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S Schweizerischer Kalibrierdienst
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Accreditation No.: SCS 0108

Client **UL**
Fremont CA, USA

Certificate No. **cSAR3D-5014_Oct25**

CALIBRATION CERTIFICATE

Object	cSAR3D Flat HSL — SN: 5014
Calibration procedure(s)	QA CAL-26-cSAR3D.v11, Calibration Procedure for cSAR3D
Calibration date	October 28, 2025

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration) is listed on the following page.

	Name	Function	Signature
Calibrated by:	Mikko Weisshaar	Laboratory Engineer	
Approved by:	Sven Kühn	Technical Manager	

Issued: October 30, 2025

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Cal. Antenna 1640 - 2450 MHz	Z22-1022	11-Jul-25 (Z22-1022_Jul25)	Jul-26
Cal. Antenna 3500 - 5800 MHz	Z32-1033	04-Aug-25 (Z32-1033_Aug25)	Aug-26
Cal. Antenna 690 - 1450 MHz	Z12-1012	11-Jul-25 (Z12-1012_Jul25)	Jul-26
Calibration Dipole 1750 MHz	CA1750V2-1004	27-Jun-25 (CA1750V2-1004_Jun25)	Jun-26
Calibration Dipole 2450 MHz	CA2450V2-1005	30-Jun-25 (CA2450V2-1005_Jun25)	Jun-26
Calibration Dipole 5-6 GHz	CA5500V3-1011	11-Jul-25 (CA5500V3-1011_Jul25)	Jul-26
Calibration Dipole 6.5 GHz	CA6.5GHzV2-1001	03-Feb-25 (CA6.5GHzV2-1001_Feb25)	Feb-26
Calibration Dipole 8 GHz	CA8GHzV2-1001	03-Feb-25 (CA8GHzV2-1001_Feb25)	Feb-26
Calibration Dipole 9.5 GHz	CA10GHzV2-1001	13-Feb-25 (CA10GHzV2-1001_Feb25)	Feb-26
Calibration Dipole 900 MHz	CL900B-1002	15-Nov-24 (CL900B-1002_Nov24)	Nov-25
Power Meter R&S NRP	SN 104778	26-Mar-25 (No. 217-04289)	Mar-26
Power Sensor R&S NRP-Z91	SN 103245	26-Mar-25 (No. 217-04289)	Mar-26
Power Sensor R&S NRP33T	SN 100967	26-Mar-25 (No. 217-04290)	Mar-26
Validation Dipole 1450 MHz	D1450V2-1054	13-Jun-23 (D1450V2-1054_Jun23)	Jun-26
Validation Dipole 1750 MHz	D1750V2-1117	20-Jun-23 (D1750V2-1117_Jun23)	Jun-26
Validation Dipole 1950 MHz	D1950V3-1282	10-Jan-24 (D1950V3-1282_Jan24)	Jan-27
Validation Dipole 2450 MHz	D2450V2-827	12-Jun-23 (D2450V2-827_Jun23)	Jun-26
Validation Dipole 2600 MHz	D2600V2-1026	12-Jun-23 (D2600V2-1026_Jun23)	Jun-26
Validation Dipole 3700 MHz	D3700V2-1007	15-Jun-23 (D3700V2-1007_Jun23)	Jun-26
Validation Dipole 4200 MHz	D4200V2-1005	12-May-25 (D4200V2-1005_May25)	May-28
Validation Dipole 4900 MHz	D4900V2-1007	13-May-25 (D4900V2-1007_May25)	May-28
Validation Dipole 5-6 GHz	D5GHzV2-1384	03-Jan-24 (D5GHzV2-1384_Jan24)	Jan-27
Validation Dipole 6500 MHz	D6.5GHzV2-1004	13-Jun-23 (D6.5GHzV2-1004_Jun23)	Jun-26
Validation Dipole 7000 MHz	D7GHzV2-1005	13-Jun-23 (D7GHzV2-1005_Jun23)	Jun-26
Validation Dipole 750 MHz	D750V3-1120	16-Oct-25 (D750V3-1120_Oct25)	Oct-28
Validation Dipole 8000 MHz	D8GHzV2-1002	13-Jun-23 (D8GHzV2-1002_Jun23)	Jun-26
Validation Dipole 835 MHz	D835V2-4d078	15-Jun-23 (D835V2-4d078_Jun23)	Jun-26
Validation Dipole 900 MHz	D900V2-1d189	04-Jun-24 (D900V2-1d189_Jun24)	Jun-27
Validation Dipole 9000 MHz	D9GHzV2-1001	13-Jun-23 (D9GHzV2-1001_Jun23)	Jun-26

