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SAR EVALUATION REPORT

Applicant Name:
Panasonic Corporation of North America
One Panasonic Way, 4B-8
Secaucus, NJ 07094
United States

Date of Testing:
02/05/18 - 02/14/18
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M1802070020-01.ACJ

FCC ID: **ACJFZN1C**

APPLICANT: **PANASONIC CORPORATION OF NORTH AMERICA**

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: FZ-N1WF3

Equipment Class	Band & Mode	Tx Frequency	SAR		
			1g Head (W/kg)	1g Body-Worn (W/kg)	10g Phablet (W/kg)
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.19	0.35	0.38
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.12	1.17	1.06
NII	U-NII-2C	5500 - 5700 MHz	< 0.1	0.57	0.39
NII	U-NII-3	5745 - 5825 MHz	< 0.1	0.39	0.24
DSS/DTS	Bluetooth	2402 - 2480 MHz	N/A	0.18	0.24

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
2.4 GHz WLAN	Data	2412 - 2462 MHz
U-NII-1	Data	5180 - 5240 MHz
U-NII-2A	Data	5260 - 5320 MHz
U-NII-2C	Data	5500 - 5700 MHz
U-NII-3	Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz

1.2 Power Reduction for SAR

There is no power reduction used for any band/mode implemented in this device for SAR purposes.

1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

Mode / Band		Modulated Average (dBm)		
IEEE 802.11b (2.4 GHz)	Channel	1-11		
	Maximum	**15.9**		
	Nominal	**14.0**		
	Minimum	**12.1**		
IEEE 802.11g (2.4 GHz)	Channel	1	2-10	11
	Maximum	**11.9**	**13.9**	**11.9**
	Nominal	**10.0**	**12.0**	**10.0**
	Minimum	**8.1**	**10.1**	**8.1**
IEEE 802.11n (2.4 GHz)	Channel	1	2-10	11
	Maximum	**11.9**	**12.9**	**11.9**
	Nominal	**10.0**	**11.0**	**10.0**
	Minimum	**8.1**	**9.1**	**8.1**

Mode / Band		Modulated Average (dBm)					
IEEE 802.11a/n/ac (5 GHz HT20)	Channel	36-48	52-60	64-100	104-136	140	149-165
	Maximum	**15.9**	**17.4**	**15.9**	**17.4**	**15.9**	**17.4**
	Nominal	**14.0**	**15.5**	**14.0**	**15.5**	**14.0**	**15.5**
	Minimum	**12.1**	**13.6**	**12.1**	**13.6**	**12.1**	**13.6**
IEEE 802.11n/ac (5 GHz HT40)	Channel	38-159					
	Maximum	**12.9**					
	Nominal	**11.0**					
	Minimum	**9.1**					
IEEE 802.11ac (5 GHz HT80)	Channel	42-155					
	Maximum	**13.4**					
	Nominal	**11.5**					
	Minimum	**9.6**					

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Mode / Band		Modulated Average (dBm)		
Bluetooth (BR)	Channel	Low	Mid	High
	Maximum	**13.4**	**13.9**	**12.9**
	Nominal	**11.5**	**12.0**	**11.0**
	Minimum	**9.6**	**10.1**	**9.1**
Bluetooth (EDR 2 Mbps/3 Mbps)	Channel	Low	Mid	High
	Maximum	**11.2**	**11.7**	**10.7**
	Nominal	**9.3**	**9.8**	**8.8**
	Minimum	**7.4**	**7.9**	**6.9**
Bluetooth LE	Channel	Low	Mid	High
	Maximum	**4.9**	**5.4**	**4.4**
	Nominal	**3.0**	**3.5**	**2.5**
	Minimum	**1.1**	**1.6**	**0.6**

1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in Appendix F. Since the diagonal dimension of this device is > 160 mm and <200 mm, it is considered a "phablet."

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
2.4 GHz WLAN	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

Note: Particular DUT edges were not required to be evaluated for wireless router SAR or phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 648474 D04v01r03. The distances between the transmit antennas and the edges of the device are included in the filing.

1.5 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in Appendix F.

1.6 Simultaneous Transmission Capabilities

2.4 GHz WIFI, 2.4 GHz Bluetooth and 5 GHz WIFI cannot transmit simultaneously since they share the same antenna path. This device does not contain multiple transmitters that may operate simultaneously, and therefore does not require a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

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This device supports IEEE 802.11ac with the following features:

a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 1 Tx antenna output
d) 256 QAM is supported
e) TDWR channels are supported
f) Band gap channels are not supported

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported, phablet SAR tests were performed.

This device does not support network-based voice services but does support VOIP operations. Therefore, this device was evaluated per the procedures outlined in KDB 648474 D04 for handsets.

1.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)

1.9 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 10.

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2 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

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

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

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3 DOSIMETRIC ASSESSMENT

3.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

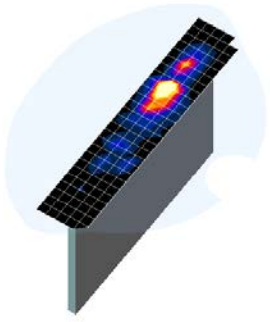

Figure 3-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 3-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 3-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 3-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 3-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

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4 DEFINITION OF REFERENCE POINTS

4.1 EAR REFERENCE POINT

Figure 4-2 shows the front, back and side views of the SAM Twin Phantom. The point "M" is the reference point for the center of the mouth, "LE" is the left ear reference point (ERP), and "RE" is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 4-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (see Figure 4-1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].

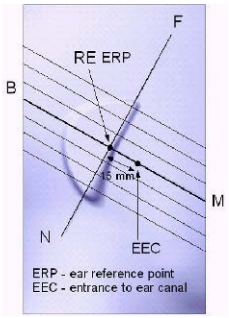

Figure 4-1
Close-Up Side view of ERP

4.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the "vertical centerline" on the front of the device aligned to the "ear reference point" (See Figure 4-3). The acoustic output was than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at its top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

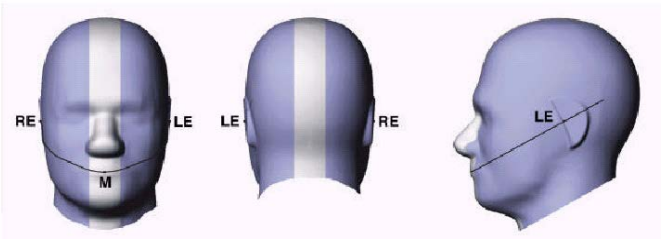

Figure 4-2
Front, back and side view of SAM Twin Phantom

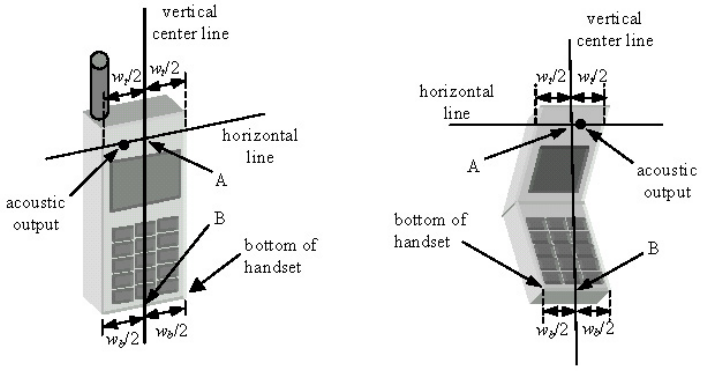

Figure 4-3
Handset Vertical Center & Horizontal Line Reference Points

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5 TEST CONFIGURATION POSITIONS

5.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

5.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 5-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

Figure 5-1 Front, Side and Top View of Cheek Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 5-2).

5.3 Positioning for Ear / 15º Tilt

With the test device aligned in the “Cheek Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 5-2).

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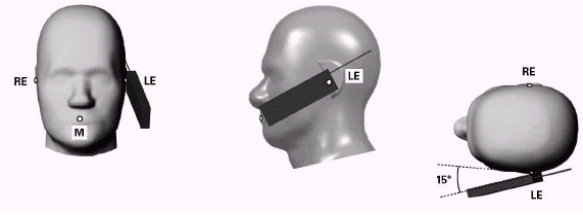

Figure 5-2 Front, Side and Top View of Ear/15º Tilt Position

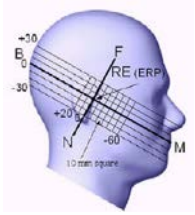

Figure 5-3 Side view w/ relevant markings

5.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. Per IEEE 1528-2013, a rotated SAM phantom is necessary to allow probe access to such regions. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed from the table for emptying and cleaning.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR location identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

5.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-4). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

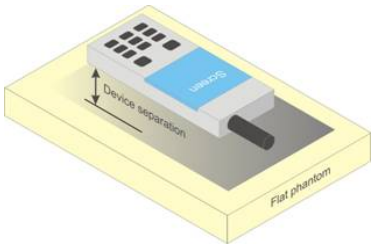

Figure 6-4 Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

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Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.
Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

5.6 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1g body and 10g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

Per KDB Publication 447498 D01v06, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

5.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

5.8 Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D04v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna <=25 mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

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6 RF EXPOSURE LIMITS

6.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.2 Controlled Environment

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). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table 6-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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7 FCC MEASUREMENT PROCEDURES

7.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

7.2 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

7.2.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

7.2.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

7.2.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

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7.2.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

7.2.5 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is › 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

7.2.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

7.2.7 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

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When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 7.2.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

7.2.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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8 RF CONDUCTED POWERS

8.1 WLAN Conducted Powers

Table 8-1
2.4 GHz WLAN Maximum Average RF Power

2.4GHz Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11b	802.11g
2412	1	**13.91**	9.27
2417	2	N/A	11.25
2437	6	13.41	11.44
2457	10	N/A	11.30
2462	11	13.25	9.00

Table 8-2
5 GHz WLAN Maximum Average RF Power

Freq [MHz]	Channel	5GHz (20MHz) Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11a	802.11n	802.11ac
5180	36	14.01	13.81	14.00
5200	40	13.94	13.92	13.90
5220	44	14.00	13.99	13.94
5240	48	13.96	13.89	13.94
5260	52	15.61	15.59	15.66
5280	56	**15.67**	15.53	15.55
5300	60	15.60	15.40	15.57
5320	64	13.98	13.94	13.84
5500	100	14.06	13.98	14.03
5520	104	15.55	15.54	15.51
5600	120	**15.61**	15.56	15.53
5680	136	15.50	15.45	15.42
5700	140	14.00	13.90	13.79
5745	149	**15.63**	15.51	15.52
5785	157	15.57	15.55	15.42
5825	165	15.55	15.61	15.56

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.

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- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.
- The bolded data rate and channel above were tested for SAR.

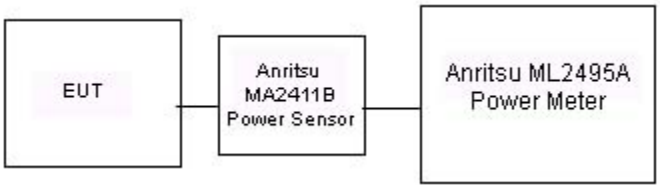

Figure 8-1
Power Measurement Setup for Bandwidths < 50 MHz

8.2 Bluetooth Conducted Powers

Table 8-3
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	12.00	15.852
2441	1.0	39	**12.39**	17.327
2480	1.0	78	11.07	12.802
2402	2.0	0	9.37	8.642
2441	2.0	39	9.77	9.485
2480	2.0	78	8.45	6.993
2402	3.0	0	9.33	8.573
2441	3.0	39	9.70	9.338
2480	3.0	78	8.43	6.968

Note: The bolded data rates and channel above were tested for SAR.

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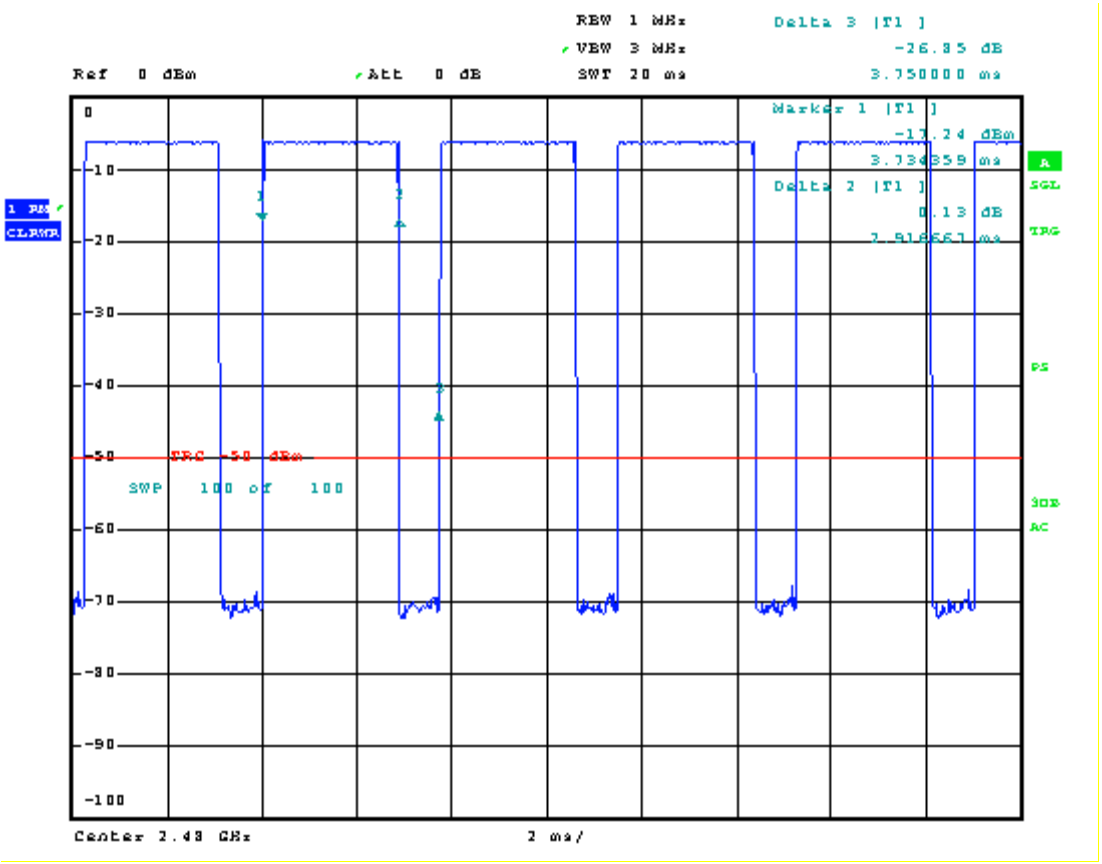

Figure 8-2
Bluetooth Transmission Plot

Equation 8-1
Bluetooth Duty Cycle Calculation

$$\textbf{Duty Cycle} = \frac{\textbf{Pulse Width}}{\textbf{Period}} * 100\% = \frac{2.917ms}{3.750ms} * 100\% = 77.8\%$$

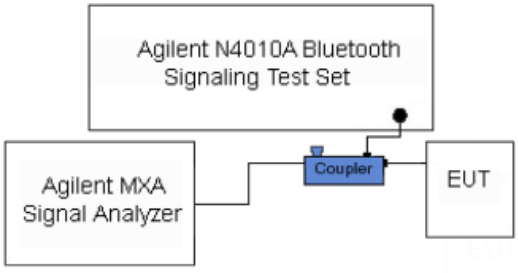

Figure 8-3
Power Measurement Setup

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9 SYSTEM VERIFICATION

9.1 Tissue Verification

Table 9-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
02/14/2018	2450H	22.2	2400	1.793	37.547	1.756	39.289	*2.11%*	*-4.43%*
			2450	1.850	37.387	1.800	39.200	*2.78%*	*-4.63%*
			2500	1.903	37.184	1.855	39.136	*2.59%*	*-4.99%*
02/05/2018	5200H-5800H	20.3	5240	4.493	34.500	4.696	35.940	*-4.32%*	*-4.01%*
			5260	4.512	34.461	4.717	35.917	*-4.35%*	*-4.05%*
			5280	4.539	34.443	4.737	35.894	*-4.18%*	*-4.04%*
			5600	4.854	33.979	5.065	35.529	*-4.17%*	*-4.36%*
			5745	4.997	33.761	5.214	35.363	*-4.16%*	*-4.53%*
			5765	5.020	33.740	5.234	35.340	*-4.09%*	*-4.53%*
02/12/2018	2450B	22.9	2400	1.964	51.686	1.902	52.767	*3.26%*	*-2.05%*
			2450	2.020	51.547	1.950	52.700	*3.59%*	*-2.19%*
			2500	2.079	51.391	2.021	52.636	*2.87%*	*-2.37%*
02/12/2018	5200B-5800B	21.8	5240	5.454	47.138	5.346	48.960	*2.02%*	*-3.72%*
			5260	5.485	47.096	5.369	48.933	*2.16%*	*-3.75%*
			5280	5.485	47.094	5.393	48.906	*1.71%*	*-3.71%*
			5300	5.518	47.017	5.416	48.879	*1.88%*	*-3.81%*
			5600	5.921	46.532	5.766	48.471	*2.69%*	*-4.00%*
			5745	6.120	46.266	5.936	48.275	*3.10%*	*-4.16%*
			5765	6.144	46.263	5.959	48.248	*3.10%*	*-4.11%*

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

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9.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

Table 9-2
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
H	2450	HEAD	02/14/2018	21.9	22.2	0.100	797	7410	5.450	52.700	54.500	3.42%
H	5250	HEAD	02/05/2018	21.7	20.7	0.050	1191	3589	3.700	78.900	74.000	-6.21%
H	5600	HEAD	02/05/2018	21.7	20.7	0.050	1191	3589	4.010	83.600	80.200	-4.07%
H	5750	HEAD	02/05/2018	21.7	20.7	0.050	1191	3589	3.730	79.100	74.600	-5.69%
K	2450	BODY	02/12/2018	22.4	21.9	0.100	797	7406	5.150	51.100	51.500	0.78%
D	5250	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	3.580	76.900	71.600	-6.89%
D	5600	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	3.810	78.500	76.200	-2.93%
D	5750	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	3.590	77.100	71.800	-6.87%

Table 9-3
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{10g} (W/kg)	1 W Target SAR_{10g} (W/kg)	1 W Normalized SAR_{10g} (W/kg)	$Deviation_{10g}$ (%)
K	2450	BODY	02/12/2018	22.4	21.9	0.100	797	7406	2.360	24.200	23.600	-2.48%
D	5250	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	1.000	21.500	20.000	-6.98%
D	5600	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	1.050	22.100	21.000	-4.98%
D	5750	BODY	02/12/2018	21.5	20.9	0.050	1237	7308	1.000	21.400	20.000	-6.54%

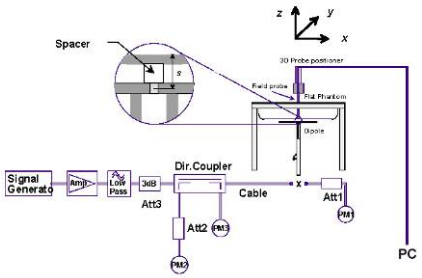

Figure 9-1
System Verification Setup Diagram

Figure 9-2
System Verification Setup Photo

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10 SAR DATA SUMMARY

10.1 Standalone Head SAR Data

Table 10-1
DTS Head SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.												W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	15.9	13.91	0.13	Right	Cheek	00050	1	98.3	0.174	0.119	1.581	1.017	**0.191**	A1
2412	1	802.11b	DSSS	22	15.9	13.91	0.14	Right	Tilt	00050	1	98.3	0.048	-	1.581	1.017	-	
2412	1	802.11b	DSSS	22	15.9	13.91	-0.16	Left	Cheek	00050	1	98.3	0.078	-	1.581	1.017	-	
2412	1	802.11b	DSSS	22	15.9	13.91	0.16	Left	Tilt	00050	1	98.3	0.024	-	1.581	1.017	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 10-2
NII Head SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.												W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	17.4	15.67	-0.19	Right	Cheek	00050	6	97.2	0.152	0.081	1.489	1.029	**0.124**	A2
5280	56	802.11a	OFDM	20	17.4	15.67	0.10	Right	Tilt	00050	6	97.2	0.092	-	1.489	1.029	-	
5280	56	802.11a	OFDM	20	17.4	15.67	0.11	Left	Cheek	00050	6	97.2	0.097	-	1.489	1.029	-	
5280	56	802.11a	OFDM	20	17.4	15.67	0.12	Left	Tilt	00050	6	97.2	0.092	-	1.489	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	0.12	Right	Cheek	00050	6	97.2	0.055	0.030	1.510	1.029	0.047	
5600	120	802.11a	OFDM	20	17.4	15.61	0.20	Right	Tilt	00050	6	97.2	0.032	-	1.510	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	-0.19	Left	Cheek	00050	6	97.2	0.022	-	1.510	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	0.21	Left	Tilt	00050	6	97.2	0.022	-	1.510	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.10	Right	Cheek	00050	6	97.2	0.073	0.024	1.503	1.029	0.037	
5745	149	802.11a	OFDM	20	17.4	15.63	0.19	Right	Tilt	00050	6	97.2	0.022	-	1.503	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.21	Left	Cheek	00050	6	97.2	0.020	-	1.503	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.15	Left	Tilt	00050	6	97.2	0.010	-	1.503	1.029	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram										

10.2 Standalone Body-Worn SAR Data

Table 10-3
DTS Body-Worn SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.												W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	15.9	13.91	0.07	5 mm	00050	1	back	98.3	0.303	0.219	1.581	1.017	**0.352**	A3
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 10-4
NII Body-Worn SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.												W/kg	(W/kg)			(W/kg)	
5260	52	802.11a	OFDM	20	17.4	15.61	-0.15	5 mm	00030	6	back	97.2	1.520	0.722	1.510	1.029	1.122	
5280	56	802.11a	OFDM	20	17.4	15.67	-0.05	5 mm	00030	6	back	97.2	1.620	0.750	1.489	1.029	1.149	
5300	60	802.11a	OFDM	20	17.4	15.60	-0.02	5 mm	00030	6	back	97.2	1.640	0.753	1.514	1.029	**1.173**	A4
5600	120	802.11a	OFDM	20	17.4	15.61	0.03	5 mm	00030	6	back	97.2	0.647	0.365	1.510	1.029	0.567	
5745	149	802.11a	OFDM	20	17.4	15.63	-0.09	5 mm	00030	6	back	97.2	0.607	0.255	1.503	1.029	0.394	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 10-5
DSS Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	13.9	12.39	0.09	5 mm	00050	1	back	77.8	0.101	1.416	1.285	**0.184**	A5

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

10.3 Standalone Phablet SAR Data

Table 10-6
WLAN Phablet SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.												W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	15.9	13.91	0.06	0 mm	00050	1	back	98.3	0.575	-	1.581	1.017	-	
2412	1	802.11b	DSSS	22	15.9	13.91	0.12	0 mm	00050	1	front	98.3	0.250	-	1.581	1.017	-	
2412	1	802.11b	DSSS	22	15.9	13.91	0.17	0 mm	00050	1	top	98.3	0.091	-	1.581	1.017	-	
2412	1	802.11b	DSSS	22	15.9	13.91	0.04	0 mm	00050	1	left	98.3	1.162	0.238	1.581	1.017	**0.383**	A6
5280	56	802.11a	OFDM	20	17.4	15.67	-0.06	0 mm	00030	6	back	97.2	3.516	0.482	1.489	1.029	0.739	
5280	56	802.11a	OFDM	20	17.4	15.67	0.00	0 mm	00030	6	front	97.2	0.347	-	1.489	1.029	-	
5280	56	802.11a	OFDM	20	17.4	15.67	0.01	0 mm	00030	6	top	97.2	0.147	-	1.489	1.029	-	
5260	52	802.11a	OFDM	20	17.4	15.61	-0.20	0 mm	00030	6	left	97.2	7.858	0.608	1.510	1.029	0.945	
5280	56	802.11a	OFDM	20	17.4	15.67	0.17	0 mm	00030	6	left	97.2	6.065	0.663	1.489	1.029	1.016	
5300	60	802.11a	OFDM	20	17.4	15.60	-0.19	0 mm	00030	6	left	97.2	6.722	0.679	1.514	1.029	**1.058**	A7
5600	120	802.11a	OFDM	20	17.4	15.61	0.04	0 mm	00030	6	back	97.2	1.724	-	1.510	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	0.10	0 mm	00030	6	front	97.2	0.201	-	1.510	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	0.17	0 mm	00030	6	top	97.2	0.099	-	1.510	1.029	-	
5600	120	802.11a	OFDM	20	17.4	15.61	0.15	0 mm	00030	6	left	97.2	3.498	0.251	1.510	1.029	0.390	
5745	149	802.11a	OFDM	20	17.4	15.63	0.13	0 mm	00030	6	back	97.2	1.433	-	1.503	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.00	0 mm	00030	6	front	97.2	0.115	-	1.503	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.17	0 mm	00030	6	top	97.2	0.041	-	1.503	1.029	-	
5745	149	802.11a	OFDM	20	17.4	15.63	0.14	0 mm	00030	6	left	97.2	2.306	0.156	1.503	1.029	0.241	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Phablet
Spatial Peak	4.0 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 10 grams

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Table 10-7
DSS Phablet SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle %	SAR (10g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	13.9	12.39	-0.02	0 mm	00050	1	back	77.8	0.098	1.416	1.285	0.178	
2441	39	Bluetooth	FHSS	13.9	12.39	0.21	0 mm	00050	1	front	77.8	0.033	1.416	1.285	0.060	
2441	39	Bluetooth	FHSS	13.9	12.39	0.15	0 mm	00050	1	top	77.8	0.016	1.416	1.285	0.029	
2441	39	Bluetooth	FHSS	13.9	12.39	0.03	0 mm	00050	1	left	77.8	0.129	1.416	1.285	0.235	A8
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Phablet 4.0 W/kg (mW/g) averaged over 10 grams				

10.4 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 5 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Per FCC KDB Publication 865664 D01v01r04, variability SAR tests were not required since measured SAR results for all frequency bands were less than 0.8 W/kg. Please see Section 11 for variability analysis.
9. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore phablet SAR tests are required since wireless router mode does not apply.
10. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.

WLAN Notes:

1. For held-to-ear and Phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. 10g measurement analysis applies a factor of 2.5 applies to the procedures outlined above.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.2.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest

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maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g SAR and 3.0 W/kg for 10g. See Section 7.2.6 for more information.

4. When the maximum reported 1g averaged SAR is ≤0.8 W/kg and 10 g averaged SAR is ≤ 2.0 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for for 1 g and ≤ 3.0 W/kg for 10 g or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
6. Additional channels were tested for the configuration with the highest reported SAR for each 1 g and 10 g per Manufacturer's request.
7. For U-NII-2C, channel 104 and 136 were additionally considered for SAR testing since channels 100 and 140 have lower maximum allowed output power.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 8.2 for the time domain plot and calculation for the duty factor of the device.

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11 SAR MEASUREMENT VARIABILITY

11.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, all measured 1 g SAR values were <0.8 W/kg and all measured 10 g SAR values were <2.0 W/kg. Therefore, no SAR measurement variability analysis was required.

11.2 Measurement Uncertainty

The measured 1g SAR was <1.5 W/kg and <3.75 W/kg for 10g SAR for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

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12 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E4438C	ESG Vector Signal Generator	3/23/2017	Biennial	3/23/2019	MY42082659
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/22/2017	Annual	3/22/2018	MY45470194
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N5182A	MXG Vector Signal Generator	11/1/2017	Annual	11/1/2018	MY47420603
Agilent	N9020A	MXA Signal Analyzer	1/24/2018	Annual	1/24/2019	US46470561
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Anritsu	MA24106A	USB Power Sensor	6/7/2017	Annual	6/7/2018	1231535
Anritsu	MA24106A	USB Power Sensor	6/7/2017	Annual	6/7/2018	1231538
Anritsu	MA2411B	Pulse Power Sensor	10/16/2017	Annual	10/16/2018	1207470
Anritsu	ML2495A	Power Meter	10/22/2017	Annual	10/22/2018	941001
Anritsu	ML2495A	Power Meter	11/28/2017	Annual	11/28/2018	1039008
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M1S5A00-009
Control Company	4040	Therm./ Clock/ Humidity Monitor	3/1/2017	Biennial	3/1/2019	170152009
Control Company	4352	Ultra Long Stem Thermometer	3/8/2016	Biennial	3/8/2018	160261694
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/1/2017	Annual	6/1/2018	MY53401181
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini Circuits	PWR-4GHS	USB Power Sensor	1/22/2018	Annual	1/22/2019	11710030062
Mini Circuits	PWR-4GHS	USB Power Sensor	1/20/2018	Annual	1/20/2019	11710030063
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mitutoyo	CD-6"CSX	Digital Caliper	3/2/2016	Biennial	3/2/2018	13264162
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	3/8/2017	Annual	3/8/2018	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE5011-1	Torque Wrench	7/19/2017	Biennial	7/19/2019	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	4/11/2017	Annual	4/11/2018	836371/0079
Seekonk	NC-100	Torque Wrench (8" lb)	9/1/2016	Biennial	9/1/2018	21053
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Annual	9/11/2018	797
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/21/2016	Biennial	9/21/2018	1191
SPEAG	D5GHzV2	5 GHz SAR Dipole	8/15/2017	Annual	8/15/2018	1237
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/13/2017	Annual	7/13/2018	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/14/2017	Annual	6/14/2018	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/11/2017	Annual	4/11/2018	1407
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/10/2017	Annual	5/10/2018	1070
SPEAG	EX3DV4	SAR Probe	1/16/2018	Annual	1/16/2019	3589
SPEAG	EX3DV4	SAR Probe	8/16/2017	Annual	8/16/2018	7308
SPEAG	EX3DV4	SAR Probe	4/18/2017	Annual	4/18/2018	7406
SPEAG	EX3DV4	SAR Probe	7/17/2017	Annual	7/17/2018	7410

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

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13 MEASUREMENT UNCERTAINTIES

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

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14 CONCLUSION

14.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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APPENDIX A: SAR TEST DATA

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PCTEST ENGINEERING LABORATORY, INC.

