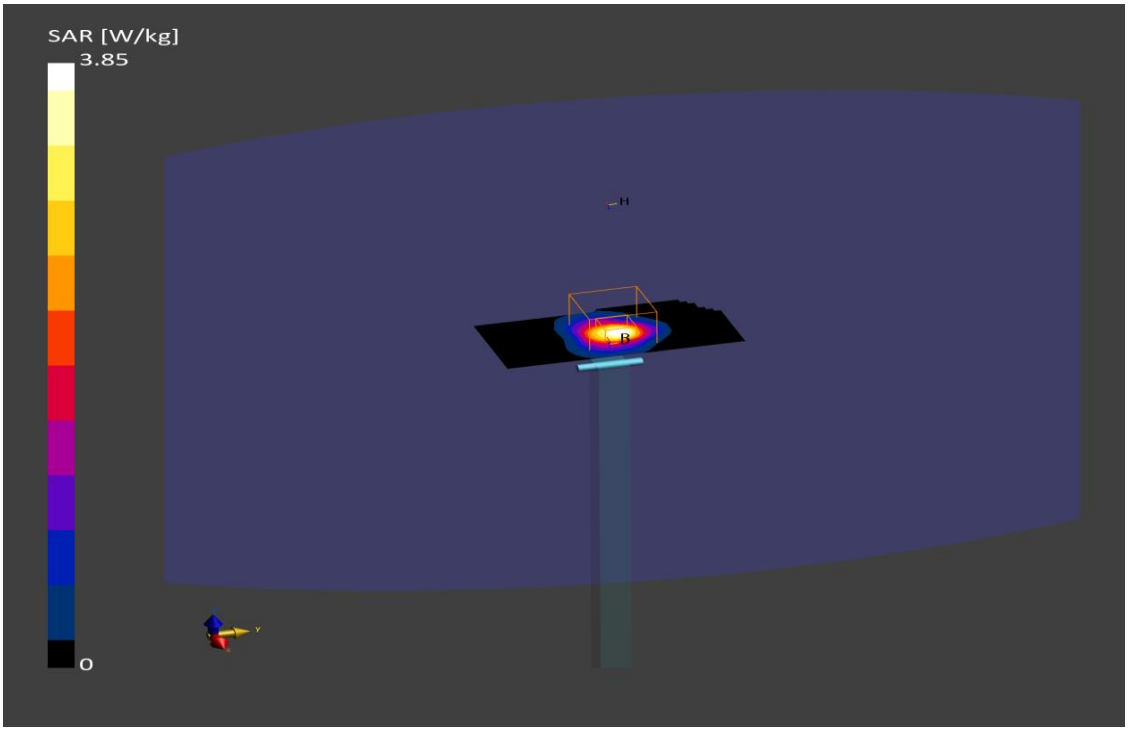
Date/Time: 2025-03-27, 15:16 2025-03-27, 15:27

SystemPerformanceCheck-D5GHz

DUT: Dipole; Type: D5GHzV2; Serial: SN1055
Communication System: CW; Communication System Frequency: 5200.0 MHz
Medium parameters used: f = 5200.0 MHz, σ = 4.47 S/m; ε_r=33.8; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(5.34, 5.65, 5.36); Calibrated: 2024-05-21
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/5200.0MHz/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 40.0 x 80.0
Maximum value of SAR (interpolated) - SAR(1 g) = 3.46 W/kg; SAR(10 g) = 0.992 W/kg

HBBL-600-10000/5200.0MHz/Zoom Scan (4.0 x 4.0 x 1.4) :
Grid Extents [mm]: 22.0 x 22.0 x 22.0
SPCPower = 17.0 dBm
Power Drift = -0.06 dB
SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.06 W/kg



Additional information:
ambient temperature: 22.6°C; liquid temperature: 21.7°C;

Annex B: DASY measurement results

SAR plots for **the highest measured SAR** in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

Annex B.1: SAR results WWAN

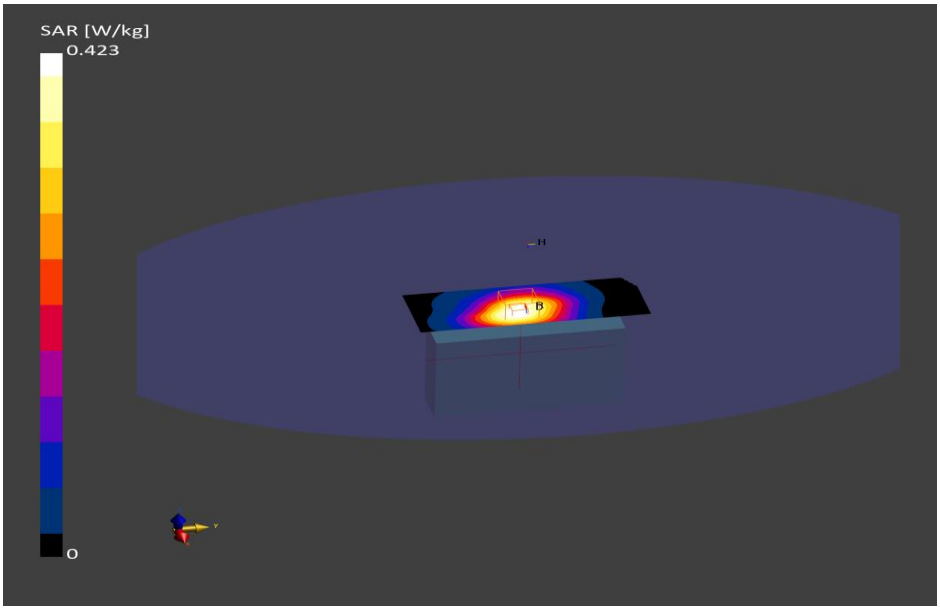
Date/Time: 2024-11-21, 10:58 2024-11-21, 11:03

UMTS FDD II

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: UMTS-FDD (WCDMA); Communication System Band: Band 2; Communication System Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz, σ = 1.41 S/m; ε_r=39.5; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.86, 7.08, 7.38); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 9262/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.391 W/kg; SAR(10 g) = 0.237 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 9262/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.13 dB
SAR(1 g) = 0.409 W/kg; SAR(10 g) = 0.252 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 17.9
M2/M1 [%]: 85.3



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

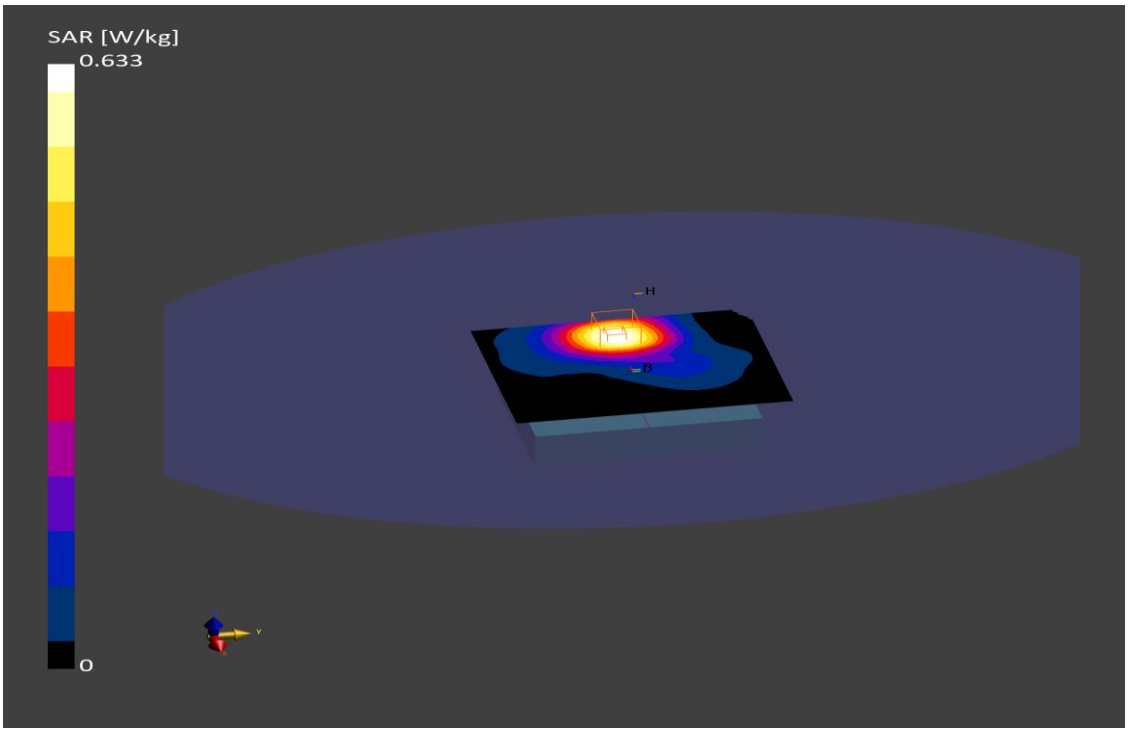
Date/Time: 2024-11-21, 11:50 2024-11-21, 11:55

