RF EXPOSURE TEST REPORT

Test Report No. 15994164S-A-R1

Customer	**Nintendo Co., Ltd.**
Description of EUT	**Game Controller**
Model Number of EUT	**BEE-014(-01)**
FCC ID	**BKEBEE01401**
Test Regulation	**FCC 47CFR 2.1093**
Test Result	**Complied**
Issue Date	**October 7, 2026**
Remarks	**-**

Representative Test Engineer	**Approved By**
Akihiro Oda Engineer	Takayuki Shimada Test report signatory

CERTIFICATE 1266.03

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REVISION HISTORY

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15994164S-A	February 2, 2026	-
-R1	15994164S-A-R1	October 7, 2026	P6 SECTION 2.1 Replaced DC 5 V (Re-chargeable Li-ion battery) ->\ DC 3.89 V (Re-chargeable Li-ion battery), DC 5 V (Connector) P14 SECTION 6.1 Replaced εr': Imaginary permittivity [-] ->\ εr'': Imaginary permittivity [-] Deleted Since the ΔSAR values of the tested liquid had shown positive, the measured SAR was not ΔSAR corrected by the conservative reason. (Calculating formula): ΔSAR corrected SAR (W/kg) = (Measured SAR (W/kg)) × (100 - (ΔSAR(%)) / 100 P15 SECTION 6.3 Replaced HBBL4-250V4 / SL AAH 005 AD ->\ HBBL4-250V3 / SL AAH 005 AD P16 SECTION 7.1.2 Replaced *a. Since the calculated ΔSAR values of the tested liquid had shown positive correction even when error was more than 5 %, the measured SAR was not converted by ΔSAR correction. ->\ *a. Since the Δε' and Δσ values were within ±5 %, ΔSAR correction was not applied. Even when the Δε' and Δσ exceeded ±5 %, if the ΔSAR value was positive, the correction was not applied for conservative reasons. P17, P18, P19 SECTION 7.2.2 Added below each table "BEE-001" can transmit BT & WLAN of BEE-001 and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously. "BEE-001(-01)" can transmit BT & WLAN of BEE-001(-01) and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously. "BEE-056" can transmit BT & WLAN of BEE-056 and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously.

Reference : Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	MRA	Mutual Recognition Arrangement
AC	Alternating Current	MU-MIMO	Multi-User Multiple Input Multiple Output (Radio)
AFH	Adaptive Frequency Hopping	N/A	Not Applicable, Not Applied
AM	Amplitude Modulation	NII	National Information Infrastructure (Radio)
Amp, AMP	Amplifier	NIST	National Institute of Standards and Technology
ANSI	American National Standards Institute	NR	New Radio
Ant, ANT	Antenna	NS	Nerve Stimulation
AP	Access Point	NSA	Normalized Site Attenuation
APD	Absorbed Power Density	NVLAP	National Voluntary Laboratory Accreditation Program
ASK	Amplitude Shift Keying	OBW	Occupied Band Width
Atten., ATT	Attenuator	OFDM	Orthogonal Frequency Division Multiplexing
AV	Average	OFDMA	Orthogonal Frequency Division Multiple Access
BPSK	Binary Phase-Shift Keying	PD	Power Density
BR	Bluetooth Basic Rate	psPD	Peak spatial-average power density
BT	Bluetooth	psPDn+	Surface-normal propagation-direction peak spatial-average power density
BT LE	Bluetooth Low Energy	psPDtot+	Total propagating spatial-average peak power density
BW	BandWidth	psPDmod+	Total peak spatial-average power density considering reactive near-field effects
Cal Int	Calibration Interval	P/M	Power meter
CCK	Complementary Code Keying	PCB	Printed Circuit Board
CDD	Cyclic Delay Diversity	PER	Packet Error Rate
CFR	Code of Federal Regulations	PHY	Physical Layer
Ch., CH	Channel	PK	Peak
CISPR	Comite International Special des Perturbations Radioelectriques	PN	Pseudo random Noise
CW	Continuous Wave	PP	Preamble Puncturing
DBPSK	Differential BPSK	PRBS	Pseudo-Random Bit Sequence
DC	Direct Current	PSD	Power Spectral Density
D-factor	Distance factor	QAM	Quadrature Amplitude Modulation
DFS	Dynamic Frequency Selection	QP	Quasi-Peak
DQPSK	Differential QPSK	QPSK	Quadrature Phase Shift Keying
DSSS	Direct Sequence Spread Spectrum	RAT	Radio Access Technology
DUT	Device Under Test	RBW	Resolution Band Width
EDR	Enhanced Data Rate	RDS	Radio Data System
EIRP, e.i.r.p.	Equivalent Isotropically Radiated Power	RE	Radio Equipment
EMC	ElectroMagnetic Compatibility	RF	Radio Frequency
EMI	ElectroMagnetic Interference	RMS	Root Mean Square
EN	European Norm	RSS	Radio Standards Specifications
ERP, e.r.p.	Effective Radiated Power	RU	Resource Unit
ETSI	European Telecommunications Standards Institute	Rx	Receiving
EU	European Union	SA, S/A	Spectrum Analyzer
EUT	Equipment Under Test	SAR	Specific Absorption Rate
Fac.	Factor	SDM	Space Division Multiplexing
FCC	Federal Communications Commission	SISO	Single Input Single Output (Radio)
FHSS	Frequency Hopping Spread Spectrum	SG	Signal Generator
FM	Frequency Modulation	sPD	Spatial-average power density
Freq.	Frequency	sPDn+	Surface-normal propagation-direction spatial-average power density
FSK	Frequency Shift Keying	sPDtot+	Total propagating spatial-average power density
GFSK	Gaussian Frequency-Shift Keying	sPDmod+	Total spatial-average power density considering reactive near-field effects
GNSS	Global Navigation Satellite System	SPLSR	SAR to Peak Location Separation Ratio
GPS	Global Positioning System	SVSWR	Site-Voltage Standing Wave Ratio
HE	High Efficiency (e.g. IEEE 802.11ax20HE)	TER	Total Exposure Ratio
HT	High Throughput (e.g. IEEE 802.11n20HT)	TSL	Tissue Simulation Liquid
Hori.	Horizontal	T/R	Test Receiver
ICES	Interference-Causing Equipment Standard	Tx	Transmitting
IEC	International Electrotechnical Commission	U-NII	Unlicensed National Information Infrastructure (Radio)
IEEE	Institute of Electrical and Electronics Engineers	URS	Unintentional Radiator(s)
IF	Intermediate Frequency	VBW	Video BandWidth
ILAC	International Laboratory Accreditation Conference	Vert.	Vertical
IPD	Incident Power Density	VHT	Very High Throughput (e.g. IEEE 802.11ac20VHT)
ISED	Innovation, Science and Economic Development Canada	WLAN	Wireless LAN
ISO	International Organization for Standardization	Wi-Fi, WiFi	Wireless LAN, trademarked by Wi-Fi Alliance
JAB	Japan Accreditation Board	WPT	Wireless Power Transmit
LAN	Local Area Network		
LIMS	Laboratory Information Management System		
MCS	Modulation and Coding Scheme		
MIMO	Multiple Input Multiple Output (Radio)		
MPE	Maximum Permissible Exposure		

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SECTION 1: Customer information

Company Name	Nintendo Co., Ltd.
Address	11-1 Hokotate-cho, Kamitoba, Minami-ku, Kyoto 601-8501, Japan
Telephone Number	+81-75-662-9600
Contact Person	Yosuke Ishikawa

The information provided from the customer is as follows;
- Customer name, Company name, Type of Equipment, Model No., FCC ID on the cover and other relevant pages.
- SECTION 1: Customer information
- SECTION 2: Equipment under test (EUT)
- SECTION 4: Operation of EUT during testing
- APPENDIX 1: The part of Antenna location information, Description of EUT and Support Equipment

SECTION 2: Equipment under test (EUT)

2.1 Identification of EUT

Description	Game Controller
Model Number	BEE-014(-01)
Serial Number	Refer to Appendix 1-2
Rating	DC 3.89 V (Re-chargeable Li-ion battery), DC 5 V (Connector)
Condition	Engineering prototype (Not for sale: The sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab.
Receipt Date	September 26, 2025 (for power measurement) October 8, 2025 and October 20, 2025 (for SAR test)
Test Date	October 1, 2025 (for power measurement) October 12, 2025 to December 1, 2025 (for SAR test)

2.2 Product Description

General Specification

SAR Category Identified	Portable device (*. Since EUT may contact to a localized human body during wireless operation, the partial-body SAR (1 g) shall be observed.)
SAR Accessory	None, There are no accessories that would affect SAR test.

Radio specification

This report contains data provided by the customer which can impact the validity of results. UL Japan, Inc. is only responsible for the validity of results after the integration of the data provided by the customer. The data provided by the customer is marked “a)” in the table below.

Bluetooth (Low Energy)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	GFSK
Antenna Gain *a)	1.15 dBi

Bluetooth (BR / EDR)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	FHSS (GFSK, π/4 DQPSK, 8 DPSK)
Antenna Gain *a)	1.15 dBi

RFID

Equipment Type	Transceiver
Frequency of Operation	13.56 MHz
Type of Modulation	ASK

Table of Typical power and Maximum tune-up tolerance limit power
(*. Indicate only the lowest data rate which has maximum power.)

Type	Band	Channel	Frequency [MHz]	Mode	D/R [bps] or MCS index#	Typ. [dBm]	Max. [dBm]
BT	BR	0 to 78	2402 to 2480	DH5	1M	5	6.5
BT	EDR	0 to 78	2402 to 2480	2DH5	2M	2	3.5
BT	EDR	0 to 78	2402 to 2480	3DH5	3M	3	3.5
BT	BTLE	0 to 39	2402 to 2480	PHY1	1M	5	6.5
BT	BTLE	0 to 39	2402 to 2480	PHY2	2M	5	6.5

*. : The transmission mode with the highest power in each band is marked with a yellow marker.
*. Maximum tune-up tolerance limit is conducted burst average power and is defined by a customer as Duty cycle 100 % (continuous transmitting).

RFID: the test was performed with the maximum output sample, which is the worst condition considering mass produced dispersion. Therefore, SAR result correction by tune-up tolerance is not considered.

SECTION 3: Maximum SAR, test specification and procedures

3.1 Summary of Maximum SAR Value

Mode / Band	Highest Reported SAR [W/kg]		
	Partial-body (Flat phantom , Separation 0 mm)	Head (SAM phantom)	Limbs
	1 g	1 g	10 g
Bluetooth	0.29	N/A	N/A
RFID	0.04	N/A	N/A
Simultaneous Transmission	The SUM of SAR1g was <1.6 W/kg or SPLSR of each antenna pair was < 0.04 even if the sum of SAR1g of all antennas was over 1.6 W/kg. (See 7.2)	N/A	N/A
Limit applied	Partial bod y, Head: 1.6 W/kg (SAR1 g), Limbs: 4.0 W/kg (SAR10 g), for general population/uncontrolled exposure is specified in FCC 47 CFR 2.1093.		
Test Procedure	Refer to Section 3.2 in this report. In addition; UL Japan's SAR measurement work procedures No. ULID-003599 (13-EM-W0430). UL Japan's SAR measurement equipment calibration and inspection work procedures No. ULID-003598 (13-EM-W0429).		

Conclusion

The SAR test values found for the device are separately below the maximum limit of 1.6 W/kg.

For the simultaneous transmission, SUM of SAR 1g is ≤ 1.6 W/kg or SPLSR of each antenna pair is ≤ 0.04 even if SUM of SAR 1g of all antennas is over 1.6 W/kg.

3.2 RF Exposure limit

For the purpose of this Regulation, FCC has adopted the SAR and RF exposure limits established in FCC 47 CFR 1.1310: Radiofrequency radiation exposure limits.

SAR Exposure Limit (100 kHz to 6 GHz)		
	General Population / Uncontrolled Exposure (*1)	Occupational / Controlled Exposure (*2)
Whole Body	0.08 W/kg	0.4 W/kg
Partial-Body, Head or Body (1 g)	1.6 W/kg	8 W/kg
Hands / Feet / Ankle / Wrist (10 g)	4 W/kg	20 W/kg

*1. General Population / Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

*2. Occupational / 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). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.

The limit applied to this device which tested in this report is;

Limit of Spatial Peak SAR (Partial-Body)	1.6 W/kg	General population / uncontrolled exposure

3.3 Test specification

47 CFR 2.1093	Radiofrequency radiation exposure evaluation: portable devices

3.4 Published RF exposure KDB procedures and companion procedures

Name of documents	Title	Version
ANSI/IEEE C95.1	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz	1992
IEEE Std. 1528	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.	2013
KDB 447498 D04	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices	v01
KDB 447498 D02	SAR measurement procedure for USB dongle transmitter	v02r01
KDB 447498 D03	OET Bulletin 65, Supplement C Cross-Reference	v01
KDB 865664 D01	SAR measurement 100 MHz to 6 GHz	v01r04
KDB 865664 D02	RF exposure compliance reporting and documentation considerations	v01r02
IEC/IEEE 62209-1528 (*1)	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).	2020
	- Secs. 6.1, 7.4.2, 7.7 - *f* above 4 MHz SAR provisions (TCB workshop, 2022-10)	-

*1. The measurement uncertainty budget is suggested by IEC/IEEE 62209-1528:2020 and determined by SPEAG, DASY8 Manual. Furthermore, used for SAR measurements 13 MHz, when there are required.

In addition to the above, the following information was used:

TCB workshop 2016-10	(RF Exposure Procedure) Bluetooth Duty Factor.
TCB workshop 2016-10	(RF Exposure Procedure) DUT Holder Perturbations; When the highest reported SAR of an antenna is > 1.2 W/kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.
TCB workshop 2017-05	(RF Exposure Procedure) Broadband liquid above 3 GHz. Allow application of 10% tissue dielectric tolerance correction in KDB 865664 D01.
TCB workshop 2018-04	(RF Exposure Procedure) Allow Expedited Area Scans. (including mother scans)
TCB workshop 2019-04	(RF Exposure Procedure) 802.11ax SAR Testing
TCB workshop 2019-04	(RF Exposure Procedure) Tissue Simulating Liquids (TSL) FCC has permitted the use of single head tissue simulating liquid specified in IEC 62209 for all SAR tests. If FCC parameters are used, 5 % tolerance. If IEC parameters, 10 %.
TCB workshop 2019-04	(RF Exposure Policy) SAR Zoom-Scan Update.
TCB workshop 2019-11	(RF Exposure Procedure) SPLSR Hotspot Combination
TCB workshop 2021-04	(RF Exposure Procedure) Application of specific phantoms. (case by case, PAG)
TCB workshop 2022-04	(RF Exposure Procedure) Sum Peak Location Separation Ratio (SPLSR)
TCB workshop 2025-04	(RF Exposure Procedure) Interim RF Exposure Testing Guidance.

3.5 Additions or Deviations to Standards

No addition, exclusion nor deviation has been made from the test standard.

3.6 Test Location

UL Japan, Inc., Shonan EMC Lab.
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Telephone number: +81 463 50 6400

*. A2LA Certificate Number: 1266.03 (FCC Test Firm Registration Number: 626366,
ISED Lab Company Number: 2973D / CAB identifier: JP0001)

Place	Width × Depth × Height (m)	Size of reference ground plane (m) / horizontal conducting plane
No.7 Shielded room(SR7)	2.76 × 3.76 × 2.4	2.76 × 3.76

3.7 SAR measurement procedure

3.7.1 SAR Definition

SAR is defined as the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). The equation description is shown in right.	SAR = $\frac{d}{dt}(\frac{dW}{dm}) = \frac{d}{dt}(\frac{dW}{\rho * dV})$
SAR measurement can be related to the electrical field in the tissue by the equation in right. SAR is expressed in units of Watts per kilogram (W/kg). Where : σ = conductivity of the tissue (S/m), ρ = mass density of the tissue (kg/m^3), E = RMS electric field strength in tissue (V/m)	SAR = $\frac{\sigma \lvert E \rvert^2}{\rho}$

3.7.2 Full SAR measurement procedure

The SAR measurement procedures are as follows: (1) The EUT is installed engineering testing software that provides continuous transmitting signal; (2) Measure output power through RF cable and power meter; (3) Set scan area, grid size and other setting on the DASY software; (4) Find out the largest SAR result on these testing positions of each band; (5) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg.

*. According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:
Step 1) Power measurement -.> SAR: Step 2) Power reference measurement -> Step 3) Area scan -> Step 4) Zoom scan -> Step 5) Power drift measurement

Step 1: Confirmation before SAR testing

Before SAR test, the RF wiring for the sample had been switched to the antenna conducted power measurement line from the antenna line and the average power was measured. This SAR reference power measurement was proceeded with the lowest data rate (which may have the higher time-based average power typically) on each operation mode and on the lower, middle (or near middle), upper and specified channels. The power measurement result is shown in Section 5.

*. The EUT transmission power used SAR test was verified that it was not more than 2 dB lower than the maximum tune-up tolerance limit. (KDB447498 D04 (v01))

Step 2: Power reference measurement

Measured psSAR value at a peak location of Fast Area Scan was used as a reference value for assessing the power drop.

Step 3: Area Scan

(Scan parameters: KDB 865664 D01, IEC/IEEE 62209-1528 (> 6GHz))

Area Scans are used to determine the peak location of the measured field before doing a finer measurement around the hotspot. Peak location can be found accurately even on coarse grids using the advanced interpolation routines implemented in DASY8. Area Scans measure a two dimensional volume covering the full device under test area. DASY8 uses Fast Averaged SAR algorithm to compute the 1 g and 10 g of simulated tissue from the Area Scan. DASY8 can either manually or automatically generates Area Scan grid settings based on device dimensions. In automatically case, the scan extent is defined by the device dimensions plus additional 15mm on each side. In manually, the scan covered the entire dimension of the antenna of EUT.

Step 4: Zoom Scan and post-processing

(Scan parameters: KDB 865664 D01, IEC/IEEE 62209-1528 (> 6GHz))

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure.

*. A minimum volume of 30 mm (x) × 30 mm (y) × 30 mm (z) was assessed by "Ratio step" method (*1), for 2.4 GHz band. (Step XY: 5 mm)
*. A minimum volume of 24 mm (x) × 24 mm (y) × 22 mm (z) was assessed by "Ratio step" method (*1), for 5 GHz band (Step XY: 4 mm).
*. A minimum volume of 22 mm (x) × 22 mm (y) × 22 mm (z) was assessed by "Ratio step" method (*1), for 6 GHz band (Step XY: 3.4 mm).

When the SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are proceeded for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR. 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.

*. 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 and recorded.
*. The ratio of the SAR at the second measured point to the SAR at the closest measured point at the x-y location of the measured maximum SAR value shall be at least 30 % and recorded.

			$f \leq 3$ GHz	3 GHz < $f \leq 10$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	1/2 × δ × ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			5 ° ± 1 °(flat phantom only) 30 ° ± 1 °(other phantom)	5 ° ± 1 °(flat phantom only) 30 ° ± 1 °(other phantom)
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz : ≤ 15 mm, 2~3 GHz : ≤ 12 mm	3~4 GHz : ≤ 12 mm, 4~6 GHz : ≤ 10 mm > 6 GHz : ≤ 60/f mm, or half of the corresponding zoom scan length, whichever is smaller.
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz : ≤ 8 mm, 2~3 GHz : ≤ 5 mm (*1)	3~4 GHz : ≤ 5 mm (*1), 4~6 GHz : ≤ 4 mm (*1) > 6 GHz : ≤ 24/f mm
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3~4 GHz : ≤ 4 mm, 4~5 GHz : ≤ 3 mm, 5~6 GHz : ≤ 2 mm > 6 GHz : ≤ 10/(f-1) mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3~4 GHz : ≤ 3 mm, 4~5 GHz : ≤ 2.5 mm, 5~6 GHz : ≤ 2 mm > 6 GHz : ≤ 12/f mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5 × Δz_{zoom} (n-1) mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3~4 GHz : ≥ 28 mm, 4~ 5 GHz : ≥ 25 mm, 5~6 GHz : ≥ 22 mm > 6 GHz : ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 (≤ 6 GHz) and IEC/IEEE 62209-1528 (≤ 10 GHz) for details.
*1. 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. (KDB 865664 D01)
*. The scan parameters of > 6GHz is defined IEC/IEEE 62209-1528.