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

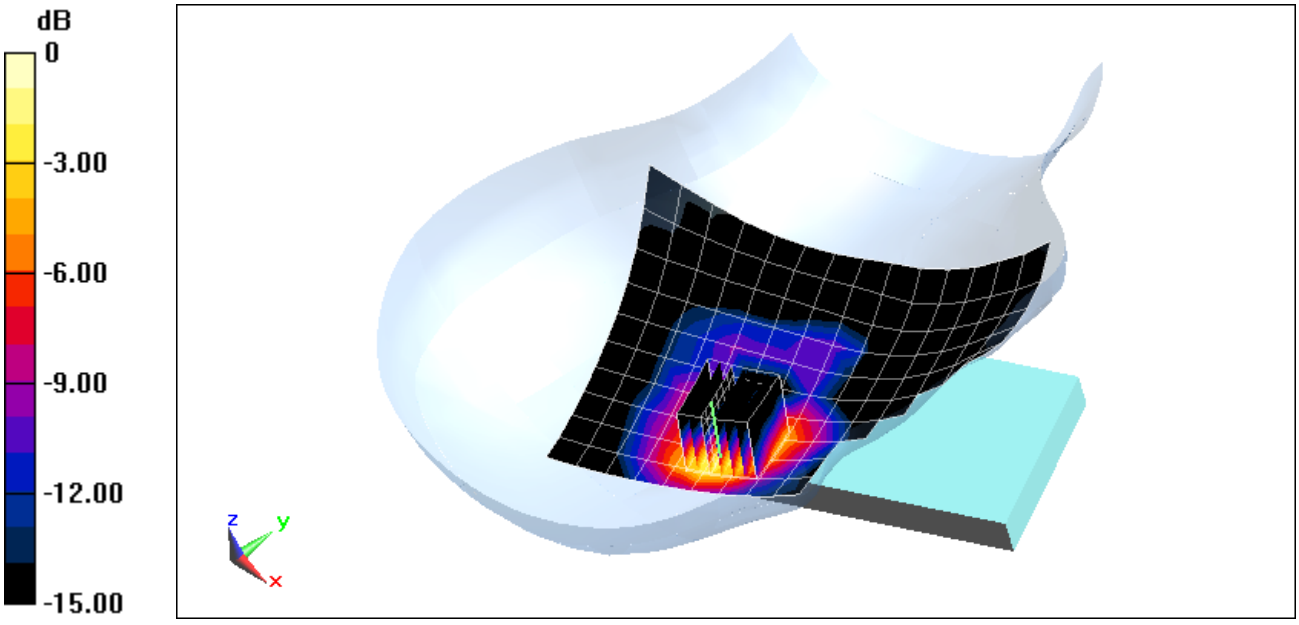
Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.807 S/m; ε_r = 37.509; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-14-2018; Ambient Temp: 21.9°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7410; ConvF(7.68, 7.68, 7.68); Calibrated: 7/17/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Right Head, Cheek, Ch 1, 1 Mbps

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.453 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.271 W/kg
SAR(1 g) = 0.119 W/kg



0 dB = 0.204 W/kg = -6.90 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

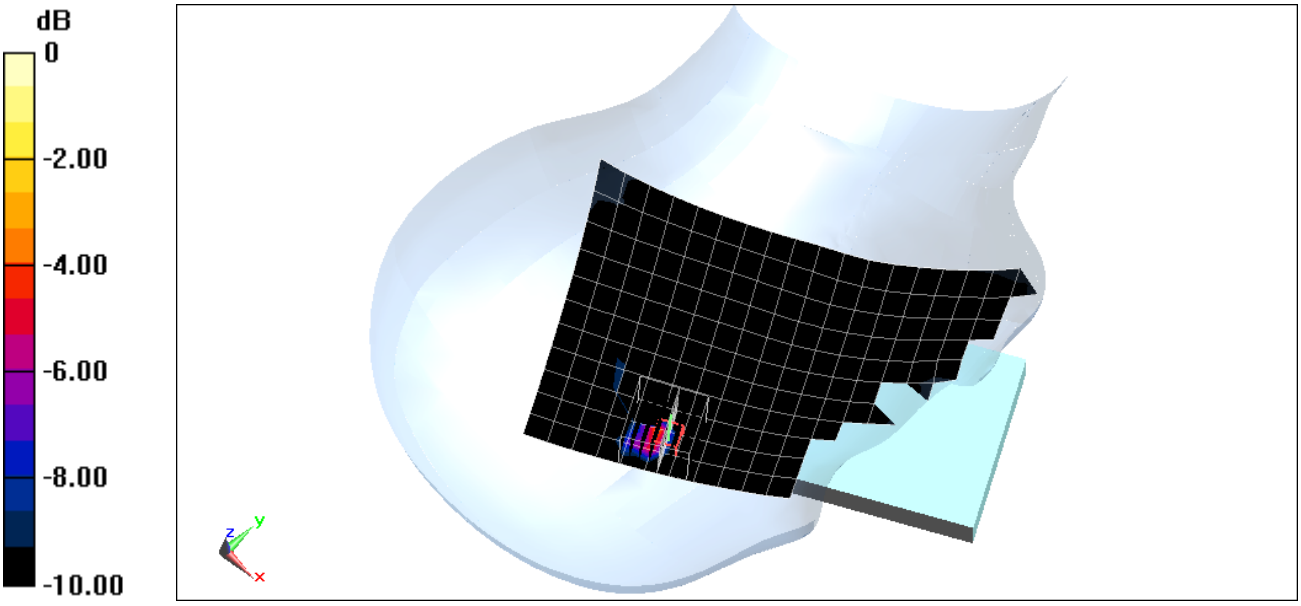
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5 GHz Head; Medium parameters used:
f = 5280 MHz; σ = 4.539 S/m; ε_r = 34.443; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-05-2018; Ambient Temp: 21.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(4.69, 4.69, 4.69); Calibrated: 1/16/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11a, U-NII-2A, 20 MHz Bandwidth, Right Head, Cheek, Ch 56, 6 Mbps

Area Scan (12x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 0.6440 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.600 W/kg
SAR(1 g) = 0.081 W/kg



0 dB = 0.194 W/kg = -7.12 dBW/kg

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

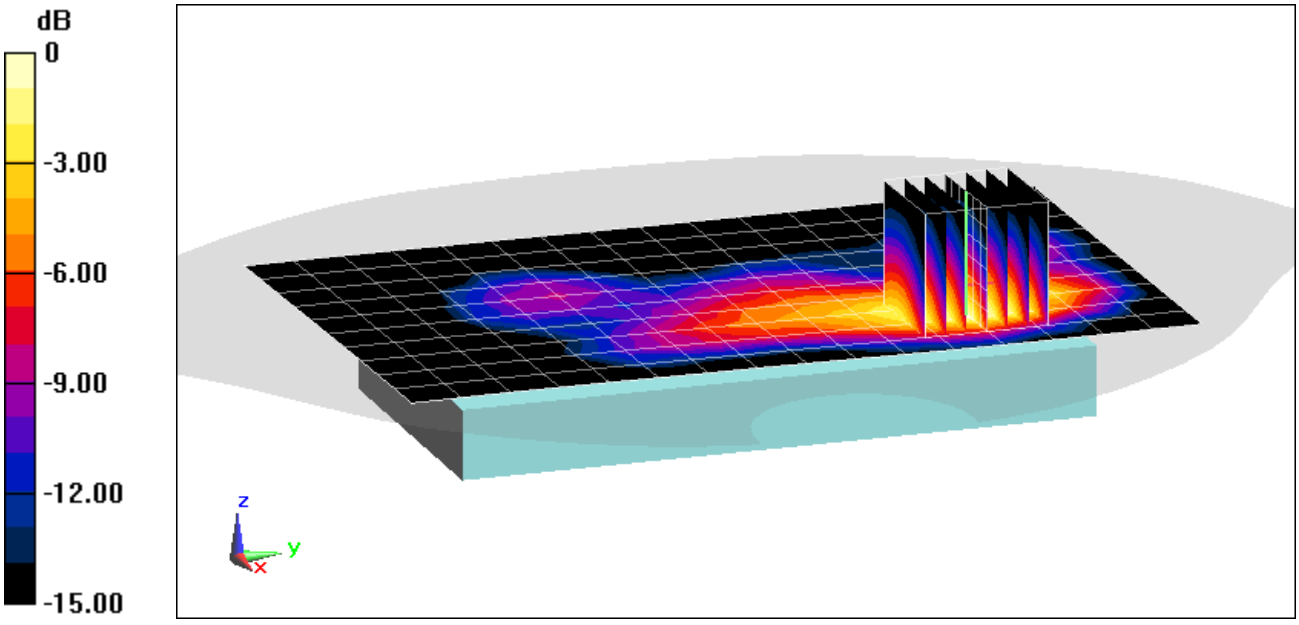
Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.977 S/m; ε_r = 51.653; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.5 cm

Test Date: 02-12-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2017
Phantom: Right Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1797
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Body SAR, Ch 1, 1 Mbps, Back Side

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.04 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.445 W/kg
SAR(1 g) = 0.219 W/kg



0 dB = 0.351 W/kg = -4.55 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00030

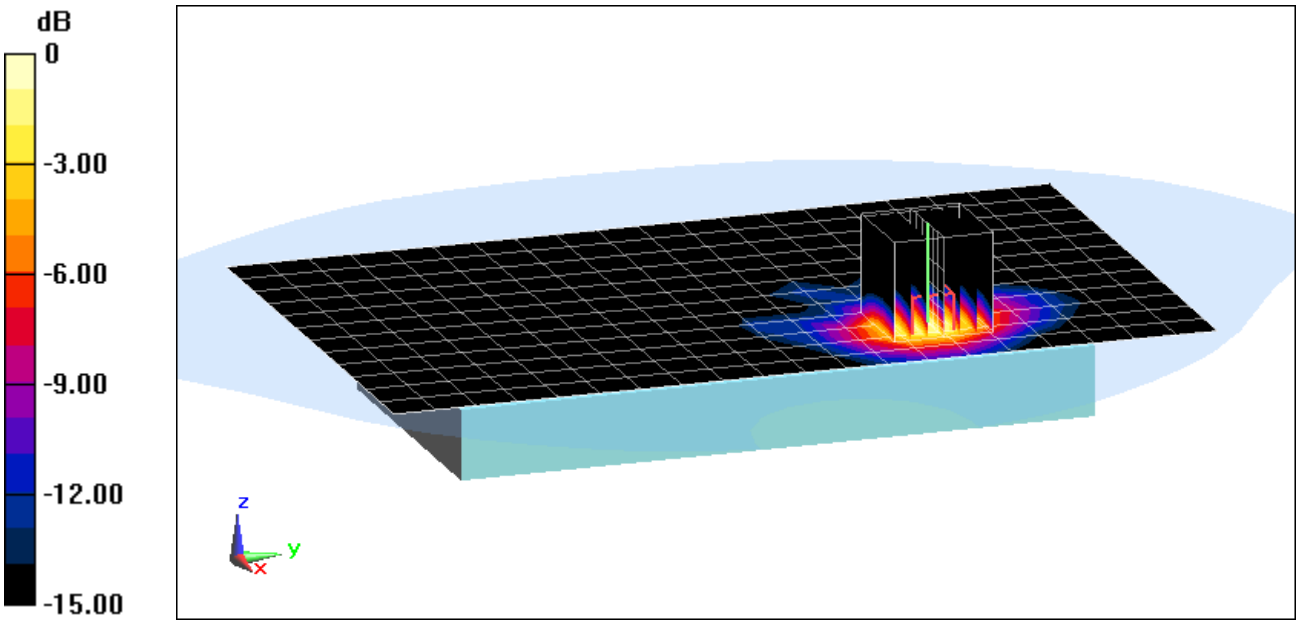
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium: 5 GHz Body; Medium parameters used:
f = 5300 MHz; σ = 5.518 S/m; ε_r = 47.017; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.5 cm

Test Date: 02-12-2018; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.84, 4.84, 4.84); Calibrated: 8/16/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/14/2017
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11a, UNII-2A, 20 MHz Bandwidth, Body SAR, Ch 60, 6 Mbps, Back Side

Area Scan (13x21x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 12.07 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.08 W/kg
SAR(1 g) = 0.753 W/kg



0 dB = 1.75 W/kg = 2.43 dBW/kg

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

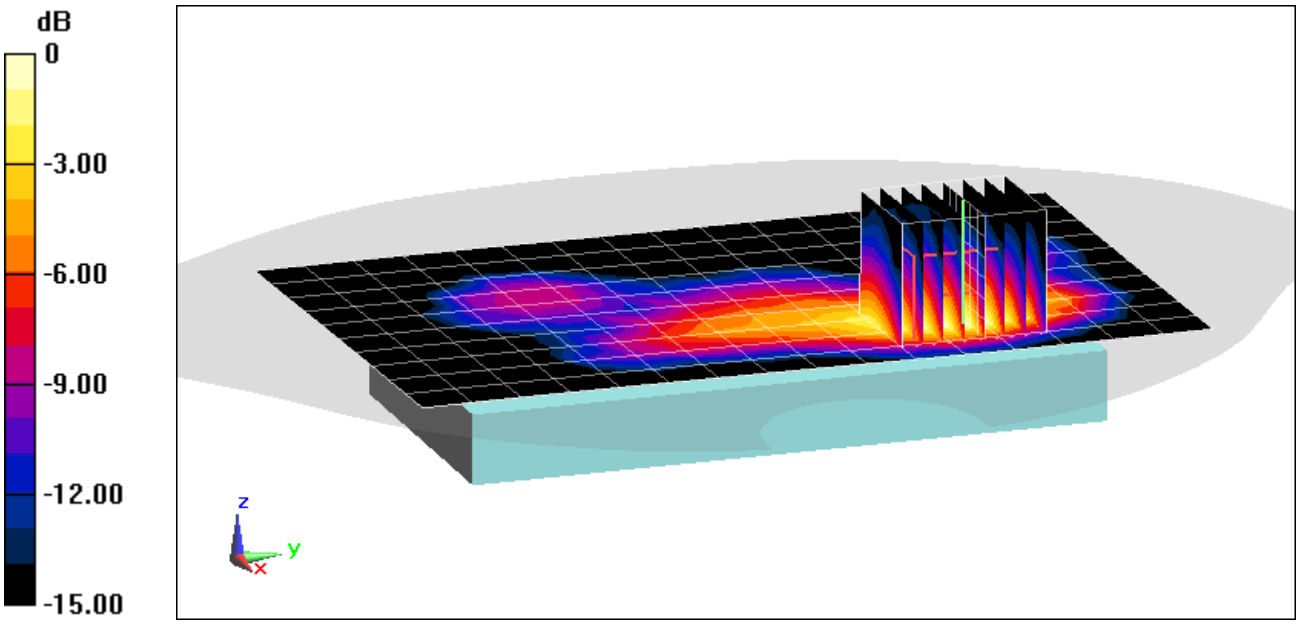
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.285
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.01 S/m; ε_r = 51.572; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.5 cm

Test Date: 02-12-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2017
Phantom: Right Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1797
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.425 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.204 W/kg
SAR(1 g) = 0.101 W/kg



0 dB = 0.163 W/kg = -7.88 dBW/kg

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

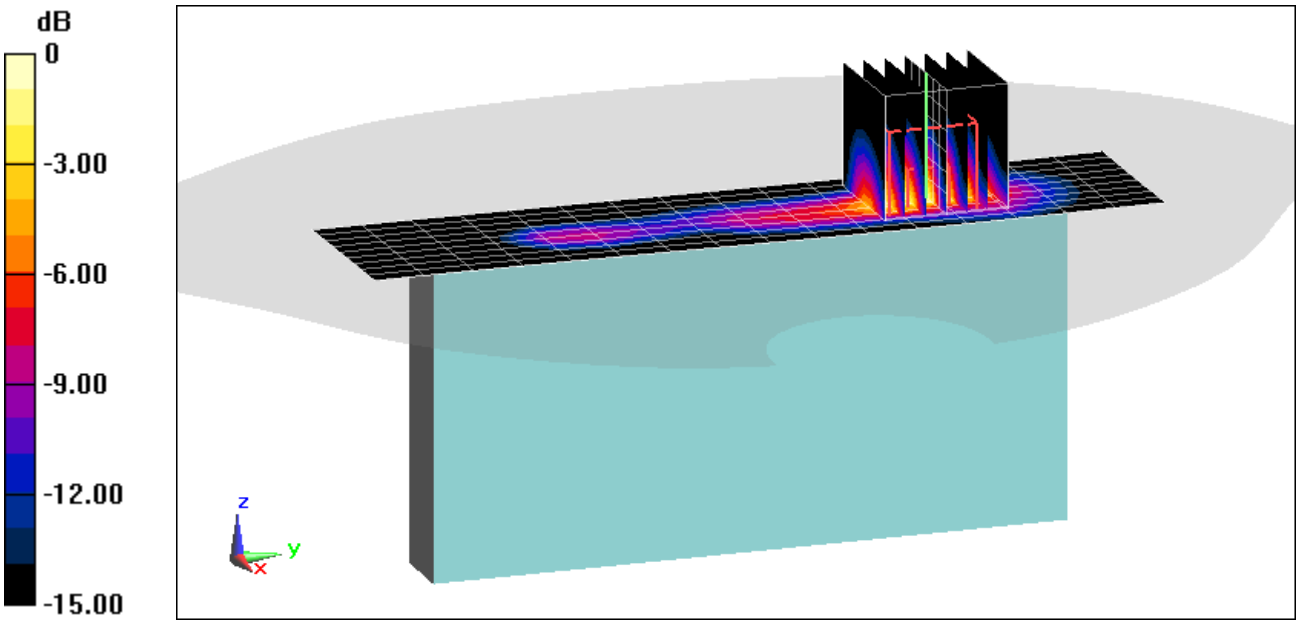
Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.977 S/m; ε_r = 51.653; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 02-12-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2017
Phantom: Right Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1797
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Phablet SAR, Ch 1, 1 Mbps, Left Edge

Area Scan (10x17x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.360 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(10 g) = 0.238 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00030

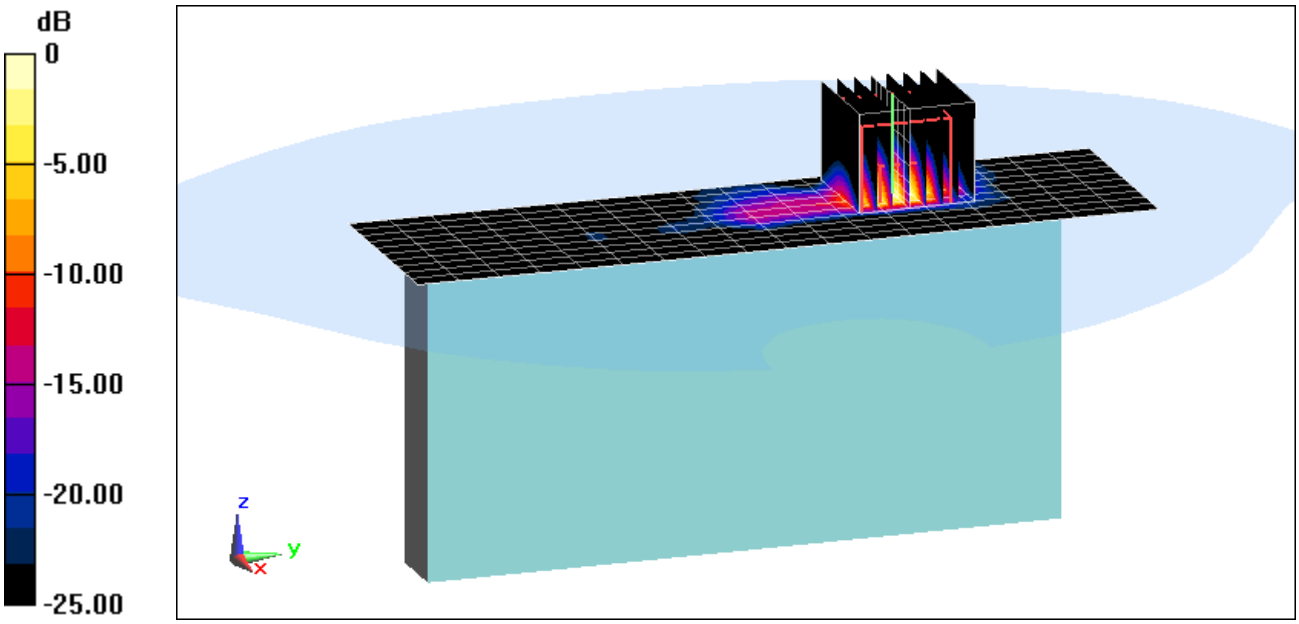
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium: 5 GHz Body; Medium parameters used:
f = 5300 MHz; σ = 5.518 S/m; ε_r = 47.017; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 02-12-2018; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.84, 4.84, 4.84); Calibrated: 8/16/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/14/2017
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11a, UNII-2A, 20 MHz Bandwidth, Phablet SAR, Ch 60, 6 Mbps, Left Edge

Area Scan (11x19x1): Measurement grid: dx=5mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 26.32 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(10 g) = 0.679 W/kg



0 dB = 8.81 W/kg = 9.45 dBW/kg

DUT: ACJFZN1C; Type: Portable Handset; Serial: 00050

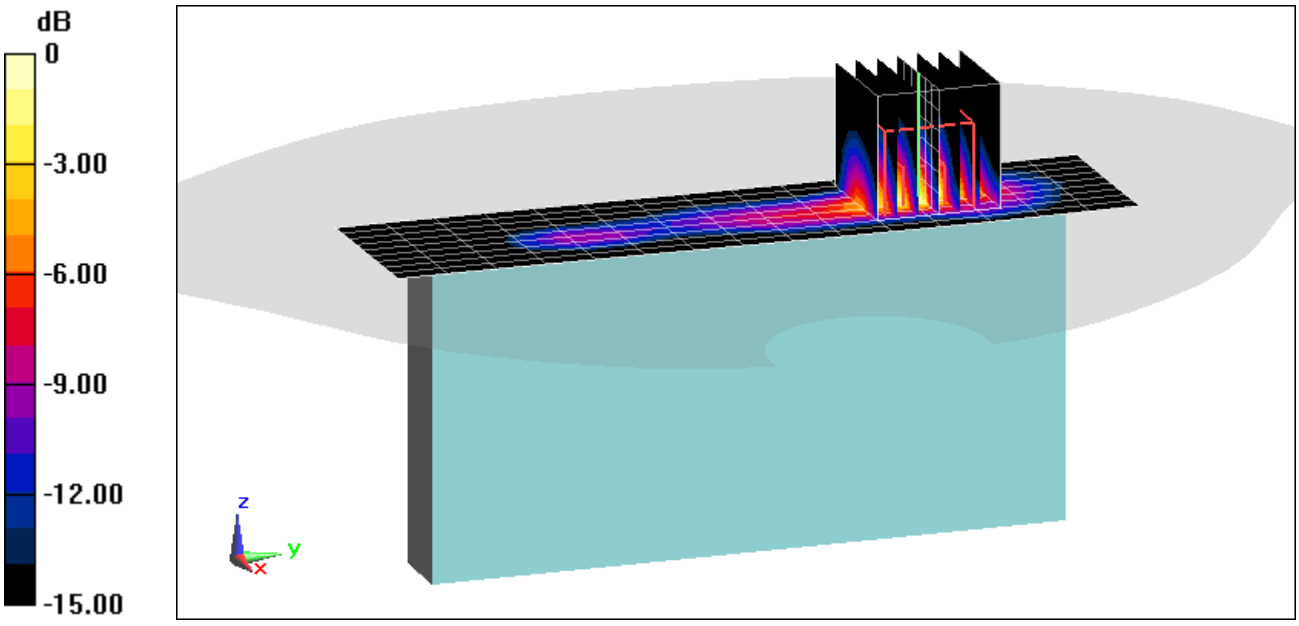
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.285
Medium: 2450 Body Medium; parameters used (interpolated):
f = 2441 MHz; σ = 2.01 S/m; ε_r = 51.572; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 02-12-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2017
Phantom: Right Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1797
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Bluetooth, Phablet SAR, Ch 39, 1 Mbps, Left Edge

Area Scan (10x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.86 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.963 W/kg
SAR(10 g) = 0.129 W/kg



0 dB = 0.732 W/kg = -1.35 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

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PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

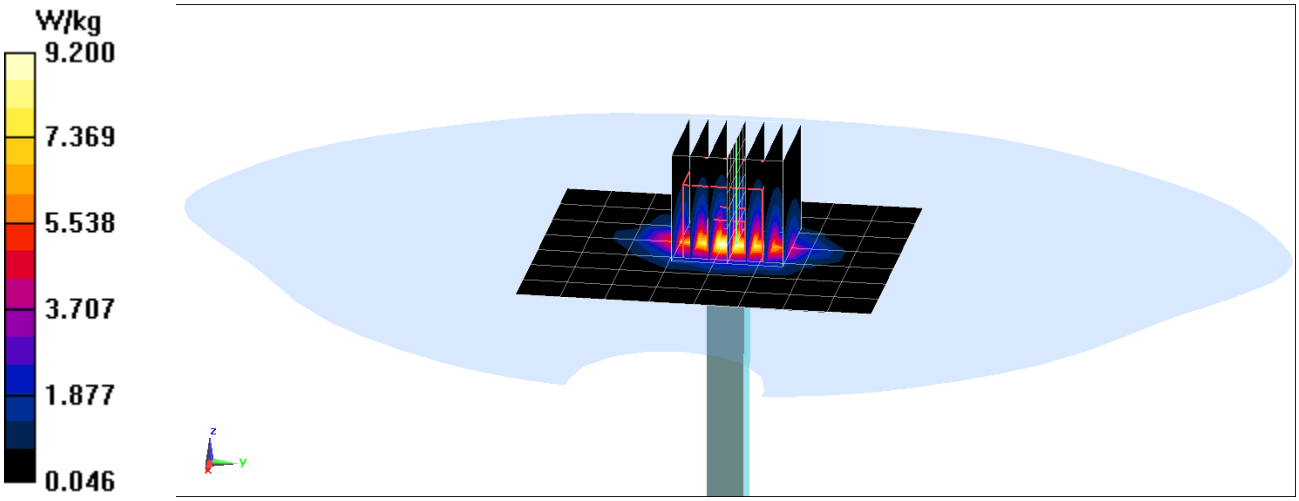
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
f = 2450 MHz; σ = 1.85 S/m; ε_r = 37.387; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-14-2018; Ambient Temp: 21.9°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7410; ConvF(7.68, 7.68, 7.68); Calibrated: 7/17/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.6 W/kg
SAR(1 g) = 5.45 W/kg
Deviation(1 g) = 3.42%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

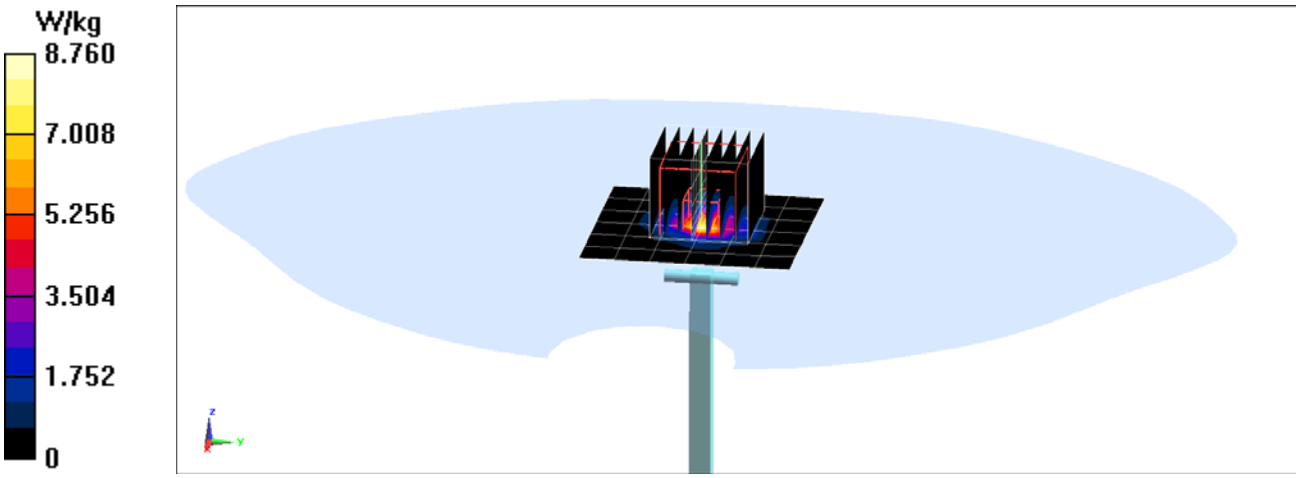
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5GHz Head; Medium parameters used (interpolated):
f = 5250 MHz; σ = 4.502 S/m; ε_r = 34.48; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-05-2018; Ambient Temp: 21.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(4.69, 4.69, 4.69); Calibrated: 1/16/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.0 W/kg
SAR(1 g) = 3.70 W/kg
Deviation(1 g) = -6.21%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

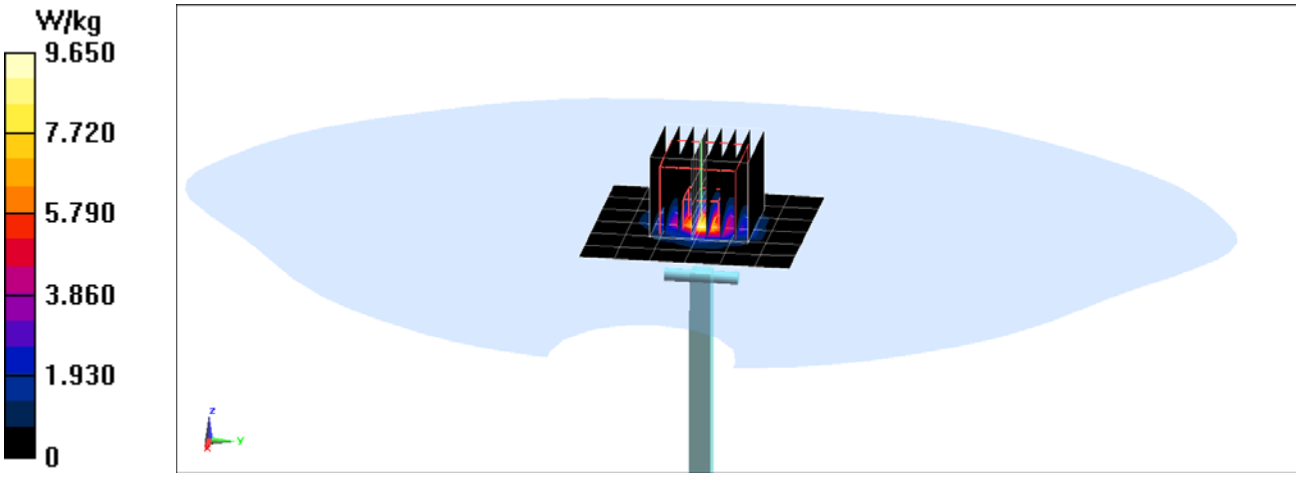
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5GHz Head; Medium parameters used:
f = 5600 MHz; σ = 4.854 S/m; ε_r = 33.979; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-05-2018; Ambient Temp: 21.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(4.17, 4.17, 4.17); Calibrated: 1/16/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 4.01 W/kg
Deviation(1 g) = -4.07%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

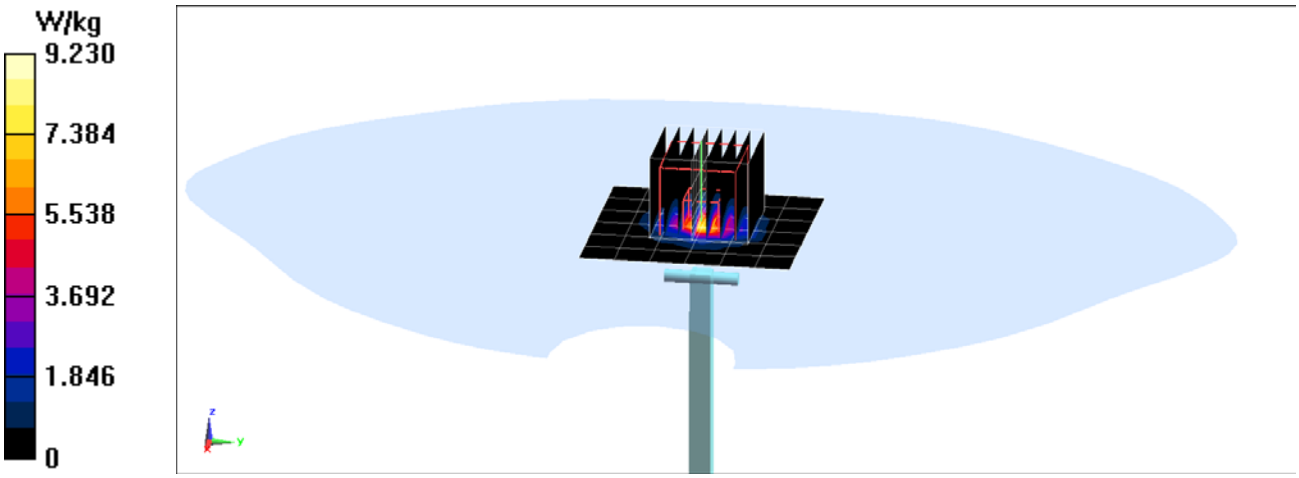
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5GHz Head; Medium parameters used (interpolated):
f = 5750 MHz; σ = 5.003 S/m; ε_r = 33.756; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-05-2018; Ambient Temp: 21.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(4.42, 4.42, 4.42); Calibrated: 1/16/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/13/2017
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 3.73 W/kg
Deviation(1 g) = -5.69%



DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

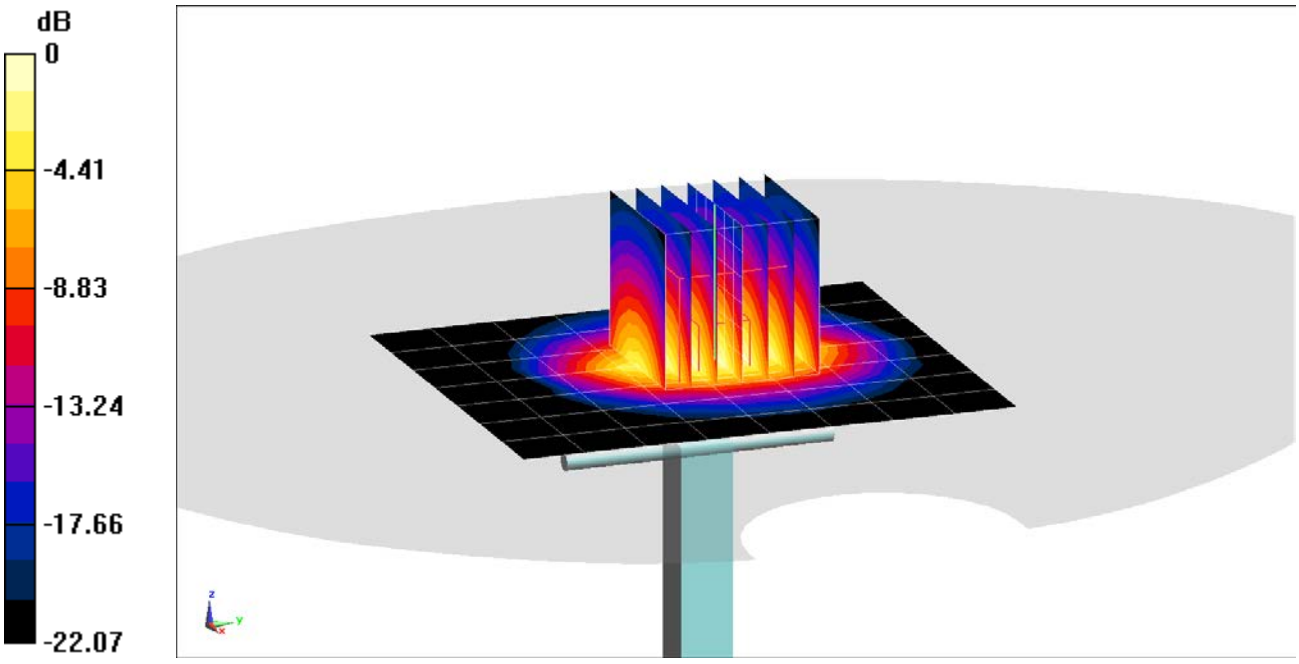
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.02 S/m; ε_r = 51.547; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-12-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2017
Phantom: Right Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1797
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.15 W/kg; SAR(10 g) = 2.36 W/kg
Deviation(1 g) = 0.78%; Deviation(10 g) = -2.48%