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Signal Gen. Anritsu MG3700A	SN 6201287472	27-Jun-17 (in house check Oct-24)	Oct-27
Power Meter R&S NRP	SN 105088	14-Apr-16 (in house check Aug-24)	Aug-26
Power Sensor R&S NRP-Z91	SN 103495	18-Apr-16 (in house check Aug-24)	Aug-26
Power Sensor R&S NRP-Z91	SN 103537	10-May-16 (in house check Aug-24)	Aug-26
Signal Gen. Anritsu MG3700A	SN 6200701182	16-Aug-16 (in house check Sep-25)	Sep-28
Power Meter R&S NRP	SN 103818	19-Sep-14 (in house check May-25)	May-27
Power Sensor R&S NRP-Z91	SN 101554	23-Sep-15 (in house check May-25)	May-27
Power Sensor R&S NRP-Z91	SN 102716	22-Sep-14 (in house check May-25)	May-27
Signal Gen. Ana Pico APSIN12G	SN 171-43A6D001-1462	14-Jan-20 (in house check Jun-23)	Jun-26
Power Meter R&S NRP	SN 101922	16-Apr-12 (in house check May-24)	May-26
Power Sensor R&S NRP33T	SN 101066	14-Jan-20 (in house check May-24)	May-26
Power Sensor R&S NRP33T	SN 101067	08-Jul-22 (in house check May-24)	May-26

Glossary

CW	Continuous Wave
DCP	Diode Compression Point
HSL	Head tissue Simulating Liquid
MSL	Muscle tissue Simulating Liquid
PAR	Peak-to-average Ratio
SMC	Sensor Model Calibration
UID	Unique Identification Number

Calibration is Performed According to the Following Standards:

a) Internal procedure QA CAL-26-cSAR3D

Method of QA CAL-26-cSAR3D:

- The dynamic responses of the sensors used to determine the amplitude of the induced fields are calibrated by the Sensor Model Calibration (SMC) method. The SMC method is based on the calibration of the lumped element sensor model for each sensor using the dynamic sensor response of a set of canonical signals (see section "Canonical Signals for SMC Method"). The dynamic range is provided in Table 2. These sensor models are then used to derive the linearization parameters *DCP, I, J* and *K* for the target modulations (see section "Modulation List for Calibration File"). The uncertainty of sensor linearization for psSAR1g lower than 30 W/kg has been considered.
- The sensitivity ($Norm_{x,y,z}$) of each sensor is calibrated by means of a transfer calibration using source antennas at fixed frequencies (see section "Calibration Frequencies"). The source antennas are calibrated using DASY for specific sensor locations and frequencies. The calibration has been performed for the nominal tissue parameters at an environmental temperature of 22 ± 2° C. The sensitivity at each non-calibrated frequency is interpolated based on the sensor characteristics as a function of frequency.
- The calibrated cSAR3D has been validated using sources fully characterized by DASY (see section "System Validation").
- All calibration parameters are contained in the calibration file located on the data storage medium that is enclosed with the software.
- A comprehensive uncertainty budget for the calibration and validation has been determined. The uncertainties are provided in the "System Validation" section. The uncertainties between the validation frequencies are estimated using linear interpolation.

Relevant Standards for the Calibration:

[1] FCC KDB 865664 D01, "SAR Measurement Requirements for 100 MHz to 6 GHz," v01r04, October 2015.

[2] IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range Of 4 MHz To 10 GHz)", October 2020.

[3] IEC 62209-3, "Human exposure to radio frequency fields from hand-held and body mounted wireless communication devices - human models, instrumentation, and procedures - Part 3: Vector measurement-based systems (Frequency range of 30 MHz to 6 GHz)", September 2019.