Step 5: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same project. The Power Drift Measurement gives the SAR difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. It was checked that the power drift was within ± 5% (0.21 dB) in single SAR project run. The verification of power drift during the SAR test shown in SAR plot data of APPENDIX 2.

*. The most of SAR tests were conservatively performed with test separation distance 0 mm. The phantom bottom thickness is approx. 2mm. Therefore, the distance between the SAR probe tip to the surface of test device which is touched the bottom surface of the phantom is approx. 2.4 mm. Typical distance from probe tip to probe's dipole centers is 1 mm.

*1. "Ratio step" method parameters used; the first measurement point: "1.4 mm" from the phantom surface, the initial z grid separation: "1.5 mm", subsequent graded grid ratio: "1.5" for 2.4 GHz band and the initial z grid separation: "1.4 mm", subsequent graded grid ratio: "1.4" for above 5 GHz. These parameters comply with the requirement of KDB 865664 D01and recommended by Schmid & Partner Engineering AG (DASY8 manual).

SECTION 4: Operation of EUT during testing

4.1 Operating modes for testing

The test modes and frequencies used in the SAR test are shown in the table of power measurement results in Section 5 with markings.
The control software in the power measurement and SAR test are shown in the following.

	Test mode	Software name	Version	Date	Storage location / Remarks
Controlled software	Bluetooth	InspectionFwPackage	V0.15.0	September 26, 2025	Memory of EUT (firmware)
	RFID	NfcCertification	0.2	November 13, 2025	Memory of EUT (firmware) / Max power setting

4.2 RF exposure conditions

4.2.1 BT part

Antenna separation distances of each test setup plan and SAR test exemption of each test setup are shown as follows.

SAR test exemption consideration by KDB 447498 D04 (v01)

							Antenna Separation distance [mm]					
							3.33	3.7	9.84	18.06	33.08	73.9
		Antenna					Right	Front	Back	Bottom	Left	Top
Tx mode	Higher Freq. [MHz]	Max. ATP		Gain	ERP		SAR1g test exempt threshold power [mW] (upper row)					
		[dBm]	[mW]	[dBi]	[dBm]	[mW]	Judge of SAR test exemption (lower row)					
BT	2480	6.5	4.47	1.15	5.5	3.55	2.72	2.72	9.87	31.37	99.36	459.32
							Test	Test	Exempt	Exempt	Exempt	Exempt

*. Freq.: Frequency, ATP: Antenna terminal conducted power.
*. Antenna separation distance. It is the distance from the antenna inside EUT to the outer surface of EUT which user may touch. Details of "antenna separation distance" and "Size of EUT" are shown in Appendix 1-1.
*. The table shows the upper frequency which has the maximum power (as "Tune-up limit") in each operation band, in mode and on the single antenna transmission.
*. Since this method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive), when the minimum test separation distance is < 5 mm, a distance of 5 mm was applied to determine SAR test exclusion for the calculation.
*. The actual test setup tested depends on the measurement results. See Section 7 for the actual tested test setup.

Calculating formula:
1) ERP
ERP (dBm) = (Max. ATP, dBm) + (antenna gain, dBi) – 2.15

2) SAR test exempt threshold power
$P_{th}(mW)$=

$$ERP_{20cm}(mW) = \begin{cases} 2040f & 0.3\ GHz \le f < 1.5\ GHz \\ 3060 & 1.5\ GHz \le f \le 6.0\ GHz \end{cases} \quad (B.1)$$

$$P_{th}(mW) = \begin{cases} ERP_{20cm}(d/20)^x & d \le 20cm \\ ERP_{20cm} & 20cm < d \le 40cm \end{cases} \quad (B.2)$$

$$where \quad x = -log_{10}\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency			Minimum Distance			Threshold ERP
f_L MHz		f_H MHz	$\lambda_L/2\pi$		$\lambda_H/2\pi$	W
0.3	-	1.34	159 m	-	35.6 m	$1920\ R^2$
1.34	-	30	35.6 m	-	1.6 m	$1920\ R^2/f^2$
30	-	300	1.6 m	-	159 m	$3.83\ R^2$
300	-	1500	159 mm	-	31.8 mm	$0.0128\ R^2 f$
1500	-	100000	31.8 mm	-	0.5 mm	$19.2\ R^2$

Subscripts L and H are low and high; λ is wavelength.
From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns. R is in meter, f is in MHz.
Upper 2.4GHz; Threshold ERP [W] = 19.2 × R^2, at distance: over 40 cm

SAR-based thresholds (Pth (mW) shown below table of "Example Power Thresholds [mW]" are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged effective radiated power (ERP), whichever is greater. The SAR-based exemption is calculated by Formula (B.2) in below, applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).
When 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.
*. This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive).

Below is the test reduction procedure for KDB.
*. SAR test reduction considerations
(KDB 447498 D04(v01), General RF Exposure Guidance) Testing of other required channels within the operating mode of a frequency band is not required when the reported 1g or 10g SAR for the mid-band or highest output power channel is:
(1) ≤ 0.8 W/kg for 1g , or 2.0 W/kg for 10g respectively, when the transmission band is ≤ 100 MHz
(2) ≤ 0.6 W/kg for 1g, or 1.5 W/kg for 10g respectively, when the transmission band is between 100 MHz and 200 MHz
(3) ≤ 0.4 W/kg for 1g, or 1.0 W/kg for 10g respectively, when the transmission band is ≥ 200 MHz
The SAR has been measured with highest transmission duty factor supported by the test mode tool for WLAN and/or Bluetooth. When the transmission duty factor could not be 100%, the reported SAR will be scaled to 100% transmission duty factor to determine compliance. When SAR is not measured at the maximum power level allowed for production unit, the measured SAR will be scaled to the maximum tune-up tolerance limit to determine compliance.

4.2.2 RFID part

Antenna separation distances of each test setup plan is shown as follows.

Front	1.84 mm
Left	12.8 mm
Right	23.46 mm
Back	10.24 mm
Top	42.3 mm
Bottom	68.1 mm

SECTION 5: Confirmation before testing

5.1 Test reference power measurement (BT)

CH	Freq. [MHz]	Tx mode				Power			Duty cycle [%]	Duty factor [dB]	Duty scaled factor [-]	Power			
		Mode	D/R [Mbps]	Number of Tx ant.	Stream	Typ. [dBm]	Max. [dBm]	Set				Burst Ave. [dBm]	Burst Ave. [mW]	Δmax [dB]	Scaled Factor
0	2402	BR	1	1Tx	1ST	5	6.5	Fix	76.7	1.15	1.30	5.63	3.66	0.87	1.22
39	2441	BR	1	1Tx	1ST	5	6.5	Fix	76.7	1.15	1.30	5.56	3.60	0.94	1.24
78	2480	BR	1	1Tx	1ST	5	6.5	Fix	76.7	1.15	1.30	5.48	3.53	1.02	1.26
0	2402	EDR(2M)	2	1Tx	1ST	2	3.5	Fix	76.8	1.15	1.30	2.53	1.79	0.97	1.25
39	2441	EDR(2M)	2	1Tx	1ST	2	3.5	Fix	76.8	1.15	1.30	2.50	1.78	1.00	1.26
78	2480	EDR(2M)	2	1Tx	1ST	2	3.5	Fix	76.8	1.15	1.30	2.43	1.75	1.07	1.28
0	2402	EDR(3M)	3	1Tx	1ST	2	3.5	Fix	76.9	1.14	1.30	2.52	1.79	0.98	1.25
39	2441	EDR(3M)	3	1Tx	1ST	2	3.5	Fix	76.9	1.14	1.30	2.49	1.77	1.01	1.26
78	2480	EDR(3M)	3	1Tx	1ST	2	3.5	Fix	76.9	1.14	1.30	2.42	1.75	1.08	1.28
0	2402	BT LE(1M)	1	1Tx	1ST	5	6.5	Fix	85.0	0.71	1.18	5.63	3.66	0.87	1.22
19	2440	BT LE(1M)	1	1Tx	1ST	5	6.5	Fix	85.0	0.71	1.18	5.57	3.61	0.93	1.24
39	2480	BT LE(1M)	1	1Tx	1ST	5	6.5	Fix	85.0	0.71	1.18	5.49	3.54	1.01	1.26
0	2402	BT LE(2M)	2	1Tx	1ST	5	6.5	Fix	57.0	2.44	1.75	5.65	3.67	0.85	1.22
19	2440	BT LE(2M)	2	1Tx	1ST	5	6.5	Fix	57.0	2.44	1.75	5.59	3.62	0.91	1.23
39	2480	BT LE(2M)	2	1Tx	1ST	5	6.5	Fix	57.0	2.44	1.75	5.50	3.55	1.00	1.26

*. ☐: SAR test was applied.
*1. "Yes": The power setting was adjusted so that measured average power was not more than 2 dB lower than the maximum tune-up tolerance limit.
*. CH: Channel; Power: Power specification; Max.: Maximum; Set: Set power by test software; Burst Ave.: Measured burst average power; Time Ave.: Measured time-based average power; N/A: Not applied,/Not applicable

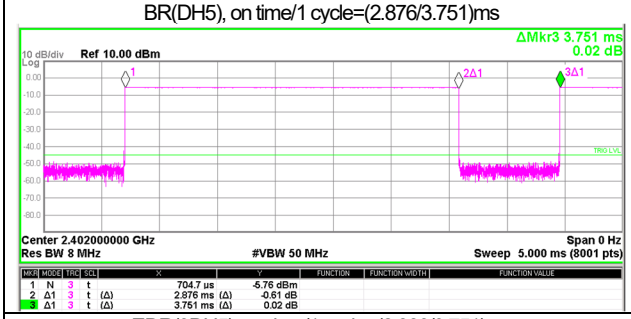
*. Calculating formula: Time average power (dBm) = (P/M Reading, dBm)+(Cable loss, dB)+(Attenuator, dB)
Burst power (dBm) = (P/M Reading, dBm)+(Cable loss, dB)+(Attenuator, dB)+(duty factor, dB)
Duty cycle: (duty cycle, %) = (Tx on time) / (1 cycle time) × 100, Duty factor (dBm) = 10 × log (100/(duty cycle, %))
Duty cycle scaled factor [-] = 100(%) / (duty cycle, %), Power scaled factor [-] = 10 ^ ("Deviation from max., dB" / 10)
ΔMax. (Deviation form max.power, dB) = (Max.tune-up limit power (average, dBm)) - (Burst power measured (average, dBm))

Date	Test site	Temperature	Humidity	Engineer
October 1, 2025	No. 7 preparation room	23 deg. C	51 % RH	Akihiro Oda

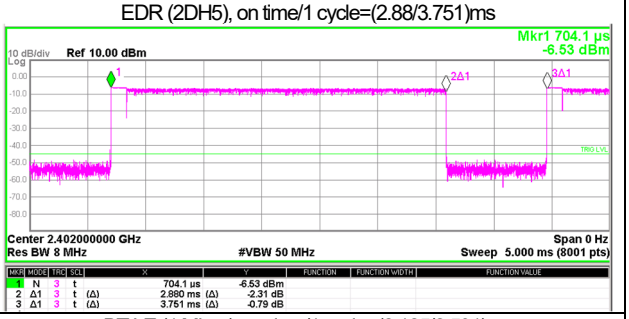
*. Uncertainty of antenna port conducted test; (±) 1.3 dB (Average power), (±) 0.27 % (duty cycle).

Chart of the worst duty cycle for each operation mode in right and in follows.

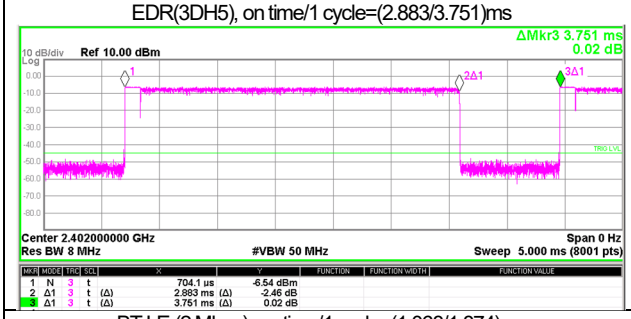
BR(DH5), on time/1 cycle=(2.876/3.751)ms



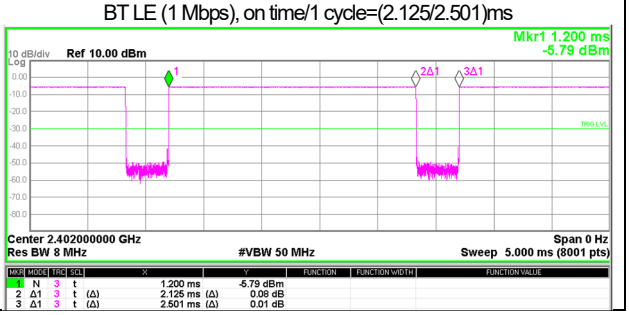
EDR (2DH5), on time/1 cycle=(2.88/3.751)ms



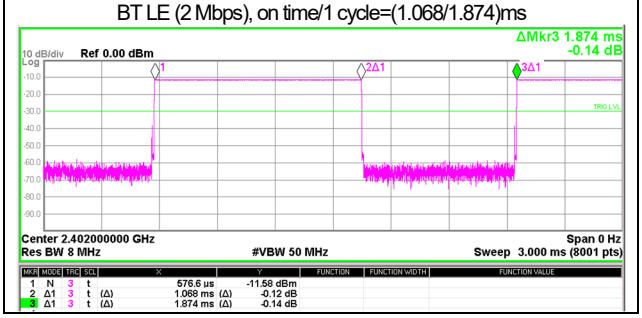
EDR(3DH5), on time/1 cycle=(2.883/3.751)ms



BT LE (1 Mbps), on time/1 cycle=(2.125/2.501)ms

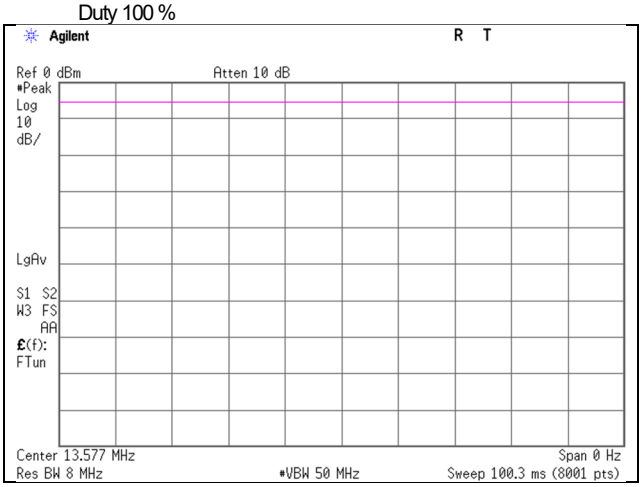


BT LE (2 Mbps), on time/1 cycle=(1.068/1.874)ms



5.2 Test reference measurement (RFID)

Duty 100 %



Test mode
Type A
Type B
Type F
ISO 15693

SECTION 6: Tissue simulating liquid

6.1 Liquid measurement

<SPC: System performance check>

Date measured	Freq.	Liq. type	Target e'	Permittivity (*.measured) e'	Δe'	Limit	e''	Target σ_tgt	Conductivity (*.calculated)(*3) σ	Δσ	Limit	ΔSAR 1g	10g	e',e'' Lerp ?	Liq. Temp.	Liq. depth	Liquid usage conditions (*1)
(YYYY-MM-DD)	[MHz]		[-]	[-]	[%]	[%](*2)	[-]	[S/m]	[S/m]	[%]	[%](*2)	[%]	[%]		[deg.C.]	[mm]	
2025-10-12	2450	Head	39.20	41.01	4.6	±10	13.4307	1.800	1.831	1.7	±10	-0.2	-0.3	No	22.0	150	<48 hrs.
2025-11-30	13	Head	55.00	53.40	-2.9	±10	1027.2800	0.750	0.743	-0.9	±10	-0.1	-0.2	No	21.8	150	<48hrs.

<SAR test>

Date measured	Freq.	Liq. type	Target e'	Permittivity (*.measured) e'	Δe'	Limit	e''	Target σ_tgt	Conductivity (*.calculated)(*3) σ	Δσ	Limit	ΔSAR 1g	10g	e',e'' Lerp ?	Liq. Temp.	Liq. depth	Liquid usage conditions (*1)
(YYYY-MM-DD)	[MHz]		[-]	[-]	[%]	[%](*2)	[-]	[S/m]	[S/m]	[%]	[%](*2)	[%]	[%]		[deg.C.]	[mm]	
2025-10-12	2402	Head	39.29	41.11	4.6	±10	13.4232	1.757	1.794	2.1	±10	0.0	-0.2	No	22.0	150	Measured before SAR test. There were used until 2025-10-12.
2025-10-12	2440	Head	39.22	41.03	4.6	±10	13.4277	1.791	1.823	1.8	±10	-0.2	-0.3	No	22.0	150	
2025-10-12	2441	Head	39.22	41.03	4.6	±10	13.4278	1.792	1.823	1.7	±10	-0.2	-0.3	No	22.0	150	
2025-10-12	2480	Head	39.16	40.95	4.6	±10	13.4518	1.833	1.856	1.3	±10	-0.4	-0.4	No	22.0	150	
2025-11-30	13.56	Head	55.00	53.08	-3.5	±10	984.9460	0.750	0.743	-0.9	±10	0.0	0.0	No	21.8	150	Measured before SAR test. There were used until 2025-12-01.

*. Lerp: Linear interpolation, Ref.: reference

*1. Definition of Δend.) "begin": there are measured before SAR test; "< 24 hrs.": SAR test has ended within 24 hours from the liquid parameter measured; "< 48 hrs.": Since SAR test has ended within 48 hours from the liquid parameter measured and a change in the liquid temperature was within 1 degree, liquid parameters measured on first day were used on next day continuously; "> 48 hrs.": Since the SAR test series took longer than 48 hours, the liquid parameters were measured on every 48 hours period and on the date which was end of test series. Since the difference of liquid parameters between the beginning and next measurement was smaller than 5%, the liquid parameters measured in beginning were used until end of each test series.
Calculating formula: "Δend (when, >48 hrs.) (%)"' = {(dielectric properties, end of test series) / (dielectric properties, beginning of test series) -1} × 100

*2. The electrical properties of the liquid at <6 GHz were controlled to within 5 % even with a limit of 10 %.

*3. (Calculating formula) $\sigma = 2 \times \pi \times f \times \varepsilon_0 \times \varepsilon r''$, where ε_0 = 8.854 E-12 [F/m], εr": Imaginary permittivity [-], f: Frequency [Hz]

*. The electrical characteristics of the SAR test frequencies were measured using DAK software, DAK-3.5 and a network analyzer with the 2.4 GHz band swept at 1 MHz and the 5 GHz and 6 GHz bands swept at 5 MHz. In this way, the electrical characteristics of all test frequencies were measured directly at the individual frequencies without interpolation.

*. The target values refers to clause 6.2 of this report.

*. The coefficients in below are parameters defined in IEEE Std.1528 and IEC/IEEE 62209-1528.