UMTS FDD IV

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: UMTS-FDD (WCDMA); Communication System Band: Band 4; Communication System Frequency: 1732.6 MHz
Medium parameters used: f = 1732.6 MHz, σ = 1.34 S/m; ε_r=39.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.33, 7.57, 7.89); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/FRONT, 20 mm - Channel 1413/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.583 W/kg; SAR(10 g) = 0.354 W/kg

HBBL-600-10000/FRONT, 20 mm - Channel 1413/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = -0.05 dB
SAR(1 g) = 0.628 W/kg; SAR(10 g) = 0.385 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 19.0
M2/M1 [%]: 85.1



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

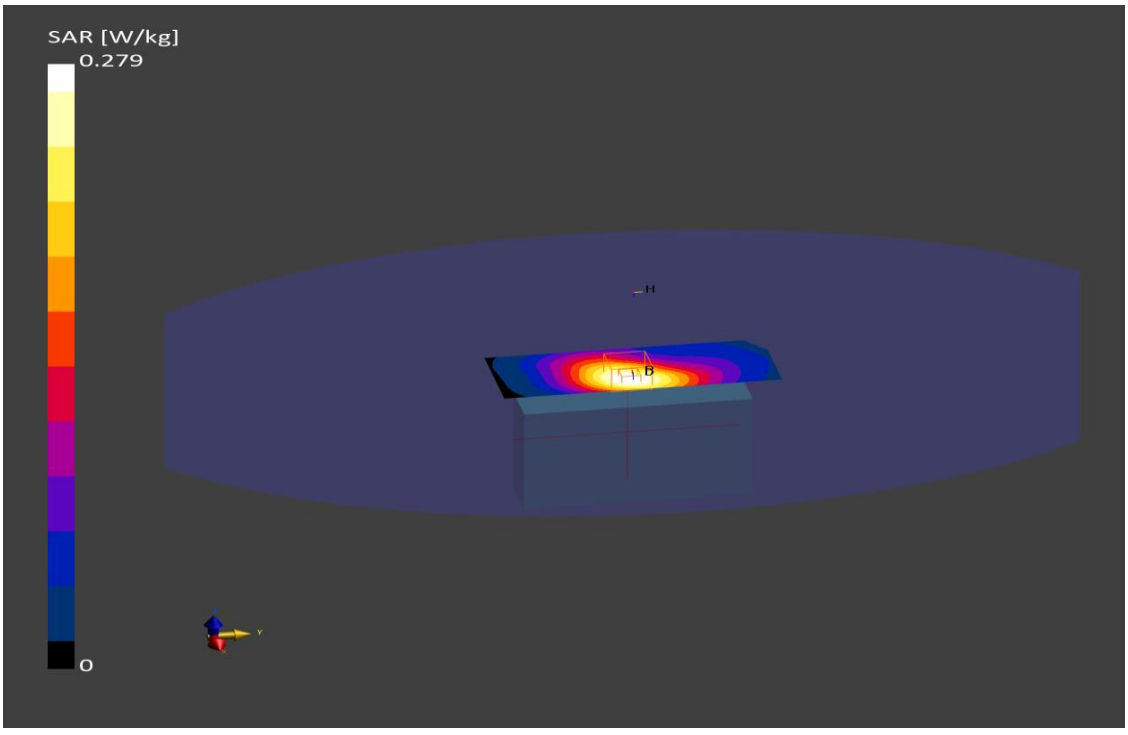
Date/Time: 2024-11-22, 08:48 2024-11-22, 08:53

UMTS FDD V

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: UMTS-FDD (WCDMA); Communication System Band: Band 5; Communication System Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz, σ = 0.910 S/m; ε_r=41.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.99, 8.25, 8.59); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 4132/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.172 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 4132/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.05 dB
SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.180 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 19.7
M2/M1 [%]: 85.5



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.3°C; liquid temperature: 21.0°C;

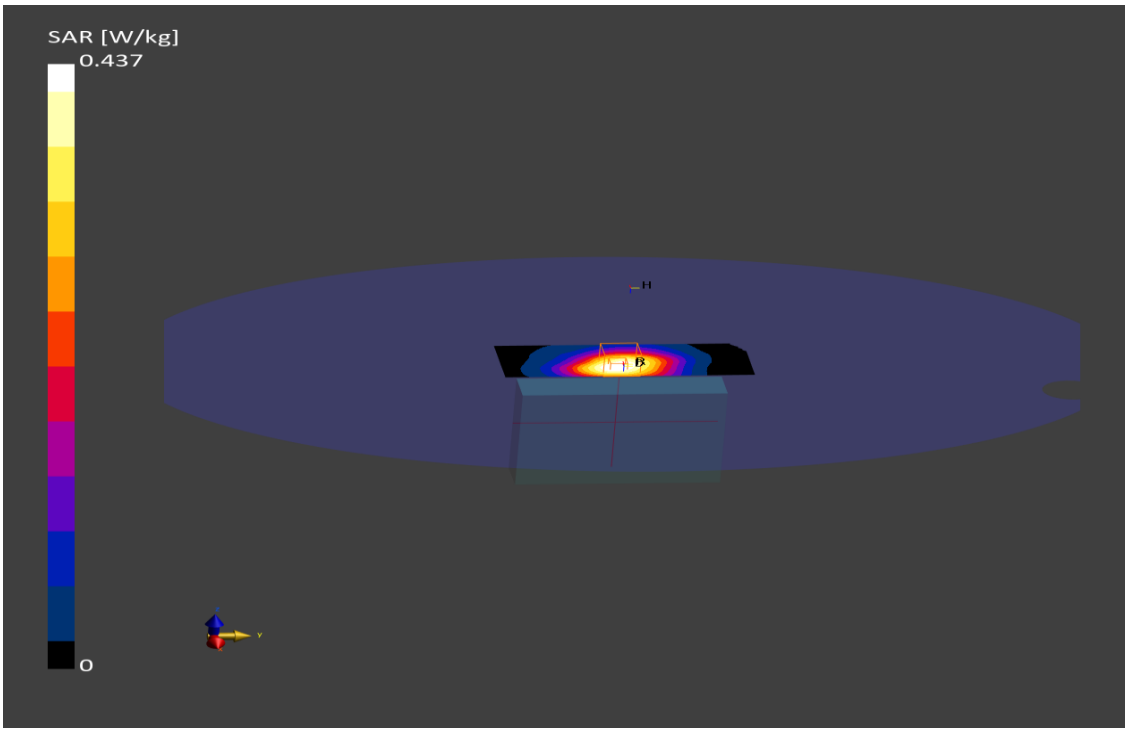
Date/Time: 2024-11-20, 14:05 2024-11-20, 14:10

LTE FDD 2

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Low AntennaCfg:SISO;
Communication System Band: Band 2; Communication System Frequency: 1860.0 MHz
Medium parameters used: f = 1860.0 MHz, σ = 1.42 S/m; ε_r=39.8; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.86, 7.08, 7.38); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 18700/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.406 W/kg; SAR(10 g) = 0.245 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 18700/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.03 dB
SAR(1 g) = 0.423 W/kg; SAR(10 g) = 0.263 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 17.9
M2/M1 [%]: 85.3