Calibrated Quantities:

- $DCP_{x,y,z}$, $I_{x,y,z}$, $J_{x,y,z}$, $K_{x,y,z}$: numerical linearization parameters for each sensor based on a power sweep for a specific modulation signal. The DCP is independent of modulation or frequency. The other parameters are modulation dependent but frequency independent. The linearized voltage $U_{x,y,z}$(linearized) is calculated from the measured voltage, $U_{x,y,z}$(measured) as follows:

$$U_{x,y,z}(linearized) = \frac{U_{x,y,z}(measured) + \frac{K_{x,y,z}}{DCP_{x,y,z}} \cdot U_{x,y,z}(measured)^2}{1 + I_{x,y,z} \cdot U_{x,y,z}(measured) + J_{x,y,z} \cdot U_{x,y,z}(measured)^2}$$

- *Sensitivity ($Norm_{x,y,z}$)*: normalization parameter for the voltage at each sensor relative to target SAR value using DASY measurement as a transfer standard. Sensitivity depends on the frequency but not on modulation.

$$SAR_{x,y,z} = \frac{\sigma}{\rho} E^2 = \frac{\sigma}{\rho} \frac{U_{x,y,z}(linearized)}{Norm_{x,y,z}}$$

- The calibration parameters for each sensor are provided in the calibration file (see "Modulation List for Calibration File" section).
- Since the calibration parameters are not easily accessible, proof of conformity is provided with the system validation checks provided in Table 3 and 4.

Dielectric Parameters:

The cSAR3D contains a broad band tissue-equivalent material, whose dielectric parameters are within ±10% of the target dielectric parameters in [1]-[3] across a frequency range of 690 – 10 000 MHz. Typical permittivity and conductivity values for HSL are shown in Figure 1.

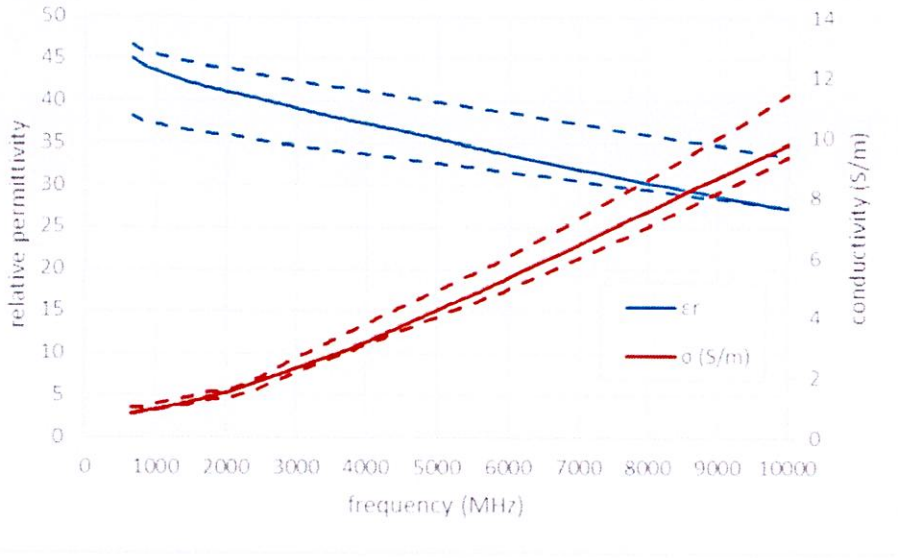

Figure 1: Typical measured permittivity and conductivity of head tissue-equivalent medium inside the cSAR3D. Measured values (solid lines) are shown with respect to ±10% tolerances (dashed lines).

cSAR3D - Parameters of cSAR3D Flat: 5014

Calibration Frequencies

The calibration is valid for any frequency between 690 – 10 000 MHz based on specific calibrated frequencies of the source antennas listed below. The standard uncertainty of the target SAR value for each source antenna is also listed.

Frequency (MHz)	Sensors	Source Antenna	Source Antenna Uncertainty ($k = 1$)
900	X, Y	Calibration Dipole 900 MHz	8.8%
1750	X, Y	Calibration Dipole 1750 MHz	8.8%
2450	X, Y	Calibration Dipole 2450 MHz	8.8%
5800	X, Y	Calibration Dipole 5-6 GHz	10.0%
6500	X, Y	Calibration Dipole 6.5 GHz	12.4%
8000	X, Y	Calibration Dipole 8 GHz	12.4%
9500	X, Y	Calibration Dipole 9.5 GHz	12.4%
900	Z	Cal. Antenna 690 - 1450 MHz	8.8%
1750	Z	Cal. Antenna 1640 - 2450 MHz	8.8%
2450	Z	Cal. Antenna 1640 - 2450 MHz	8.8%
5800	Z	Cal. Antenna 3500 - 5800 MHz	10.0%

Table 1: Source antennas used for calibration.

Canonical Signals for SMC Method

The canonical signals used during calibration to determine the linearization parameters are listed below.