0 dB = 8.73 W/kg = 9.41 dBW/kg

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

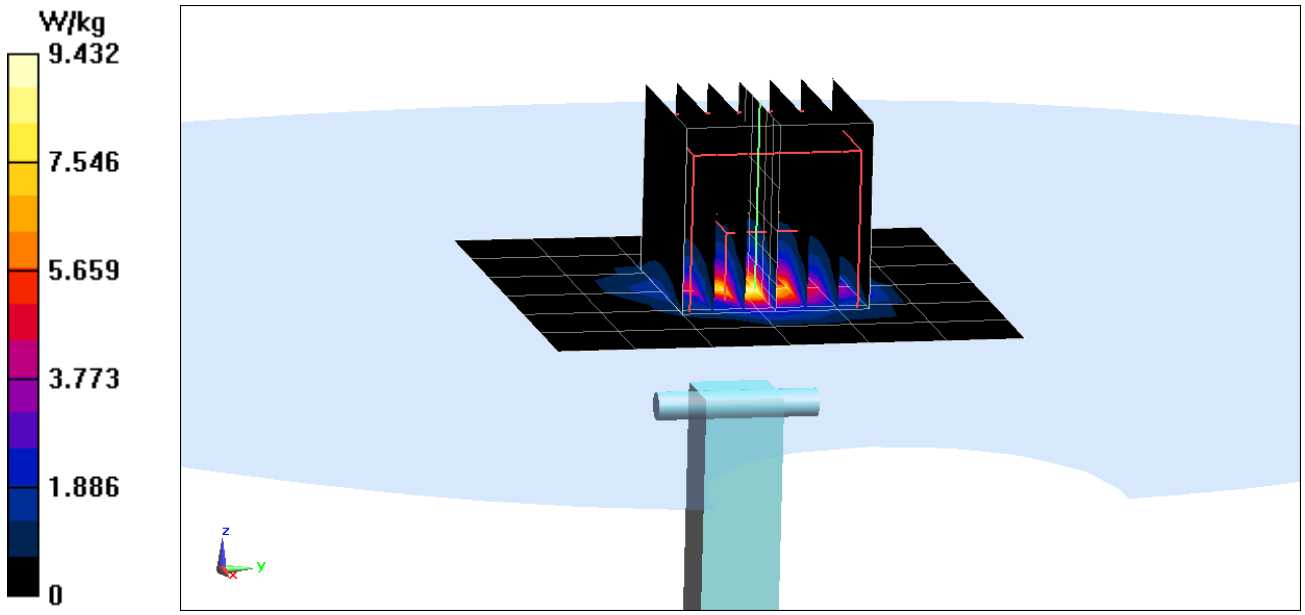
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5 GHz Body; Medium parameters used (interpolated):
f = 5250 MHz; σ = 5.469 S/m; ε_r = 47.117; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-12-2018; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.84, 4.84, 4.84); Calibrated: 8/16/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/14/2017
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 3.58 W/kg; SAR(10 g) = 1.000 W/kg
Deviation(1 g) = -6.89%; Deviation(10 g) = -6.98%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

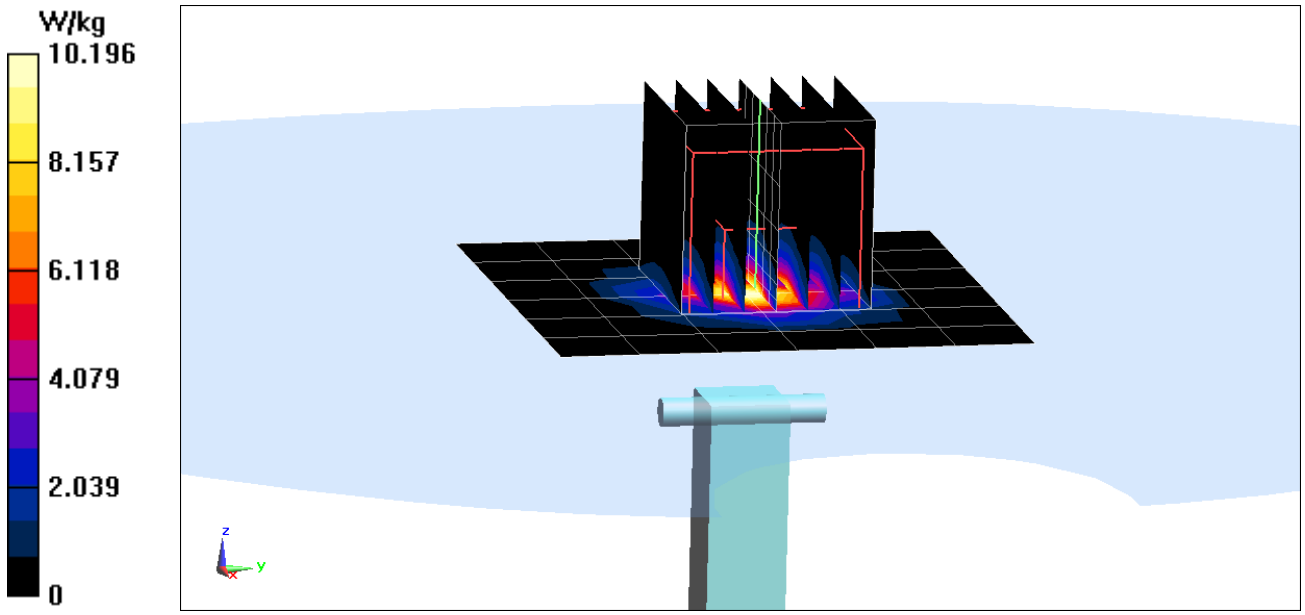
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5 GHz Body; Medium parameters used:
f = 5600 MHz; σ = 5.921 S/m; ε_r = 46.532; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-12-2018; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.23, 4.23, 4.23); Calibrated: 8/16/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/14/2017
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.7 W/kg
SAR(1 g) = 3.81 W/kg; SAR(10 g) = 1.05 W/kg
Deviation(1 g) = -2.93%; Deviation(10 g) = -4.98%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

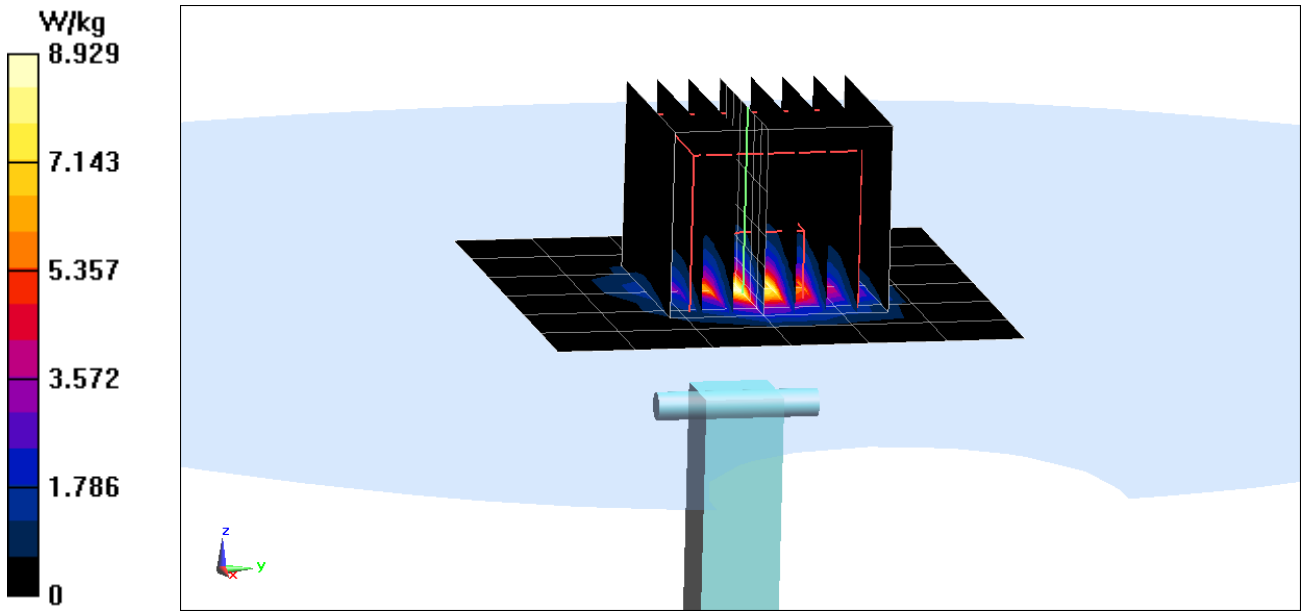
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5 GHz Body; Medium parameters used (interpolated):
f = 5750 MHz; σ = 6.126 S/m; ε_r = 46.265; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-12-2018; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.5, 4.5, 4.5); Calibrated: 8/16/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/14/2017
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 3.59 W/kg; SAR(10 g) = 1 W/kg
Deviation(1 g) = -6.87%; Deviation(10 g) = -6.54%



APPENDIX C: PROBE CALIBRATION

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Calibration Laboratory of
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Engineering AG
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 **PC Test**

Certificate No: D2450V2-797_Sep17

CALIBRATION CERTIFICATE

Object D2450V2 - SN:797

Calibration procedure(s) QA CAL-05.v9
Calibration procedure for dipole validation kits above 700 MHz

SCV
10/03/2017

Calibration date: September 11, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 7349	31-May-17 (No. EX3-7349_May17)	May-18
DAE4	SN: 601	28-Mar-17 (No. DAE4-601_Mar17)	Mar-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 11, 2017

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

Calibration Laboratory of
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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.8 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**52.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.8 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.9 ± 6 %	2.04 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**51.1 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**24.2 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.8 Ω + 7.4 jΩ
Return Loss	- 21.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.7 Ω + 9.1 jΩ
Return Loss	- 20.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.152 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 24, 2006

DASY5 Validation Report for Head TSL

Date: 11.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 797

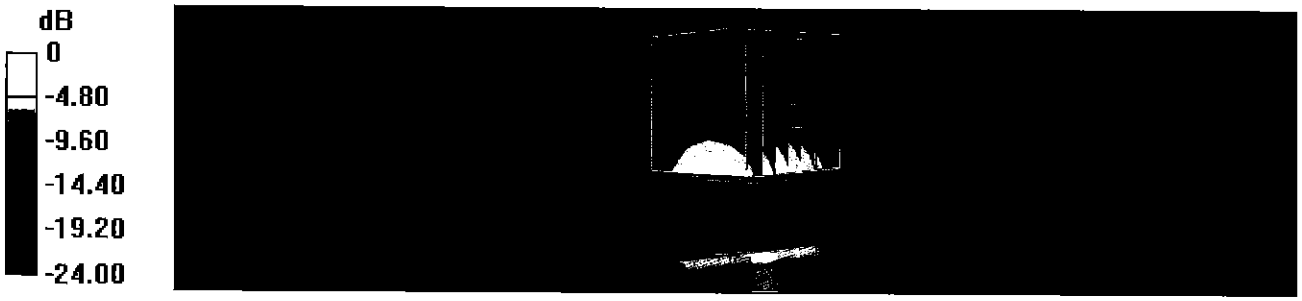
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.86 S/m; ε_r = 37.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.12, 8.12, 8.12); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

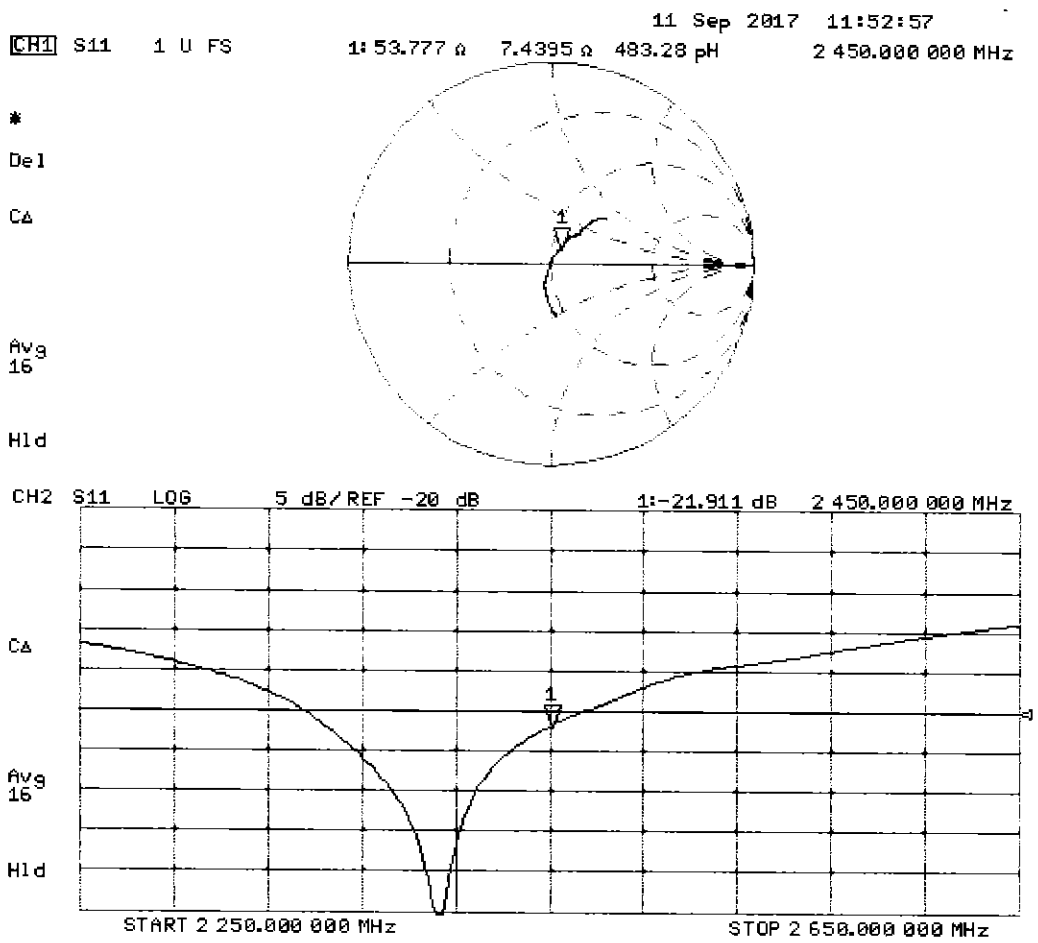
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 113.5 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.28 W/kg
Maximum value of SAR (measured) = 21.6 W/kg



0 dB = 21.6 W/kg = 13.34 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 11.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 797

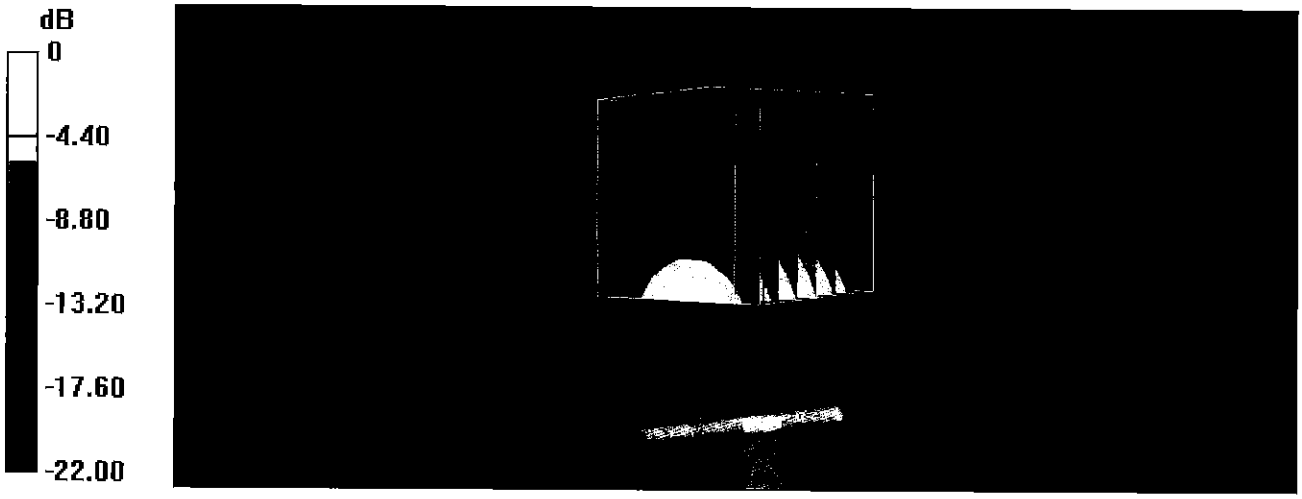
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.04 S/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.1, 8.1, 8.1); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

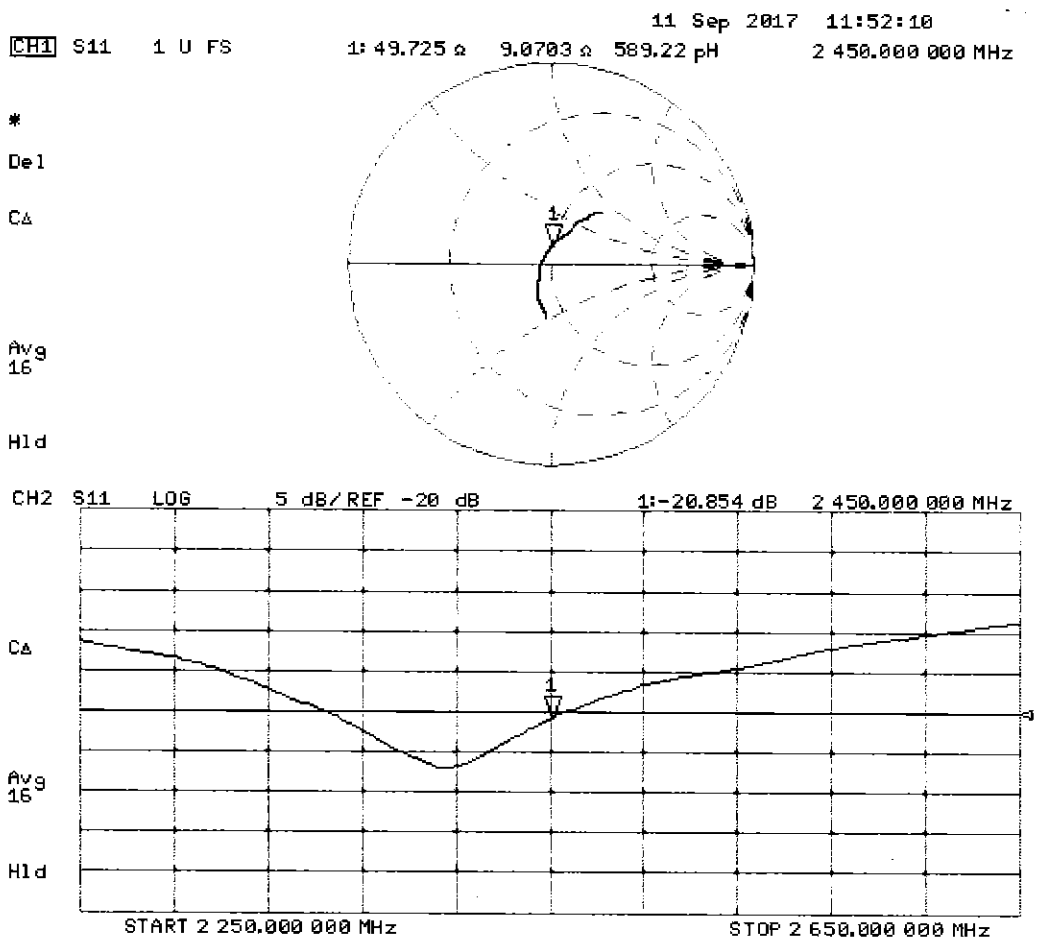
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 105.4 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 25.6 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.14 W/kg
Maximum value of SAR (measured) = 20.3 W/kg



0 dB = 20.3 W/kg = 13.07 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: D5GHzV2-1191_Sep16

CALIBRATION CERTIFICATE

Object D5GHzV2 - SN:1191

Calibration procedure(s) QA CAL-22.v2
Calibration procedure for dipole validation kits between 3-6 GHz

BN ✓ 09-28-2016

Extended 09/2017 SC ✓

Calibration date: September 21, 2016

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 3503	30-Jun-16 (No. EX3-3503_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 22, 2016

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

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz ± 1 MHz 5600 MHz ± 1 MHz 5750 MHz ± 1 MHz	

Head TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.5 ± 6 %	4.59 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5250 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.96 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**78.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.29 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.6 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.0 ± 6 %	4.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.45 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**83.6 W / kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.41 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.8 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.8 ± 6 %	5.08 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**79.1 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.27 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.4 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.36 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.4 ± 6 %	5.52 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5250 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.74 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**77.0 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.17 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.6 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.8 ± 6 %	6.00 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.96 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**79.2 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.24 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**22.2 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.3	5.94 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.5 ± 6 %	6.21 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5750 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.65 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**76.1 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.2 W/kg ± 19.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	55.7 Ω - 4.3 jΩ
Return Loss	- 23.4 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	58.3 Ω - 3.2 jΩ
Return Loss	- 21.8 dB

Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	58.1 Ω + 4.8 jΩ
Return Loss	- 21.2 dB

Antenna Parameters with Body TSL at 5250 MHz

Impedance, transformed to feed point	56.1 Ω - 3.7 jΩ
Return Loss	- 23.4 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	58.9 Ω - 1.7 jΩ
Return Loss	- 21.7 dB

Antenna Parameters with Body TSL at 5750 MHz

Impedance, transformed to feed point	59.5 Ω + 6.9 jΩ
Return Loss	- 19.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.204 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 28, 2003

DASY5 Validation Report for Head TSL

Date: 21.09.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1191

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; σ = 4.59 S/m; ε_r = 34.5; ρ = 1000 kg/m^3 , Medium parameters used: f = 5600 MHz; σ = 4.93 S/m; ε_r = 34; ρ = 1000 kg/m^3 , Medium parameters used: f = 5750 MHz; σ = 5.08 S/m; ε_r = 33.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

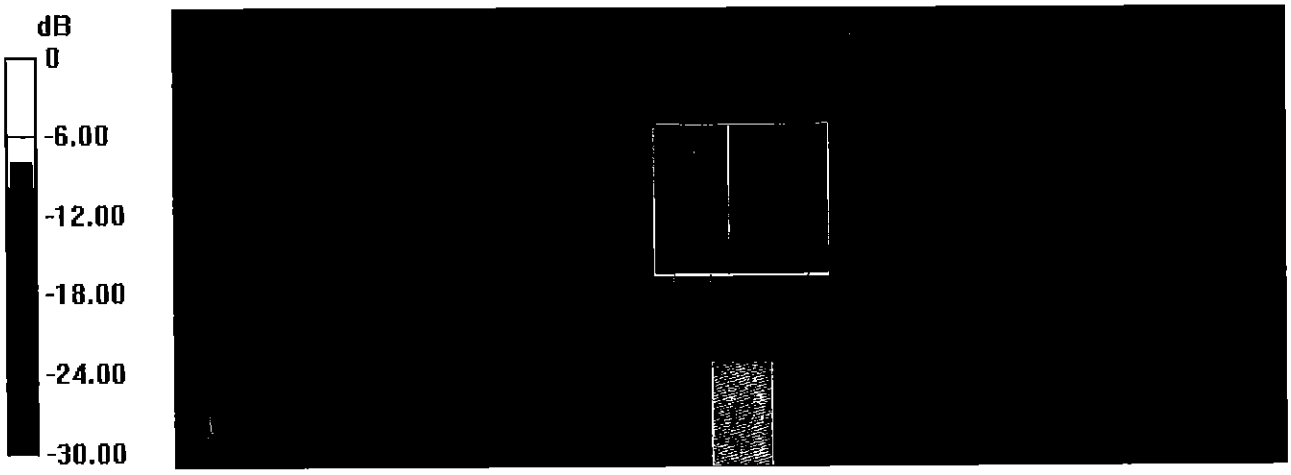
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.42, 5.42, 5.42); Calibrated: 30.06.2016, ConvF(4.89, 4.89, 4.89); Calibrated: 30.06.2016, ConvF(4.85, 4.85, 4.85); Calibrated: 30.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.49 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 28.6 W/kg
SAR(1 g) = 7.96 W/kg; SAR(10 g) = 2.29 W/kg
Maximum value of SAR (measured) = 18.2 W/kg

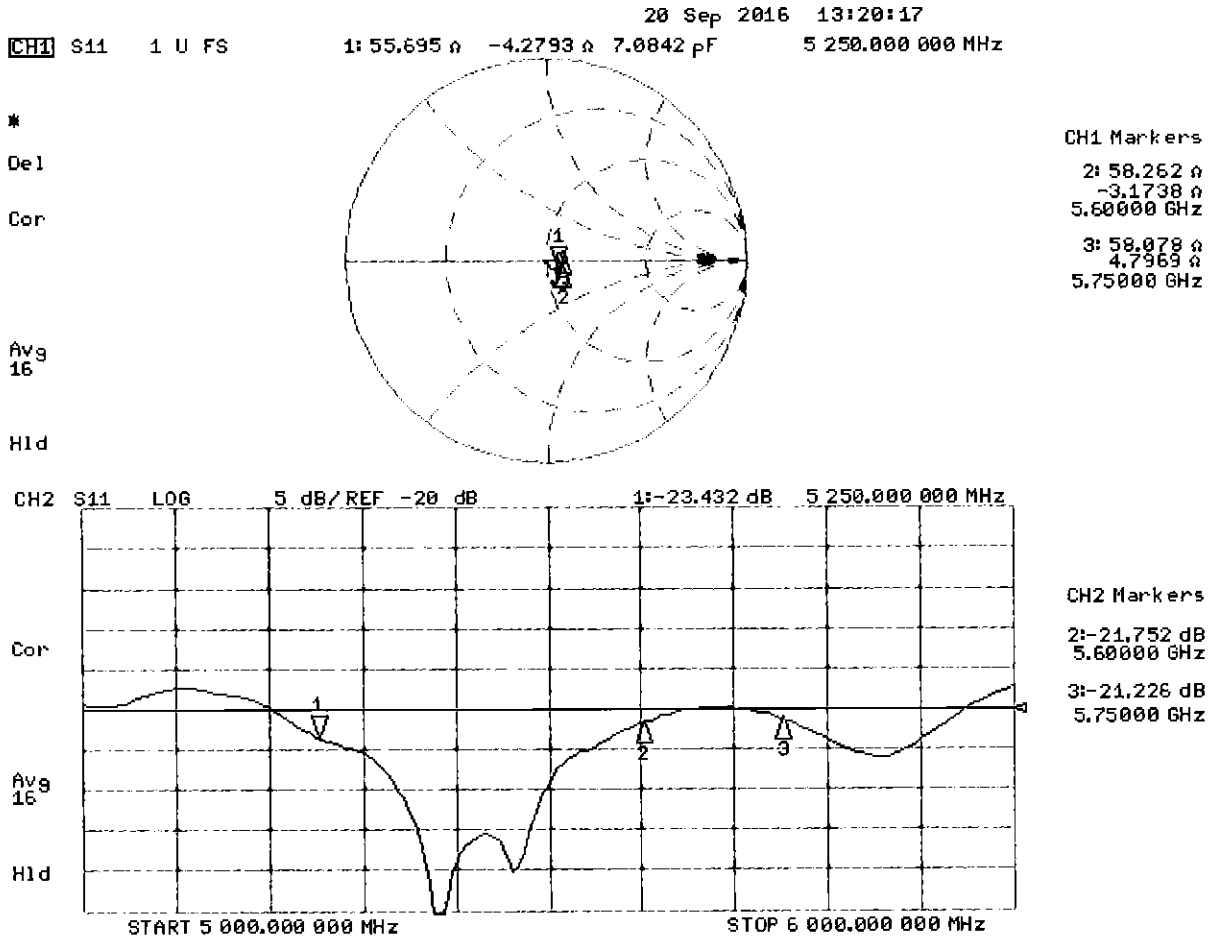
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.34 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 32.9 W/kg
SAR(1 g) = 8.45 W/kg; SAR(10 g) = 2.41 W/kg
Maximum value of SAR (measured) = 20.0 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.15 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.27 W/kg
Maximum value of SAR (measured) = 19.3 W/kg



0 dB = 18.2 W/kg = 12.60 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 20.09.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1191

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; σ = 5.52 S/m; ε_r = 47.4; ρ = 1000 kg/m^3 , Medium parameters used: f = 5600 MHz; σ = 6 S/m; ε_r = 46.8; ρ = 1000 kg/m^3 , Medium parameters used: f = 5750 MHz; σ = 6.21 S/m; ε_r = 46.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

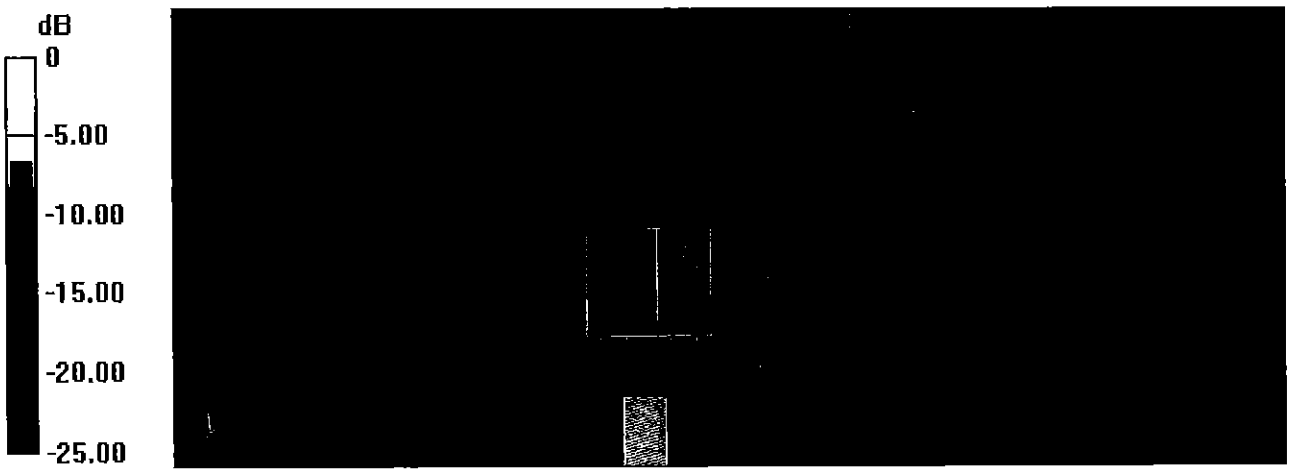
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.85, 4.85, 4.85); Calibrated: 30.06.2016, ConvF(4.35, 4.35, 4.35); Calibrated: 30.06.2016, ConvF(4.3, 4.3, 4.3); Calibrated: 30.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5250MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.49 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 29.1 W/kg
SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 17.7 W/kg

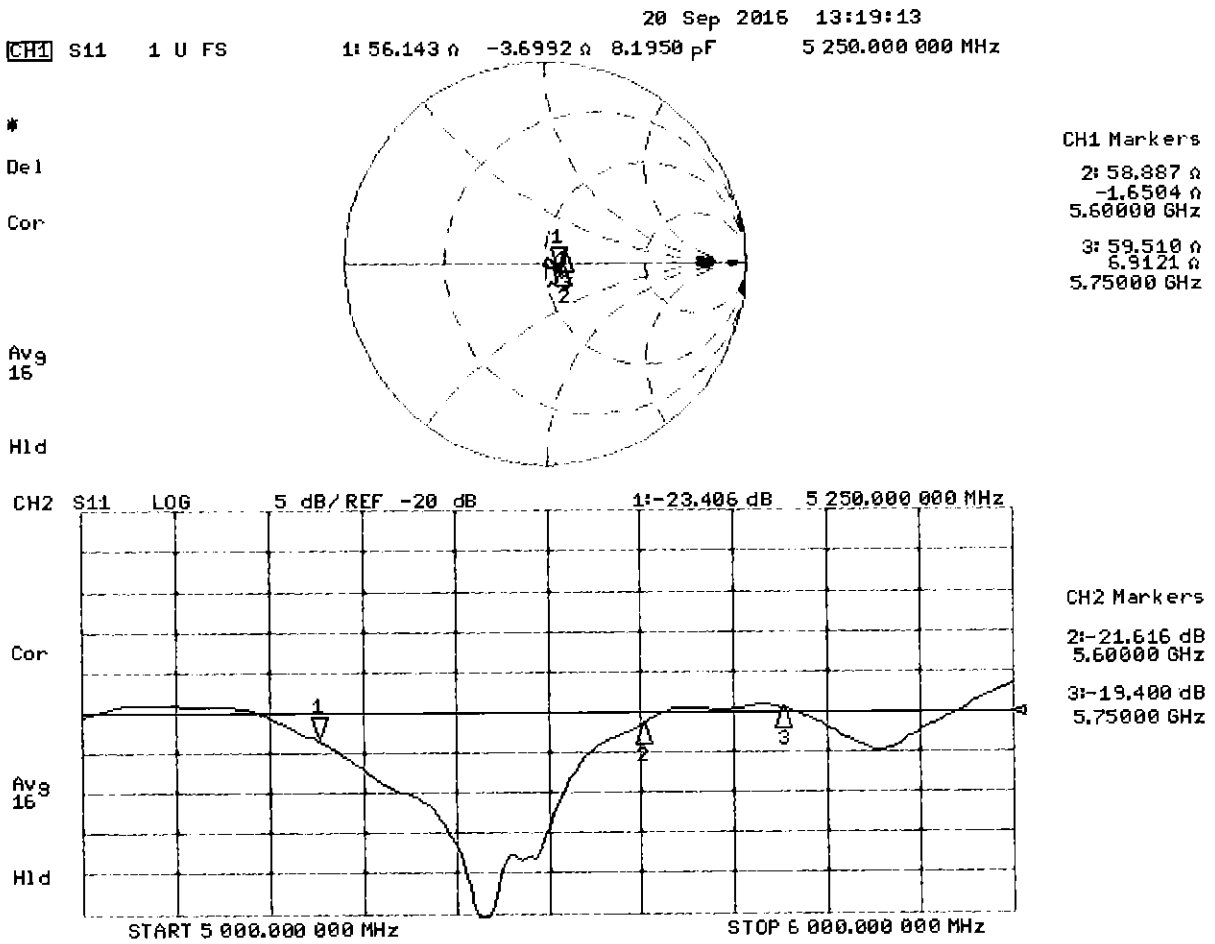
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.85 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.5 W/kg
SAR(1 g) = 7.96 W/kg; SAR(10 g) = 2.24 W/kg
Maximum value of SAR (measured) = 18.8 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.21 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.7 W/kg
SAR(1 g) = 7.65 W/kg; SAR(10 g) = 2.14 W/kg
Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 17.7 W/kg = 12.48 dBW/kg

Impedance Measurement Plot for Body TSL



Certification of Calibration

Object	D5GHzV2 – SN: 1191
Calibration procedure(s)	Procedure for Calibration Extension for SAR Dipoles.
Extension Calibration date:	9/19/2017
Description:	SAR Validation Dipole at 5250, 5600, and 5750 MHz.

Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/1/2017	Annual	6/1/2018	MY53401181
Agilent	8753ES	S-Parameter Network Analyzer	10/26/2016	Annual	10/26/2017	US39170118
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/10/2017	Annual	5/10/2018	1070
SPEAG	EX3DV4	SAR Probe	1/13/2017	Annual	1/13/2018	3589
SPEAG	EX3DV4	SAR Probe	2/13/2017	Annual	2/13/2018	3914
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2017	Annual	1/16/2018	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2017	Annual	2/9/2018	665
Anritsu	MA2411B	Pulse Power Sensor	2/10/2017	Annual	2/10/2018	1207364
Anritsu	MA2411B	Pulse Power Sensor	2/10/2017	Annual	2/10/2018	1339018
Anritsu	ML2495A	Power Meter	10/16/2015	Biennial	10/16/2017	941001
Agilent	N5182A	MXG Vector Signal Generator	2/28/2017	Annual	2/28/2018	MY47420800
Seekonk	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A

Measurement Uncertainty = ±23% (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BRODIE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	KOK

DIPOLE CALIBRATION EXTENSION

Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

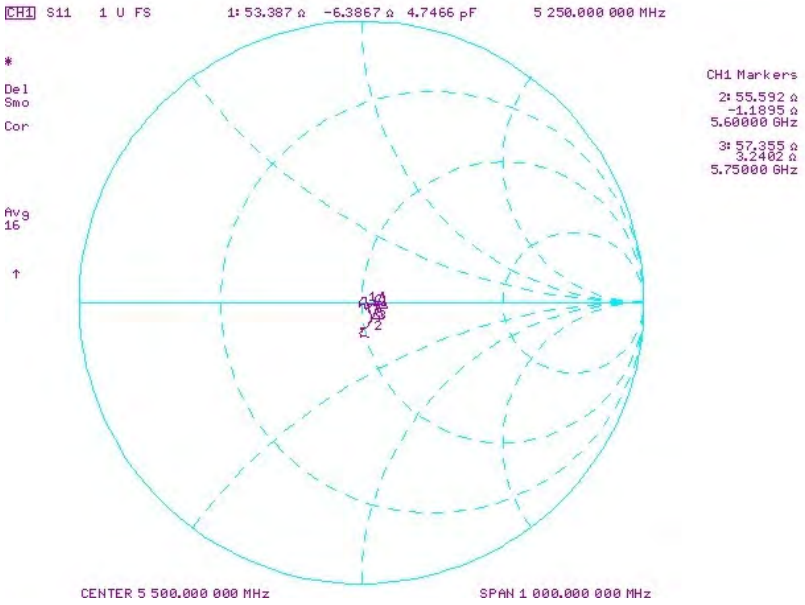
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

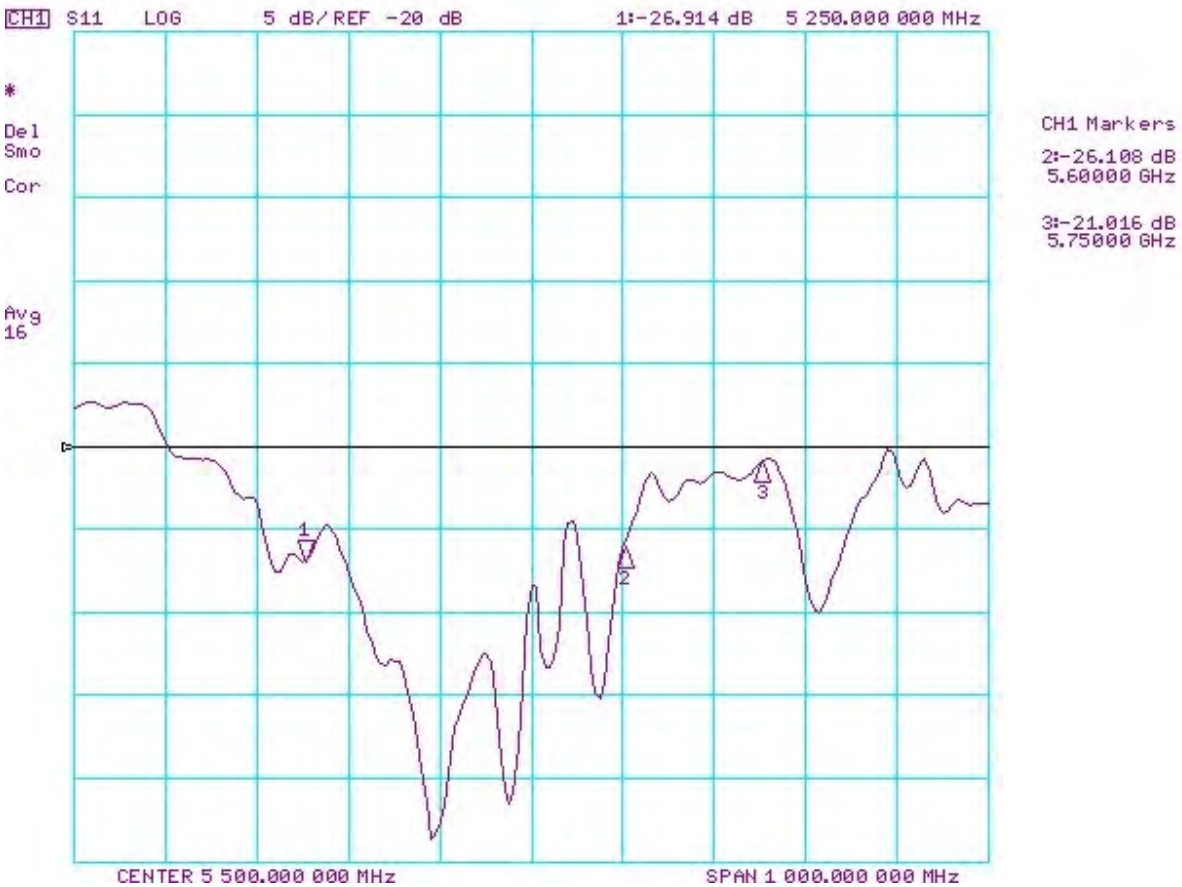
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

Frequency (MHz)	Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Head (1g) W/kg @ 17.0 dBm	Measured Head SAR (1g) W/kg @ 17.0 dBm	Deviation 1g (%)	Certificate SAR Target Head (10g) W/kg @ 17.0 dBm	Measured Head SAR (10g) W/kg @ 17.0 dBm	Deviation 10g (%)	Certificate Impedance Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Measured Return Loss Head (dB)	Deviation (%)	PASS/FAIL
5250	9/21/2016	9/19/2017	1.204	3.95	3.70	-6.21%	1.13	1.05	-7.08%	55.7	53.4	2.3	-4.3	-6.4	2.1	-23.4	-26.9	-15.00%	PASS
5600	9/21/2016	9/19/2017	1.204	4.18	4.03	-3.59%	1.19	1.13	-5.04%	58.3	55.6	2.7	-3.2	-1.2	2.0	-21.8	-26.1	-19.80%	PASS
5750	9/21/2016	9/19/2017	1.204	3.96	3.94	-0.38%	1.12	1.10	-1.79%	58.1	57.4	0.7	4.8	3.2	1.6	-21.2	-21.0	0.90%	PASS

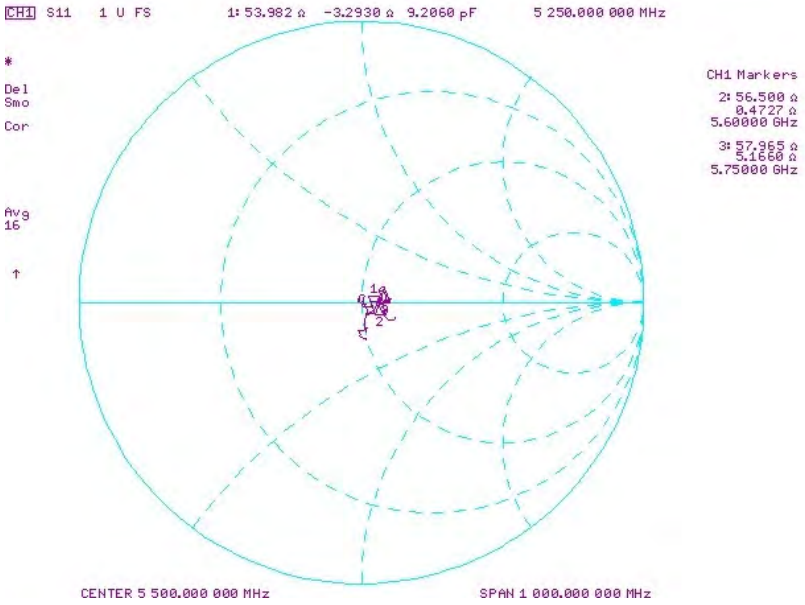
Frequency (MHz)	Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Body (1g) W/kg @ 17.0 dBm	Measured Body SAR (1g) W/kg @ 17.0 dBm	Deviation 1g (%)	Certificate SAR Target Body (10g) W/kg @ 17.0 dBm	Measured Body SAR (10g) W/kg @ 17.0 dBm	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
5250	9/21/2016	9/19/2017	1.204	3.85	3.80	-1.30%	1.08	1.06	-1.85%	56.1	54.0	2.1	-3.7	-3.3	0.4	-23.4	-26.0	-11.10%	PASS
5600	9/21/2016	9/19/2017	1.204	3.96	4.06	2.53%	1.11	1.13	1.80%	58.9	56.5	2.4	-1.7	0.5	2.2	-21.7	-24.5	-12.80%	PASS
5750	9/21/2016	9/19/2017	1.204	3.81	3.66	-3.81%	1.06	1.02	-3.77%	59.5	58.0	1.5	6.9	5.2	1.7	-19.4	-21.1	-8.70%	PASS

Impedance & Return-Loss Measurement Plot for Head TSL





Impedance & Return-Loss Measurement Plot for Body TSL



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

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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: D5GHzV2-1237_Aug17

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN:1237
Calibration procedure(s)	QA CAL-22.v2 Calibration procedure for dipole validation kits between 3-6 GHz
Calibration date:	August 15, 2017

PNV 8/27/17

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 3503	31-Dec-16 (No. EX3-3503_Dec16)	Dec-17
DAE4	SN: 601	28-Mar-17 (No. DAE4-601_Mar17)	Mar-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibrated by:	Johannes Kurikka	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 16, 2017

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

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz ± 1 MHz 5600 MHz ± 1 MHz 5750 MHz ± 1 MHz	

Head TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.7 ± 6 %	4.49 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5250 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.14 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**80.7 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.0 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.2 ± 6 %	4.84 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**82.5 W / kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.5 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.0 ± 6 %	4.99 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.10 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**80.2 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.31 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.8 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.36 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.0 ± 6 %	5.46 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5250 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.75 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**76.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.17 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.5 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.4 ± 6 %	5.93 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.91 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**78.5 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.23 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**22.1 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.3	5.94 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.2 ± 6 %	6.13 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5750 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.77 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**77.1 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.16 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.4 W/kg ± 19.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	49.9 Ω - 5.3 jΩ
Return Loss	- 25.5 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	51.9 Ω + 2.3 jΩ
Return Loss	- 30.7 dB

Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	55.6 Ω - 0.5 jΩ
Return Loss	- 25.5 dB

Antenna Parameters with Body TSL at 5250 MHz

Impedance, transformed to feed point	46.9 Ω - 4.2 jΩ
Return Loss	- 25.4 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	50.2 Ω + 3.0 jΩ
Return Loss	- 30.4 dB

Antenna Parameters with Body TSL at 5750 MHz

Impedance, transformed to feed point	53.4 Ω + 0.2 jΩ
Return Loss	- 29.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.194 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	May 04, 2015

DASY5 Validation Report for Head TSL

Date: 15.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1237

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; σ = 4.49 S/m; ε_r = 34.7; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 4.84 S/m; ε_r = 34.2; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5750 MHz; σ = 4.99 S/m; ε_r = 34; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.58, 5.58, 5.58); Calibrated: 31.12.2016, ConvF(5.09, 5.09, 5.09); Calibrated: 31.12.2016, ConvF(5.02, 5.02, 5.02); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

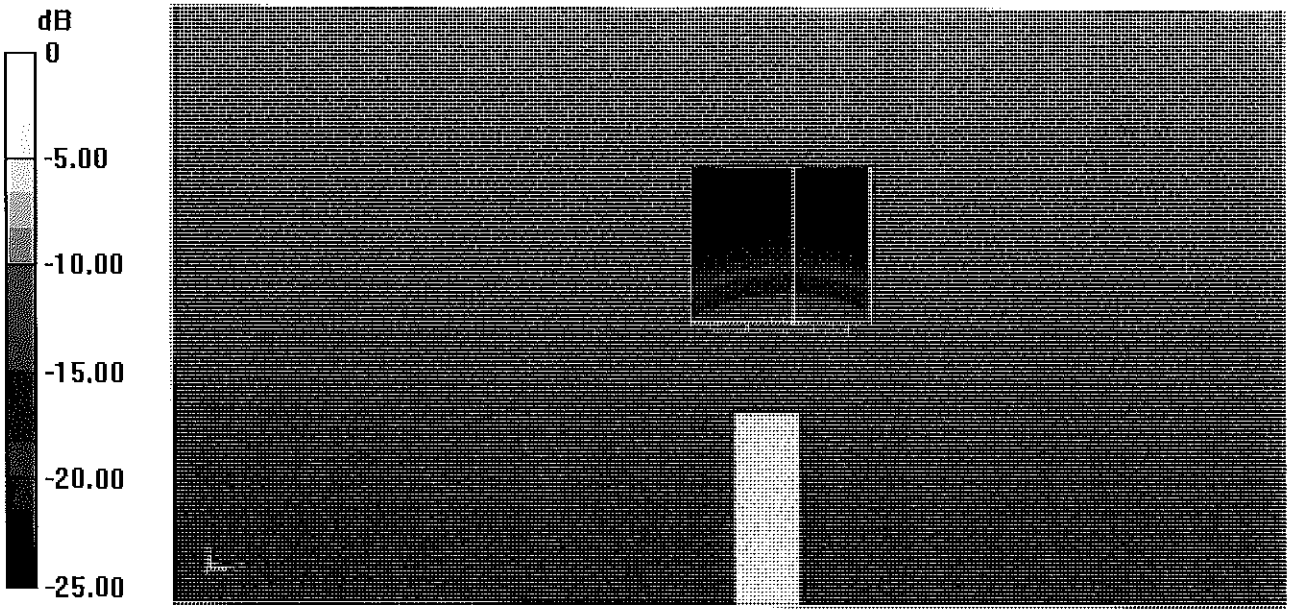
Reference Value = 70.08 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 30.6 W/kg
SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.33 W/kg
Maximum value of SAR (measured) = 19.2 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 70.04 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 32.7 W/kg
SAR(1 g) = 8.33 W/kg; SAR(10 g) = 2.38 W/kg
Maximum value of SAR (measured) = 19.8 W/kg

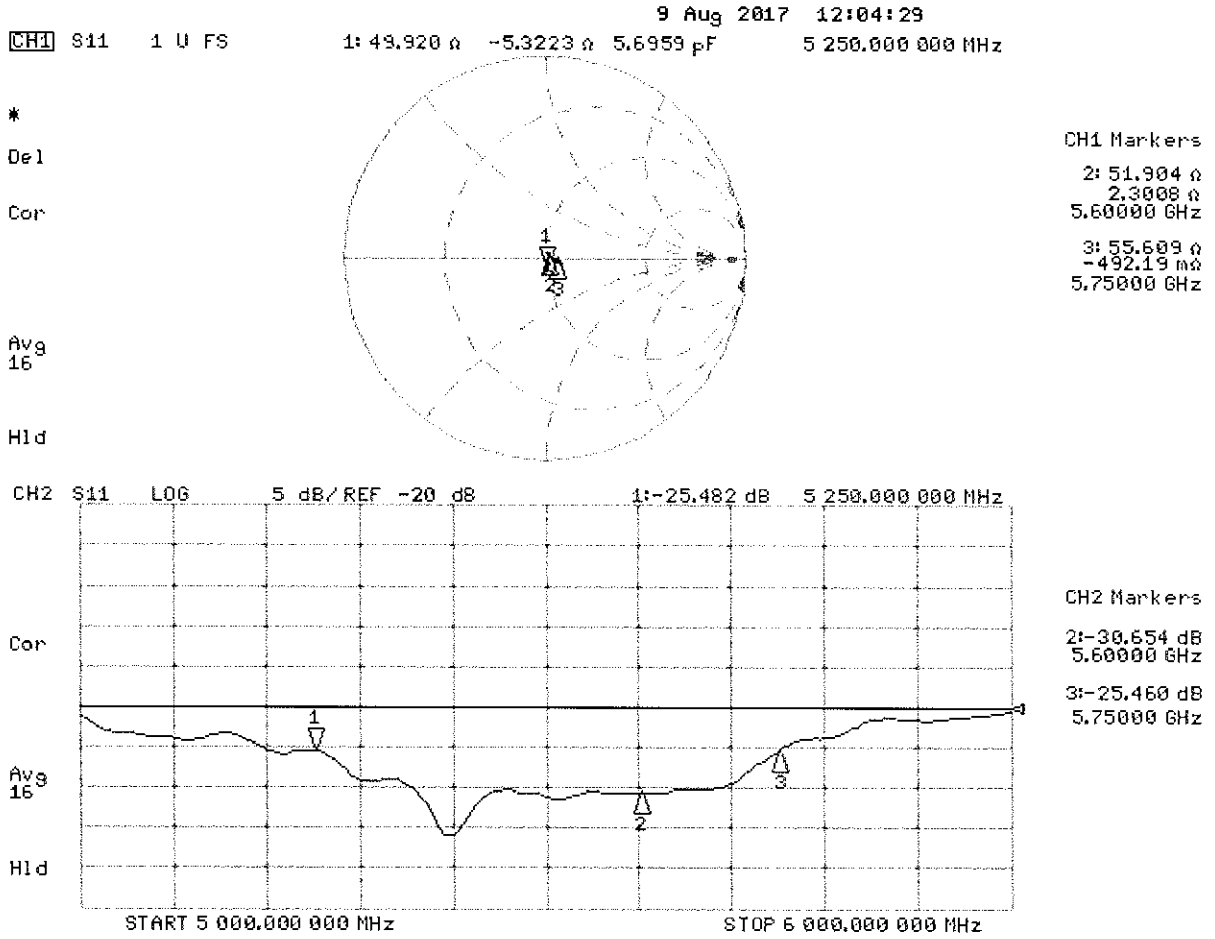
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 69.11 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.4 W/kg
SAR(1 g) = 8.1 W/kg; SAR(10 g) = 2.31 W/kg
Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 08.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1237

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; σ = 5.46 S/m; ε_r = 47; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 5.93 S/m; ε_r = 46.4; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5750 MHz; σ = 6.13 S/m; ε_r = 46.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

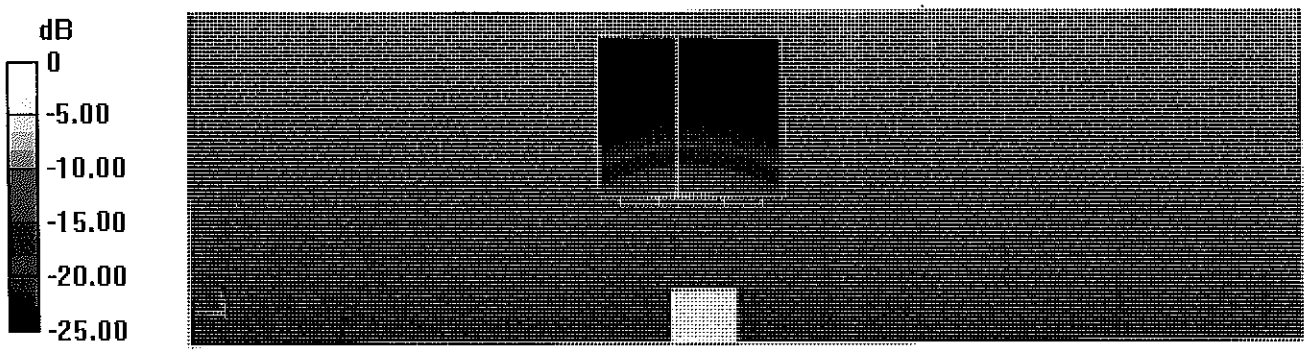
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.14, 5.14, 5.14); Calibrated: 31.12.2016, ConvF(4.57, 4.57, 4.57); Calibrated: 31.12.2016, ConvF(4.51, 4.51, 4.51); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5250MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.87 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 29.9 W/kg
SAR(1 g) = 7.75 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 18.4 W/kg

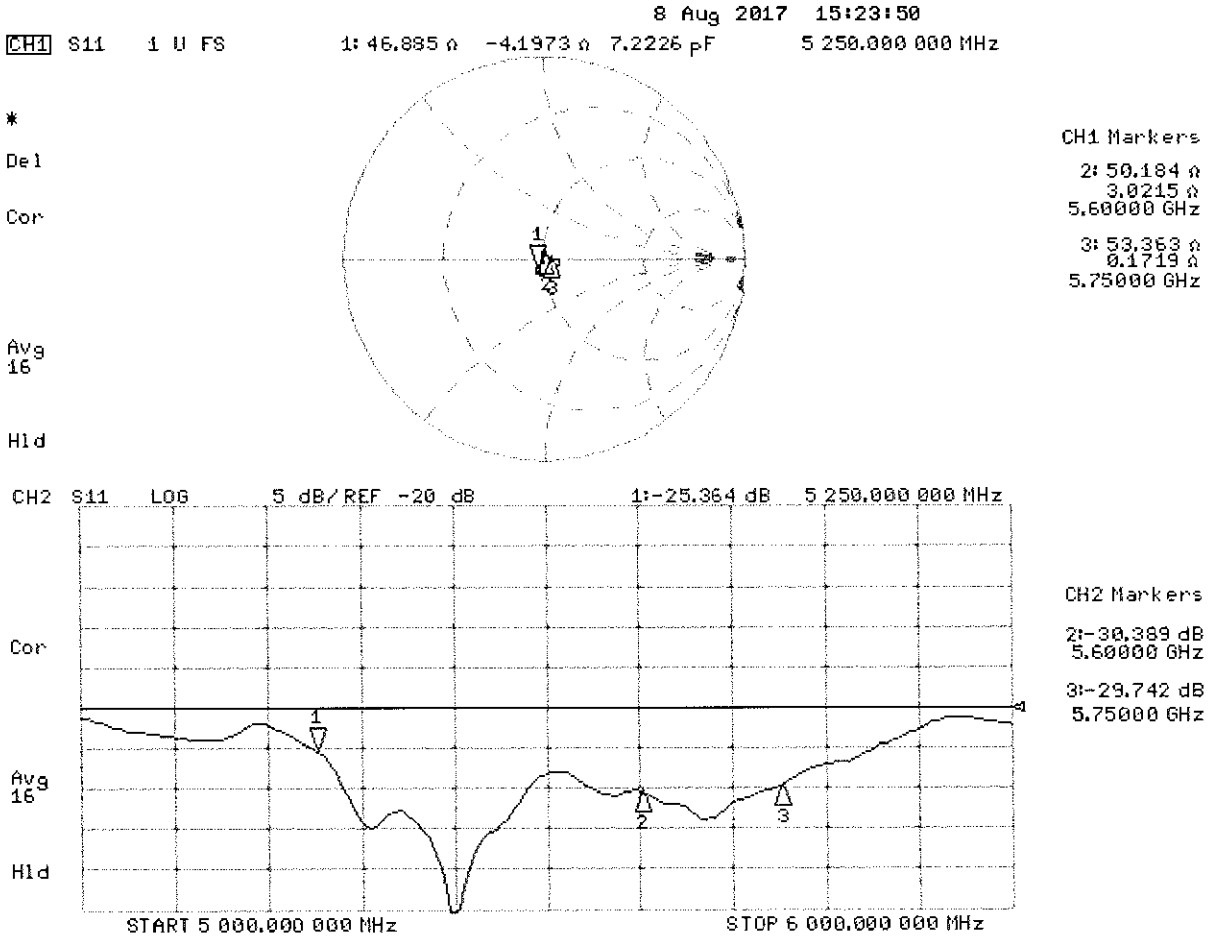
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.11 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 33.0 W/kg
SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 19.3 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.64 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 33.8 W/kg
SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 18.4 W/kg = 12.65 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client PC Test

Certificate No: EX3-7410_Jul17

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7410
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	July 17, 2017

BN ✓
8/3/2017

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	31-Dec-16 (No. ES3-3013_Dec16)	Dec-17
DAE4	SN: 660	7-Dec-16 (No. DAE4-660_Dec16)	Dec-17
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: July 17, 2017

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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) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) 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 (no uncertainty required). 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).

Probe EX3DV4

SN:7410

Manufactured: November 24, 2015
Calibrated: July 17, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.40	0.46	0.43	± 10.1 %
DCP (mV)[B]	95.4	94.7	91.2	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	130.7	±3.5 %
		Y	0.0	0.0	1.0		146.7	
		Z	0.0	0.0	1.0		132.5	

Note: For details on UID parameters see Appendix.