(Calculating formula,4 MHz~6 GHz): $\Delta SAR(1g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = -7.854E\text{-}4 \times f^3 + 9.402E\text{-}3 \times f^2 - 2.742E\text{-}2 \times f - 0.2026$ / $C\sigma = 9.804E\text{-}3 \times f^3 - 8.661E\text{-}2 \times f^2 + 2.981E\text{-}2 \times f + 0.7829$

$\Delta SAR(10g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = 3.456 \times 10^{-3} \times f^3 - 3.531 \times 10^{-2} \times f^2 + 7.675 \times 10^{-2} \times f - 0.1860$ / $C\sigma = 4.479 \times 10^{-3} \times f^3 - 1.586 \times 10^{-2} \times f^2 - 0.1972 \times f + 0.7717$

(Calculating formula, above 6 GHz): $\Delta SAR(1g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = -0.198$ / $C\sigma = 0$, $\Delta SAR(10g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = -0.250$ / $C\sigma = 0$

6.2 Target of tissue simulating liquid

Nominal dielectric values of the Head-TSL (tissue simulating liquids) in the phantom refer to the following table. (Appendix A, KDB 865664 v01r04)

Target Frequency (MHz)	Head ε_r	Head σ(S/m)	Body ε_r	Body σ(S/m)
1800 to 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

*. For other frequencies, the target nominal dielectric values were obtained by linear interpolation between the higher and lower tabulated figures. Above 5800MHz were obtained using linear extrapolation.

For below 150 MHz, nominal dielectric values of the TSL (head) in the phantom refer to the following table. (Table 2, IEC/IEEE 62209-1528)

Frequency (MHz)	Real part of the complex relative permittivity, ε_r	Conductivity, σ(S/m)	Value of Interpolated (I/P), Extrapolated (E/P)	Frequency (MHz)	Real part of the complex relative permittivity, ε_r	Conductivity, σ(S/m)	Value of Interpolated (I/P), Extrapolated (E/P)	
13	*55.0*	*0.75*	(E/P)	*5400*	*35.8*	*4.86*	(I/P)	NOTE: For convenience, permittivity and conductivity values are linearly interpolated for frequencies that are not a part of the original data from Drossos et al (*a). The italicized values ("Value of Interpolated (I/P), Extrapolated (E/P)") were linearly interpolated between the non-italicized (below 5800 MHz) or extrapolated (above 5800 MHz) from the non-italicized values that are immediately above and below these values.
2000	40.0	1.40	-	*5600*	*35.5*	*5.07*	(I/P)	
2100	*39.8*	*1.49*	(I/P)	5800	35.3	5.27	-	
2450	39.2	1.80	-	*6000*	*35.1*	*5.48*	(E/P)	
2600	*39.0*	*1.96*	(I/P)	*6500*	*34.5*	*6.07*	(E/P)	
3000	38.5	2.40	-	*7000*	*33.9*	*6.65*	(E/P)	
5000	*36.2*	*4.45*	(I/P)	*7500*	*33.3*	*7.24*	(E/P)	
5200	*36.0*	*4.66*	(I/P)	-				

*a. Drossos, A., Santomaa, V., and Kuster, N., "The dependence of electromagnetic energy absorption upon human head tissue composition in the frequency range of 300-3000 MHz," IEEE Trans. Microwave Theory Tech., Nov. 2000, vol. 48, no. 11, pp. 1988–1995.

6.3 Simulated tissue composition

Used	☒	☒
Model No. / Product No.	HBBL600-10000V6 / SL AAH U16 BC	HBBL4-250V3 / SL AAH 005 AD
Frequency [MHz]	600 to 10000	4 to 250
Ingredient: Mixture [%]	Water: > 77	50 < Water < 90
	Ethanediol: < 5.2	5 < Non-ionic detergents < 50
	Sodium acids, petroleum, sodium salts:< 3	NaCl:< 2
	Hexylene Glycol: < 3	Preservative: < 0.1
	Alkoxylated alcohol (>C_{16}):< 2	-
	Potassium hydroxide: < 1	-
	Pyridine-2-thiol 1-oxide: <0.1	-
Tolerance specification [%]	± 10	
Manufacture	Schmid & Partner Engineering AG	

SECTION 7: Measurement results

7.1 Measurement results

7.1.1 SAR measurement results (BT)

RF Exposure conditon	Setup position	Gap [mm]	Source power	Tx mode mode	Tx	Stream	D/R [Mbps]	Freq. [MHz]	CH	Duty [%]	Duty S/F [-]	Pmax [dBm]	Pset [-]	Pmeas [dBm]	Pwr. S/F [-]	SAR1g [W/kg] (*b) Meas.	Δsar(*a)	Report	Data plot#, Appx.2
Body	Right	0	Battery	BR	1Tx	1ST	1	2402	0	76.7	1.3	6.5	Fix	5.63	1.22	0.051	N/A	**0.081**	-
Body	Right	0	Battery	BR	1Tx	1ST	1	2441	39	76.7	1.3	6.5	Fix	5.56	1.24	0.055	N/A	**0.089**	-
Body	Right	0	Battery	BR	1Tx	1ST	1	2480	78	76.7	1.3	6.5	Fix	5.48	1.26	0.054	N/A	**0.088**	-
Body	Front	0	Battery	BR	1Tx	1ST	1	2402	0	76.7	1.3	6.5	Fix	5.63	1.22	0.172	N/A	**0.273**	-
Body	Front	0	Battery	BR	1Tx	1ST	1	2441	39	76.7	1.3	6.5	Fix	5.56	1.24	0.179	N/A	**0.289**	-
Body	Front	0	Battery	BR	1Tx	1ST	1	2480	78	76.7	1.3	6.5	Fix	5.48	1.26	0.17	N/A	**0.278**	-
Body	Right	0	Battery	BT LE(1M)	1Tx	1ST	1	2402	0	85	1.18	6.5	Fix	5.63	1.22	0.059	N/A	**0.085**	-
Body	Right	0	Battery	BT LE(1M)	1Tx	1ST	1	2440	19	85	1.18	6.5	Fix	5.57	1.24	0.061	N/A	**0.089**	-
Body	Right	0	Battery	BT LE(1M)	1Tx	1ST	1	2480	39	85	1.18	6.5	Fix	5.49	1.26	0.06	N/A	**0.089**	-
Body	Front	0	Battery	BT LE(1M)	1Tx	1ST	1	2402	0	85	1.18	6.5	Fix	5.63	1.22	0.195	N/A	**0.281**	-
Body	Front	0	Battery	BT LE(1M)	1Tx	1ST	1	2440	19	85	1.18	6.5	Fix	5.57	1.24	0.2	N/A	**0.293**	D1
Body	Front	0	Battery	BT LE(1M)	1Tx	1ST	1	2480	39	85	1.18	6.5	Fix	5.49	1.26	0.188	N/A	**0.28**	-

7.1.2 SAR measurement results (RFID)

RF Exposure conditon	Setup position	Gap [mm]	Source power	Tx mode mode	Freq. [MHz]	Duty [%]	Duty S/F [-]	Pset [-]	Pwr. S/F [-]	SAR1g [W/kg] (*b) Meas.	Δsar(*a)	Report	Limit [W/kg]	Data plot#, Appx.2
Body	Front	0	Battery	Type A	13.56	100	1	Fix	1	0.028	N/A	**0.028**	1.6	-
Body	Left	0	Battery	Type A	13.56	100	1	Fix	1	0.005	N/A	**0.005**	1.6	-
Body	Right	0	Battery	Type A	13.56	100	1	Fix	1	0.01	N/A	**0.01**	1.6	-
Body	Back	0	Battery	Type A	13.56	100	1	Fix	1	0.003	N/A	**0.003**	1.6	-
Body	Top	0	Battery	Type A	13.56	100	1	Fix	1	N/D	N/A	**N/A**	1.6	-
Body	Bottom	0	Battery	Type A	13.56	100	1	Fix	1	N/D	N/A	**N/A**	1.6	-
Body	Front	0	Battery	Type B	13.56	100	1	Fix	1	0.033	N/A	**0.033**	1.6	-
Body	Front	0	Battery	Type F	13.56	100	1	Fix	1	0.033	N/A	**0.033**	1.6	-
Body	Front	0	Battery	ISO 15693	13.56	100	1	Fix	1	0.036	N/A	**0.036**	1.6	D2
Body	Left	0	Battery	ISO 15693	13.56	100	1	Fix	1	0.007	N/A	**0.007**	1.6	-
Body	Right	0	Battery	ISO 15693	13.56	100	1	Fix	1	0.013	N/A	**0.013**	1.6	-
Body	Back	0	Battery	ISO 15693	13.56	100	1	Fix	1	0.003	N/A	**0.003**	1.6	-
Body	Top	0	Battery	ISO 15693	13.56	100	1	Fix	1	N/D	N/A	**N/A**	1.6	-
Body	Bottom	0	Battery	ISO 15693	13.56	100	1	Fix	1	N/D	N/A	**N/A**	1.6	-

*. The highest Reported (scaled) SAR on each antenna are marked with yellow marker (x.xxx), respectively.
*. Exempt: SAR test is exempted by evaluated SAR test exclusion threshold power. See section 4.; Ant.: Antenna; D/R: Data rate; Freq.: Frequency; Duty: Duty cycle; D.S/F: Duty Scaling Factor; Pmax: Max power (Tune-up tolerance power); Pmeas.: Measurement conducted power; P.S/F: Power Scaling Factor; Meas.: Measurement; Appx: Appendix; Gap: It is separation distance between the device surface and the bottom outer surface of phantom ; N/D.: No detected.
*. All SAR tests were conservatively performed with test separation distance 0 mm.
*. During SAR test, the radiated power is always monitored by Spectrum Analyzer or/and MAIA. Before test, the battery was full charged.

*a. Since the Δε' and Δσ values were within ±5 %, ΔSAR correction was not applied. Even when the Δε' and Δσ exceeded ±5 %, if the ΔSAR value was positive, the correction was not applied for conservative reasons.
Calculating formula: ΔSAR corrected SAR (W/kg) = (Measured SAR (W/kg)) × (100 - (ΔSAR(%)) / 100, when ΔSAR shows negative sign.
*b. Calculating formula: Reported (Scaled) SAR (W/kg) = (Measured SAR (W/kg)) × (Duty scaled factor) × (Power scaled factor)
where, Duty scaled factor (D.S/F) [-] = 100(%) / (measured duty cycle, %), Power scaled factor (P.S/F) [-] = 10 ^ (((Max.power, dBm) - (Measured power, dBm)) / 10)

7.2 Simultaneous transmission (including Co-location) evaluation

7.2.1 Standalone

Result: Simultaneous transmission SAR complied to SUM of the SAR(1g) is < 1.6 W/kg.

*. The table below shows the combinations of transmissions (as "worst case") that can be sent simultaneously from antenna(s).

Use cases	SAR [W/kg]		SUM SAR [W/kg] (Limit: 1.6 W/kg)
	BT	RFID	
BT + RFID	0.293	0.036	0.329

7.2.2 Co-location with the BEE-001 or BEE-001(-01) or BEE-056

Result: Simultaneous transmission SAR complied either sum of SAR(1g) is ≤ 1.6 W/kg or the SPLSR of antenna pair is ≤ 0.04.

*. The table below shows the combinations of transmissions that can be sent simultaneously from antenna(s).

No.	Simultaneous transmission scenarios	Ant.#	BEE-001								BEE -014(-01)	SUM Ant. All	
			1	0				2					
		Mode	BT(1)	BT(0)	WLAN			WLAN			RFID	0+ (1+2+RFID) (All bands)	
		Band (GHz)	2.4	2.4	2.4 (Low)	2.4	5	2.4 (Low)	2.4	5	0.013	SAR 1 g	SPLSR
		Exp.type (SAR[W/kg]) (PD[w/m2])	1 g	1 g	1 g	1 g	1 g	1g	1 g	1 g	1 g	Limit: 1.6 W/kg	≤ 0.04
1	W2.4(0)+BT(1) +RFID		0.076			0.606					0.036	**0.718**	-
2	W2.4(2)+BT(0) +RFID			0.089					0.986		0.036	**1.111**	-
3	W2.4(2)+BT(1) +RFID		0.076						0.986		0.036	**1.098**	-
4	W2.4(2)+BT(0/1) +RFID		0.076	0.089					0.986		0.036	**1.187**	-
5	W2.4(0/1)+BT(1) +RFID		0.076			0.114			0.196		0.036	**0.422**	-
6	W5(0)+W2.4(2) +RFID						0.859		0.986		0.036	**1.881**	**0.022**
7	W5(2)+W2.4(0) +RFID					0.606				1.303	0.036	**1.945**	**0.023**
8	W5(0)+W2.4(2)+BT(0) +RFID			0.089			0.859		0.986		0.036	**1.970**	**0.024**
9	W5(0)+W2.4(2)+BT(1) +RFID		0.076				0.859		0.986		0.036	**1.957**	**0.023**
10	W5(0)+W2.4(2)+BT(0/1) +RFID		0.076	0.089			0.859		0.986		0.036	**2.046**	**0.025**
11	W5(0)+BT(0) +RFID			0.089			0.859				0.036	**0.984**	-
12	W5(0)+BT(1) +RFID		0.076				0.859				0.036	**0.971**	-
13	W5(2)+BT(0) +RFID			0.089						1.303	0.036	**1.428**	-
14	W5(2)+BT(1) +RFID		0.076							1.303	0.036	**1.415**	-
15	W5(0)+BT(0/1) +RFID		0.076	0.089			0.859				0.036	**1.060**	-
16	W5(2)+BT(0/1) +RFID		0.076	0.089						1.303	0.036	**1.504**	-
17	W5(0/2)+BT(0) +RFID			0.089			0.768			1.295	0.036	**2.188**	**0.028**
18	W5(0/2)+BT(1) +RFID		0.076				0.768			1.295	0.036	**2.175**	**0.027**
19	W5(0/2)+BT(0/1) +RFID		0.076	0.089			0.768			1.295	0.036	**2.264**	**0.029**

*. "BEE-001" is a game console, and it is connected to the EUT's right side.
Simultaneous transmission evaluation is applied as SAR value from FCC ID: BKEBEE001 / ISED No.: 4360A-BEE001.

*. "BEE-001" can transmit BT & WLAN of BEE-001 and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously.

*. The highest SUM SAR is marked with yellow marker (x.xxx).

*. According to KDB 447498, when the sum of SAR is greater than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR), and the simultaneously transmitting antennas must be considered one pair at a time. The ratio is determined by {(SAR1+SAR2)^1.5} / (separation distance between the peak SAR locations for the antenna pair, mm), round to three decimal digits, and must be up to 0.04 for all antenna pairs in the configuration to qualify for 1g SAR test exclusion.

*. A hybrid SPLSR method was applied to Ant 0 and the combined set of Ant 1, 2, and RFID, with a separation distance of 117 mm.

*. The table below shows the combinations of transmissions that can be sent simultaneously from antenna(s).

No.	Simultaneous transmission scenarios	Ant.#	BEE-001(-01)						BEE -014(-01)	SUM	
			1	0			2			Ant. All	
		Mode	BT(1)	BT(0)	WLAN		WLAN		RFID	0+ (1+2+RFID)	
										(All bands)	
		Band (GHz)	2.4	2.4	2.4	5	2.4	5	0.013	SAR 1 g	SPLSR
		Exp.type (SAR[W/kg])	1 g	1 g	1 g	1 g	1 g	1 g	1 g	Limit: 1.6 W/kg	≤ 0.04
1	W2.4(0)+BT(1) +RFID		0.023		0.285				0.036	**0.344**	-
2	W2.4(2)+BT(0) +RFID			0.032			1.05		0.036	**1.118**	-
3	W2.4(2)+BT(1) +RFID		0.023				1.05		0.036	**1.109**	-
4	W2.4(2)+BT(0/1) +RFID		0.023	0.032			1.05		0.036	**1.141**	-
5	W2.4(0/1)+BT(1) +RFID		0.023		0.189		0.91		0.036	**1.158**	-
6	W5(0)+W2.4(2) +RFID					1.19	1.05		0.036	**2.276**	**0.028**
7	W5(2)+W2.4(0) +RFID				0.285			0.938	0.036	**1.259**	-
8	W5(0)+W2.4(2)+BT(0) +RFID			0.032		1.19	1.05		0.036	**2.308**	**0.029**
9	W5(0)+W2.4(2)+BT(1) +RFID		0.023			1.19	1.05		0.036	**2.299**	**0.028**
10	W5(0)+W2.4(2)+BT(0/1) +RFID		0.023	0.032		1.19	1.05		0.036	**2.331**	**0.029**
11	W5(0)+BT(0) +RFID			0.032		1.19			0.036	**1.258**	-
12	W5(0)+BT(1) +RFID		0.023			1.19			0.036	**1.249**	-
13	W5(2)+BT(0) +RFID			0.032				0.938	0.036	**1.006**	-
14	W5(2)+BT(1) +RFID		0.023					0.938	0.036	**0.997**	-
15	W5(0)+BT(0/1) +RFID		0.023	0.032		1.19			0.036	**1.281**	-
16	W5(2)+BT(0/1) +RFID		0.023	0.032				0.938	0.036	**1.029**	-
17	W5(0/2)+BT(0) +RFID			0.032		1.217		1.033	0.036	**2.318**	**0.029**
18	W5(0/2)+BT(1) +RFID		0.023			1.217		1.033	0.036	**2.309**	**0.029**
19	W5(0/2)+BT(0/1) +RFID		0.023	0.032		1.217		1.033	0.036	**2.341**	**0.029**

*. "BEE-001(-01)" is a game console, and it is connected to the EUT's right side.
Simultaneous transmission evaluation is applied as SAR value from FCC ID: BKEBEE00101 / ISED No.: 4360A-BEE00101.

*. "BEE-001(-01)" can transmit BT & WLAN of BEE-001(-01) and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously.

*. The highest SUM SAR is marked with yellow marker (x.xxx).

*. According to KDB 447498, when the sum of SAR is greater than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR), and the simultaneously transmitting antennas must be considered one pair at a time. The ratio is determined by {(SAR1+SAR2)^1.5} / (separation distance between the peak SAR locations for the antenna pair, mm), round to three decimal digits, and must be up to 0.04 for all antenna pairs in the configuration to qualify for 1g SAR test exclusion.

*. A hybrid SPLSR method was applied to Ant 0 and the combined set of Ant 1, 2, and RFID, with a separation distance of 123 mm.

*. The table below shows the combinations of transmissions that can be sent simultaneously from antenna(s).