Canonical Signal	UID	Rev	Group	PAR (dB)	Dynamic Range (W/kg)	
					X, Y sensors	Z sensors
CW	0	CAB	CW	0.00	0.3 to 105	0.8 to 95
Pulse Waveform (200 Hz, 10%)	10352	AAA	Test	10.00	0.3 to 33	0.8 to 24
Pulse Waveform (200 Hz, 20%)	10353	AAA	Test	6.99	0.3 to 66	0.8 to 48
Pulse Waveform (200 Hz, 40%)	10354	AAA	Test	3.98	0.3 to 105	0.8 to 95
Pulse Waveform (200 Hz, 60%)	10355	AAA	Test	2.22	0.3 to 105	0.8 to 95
QPSK Test Signal	10414	AAA	Test	8.54	0.3 to 46	0.8 to 33
QPSK Waveform, 1 MHz	10387	AAA	Test	5.10	0.3 to 103	0.8 to 74
QPSK Waveform, 10 MHz	10388	AAA	Test	5.22	0.3 to 100	0.8 to 72
64-QAM Waveform, 100 kHz	10396	AAA	Test	6.27	0.3 to 78	0.8 to 56
64-QAM Waveform, 40 kHz	10399	AAA	Test	6.27	0.3 to 78	0.8 to 56

Table 2: Canonical signals used for SMC method.

Calibration Uncertainty

The calibration uncertainty for cSAR3D Flat has been assessed to be 0.91 dB (23.2%) for frequencies below 3 GHz, 1.0 dB (26.0%) for frequencies between 3–6 GHz, and 1.1 dB (29.8%) for frequencies between 6–10 GHz.

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

This uncertainty only includes the calibration uncertainty for the sensors and is not equivalent to the measurement uncertainty that depends on the uncertainty of field reconstruction. A complete analysis is given in the cSAR3D Manual. At the time of this calibration, the uncertainties for the validation conditions are given in the section "System Validation" of this document.

System Validation

This calibrated cSAR3D has been validated using a set of validation antennas. The values of the frequency response below 6 GHz are measured at 100 mW forward power, the values of the frequency response at 6.5 GHz, 7 GHz, 8 GHz, and 9 GHz are measured at 20 mW, 10 mW, 50 mW, and 100 mW forward power. All results are normalized to 1 W. Then they are compared to the DASY target values below. For the modulation response, the forward power is adjusted for a SAR value of approximately 0.5 W/kg using CW modulation, then the SAR is re-measured with the modulation applied using the same average power. The linearization has been validated using selected communication systems. The deviations are compared to the maximum permissible error (MPE) [5] in Table 3 and to the linearization uncertainty in Table 4. This validation was performed with the cSAR3D software version 5.10.4.3418.

Validation Antenna	Signal (UID)	f (MHz)	Target psSAR 1g (W/kg)	Target psSAR 10g (W/kg)	Measured psSAR 1g (W/kg)	Measured psSAR 10g (W/kg)	Dev psSAR 1g (dB)	Dev psSAR 10g (dB)	MPE 1g/10g (dB)
D750V3 - 1120	0	750	8.46	5.57	8.24	5.23	-0.1	-0.3	1.5
D835V2 - 4d078	0	835	9.76	6.34	9.27	5.82	-0.2	-0.4	1.5
D900V2 - 1d189	0	900	11.2	7.16	10.5	6.53	-0.3	-0.4	1.5
D1450V2 - 1054	0	1450	28.6	15.7	29.2	15.8	0.1	0.0	1.5
D1750V2 - 1117	0	1750	36.4	19.0	38.3	19.7	0.2	0.2	1.5
D1950V3 - 1282	0	1950	40.7	21.0	40.7	20.2	0.0	-0.2	1.5
D2450V2 - 827	0	2450	52.7	24.8	53.3	23.9	0.0	-0.2	1.5
D2600V2 - 1026	0	2600	56.9	25.6	57.3	24.7	0.0	-0.2	1.5
D3700V2 - 1007	0	3700	65.3	23.7	68.5	24.8	0.2	0.2	1.6
D4200V2 - 1005	0	4200	67.3	22.9	67.6	22.5	0.0	-0.1	1.6
D4900V2 - 1007	0	4900	67.9	21.4	71.6	22.1	0.2	0.1	1.6
D5GHzV2 - 1384	0	5200	78.8	22.7	84.0	23.6	0.3	0.2	1.6
D5GHzV2 - 1384	0	5500	84.7	24.0	84.4	23.6	-0.0	-0.1	1.6
D5GHzV2 - 1384	0	5800	81.2	22.9	83.9	23.2	0.1	0.1	1.6
D6.5GHzV2 - 1004	0	6500	287	53.3	274	52.1	-0.2	-0.1	1.6
D7GHzV2 - 1005	0	7000	289	51.0	279	50.0	-0.2	-0.1	1.6
D8GHzV2 - 1002	0	8000	268	45.2	249	45.1	-0.3	-0.0	1.6
D9GHzV2 - 1001	0	9000	248	42.3	235	43.1	-0.2	0.1	1.6