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	41.43	313.6	36.54	8.525	0.381	5.024	0.000	0.467	1.003
Y	41.67	315.5	36.57	10.32	0.000	5.055	0.334	0.426	1.004
Z	51.58	393.9	37.05	11.42	0.427	5.066	0.000	0.561	1.006

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] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	10.60	10.60	10.60	0.53	0.80	± 12.0 %
835	41.5	0.90	10.08	10.08	10.08	0.41	0.98	± 12.0 %
1750	40.1	1.37	8.66	8.66	8.66	0.41	0.82	± 12.0 %
1900	40.0	1.40	8.37	8.37	8.37	0.28	1.19	± 12.0 %
2300	39.5	1.67	8.02	8.02	8.02	0.35	0.80	± 12.0 %
2450	39.2	1.80	7.68	7.68	7.68	0.33	0.89	± 12.0 %
2600	39.0	1.96	7.42	7.42	7.42	0.40	0.80	± 12.0 %

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

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Calibration Parameter Determined in Body Tissue Simulating Media

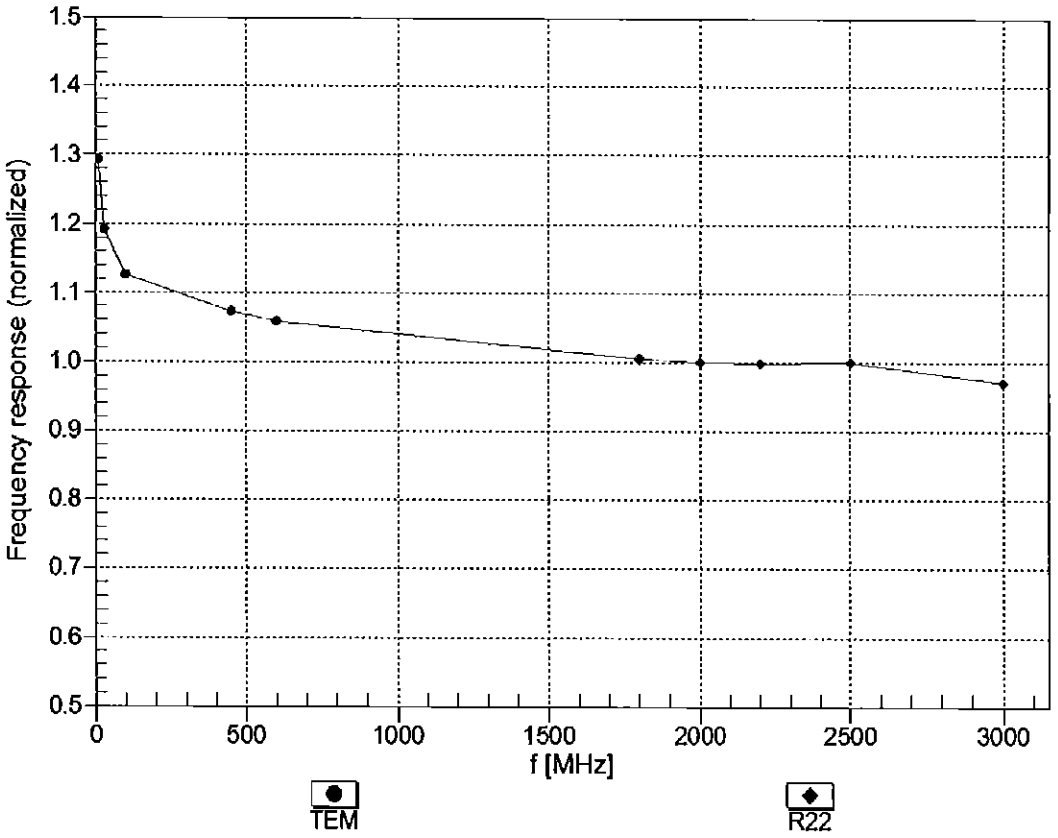
f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	10.19	10.19	10.19	0.33	1.02	± 12.0 %
835	55.2	0.97	9.95	9.95	9.95	0.50	0.80	± 12.0 %
1750	53.4	1.49	8.32	8.32	8.32	0.39	0.86	± 12.0 %
1900	53.3	1.52	7.98	7.98	7.98	0.44	0.86	± 12.0 %
2300	52.9	1.81	7.85	7.85	7.85	0.44	0.84	± 12.0 %
2450	52.7	1.95	7.69	7.69	7.69	0.37	0.89	± 12.0 %
2600	52.5	2.16	7.43	7.43	7.43	0.28	0.99	± 12.0 %

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

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

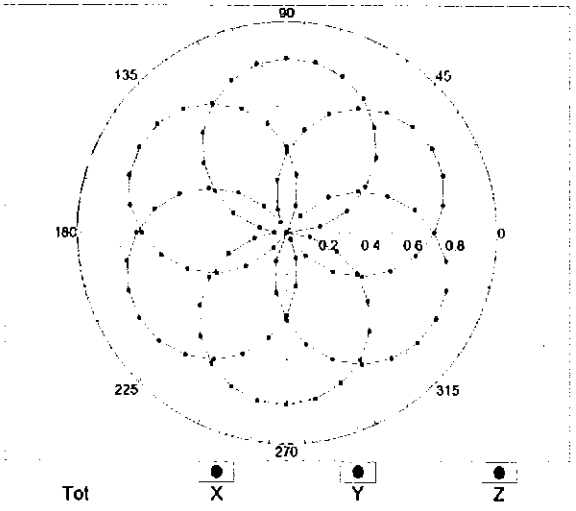
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



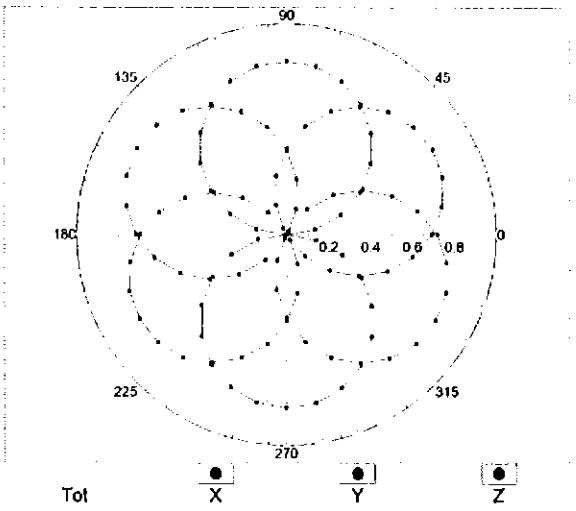
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

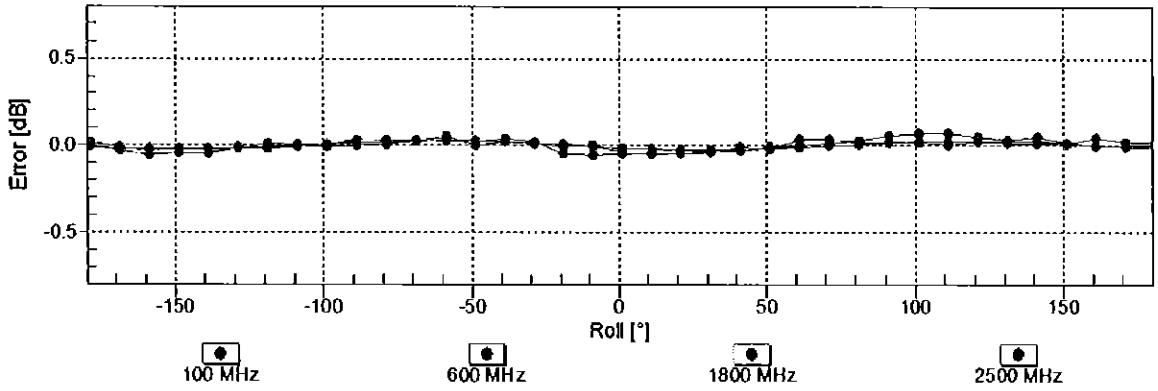
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



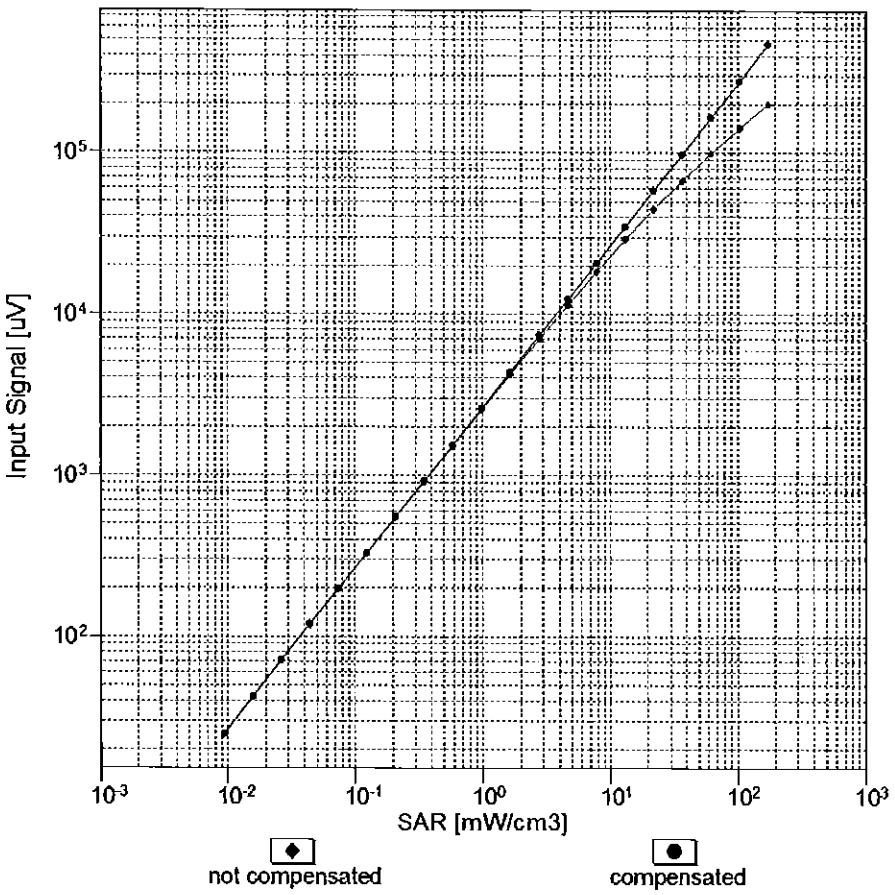
f=1800 MHz,R22

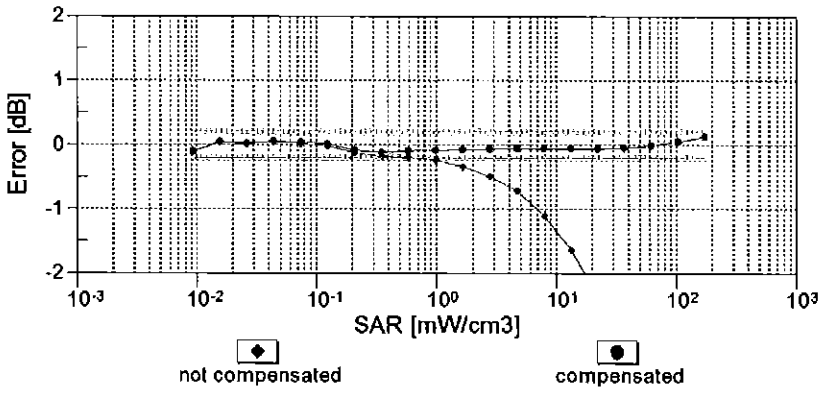




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)

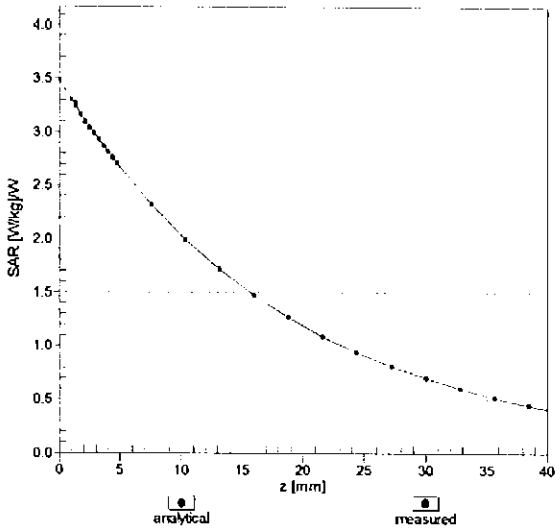




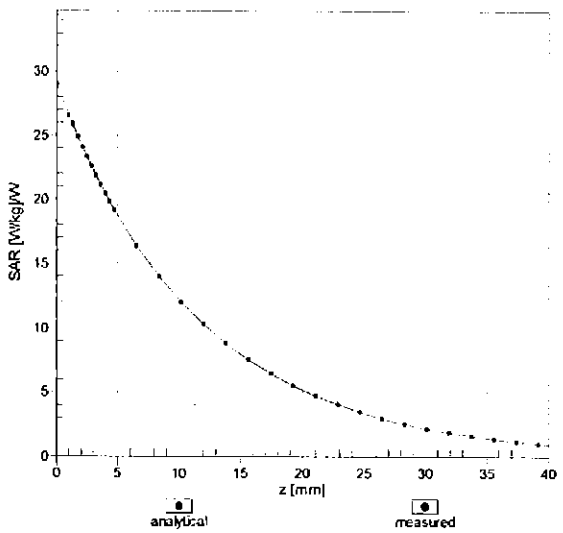
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

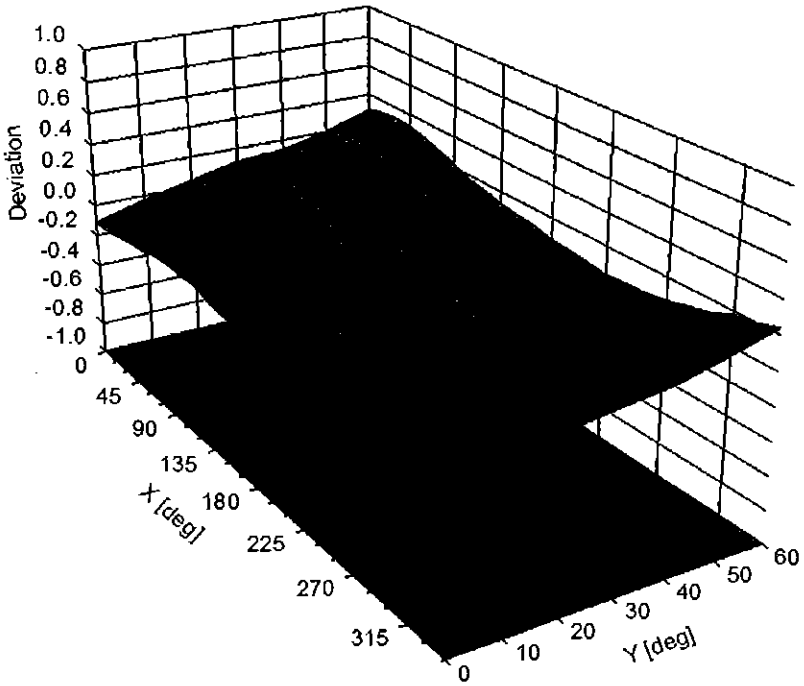


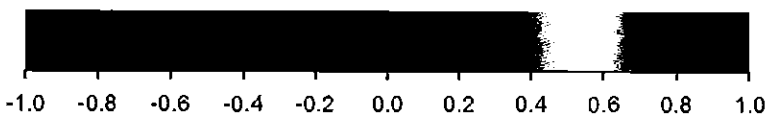
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	1.2
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	130.7	± 3.5 %
		Y	0.00	0.00	1.00		146.7	
		Z	0.00	0.00	1.00		132.5	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	2.07	65.38	9.86	10.00	20.0	± 9.6 %
		Y	1.71	64.71	9.07		20.0	
		Z	3.44	71.14	12.92		20.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.05	67.82	15.62	0.00	150.0	± 9.6 %
		Y	1.11	68.91	16.28		150.0	
		Z	1.02	66.59	14.94		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.16	63.70	15.28	0.41	150.0	± 9.6 %
		Y	1.18	64.10	15.65		150.0	
		Z	1.17	63.41	15.09		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.78	66.61	17.05	1.46	150.0	± 9.6 %
		Y	4.80	66.74	17.21		150.0	
		Z	4.93	66.52	17.11		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	100.00	111.37	25.72	9.39	50.0	± 9.6 %
		Y	100.00	111.58	25.35		50.0	
		Z	100.00	117.02	28.59		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	100.00	110.83	25.53	9.57	50.0	± 9.6 %
		Y	1707.76	142.54	31.32		50.0	
		Z	100.00	116.46	28.39		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	111.84	24.81	6.56	60.0	± 9.6 %
		Y	100.00	114.48	25.68		60.0	
		Z	100.00	118.35	28.09		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	3.46	65.17	23.20	12.57	50.0	± 9.6 %
		Y	5.27	82.06	33.95		50.0	
		Z	3.61	65.78	23.81		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	6.19	83.69	29.67	9.56	60.0	± 9.6 %
		Y	7.27	90.43	33.46		60.0	
		Z	7.46	87.49	31.34		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	114.23	25.06	4.80	80.0	± 9.6 %
		Y	100.00	119.65	27.19		80.0	
		Z	100.00	121.09	28.48		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	118.39	26.12	3.55	100.0	± 9.6 %
		Y	100.00	127.35	29.74		100.0	
		Z	100.00	125.00	29.42		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	4.31	75.70	25.15	7.80	80.0	± 9.6 %
		Y	4.62	78.76	27.21		80.0	
		Z	5.10	78.80	26.60		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	110.42	23.70	5.30	70.0	± 9.6 %
		Y	100.00	113.76	24.95		70.0	
		Z	100.00	117.44	27.22		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	118.50	24.77	1.88	100.0	± 9.6 %
		Y	100.00	132.66	30.37		100.0	
		Z	100.00	126.29	28.44		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	133.47	29.67	1.17	100.0	± 9.6 %
		Y	100.00	157.48	38.89		100.0	
		Z	100.00	136.04	31.29		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	8.66	91.15	24.16	5.30	70.0	± 9.6 %
		Y	61.92	124.81	33.89		70.0	
		Z	18.44	105.53	29.79		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.66	76.47	17.66	1.88	100.0	± 9.6 %
		Y	4.91	85.76	21.28		100.0	
		Z	3.14	79.12	19.77		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	1.87	72.76	15.96	1.17	100.0	± 9.6 %
		Y	2.71	78.22	18.36		100.0	
		Z	2.01	73.50	17.25		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	12.89	97.56	26.18	5.30	70.0	± 9.6 %
		Y	100.00	133.04	35.90		70.0	
		Z	33.52	115.95	32.67		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.40	75.20	17.16	1.88	100.0	± 9.6 %
		Y	4.17	83.65	20.57		100.0	
		Z	2.91	78.15	19.38		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	1.89	73.11	16.24	1.17	100.0	± 9.6 %
		Y	2.73	78.67	18.67		100.0	
		Z	2.03	73.85	17.51		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	1.93	73.30	15.79	0.00	150.0	± 9.6 %
		Y	2.16	74.82	16.50		150.0	
		Z	1.82	71.39	15.74		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	100.00	108.18	23.51	7.78	50.0	± 9.6 %
		Y	100.00	108.75	23.44		50.0	
		Z	100.00	113.77	26.32		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	97.63	1.20	0.00	150.0	± 9.6 %
		Y	0.00	97.90	0.75		150.0	
		Z	0.00	95.09	2.63		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	29.38	92.85	22.01	13.80	25.0	± 9.6 %
		Y	100.00	106.19	24.33		25.0	
		Z	100.00	113.54	28.60		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	92.32	108.50	25.07	10.79	40.0	± 9.6 %
		Y	100.00	108.13	24.14		40.0	
		Z	100.00	114.66	27.93		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	28.80	103.53	27.62	9.03	50.0	± 9.6 %
		Y	100.00	125.87	33.73		50.0	
		Z	90.56	125.80	34.77		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	3.55	72.15	22.79	6.55	100.0	± 9.6 %
		Y	3.72	74.09	24.21		100.0	
		Z	4.11	74.59	23.97		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.17	64.52	15.76	0.61	110.0	± 9.6 %
		Y	1.20	65.09	16.25		110.0	
		Z	1.19	64.38	15.68		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	5.38	97.28	26.54	1.30	110.0	± 9.6 %
		Y	94.12	145.74	39.06		110.0	
		Z	7.25	100.99	27.69		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	2.03	75.84	20.79	2.04	110.0	± 9.6 %
		Y	2.53	80.86	23.32		110.0	
		Z	2.46	78.49	22.05		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.60	66.68	16.54	0.49	100.0	± 9.6 %
		Y	4.62	66.77	16.65		100.0	
		Z	4.74	66.54	16.54		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.61	66.74	16.62	0.72	100.0	± 9.6 %
		Y	4.63	66.85	16.75		100.0	
		Z	4.75	66.63	16.64		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.88	66.97	16.83	0.86	100.0	± 9.6 %
		Y	4.90	67.08	16.96		100.0	
		Z	5.06	66.93	16.89		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.74	66.82	16.90	1.21	100.0	± 9.6 %
		Y	4.76	66.95	17.05		100.0	
		Z	4.91	66.81	16.98		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.74	66.80	17.04	1.46	100.0	± 9.6 %
		Y	4.77	66.94	17.21		100.0	
		Z	4.93	66.83	17.15		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.03	66.98	17.46	2.04	100.0	± 9.6 %
		Y	5.05	67.14	17.66		100.0	
		Z	5.21	66.94	17.57		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.05	66.91	17.63	2.55	100.0	± 9.6 %
		Y	5.07	67.08	17.84		100.0	
		Z	5.27	67.04	17.82		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.12	66.93	17.81	2.67	100.0	± 9.6 %
		Y	5.15	67.10	18.04		100.0	
		Z	5.34	66.99	17.99		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.86	66.65	17.32	1.99	100.0	± 9.6 %
		Y	4.89	66.79	17.50		100.0	
		Z	5.01	66.60	17.41		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.82	66.89	17.50	2.30	100.0	± 9.6 %
		Y	4.84	67.05	17.70		100.0	
		Z	4.99	66.92	17.63		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.86	67.00	17.79	2.83	100.0	± 9.6 %
		Y	4.89	67.17	18.02		100.0	
		Z	5.04	67.03	17.94		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.85	66.87	17.91	3.30	100.0	± 9.6 %
		Y	4.86	67.04	18.15		100.0	
		Z	5.01	66.88	18.08		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	4.86	66.89	18.16	3.82	90.0	± 9.6 %
		Y	4.87	67.06	18.42		90.0	
		Z	5.04	67.00	18.40		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	4.88	66.70	18.29	4.15	90.0	± 9.6 %
		Y	4.89	66.85	18.55		90.0	
		Z	5.03	66.71	18.47		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	4.91	66.76	18.38	4.30	90.0	± 9.6 %
		Y	4.91	66.91	18.65		90.0	
		Z	5.05	66.76	18.56		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.83	66.43	12.40	0.00	150.0	± 9.6 %
		Y	0.90	67.46	13.02		150.0	
		Z	0.87	65.72	12.74		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.60	60.00	4.03	4.77	80.0	± 9.6 %
		Y	1.74	63.67	4.99		80.0	
		Z	0.50	57.10	2.51		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	111.84	24.82	6.56	60.0	± 9.6 %
		Y	100.00	114.47	25.69		60.0	
		Z	100.00	118.36	28.12		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.87	68.36	15.98	0.00	150.0	± 9.6 %
		Y	1.92	68.79	16.27		150.0	
		Z	1.83	67.16	15.53		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.83	68.30	15.96	0.00	150.0	± 9.6 %
		Y	1.88	68.76	16.25		150.0	
		Z	1.79	67.10	15.49		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	6.23	83.81	29.72	9.56	60.0	± 9.6 %
		Y	7.34	90.66	33.54		60.0	
		Z	7.51	87.64	31.39		60.0	
10100-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.10	70.42	16.91	0.00	150.0	± 9.6 %
		Y	3.17	70.79	17.14		150.0	
		Z	3.14	69.95	16.56		150.0	
10101-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.21	67.53	16.05	0.00	150.0	± 9.6 %
		Y	3.24	67.71	16.18		150.0	
		Z	3.28	67.33	15.89		150.0	
10102-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.31	67.53	16.15	0.00	150.0	± 9.6 %
		Y	3.34	67.67	16.26		150.0	
		Z	3.39	67.31	16.00		150.0	
10103-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	5.23	73.47	19.72	3.98	65.0	± 9.6 %
		Y	5.84	75.95	21.01		65.0	
		Z	5.88	74.83	20.39		65.0	
10104-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	5.46	71.98	19.77	3.98	65.0	± 9.6 %
		Y	5.63	73.01	20.49		65.0	
		Z	6.00	73.07	20.39		65.0	
10105-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	5.42	71.61	19.91	3.98	65.0	± 9.6 %
		Y	5.43	72.06	20.36		65.0	
		Z	5.47	71.05	19.77		65.0	
10108-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.70	69.72	16.76	0.00	150.0	± 9.6 %
		Y	2.76	70.10	16.99		150.0	
		Z	2.75	69.19	16.39		150.0	
10109-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.86	67.48	15.96	0.00	150.0	± 9.6 %
		Y	2.89	67.67	16.11		150.0	
		Z	2.94	67.16	15.80		150.0	
10110-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.18	68.93	16.34	0.00	150.0	± 9.6 %
		Y	2.24	69.40	16.63		150.0	
		Z	2.24	68.24	15.99		150.0	
10111-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.61	68.71	16.36	0.00	150.0	± 9.6 %
		Y	2.63	68.84	16.47		150.0	
		Z	2.65	67.91	16.10		150.0	

10112-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	2.99	67.52	16.03	0.00	150.0	± 9.6 %
		Y	3.01	67.67	16.15		150.0	
		Z	3.06	67.16	15.86		150.0	
10113-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.77	68.89	16.50	0.00	150.0	± 9.6 %
		Y	2.78	68.97	16.58		150.0	
		Z	2.81	68.06	16.24		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.09	67.23	16.55	0.00	150.0	± 9.6 %
		Y	5.10	67.28	16.60		150.0	
		Z	5.19	67.11	16.46		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.34	67.29	16.58	0.00	150.0	± 9.6 %
		Y	5.35	67.33	16.63		150.0	
		Z	5.51	67.33	16.58		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.18	67.42	16.57	0.00	150.0	± 9.6 %
		Y	5.19	67.47	16.62		150.0	
		Z	5.30	67.34	16.50		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.06	67.11	16.50	0.00	150.0	± 9.6 %
		Y	5.07	67.16	16.56		150.0	
		Z	5.16	66.99	16.42		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.42	67.49	16.69	0.00	150.0	± 9.6 %
		Y	5.44	67.54	16.74		150.0	
		Z	5.60	67.55	16.70		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.16	67.38	16.56	0.00	150.0	± 9.6 %
		Y	5.17	67.43	16.62		150.0	
		Z	5.27	67.27	16.48		150.0	
10140-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.34	67.53	16.06	0.00	150.0	± 9.6 %
		Y	3.37	67.68	16.18		150.0	
		Z	3.42	67.31	15.91		150.0	
10141-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.47	67.67	16.25	0.00	150.0	± 9.6 %
		Y	3.49	67.79	16.35		150.0	
		Z	3.55	67.42	16.09		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	1.97	69.09	15.95	0.00	150.0	± 9.6 %
		Y	2.03	69.63	16.28		150.0	
		Z	2.02	68.20	15.69		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.49	69.65	15.98	0.00	150.0	± 9.6 %
		Y	2.52	69.83	16.12		150.0	
		Z	2.51	68.62	15.86		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.16	66.67	13.99	0.00	150.0	± 9.6 %
		Y	2.21	66.99	14.22		150.0	
		Z	2.30	66.43	14.30		150.0	
10145-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.07	64.11	10.67	0.00	150.0	± 9.6 %
		Y	1.11	64.57	11.01		150.0	
		Z	1.31	65.51	12.40		150.0	
10146-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.34	62.65	9.02	0.00	150.0	± 9.6 %
		Y	1.43	63.27	9.42		150.0	
		Z	2.01	66.35	12.18		150.0	
10147-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	1.45	63.47	9.57	0.00	150.0	± 9.6 %
		Y	1.57	64.27	10.06		150.0	
		Z	2.34	68.34	13.28		150.0	

10149-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.87	67.55	16.01	0.00	150.0	± 9.6 %
		Y	2.90	67.73	16.15		150.0	
		Z	2.95	67.22	15.84		150.0	
10150-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.00	67.58	16.08	0.00	150.0	± 9.6 %
		Y	3.02	67.73	16.20		150.0	
		Z	3.07	67.21	15.90		150.0	
10151-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	5.65	76.57	21.08	3.98	65.0	± 9.6 %
		Y	6.17	78.83	22.29		65.0	
		Z	6.35	77.82	21.74		65.0	
10152-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	4.98	71.84	19.37	3.98	65.0	± 9.6 %
		Y	5.18	73.09	20.20		65.0	
		Z	5.53	73.00	20.11		65.0	
10153-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	5.35	72.93	20.23	3.98	65.0	± 9.6 %
		Y	5.53	74.06	20.99		65.0	
		Z	5.88	73.94	20.90		65.0	
10154-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.24	69.40	16.63	0.00	150.0	± 9.6 %
		Y	2.29	69.81	16.88		150.0	
		Z	2.29	68.69	16.27		150.0	
10155-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.62	68.74	16.38	0.00	150.0	± 9.6 %
		Y	2.64	68.87	16.49		150.0	
		Z	2.65	67.91	16.11		150.0	
10156-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.81	69.21	15.68	0.00	150.0	± 9.6 %
		Y	1.88	69.80	16.04		150.0	
		Z	1.87	68.31	15.53		150.0	
10157-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.01	67.27	13.98	0.00	150.0	± 9.6 %
		Y	2.06	67.66	14.24		150.0	
		Z	2.13	67.00	14.37		150.0	
10158-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.78	68.97	16.55	0.00	150.0	± 9.6 %
		Y	2.79	69.05	16.63		150.0	
		Z	2.81	68.12	16.28		150.0	
10159-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.12	67.76	14.27	0.00	150.0	± 9.6 %
		Y	2.17	68.10	14.50		150.0	
		Z	2.25	67.49	14.68		150.0	
10160-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.73	68.96	16.55	0.00	150.0	± 9.6 %
		Y	2.78	69.27	16.76		150.0	
		Z	2.78	68.34	16.22		150.0	
10161-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.89	67.56	16.00	0.00	150.0	± 9.6 %
		Y	2.92	67.72	16.12		150.0	
		Z	2.97	67.14	15.84		150.0	
10162-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.00	67.76	16.13	0.00	150.0	± 9.6 %
		Y	3.03	67.89	16.24		150.0	
		Z	3.08	67.27	15.94		150.0	
10166-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.29	68.55	18.62	3.01	150.0	± 9.6 %
		Y	3.39	69.14	19.00		150.0	
		Z	3.56	68.77	18.74		150.0	
10167-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	3.85	70.83	18.84	3.01	150.0	± 9.6 %
		Y	4.06	71.87	19.39		150.0	
		Z	4.27	71.19	19.04		150.0	

10168-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.31	73.34	20.36	3.01	150.0	± 9.6 %
		Y	4.51	74.19	20.77		150.0	
		Z	4.72	73.40	20.38		150.0	
10169-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.65	67.07	17.95	3.01	150.0	± 9.6 %
		Y	2.76	67.90	18.46		150.0	
		Z	2.95	68.18	18.47		150.0	
10170-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	3.35	71.83	19.98	3.01	150.0	± 9.6 %
		Y	3.58	73.08	20.56		150.0	
		Z	3.90	73.37	20.58		150.0	
10171-AAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.80	68.11	17.24	3.01	150.0	± 9.6 %
		Y	3.01	69.49	17.99		150.0	
		Z	3.23	69.44	17.85		150.0	
10172-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.65	76.31	22.99	6.02	65.0	± 9.6 %
		Y	5.48	85.89	27.40		65.0	
		Z	5.55	83.03	25.87		65.0	
10173-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	6.66	85.15	24.55	6.02	65.0	± 9.6 %
		Y	10.56	95.03	28.43		65.0	
		Z	12.26	94.72	28.10		65.0	
10174-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	4.93	79.32	21.92	6.02	65.0	± 9.6 %
		Y	8.98	90.91	26.48		65.0	
		Z	8.81	87.78	25.30		65.0	
10175-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.62	66.79	17.70	3.01	150.0	± 9.6 %
		Y	2.73	67.64	18.24		150.0	
		Z	2.91	67.87	18.21		150.0	
10176-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.35	71.86	19.99	3.01	150.0	± 9.6 %
		Y	3.58	73.10	20.58		150.0	
		Z	3.90	73.39	20.59		150.0	
10177-CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.64	66.92	17.79	3.01	150.0	± 9.6 %
		Y	2.75	67.76	18.31		150.0	
		Z	2.94	68.03	18.32		150.0	
10178-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	3.33	71.68	19.88	3.01	150.0	± 9.6 %
		Y	3.56	72.95	20.49		150.0	
		Z	3.86	73.15	20.45		150.0	
10179-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.04	69.83	18.46	3.01	150.0	± 9.6 %
		Y	3.27	71.21	19.16		150.0	
		Z	3.53	71.24	19.06		150.0	
10180-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	2.79	68.06	17.20	3.01	150.0	± 9.6 %
		Y	3.00	69.44	17.95		150.0	
		Z	3.23	69.37	17.80		150.0	
10181-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.64	66.91	17.79	3.01	150.0	± 9.6 %
		Y	2.74	67.75	18.31		150.0	
		Z	2.93	68.01	18.31		150.0	
10182-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	3.32	71.66	19.87	3.01	150.0	± 9.6 %
		Y	3.55	72.93	20.48		150.0	
		Z	3.85	73.13	20.44		150.0	
10183-AAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.79	68.04	17.19	3.01	150.0	± 9.6 %
		Y	3.00	69.42	17.94		150.0	
		Z	3.22	69.35	17.79		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.65	66.95	17.81	3.01	150.0	± 9.6 %
		Y	2.75	67.79	18.33		150.0	
		Z	2.95	68.05	18.33		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	3.34	71.72	19.91	3.01	150.0	± 9.6 %
		Y	3.57	72.99	20.51		150.0	
		Z	3.87	73.20	20.48		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	2.80	68.09	17.22	3.01	150.0	± 9.6 %
		Y	3.01	69.48	17.97		150.0	
		Z	3.23	69.41	17.82		150.0	
10187-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.66	67.00	17.88	3.01	150.0	± 9.6 %
		Y	2.76	67.84	18.40		150.0	
		Z	2.95	68.09	18.39		150.0	
10188-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	3.43	72.31	20.28	3.01	150.0	± 9.6 %
		Y	3.66	73.53	20.84		150.0	
		Z	4.00	73.86	20.87		150.0	
10189-AAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	2.85	68.45	17.48	3.01	150.0	± 9.6 %
		Y	3.07	69.84	18.22		150.0	
		Z	3.30	69.81	18.09		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.48	66.73	16.24	0.00	150.0	± 9.6 %
		Y	4.49	66.78	16.30		150.0	
		Z	4.58	66.49	16.16		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.63	67.01	16.37	0.00	150.0	± 9.6 %
		Y	4.65	67.06	16.43		150.0	
		Z	4.76	66.82	16.28		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.67	67.04	16.38	0.00	150.0	± 9.6 %
		Y	4.69	67.09	16.44		150.0	
		Z	4.80	66.85	16.30		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.47	66.77	16.24	0.00	150.0	± 9.6 %
		Y	4.48	66.82	16.30		150.0	
		Z	4.59	66.56	16.19		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.64	67.02	16.38	0.00	150.0	± 9.6 %
		Y	4.66	67.08	16.44		150.0	
		Z	4.78	66.84	16.30		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.67	67.05	16.39	0.00	150.0	± 9.6 %
		Y	4.68	67.10	16.45		150.0	
		Z	4.81	66.86	16.31		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.42	66.79	16.21	0.00	150.0	± 9.6 %
		Y	4.44	66.84	16.27		150.0	
		Z	4.54	66.57	16.15		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.64	66.99	16.36	0.00	150.0	± 9.6 %
		Y	4.65	67.04	16.42		150.0	
		Z	4.77	66.82	16.29		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.68	66.98	16.38	0.00	150.0	± 9.6 %
		Y	4.69	67.03	16.44		150.0	
		Z	4.81	66.80	16.30		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.03	67.11	16.49	0.00	150.0	± 9.6 %
		Y	5.04	67.15	16.55		150.0	
		Z	5.14	67.00	16.41		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.33	67.33	16.62	0.00	150.0	± 9.6 %
		Y	5.34	67.38	16.68		150.0	
		Z	5.45	67.21	16.54		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.07	67.22	16.48	0.00	150.0	± 9.6 %
		Y	5.09	67.26	16.53		150.0	
		Z	5.18	67.11	16.40		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.76	66.33	15.32	0.00	150.0	± 9.6 %
		Y	2.78	66.46	15.44		150.0	
		Z	2.85	65.93	15.34		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	7.05	86.26	25.03	6.02	65.0	± 9.6 %
		Y	11.33	96.43	28.97		65.0	
		Z	13.18	96.17	28.66		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	7.07	85.23	24.04	6.02	65.0	± 9.6 %
		Y	11.45	95.09	27.83		65.0	
		Z	12.76	94.16	27.40		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	4.84	82.15	25.37	6.02	65.0	± 9.6 %
		Y	6.17	88.64	28.46		65.0	
		Z	7.76	90.12	28.51		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	6.71	85.26	24.59	6.02	65.0	± 9.6 %
		Y	10.65	95.13	28.47		65.0	
		Z	12.36	94.84	28.14		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	6.68	84.20	23.61	6.02	65.0	± 9.6 %
		Y	10.65	93.73	27.33		65.0	
		Z	11.94	92.89	26.92		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	4.67	81.40	24.99	6.02	65.0	± 9.6 %
		Y	5.94	87.77	28.07		65.0	
		Z	7.43	89.17	28.10		65.0	
10232-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	6.69	85.24	24.58	6.02	65.0	± 9.6 %
		Y	10.63	95.12	28.47		65.0	
		Z	12.34	94.82	28.14		65.0	
10233-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	6.66	84.17	23.60	6.02	65.0	± 9.6 %
		Y	10.62	93.69	27.32		65.0	
		Z	11.91	92.86	26.91		65.0	
10234-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	4.54	80.75	24.63	6.02	65.0	± 9.6 %
		Y	5.76	87.05	27.69		65.0	
		Z	7.17	88.32	27.68		65.0	
10235-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	6.69	85.26	24.59	6.02	65.0	± 9.6 %
		Y	10.64	95.16	28.48		65.0	
		Z	12.35	94.85	28.15		65.0	
10236-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	6.73	84.30	23.64	6.02	65.0	± 9.6 %
		Y	10.78	93.91	27.38		65.0	
		Z	12.05	93.03	26.96		65.0	
10237-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.67	81.42	25.00	6.02	65.0	± 9.6 %
		Y	5.94	87.83	28.10		65.0	
		Z	7.43	89.21	28.12		65.0	
10238-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	6.68	85.21	24.57	6.02	65.0	± 9.6 %
		Y	10.60	95.09	28.46		65.0	
		Z	12.31	94.79	28.13		65.0	