No.	Simultaneous transmission scenarios	Ant.#	BEE-056								BEE -014(-01)	SUM Ant. All	
			1	0				2					
		Mode	BT(1)	BT(0)	WLAN			WLAN			RFID	0+ (1+2+RFID) (All bands)	
		Band (GHz)	2.4	2.4	2.4 (Low)	2.4	5	2.4 (Low)	2.4	5	0.013	SAR 1 g	SPLSR
		Exp.type (SAR[W/kg]) (PD[w/m2])	1 g	1 g	1 g	1 g	1 g	1g	1 g	1 g	1 g	Limit: 1.6 W/kg	≤ 0.04
1	W2.4(0)+BT(1) +RFID		0.115			0.738					0.036	**0.889**	-
2	W2.4(2)+BT(0) +RFID			0.121					1.054		0.036	**1.211**	-
3	W2.4(2)+BT(1) +RFID		0.115						1.054		0.036	**1.205**	-
4	W2.4(2)+BT(0/1) +RFID		0.115	0.121					1.054		0.036	**1.326**	-
5	W2.4(0/1)+BT(1) +RFID		0.115			0.16			0.2		0.036	**0.511**	-
6	W5(0)+W2.4(2) +RFID						0.927		1.054		0.036	**2.017**	**0.024**
7	W5(2)+W2.4(0) +RFID					0.738				1.453	0.036	**2.227**	**0.028**
8	W5(0)+W2.4(2)+BT(0) +RFID			0.121			0.927		1.054		0.036	**2.138**	**0.027**
9	W5(0)+W2.4(2)+BT(1) +RFID		0.115				0.927		1.054		0.036	**2.132**	**0.027**
10	W5(0)+W2.4(2)+BT(0/1) +RFID		0.115	0.121			0.927		1.054		0.036	**2.253**	**0.029**
11	W5(0)+BT(0) +RFID			0.121			0.927				0.036	**1.084**	-
12	W5(0)+BT(1) +RFID		0.115				0.927				0.036	**1.078**	-
13	W5(2)+BT(0) +RFID			0.121						1.453	0.036	**1.610**	**0.017**
14	W5(2)+BT(1) +RFID		0.115							1.453	0.036	**1.604**	**0.017**
15	W5(0)+BT(0/1) +RFID		0.115	0.121			0.927				0.036	**1.199**	-
16	W5(2)+BT(0/1) +RFID		0.115	0.121						1.453	0.036	**1.725**	**0.019**
17	W5(0/2)+BT(0) +RFID			0.121			0.907			1.472	0.036	**2.536**	**0.035**
18	W5(0/2)+BT(1) +RFID		0.115				0.907			1.472	0.036	**2.530**	**0.034**
19	W5(0/2)+BT(0/1) +RFID		0.115	0.121			0.907			1.472	0.036	**2.651**	**0.037**

*. "BEE-056" is a game console, and it is connected to the EUT's right side.
Simultaneous transmission evaluation is applied as SAR value from FCC ID: BKEBEE056 / ISED No.: 4360A-BEE056.

*. "BEE-056" can transmit BT & WLAN of BEE-056 and RFID of BEE-014(-01) simultaneously when BEE-014(-01) is connected. At this time, BT of BEE-014(-01) cannot transmit simultaneously.

*. The highest SUM SAR is marked with yellow marker (x.xxx).

*. According to KDB 447498, when the sum of SAR is greater than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR), and the simultaneously transmitting antennas must be considered one pair at a time. The ratio is determined by {(SAR1+SAR2)^1.5} / (separation distance between the peak SAR locations for the antenna pair, mm), round to three decimal digits, and must be up to 0.04 for all antenna pairs in the configuration to qualify for 1g SAR test exclusion.

*. A hybrid SPLSR method was applied to Ant 0 and the combined set of Ant 1, 2, and RFID, with a separation distance of 117 mm.

7.3 SAR Measurement Variability (Repeated measurement requirement)

Result: Since all the measured SAR are less than 0.8 W/kg (SAR(1g)), the repeated measurement is not required.

7.4 Device holder perturbation verification (SAR)

Result: Since all the reported (scaled) SAR are less than 1.2 W/kg (SAR(1g)), the additional "device holder perturbation verification" measurement is not considered.

7.5 Requirements on the Uncertainty Evaluation

7.5.1 SAR Uncertainty Evaluation

Decision Rule

☑ Uncertainty is not included.

☐ Uncertainty is included.

*. The highest measured SAR(1g) is less than 1.5 W/kg and the highest measured SAR(10g) is less than 3.75 W/kg. Thus, per KDB Publication 865664 D01, the extended measurement uncertainty analysis described in IEC/IEEE 62209-1528 is not required. The uncertainty (k=2) of SAR measurement is smaller than 30 %.

APPENDIX 2: Measurement data

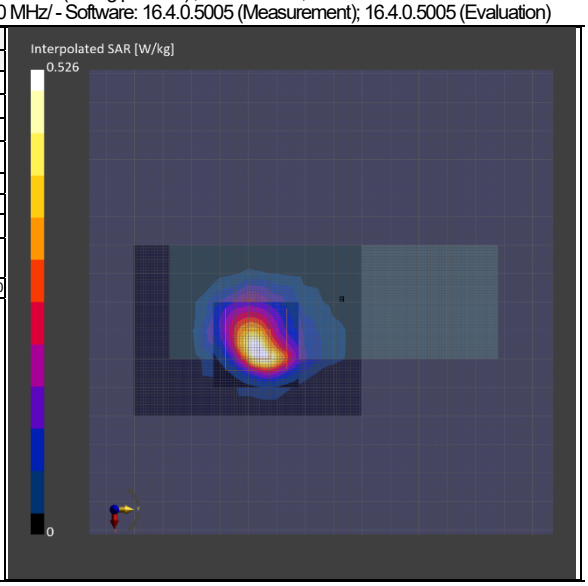
Appendix 2-1: Plot(s) of Worst Reported Exposure Value (in each operation band, on each antenna)

Plot D1:

Mode: BT LE (PHY1) CW (UID: 0 (CW)) ; Frequency: 2440.000 MHz ; Test Distance: 0.00 mm
TSL parameters used: Head(v6) ; f= 2440.000 MHz; Conductivity: 1.82 S/m; Permittivity: 41.0

DASY8 Configuration: - Electronics: DAE4 - SN626 (Calibrated: 2025-01-13) / - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3907(Calibrated: 2025-01-29); ConvF: (6.81, 6.96, 6.91) @ 2440.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	80.0x160.0	60.0x80.0	30.0x30.0x30.0	psSAR 1g [W/kg]	0.192	**0.200**
Grid Steps [mm]	10.0x10.0	10.0x10.0	5.0x5.0x1.5	psSAR 10g [W/kg]	0.088	**0.088**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	0.04	0.09
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	0.526
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	73.2
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	5.9
Grid Effective [mm]	N/A	60.0x80.0	30.0x30.0x31.2	SAR1g Position (x,y,z)	N/A	14.8, -27.3, -172.0



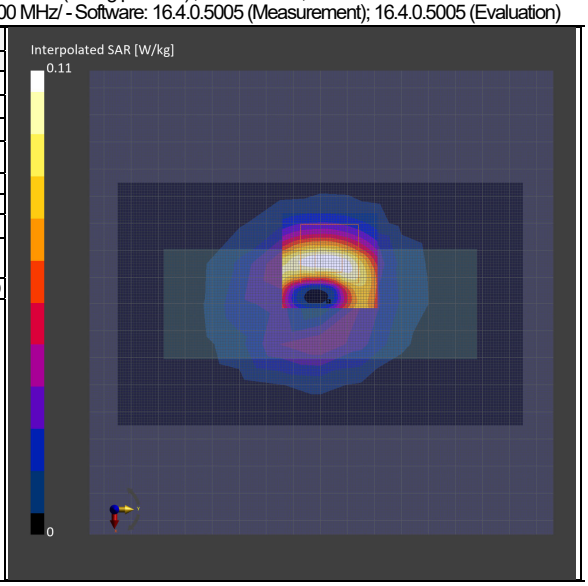
Remarks: *. Order No.: 15994164 ;*. Date tested:2025-10-12 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 22.0 deg.C. ±0.5 deg.C. (22.0 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251011-,bee-014,15994164.d8sar- 10-10/12,ble,2440m,front

Plot D2:

Mode: RFID (ISO 15693) CW (UID: 0 (CW)) ; Frequency: 13.560 MHz ; Test Distance: 0.00 mm
TSL parameters used: HBBL4-250V3 ; f= 13.560 MHz; Conductivity: 0.743 S/m; Permittivity: 53.1

DASY8 Configuration: - Electronics: DAE4 - SN626 (Calibrated: 2025-01-13) / - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3745(Calibrated: 2025-04-15); ConvF: (14.87, 12.88, 14.89) @ 13.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	90.0x150.0	90.0x150.0	30.0x30.0x30.0	psSAR 1g [W/kg]	0.040	**0.036**
Grid Steps [mm]	15.0x15.0	15.0x15.0	5.9x5.9x1.5	psSAR 10g [W/kg]	0.029	**0.016**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	-0.04	0.01
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	0.110
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	63.8
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	7.2
Grid Effective [mm]	N/A	90.0x150.0	35.4x35.4x31.2	SAR1g Position (x,y,z)	N/A	-16.9, 3.1, -172.0



Remarks: *. Order No.: 15994164 ;*. Date tested:2025-11-30 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 21.8 deg.C. ±0.5 deg.C. (21.8 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251130-,bee-014,15994164_13M.d8sar- 4-11/30,iso,front

APPENDIX 3: Test instruments

Appendix 3-1: Equipment used

Test Name	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
AT	236500	Attenuator	To-Conne Co., Ltd.	SA-PJ-10	-	2025/11/05	12
AT	145191	Coaxial Cable	Huber+Suhner	ST18/SMAm/SMAm/1000mm	-	2025/03/06	12
AT	169910	Pow er Meter	Keysight Technologies Inc	8990B	MY51000448	2025/05/21	12
AT	169911	Pow er sensor	Keysight Technologies Inc	N1923A	MY57270004	2025/05/21	12
AT	146223	Spectrum Analyzer	Keysight Technologies Inc	N9010A-526	MY48031482	2025/10/30	12
AT,SAR	191844	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2025/08/14	12
SAR	273152	0.05 mol/L Sodium Chloride Solution(N/20)	Kanto Chemical Co., Inc.	37918-08	-	-	-
SAR	273153	0.1 mol/L Sodium Chloride Solution(N/10)	Kanto Chemical Co., Inc.	37834-08	-	-	-
SAR	224032	6-axis Robot	Schmid&Partner Engineering AG	TX2-60L spe	F/22/0033789/A/001	2025/08/05	12
SAR	144882	Attenuator	Weinschel - API Technologies Corp	24-10-34	BY5927	2025/11/30	12
SAR	226051	Confined Loop Antenna	Schmid & Partner Engineering AG	CLA13	1025	2025/06/19	12
SAR	224031	DASY8 Module SAR/APD soft	Schmid&Partner Engineering AG	ver.16.4.0.5005	9-2506F07D ver.16.4.0.5005	-	-
SAR	224020	DASY8 PC	Hew lett Packard	HP Z4 G4 Workstation	CZC1198G21	-	-
SAR	144944	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	626	2025/01/13	12
SAR	145596	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	2025/08/05	12
SAR	268465	DI w ater	MonotaRo	34557433	-	-	-
SAR	144886	Dielectric assessment kit soft	Schmid&Partner Engineering AG	DAK ver.3.0.6.72	9-0EE103A4 ver.3.0.6.72	-	-
SAR	145500	Dielectric probe	Schmid&Partner Engineering AG	DAK3.5	1129	2025/01/14	12
SAR	201967	Digital thermomoter	HANNA	Checktemp-4	A01440226111	2025/08/14	12
SAR	201968	Digital thermomoter	HANNA	Checktemp-4	A01310946111	2025/08/14	12
SAR	146323	Digtal thermometer	LKMelectonic	DTM3000	3171	2025/08/14	12
SAR	145090	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	822	2025/01/07	12
SAR	145466	Directional Coupler	WERLATONE	C5086-10	81074	2025/04/04	12
SAR	146235	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3907	2025/01/29	12
SAR	226380	Dosimetric E-Field Probe	Schmid & Partner Engineering AG	EX3DV4	3745	2025/04/15	12
SAR	224026	Electro-Optical Converter	Schmid & Partner Engineering AG	EOC8-60	1027	-	-
SAR	224034	Flat Phantom	Schmid&Partner Engineering AG	ELI V8.0	2161	2025/08/18	12
SAR	255189	Head Tissue Simulating Liquid	Schmid&Partner Engineering AG	HBBL600-10000V6	SL AAH U16 BC	-	-
SAR	259561	Head Tissue Simulating Liquid	Schmid&Partner Engineering AG	HBBL4-250V3	-	-	-
SAR	145358	Insertion Unit	Rohde & Schw arz	URV5-Z4	828208/010	2025/09/23	12
SAR	147482	Insertion Unit	Rohde & Schw arz	URV5-Z4	828208/009	2025/09/23	12
SAR	224027	Light Beam Unit	Schmid & Partner Engineering AG	LIGHTBEAM-85	2069	-	-
SAR	224025	Measurement Server	Schmid & Partner Engineering AG	DASY8 Measurement Server	10042	2025/01/27	12
SAR	224028	Modulation & Audio Interference Analyser	Schmid & Partner Engineering AG	MAIA	1582	-	-
SAR	225155	Mounting Platform	Schmid & Partner Engineering AG	MP8E-TX2-60L Basic	-	-	-

Test Name	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
SAR	145895	Network Analyzer	Keysight Technologies Inc	E5071C	MY46106282	2024/12/30	12
SAR	146258	Network Analyzer	Keysight Technologies Inc	8753ES	US39171777	2025/10/07	12
SAR	146089	Power Meter	Rohde & Schwarz	NRVD	829268/039	2025/09/23	12
SAR	199358	Power Meter	Keysight Technologies Inc	E4416A	GB41290974	2025/09/24	12
SAR	223097	Power sensor	Hewlett Packard	E4412A	US37183453	2025/09/24	12
SAR	255474	Primepure Ethanol	Kanto Chemical Co., Inc.	14032-79	-	-	-
SAR	250148	Probe	Schmid & Partner Engineering AG	DAK-12	1197	2025/06/17	12
SAR	145609	RF Power Amplifier	Amplifier Research	75A250	330791	2025/04/11	12
SAR	230872	RF Power Source	Schmid&Partner Engineering AG	POWERSOURCE1	4300	2025/01/03	12
SAR	224023	Robot Controller	Schmid & Partner Engineering AG	CS9spe-TX2-60	F/22/0033789/C/001	-	-
SAR	145106	Ruler(150mm,L)	SHINWA	12103	-	2025/02/14	12
SAR	144993	Ruler(300mm)	SHINWA	13134	-	2025/02/14	12
SAR	145086	Ruler(300mm)	SHINWA	13134	-	2025/02/14	12
SAR	146424	Search coil	Langer	RF-R 400-1	02-0628	-	-
SAR	145805	Signal Generator	Keysight Technologies Inc	N5181A	MY48181112	2025/09/22	12
SAR	227155	SP2 Manual Control Pendant	Schmid&Partner Engineering AG	D21144507 C	22066839	-	-
SAR	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2025/03/31	12
SAR	146176	Spectrum Analyzer	ADVANTEST	R3272	101100994	-	-
SAR	144986	Thermo-Hygrometer data logger	SATO KEIRYOKI	SK-L200THIIα/SK-LTHIIα-2	015246/08169	2025/08/14	12
SAR	238557	Thermo-Hygrometer data logger	A&D Company	AD-5696	990127766	2025/08/14	12

*Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

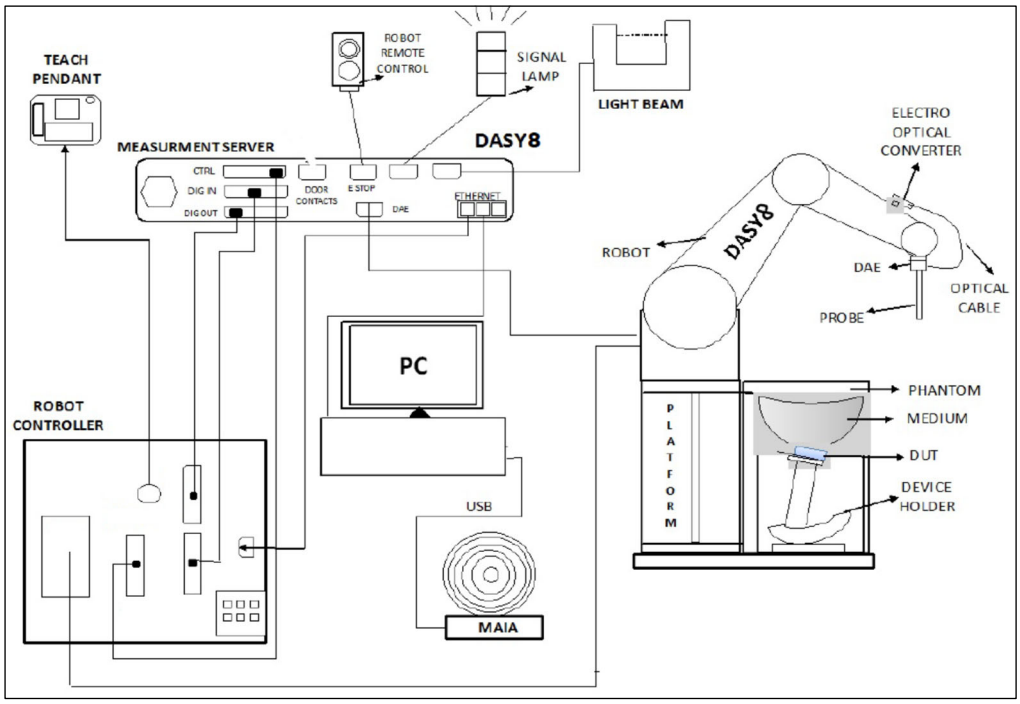
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.
Test Item:
AT: Antenna terminal conducted test,
SAR: Specific Absorption Rate

*.LIMS ID: 255474, the parameters of primepure Ethanol (as reference liquid) used for the simulated tissue parameter confirmation was defined the NPL Report MAT23.

Appendix 3-2: Measurement System

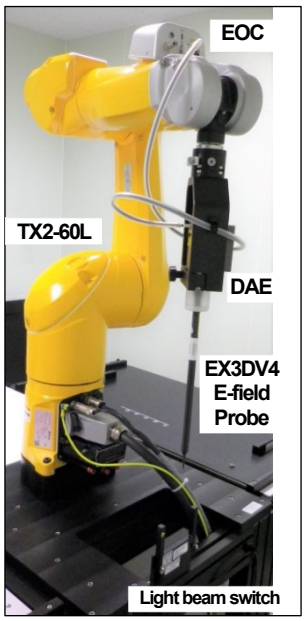
Appendix 3-2-1: SAR Measurement System

These measurements were performed with the automated near-field scanning system DASY8 from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot), which positions the probes with a positional repeatability of better than ± 0.03 mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines to the data acquisition unit. The SAR measurements were conducted with the dosimetry probes EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.



The DASY8 SAR/APD system for performing compliance tests consist of the following items:

- 6-axis robotic arm (Stäubli TX2-60L) for positioning the probe
- Mounting Platform for keeping the phantoms at a fixed location relative to the robot
- Measurement Server for handling all time-critical tasks, such as measurement data acquisition and supervision of safety features
- EOC (Electrical to Optical Converter) for converting the optical signal from the DAE to electrical before being transmitted to the measurement server
- LB (Light-Beam unit) for probe alignment (measurement of the exact probe length and eccentricity)
- SAR probe (EX3DV4 probes) for measuring the E-field distribution in the phantom. The SAR distribution and the psSAR (peak spatial averaged SAR) are derived from the E-field measurement.
- SAR phantom that represents a physical model with an equivalent human anatomy. A Specific Anthropomorphic Mannequin (SAM) head is usually used for handheld devices, and a Flat phantom is used for body-worn devices.
- TSL (Tissue Simulating Liquid) representing the dielectric properties of used tissue, e.g. Head Simulating Liquid, HSL.
- DAE (Data Acquisition Electronics) for reading the probe voltages and transmitting it to the DASY8 PC.
- Device Holder for positioning the DUT beneath the phantom.
- MAIA (Modulation and Interference Analyzer) for confirming the accuracy of the probe linearization parameters
- Operator PC for running the DASY8 software to define/execute the measurements
- System validation kits for system check/validation purposes.



Platforms

The platform is a multi-phantom support structure made of a wood and epoxy composite (ε = 3.3 and loss tangent δ < 0.07). It is a strong and rigid structure transparent to electric and magnetic fields (nonmetallic components).