Table 3: System validation results (frequency response)

Validation Antenna	Signal (UID)	f (MHz)	Target psSAR 1g (W/kg)	Target psSAR 10g (W/kg)	Measured psSAR 1g (W/kg)	Measured psSAR 10g (W/kg)	Dev psSAR 1g 0.5 W/kg (dB)	Dev psSAR 10g 0.5W/kg (dB)	Unc. (k=2) (dB)
D900V2 - 1d189	10025	900	0.500	0.314	0.499	0.313	-0.01	-0.01	0.46
D900V2 - 1d189	10290	900	0.500	0.314	0.500	0.314	0.00	0.00	0.46
D1900V2 - 5d110	10102	1900	0.500	0.255	0.496	0.253	-0.04	-0.03	0.46
D1900V2 - 5d110	10105	1900	0.500	0.255	0.498	0.255	-0.02	0.00	0.46
D1900V2 - 5d110	10174	1900	0.500	0.255	0.498	0.254	-0.02	-0.02	0.46
D2450V2 - 827	10030	2450	0.495	0.223	0.492	0.222	-0.03	-0.02	0.46
D2450V2 - 827	10077	2450	0.495	0.223	0.488	0.219	-0.06	-0.08	0.46

Table 4: System validation results (modulation response)

Modulation List for Calibration File

The table below shows the modulations that are provided in the Calibration File.

Calibration File: CAL_SDC00F00AG_5014_251028_v1.2.1.gcal3d

Communication System	UID	Rev	Group	PAR (dB)
CW	0	-	CW	0.00
SAR Validation (Square, 100 ms, 10 ms)	10010	CAB	Test	10.00
UMTS-FDD (WCDMA)	10011	CAC	WCDMA	2.91
IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	10012	CAB	WLAN	1.87
IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	10013	CAB	WLAN	9.46
GSM-FDD (TDMA, GMSK)	10021	DAC	GSM	9.39
GPRS-FDD (TDMA, GMSK, TN 0)	10023	DAC	GSM	9.57
GPRS-FDD (TDMA, GMSK, TN 0-1)	10024	DAC	GSM	6.56
EDGE-FDD (TDMA, 8PSK, TN 0)	10025	DAC	GSM	12.62
EDGE-FDD (TDMA, 8PSK, TN 0-1)	10026	DAC	GSM	9.55
GPRS-FDD (TDMA, GMSK, TN 0-1-2)	10027	DAC	GSM	4.80
GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	10028	DAC	GSM	3.55
EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	10029	DAC	GSM	7.78
IEEE 802.15.1 Bluetooth (GFSK, DH1)	10030	CAA	Bluetooth	5.29
IEEE 802.15.1 Bluetooth (GFSK, DH3)	10031	CAA	Bluetooth	1.87
IEEE 802.15.1 Bluetooth (GFSK, DH5)	10032	CAA	Bluetooth	1.16
IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	10033	CAA	Bluetooth	7.74
IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	10034	CAA	Bluetooth	4.53
IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	10035	CAA	Bluetooth	3.83
IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	10036	CAA	Bluetooth	8.01
IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	10037	CAA	Bluetooth	4.77
IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	10038	CAA	Bluetooth	4.11
CDMA2000 (1xRTT, RC1)	10039	CAB	CDMA2000	4.57
IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	10042	CAB	AMPS	7.78
IS-91/EIA/TIA-553 FDD (FDMA, FM)	10044	CAA	AMPS	0.00
DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	10048	CAA	DECT	13.80
DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	10049	CAA	DECT	10.79
UMTS-TDD (TD-SCDMA, 1.28 Mcps)	10056	CAA	TD-SCDMA	11.01
EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	10058	DAC	GSM	6.52
IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	10059	CAB	WLAN	2.12
IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	10060	CAB	WLAN	2.83
IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	10061	CAB	WLAN	3.60
IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	10062	CAE	WLAN	8.68
IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	10063	CAE	WLAN	8.63
IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	10064	CAE	WLAN	9.09
IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	10065	CAE	WLAN	9.00
IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	10066	CAE	WLAN	9.38
IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	10067	CAE	WLAN	10.12
IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	10068	CAE	WLAN	10.24
IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	10069	CAE	WLAN	10.56
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	10071	CAB	WLAN	9.83
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	10072	CAB	WLAN	9.62
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	10073	CAB	WLAN	9.94
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	10074	CAB	WLAN	10.30
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	10075	CAB	WLAN	10.77
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	10076	CAB	WLAN	10.94
IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	10077	CAB	WLAN	11.00
CDMA2000 (1xRTT, RC3)	10081	CAB	CDMA2000	3.97
IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	10082	CAB	AMPS	4.77
GPRS-FDD (TDMA, GMSK, TN 0-4)	10090	DAC	GSM	6.56
UMTS-FDD (HSDPA)	10097	CAC	WCDMA	3.98
UMTS-FDD (HSUPA, Subtest 2)	10098	CAC	WCDMA	3.98
EDGE-FDD (TDMA, 8PSK, TN 0-4)	10099	DAC	GSM	9.55
LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	10100	CAF	LTE-FDD	5.67
LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	10101	CAF	LTE-FDD	6.42