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

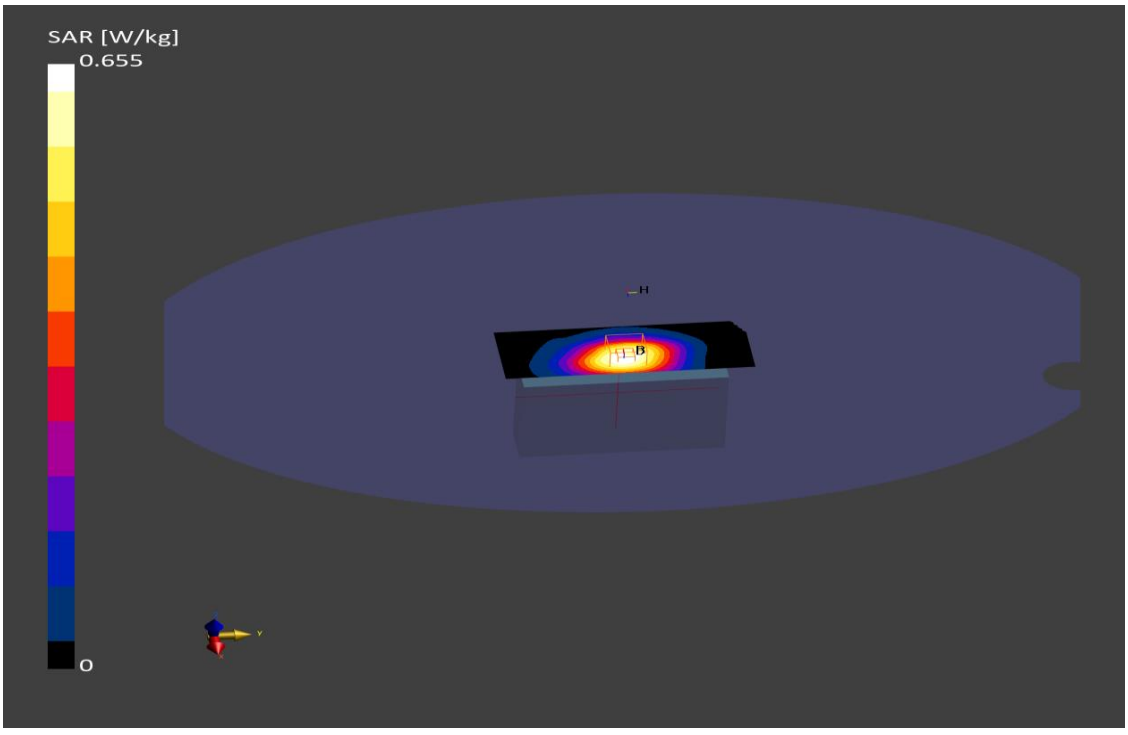
Date/Time: 2024-11-20, 11:40 2024-11-20, 11:45

LTE FDD 4

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) RBPosition:High AntennaCfg:SISO;
Communication System Band: Band 4; Communication System Frequency: 1717.5 MHz
Medium parameters used: f = 1717.5 MHz, σ = 1.33 S/m; ε_r=39.9; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.33, 7.57, 7.89); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20025/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.609 W/kg; SAR(10 g) = 0.370 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20025/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = -0.13 dB
SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.396 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 16.4
M2/M1 [%]: 85.2



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

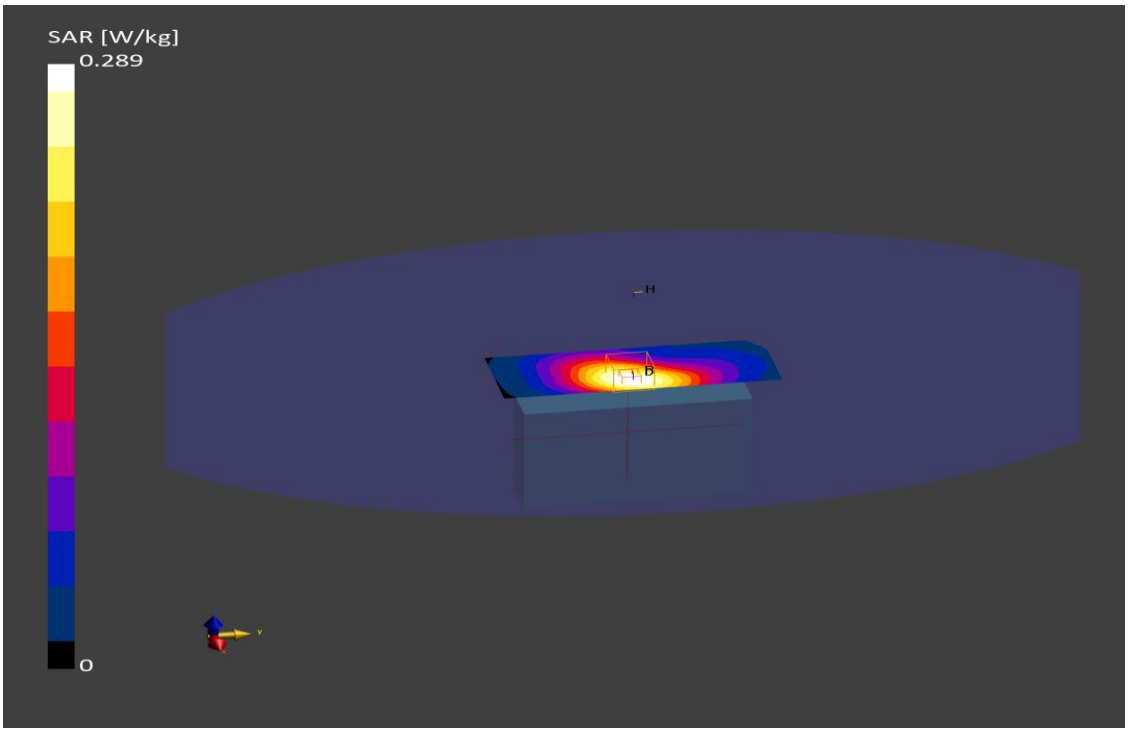
Date/Time: 2024-11-22, 10:44 2024-11-22, 10:49

LTE FDD 5

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:High AntennaCfg:SISO;
Communication System Band: Band 5; Communication System Frequency: 836.5 MHz
Medium parameters used: f = 836.5 MHz, σ = 0.913 S/m; ε_r=41.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.99, 8.25, 8.59); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20525/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.178 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20525/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.01 dB
SAR(1 g) = 0.273 W/kg; SAR(10 g) = 0.185 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 20.7
M2/M1 [%]: 86.0



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.3°C; liquid temperature: 21.0°C;

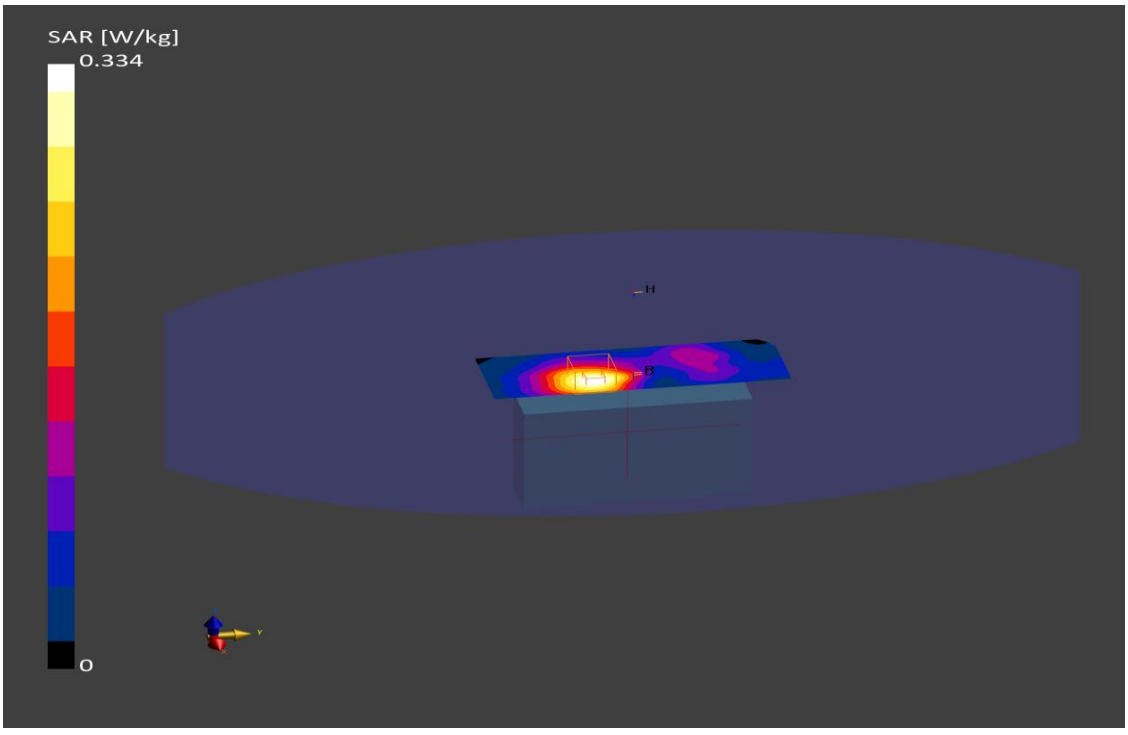
Date/Time: 2024-11-25, 14:36 2024-11-25, 14:43