TX2-60L robot, CS9 robot controller

•Number of Axes : 6 •Repeatability : ± 0.03 mm •Manufacture : Stäubli

DASY8 Measurement server

The DASY8 Measurement Server handles all time critical tasks such as acquisition of measurement data, detection of phantom surface, control of robot movements, supervision of safety features.
•Manufacture : Schmid & Partner Engineering AG

Data Acquisition Electronic (DAE)

The DAE is used to acquire the probe sensor voltages and transfer them to the DASY8 Measurement Server, and to report mechanical surface detection and probe collisions. The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter, and a command decoder with a control logic unit. Transmission to the DASY8 Measurement Server is accomplished through an optical downlink for data and status information and an optical uplink for commands and the clock. The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts used for mechanical surface detection and probe collision detection.
•Measurement Range : 1 µV to > 200 mV (2 range settings: 4 mV (low), 400 mV (high))
•Input Offset voltage : < 1 µV (with auto zero) •Input Resistance : 200 MΩ
•Battery operation : > 10 hrs. (with two rechargeable 9 V battery)
•Manufacture : Schmid & Partner Engineering AG

Electro-Optical Converter (EOC8-TX2-60L)

The Electrical to Optical Converter (EOC8) supports as data exchange between the DAE and the measurement server (optical connector) and data acquisition based on Ethernet protocol.
•Manufacture : Schmid & Partner Engineering AG

Light Beam Switch

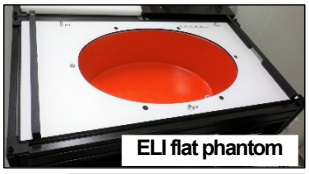
The light beam unit allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm, as well as the probe length and the horizontal probe offset, are measured. The software then corrects all movements within the measurement jobs, such that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

SAR measurement software

•Software version : Refer to Appendix 3-1 (Equipment used) •Manufacture : Schmid & Partner Engineering AG

E-Field Probe

•Model : EX3DV4 •Frequency : 4 MHz to 10 GHz, Linearity: ±0.2 dB (30 MHz to 10 GHz)
•Construction : Symmetrical design with triangular core, Built-in shielding against static charges, PEEK enclosure material (resistant to organic solvents, e.g., DGBE).
•CF : Refer to calibration data of Appendix. (CF: Conversion Factors)
•Directivity : ± 0.1 dB in TSL (rotation around probe axis) / ± 0.3 dB in TSL (rotation normal to probe axis)
•Dynamic Range : 10 µW/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
•Dimension : Overall length: 330 mm (Tip: 20 mm) / Tip diameter: 2.5 mm (Body: 12 mm)
Typical distance from probe tip to dipole centers: 1mm
•Application : High precision dosimetric measurement 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 %.
•Manufacture : Schmid & Partner Engineering AG



ELI Phantom

The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4 MHz to 10 GHz. ELI is fully compatible with the IEC/IEEE 62209-1528 standard and all known tissue simulating liquids.
ELI V8.0 phantom shell has optimized pretension in the bottom surface during production, such that the phantom is more robust and with reduced sagging.
•Model Number : ELI V8.0 flat phantom •Shell Material : Vinyl ester, fiberglass reinforced (VE-GF)
•Shell Thickness : 2.0 ± 0.2 mm (bottom plate) •Dimensions : 600 mm × 400 mm (oval) (volume: Approx. 30 liters)
•Manufacture : Schmid & Partner Engineering AG

Device Holder, Laptop holder, support material

Accurate device positioning is crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards. The device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles. The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

☒ Device holder: In combination with the ELI phantom, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Transmitter devices can be easily and accurately positioned. The low-loss dielectric urethane foam was used for the mounting section of device holder.
•Material : Polyoxymethylene (POM) •Manufacture: Schmid & Partner Engineering AG

☐ Laptop holder: A simple but effective and easy-to-use extension for the Mounting Device; facilitates testing of larger devices (e.g., laptops, cameras, etc.) according to IEC/IEEE 62209-1528.
•Material : Polyoxymethylene (POM), PET-G, Foam •Manufacture: Schmid & Partner Engineering AG

☒ Support form: Urethane foam

Data storage and evaluation (post processing)

The uplink signal transmitted by the DUT is measured inside the TSL by the probe, which is accurately positioned at a precisely known distance and with a normal orientation with respect to the phantom surface. The dipole / loop sensors at the probe tips pick up the signal and generate a voltage, which is measured by the voltmeter inside the DAE. The DAE returns digital values, which are converted to an optical signal and transmitted via the EOC to the measurement server. The data is finally transferred to the DASY8 software for further post processing. In addition, the DASY8 software periodically requests a measurement with short-circuited inputs from the DAE to compensate the amplifier offset and drift. This procedure is called DAE zeroing.
The operator has access to the following low level measurement settings:
• the integration time is the voltage acquisition time at each measurement point. It is typically 0.5 s.
• the zeroing period indicates how often the DAE zeroing is performed.
In parallel, the MAIA measures the characteristics of the uplink signal via the air interface and sends this information to the DASY8 software, which compares them to the communication system defined by the operator. A warning is issued if any difference is detected.

The measurement data is now acquired and can be post processed to compute the psSAR1g /8g /10g.
The measured voltages are not directly proportional to SAR and must be linearized. The formulas below are based on [1] (*1).
The measured voltage is first linearized using the (a, b, c, d) set of parameters specific to the communication system and sensor:

$$V_{compi} = U_i + U_i^2 \cdot \frac{10^{\frac{d}{10}}}{d_{cp_i}}$$

with	V_{compi}	= compensated voltage of channel i (μV)	(i = x,y,z)
	U_i	= input voltage of channel i (μV)	(i = x,y,z)
	d	= PMR factor d (dB)	(Probe parameter)
	dcp_i	= diode compression point of channel i (μV)	(Probe parameter, i = x,y,z)

$$V_{compi_{dB\sqrt{\mu V}}} = 10 \cdot \log_{10}(V_{compi})$$

$$corr_i = a_i \cdot e^{-\left(\frac{b_i - 10\log_{10}(V_{compi})}{c_i}\right)^2}$$

with	$corr_i$	= correction factor of channel i (dB)	(i = x,y,z)
	$V_{compi_{dB\sqrt{\mu V}}}$	= compensated voltage of channel i (dB$\sqrt{\mu V}$)	(i = x,y,z)
	a_i	= PMR factor a of channel *i* (dB)	(Probe parameter, i = x,y,z)
	b_i	= PMR factor b of channel *i* (dB$\sqrt{\mu V}$)	(Probe parameter, i = x,y,z)
	c_i	= PMR factor c of channel *i* (-)	(Probe parameter, i = x,y,z)

The voltage $V_{i_{dB\sqrt{\mu V}}}$ is the linearized voltage in dB$\sqrt{\mu V}$):

$$V_{i_{dB\sqrt{\mu V}}} = V_{compi_{dB\sqrt{\mu V}}} - corr_i$$

with	$V_{i_{dB\sqrt{\mu V}}}$	= linearized voltage of channel i (dB$\sqrt{\mu V}$)	(i = x,y,z)
	$V_{compi_{dB\sqrt{\mu V}}}$	= compensated voltage of channel i (dB$\sqrt{\mu V}$)	(i = x,y,z)
	$Corr_i$	= PMR factor a of channel *i* (dB)	(i = x,y,z)

Finally, the linearized voltage is converted in μV :

$$V_i = 10^{\frac{V_{i_{dB\sqrt{\mu V}}}}{10}}$$

with	V_i	= linearized voltage of channel i (μV)	(i = x,y,z)
	$V_{compi_{dB\sqrt{\mu V}}}$	= linearized voltage of channel i (dB$\sqrt{\mu V}$)	(i = x,y,z)

The Field data for each channel are calculated using the linearized voltage:

E-fieldprobes: $$E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

with	V_i	= linearized voltage of channel i in μV	(i = x,y,z)
	$Norm_i$	= sensor sensitivity of channel i in μV/(V/m)^2 for E-field Probes	(i = x,y,z)
	$ConvF$	= sensitivity enhancement in solution	
	E_i	= electric field strength of channel i in V/m	(i = x,y,z)

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

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The E-field data value is used to calculate SAR :

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with	SAR	= local specific absorption rate in mW/g
	Etot	= total field strength in V/m
	σ	= conductivity in [Ω/m] or [S/m]
	ρ	= equivalent tissue density in g/cm^3

Note: The resulting linearized voltage is only approximated because the probe UID is used 0 (CW) for the test signal in this test report.

(*1) [1] Jagadish Nadakuduti, Sven Kuehn, Marcel Fehr, Mark Douglas Katja Pokovic and Niels Kuster, "The Effect of Diode Response of electromagnetic Field Probes for the Measurements of Complex Signals." IEEE Transactions on Electromagnetic Compatibility, vol. 54, pp. 1195–1204, Dec. 2012.

Appendix 3-2-2: SAR system check results

*. Prior to the SAR assessment of EUT, the Daily check was performed to test whether the SAR system was operating within its target of ±10 %. The Daily check results are in the table below.

Liquid type: Head		Liq.	ΔSAR		P.in	SAR (1g) [W/kg] (*b)							SAR (10g) [W/kg] (*b)							Dev.
Date	Freq.	Meas.	1g	10g		Meas.	1W	Target (*c)		Dev.[%]		Pass	Meas.	1W	Target (*c)		Dev.[%]		Pass	limit
	[MHz]	date	[%]	[%]	[dBm]	(*a)	scaled	CAL.	STD	CAL.	STD	?	(*a)	scaled	CAL.	STD	Cal.	STD	?	[%]
2025-10-12	2450	10-12	-0.2	-0.3	16.98	2.4	48.2	51.4	52.4	-6.2	-8.0	Pass	1.18	23.7	24.1	24	-1.7	-1.3	Pass	±10
2025-10-13	2450	10-12	-0.2	-0.3	16.98	2.39	48	51.4	52.4	-6.6	-8.4	Pass	1.18	23.7	24.1	24	-1.7	-1.3	Pass	±10
2025-11-30	13	11-30	-0.1	-0.2	30	0.525	0.526	0.518	0.516	1.5	2.0	Pass	0.33	0.33	0.326	0.331	1.5	0.1	Pass	±10
2025-12-01	13	11-30	-0.1	-0.2	30	0.526	0.527	0.518	0.516	1.7	2.2	Pass	0.331	0.332	0.326	0.331	1.8	0.4	Pass	±10

*. Freq.: Frequency, Meas.: Measurement, CAL.: Value of Calibration, STD: Value of Standard, Dev. Deviation.
*a. (13 MHz) The Measured SAR value is obtained at 1 W.
(2.45 GHz) The Measured SAR/ value is obtained at 17 dBm (50 mW).
*b. The measured SAR value of Daily check was compensated for tissue dielectric deviations (ΔSAR) and scaled to 1W of output power in order to compare with the manufacture's calibration target value which was normalized.
ΔSAR corrected SAR (1g) (W/kg) = (Measured SAR(1g) (W/kg)) × (100 - (ΔSAR1g(%)) / 100
ΔSAR corrected SAR (10g,8g) (W/kg) = (Measured SAR(10g,8g) (W/kg)) × (100 - (ΔSAR10g(%)) / 100
*c. The "CAL." target value is a parameter defined in the calibration data.
The "STD" target value (normalized to 1W) is defined in IEEE Std.1528 and IEC/IEEE 62209-1528.

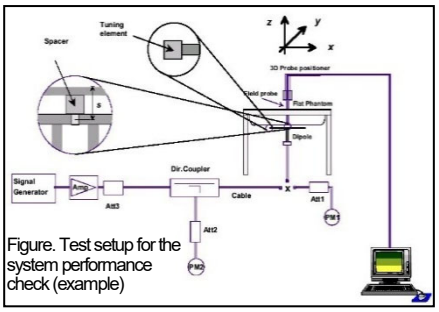
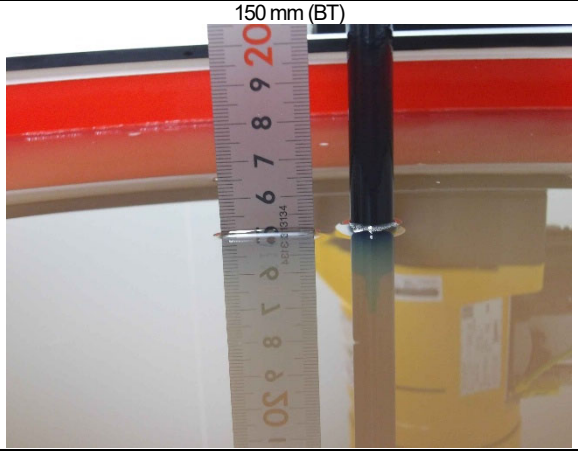


Figure. Test setup for the system performance check (example)

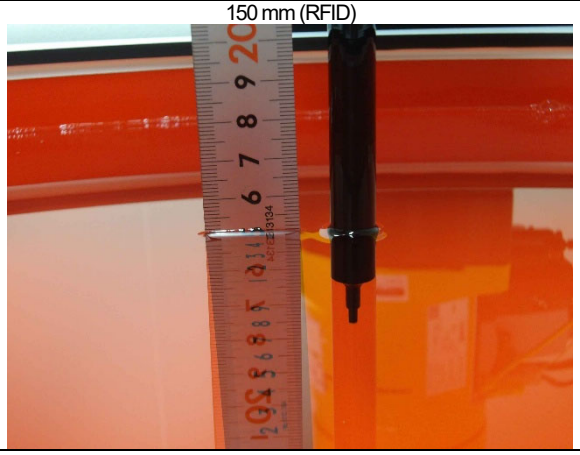
Appendix 3-2-3: SAR system check measurement data

Photographs of Liquid depth

150 mm (BT)



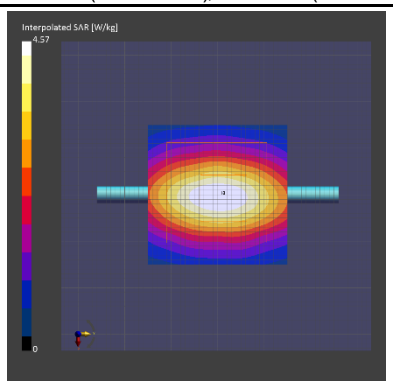
150 mm (RFID)



Dipole: D2450V2 - SN822 ; Mode: CW(0) ; Frequency: 2450.000 MHz ; Test Distance: 10 mm (dipole to liquid); Power setting: 17.0 dBm
TSL parameters used: Head(v6) ; f= 2450.000 MHz; Conductivity: 1.83 S/m; Permittivity: 41.0

DASY8 Configuration: - Electronics: DAE4 - SN626(Calibrated:2025-01-13)/ - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3907(Calibrated: 2025-01-29); ConvF: (6.81, 6.96, 6.91) @ 2450.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup Items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	40.0x80.0	40.0x80.0	30.0x30.0x30.0	psSAR1g [W/kg]	2.30	**2.40**
Grid Steps [mm]	10.0x10.0	10.0x10.0	5.0x5.0x1.5	psSAR10g [W/kg]	1.07	**1.18**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	0.03	0.06
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	4.57
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	84.5
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	9.0
Grid Effective [mm]	N/A	40.0x80.0	30.0x30.0x31.2	psSAR8g [W/kg]	1.18	1.30
				PD 1 cm^2-sq. [W/m^2]	N/A	N/A
				PD 4 cm^2-sq. [W/m^2]	N/A	N/A

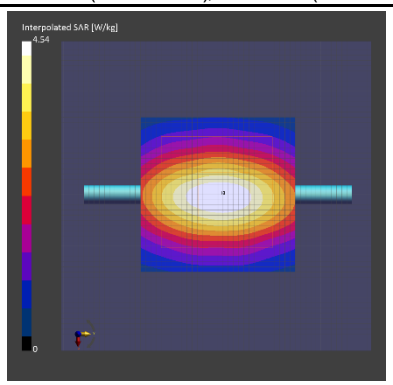


Remarks: *. Order No.: 15994164 ;*. Date tested:2025-10-12 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 22.0 deg.C. ±0.5 deg.C. (22.0 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251011-,bee-014,15994164.d8sar- SPC Measurement Group

Dipole: D2450V2 - SN822 ; Mode: CW(0) ; Frequency: 2450.000 MHz ; Test Distance: 10 mm (dipole to liquid); Power setting: 17.0 dBm
TSL parameters used: Head(v6) ; f= 2450.000 MHz; Conductivity: 1.83 S/m; Permittivity: 41.0

DASY8 Configuration: - Electronics: DAE4 - SN626(Calibrated:2025-01-13)/ - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3907(Calibrated: 2025-01-29); ConvF: (6.81, 6.96, 6.91) @ 2450.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup Items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	40.0x80.0	40.0x80.0	30.0x30.0x30.0	psSAR1g [W/kg]	2.32	**2.39**
Grid Steps [mm]	10.0x10.0	10.0x10.0	5.0x5.0x1.5	psSAR10g [W/kg]	1.08	**1.18**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	0.05	0.02
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	4.54
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	84.7
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	9.0
Grid Effective [mm]	N/A	40.0x80.0	30.0x30.0x31.2	psSAR8g [W/kg]	1.19	1.30
				PD 1 cm^2-sq. [W/m^2]	N/A	N/A
				PD 4 cm^2-sq. [W/m^2]	N/A	N/A

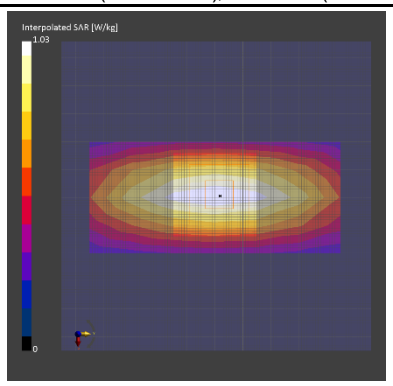


Remarks: *. Order No.: 15994164 ;*. Date tested:2025-10-13 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 22.0 deg.C. ±0.5 deg.C. (22.0 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251011-,bee-014,15994164.d8sar- SPC Measurement Group

Dipole: CLA-13 - SN1025 ; Mode: CW(0) ; Frequency: 13.000 MHz ; Test Distance: 0 mm (dipole to liquid); Power setting: 30.0 dBm
TSL parameters used: HBBL4-250V3 ; f= 13.000 MHz; Conductivity: 0.743 S/m; Permittivity: 53.4

DASY8 Configuration: - Electronics: DAE4 - SN626(Calibrated:2025-01-13)/ - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3745(Calibrated: 2025-04-15); ConvF: (14.87, 12.88, 14.89) @ 13.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup Items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	40.0x90.0	40.0x90.0	30.0x30.0x30.0	psSAR1g [W/kg]	0.554	**0.525**
Grid Steps [mm]	10.0x15.0	10.0x15.0	6.0x6.0x1.5	psSAR10g [W/kg]	0.448	**0.330**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	0.00	-0.01
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	1.03
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	76.4
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	> 15.0
Grid Effective [mm]	N/A	40.0x90.0	30.0x30.0x31.2	psSAR8g [W/kg]	0.462	0.349
				PD 1 cm^2-sq. [W/m^2]	N/A	N/A
				PD 4 cm^2-sq. [W/m^2]	N/A	N/A

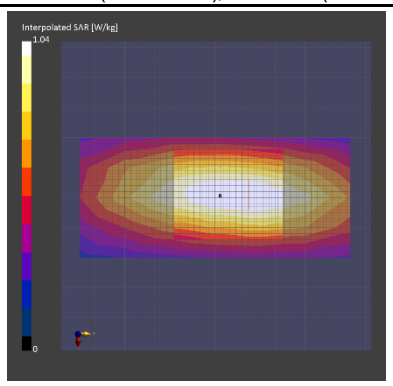


Remarks: *. Order No.: 15994164 ;*. Date tested:2025-11-30 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 21.8 deg.C. ±0.5 deg.C. (21.8 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251130-,bee-014,15994164_13M.d8sar- SPC Measurement Group