Communication System	UID	Rev	Group	PAR (dB)
LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	10102	CAF	LTE-FDD	6.60
LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	10103	CAH	LTE-TDD	9.29
LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	10104	CAH	LTE-TDD	9.97
LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	10105	CAH	LTE-TDD	10.01
LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	10108	CAH	LTE-FDD	5.80
LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	10109	CAH	LTE-FDD	6.43
LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	10110	CAH	LTE-FDD	5.75
LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	10111	CAH	LTE-FDD	6.44
LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	10112	CAH	LTE-FDD	6.59
LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	10113	CAH	LTE-FDD	6.62
IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	10114	CAE	WLAN	8.10
IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	10115	CAE	WLAN	8.46
IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	10116	CAE	WLAN	8.15
IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	10117	CAE	WLAN	8.07
IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	10118	CAE	WLAN	8.59
IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	10119	CAE	WLAN	8.13
LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	10140	CAF	LTE-FDD	6.49
LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	10141	CAF	LTE-FDD	6.53
LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	10142	CAF	LTE-FDD	5.73
LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	10143	CAF	LTE-FDD	6.34
LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	10144	CAF	LTE-FDD	6.65
LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	10145	CAG	LTE-FDD	5.76
LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	10146	CAG	LTE-FDD	6.41
LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	10147	CAG	LTE-FDD	6.72
LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	10149	CAF	LTE-FDD	6.42
LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	10150	CAF	LTE-FDD	6.59
LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	10151	CAH	LTE-TDD	9.28
LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	10152	CAH	LTE-TDD	9.92
LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	10153	CAH	LTE-TDD	10.05
LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	10154	CAH	LTE-FDD	5.75
LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	10155	CAH	LTE-FDD	6.43
LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	10156	CAH	LTE-FDD	5.79
LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	10157	CAH	LTE-FDD	6.50
LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	10158	CAH	LTE-FDD	6.62
LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	10159	CAH	LTE-FDD	6.56
LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	10160	CAF	LTE-FDD	5.82
LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	10161	CAF	LTE-FDD	6.43
LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	10162	CAF	LTE-FDD	6.58
LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	10166	CAG	LTE-FDD	5.46
LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	10167	CAG	LTE-FDD	6.21
LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	10168	CAG	LTE-FDD	6.79
LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	10169	CAF	LTE-FDD	5.73
LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	10170	CAF	LTE-FDD	6.52
LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	10171	AAF	LTE-FDD	6.49
LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	10172	CAH	LTE-TDD	9.21
LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	10173	CAH	LTE-TDD	9.48
LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	10174	CAH	LTE-TDD	10.25
LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	10175	CAH	LTE-FDD	5.72
LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	10176	CAH	LTE-FDD	6.52
LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	10177	CAJ	LTE-FDD	5.73
LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	10178	CAH	LTE-FDD	6.52
LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	10179	CAH	LTE-FDD	6.50
LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	10180	CAH	LTE-FDD	6.50
LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	10181	CAF	LTE-FDD	5.72
LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	10182	CAF	LTE-FDD	6.52
LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	10183	AAE	LTE-FDD	6.50
LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	10184	CAF	LTE-FDD	5.73
LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	10185	CAF	LTE-FDD	6.51
LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	10186	AAF	LTE-FDD	6.50
LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	10187	CAG	LTE-FDD	5.73