LTE FDD 7

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 7; Communication System Frequency: 2510.0 MHz
Medium parameters used: f = 2510.0 MHz, σ = 1.87 S/m; ε_r=39.5; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.55, 6.76, 7.04); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20850/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.165 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 20850/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.10 dB
SAR(1 g) = 0.303 W/kg; SAR(10 g) = 0.169 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 18.4
M2/M1 [%]: 81.9



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.9°C; liquid temperature: 21.7°C;

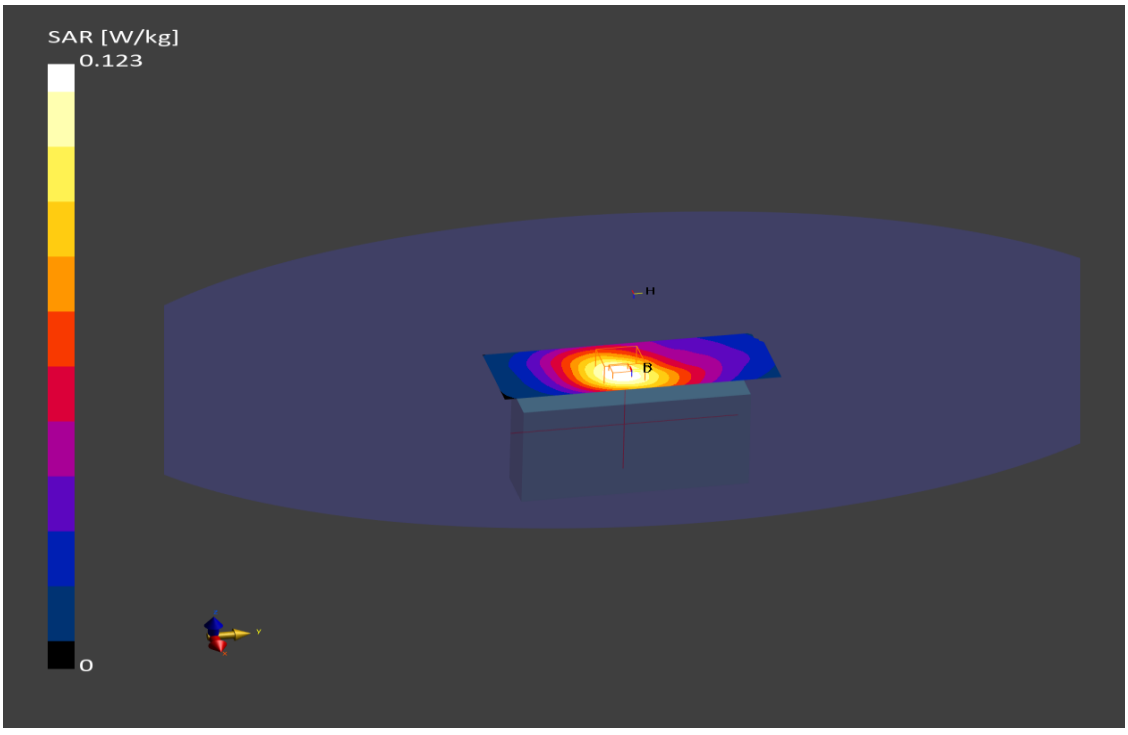
Date/Time: 2024-11-21, 13:41 2024-11-21, 13:46

LTE FDD 12

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 12; Communication System Frequency: 711.0 MHz
Medium parameters used: f = 711.0 MHz, σ = 0.876 S/m; ε_r=41.8; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(8.44, 8.71, 9.08); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23130/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.076 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23130/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.15 dB
SAR(1 g) = 0.113 W/kg; SAR(10 g) = 0.075 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 20.4
M2/M1 [%]: 86.0



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

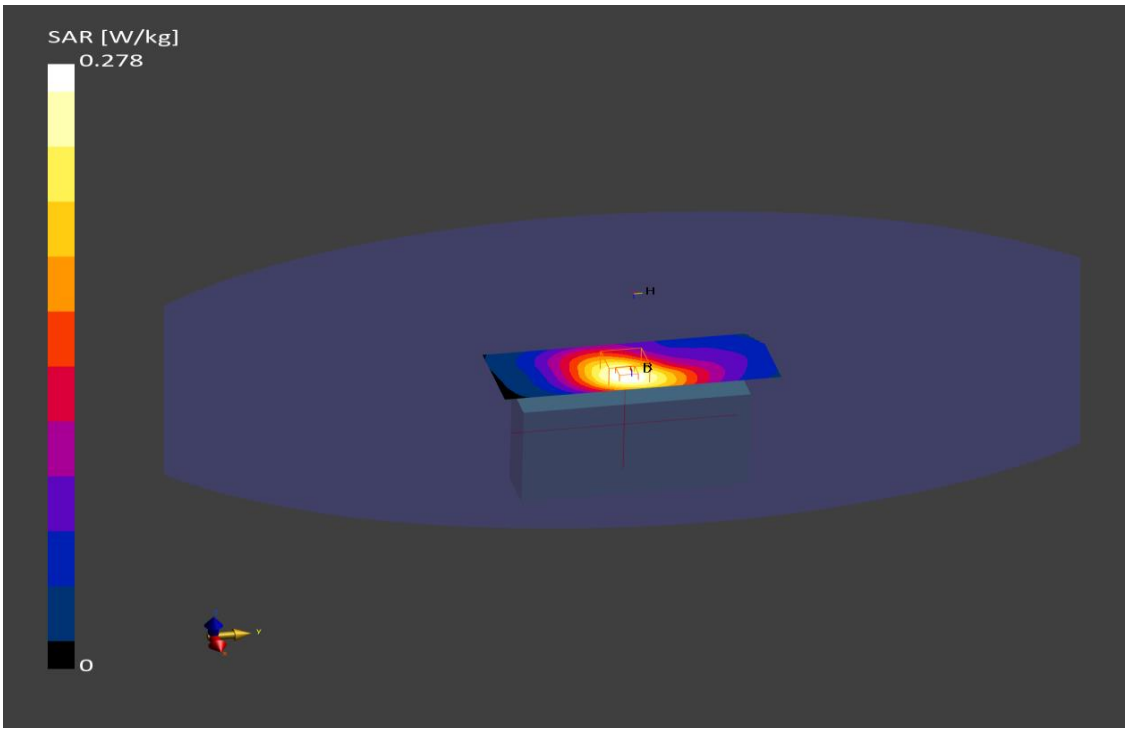
Date/Time: 2024-11-21, 14:44 2024-11-21, 14:49

LTE FDD 13

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 13; Communication System Frequency: 784.5 MHz
Medium parameters used: f = 784.5 MHz, σ = 0.897 S/m; ε_r=41.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(8.44, 8.71, 9.08); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23255/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.172 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23255/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.07 dB
SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.178 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 19.7
M2/M1 [%]: 85.0



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.1°C; liquid temperature: 20.9°C;

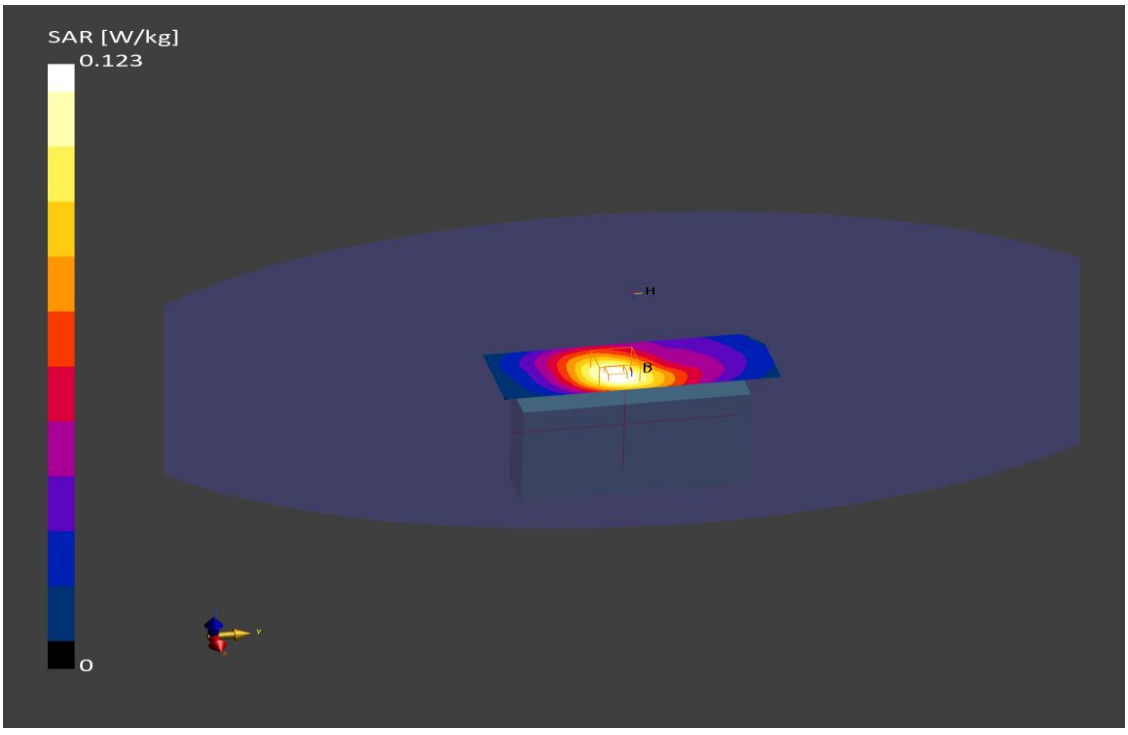
Date/Time: 2024-11-21, 16:42 2024-11-21, 16:47