10239-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	6.64	84.13	23.58	6.02	65.0	± 9.6 %
		Y	10.57	93.64	27.30		65.0	
		Z	11.87	92.82	26.90		65.0	
10240-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.66	81.38	24.99	6.02	65.0	± 9.6 %
		Y	5.92	87.78	28.08		65.0	
		Z	7.41	89.16	28.10		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.49	77.69	23.88	6.98	65.0	± 9.6 %
		Y	7.06	80.22	25.34		65.0	
		Z	7.33	78.75	24.61		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.69	74.96	22.63	6.98	65.0	± 9.6 %
		Y	6.72	79.20	24.84		65.0	
		Z	6.48	76.10	23.39		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.22	73.93	23.04	6.98	65.0	± 9.6 %
		Y	5.37	75.23	24.06		65.0	
		Z	5.30	72.76	22.72		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	4.03	70.70	15.63	3.98	65.0	± 9.6 %
		Y	4.63	73.27	17.01		65.0	
		Z	5.80	76.12	19.17		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	3.94	70.12	15.32	3.98	65.0	± 9.6 %
		Y	4.47	72.48	16.60		65.0	
		Z	5.67	75.49	18.85		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	4.17	75.16	18.15	3.98	65.0	± 9.6 %
		Y	5.29	79.64	20.23		65.0	
		Z	5.81	80.17	21.10		65.0	
10247-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	4.10	71.58	17.29	3.98	65.0	± 9.6 %
		Y	4.43	73.43	18.37		65.0	
		Z	4.92	74.07	19.21		65.0	
10248-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	4.07	70.96	16.98	3.98	65.0	± 9.6 %
		Y	4.37	72.65	17.99		65.0	
		Z	4.90	73.42	18.88		65.0	
10249-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	5.33	79.24	20.92	3.98	65.0	± 9.6 %
		Y	6.73	84.01	23.05		65.0	
		Z	6.62	82.34	22.76		65.0	
10250-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	4.99	74.32	20.40	3.98	65.0	± 9.6 %
		Y	5.24	75.79	21.30		65.0	
		Z	5.59	75.60	21.35		65.0	
10251-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	4.75	72.14	19.02	3.98	65.0	± 9.6 %
		Y	4.99	73.56	19.92		65.0	
		Z	5.35	73.44	20.02		65.0	
10252-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	5.62	79.05	22.01	3.98	65.0	± 9.6 %
		Y	6.48	82.42	23.65		65.0	
		Z	6.49	80.72	22.96		65.0	
10253-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	4.91	71.43	19.12	3.98	65.0	± 9.6 %
		Y	5.09	72.60	19.93		65.0	
		Z	5.40	72.41	19.86		65.0	
10254-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	5.23	72.40	19.88	3.98	65.0	± 9.6 %
		Y	5.41	73.49	20.63		65.0	
		Z	5.73	73.30	20.57		65.0	

10255-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	5.37	75.82	20.95	3.98	65.0	± 9.6 %
		Y	5.81	77.90	22.11		65.0	
		Z	5.98	76.90	21.60		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	2.95	66.44	12.43	3.98	65.0	± 9.6 %
		Y	3.25	68.14	13.47		65.0	
		Z	4.63	72.57	16.66		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.90	65.89	12.05	3.98	65.0	± 9.6 %
		Y	3.14	67.36	12.98		65.0	
		Z	4.49	71.73	16.18		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	2.90	69.51	14.64	3.98	65.0	± 9.6 %
		Y	3.44	72.54	16.25		65.0	
		Z	4.52	75.89	18.60		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	4.46	72.72	18.47	3.98	65.0	± 9.6 %
		Y	4.78	74.47	19.50		65.0	
		Z	5.19	74.62	19.97		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	4.49	72.43	18.33	3.98	65.0	± 9.6 %
		Y	4.79	74.08	19.32		65.0	
		Z	5.22	74.34	19.84		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	5.17	78.27	21.02	3.98	65.0	± 9.6 %
		Y	6.16	82.12	22.85		65.0	
		Z	6.14	80.53	22.44		65.0	
10262-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	4.98	74.25	20.35	3.98	65.0	± 9.6 %
		Y	5.23	75.73	21.26		65.0	
		Z	5.58	75.55	21.31		65.0	
10263-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	4.74	72.12	19.01	3.98	65.0	± 9.6 %
		Y	4.98	73.53	19.91		65.0	
		Z	5.34	73.42	20.01		65.0	
10264-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	5.56	78.83	21.90	3.98	65.0	± 9.6 %
		Y	6.41	82.18	23.54		65.0	
		Z	6.42	80.51	22.86		65.0	
10265-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	4.98	71.84	19.37	3.98	65.0	± 9.6 %
		Y	5.18	73.09	20.20		65.0	
		Z	5.53	73.00	20.12		65.0	
10266-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	5.34	72.91	20.22	3.98	65.0	± 9.6 %
		Y	5.53	74.04	20.98		65.0	
		Z	5.88	73.92	20.89		65.0	
10267-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	5.64	76.53	21.06	3.98	65.0	± 9.6 %
		Y	6.16	78.78	22.27		65.0	
		Z	6.34	77.78	21.72		65.0	
10268-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	5.63	71.94	19.85	3.98	65.0	± 9.6 %
		Y	5.78	72.88	20.51		65.0	
		Z	6.14	72.88	20.41		65.0	
10269-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	5.64	71.57	19.72	3.98	65.0	± 9.6 %
		Y	5.77	72.45	20.36		65.0	
		Z	6.12	72.44	20.27		65.0	
10270-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	5.66	74.09	20.17	3.98	65.0	± 9.6 %
		Y	5.94	75.48	21.01		65.0	
		Z	6.22	75.05	20.69		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.58	66.84	15.32	0.00	150.0	± 9.6 %
		Y	2.61	67.05	15.49		150.0	
		Z	2.61	66.19	15.19		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.62	68.33	15.81	0.00	150.0	± 9.6 %
		Y	1.68	69.01	16.23		150.0	
		Z	1.61	67.33	15.34		150.0	
10277-CAA	PHS (QPSK)	X	1.71	60.26	5.85	9.03	50.0	± 9.6 %
		Y	1.46	60.00	5.35		50.0	
		Z	2.08	61.87	7.57		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	3.48	68.77	13.21	9.03	50.0	± 9.6 %
		Y	3.86	71.42	14.38		50.0	
		Z	7.61	81.06	19.61		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	3.59	69.09	13.42	9.03	50.0	± 9.6 %
		Y	4.03	71.88	14.65		50.0	
		Z	7.80	81.31	19.76		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.38	68.75	13.54	0.00	150.0	± 9.6 %
		Y	1.49	69.81	14.11		150.0	
		Z	1.48	68.40	14.11		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.81	66.18	12.25	0.00	150.0	± 9.6 %
		Y	0.88	67.15	12.85		150.0	
		Z	0.85	65.51	12.62		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.25	72.63	15.60	0.00	150.0	± 9.6 %
		Y	1.48	75.02	16.70		150.0	
		Z	1.05	69.24	14.85		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	3.55	87.18	21.36	0.00	150.0	± 9.6 %
		Y	4.57	90.90	22.67		150.0	
		Z	1.55	74.98	17.80		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	10.90	87.79	24.10	9.03	50.0	± 9.6 %
		Y	17.38	97.96	27.91		50.0	
		Z	9.27	86.92	25.25		50.0	
10297-AAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.71	69.84	16.83	0.00	150.0	± 9.6 %
		Y	2.77	70.21	17.06		150.0	
		Z	2.77	69.29	16.46		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.47	67.49	13.62	0.00	150.0	± 9.6 %
		Y	1.54	68.13	14.02		150.0	
		Z	1.61	67.49	14.26		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	1.91	66.04	11.93	0.00	150.0	± 9.6 %
		Y	2.08	67.06	12.49		150.0	
		Z	2.55	68.88	14.29		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.52	62.84	9.56	0.00	150.0	± 9.6 %
		Y	1.60	63.32	9.89		150.0	
		Z	2.01	64.97	11.67		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.49	64.94	17.15	4.17	50.0	± 9.6 %
		Y	4.51	65.12	17.33		50.0	
		Z	4.77	65.09	17.35		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	4.98	65.58	17.87	4.96	50.0	± 9.6 %
		Y	5.02	65.83	18.08		50.0	
		Z	5.23	65.61	18.00		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.72	65.17	17.66	4.96	50.0	± 9.6 %
		Y	4.76	65.39	17.86		50.0	
		Z	4.98	65.24	17.83		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.56	65.16	17.23	4.17	50.0	± 9.6 %
		Y	4.60	65.38	17.42		50.0	
		Z	4.79	65.14	17.34		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.06	66.26	18.68	6.02	35.0	± 9.6 %
		Y	3.98	66.05	18.73		35.0	
		Z	4.32	66.47	19.19		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.43	65.65	18.52	6.02	35.0	± 9.6 %
		Y	4.40	65.62	18.63		35.0	
		Z	4.69	65.80	18.88		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.31	65.69	18.43	6.02	35.0	± 9.6 %
		Y	4.27	65.62	18.52		35.0	
		Z	4.59	65.95	18.85		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.28	65.86	18.56	6.02	35.0	± 9.6 %
		Y	4.24	65.78	18.65		35.0	
		Z	4.55	66.08	18.95		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.47	65.79	18.63	6.02	35.0	± 9.6 %
		Y	4.44	65.78	18.76		35.0	
		Z	4.75	66.03	19.03		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.38	65.69	18.49	6.02	35.0	± 9.6 %
		Y	4.34	65.63	18.59		35.0	
		Z	4.64	65.84	18.85		35.0	
10311-AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.08	69.08	16.47	0.00	150.0	± 9.6 %
		Y	3.14	69.40	16.66		150.0	
		Z	3.12	68.62	16.13		150.0	
10313-AAA	iDEN 1:3	X	2.89	72.65	16.29	6.99	70.0	± 9.6 %
		Y	4.19	78.79	18.89		70.0	
		Z	4.02	76.71	18.18		70.0	
10314-AAA	iDEN 1:6	X	5.30	83.78	23.47	10.00	30.0	± 9.6 %
		Y	6.55	89.94	26.15		30.0	
		Z	6.97	88.50	25.50		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.08	63.77	15.30	0.17	150.0	± 9.6 %
		Y	1.10	64.11	15.62		150.0	
		Z	1.08	63.32	14.99		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.51	66.68	16.32	0.17	150.0	± 9.6 %
		Y	4.53	66.78	16.42		150.0	
		Z	4.64	66.54	16.30		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.51	66.68	16.32	0.17	150.0	± 9.6 %
		Y	4.53	66.78	16.42		150.0	
		Z	4.64	66.54	16.30		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.61	67.03	16.35	0.00	150.0	± 9.6 %
		Y	4.63	67.11	16.42		150.0	
		Z	4.76	66.86	16.27		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.34	67.18	16.51	0.00	150.0	± 9.6 %
		Y	5.36	67.26	16.59		150.0	
		Z	5.46	67.09	16.45		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.59	67.45	16.52	0.00	150.0	± 9.6 %
		Y	5.60	67.49	16.57		150.0	
		Z	5.71	67.42	16.48		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.38	68.75	13.54	0.00	115.0	± 9.6 %
		Y	1.49	69.81	14.11		115.0	
		Z	1.48	68.40	14.11		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.38	68.75	13.54	0.00	115.0	± 9.6 %
		Y	1.49	69.81	14.11		115.0	
		Z	1.48	68.40	14.11		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	17.35	99.43	24.90	0.00	100.0	± 9.6 %
		Y	63.25	115.82	28.80		100.0	
		Z	11.61	93.88	24.12		100.0	
10410-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	8.36	91.25	22.62	3.23	80.0	± 9.6 %
		Y	100.00	127.16	32.13		80.0	
		Z	100.00	125.70	32.09		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.22	14.88	0.00	150.0	± 9.6 %
		Y	1.04	63.49	15.13		150.0	
		Z	1.02	62.64	14.46		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.48	66.75	16.31	0.00	150.0	± 9.6 %
		Y	4.49	66.81	16.37		150.0	
		Z	4.59	66.53	16.22		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.48	66.75	16.31	0.00	150.0	± 9.6 %
		Y	4.49	66.81	16.37		150.0	
		Z	4.59	66.53	16.22		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.47	66.94	16.35	0.00	150.0	± 9.6 %
		Y	4.48	67.00	16.41		150.0	
		Z	4.58	66.68	16.24		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.49	66.88	16.34	0.00	150.0	± 9.6 %
		Y	4.50	66.93	16.40		150.0	
		Z	4.60	66.63	16.24		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.60	66.86	16.35	0.00	150.0	± 9.6 %
		Y	4.61	66.91	16.41		150.0	
		Z	4.72	66.64	16.26		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.74	67.14	16.45	0.00	150.0	± 9.6 %
		Y	4.76	67.20	16.51		150.0	
		Z	4.89	66.97	16.38		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.67	67.10	16.43	0.00	150.0	± 9.6 %
		Y	4.68	67.15	16.49		150.0	
		Z	4.81	66.91	16.35		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.29	67.34	16.60	0.00	150.0	± 9.6 %
		Y	5.30	67.39	16.66		150.0	
		Z	5.42	67.29	16.55		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.31	67.43	16.64	0.00	150.0	± 9.6 %
		Y	5.32	67.48	16.70		150.0	
		Z	5.43	67.30	16.56		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.30	67.32	16.58	0.00	150.0	± 9.6 %
		Y	5.31	67.37	16.64		150.0	
		Z	5.44	67.28	16.54		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.41	72.30	18.78	0.00	150.0	± 9.6 %
		Y	4.28	71.61	18.44		150.0	
		Z	4.35	70.84	18.35		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.12	67.35	16.27	0.00	150.0	± 9.6 %
		Y	4.14	67.43	16.34		150.0	
		Z	4.27	67.06	16.22		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.43	67.18	16.37	0.00	150.0	± 9.6 %
		Y	4.45	67.24	16.44		150.0	
		Z	4.58	66.95	16.29		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.69	67.13	16.45	0.00	150.0	± 9.6 %
		Y	4.70	67.18	16.51		150.0	
		Z	4.82	66.95	16.37		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.58	73.43	18.77	0.00	150.0	± 9.6 %
		Y	4.41	72.61	18.39		150.0	
		Z	4.46	71.72	18.35		150.0	
10435-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.84	90.24	22.26	3.23	80.0	± 9.6 %
		Y	100.00	126.90	32.00		80.0	
		Z	100.00	125.48	31.98		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.40	67.35	15.41	0.00	150.0	± 9.6 %
		Y	3.42	67.47	15.52		150.0	
		Z	3.56	67.03	15.56		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	3.98	67.14	16.14	0.00	150.0	± 9.6 %
		Y	4.00	67.22	16.21		150.0	
		Z	4.11	66.83	16.08		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.26	67.02	16.27	0.00	150.0	± 9.6 %
		Y	4.28	67.08	16.34		150.0	
		Z	4.38	66.77	16.19		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.47	66.91	16.31	0.00	150.0	± 9.6 %
		Y	4.48	66.96	16.37		150.0	
		Z	4.58	66.71	16.22		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.25	67.38	14.88	0.00	150.0	± 9.6 %
		Y	3.28	67.53	15.01		150.0	
		Z	3.46	67.22	15.21		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.22	67.99	16.81	0.00	150.0	± 9.6 %
		Y	6.22	68.02	16.86		150.0	
		Z	6.28	67.84	16.71		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.78	65.43	16.02	0.00	150.0	± 9.6 %
		Y	3.79	65.48	16.08		150.0	
		Z	3.83	65.16	15.92		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.02	66.44	14.01	0.00	150.0	± 9.6 %
		Y	3.06	66.64	14.18		150.0	
		Z	3.28	66.54	14.63		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.18	65.23	15.36	0.00	150.0	± 9.6 %
		Y	4.18	65.21	15.41		150.0	
		Z	4.47	65.25	15.75		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.93	68.87	16.62	0.00	150.0	± 9.6 %
		Y	1.00	70.16	17.38		150.0	
		Z	0.88	67.06	15.60		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.32	84.19	21.37	3.29	80.0	± 9.6 %
		Y	46.98	120.39	31.74		80.0	
		Z	70.92	123.84	32.55		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.93	61.17	8.92	3.23	80.0	± 9.6 %
		Y	1.50	66.22	11.48		80.0	
		Z	4.18	75.74	15.77		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.74	3.23	80.0	± 9.6 %
		Y	0.90	60.95	8.47		80.0	
		Z	1.89	66.55	11.77		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.27	79.79	19.27	3.23	80.0	± 9.6 %
		Y	44.63	117.13	30.10		80.0	
		Z	63.16	119.86	30.88		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.88	60.65	8.58	3.23	80.0	± 9.6 %
		Y	1.28	64.64	10.73		80.0	
		Z	2.98	72.01	14.38		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.69	3.23	80.0	± 9.6 %
		Y	0.85	60.44	8.16		80.0	
		Z	1.66	65.17	11.12		80.0	
10467-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.54	80.96	19.70	3.23	80.0	± 9.6 %
		Y	60.93	121.68	31.18		80.0	
		Z	84.88	124.19	31.89		80.0	
10468-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.89	60.80	8.68	3.23	80.0	± 9.6 %
		Y	1.33	65.06	10.94		80.0	
		Z	3.21	72.86	14.71		80.0	
10469-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.69	3.23	80.0	± 9.6 %
		Y	0.85	60.46	8.17		80.0	
		Z	1.66	65.20	11.14		80.0	
10470-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.54	80.99	19.71	3.23	80.0	± 9.6 %
		Y	63.11	122.20	31.29		80.0	
		Z	86.48	124.48	31.95		80.0	
10471-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.88	60.76	8.65	3.23	80.0	± 9.6 %
		Y	1.32	64.98	10.89		80.0	
		Z	3.18	72.76	14.66		80.0	
10472-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.68	3.23	80.0	± 9.6 %
		Y	0.84	60.42	8.13		80.0	
		Z	1.65	65.15	11.10		80.0	
10473-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.52	80.93	19.68	3.23	80.0	± 9.6 %
		Y	62.71	122.07	31.26		80.0	
		Z	85.93	124.36	31.91		80.0	
10474-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.88	60.74	8.64	3.23	80.0	± 9.6 %
		Y	1.31	64.94	10.87		80.0	
		Z	3.15	72.67	14.63		80.0	
10475-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.68	3.23	80.0	± 9.6 %
		Y	0.84	60.40	8.12		80.0	
		Z	1.64	65.11	11.08		80.0	

10477-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.87	60.61	8.55	3.23	80.0	± 9.6 %
		Y	1.27	64.59	10.69		80.0	
		Z	2.97	71.99	14.36		80.0	
10478-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.83	60.00	7.67	3.23	80.0	± 9.6 %
		Y	0.84	60.37	8.09		80.0	
		Z	1.63	65.04	11.04		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.53	79.52	20.39	3.23	80.0	± 9.6 %
		Y	7.80	88.47	23.78		80.0	
		Z	5.78	82.49	22.28		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.53	72.09	15.68	3.23	80.0	± 9.6 %
		Y	6.36	79.96	18.76		80.0	
		Z	6.52	79.72	19.55		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.81	68.83	13.98	3.23	80.0	± 9.6 %
		Y	4.53	74.98	16.60		80.0	
		Z	5.48	76.73	18.13		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.20	68.90	15.09	2.23	80.0	± 9.6 %
		Y	2.93	73.22	17.16		80.0	
		Z	2.97	72.34	17.43		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.35	65.97	12.90	2.23	80.0	± 9.6 %
		Y	3.02	69.40	14.64		80.0	
		Z	4.23	73.30	17.24		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.28	65.32	12.60	2.23	80.0	± 9.6 %
		Y	2.83	68.32	14.18		80.0	
		Z	3.99	72.23	16.81		80.0	
10485-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.68	71.36	17.35	2.23	80.0	± 9.6 %
		Y	3.27	74.89	19.08		80.0	
		Z	3.17	72.95	18.56		80.0	
10486-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.64	67.61	15.00	2.23	80.0	± 9.6 %
		Y	2.99	69.69	16.14		80.0	
		Z	3.15	69.34	16.51		80.0	
10487-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.64	67.21	14.79	2.23	80.0	± 9.6 %
		Y	2.96	69.13	15.87		80.0	
		Z	3.15	68.96	16.33		80.0	
10488-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.00	70.76	18.02	2.23	80.0	± 9.6 %
		Y	3.34	72.92	19.20		80.0	
		Z	3.42	71.88	18.69		80.0	
10489-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.07	67.95	16.69	2.23	80.0	± 9.6 %
		Y	3.24	69.09	17.42		80.0	
		Z	3.37	68.53	17.27		80.0	
10490-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.16	67.82	16.63	2.23	80.0	± 9.6 %
		Y	3.32	68.90	17.33		80.0	
		Z	3.47	68.38	17.21		80.0	
10491-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.29	69.57	17.67	2.23	80.0	± 9.6 %
		Y	3.53	71.04	18.54		80.0	
		Z	3.67	70.46	18.17		80.0	
10492-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.43	67.31	16.78	2.23	80.0	± 9.6 %
		Y	3.55	68.11	17.34		80.0	
		Z	3.72	67.80	17.20		80.0	

10493-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.50	67.21	16.74	2.23	80.0	± 9.6 %
		Y	3.62	67.97	17.27		80.0	
		Z	3.79	67.69	17.16		80.0	
10494-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.52	70.87	18.10	2.23	80.0	± 9.6 %
		Y	3.84	72.64	19.08		80.0	
		Z	3.98	72.03	18.67		80.0	
10495-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.45	67.59	16.97	2.23	80.0	± 9.6 %
		Y	3.58	68.42	17.54		80.0	
		Z	3.75	68.20	17.40		80.0	
10496-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	67.39	16.91	2.23	80.0	± 9.6 %
		Y	3.65	68.15	17.44		80.0	
		Z	3.83	67.94	17.32		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.43	63.58	11.40	2.23	80.0	± 9.6 %
		Y	1.80	66.67	13.09		80.0	
		Z	2.27	68.74	14.99		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.24	60.00	8.33	2.23	80.0	± 9.6 %
		Y	1.23	60.00	8.51		80.0	
		Z	1.81	63.14	11.27		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.26	60.00	8.18	2.23	80.0	± 9.6 %
		Y	1.24	60.00	8.34		80.0	
		Z	1.76	62.56	10.83		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.78	70.93	17.56	2.23	80.0	± 9.6 %
		Y	3.23	73.75	19.01		80.0	
		Z	3.21	72.13	18.47		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.86	67.97	15.75	2.23	80.0	± 9.6 %
		Y	3.13	69.65	16.71		80.0	
		Z	3.25	69.01	16.80		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.90	67.83	15.61	2.23	80.0	± 9.6 %
		Y	3.18	69.45	16.55		80.0	
		Z	3.31	68.90	16.69		80.0	
10503-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.96	70.56	17.92	2.23	80.0	± 9.6 %
		Y	3.29	72.71	19.10		80.0	
		Z	3.38	71.68	18.59		80.0	
10504-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.05	67.84	16.62	2.23	80.0	± 9.6 %
		Y	3.22	69.00	17.36		80.0	
		Z	3.35	68.44	17.21		80.0	
10505-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.14	67.73	16.57	2.23	80.0	± 9.6 %
		Y	3.31	68.81	17.27		80.0	
		Z	3.45	68.28	17.16		80.0	
10506-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.49	70.73	18.03	2.23	80.0	± 9.6 %
		Y	3.81	72.49	19.00		80.0	
		Z	3.95	71.88	18.59		80.0	
10507-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.44	67.53	16.93	2.23	80.0	± 9.6 %
		Y	3.56	68.36	17.50		80.0	
		Z	3.73	68.13	17.36		80.0	