Dipole: CLA-13 - SN1025 ; Mode: CW(0) ; Frequency: 13.000 MHz ; Test Distance: 0 mm (dipole to liquid); Power setting: 30.0 dBm
TSL parameters used: HBBL4-250V3 ; f= 13.000 MHz; Conductivity: 0.743 S/m; Permittivity: 53.4

DASY8 Configuration: - Electronics: DAE4 - SN626(Calibrated:2025-01-13)/ - Phantom: ELI V8.0 (20deg probe tilt) ; Serial: 2161. ; Phantom section: Flat
- Probe: EX3DV4 - SN3745(Calibrated: 2025-04-15); ConvF: (14.87, 12.88, 14.89) @ 13.000 MHz/ - Software: 16.4.0.5005 (Measurement); 16.4.0.5005 (Evaluation)

Scan Setup				Measurement Results		
Setup Items	Fast	Area	Zoom	Meas. Items	Area	**Zoom**
Grid Extents [mm]	40.0x90.0	40.0x90.0	30.0x30.0x30.0	psSAR1g [W/kg]	0.558	**0.526**
Grid Steps [mm]	10.0x15.0	10.0x15.0	6.0x6.0x1.5	psSAR10g [W/kg]	0.451	**0.331**
Sensor Distance [mm]	4.0	3.0	1.4	Power Drift [dB]	-0.01	-0.02
Graded Grid	N/A	N/A	Yes	pSAR (extrapolated) [W/kg]	N/A	1.04
Grading Ratio	N/A	N/A	1.5	Power Scaling	Disabled	Disabled
MAIA monitored	N/A	Y	Y	TSL Correction	No correction	No correction
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p	M2/M1 [%]	N/A	75.3
Scan Method	Measured	Measured	Measured	Dist 3dB Peak [mm]	N/A	17.8
Grid Effective [mm]	N/A	40.0x90.0	30.0x36.0x31.2	psSAR8g [W/kg]	0.465	0.350
				PD 1 cm^2-sq. [W/m^2]	N/A	N/A
				PD 4 cm^2-sq. [W/m^2]	N/A	N/A



Remarks: *. Order No.: 15994164 ;*. Date tested:2025-12-01 ; Tested by: A. Oda; Tested location: UL Japan, Shonan EMC Lab. No.7 shielded room
*. Liquid temperature: 21.8 deg.C. ±0.5 deg.C. (21.8 deg.C., in check); Ambient: (22~24) deg.C. / (50~70) %RH; *. Red cubic: big=SAR(10g) / small=SAR(1g)
*. Project file name-Measurement Group: 251130-,bee-014,15994164_13M.d8sar- SPC Measurement Group

Appendix 3-3: Measurement Uncertainty

Uncertainty in the measured value of 1 g or 10 g psSAR from a DUT(2.4 GHz to 6 GHz)

Symbol	Input quantity (source of uncertainty)	Unc. [%]		Dist	Div	ci (1 g)	ci (10 g)	ui(1 g) [%]	ui(10 g) [%]
Measurement System Errors									
CF	Probe Calibration	±	13.1	N	2	1	1	± 6.55	± 6.55
CFdrift	Probe Calibration Drift	±	1.7	R	1.73	1	1	± 0.98	± 0.98
LIN	Probe Linearity	±	4.7	R	1.73	1	1	± 2.71	± 2.71
BBS	Broadband Signal	±	2.6	R	1.73	1	1	± 1.50	± 1.50
ISO	Probe Isotropy	±	7.6	R	1.73	1	1	± 4.39	± 4.39
DAE	Other Probe+Electronic	±	1.2	N	1	1	1	± 1.20	± 1.20
AMB	RF Ambient	±	1.8	N	1	1	1	± 1.80	± 1.80
Δsys	Probe Positioning	±	0.5	N	1	0.34	0.34	± 0.18	± 0.18
DAT	Data Processing	±	2.3	N	1	1	1	± 2.31	± 2.31
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.)	±	2.5	N	1	0.78	0.71	± 1.95	± 1.78
LIQ(Tσ)	Conductivity (temp.)	±	1.6	R	1.73	0.78	0.71	± 0.72	± 0.66
EPS	Phantom Permittivity	±	14.0	R	1.73	0.25	0.25	± 2.02	± 2.02
DIS	Distance DUT – TSL	±	2.0	N	1	2	2	± 3.98	± 3.98
Dxyz	Device Positioning	±	1.0	N	1	1	1	± 1.00	± 1.00
H	Device Holder	±	3.6	N	1	1	1	± 3.60	± 3.60
MOD	DUT Modulationm	±	2.4	R	1.73	1	1	± 1.39	± 1.39
TAS	Time-average SAR	±	0.0	R	1.73	1	1	± 0.00	± 0.00
RFdrift	DUT drift	±	4.7	N	2	1	1	± 2.35	± 2.35
VAL	Val Antenna Unc.val	±	0.0	N	1	1	1	± 0.00	± 0.00
RFin	Unc. Input Power val	±	0.0	R	1.73	1	1	± 0.00	± 0.00
Correction to the SAR results									
C(ε, σ)	Deviation to Target	±	1.9	N	1	1	0.84	± 1.90	± 1.60
C(R)	SAR scaling	±	0.0	R	1.73	1	1.0	± 0.00	± 0.00
u(ΔSAR)	Combined Uncertainty							± 11.5	± 11.4
U	Expanded Uncertainty							**± 23.0**	**± 22.8**

Uncertainty in the system check value of 1 g or 10 g psSAR(2.4 GHz to 6 GHz)

Symbol	Input quantity (source of uncertainty)	Unc. [%]		Dist	Div	ci (1 g)	ci (10 g)	ui(1 g) [%]	ui(10 g) [%]
Measurement System Errors									
CF	Probe Calibration	±	13.1	N	2	1	1	± 6.55	± 6.55
CFdrift	Probe Calibration Drift	±	1.7	R	1.73	1	1	± 0.98	± 0.98
LIN	Probe Linearity	±	4.7	R	1.73	1	1	± 2.71	± 2.71
BBS	Broadband Signal	±	0.0	R	1.73	1	1	± 0.00	± 0.00
ISO	Probe Isotropy	±	4.7	R	1.73	1	1	± 2.71	± 2.71
DAE	Other Probe+Electronic	±	1.2	N	1	1	1	± 1.20	± 1.20
AMB	RF Ambient	±	1.8	N	1	1	1	± 1.80	± 1.80
Δsys	Probe Positioning	±	0.5	N	1	0.34	0.34	± 0.18	± 0.18
DAT	Data Processing	±	0.6	N	1	1	1	± 0.58	± 0.58
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.)	±	2.5	N	1	0.78	0.71	± 1.95	± 1.78
LIQ(Tσ)	Conductivity (temp.)	±	1.6	R	1.73	0.78	0.71	± 0.72	± 0.66
EPS	Phantom Permittivity	±	14.0	R	1.73	0.25	0.25	± 2.02	± 2.02
DIS	Distance DUT – TSL	±	2.0	N	1	2	2	± 4.08	± 4.08
Dxyz	Device Positioning	±	0.0	N	1	0	0	± 0.00	± 0.00
H	Device Holder	±	0.0	N	1	1	1	± 0.00	± 0.00
MOD	DUT Modulationm	±	0.0	R	1.73	1	1	± 0.00	± 0.00
TAS	Time-average SAR	±	0.0	R	1.73	1	1	± 0.00	± 0.00
RFdrift	DUT drift	±	2.5	N	2	1	1	± 1.25	± 1.25
VAL	Val Antenna Unc.val	±	3.2	N	1	1	1	± 3.20	± 3.20
RFin	Unc. Input Power val	±	2.3	R	1.73	1	1	± 1.34	± 1.34
Correction to the SAR results									
C(ε, σ)	Deviation to Target	±	1.9	N	1	1	0.84	± 1.90	± 1.60
C(R)	SAR scaling	±	0.0	R	1.73	1	1	± 0.00	± 0.00
u(ΔSAR)	Combined Uncertainty							± 10.3	± 10.2
U	Expanded Uncertainty							**± 20.6**	**± 20.4**

*. This uncertainty budget is suggested by IEC/IEEE 62209-1528 and determined by SPEAG, DASY8 Module SAR Manual.
*. Table of uncertainties are listed for ISO/IEC 17025.
*. Although this standard determines only the limit value of uncertainty, there is no applicable rule of uncertainty in this. Therefore, the results are derived depending on whether or not laboratory uncertainty is applied.

Uncertainty in the measured value of 1 g or 10 g psSAR from a DUT(13 MHz)

Symbol	Input quantity (source of uncertainty)	Unc. [%]		Dist	Div	u(xi) = a(xi)/qi	ci (1 g)	ci (10 g)	ui(1 g) [%]	ui(10 g) [%]
Measurement System Errors										
CF	Probe Calibration	±	13.3	N	2	6.65	1	1	± 6.65	± 6.65
CFdrift	Probe Calibration Drift	±	1.7	R	1.73	0.98	1	1	± 0.98	± 0.98
LIN	Probe Linearity	±	4.7	R	1.73	2.71	1	1	± 2.71	± 2.71
BBS	Broadband Signal	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
ISO	Probe Isotropy	±	7.6	R	1.73	4.39	1	1	± 4.39	± 4.39
DAE	Other Probe+Electronic	±	0.7	N	1	0.70	1	1	± 0.70	± 0.70
AMB	RF Ambient	±	1.8	N	1	1.80	1	1	± 1.80	± 1.80
Δsys	Probe Positioning	±	0.6	N	1	0.63	0.34	0.34	± 0.21	± 0.21
DAT	Data Processing	±	1.2	N	1	1.15	1	1	± 1.15	± 1.15
Phantom and Device Errors										
LIQ(σ)	Conductivity (meas.)	±	2.5	N	1	2.50	0.78	0.71	± 1.95	± 1.78
LIQ(Tσ)	Conductivity (temp.)	±	2.7	R	1.73	1.56	0.78	0.71	± 1.22	± 1.11
EPS	Phantom Permittivity	±	14.0	R	1.73	8.08	0.25	0.25	± 2.02	± 2.02
DIS	Distance DUT – TSL	±	2.0	N	1	1.99	2	2	± 3.98	± 3.98
Dxyz	Device Positioning	±	1.0	N	1	1.00	1	1	± 1.00	± 1.00
H	Device Holder	±	3.6	N	1	3.60	1	1	± 3.60	± 3.60
MOD	DUT Modulationm	±	2.4	R	1.73	1.39	1	1	± 1.39	± 1.39
TAS	Time-average SAR	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
RFdrift	DUT drift	±	4.7	N	2	2.35	1	1	± 2.35	± 2.35
VAL	Val Antenna Unc.val	±	0.0	N	1	0.00	1	1	± 0.00	± 0.00
RFin	Unc. Input Power val	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
Correction to the SAR results										
C(ε, σ)	Deviation to Target	±	1.9	N	1	1.90	1	0.84	± 1.90	± 1.60
C(R)	SAR scaling	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
u(ΔSAR)	Combined Uncertainty								± 11.3	± 11.2
U	Expanded Uncertainty								**± 22.6**	**± 22.4**

Uncertainty in the system check value of 1 g or 10 g psSAR(13 MHz)

Symbol	Input quantity (source of uncertainty)	Unc. [%]		Dist	Div	u(xi) = a(xi)/qi	ci (1 g)	ci (10 g)	ui(1 g) [%]	ui(10 g) [%]
Measurement System Errors										
CF	Probe Calibration	±	13.3	N	2	6.65	1	1	± 6.65	± 6.65
CFdrift	Probe Calibration Drift	±	1.7	R	1.73	0.98	1	1	± 0.98	± 0.98
LIN	Probe Linearity	±	4.7	R	1.73	2.71	1	1	± 2.71	± 2.71
BBS	Broadband Signal	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
ISO	Probe Isotropy	±	4.7	R	1.73	2.71	1	1	± 2.71	± 2.71
DAE	Other Probe+Electronic	±	0.7	N	1	0.70	1	1	± 0.70	± 0.70
AMB	RF Ambient	±	1.8	N	1	1.80	1	1	± 1.80	± 1.80
Δsys	Probe Positioning	±	0.6	N	1	0.63	0.34	0.34	± 0.21	± 0.21
DAT	Data Processing	±	0.6	N	1	0.58	1	1	± 0.58	± 0.58
Phantom and Device Errors										
LIQ(σ)	Conductivity (meas.)	±	2.5	N	1	2.50	0.78	0.71	± 1.95	± 1.78
LIQ(Tσ)	Conductivity (temp.)	±	2.7	R	1.73	1.56	0.78	0.71	± 1.22	± 1.11
EPS	Phantom Permittivity	±	14.0	R	1.73	8.08	0.25	0.25	± 2.02	± 2.02
DIS	Distance DUT – TSL	±	2.0	N	1	1.99	2	2	± 3.98	± 3.98
Dxyz	Device Positioning	±	0.0	N	1	0.00	0	0	± 0.00	± 0.00
H	Device Holder	±	0.0	N	1	0.00	1	1	± 0.00	± 0.00
MOD	DUT Modulationm	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
TAS	Time-average SAR	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
RFdrift	DUT drift	±	2.5	N	2	1.25	1	1	± 1.25	± 1.25
VAL	Val Antenna Unc.val	±	3.2	N	1	3.20	1	1	± 3.20	± 3.20
RFin	Unc. Input Power val	±	1.5	R	1.73	0.84	1	1	± 0.84	± 0.84
Correction to the SAR results										
C(ε, σ)	Deviation to Target	±	1.9	N	1	1.90	1	0.84	± 1.90	± 1.60
C(R)	SAR scaling	±	0.0	R	1.73	0.00	1	1	± 0.00	± 0.00
u(ΔSAR)	Combined Uncertainty								± 10.3	± 10.2
U	Expanded Uncertainty								**± 20.5**	**± 20.3**

*. This uncertainty budget is suggested by IEC/IEEE 62209-1528 and determined by SPEAG, DASY8 Module SAR Manual.
*. Table of uncertainties are listed for ISO/IEC 17025.
*. Although this standard determines only the limit value of uncertainty, there is no applicable rule of uncertainty in this. Therefore, the results are derived depending on whether or not laboratory uncertainty is applied.

Appendix 3-4: Calibration certificates

LIMS ID	Description	Type/Model	Serial Number	Manufacture
146235	Dosimetric E-Field Probe	EX3DV4	3907	SPEAG

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

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

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

Accreditation No.: SCS 0108

Client **UL Shonan**
Hiratsuka, Japan

Certificate No. **EX-3907_Jan25**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3907
Calibration procedure(s)	QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6, QA CAL-25.v8 Calibration procedure for dosimetric E-field probes
Calibration date	January 29, 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)

Primary Standards	ID	Calibration Date (Certificate No.)	Sched. Cal.
Power Sensor R&S NRP-33T	SN: 100967	28-Mar-24 (No. 217-04038)	Mar-25
Short [S6019i] + Attenuator [S6020i]	SN: L1119	26-Mar-24 (No. 217-04048)	Mar-25
OCP DAK-12	SN: 1016	24-Sept-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sept-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	10-Jan-25 (No. EX3-7349_Jan25)	Jan-26
DAE4	SN: 1301	07-Nov-24 (No. DAE4-1301_Nov24)	Nov-25

Secondary Standards	ID	Check Date (in house)	Sched. Check
ACAP 2020 Calibration Box	SN: L1404	30-Sept-24 (No. Report_ACAP2020E-Cave_20240930s)	Sep-25

	Name	Function	Signature
Calibrated by	Jeffrey Katzman	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	

Issued: January 29, 2025

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

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

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

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

Accreditation No.: SCS 0108

Glossary

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

Calibration is Performed According to the Following Standards:

a) IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices – Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

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

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Parameters of Probe: EX3DV4 - SN:3907

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc ($k = 2$)
Norm (μV/(V/m)^2) [A]	0.59	0.64	0.55	±10.1%
DCP (mV) [B]	109.6	107.9	109.2	±4.7%

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB$\sqrt{\mu V}$	C	D dB	VR mV	Max dev.	Max Unc[E] $k = 2$
0	CW	X	0.00	0.00	1.00	0.00	143.7	±1.2%	±4.7%
		Y	0.00	0.00	1.00		126.3		
		Z	0.00	0.00	1.00		135.0		
10352	Pulse Waveform (200Hz, 10%)	X	1.72	61.50	6.91	10.00	60.0	±3.1%	±9.6%
		Y	1.69	61.46	6.95		60.0		
		Z	1.55	60.66	6.36		60.0		
10353	Pulse Waveform (200Hz, 20%)	X	0.86	60.00	5.12	6.99	80.0	±2.5%	±9.6%
		Y	0.83	60.00	5.22		80.0		
		Z	10.00	72.00	9.00		80.0		
10354	Pulse Waveform (200Hz, 40%)	X	0.45	60.00	4.14	3.98	95.0	±1.9%	±9.6%
		Y	8.00	70.00	7.00		95.0		
		Z	2.00	64.00	5.00		95.0		
10355	Pulse Waveform (200Hz, 60%)	X	13.54	148.47	3.74	2.22	120.0	±1.8%	±9.6%
		Y	12.40	151.68	5.91		120.0		
		Z	10.79	156.79	11.12		120.0		
10387	QPSK Waveform, 1 MHz	X	0.49	61.81	11.12	1.00	150.0	±3.6%	±9.6%
		Y	0.52	62.56	11.37		150.0		
		Z	0.48	62.50	11.68		150.0		
10388	QPSK Waveform, 10 MHz	X	1.22	64.57	12.85	0.00	150.0	±1.2%	±9.6%
		Y	1.27	64.89	13.14		150.0		
		Z	1.24	65.30	13.36		150.0		
10396	64-QAM Waveform, 100 kHz	X	1.74	64.56	15.44	3.01	150.0	±0.9%	±9.6%
		Y	1.74	64.75	15.74		150.0		
		Z	1.73	64.83	15.82		150.0		
10399	64-QAM Waveform, 40 MHz	X	2.75	65.95	14.68	0.00	150.0	±1.6%	±9.6%
		Y	2.79	66.00	14.77		150.0		
		Z	2.75	66.16	14.88		150.0		
10414	WLAN CCDF, 64-QAM, 40 MHz	X	3.69	65.77	14.91	0.00	150.0	±2.8%	±9.6%
		Y	3.78	65.82	15.03		150.0		
		Z	3.68	65.86	15.04		150.0		

Note: For details on UID parameters see Appendix

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

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

Parameters of Probe: EX3DV4 - SN:3907

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 msV^{-2}	T2 msV^{-1}	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
x	8.7	61.39	31.80	4.51	0.00	4.90	0.62	0.00	1.00
y	9.6	68.24	32.56	4.28	0.00	4.92	0.56	0.00	1.00
z	8.8	61.68	31.91	4.22	0.00	4.90	0.59	0.00	1.00

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle	30.8°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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

Parameters of Probe: EX3DV4 - SN:3907

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz)[C]	Relative Permittivity[F]	Conductivity[F] (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unc[H] (k = 2)
2450	39.2	1.80	6.81	6.96	6.91	0.31	1.27	±11.0%
5250	35.9	4.71	5.01	5.12	5.08	0.28	1.27	±13.1%
5600	35.5	5.07	4.67	4.77	4.73	0.26	1.27	±13.1%
5800	35.3	5.27	4.56	4.66	4.63	0.25	1.27	±13.1%

[C] Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–9 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.

[F] The probes are calibrated using tissue simulating liquids (TSL) that deviate for ε and σ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10% if SAR correction is applied.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.