LTE FDD 17

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:High AntennaCfg:SISO;
Communication System Band: Band 17; Communication System Frequency: 710.0 MHz
Medium parameters used: f = 710.0 MHz, σ = 0.876 S/m; ε_r=41.8; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(8.44, 8.71, 9.08); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23790/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.076 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 23790/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.03 dB
SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.077 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 20.7
M2/M1 [%]: 85.3



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

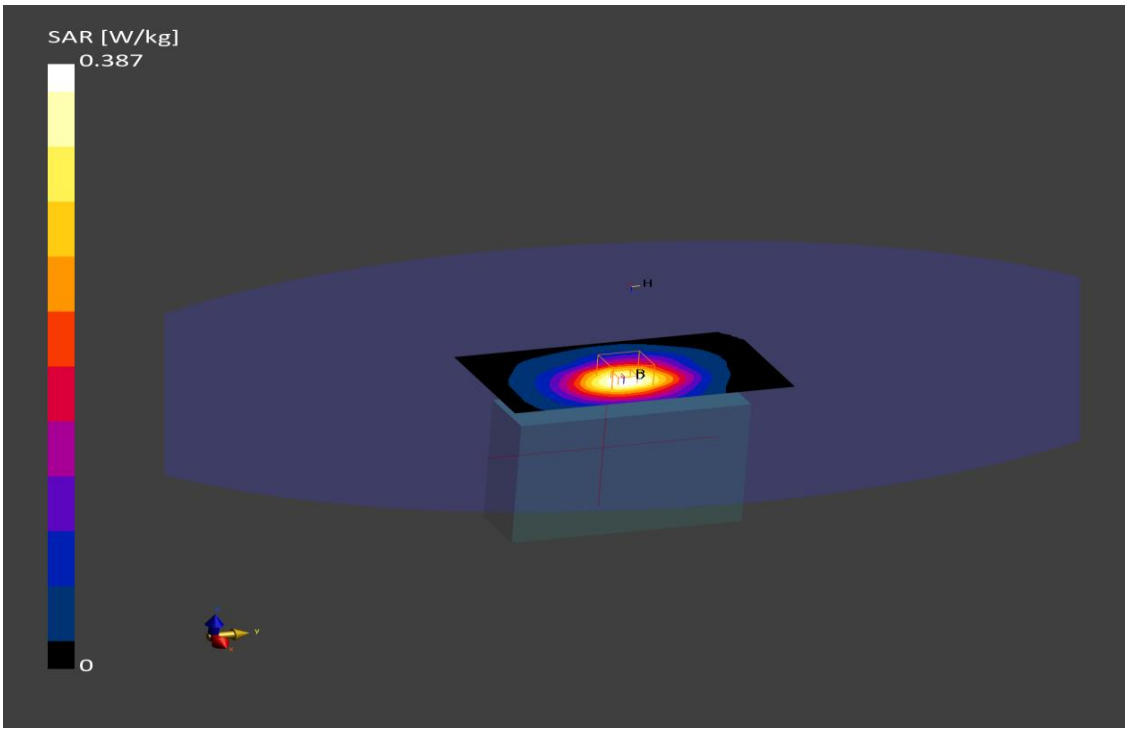
Date/Time: 2024-11-20, 18:30 2024-11-20, 18:35

LTE FDD 25

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 25; Communication System Frequency: 1860.0 MHz
Medium parameters used: f = 1860.0 MHz, σ = 1.42 S/m; ε_r=39.8; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.86, 7.08, 7.38); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 26140/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.351 W/kg; SAR(10 g) = 0.211 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 26140/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.12 dB
SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.229 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 17.9
M2/M1 [%]: 85.0



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

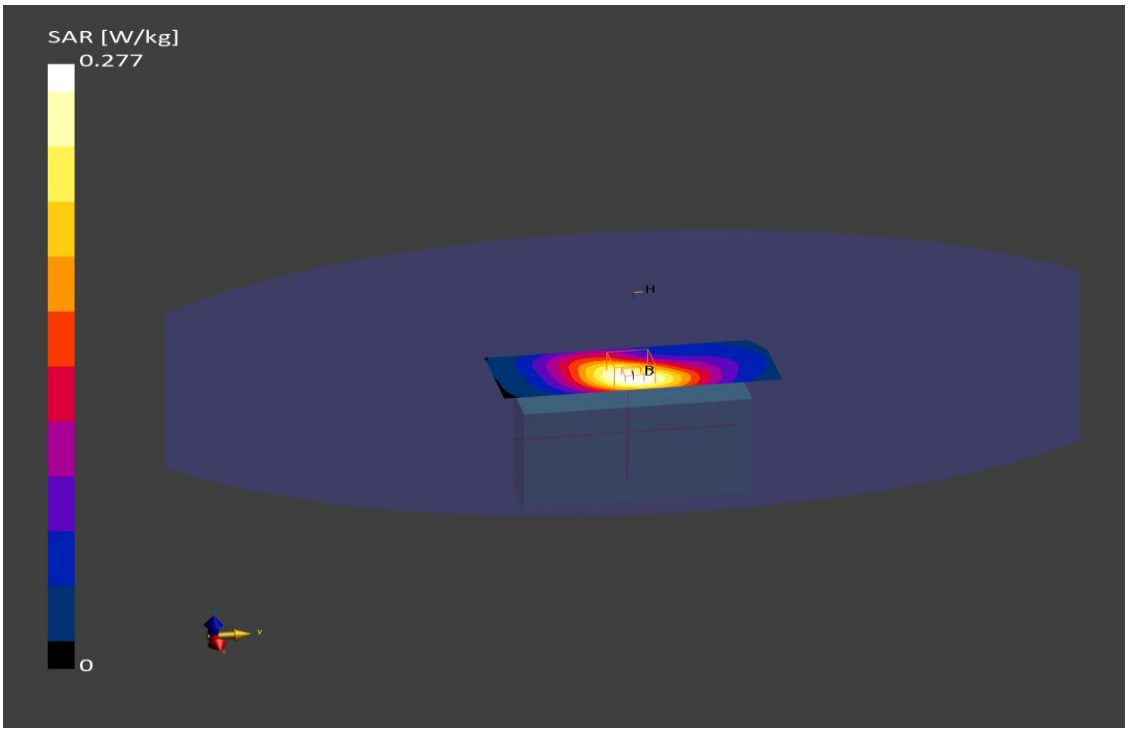
Date/Time: 2024-11-22, 10:55 2024-11-22, 11:01

LTE FDD 26

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 26; Communication System Frequency: 841.5 MHz
Medium parameters used: f = 841.5 MHz, σ = 0.915 S/m; ε_r=41.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.99, 8.25, 8.59); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 26965/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.174 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 26965/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.18 dB
SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.188 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 19.9
M2/M1 [%]: 86.4



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.3°C; liquid temperature: 21.0°C;