10508-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.53	67.32	16.87	2.23	80.0	± 9.6 %
		Y	3.64	68.08	17.40		80.0	
		Z	3.82	67.87	17.27		80.0	
10509-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.90	69.82	17.65	2.23	80.0	± 9.6 %
		Y	4.14	71.06	18.38		80.0	
		Z	4.30	70.72	18.09		80.0	
10510-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.92	67.34	16.97	2.23	80.0	± 9.6 %
		Y	4.03	67.99	17.44		80.0	
		Z	4.22	67.93	17.34		80.0	
10511-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.99	67.15	16.93	2.23	80.0	± 9.6 %
		Y	4.09	67.75	17.36		80.0	
		Z	4.28	67.68	17.27		80.0	
10512-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.00	71.09	18.05	2.23	80.0	± 9.6 %
		Y	4.33	72.71	18.93		80.0	
		Z	4.49	72.31	18.60		80.0	
10513-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.80	67.50	17.05	2.23	80.0	± 9.6 %
		Y	3.92	68.21	17.54		80.0	
		Z	4.11	68.20	17.45		80.0	
10514-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.85	67.16	16.95	2.23	80.0	± 9.6 %
		Y	3.95	67.80	17.41		80.0	
		Z	4.13	67.78	17.32		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.99	63.41	14.95	0.00	150.0	± 9.6 %
		Y	1.00	63.71	15.22		150.0	
		Z	0.98	62.80	14.50		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.63	71.18	17.99	0.00	150.0	± 9.6 %
		Y	0.75	74.25	19.60		150.0	
		Z	0.56	68.07	16.15		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.84	65.39	15.66	0.00	150.0	± 9.6 %
		Y	0.87	66.03	16.14		150.0	
		Z	0.82	64.43	14.97		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.47	66.84	16.30	0.00	150.0	± 9.6 %
		Y	4.48	66.90	16.36		150.0	
		Z	4.58	66.60	16.20		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.63	67.03	16.39	0.00	150.0	± 9.6 %
		Y	4.64	67.09	16.46		150.0	
		Z	4.77	66.85	16.33		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.49	66.98	16.32	0.00	150.0	± 9.6 %
		Y	4.50	67.04	16.38		150.0	
		Z	4.62	66.81	16.25		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.42	66.97	16.30	0.00	150.0	± 9.6 %
		Y	4.43	67.03	16.37		150.0	
		Z	4.55	66.80	16.23		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.48	67.10	16.40	0.00	150.0	± 9.6 %
		Y	4.49	67.16	16.47		150.0	
		Z	4.61	66.88	16.31		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.38	67.02	16.28	0.00	150.0	± 9.6 %
		Y	4.40	67.08	16.35		150.0	
		Z	4.49	66.74	16.15		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.42	67.02	16.37	0.00	150.0	± 9.6 %
		Y	4.44	67.08	16.44		150.0	
		Z	4.56	66.80	16.28		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.44	66.11	15.98	0.00	150.0	± 9.6 %
		Y	4.45	66.16	16.04		150.0	
		Z	4.54	65.84	15.87		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.58	66.42	16.11	0.00	150.0	± 9.6 %
		Y	4.59	66.48	16.17		150.0	
		Z	4.71	66.22	16.01		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.51	66.39	16.05	0.00	150.0	± 9.6 %
		Y	4.52	66.45	16.12		150.0	
		Z	4.63	66.17	15.95		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.52	66.40	16.08	0.00	150.0	± 9.6 %
		Y	4.54	66.46	16.15		150.0	
		Z	4.65	66.19	15.99		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.52	66.40	16.08	0.00	150.0	± 9.6 %
		Y	4.54	66.46	16.15		150.0	
		Z	4.65	66.19	15.99		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.50	66.46	16.08	0.00	150.0	± 9.6 %
		Y	4.51	66.53	16.14		150.0	
		Z	4.64	66.30	16.00		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.37	66.32	16.01	0.00	150.0	± 9.6 %
		Y	4.39	66.39	16.08		150.0	
		Z	4.50	66.15	15.93		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.53	66.48	16.08	0.00	150.0	± 9.6 %
		Y	4.54	66.54	16.15		150.0	
		Z	4.66	66.23	15.97		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.07	66.45	16.14	0.00	150.0	± 9.6 %
		Y	5.09	66.50	16.19		150.0	
		Z	5.19	66.33	16.06		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.13	66.62	16.22	0.00	150.0	± 9.6 %
		Y	5.14	66.67	16.27		150.0	
		Z	5.25	66.51	16.14		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.01	66.59	16.19	0.00	150.0	± 9.6 %
		Y	5.03	66.64	16.24		150.0	
		Z	5.12	66.45	16.09		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.07	66.55	16.17	0.00	150.0	± 9.6 %
		Y	5.08	66.59	16.22		150.0	
		Z	5.18	66.42	16.08		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.14	66.54	16.20	0.00	150.0	± 9.6 %
		Y	5.15	66.59	16.25		150.0	
		Z	5.27	66.46	16.14		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.07	66.52	16.21	0.00	150.0	± 9.6 %
		Y	5.08	66.57	16.26		150.0	
		Z	5.20	66.47	16.16		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.05	66.41	16.14	0.00	150.0	± 9.6 %
		Y	5.06	66.46	16.20		150.0	
		Z	5.17	66.33	16.08		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.21	66.51	16.21	0.00	150.0	± 9.6 %
		Y	5.22	66.55	16.26		150.0	
		Z	5.33	66.41	16.13		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.27	66.52	16.24	0.00	150.0	± 9.6 %
		Y	5.28	66.56	16.29		150.0	
		Z	5.41	66.45	16.18		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.40	66.53	16.13	0.00	150.0	± 9.6 %
		Y	5.42	66.58	16.18		150.0	
		Z	5.49	66.45	16.06		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.59	66.98	16.30	0.00	150.0	± 9.6 %
		Y	5.60	67.03	16.36		150.0	
		Z	5.69	66.88	16.22		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.45	66.68	16.17	0.00	150.0	± 9.6 %
		Y	5.46	66.73	16.22		150.0	
		Z	5.56	66.67	16.13		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.52	66.76	16.20	0.00	150.0	± 9.6 %
		Y	5.53	66.80	16.25		150.0	
		Z	5.63	66.71	16.14		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.72	67.56	16.57	0.00	150.0	± 9.6 %
		Y	5.74	67.62	16.64		150.0	
		Z	5.92	67.73	16.62		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.50	66.81	16.24	0.00	150.0	± 9.6 %
		Y	5.51	66.85	16.30		150.0	
		Z	5.59	66.68	16.14		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.47	66.72	16.16	0.00	150.0	± 9.6 %
		Y	5.48	66.77	16.22		150.0	
		Z	5.59	66.72	16.13		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.41	66.62	16.12	0.00	150.0	± 9.6 %
		Y	5.42	66.66	16.16		150.0	
		Z	5.50	66.51	16.03		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.48	66.60	16.14	0.00	150.0	± 9.6 %
		Y	5.49	66.65	16.19		150.0	
		Z	5.59	66.56	16.08		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.82	66.88	16.21	0.00	150.0	± 9.6 %
		Y	5.83	66.92	16.26		150.0	
		Z	5.90	66.82	16.15		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.94	67.15	16.33	0.00	150.0	± 9.6 %
		Y	5.95	67.20	16.38		150.0	
		Z	6.03	67.13	16.28		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	5.96	67.23	16.36	0.00	150.0	± 9.6 %
		Y	5.98	67.27	16.41		150.0	
		Z	6.05	67.17	16.30		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.92	67.10	16.31	0.00	150.0	± 9.6 %
		Y	5.93	67.14	16.36		150.0	
		Z	6.02	67.08	16.27		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	5.96	67.24	16.39	0.00	150.0	± 9.6 %
		Y	5.97	67.29	16.45		150.0	
		Z	6.07	67.25	16.37		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	5.95	67.10	16.36	0.00	150.0	± 9.6 %
		Y	5.97	67.14	16.41		150.0	
		Z	6.06	67.09	16.33		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.89	67.09	16.39	0.00	150.0	± 9.6 %
		Y	5.90	67.14	16.45		150.0	
		Z	5.99	67.06	16.35		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	5.97	67.34	16.52	0.00	150.0	± 9.6 %
		Y	5.98	67.39	16.57		150.0	
		Z	6.12	67.47	16.55		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.05	67.24	16.43	0.00	150.0	± 9.6 %
		Y	6.06	67.29	16.49		150.0	
		Z	6.41	67.91	16.73		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.78	66.85	16.41	0.46	150.0	± 9.6 %
		Y	4.80	66.93	16.49		150.0	
		Z	4.91	66.67	16.35		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	4.99	67.29	16.74	0.46	150.0	± 9.6 %
		Y	5.01	67.35	16.80		150.0	
		Z	5.14	67.15	16.69		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.83	67.11	16.54	0.46	150.0	± 9.6 %
		Y	4.84	67.18	16.62		150.0	
		Z	4.98	66.99	16.50		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.87	67.55	16.94	0.46	150.0	± 9.6 %
		Y	4.87	67.57	16.98		150.0	
		Z	5.01	67.40	16.87		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.73	66.85	16.28	0.46	150.0	± 9.6 %
		Y	4.75	66.97	16.39		150.0	
		Z	4.88	66.73	16.25		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.84	67.72	17.05	0.46	150.0	± 9.6 %
		Y	4.85	67.73	17.08		150.0	
		Z	4.96	67.48	16.93		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.86	67.53	16.95	0.46	150.0	± 9.6 %
		Y	4.87	67.55	16.99		150.0	
		Z	5.00	67.32	16.86		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.13	63.98	15.42	0.46	130.0	± 9.6 %
		Y	1.15	64.46	15.85		130.0	
		Z	1.15	63.75	15.28		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.14	64.53	15.78	0.46	130.0	± 9.6 %
		Y	1.16	65.03	16.22		130.0	
		Z	1.16	64.27	15.61		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	1.37	80.51	21.92	0.46	130.0	± 9.6 %
		Y	2.18	89.24	25.44		130.0	
		Z	1.24	77.68	20.60		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.21	70.03	18.74	0.46	130.0	± 9.6 %
		Y	1.26	70.93	19.36		130.0	
		Z	1.21	69.23	18.24		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.55	66.59	16.41	0.46	130.0	± 9.6 %
		Y	4.57	66.69	16.52		130.0	
		Z	4.69	66.45	16.40		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.58	66.78	16.50	0.46	130.0	± 9.6 %
		Y	4.60	66.87	16.60		130.0	
		Z	4.71	66.62	16.47		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.76	67.04	16.65	0.46	130.0	± 9.6 %
		Y	4.78	67.12	16.75		130.0	
		Z	4.92	66.93	16.65		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.67	67.21	16.78	0.46	130.0	± 9.6 %
		Y	4.68	67.27	16.85		130.0	
		Z	4.82	67.09	16.76		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.41	66.37	16.00	0.46	130.0	± 9.6 %
		Y	4.44	66.52	16.15		130.0	
		Z	4.58	66.34	16.04		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.45	66.43	16.02	0.46	130.0	± 9.6 %
		Y	4.49	66.59	16.18		130.0	
		Z	4.62	66.36	16.05		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.57	67.26	16.72	0.46	130.0	± 9.6 %
		Y	4.58	67.33	16.82		130.0	
		Z	4.71	67.12	16.69		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.34	66.11	15.76	0.46	130.0	± 9.6 %
		Y	4.38	66.30	15.94		130.0	
		Z	4.52	66.09	15.82		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.55	66.59	16.41	0.46	130.0	± 9.6 %
		Y	4.57	66.69	16.52		130.0	
		Z	4.69	66.45	16.40		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.58	66.78	16.50	0.46	130.0	± 9.6 %
		Y	4.60	66.87	16.60		130.0	
		Z	4.71	66.62	16.47		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.76	67.04	16.65	0.46	130.0	± 9.6 %
		Y	4.78	67.12	16.75		130.0	
		Z	4.92	66.93	16.65		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.67	67.21	16.78	0.46	130.0	± 9.6 %
		Y	4.68	67.27	16.85		130.0	
		Z	4.82	67.09	16.76		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.41	66.37	16.00	0.46	130.0	± 9.6 %
		Y	4.44	66.52	16.15		130.0	
		Z	4.58	66.34	16.04		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.45	66.43	16.02	0.46	130.0	± 9.6 %
		Y	4.49	66.59	16.18		130.0	
		Z	4.62	66.36	16.05		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.57	67.26	16.72	0.46	130.0	± 9.6 %
		Y	4.58	67.33	16.82		130.0	
		Z	4.71	67.12	16.69		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.34	66.11	15.76	0.46	130.0	± 9.6 %
		Y	4.38	66.30	15.94		130.0	
		Z	4.52	66.09	15.82		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.71	66.67	16.53	0.46	130.0	± 9.6 %
		Y	4.73	66.75	16.62		130.0	
		Z	4.84	66.53	16.51		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.84	66.99	16.66	0.46	130.0	± 9.6 %
		Y	4.86	67.07	16.75		130.0	
		Z	5.00	66.87	16.64		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.76	66.86	16.52	0.46	130.0	± 9.6 %
		Y	4.78	66.96	16.62		130.0	
		Z	4.92	66.77	16.52		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.82	67.05	16.69	0.46	130.0	± 9.6 %
		Y	4.84	67.13	16.78		130.0	
		Z	4.97	66.94	16.68		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.78	67.01	16.59	0.46	130.0	± 9.6 %
		Y	4.80	67.10	16.69		130.0	
		Z	4.94	66.89	16.57		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.71	66.98	16.58	0.46	130.0	± 9.6 %
		Y	4.73	67.08	16.69		130.0	
		Z	4.87	66.88	16.57		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.66	66.85	16.44	0.46	130.0	± 9.6 %
		Y	4.69	66.96	16.56		130.0	
		Z	4.82	66.78	16.45		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.65	67.11	16.73	0.46	130.0	± 9.6 %
		Y	4.67	67.18	16.81		130.0	
		Z	4.81	67.03	16.73		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.39	67.16	16.75	0.46	130.0	± 9.6 %
		Y	5.40	67.23	16.84		130.0	
		Z	5.52	67.11	16.73		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.51	67.57	16.93	0.46	130.0	± 9.6 %
		Y	5.53	67.67	17.03		130.0	
		Z	5.67	67.58	16.94		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.40	67.32	16.82	0.46	130.0	± 9.6 %
		Y	5.42	67.41	16.92		130.0	
		Z	5.55	67.30	16.82		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.53	67.48	16.82	0.46	130.0	± 9.6 %
		Y	5.55	67.58	16.92		130.0	
		Z	5.64	67.31	16.73		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.60	67.77	17.10	0.46	130.0	± 9.6 %
		Y	5.62	67.84	17.19		130.0	
		Z	5.72	67.63	17.03		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.48	67.44	16.92	0.46	130.0	± 9.6 %
		Y	5.50	67.51	17.01		130.0	
		Z	5.52	67.07	16.74		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.51	67.48	16.93	0.46	130.0	± 9.6 %
		Y	5.53	67.59	17.04		130.0	
		Z	5.64	67.42	16.91		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.24	66.77	16.43	0.46	130.0	± 9.6 %
		Y	5.27	66.88	16.54		130.0	
		Z	5.39	66.79	16.45		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.56	66.02	16.17	0.46	130.0	± 9.6 %
		Y	4.58	66.11	16.27		130.0	
		Z	4.68	65.84	16.13		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.71	66.38	16.33	0.46	130.0	± 9.6 %
		Y	4.74	66.48	16.43		130.0	
		Z	4.87	66.25	16.30		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.60	66.21	16.15	0.46	130.0	± 9.6 %
		Y	4.63	66.32	16.26		130.0	
		Z	4.75	66.09	16.13		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.66	66.38	16.32	0.46	130.0	± 9.6 %
		Y	4.68	66.48	16.42		130.0	
		Z	4.81	66.25	16.30		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.57	66.17	16.16	0.46	130.0	± 9.6 %
		Y	4.59	66.28	16.27		130.0	
		Z	4.72	66.06	16.14		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.57	66.31	16.20	0.46	130.0	± 9.6 %
		Y	4.59	66.44	16.32		130.0	
		Z	4.73	66.20	16.18		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.56	66.14	16.05	0.46	130.0	± 9.6 %
		Y	4.59	66.27	16.18		130.0	
		Z	4.73	66.09	16.06		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.53	66.39	16.32	0.46	130.0	± 9.6 %
		Y	4.55	66.47	16.42		130.0	
		Z	4.68	66.29	16.31		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.56	65.98	15.91	0.46	130.0	± 9.6 %
		Y	4.59	66.13	16.05		130.0	
		Z	4.72	65.87	15.91		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.20	66.41	16.36	0.46	130.0	± 9.6 %
		Y	5.22	66.48	16.45		130.0	
		Z	5.34	66.37	16.34		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.27	66.60	16.43	0.46	130.0	± 9.6 %
		Y	5.29	66.69	16.53		130.0	
		Z	5.41	66.54	16.40		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.17	66.64	16.47	0.46	130.0	± 9.6 %
		Y	5.19	66.72	16.55		130.0	
		Z	5.29	66.54	16.42		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.17	66.40	16.28	0.46	130.0	± 9.6 %
		Y	5.19	66.49	16.38		130.0	
		Z	5.31	66.37	16.27		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.25	66.42	16.34	0.46	130.0	± 9.6 %
		Y	5.27	66.52	16.44		130.0	
		Z	5.40	66.41	16.34		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.27	66.59	16.55	0.46	130.0	± 9.6 %
		Y	5.28	66.65	16.62		130.0	
		Z	5.40	66.53	16.52		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.27	66.70	16.60	0.46	130.0	± 9.6 %
		Y	5.28	66.78	16.68		130.0	
		Z	5.41	66.70	16.60		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.14	66.21	16.21	0.46	130.0	± 9.6 %
		Y	5.16	66.31	16.32		130.0	
		Z	5.28	66.20	16.22		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.34	66.45	16.40	0.46	130.0	± 9.6 %
		Y	5.36	66.54	16.49		130.0	
		Z	5.48	66.42	16.39		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.55	66.97	16.72	0.46	130.0	± 9.6 %
		Y	5.57	67.07	16.81		130.0	
		Z	5.88	67.48	16.97		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.53	66.46	16.32	0.46	130.0	± 9.6 %
		Y	5.54	66.54	16.40		130.0	
		Z	5.63	66.43	16.30		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.77	67.07	16.59	0.46	130.0	± 9.6 %
		Y	5.79	67.16	16.68		130.0	
		Z	5.88	67.02	16.56		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.53	66.46	16.22	0.46	130.0	± 9.6 %
		Y	5.55	66.56	16.32		130.0	
		Z	5.67	66.54	16.25		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.62	66.57	16.27	0.46	130.0	± 9.6 %
		Y	5.64	66.67	16.37		130.0	
		Z	5.76	66.64	16.29		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	5.96	67.80	16.88	0.46	130.0	± 9.6 %
		Y	5.98	67.92	17.00		130.0	
		Z	6.25	68.26	17.09		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.89	67.74	17.06	0.46	130.0	± 9.6 %
		Y	5.91	67.78	17.11		130.0	
		Z	6.11	67.97	17.16		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.75	67.20	16.81	0.46	130.0	± 9.6 %
		Y	5.76	67.24	16.86		130.0	
		Z	5.85	67.08	16.73		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.60	66.69	16.37	0.46	130.0	± 9.6 %
		Y	5.62	66.77	16.45		130.0	
		Z	5.73	66.69	16.36		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.58	66.71	16.44	0.46	130.0	± 9.6 %
		Y	5.60	66.78	16.51		130.0	
		Z	5.72	66.73	16.44		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.44	65.95	15.77	0.46	130.0	± 9.6 %
		Y	5.47	66.09	15.91		130.0	
		Z	5.60	66.05	15.82		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	5.96	66.83	16.41	0.46	130.0	± 9.6 %
		Y	5.97	66.90	16.49		130.0	
		Z	6.05	66.82	16.40		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.10	67.19	16.58	0.46	130.0	± 9.6 %
		Y	6.12	67.27	16.66		130.0	
		Z	6.21	67.21	16.58		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.10	67.17	16.54	0.46	130.0	± 9.6 %
		Y	6.12	67.25	16.63		130.0	
		Z	6.21	67.17	16.54		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.07	67.09	16.55	0.46	130.0	± 9.6 %
		Y	6.09	67.17	16.63		130.0	
		Z	6.19	67.14	16.56		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.06	67.06	16.47	0.46	130.0	± 9.6 %
		Y	6.08	67.16	16.57		130.0	
		Z	6.19	67.15	16.51		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.13	67.06	16.49	0.46	130.0	± 9.6 %
		Y	6.15	67.15	16.59		130.0	
		Z	6.23	67.02	16.46		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.16	67.29	16.78	0.46	130.0	± 9.6 %
		Y	6.17	67.34	16.84		130.0	
		Z	6.28	67.31	16.78		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.00	66.97	16.51	0.46	130.0	± 9.6 %
		Y	6.02	67.06	16.61		130.0	
		Z	6.11	66.97	16.50		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.09	67.26	16.67	0.46	130.0	± 9.6 %
		Y	6.12	67.36	16.77		130.0	
		Z	6.29	67.52	16.80		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.23	67.33	16.67	0.46	130.0	± 9.6 %
		Y	6.26	67.42	16.77		130.0	
		Z	6.72	68.38	17.18		130.0	
10646-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	7.97	91.85	31.39	9.30	60.0	± 9.6 %
		Y	11.74	104.28	36.86		60.0	
		Z	11.88	99.49	34.28		60.0	
10647-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	7.13	89.84	30.79	9.30	60.0	± 9.6 %
		Y	9.93	100.75	35.82		60.0	
		Z	10.62	97.47	33.72		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.64	63.39	10.24	0.00	150.0	± 9.6 %
		Y	0.67	63.88	10.62		150.0	
		Z	0.72	63.48	11.02		150.0	

[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
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: EX3-3589_Jan18

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3589
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	January 16, 2018

BN ✓
01-24-2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	30-Dec-17 (No. ES3-3013_Dec17)	Dec-18
DAE4	SN: 660	21-Dec-17 (No. DAE4-660_Dec17)	Dec-18
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 16, 2018

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

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., ϑ = 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) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) 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 ϑ = 0 (f ≤ 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 (no uncertainty required). 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 ≤ 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).

Probe EX3DV4

SN:3589

Manufactured: March 30, 2006
Calibrated: January 16, 2018

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3589

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.46	0.40	0.38	± 10.1 %
DCP (mV)[B]	101.9	98.2	100.6	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	145.6	±3.0 %
		Y	0.0	0.0	1.0		149.6	
		Z	0.0	0.0	1.0		140.9	

Note: For details on UID parameters see Appendix.

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	54.53	405.9	35.45	27.61	1.364	5.100	0.831	0.591	1.009
Y	48.12	366.5	36.73	22.62	1.695	5.057	0.000	0.758	1.010
Z	46.44	344.4	35.16	24.05	1.187	5.077	1.521	0.435	1.010

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] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3589

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
5250	35.9	4.71	4.69	4.69	4.69	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.17	4.17	4.17	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.42	4.42	4.42	0.40	1.80	± 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. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3589

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
5250	48.9	5.36	4.22	4.22	4.22	0.35	1.90	± 13.1 %
5600	48.5	5.77	3.69	3.69	3.69	0.40	1.90	± 13.1 %
5750	48.3	5.94	3.97	3.97	3.97	0.40	1.90	± 13.1 %

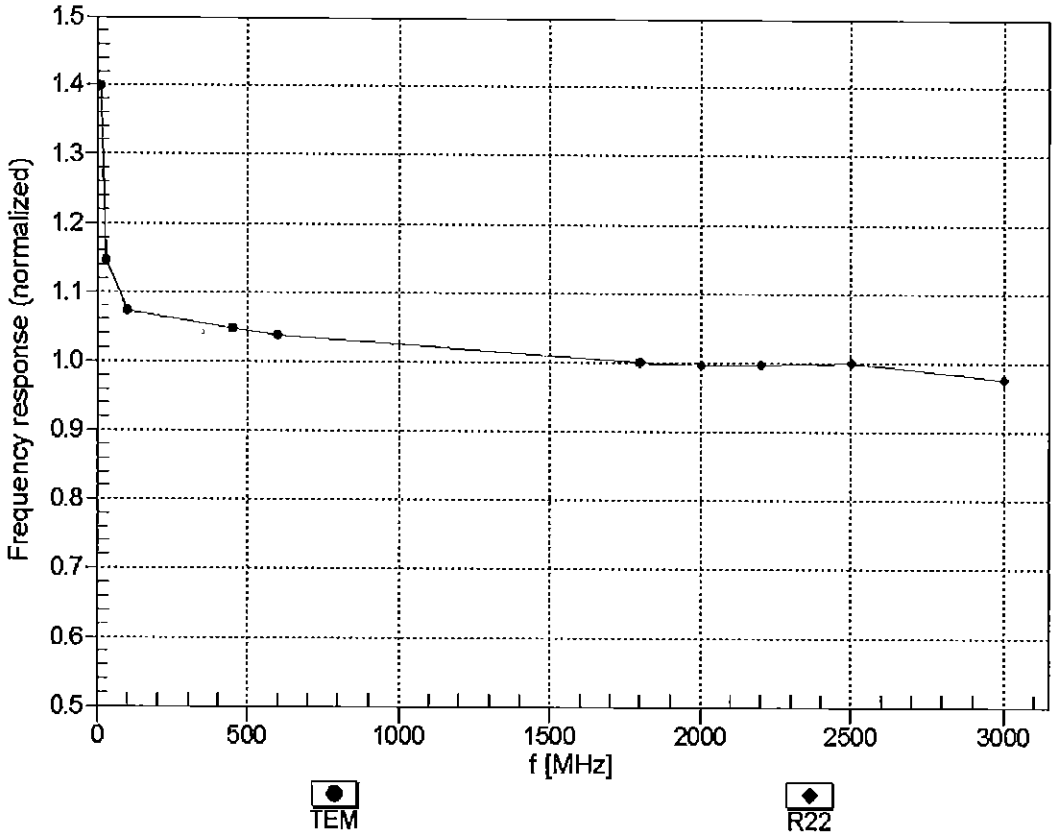
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz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

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

Frequency Response of E-Field

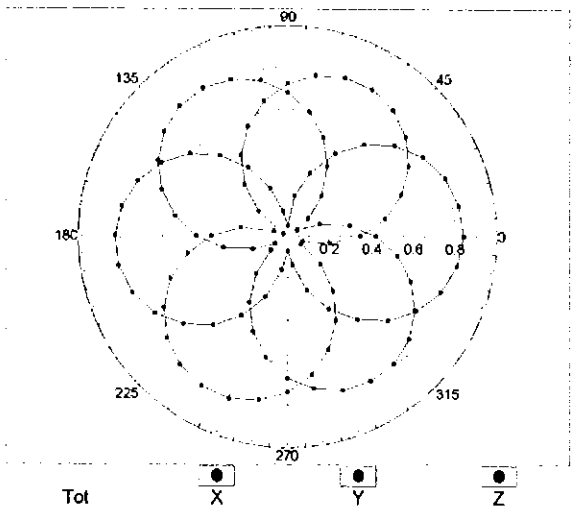
(TEM-Cell:ifi110 EXX, Waveguide: R22)



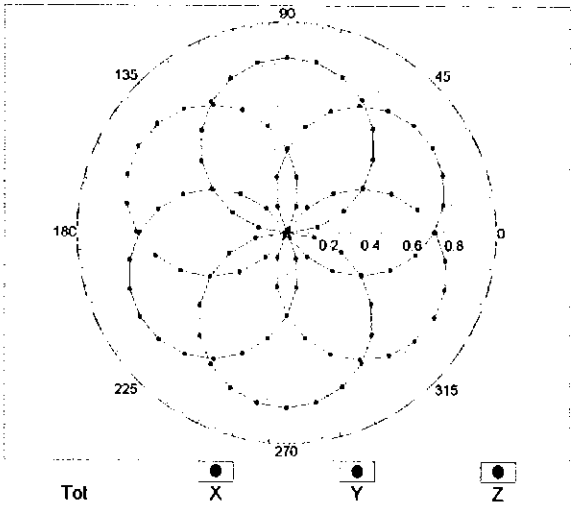
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

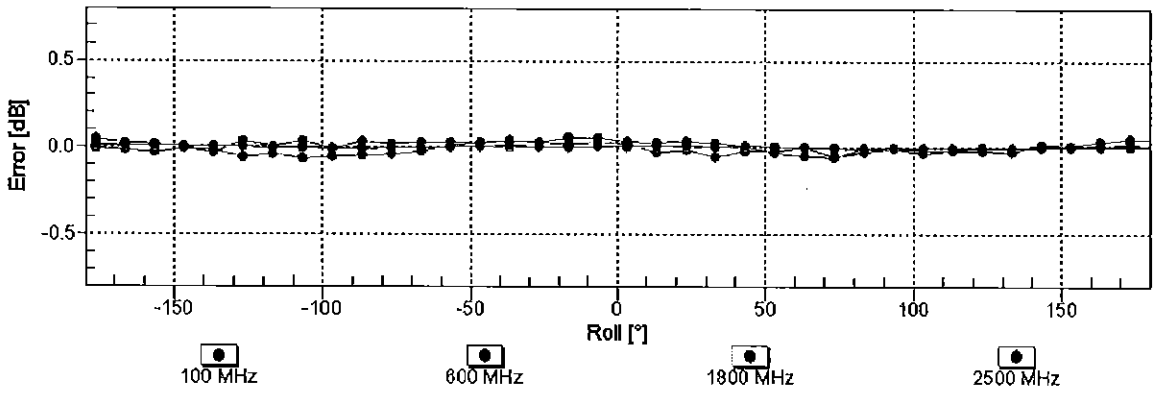
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



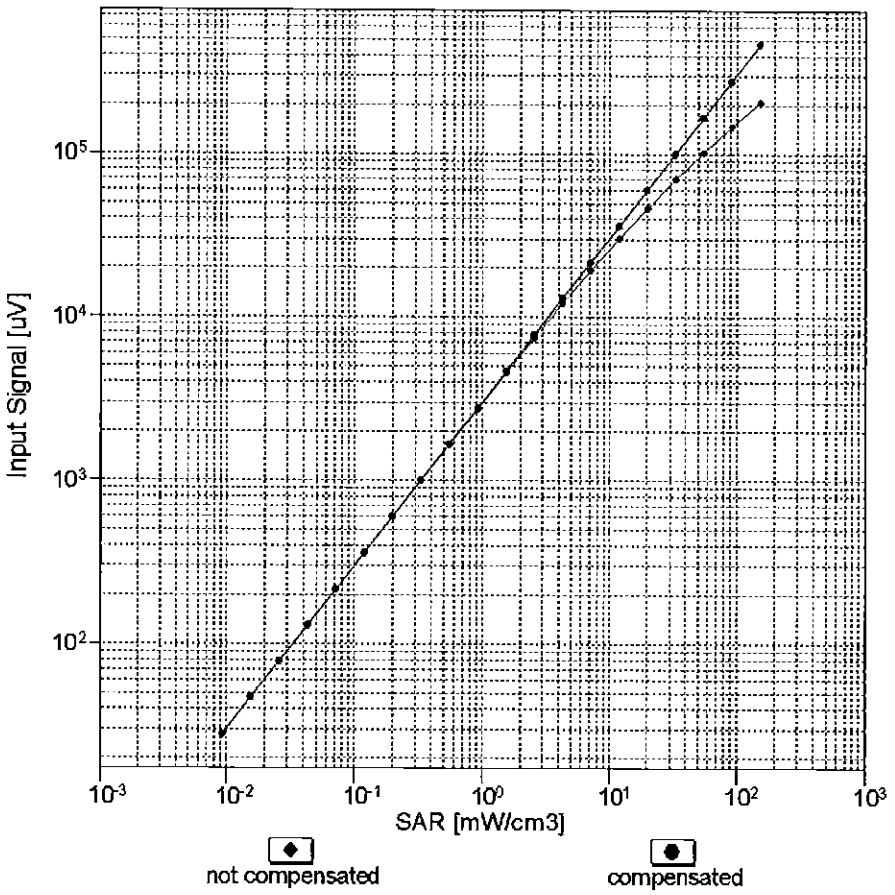
f=1800 MHz,R22

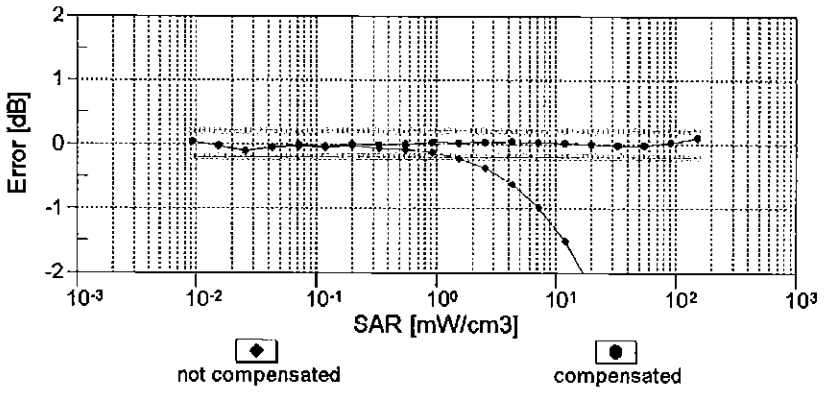




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)

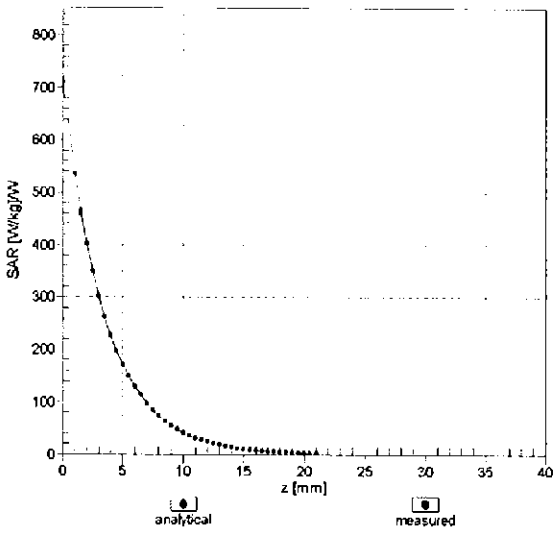




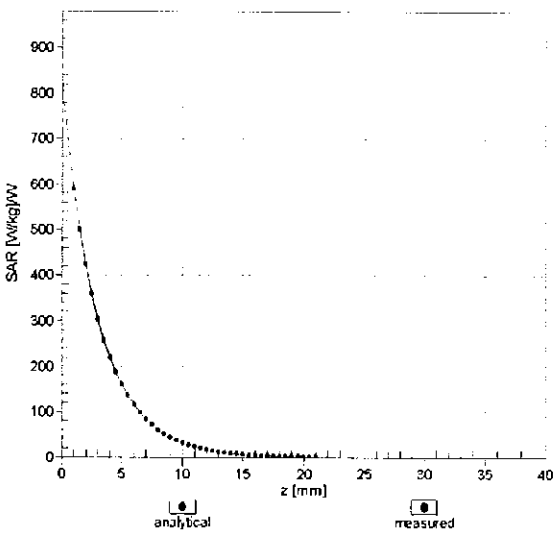
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 5250 MHz,WGLS R58 (H_convF)-SCS