[H] The stated uncertainty is the total calibration uncertainty (k = 2) of Norm·ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

Parameters of Probe: EX3DV4 - SN:3907

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz)[C]	Relative Permittivity[F]	Conductivity[F] (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unc[H] ($k = 2$)
6500	34.5	6.07	4.94	5.05	5.01	0.20	1.27	±18.6%

[C] Frequency validity at 6.5 GHz is −600/+700 MHz, and ±700 MHz at or above 7 GHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] The probes are calibrated using tissue simulating liquids (TSL) that deviate for ε and σ by less than ±10% from the target values (typically better than ±6%) and are valid for TSL with deviations of up to ±10%.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz; below ±2% for frequencies between 3–6 GHz; and below ±4% for frequencies between 6–10 GHz at any distance larger than half the probe tip diameter from the boundary.
[H] The stated uncertainty is the total calibration uncertainty ($k = 2$) of Norm·ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

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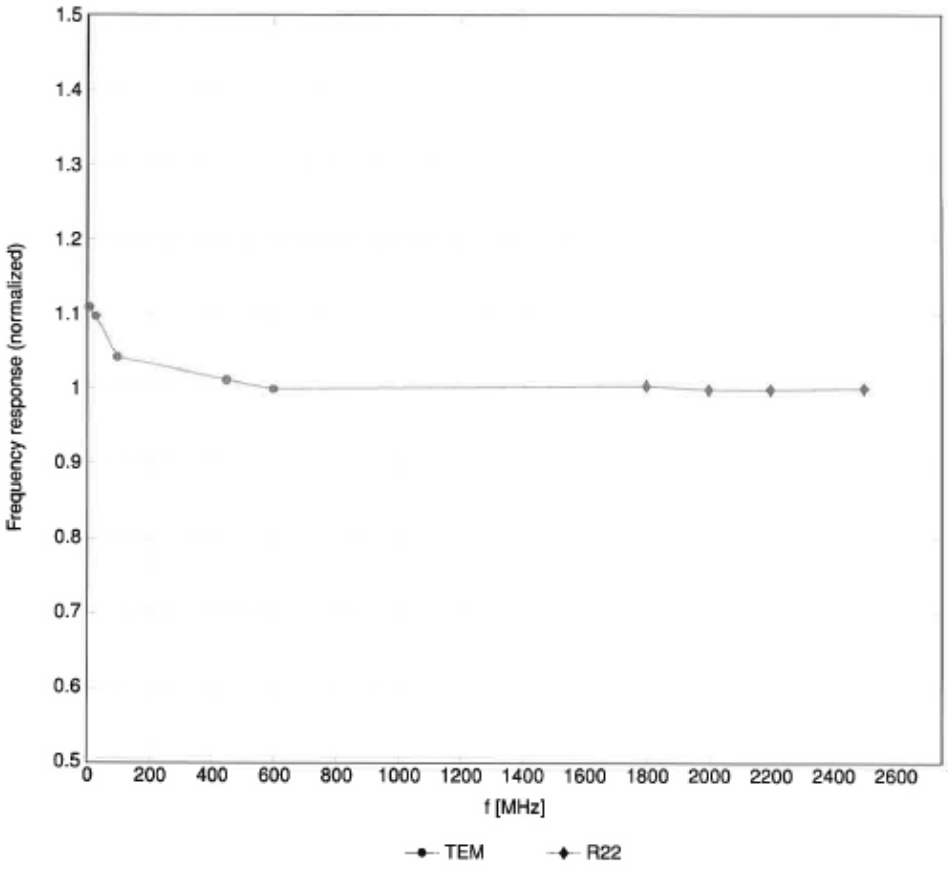
Frequency Response of E-Field

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



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

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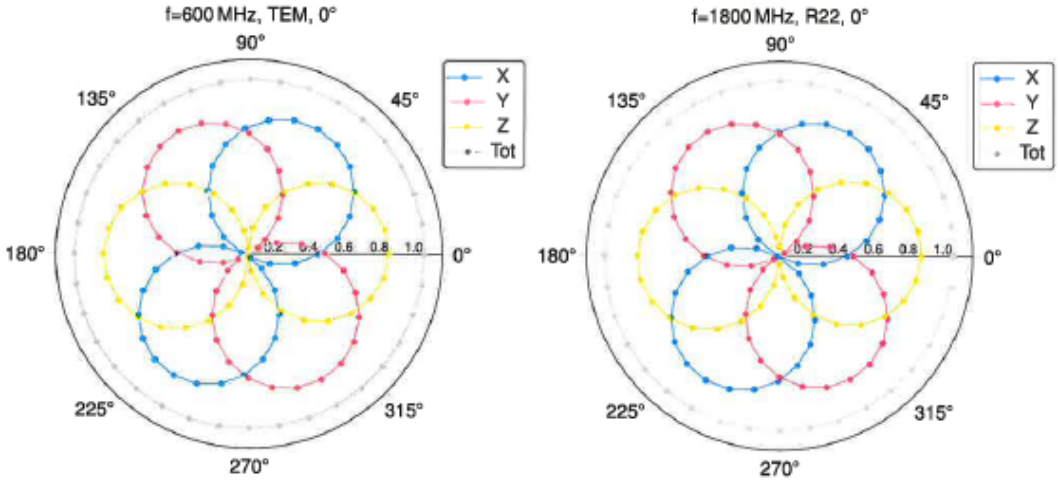
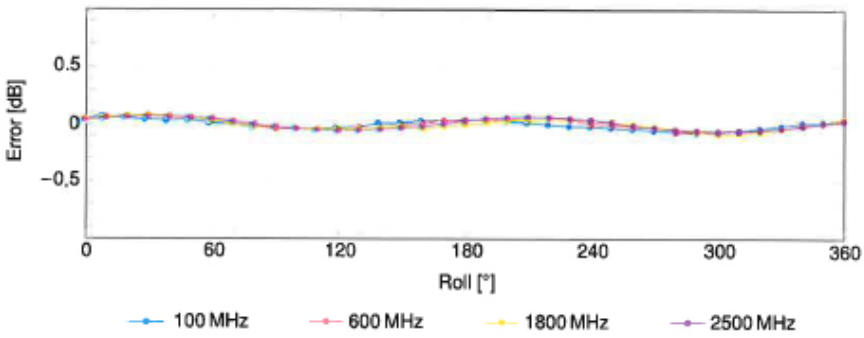
Receiving Pattern (ϕ), $\vartheta = 0°$





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

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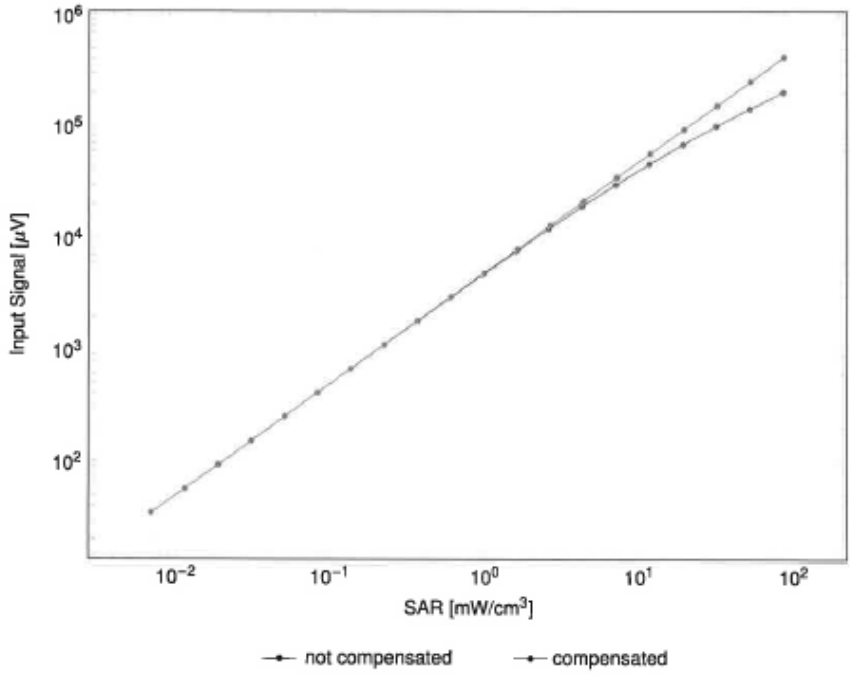
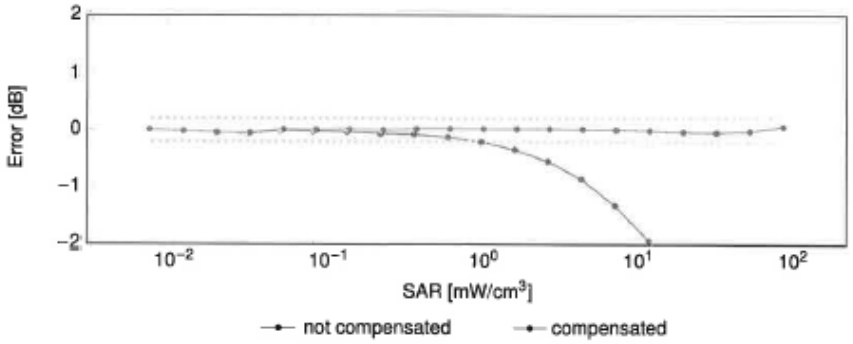
Dynamic Range f(SAR_{head})

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





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

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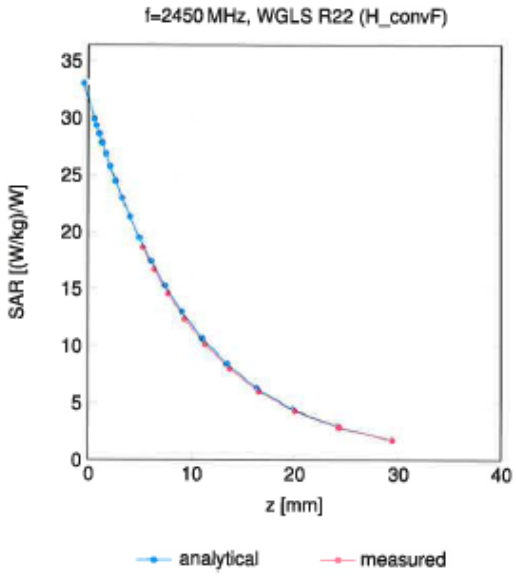
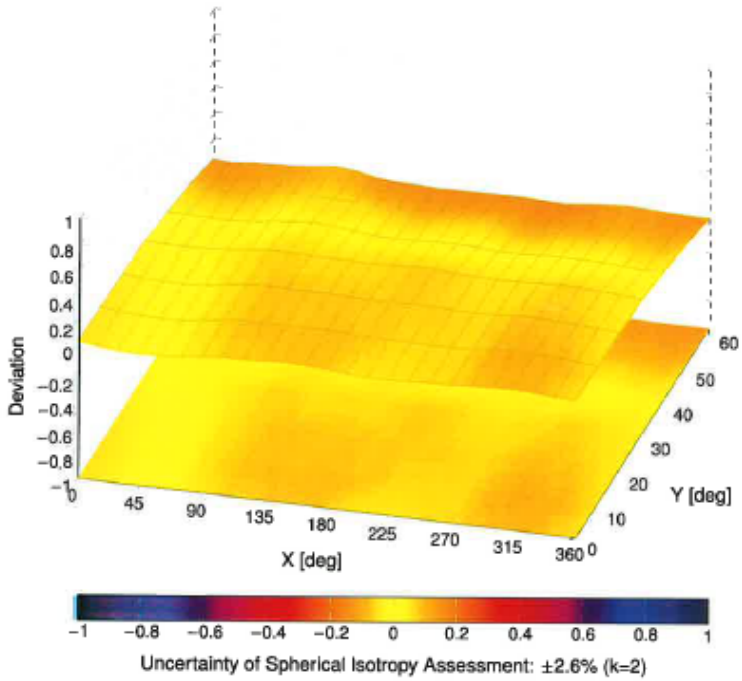
Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ,θ), f = 900 MHz



Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc^E $k = 2$
0		CW	CW	0.00	±4.7
10010	CAB	SAR Validation (Square, 100 ms, 10 ms)	Test	10.00	±9.6
10011	CAC	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.6
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	±9.6
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	±9.6
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	±9.6
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	±9.6
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	±9.6
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9.6
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	±9.6
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	±9.6
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	±9.6
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.6
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.6
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.6
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	±9.6
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	±9.6
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	±9.6
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	±9.6
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	±9.6
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.6
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6
10062	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6
10063	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	±9.6
10064	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6
10065	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6
10066	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	±9.6
10067	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.6
10068	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6
10069	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	±9.6
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	±9.6
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	±9.6
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	±9.6
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	±9.6
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.6
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	±9.6
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	±9.6
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	±9.6
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	±9.6
10098	CAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	±9.6
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	±9.6
10100	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	±9.6
10101	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10102	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10103	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	±9.6
10104	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.6
10105	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	±9.6
10108	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	±9.6
10109	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10110	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	±9.6
10111	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc^{E} k = 2
10112	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6
10113	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10114	CAE	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	±9.6
10115	CAE	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±9.6
10116	CAE	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	±9.6
10117	CAE	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	±9.6
10118	CAE	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	±9.6
10119	CAE	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±9.6
10140	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10141	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6
10142	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10143	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6
10144	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	±9.6
10145	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6
10146	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6
10147	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±9.6
10149	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10150	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10151	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	±9.6
10152	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10153	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±9.6
10154	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±9.6
10155	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10156	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±9.6
10157	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10158	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10159	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±9.6
10160	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	±9.6
10161	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10162	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	±9.6
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	±9.6
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	±9.6
10169	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	±9.6
10170	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10171	AAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	±9.6
10172	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	±9.6
10173	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10174	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10175	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	±9.6
10176	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10177	CAJ	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±9.6
10178	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10179	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10180	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10181	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±9.6
10182	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10183	AAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10184	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10185	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	±9.6
10186	AAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	±9.6
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10189	AAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	±9.6
10194	CAE	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	±9.6
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	±9.6
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	±9.6
10197	CAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	±9.6
10198	CAE	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	±9.6
10219	CAE	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	±9.6
10220	CAE	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6
10221	CAE	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6
10222	CAE	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±9.6
10223	CAE	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6
10224	CAE	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6

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10225	CAC	UMTS-FDD (HSPA+)	WCDMA	5.97	±9.6
10226	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6
10227	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6
10228	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6
10229	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10230	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10231	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6
10232	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10233	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10234	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6
10235	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10236	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10237	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6
10238	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10239	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10240	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6
10241	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6
10242	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6
10243	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6
10244	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10245	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±9.6
10246	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6
10247	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6
10248	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6
10249	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6
10250	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6
10251	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6
10252	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6
10253	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±9.6
10254	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±9.6
10255	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	±9.6
10256	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±9.6
10257	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6
10258	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±9.6
10259	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6
10260	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6
10261	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±9.6
10262	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	±9.6
10263	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	±9.6
10264	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6
10265	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10266	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±9.6
10267	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6
10268	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10269	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6
10270	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	±9.6
10274	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	±9.6
10275	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	±9.6
10277	CAA	PHS (QPSK)	PHS	11.81	±9.6
10278	CAA	PHS (QPSK, BW 884 MHz, Rolloff 0.5)	PHS	11.81	±9.6
10279	CAA	PHS (QPSK, BW 884 MHz, Rolloff 0.38)	PHS	12.18	±9.6
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	±9.6
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	±9.6
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	±9.6
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	±9.6
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	±9.6
10297	AAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±9.6
10298	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±9.6
10299	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±9.6
10300	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10301	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC)	WiMAX	12.03	±9.6
10302	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	±9.6
10303	AAA	IEEE 802.16e WiMAX (31:15, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	12.52	±9.6
10304	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	11.86	±9.6
10305	AAA	IEEE 802.16e WiMAX (31:15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	±9.6
10306	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	±9.6

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10307	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	±9.6
10308	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, PUSC)	WiMAX	14.46	±9.6
10309	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	±9.6
10310	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	±9.6
10311	AAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	±9.6
10313	AAA	iDEN 1:3	iDEN	10.51	±9.6
10314	AAA	iDEN 1:6	iDEN	13.48	±9.6
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	±9.6
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10317	AAE	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	±9.6
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	±9.6
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±9.6
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	±9.6
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	±9.6
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	±9.6
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	±9.6
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	±9.6
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	±9.6
10400	AAF	IEEE 802.11ac WiFi (20 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	±9.6
10401	AAF	IEEE 802.11ac WiFi (40 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	±9.6
10402	AAF	IEEE 802.11ac WiFi (80 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	±9.6
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	±9.6
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±9.6
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	±9.6
10410	AAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	±9.6
10414	AAA	WLAN CCDF, 64-QAM, 40 MHz	Generic	8.54	±9.6
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	±9.6
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10417	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	WLAN	8.14	±9.6
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	WLAN	8.19	±9.6
10422	AAD	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	±9.6
10423	AAD	IEEE 802.11n (HT Greenfield, 43.3Mbps, 16-QAM)	WLAN	8.47	±9.6
10424	AAD	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	±9.6
10425	AAD	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	±9.6
10426	AAD	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	±9.6
10427	AAD	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	±9.6
10430	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	±9.6
10431	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6
10432	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10433	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10434	AAB	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	±9.6
10435	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10447	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±9.6
10448	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	LTE-FDD	7.53	±9.6
10449	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD	7.51	±9.6
10450	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	±9.6
10451	AAB	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	±9.6
10453	AAE	Validation (Square, 10 ms, 1 ms)	Test	10.00	±9.6
10456	AAD	IEEE 802.11ac WiFi (160 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	±9.6
10457	AAB	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	±9.6
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	±9.6
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	6.25	±9.6
10460	AAB	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	±9.6
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	±9.6
10463	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10465	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10466	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10467	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10468	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10469	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10470	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10471	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6

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10472	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10473	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10474	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10475	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10477	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10478	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10480	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	±9.6
10481	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10482	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	±9.6
10483	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	±9.6
10484	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	±9.6
10485	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	±9.6
10486	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	±9.6
10487	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	±9.6
10488	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	±9.6
10489	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10490	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	±9.6
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10494	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10495	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	±9.6
10496	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10497	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10498	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	±9.6
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	±9.6
10500	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10501	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	±9.6
10502	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	±9.6
10503	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	±9.6
10504	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10505	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10506	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10507	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	±9.6
10508	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	±9.6
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	±9.6
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	±9.6
10512	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10513	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	±9.6
10514	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	±9.6
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10518	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10519	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	±9.6
10520	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	±9.6
10521	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	±9.6
10522	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10523	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	±9.6
10524	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	±9.6
10525	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.36	±9.6
10526	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.42	±9.6
10527	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.21	±9.6
10528	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.36	±9.6
10529	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.36	±9.6
10531	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 99pc duty cycle)	WLAN	8.43	±9.6
10532	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10533	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.38	±9.6
10534	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.45	±9.6
10535	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6
10536	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.6
10537	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6
10538	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.54	±9.6
10540	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.39	±9.6