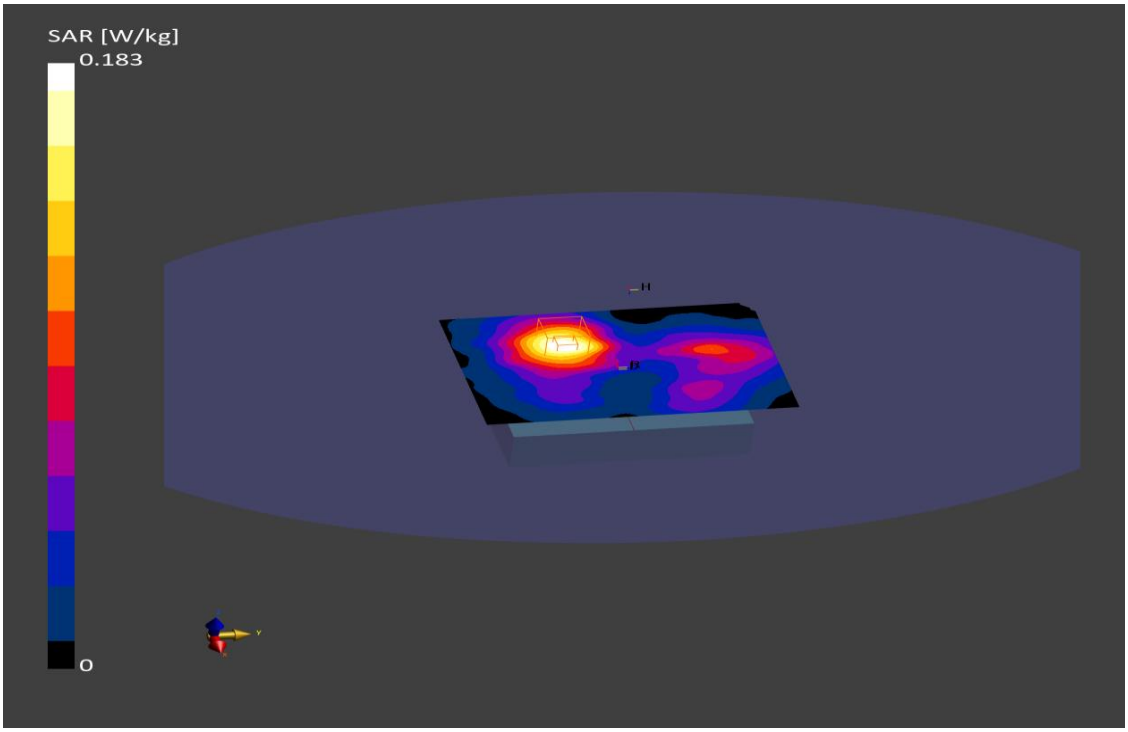
Date/Time: 2024-11-26, 08:02 2024-11-26, 08:08

LTE TDD 41

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)
RBPosition:Low AntennaCfg:SISO; Communication System Band: Band 41; Communication System Frequency: 2593.0 MHz
Medium parameters used: f = 2593.0 MHz, σ = 1.93 S/m; ε_r=39.3; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(6.55, 6.76, 7.04); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/FRONT, 20 mm - Channel 40620/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.090 W/kg

HBBL-600-10000/FRONT, 20 mm - Channel 40620/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = -0.06 dB
SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.091 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 19.3
M2/M1 [%]: 81.8



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 21.6°C; liquid temperature: 21.4°C;

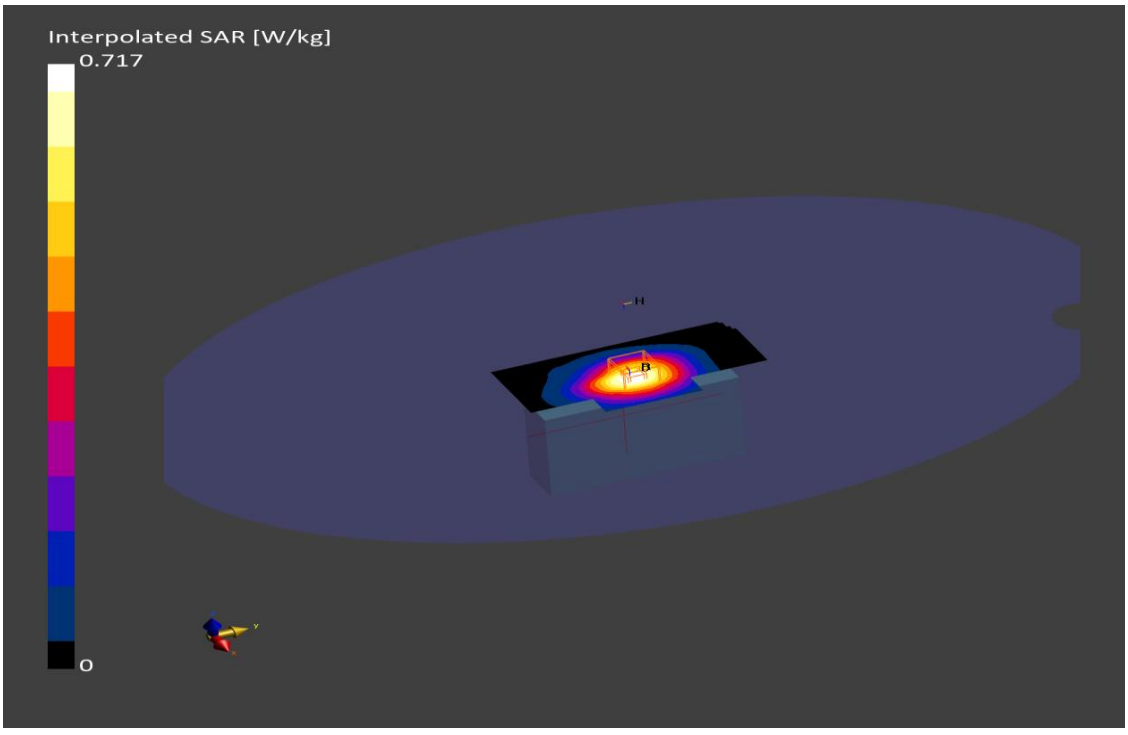
Date/Time: 2024-11-20, 15:23 2024-11-20, 15:28

LTE FDD 66

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24312110001000000
Communication System: LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO;
Communication System Band: Band 66; Communication System Frequency: 1720.0 MHz
Medium parameters used: f = 1720.0 MHz, σ = 1.34 S/m; ε_r=39.9; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN7852; ConvF(7.33, 7.57, 7.89); Calibrated: 2024-11-13
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2024-11-06
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 132072/Area Scan (15.0 x 15.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.599 W/kg; SAR(10 g) = 0.358 W/kg

HBBL-600-10000/EDGE LEFT, 20 mm - Channel 132072/Zoom Scan (6.0 x 6.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = 0.11 dB
SAR(1 g) = 0.614 W/kg; SAR(10 g) = 0.380 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 18.8
M2/M1 [%]: 85.3



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

Annex B.2: SAR results – WLAN 2.4 & 5.2GHz

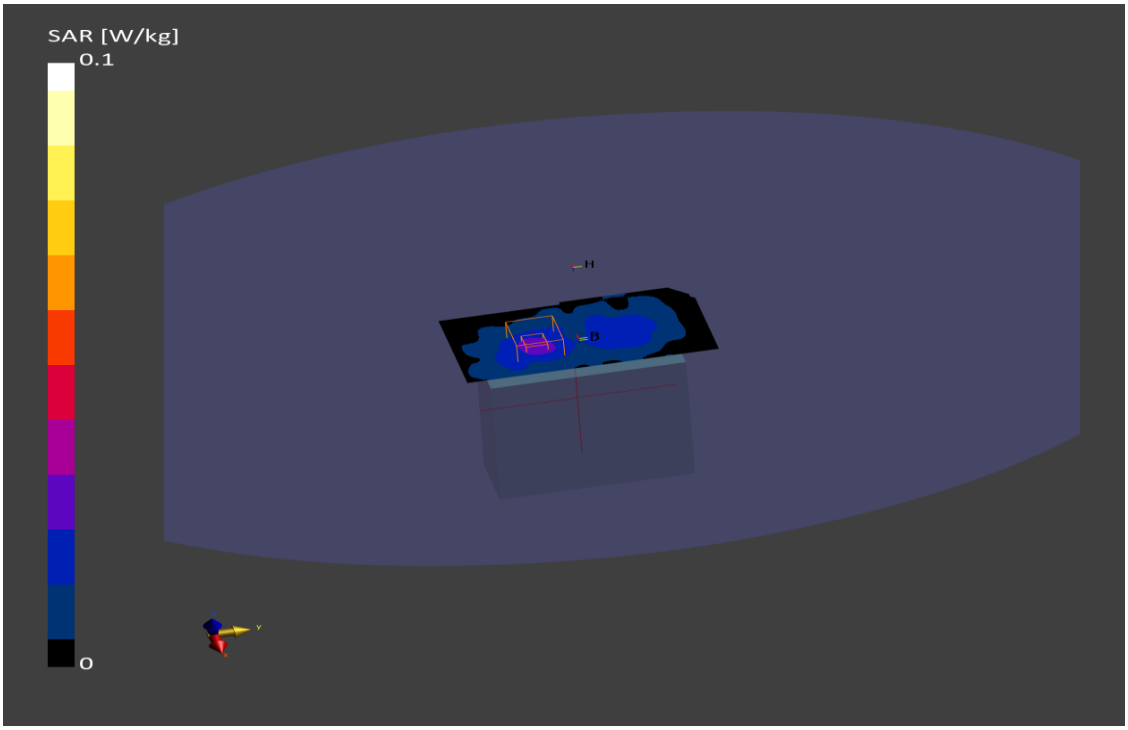
Date/Time: 2025-03-27, 12:26 2025-03-27, 12:38

WLAN 2.4 GHz

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24241640001000000
Communication System: IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle); Communication System Band: WLAN 2.4GHz; Communication System Frequency: 2437.0 MHz
Medium parameters used: f = 2437.0 MHz, σ = 1.85 S/m; ε_r=38.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(7.33, 7.85, 7.49); Calibrated: 2024-05-21
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 6/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 30.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.010 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 6/Zoom Scan (5.0 x 5.0 x 1.5) :
Grid Extents [mm]: 30.0 x 30.0 x 30.0
Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm
Power Drift = -0.05 dB
SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.013 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 17.3
M2/M1 [%]: 87.8



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C;

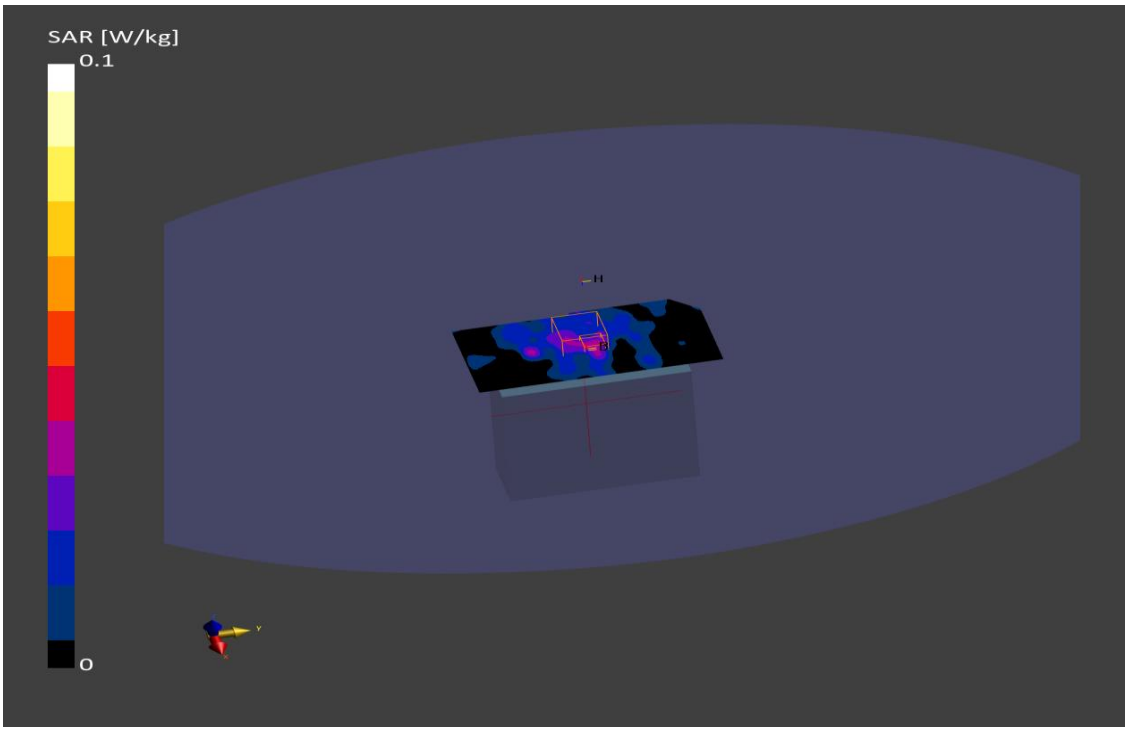
Date/Time: 2025-03-27, 13:27 2025-03-27, 13:35

WLAN 5.2 GHz

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: 24241640001000000
Communication System: IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle); Communication System Band: WLAN 5GHz; Communication System Frequency: 5220.0 MHz
Medium parameters used: f = 5220.0 MHz, σ = 4.49 S/m; ε_r=33.7; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(5.34, 5.65, 5.36); Calibrated: 2024-05-21
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 44/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 30.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.012 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 44/Zoom Scan (4.0 x 4.0 x 1.4) :
Grid Extents [mm]: 22.0 x 22.0 x 22.0
Graded Grid: Ratio 1.4 - Distance Sensor to Surface 1.4 mm
Power Drift = -0.15 dB
SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.014 W/kg
Additional Info for IEC 62209-2 AMD1:
TDist 3dB Peak [mm]: 18.2
M2/M1 [%]: 73.6



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C;

Annex B.3: SAR results – BT 2.4GHz

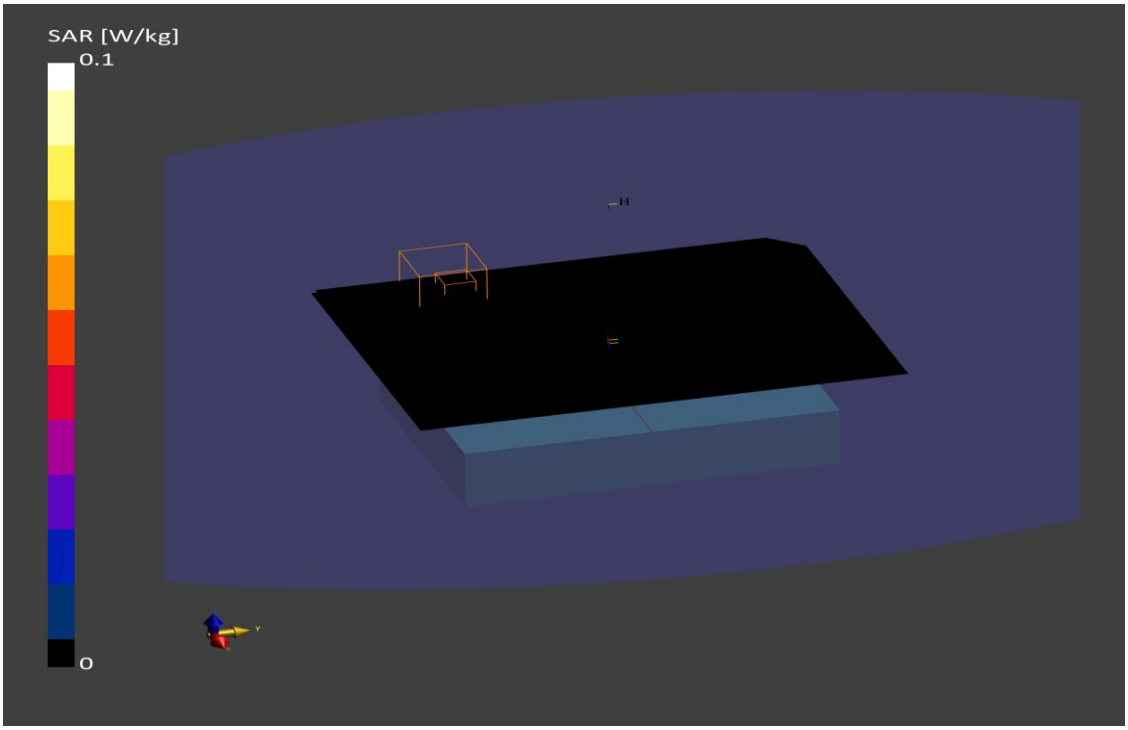
Date/Time: 2025-04-01, 15:36

BT-EDR Chip-set-SIM8918-(WCN3950)

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: AAA2426300400
Communication System: IEEE 802.15.1 Bluetooth (GFSK, DH5); Communication System Band: ISM 2.4 GHz Band; Communication System Frequency: 2441.0 MHz
Medium parameters used: f = 2441.0 MHz, σ = 1.85 S/m; ε_r=38.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(7.33, 7.85, 7.49); Calibrated: 2024-05-21
- Sensor-Surface: mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/FRONT, 20 mm - Channel 39/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0.001 W/kg; SAR(10 g) = 0 W/kg

- ZOOM SCAN NOT PERFORMED -
Measurement values close to noise floor.