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10541	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.46	±9.6
10542	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.65	±9.6
10543	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.65	±9.6
10544	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6
10545	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10546	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.35	±9.6
10547	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.49	±9.6
10548	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.37	±9.6
10550	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.38	±9.6
10551	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.50	±9.6
10552	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.42	±9.6
10553	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6
10554	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6
10555	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
10556	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6
10557	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.52	±9.6
10558	AAE	IEEE 802.11ac WiFi (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.61	±9.6
10560	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.73	±9.6
10561	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.56	±9.6
10562	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.69	±9.6
10563	AAE	IEEE 802.11ac WiFi (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.77	±9.6
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	±9.6
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	±9.6
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	±9.6
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	±9.6
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	±9.6
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	±9.6
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10585	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10586	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10587	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10588	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10589	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10590	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10591	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS0, 90pc duty cycle)	WLAN	8.63	±9.6
10592	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10593	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS2, 90pc duty cycle)	WLAN	8.64	±9.6
10594	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10595	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS4, 90pc duty cycle)	WLAN	8.74	±9.6
10596	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS5, 90pc duty cycle)	WLAN	8.71	±9.6
10597	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS6, 90pc duty cycle)	WLAN	8.72	±9.6
10598	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS7, 90pc duty cycle)	WLAN	8.50	±9.6
10599	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS0, 90pc duty cycle)	WLAN	8.79	±9.6
10600	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10601	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS2, 90pc duty cycle)	WLAN	8.82	±9.6
10602	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS3, 90pc duty cycle)	WLAN	8.94	±9.6
10603	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS4, 90pc duty cycle)	WLAN	9.03	±9.6
10604	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS5, 90pc duty cycle)	WLAN	8.76	±9.6
10605	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS6, 90pc duty cycle)	WLAN	8.97	±9.6
10606	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
10607	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 90pc duty cycle)	WLAN	8.64	±9.6
10608	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.77	±9.6

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10609	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±9.6
10610	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.78	±9.6
10611	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10612	AAD	IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10613	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.94	±9.6
10614	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.59	±9.6
10615	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10616	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.82	±9.6
10617	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.81	±9.6
10618	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.58	±9.6
10619	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.86	±9.6
10620	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±9.6
10621	AAD	IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10622	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.68	±9.6
10623	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
10624	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.96	±9.6
10625	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.96	±9.6
10626	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10627	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10628	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±9.6
10629	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10630	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.72	±9.6
10631	AAD	IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.81	±9.6
10632	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10633	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.83	±9.6
10634	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.80	±9.6
10635	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.6
10636	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10637	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10638	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.86	±9.6
10639	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10640	AAE	IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)	WLAN	8.98	±9.6
10641	AAE	IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)	WLAN	9.06	±9.6
10642	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)	WLAN	9.06	±9.6
10643	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.89	±9.6
10644	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)	WLAN	9.05	±9.6
10645	AAE	IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)	WLAN	9.11	±9.6
10646	AAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10647	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	±9.6
10652	AAF	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	±9.6
10653	AAF	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6
10654	AAE	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	±9.6
10655	AAF	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±9.6
10658	AAB	Pulse Waveform (200Hz, 10%)	Test	10.00	±9.6
10659	AAB	Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6
10660	AAB	Pulse Waveform (200Hz, 40%)	Test	3.98	±9.6
10661	AAB	Pulse Waveform (200Hz, 60%)	Test	2.22	±9.6
10662	AAB	Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	±9.6
10671	AAC	IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.6
10672	AAC	IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.57	±9.6
10673	AAC	IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.78	±9.6
10674	AAC	IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10675	AAC	IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.90	±9.6
10676	AAC	IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10677	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.73	±9.6
10678	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.78	±9.6
10679	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.89	±9.6
10680	AAC	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±9.6
10681	AAC	IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.62	±9.6
10682	AAC	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±9.6
10683	AAC	IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10684	AAC	IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.26	±9.6
10685	AAC	IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10686	AAC	IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.28	±9.6

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10687	AAC	IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.45	±9.6
10688	AAC	IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)	WLAN	8.29	±9.6
10689	AAC	IEEE 802.11ax (20 MHz, MCS6, 99pc duty cycle)	WLAN	8.55	±9.6
10690	AAC	IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10691	AAC	IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.25	±9.6
10692	AAC	IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)	WLAN	8.29	±9.6
10693	AAC	IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle)	WLAN	8.25	±9.6
10694	AAC	IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle)	WLAN	8.57	±9.6
10695	AAC	IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.78	±9.6
10696	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±9.6
10697	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.61	±9.6
10698	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.89	±9.6
10699	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.82	±9.6
10700	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.73	±9.6
10701	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.86	±9.6
10702	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.70	±9.6
10703	AAC	IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10704	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.56	±9.6
10705	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN	8.69	±9.6
10706	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN	8.66	±9.6
10707	AAC	IEEE 802.11ax (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.32	±9.6
10708	AAC	IEEE 802.11ax (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10709	AAC	IEEE 802.11ax (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10710	AAC	IEEE 802.11ax (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.29	±9.6
10711	AAC	IEEE 802.11ax (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.39	±9.6
10712	AAC	IEEE 802.11ax (40 MHz, MCS5, 99pc duty cycle)	WLAN	8.67	±9.6
10713	AAC	IEEE 802.11ax (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.33	±9.6
10714	AAC	IEEE 802.11ax (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.26	±9.6
10715	AAC	IEEE 802.11ax (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.45	±9.6
10716	AAC	IEEE 802.11ax (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.30	±9.6
10717	AAC	IEEE 802.11ax (40 MHz, MCS10, 99pc duty cycle)	WLAN	8.48	±9.6
10718	AAC	IEEE 802.11ax (40 MHz, MCS11, 99pc duty cycle)	WLAN	8.24	±9.6
10719	AAC	IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.81	±9.6
10720	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.87	±9.6
10721	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.76	±9.6
10722	AAC	IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.55	±9.6
10723	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10724	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.90	±9.6
10725	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10726	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.72	±9.6
10727	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.66	±9.6
10728	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.65	±9.6
10729	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)	WLAN	8.64	±9.6
10730	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)	WLAN	8.67	±9.6
10731	AAC	IEEE 802.11ax (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10732	AAC	IEEE 802.11ax (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.46	±9.6
10733	AAC	IEEE 802.11ax (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.40	±9.6
10734	AAC	IEEE 802.11ax (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.25	±9.6
10735	AAC	IEEE 802.11ax (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.33	±9.6
10736	AAC	IEEE 802.11ax (80 MHz, MCS5, 99pc duty cycle)	WLAN	8.27	±9.6
10737	AAC	IEEE 802.11ax (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.36	±9.6
10738	AAC	IEEE 802.11ax (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.42	±9.6
10739	AAC	IEEE 802.11ax (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.29	±9.6
10740	AAC	IEEE 802.11ax (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.48	±9.6
10741	AAC	IEEE 802.11ax (80 MHz, MCS10, 99pc duty cycle)	WLAN	8.40	±9.6
10742	AAC	IEEE 802.11ax (80 MHz, MCS11, 99pc duty cycle)	WLAN	8.43	±9.6
10743	AAC	IEEE 802.11ax (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.94	±9.6
10744	AAC	IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)	WLAN	9.16	±9.6
10745	AAC	IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.93	±9.6
10746	AAC	IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle)	WLAN	9.11	±9.6
10747	AAC	IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle)	WLAN	9.04	±9.6
10748	AAC	IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle)	WLAN	8.93	±9.6
10749	AAC	IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle)	WLAN	8.90	±9.6
10750	AAC	IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.79	±9.6
10751	AAC	IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10752	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc^E $k = 2$
10753	AAC	IEEE 802.11ax (160 MHz, MCS10, 90pc duty cycle)	WLAN	9.00	±9.6
10754	AAC	IEEE 802.11ax (160 MHz, MCS11, 90pc duty cycle)	WLAN	8.94	±9.6
10755	AAC	IEEE 802.11ax (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.64	±9.6
10756	AAC	IEEE 802.11ax (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.77	±9.6
10757	AAC	IEEE 802.11ax (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.77	±9.6
10758	AAC	IEEE 802.11ax (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.69	±9.6
10759	AAC	IEEE 802.11ax (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.58	±9.6
10760	AAC	IEEE 802.11ax (160 MHz, MCS5, 99pc duty cycle)	WLAN	8.49	±9.6
10761	AAC	IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.58	±9.6
10762	AAC	IEEE 802.11ax (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±9.6
10763	AAC	IEEE 802.11ax (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.53	±9.6
10764	AAC	IEEE 802.11ax (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.54	±9.6
10765	AAC	IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle)	WLAN	8.54	±9.6
10766	AAC	IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle)	WLAN	8.51	±9.6
10767	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	±9.6
10768	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10769	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10770	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10771	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10772	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	±9.6
10773	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	±9.6
10774	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10775	AAF	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10776	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10778	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	±9.6
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	±9.6
10780	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10781	AAF	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10782	AAE	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	±9.6
10783	AAG	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10784	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	±9.6
10785	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±9.6
10786	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	±9.6
10787	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	±9.6
10788	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10789	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	±9.6
10790	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10791	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	±9.6
10792	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	±9.6
10793	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	±9.6
10794	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10795	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	±9.6
10796	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10797	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	±9.6
10798	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10799	AAF	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10801	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10802	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	±9.6
10803	AAF	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10805	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±9.6
10809	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10810	AAF	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10812	AAF	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10817	AAG	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10818	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	±9.6
10820	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	±9.6
10821	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10822	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10823	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	±9.6
10824	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	±9.6
10825	AAF	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10827	AAF	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±9.6
10828	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc^E k = 2
10829	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	±9.6
10830	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	±9.6
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	±9.6
10832	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	±9.6
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10834	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	±9.6
10835	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10836	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	±9.6
10837	AAF	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	±9.6
10839	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10840	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	±9.6
10841	AAF	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	±9.6
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	±9.6
10844	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10846	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10854	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10856	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	±9.6
10858	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10859	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10860	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10861	AAF	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	±9.6
10863	AAF	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10864	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10865	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10866	AAF	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10868	AAF	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	±9.6
10869	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10870	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	±9.6
10871	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10872	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	±9.6
10873	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10874	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10875	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10876	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	±9.6
10877	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	±9.6
10878	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10879	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	±9.6
10880	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	±9.6
10881	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10882	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	±9.6
10883	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	±9.6
10884	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	±9.6
10885	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10886	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10887	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10888	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	±9.6
10889	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	±9.6
10890	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	±9.6
10891	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	±9.6
10892	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10897	AAE	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±9.6
10898	AAC	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10899	AAB	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10900	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10901	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10902	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10903	AAD	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10904	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10905	AAD	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10906	AAD	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10907	AAE	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	±9.6
10908	AAC	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6
10909	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	±9.6
10910	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc^E $k = 2$
10911	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6
10912	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10913	AAD	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10914	AAC	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	±9.6
10915	AAD	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±9.6
10916	AAD	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±9.6
10917	AAD	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±9.6
10918	AAE	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±9.6
10919	AAC	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±9.6
10920	AAB	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±9.6
10921	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10922	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	±9.6
10923	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10924	AAD	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10925	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	±9.6
10926	AAD	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10927	AAD	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±9.6
10928	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10929	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10930	AAC	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10931	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10932	AAC	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10933	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10934	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10935	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10936	AAD	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±9.6
10937	AAD	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	±9.6
10938	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±9.6
10939	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	±9.6
10940	AAC	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	±9.6
10941	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±9.6
10942	AAC	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±9.6
10943	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	±9.6
10944	AAD	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	±9.6
10945	AAD	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±9.6
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±9.6
10947	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±9.6
10948	AAC	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±9.6
10949	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±9.6
10950	AAC	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±9.6
10951	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	±9.6
10952	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	±9.6
10953	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	±9.6
10954	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	±9.6
10955	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	±9.6
10956	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	±9.6
10957	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	±9.6
10958	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	±9.6
10959	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	±9.6
10960	AAE	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	±9.6
10961	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	±9.6
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	±9.6
10963	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	±9.6
10964	AAE	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	±9.6
10965	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	±9.6
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	±9.6
10967	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	±9.6
10968	AAD	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	±9.6
10972	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	±9.6
10973	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	±9.6
10974	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	±9.6
10978	AAA	ULLA BDR	ULLA	1.16	±9.6
10979	AAA	ULLA HDR4	ULLA	8.58	±9.6
10980	AAA	ULLA HDR8	ULLA	10.32	±9.6
10981	AAA	ULLA HDRp4	ULLA	3.19	±9.6
10982	AAA	ULLA HDRp8	ULLA	3.43	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc[E] k = 2
10983	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.31	±9.6
10984	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.42	±9.6
10985	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.54	±9.6
10986	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.50	±9.6
10987	AAC	5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.53	±9.6
10988	AAB	5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.38	±9.6
10989	AAC	5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.33	±9.6
10990	AAB	5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.52	±9.6
11003	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	10.24	±9.6
11004	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	10.73	±9.6
11005	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.70	±9.6
11006	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.55	±9.6
11007	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.46	±9.6
11008	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.51	±9.6
11009	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.76	±9.6
11010	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.95	±9.6
11011	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.96	±9.6
11012	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.68	±9.6
11013	AAB	IEEE 802.11be (320 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
11014	AAB	IEEE 802.11be (320 MHz, MCS2, 99pc duty cycle)	WLAN	8.45	±9.6
11015	AAB	IEEE 802.11be (320 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6
11016	AAB	IEEE 802.11be (320 MHz, MCS4, 99pc duty cycle)	WLAN	8.44	±9.6
11017	AAB	IEEE 802.11be (320 MHz, MCS5, 99pc duty cycle)	WLAN	8.41	±9.6
11018	AAB	IEEE 802.11be (320 MHz, MCS6, 99pc duty cycle)	WLAN	8.40	±9.6
11019	AAB	IEEE 802.11be (320 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
11020	AAB	IEEE 802.11be (320 MHz, MCS8, 99pc duty cycle)	WLAN	8.27	±9.6
11021	AAB	IEEE 802.11be (320 MHz, MCS9, 99pc duty cycle)	WLAN	8.46	±9.6
11022	AAB	IEEE 802.11be (320 MHz, MCS10, 99pc duty cycle)	WLAN	8.36	±9.6
11023	AAB	IEEE 802.11be (320 MHz, MCS11, 99pc duty cycle)	WLAN	8.09	±9.6
11024	AAB	IEEE 802.11be (320 MHz, MCS12, 99pc duty cycle)	WLAN	8.42	±9.6
11025	AAB	IEEE 802.11be (320 MHz, MCS13, 99pc duty cycle)	WLAN	8.37	±9.6
11026	AAB	IEEE 802.11be (320 MHz, MCS0, 99pc duty cycle)	WLAN	8.39	±9.6

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

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

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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **UL Shonan**
Hiratsuka, Japan

Certificate No. **EX-3907_Feb25**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3907
Calibration procedure(s)	QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6, QA CAL-25.v8 Calibration procedure for dosimetric E-field probes
Calibration date	February 20, 2025 (Additional Conversion Factors)

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Calibration Date (Certificate No.)	Sched. Cal.
Power Sensor R&S NRP-33T	SN: 100967	28-Mar-24 (No. 217-04038)	Mar-25
Short [S6019I] + Attenuator [S6020I]	SN: L1119	26-Mar-24 (No. 217-04048)	Mar-25
OCP DAK-12	SN: 1016	24-Sept-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sept-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	10-Jan-25 (No. EX3-7349_Jan25)	Jan-26
DAE4	SN: 1301	07-Nov-24 (No. DAE4-1301_Nov24)	Nov-25

Secondary Standards	ID	Check Date (in house)	Sched. Check
ACAP 2020 Calibration Box	SN: L1404	30-Sept-24 (No. Report_ACAP2020E-Cave_20240930s)	Sep-25

	Name	Function	Signature
Calibrated by	Aidonia Georgiadou	Laboratory Technician	
Approved by	Niels Kuster	Quality Manager	

Issued: February 20, 2025

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

Parameters of Probe: EX3DV4 - SN:3907

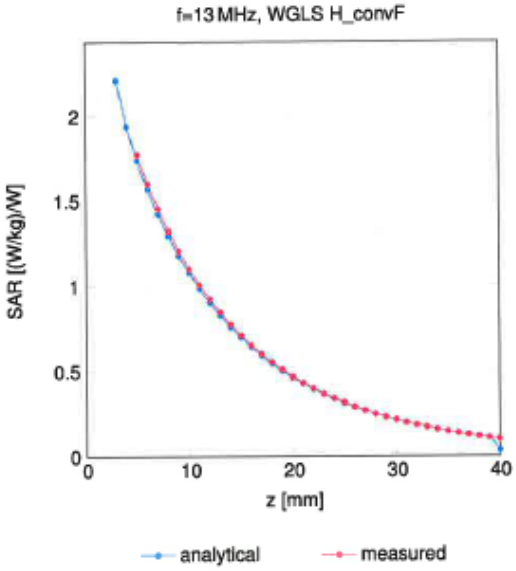
Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz)[C]	Relative Permittivity[F]	Conductivity[F] (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unc[H] ($k = 2$)
13	55.0	0.75	13.40	15.58	14.86	0.00	1.25	±13.3%

[C] Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–9 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.
[F] The probes are calibrated using tissue simulating liquids (TSL) that deviate for ε and σ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10% if SAR correction is applied.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.
[H] The stated uncertainty is the total calibration uncertainty ($k = 2$) of Norm-ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

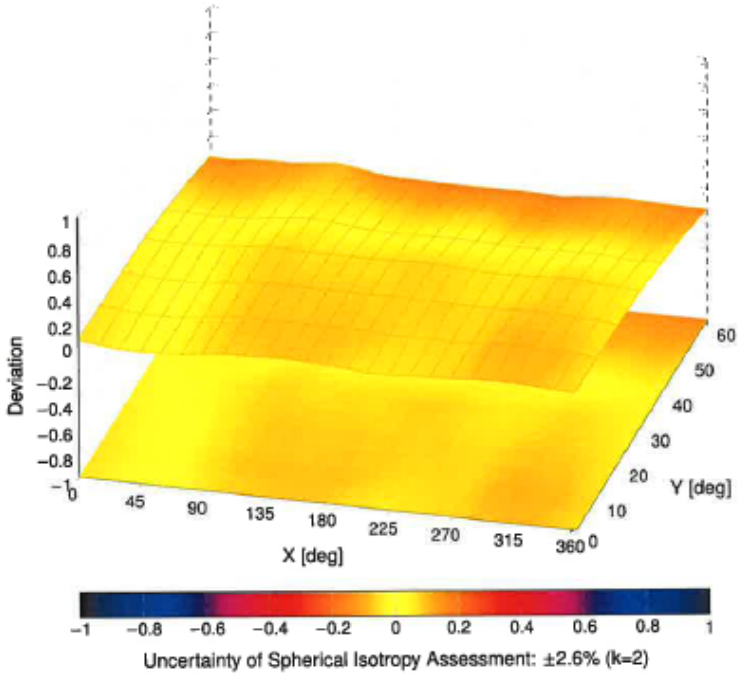
EX3DV4 - SN:3907 February 20, 2025 (Additional Conversion Factors)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (φ,θ), f = 900 MHz



LIMS ID	Description	Type/Model	Serial Number	Manufacture
226380	Dosimetric E-Field Probe	EX3DV4	3745	SPEAG

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

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

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

Accreditation No.: **SCS 0108**

Client: **MWF**
Yokohama, Japan

Certificate No.: **EX-3745_Apr25**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3745
Calibration procedure(s)	QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6, QA CAL-25.v8 Calibration procedure for dosimetric E-field probes
Calibration date	April 15, 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)

Primary Standards	ID	Calibration Date (Certificate No.)	Sched. Cal.
Power Sensor R&S NRP-33T	SN: 100967	26-Mar-25 (No. 217-04290)	Mar-26
Short [S6019i] + Attenuator [S6020i]	SN: L1119	26-Mar-25 (No. 217-04292)	Mar-26
OCP DAK-12	SN: 1016	24-Sept-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sept-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	10-Jan-25 (No. EX3-7349_Jan25)	Jan-26
DAE4	SN: 1301	07-Nov-24 (No. DAE4-1301_Nov24)	Nov-25

Secondary Standards	ID	Check Date (in house)	Sched. Check
ACAP 2020 Calibration Setup	SN: L1404	30-Sept-24 (No. Report_ACAP2020E-Cave_20240930s)	Sep-25

	Name	Function	Signature
Calibrated by	Krešimir Franjić	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	

Issued: April 15, 2025

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