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

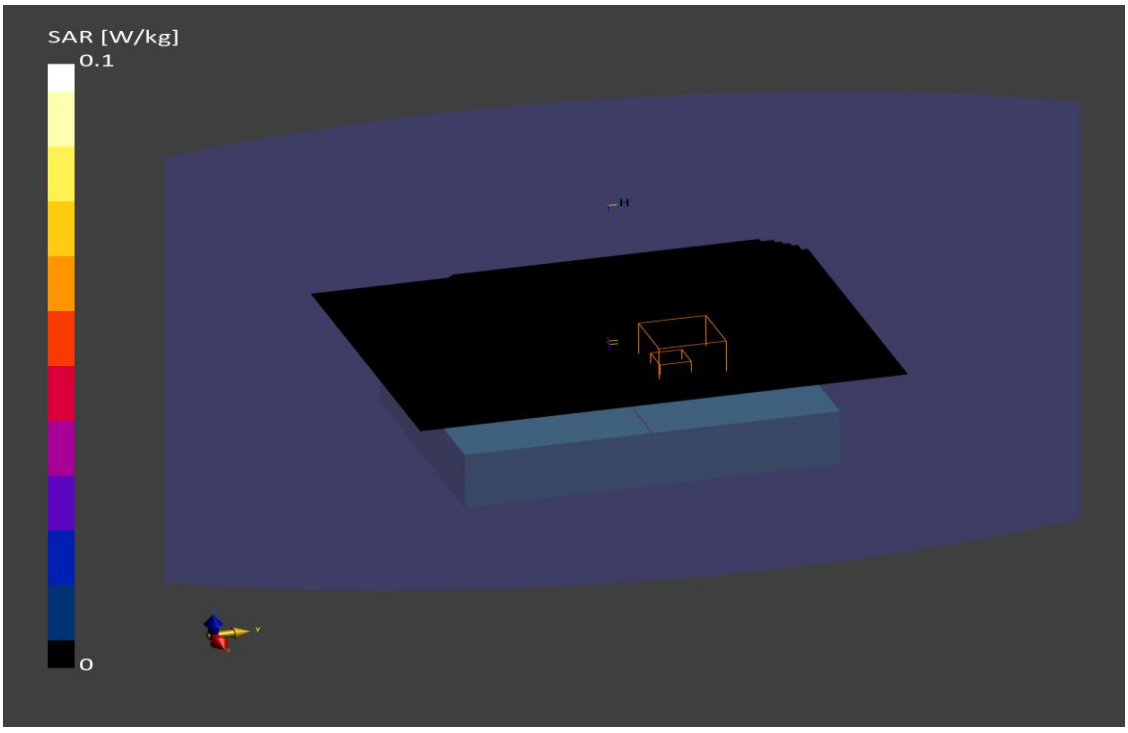
Date/Time: 2025-04-01, 15:03

BT-EDR Chip-set-AW611

DUT: Connected Infotainment Box / ConneCtivity Unit 3; Type: CIBCCU3; Serial: AAA2426300400
Communication System: IEEE 802.15.1 Bluetooth (GFSK, DH5); Communication System Band: ISM 2.4 GHz Band; Communication System Frequency: 2441.0 MHz
Medium parameters used: f = 2441.0 MHz, σ = 1.85 S/m; ε_r=38.6; ρ= 1000 kg/m3
Phantom Section: Flat
Measurement Standard: DASY 8
DASY Configuration:
- Probe: EX3DV4 - SN3944; ConvF(7.33, 7.85, 7.49); Calibrated: 2024-05-21
- Sensor-Surface: mm
- DAE: DAE4 Sn477; Calibrated: 2024-05-22
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2101;
- Software: DASY8 Module SAR V16.4.0.5005

HBBL-600-10000/FRONT, 20 mm - Channel 39/Area Scan (10.0 x 10.0 x 1.0) :
Grid Extents [mm]: 60.0 x 60.0
Maximum value of SAR (interpolated) - SAR(1 g) = 0 W/kg; SAR(10 g) = 0 W/kg

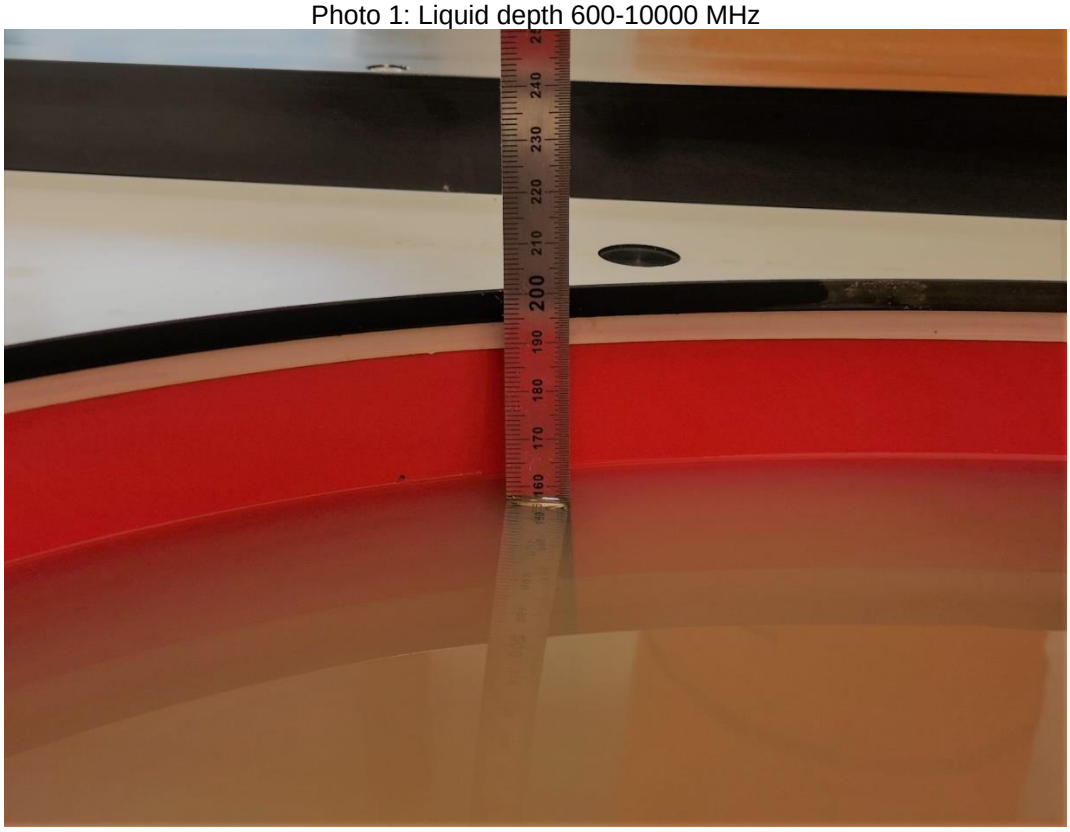
- ZOOM SCAN NOT PERFORMED -
Measurement values close to noise floor.



Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.4°C; liquid temperature: 21.5°C;

Annex B.4: Liquid depth

Photo 1: Liquid depth 600-10000 MHz



Annex C: Photo documentation

Photo documentation is described in the additional document:
1-6411-23-01-40_TR1-A101-R01_Photos

Annex D: Calibration parameters

Calibration parameters are described in the additional document:
1-6411-23-01-40_TR1-A201-R01_Caldata

Annex E: RSS-102 Annex A

ISEDRF documents are described in the additional document:
1-6411-23-01-40_TR1-A301-R01_ISED - RSS-102 Annex A

Annex F: Document History

Version	Applied Changes	Date of Release
	Initial Release	2025-04-16

Annex G: Further Information

Glossary

BW	-	Bandwidth
DTS	-	Distributed Transmission System
DUT	-	Device under Test
EUT	-	Equipment under Test
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
Inv. No.	-	Inventory number
ISED	-	Innovation, Science and Economic Development Canada
LTE	-	Long Term Evolution
N/A	-	not applicable
PCB	-	PCS Licensed Transmitter
PCE	-	Personal Consumption Expenditure (PCS Licensed Transmitter held to ear)
PCS	-	Personal Consumption Services
OET	-	Office of Engineering and Technology
RB	-	resource block(s)
SAR	-	Specific Absorption Rate
S/N	-	Serial Number
SW	-	Software
UNII	-	Unlicensed National Information Infrastructure