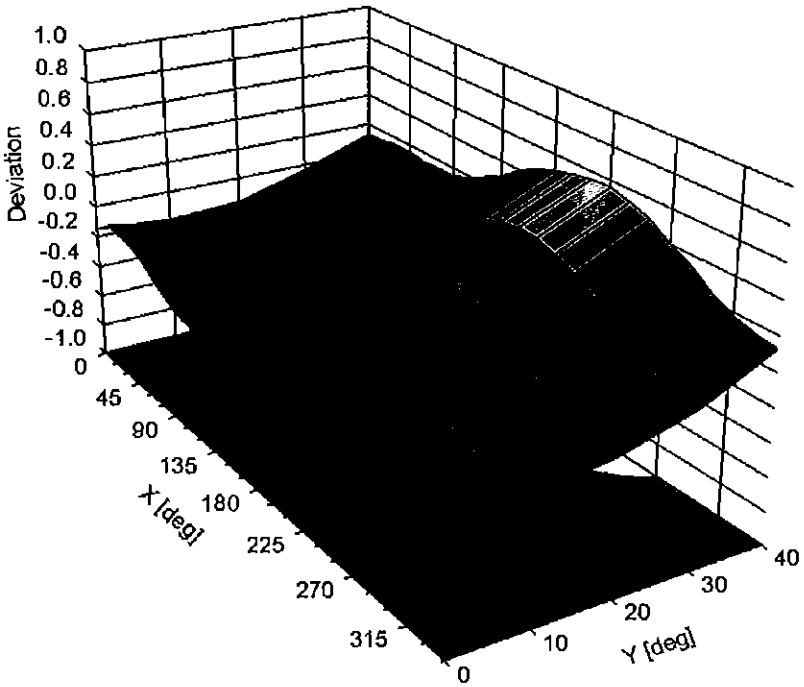


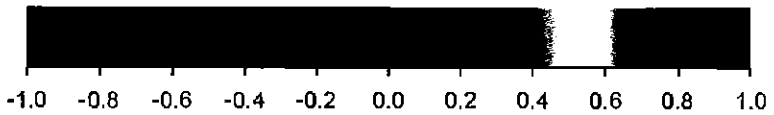
f = 5750 MHz,WGLS R58 (H_convF)-SCS



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3589

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-36.7
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	145.6	± 3.0 %
		Y	0.00	0.00	1.00		149.6	
		Z	0.00	0.00	1.00		140.9	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	9.99	82.03	18.50	10.00	20.0	± 9.6 %
		Y	3.61	68.62	12.70		20.0	
		Z	6.12	76.04	15.89		20.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.07	68.14	15.72	0.00	150.0	± 9.6 %
		Y	0.81	64.60	12.95		150.0	
		Z	0.96	66.53	14.61		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.26	64.97	15.89	0.41	150.0	± 9.6 %
		Y	1.09	63.16	14.28		150.0	
		Z	1.20	64.25	15.26		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.02	66.95	17.30	1.46	150.0	± 9.6 %
		Y	4.84	66.53	16.88		150.0	
		Z	4.90	66.87	17.12		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	100.00	118.58	30.90	9.39	50.0	± 9.6 %
		Y	26.12	96.77	24.34		50.0	
		Z	100.00	117.35	29.93		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	100.00	118.53	30.93	9.57	50.0	± 9.6 %
		Y	18.86	92.09	23.00		50.0	
		Z	100.00	117.23	29.92		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	115.85	28.57	6.56	60.0	± 9.6 %
		Y	100.00	111.10	26.02		60.0	
		Z	100.00	114.31	27.50		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	15.59	105.48	41.04	12.57	50.0	± 9.6 %
		Y	4.26	66.41	22.61		50.0	
		Z	6.75	80.99	30.81		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	26.87	114.05	39.53	9.56	60.0	± 9.6 %
		Y	12.16	93.46	31.76		60.0	
		Z	17.01	103.53	36.03		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	115.28	27.52	4.80	80.0	± 9.6 %
		Y	100.00	108.67	24.10		80.0	
		Z	100.00	113.48	26.36		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	115.90	27.07	3.55	100.0	± 9.6 %
		Y	100.00	106.89	22.60		100.0	
		Z	100.00	113.76	25.79		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	13.97	98.08	33.11	7.80	80.0	± 9.6 %
		Y	8.37	85.77	27.91		80.0	
		Z	9.97	90.97	30.48		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	114.41	27.43	5.30	70.0	± 9.6 %
		Y	87.04	107.07	24.03		70.0	
		Z	100.00	112.49	26.20		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	116.58	25.91	1.88	100.0	± 9.6 %
		Y	6.32	79.53	13.62		100.0	
		Z	100.00	112.45	23.86		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	121.24	26.80	1.17	100.0	± 9.6 %
		Y	0.57	63.68	7.10		100.0	
		Z	100.00	115.03	23.96		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	100.00	126.01	34.21	5.30	70.0	± 9.6 %
		Y	9.48	86.17	21.89		70.0	
		Z	36.97	108.65	29.12		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	12.93	96.17	24.85	1.88	100.0	± 9.6 %
		Y	2.97	73.87	15.92		100.0	
		Z	6.70	85.72	20.80		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	5.17	84.55	21.02	1.17	100.0	± 9.6 %
		Y	1.93	70.01	14.08		100.0	
		Z	3.33	77.79	17.83		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	100.00	126.30	34.35	5.30	70.0	± 9.6 %
		Y	11.77	89.53	23.03		70.0	
		Z	64.78	117.54	31.43		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	11.80	94.89	24.44	1.88	100.0	± 9.6 %
		Y	2.82	73.30	15.67		100.0	
		Z	6.03	84.36	20.32		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	5.40	85.48	21.44	1.17	100.0	± 9.6 %
		Y	1.96	70.41	14.34		100.0	
		Z	3.42	78.42	18.17		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.08	73.52	16.75	0.00	150.0	± 9.6 %
		Y	1.21	66.59	12.35		150.0	
		Z	1.63	70.60	14.79		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	100.00	114.16	27.98	7.78	50.0	± 9.6 %
		Y	18.08	89.51	20.47		50.0	
		Z	100.00	112.63	26.92		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	107.14	5.87	0.00	150.0	± 9.6 %
		Y	0.21	123.93	6.31		150.0	
		Z	0.01	111.19	11.86		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	69.67	114.61	31.81	13.80	25.0	± 9.6 %
		Y	9.51	81.03	21.19		25.0	
		Z	70.93	113.80	30.88		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	100.00	119.03	31.49	10.79	40.0	± 9.6 %
		Y	11.04	84.08	20.83		40.0	
		Z	100.00	117.60	30.41		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	34.83	106.19	29.98	9.03	50.0	± 9.6 %
		Y	10.33	84.00	22.00		50.0	
		Z	26.35	100.92	27.85		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	9.27	89.32	29.23	6.55	100.0	± 9.6 %
		Y	6.37	80.89	25.35		100.0	
		Z	7.13	84.12	27.15		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.41	67.11	16.98	0.61	110.0	± 9.6 %
		Y	1.18	64.62	14.99		110.0	
		Z	1.31	65.99	16.14		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	132.86	34.11	1.30	110.0	± 9.6 %
		Y	8.12	92.52	22.19		110.0	
		Z	100.00	131.22	33.18		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	16.26	106.04	30.06	2.04	110.0	± 9.6 %
		Y	4.18	82.31	21.49		110.0	
		Z	7.27	92.62	25.78		110.0	
10062-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.78	66.80	16.63	0.49	100.0	± 9.6 %
		Y	4.59	66.36	16.23		100.0	
		Z	4.66	66.72	16.47		100.0	
10063-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.81	66.94	16.76	0.72	100.0	± 9.6 %
		Y	4.62	66.48	16.34		100.0	
		Z	4.69	66.85	16.59		100.0	
10064-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.12	67.25	17.01	0.86	100.0	± 9.6 %
		Y	4.91	66.78	16.59		100.0	
		Z	4.97	67.11	16.82		100.0	
10065-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.01	67.24	17.17	1.21	100.0	± 9.6 %
		Y	4.80	66.73	16.70		100.0	
		Z	4.87	67.07	16.96		100.0	
10066-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.05	67.33	17.38	1.46	100.0	± 9.6 %
		Y	4.84	66.81	16.90		100.0	
		Z	4.90	67.15	17.15		100.0	
10067-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.36	67.48	17.83	2.04	100.0	± 9.6 %
		Y	5.15	67.05	17.38		100.0	
		Z	5.21	67.38	17.63		100.0	
10068-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.46	67.74	18.16	2.55	100.0	± 9.6 %
		Y	5.24	67.20	17.64		100.0	
		Z	5.29	67.50	17.90		100.0	
10069-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.54	67.67	18.33	2.67	100.0	± 9.6 %
		Y	5.32	67.21	17.84		100.0	
		Z	5.37	67.50	18.08		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.14	67.13	17.66	1.99	100.0	± 9.6 %
		Y	4.96	66.70	17.22		100.0	
		Z	5.02	67.03	17.47		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.18	67.63	17.97	2.30	100.0	± 9.6 %
		Y	4.97	67.11	17.46		100.0	
		Z	5.03	67.45	17.74		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.28	67.91	18.36	2.83	100.0	± 9.6 %
		Y	5.07	67.38	17.83		100.0	
		Z	5.13	67.72	18.12		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.29	67.91	18.59	3.30	100.0	± 9.6 %
		Y	5.09	67.38	18.02		100.0	
		Z	5.15	67.72	18.32		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.40	68.27	19.03	3.82	90.0	± 9.6 %
		Y	5.18	67.65	18.40		90.0	
		Z	5.23	67.97	18.70		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.40	68.04	19.14	4.15	90.0	± 9.6 %
		Y	5.21	67.49	18.53		90.0	
		Z	5.25	67.79	18.84		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.43	68.12	19.24	4.30	90.0	± 9.6 %
		Y	5.24	67.58	18.64		90.0	
		Z	5.29	67.89	18.95		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.92	67.03	13.48	0.00	150.0	± 9.6 %
		Y	0.59	62.42	9.51		150.0	
		Z	0.75	64.90	11.66		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	1.45	61.55	6.80	4.77	80.0	± 9.6 %
		Y	1.13	60.00	5.38		80.0	
		Z	1.17	60.40	5.80		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	115.92	28.63	6.56	60.0	± 9.6 %
		Y	100.00	111.20	26.09		60.0	
		Z	100.00	114.38	27.55		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.85	67.86	15.91	0.00	150.0	± 9.6 %
		Y	1.59	65.86	14.27		150.0	
		Z	1.76	67.30	15.32		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.82	67.83	15.88	0.00	150.0	± 9.6 %
		Y	1.56	65.79	14.21		150.0	
		Z	1.73	67.24	15.29		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	26.88	114.00	39.51	9.56	60.0	± 9.6 %
		Y	12.18	93.46	31.75		60.0	
		Z	17.07	103.56	36.04		60.0	
10100-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.25	70.85	16.89	0.00	150.0	± 9.6 %
		Y	2.82	68.69	15.58		150.0	
		Z	3.04	69.96	16.42		150.0	
10101-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.31	67.75	16.04	0.00	150.0	± 9.6 %
		Y	3.05	66.63	15.24		150.0	
		Z	3.18	67.32	15.73		150.0	
10102-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.41	67.69	16.12	0.00	150.0	± 9.6 %
		Y	3.17	66.67	15.38		150.0	
		Z	3.28	67.31	15.84		150.0	
10103-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	8.79	79.64	21.90	3.98	65.0	± 9.6 %
		Y	6.79	75.26	19.82		65.0	
		Z	8.10	78.75	21.47		65.0	
10104-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.30	77.30	21.84	3.98	65.0	± 9.6 %
		Y	7.10	74.52	20.35		65.0	
		Z	7.59	76.13	21.24		65.0	
10105-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	8.21	77.11	22.09	3.98	65.0	± 9.6 %
		Y	6.30	72.23	19.66		65.0	
		Z	7.24	75.16	21.14		65.0	
10108-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.85	70.02	16.71	0.00	150.0	± 9.6 %
		Y	2.45	67.95	15.38		150.0	
		Z	2.64	69.18	16.23		150.0	
10109-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.97	67.58	15.97	0.00	150.0	± 9.6 %
		Y	2.71	66.39	15.06		150.0	
		Z	2.83	67.15	15.62		150.0	
10110-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.32	69.07	16.36	0.00	150.0	± 9.6 %
		Y	1.96	66.93	14.84		150.0	
		Z	2.13	68.23	15.78		150.0	
10111-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.68	68.33	16.30	0.00	150.0	± 9.6 %
		Y	2.39	66.94	15.16		150.0	
		Z	2.55	67.98	15.88		150.0	

10112-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.09	67.53	16.01	0.00	150.0	± 9.6 %
		Y	2.84	66.45	15.17		150.0	
		Z	2.96	67.17	15.69		150.0	
10113-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.84	68.42	16.41	0.00	150.0	± 9.6 %
		Y	2.55	67.17	15.36		150.0	
		Z	2.70	68.15	16.04		150.0	
10114-CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.16	67.17	16.41	0.00	150.0	± 9.6 %
		Y	5.01	66.82	16.13		150.0	
		Z	5.07	67.12	16.32		150.0	
10115-CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.50	67.45	16.56	0.00	150.0	± 9.6 %
		Y	5.30	66.98	16.23		150.0	
		Z	5.35	67.23	16.39		150.0	
10116-CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.27	67.41	16.46	0.00	150.0	± 9.6 %
		Y	5.10	67.01	16.16		150.0	
		Z	5.16	67.30	16.34		150.0	
10117-CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.14	67.12	16.41	0.00	150.0	± 9.6 %
		Y	4.97	66.67	16.08		150.0	
		Z	5.04	66.98	16.27		150.0	
10118-CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.57	67.61	16.64	0.00	150.0	± 9.6 %
		Y	5.39	67.20	16.35		150.0	
		Z	5.43	67.42	16.49		150.0	
10119-CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.24	67.35	16.44	0.00	150.0	± 9.6 %
		Y	5.08	66.96	16.14		150.0	
		Z	5.14	67.25	16.33		150.0	
10140-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.45	67.69	16.04	0.00	150.0	± 9.6 %
		Y	3.20	66.67	15.30		150.0	
		Z	3.32	67.31	15.76		150.0	
10141-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.57	67.75	16.20	0.00	150.0	± 9.6 %
		Y	3.33	66.82	15.50		150.0	
		Z	3.44	67.44	15.94		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.10	69.09	16.14	0.00	150.0	± 9.6 %
		Y	1.72	66.61	14.28		150.0	
		Z	1.90	68.15	15.38		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.57	69.15	16.17	0.00	150.0	± 9.6 %
		Y	2.19	67.18	14.56		150.0	
		Z	2.40	68.64	15.52		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.35	66.96	14.64	0.00	150.0	± 9.6 %
		Y	2.01	65.20	13.08		150.0	
		Z	2.16	66.27	13.86		150.0	
10145-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.41	66.68	13.17	0.00	150.0	± 9.6 %
		Y	0.96	62.51	9.67		150.0	
		Z	1.12	64.29	11.10		150.0	
10146-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.10	71.59	14.90	0.00	150.0	± 9.6 %
		Y	1.79	64.92	10.83		150.0	
		Z	2.43	68.48	12.61		150.0	
10147-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	4.18	75.64	16.70	0.00	150.0	± 9.6 %
		Y	2.03	66.39	11.70		150.0	
		Z	3.22	71.87	14.21		150.0	

10149-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.98	67.64	16.01	0.00	150.0	± 9.6 %
		Y	2.71	66.45	15.11		150.0	
		Z	2.84	67.21	15.66		150.0	
10150-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.10	67.58	16.05	0.00	150.0	± 9.6 %
		Y	2.84	66.51	15.21		150.0	
		Z	2.97	67.23	15.73		150.0	
10151-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.77	82.83	23.21	3.98	65.0	± 9.6 %
		Y	7.53	78.32	21.06		65.0	
		Z	8.80	81.58	22.62		65.0	
10152-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	7.95	77.63	21.74	3.98	65.0	± 9.6 %
		Y	6.62	74.40	19.97		65.0	
		Z	7.17	76.26	20.98		65.0	
10153-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.37	78.52	22.46	3.98	65.0	± 9.6 %
		Y	7.08	75.55	20.84		65.0	
		Z	7.65	77.37	21.81		65.0	
10154-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.37	69.54	16.64	0.00	150.0	± 9.6 %
		Y	2.00	67.32	15.10		150.0	
		Z	2.18	68.65	16.05		150.0	
10155-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.69	68.33	16.31	0.00	150.0	± 9.6 %
		Y	2.39	66.95	15.18		150.0	
		Z	2.55	67.99	15.90		150.0	
10156-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.96	69.34	16.07	0.00	150.0	± 9.6 %
		Y	1.55	66.39	13.86		150.0	
		Z	1.74	68.16	15.11		150.0	
10157-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.20	67.66	14.79	0.00	150.0	± 9.6 %
		Y	1.81	65.37	12.85		150.0	
		Z	1.99	66.75	13.83		150.0	
10158-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.84	68.47	16.45	0.00	150.0	± 9.6 %
		Y	2.55	67.23	15.41		150.0	
		Z	2.71	68.22	16.08		150.0	
10159-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.32	68.16	15.10	0.00	150.0	± 9.6 %
		Y	1.90	65.77	13.13		150.0	
		Z	2.10	67.23	14.13		150.0	
10160-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.81	68.83	16.41	0.00	150.0	± 9.6 %
		Y	2.51	67.36	15.34		150.0	
		Z	2.66	68.30	16.03		150.0	
10161-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.99	67.51	15.99	0.00	150.0	± 9.6 %
		Y	2.74	66.42	15.12		150.0	
		Z	2.86	67.17	15.66		150.0	
10162-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.10	67.61	16.08	0.00	150.0	± 9.6 %
		Y	2.85	66.59	15.25		150.0	
		Z	2.97	67.33	15.78		150.0	
10166-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.94	70.56	19.62	3.01	150.0	± 9.6 %
		Y	3.62	69.51	18.92		150.0	
		Z	3.88	71.03	19.81		150.0	
10167-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	5.13	74.04	20.28	3.01	150.0	± 9.6 %
		Y	4.50	72.11	19.19		150.0	
		Z	5.19	75.12	20.64		150.0	

10168-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.71	76.34	21.57	3.01	150.0	± 9.6 %
		Y	5.08	74.75	20.72		150.0	
		Z	5.99	78.20	22.27		150.0	
10169-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.58	71.57	20.04	3.01	150.0	± 9.6 %
		Y	3.13	69.16	18.69		150.0	
		Z	3.49	71.65	20.05		150.0	
10170-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	5.52	78.92	22.69	3.01	150.0	± 9.6 %
		Y	4.42	74.92	20.91		150.0	
		Z	5.83	80.69	23.36		150.0	
10171-AAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	4.37	73.98	19.76	3.01	150.0	± 9.6 %
		Y	3.54	70.32	17.92		150.0	
		Z	4.35	74.54	19.90		150.0	
10172-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	31.66	113.22	34.95	6.02	65.0	± 9.6 %
		Y	9.38	89.05	26.85		65.0	
		Z	27.88	112.00	34.58		65.0	
10173-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	63.77	119.68	34.61	6.02	65.0	± 9.6 %
		Y	15.75	94.23	26.84		65.0	
		Z	78.46	124.11	35.52		65.0	
10174-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	43.93	111.32	31.85	6.02	65.0	± 9.6 %
		Y	9.41	84.90	23.38		65.0	
		Z	45.51	112.81	32.05		65.0	
10175-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.52	71.19	19.77	3.01	150.0	± 9.6 %
		Y	3.08	68.79	18.41		150.0	
		Z	3.43	71.23	19.76		150.0	
10176-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	5.53	78.94	22.70	3.01	150.0	± 9.6 %
		Y	4.42	74.94	20.92		150.0	
		Z	5.84	80.72	23.37		150.0	
10177-CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.56	71.37	19.87	3.01	150.0	± 9.6 %
		Y	3.11	68.97	18.52		150.0	
		Z	3.47	71.42	19.87		150.0	
10178-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	5.45	78.64	22.56	3.01	150.0	± 9.6 %
		Y	4.37	74.68	20.78		150.0	
		Z	5.75	80.40	23.22		150.0	
10179-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	4.88	76.27	21.07	3.01	150.0	± 9.6 %
		Y	3.91	72.36	19.22		150.0	
		Z	5.00	77.35	21.45		150.0	
10180-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	4.35	73.89	19.70	3.01	150.0	± 9.6 %
		Y	3.53	70.24	17.87		150.0	
		Z	4.34	74.43	19.84		150.0	
10181-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	3.55	71.35	19.86	3.01	150.0	± 9.6 %
		Y	3.11	68.95	18.51		150.0	
		Z	3.46	71.40	19.86		150.0	
10182-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	5.44	78.62	22.55	3.01	150.0	± 9.6 %
		Y	4.36	74.65	20.76		150.0	
		Z	5.74	80.37	23.20		150.0	
10183-AAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	4.34	73.86	19.69	3.01	150.0	± 9.6 %
		Y	3.53	70.21	17.86		150.0	
		Z	4.33	74.40	19.83		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.57	71.40	19.89	3.01	150.0	± 9.6 %
		Y	3.12	69.00	18.54		150.0	
		Z	3.48	71.45	19.88		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	5.46	78.70	22.58	3.01	150.0	± 9.6 %
		Y	4.38	74.73	20.80		150.0	
		Z	5.78	80.46	23.25		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	4.37	73.93	19.73	3.01	150.0	± 9.6 %
		Y	3.54	70.28	17.89		150.0	
		Z	4.35	74.48	19.86		150.0	
10187-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.57	71.45	19.95	3.01	150.0	± 9.6 %
		Y	3.13	69.05	18.60		150.0	
		Z	3.49	71.53	19.95		150.0	
10188-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	5.68	79.51	23.00	3.01	150.0	± 9.6 %
		Y	4.55	75.50	21.23		150.0	
		Z	6.06	81.46	23.73		150.0	
10189-AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	4.48	74.44	20.02	3.01	150.0	± 9.6 %
		Y	3.62	70.71	18.18		150.0	
		Z	4.49	75.08	20.20		150.0	
10193-CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.58	66.61	16.17	0.00	150.0	± 9.6 %
		Y	4.39	66.18	15.79		150.0	
		Z	4.47	66.55	16.02		150.0	
10194-CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.76	66.95	16.29	0.00	150.0	± 9.6 %
		Y	4.56	66.50	15.92		150.0	
		Z	4.64	66.85	16.15		150.0	
10195-CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.80	66.97	16.30	0.00	150.0	± 9.6 %
		Y	4.60	66.53	15.94		150.0	
		Z	4.68	66.88	16.17		150.0	
10196-CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.59	66.69	16.20	0.00	150.0	± 9.6 %
		Y	4.40	66.24	15.81		150.0	
		Z	4.47	66.60	16.04		150.0	
10197-CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.78	66.97	16.30	0.00	150.0	± 9.6 %
		Y	4.58	66.52	15.93		150.0	
		Z	4.65	66.87	16.16		150.0	
10198-CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.81	66.99	16.31	0.00	150.0	± 9.6 %
		Y	4.61	66.55	15.95		150.0	
		Z	4.68	66.90	16.18		150.0	
10219-CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.54	66.70	16.16	0.00	150.0	± 9.6 %
		Y	4.34	66.24	15.76		150.0	
		Z	4.42	66.61	16.00		150.0	
10220-CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.77	66.95	16.30	0.00	150.0	± 9.6 %
		Y	4.57	66.49	15.92		150.0	
		Z	4.64	66.84	16.15		150.0	
10221-CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.81	66.92	16.30	0.00	150.0	± 9.6 %
		Y	4.62	66.48	15.94		150.0	
		Z	4.69	66.83	16.16		150.0	
10222-CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.12	67.14	16.41	0.00	150.0	± 9.6 %
		Y	4.95	66.68	16.07		150.0	
		Z	5.01	66.99	16.27		150.0	

10223-CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.44	67.33	16.52	0.00	150.0	± 9.6 %
		Y	5.25	66.92	16.22		150.0	
		Z	5.31	67.18	16.39		150.0	
10224-CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.17	67.24	16.38	0.00	150.0	± 9.6 %
		Y	4.99	66.79	16.05		150.0	
		Z	5.06	67.10	16.25		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.86	66.19	15.49	0.00	150.0	± 9.6 %
		Y	2.63	65.32	14.64		150.0	
		Z	2.74	65.98	15.11		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	71.24	121.88	35.27	6.02	65.0	± 9.6 %
		Y	16.91	95.59	27.35		65.0	
		Z	92.42	127.27	36.40		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	50.30	113.83	32.60	6.02	65.0	± 9.6 %
		Y	15.15	92.51	25.87		65.0	
		Z	68.30	119.77	33.89		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	55.50	124.73	38.12	6.02	65.0	± 9.6 %
		Y	14.70	97.88	29.79		65.0	
		Z	38.30	118.72	36.53		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	63.93	119.72	34.63	6.02	65.0	± 9.6 %
		Y	15.85	94.32	26.88		65.0	
		Z	79.00	124.23	35.56		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	46.15	112.18	32.09	6.02	65.0	± 9.6 %
		Y	14.25	91.41	25.45		65.0	
		Z	59.72	117.30	33.19		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	50.49	122.68	37.51	6.02	65.0	± 9.6 %
		Y	13.80	96.56	29.30		65.0	
		Z	34.60	116.55	35.86		65.0	
10232-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	64.00	119.75	34.64	6.02	65.0	± 9.6 %
		Y	15.83	94.31	26.87		65.0	
		Z	79.03	124.24	35.57		65.0	
10233-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	46.17	112.21	32.10	6.02	65.0	± 9.6 %
		Y	14.23	91.39	25.44		65.0	
		Z	59.65	117.30	33.19		65.0	
10234-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	46.07	120.60	36.84	6.02	65.0	± 9.6 %
		Y	13.04	95.31	28.79		65.0	
		Z	31.63	114.51	35.18		65.0	
10235-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	64.33	119.85	34.67	6.02	65.0	± 9.6 %
		Y	15.85	94.34	26.88		65.0	
		Z	79.51	124.37	35.60		65.0	
10236-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	46.79	112.40	32.14	6.02	65.0	± 9.6 %
		Y	14.34	91.49	25.47		65.0	
		Z	60.62	117.54	33.24		65.0	
10237-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	51.22	123.00	37.59	6.02	65.0	± 9.6 %
		Y	13.84	96.65	29.32		65.0	
		Z	34.93	116.77	35.92		65.0	
10238-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	64.07	119.77	34.64	6.02	65.0	± 9.6 %
		Y	15.80	94.29	26.87		65.0	
		Z	79.05	124.26	35.57		65.0	

10239-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	46.17	112.22	32.10	6.02	65.0	± 9.6 %
		Y	14.20	91.37	25.44		65.0	
		Z	59.56	117.29	33.19		65.0	
10240-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	51.02	122.93	37.57	6.02	65.0	± 9.6 %
		Y	13.80	96.60	29.31		65.0	
		Z	34.81	116.71	35.90		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	12.30	87.67	27.92	6.98	65.0	± 9.6 %
		Y	9.73	82.62	25.44		65.0	
		Z	11.99	88.11	27.90		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	12.00	87.14	27.64	6.98	65.0	± 9.6 %
		Y	8.11	78.88	23.86		65.0	
		Z	10.85	86.00	27.03		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	9.42	83.90	27.37	6.98	65.0	± 9.6 %
		Y	6.64	76.16	23.58		65.0	
		Z	8.16	81.56	26.26		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	10.44	82.93	21.79	3.98	65.0	± 9.6 %
		Y	6.79	75.71	18.18		65.0	
		Z	9.21	80.92	20.37		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	10.08	82.11	21.44	3.98	65.0	± 9.6 %
		Y	6.62	75.11	17.89		65.0	
		Z	8.78	79.92	19.95		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	11.42	87.52	23.40	3.98	65.0	± 9.6 %
		Y	5.98	76.83	18.54		65.0	
		Z	8.49	82.82	21.13		65.0	
10247-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	7.75	79.05	20.99	3.98	65.0	± 9.6 %
		Y	5.69	73.82	18.06		65.0	
		Z	6.60	76.66	19.49		65.0	
10248-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	7.60	78.24	20.65	3.98	65.0	± 9.6 %
		Y	5.66	73.30	17.84		65.0	
		Z	6.46	75.86	19.15		65.0	
10249-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	12.84	89.97	24.97	3.98	65.0	± 9.6 %
		Y	7.45	80.54	20.84		65.0	
		Z	10.45	86.75	23.43		65.0	
10250-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	8.59	80.97	23.10	3.98	65.0	± 9.6 %
		Y	6.88	77.02	21.00		65.0	
		Z	7.71	79.50	22.24		65.0	
10251-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	7.91	78.24	21.71	3.98	65.0	± 9.6 %
		Y	6.42	74.62	19.67		65.0	
		Z	7.08	76.75	20.80		65.0	
10252-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	11.43	87.56	24.93	3.98	65.0	± 9.6 %
		Y	7.91	81.04	22.00		65.0	
		Z	9.97	85.71	24.05		65.0	
10253-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	7.70	76.94	21.48	3.98	65.0	± 9.6 %
		Y	6.48	73.90	19.75		65.0	
		Z	7.00	75.70	20.74		65.0	
10254-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	8.12	77.80	22.14	3.98	65.0	± 9.6 %
		Y	6.90	74.95	20.52		65.0	
		Z	7.44	76.71	21.47		65.0	

10255-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	9.27	82.17	23.21	3.98	65.0	± 9.6 %
		Y	7.25	77.88	21.10		65.0	
		Z	8.37	80.94	22.58		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	8.78	79.64	19.68	3.98	65.0	± 9.6 %
		Y	5.26	71.61	15.48		65.0	
		Z	6.86	75.83	17.39		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	8.34	78.50	19.16	3.98	65.0	± 9.6 %
		Y	5.12	70.92	15.09		65.0	
		Z	6.46	74.63	16.81		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	8.92	82.95	21.11	3.98	65.0	± 9.6 %
		Y	4.50	72.26	15.88		65.0	
		Z	6.02	76.94	18.10		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	8.07	79.69	21.71	3.98	65.0	± 9.6 %
		Y	6.15	75.00	19.12		65.0	
		Z	7.04	77.72	20.48		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	8.02	79.27	21.57	3.98	65.0	± 9.6 %
		Y	6.17	74.75	19.03		65.0	
		Z	7.00	77.32	20.33		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	11.37	87.81	24.60	3.98	65.0	± 9.6 %
		Y	7.29	80.02	21.07		65.0	
		Z	9.57	85.23	23.32		65.0	
10262-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	8.58	80.91	23.06	3.98	65.0	± 9.6 %
		Y	6.86	76.94	20.95		65.0	
		Z	7.69	79.43	22.19		65.0	
10263-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	7.90	78.22	21.71	3.98	65.0	± 9.6 %
		Y	6.41	74.61	19.67		65.0	
		Z	7.06	76.73	20.79		65.0	
10264-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	11.30	87.33	24.83	3.98	65.0	± 9.6 %
		Y	7.82	80.82	21.90		65.0	
		Z	9.85	85.46	23.94		65.0	
10265-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	7.95	77.63	21.74	3.98	65.0	± 9.6 %
		Y	6.61	74.40	19.97		65.0	
		Z	7.17	76.26	20.99		65.0	
10266-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	8.37	78.51	22.45	3.98	65.0	± 9.6 %
		Y	7.07	75.53	20.83		65.0	
		Z	7.65	77.35	21.80		65.0	
10267-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.74	82.78	23.19	3.98	65.0	± 9.6 %
		Y	7.51	78.28	21.05		65.0	
		Z	8.78	81.53	22.59		65.0	
10268-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	8.35	76.91	21.81	3.98	65.0	± 9.6 %
		Y	7.25	74.40	20.43		65.0	
		Z	7.70	75.89	21.26		65.0	
10269-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	8.25	76.41	21.67	3.98	65.0	± 9.6 %
		Y	7.21	74.02	20.34		65.0	
		Z	7.64	75.43	21.12		65.0	
10270-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	8.73	79.00	21.90	3.98	65.0	± 9.6 %
		Y	7.29	75.91	20.32		65.0	
		Z	8.05	78.09	21.45		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.62	66.51	15.38	0.00	150.0	± 9.6 %
		Y	2.40	65.49	14.41		150.0	
		Z	2.53	66.32	15.01		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.66	68.37	15.85	0.00	150.0	± 9.6 %
		Y	1.36	65.72	13.86		150.0	
		Z	1.53	67.34	15.09		150.0	
10277-CAA	PHS (QPSK)	X	4.01	66.28	11.28	9.03	50.0	± 9.6 %
		Y	3.27	63.73	9.40		50.0	
		Z	3.24	64.17	9.56		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	10.72	83.49	21.29	9.03	50.0	± 9.6 %
		Y	5.37	71.76	15.68		50.0	
		Z	6.95	76.49	17.84		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	10.91	83.69	21.40	9.03	50.0	± 9.6 %
		Y	5.48	71.97	15.81		50.0	
		Z	7.09	76.71	17.97		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.63	69.96	14.95	0.00	150.0	± 9.6 %
		Y	1.04	64.71	11.14		150.0	
		Z	1.29	67.48	13.09		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.90	66.75	13.33	0.00	150.0	± 9.6 %
		Y	0.58	62.29	9.42		150.0	
		Z	0.74	64.70	11.54		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.21	71.81	16.09	0.00	150.0	± 9.6 %
		Y	0.65	64.19	10.77		150.0	
		Z	0.93	68.53	13.82		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	1.97	79.16	19.55	0.00	150.0	± 9.6 %
		Y	0.85	67.30	12.80		150.0	
		Z	1.50	75.07	17.10		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	12.27	88.66	25.82	9.03	50.0	± 9.6 %
		Y	8.75	80.85	21.80		50.0	
		Z	11.52	87.13	24.56		50.0	
10297-AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.86	70.12	16.78	0.00	150.0	± 9.6 %
		Y	2.47	68.04	15.44		150.0	
		Z	2.66	69.28	16.30		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.72	68.67	14.95	0.00	150.0	± 9.6 %
		Y	1.25	64.84	11.99		150.0	
		Z	1.45	66.83	13.43		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	3.76	73.98	16.75	0.00	150.0	± 9.6 %
		Y	2.44	68.23	13.44		150.0	
		Z	3.56	73.19	15.68		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.57	67.80	13.32	0.00	150.0	± 9.6 %
		Y	1.89	64.33	10.83		150.0	
		Z	2.25	66.42	11.95		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	5.34	67.21	18.36	4.17	50.0	± 9.6 %
		Y	4.92	66.04	17.49		50.0	
		Z	5.00	66.39	17.73		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.75	67.51	18.91	4.96	50.0	± 9.6 %
		Y	5.39	66.46	18.07		50.0	
		Z	5.48	66.98	18.44		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	5.55	67.40	18.88	4.96	50.0	± 9.6 %
		Y	5.18	66.25	17.96		50.0	
		Z	5.26	66.77	18.34		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	5.27	66.95	18.19	4.17	50.0	± 9.6 %
		Y	4.92	65.91	17.36		50.0	
		Z	5.02	66.46	17.74		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	6.02	73.68	22.76	6.02	35.0	± 9.6 %
		Y	5.62	72.10	21.29		35.0	
		Z	5.50	71.99	21.48		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	5.71	70.24	21.22	6.02	35.0	± 9.6 %
		Y	5.41	69.23	20.17		35.0	
		Z	5.36	69.27	20.36		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	5.75	70.97	21.43	6.02	35.0	± 9.6 %
		Y	5.41	69.78	20.28		35.0	
		Z	5.34	69.76	20.46		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	5.78	71.40	21.67	6.02	35.0	± 9.6 %
		Y	5.44	70.16	20.49		35.0	
		Z	5.37	70.16	20.68		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	5.81	70.57	21.41	6.02	35.0	± 9.6 %
		Y	5.47	69.45	20.31		35.0	
		Z	5.42	69.49	20.51		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	5.71	70.51	21.28	6.02	35.0	± 9.6 %
		Y	5.40	69.46	20.21		35.0	
		Z	5.35	69.48	20.40		35.0	
10311-AAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.22	69.41	16.42	0.00	150.0	± 9.6 %
		Y	2.80	67.40	15.19		150.0	
		Z	3.01	68.61	15.98		150.0	
10313-AAA	iDEN 1:3	X	8.72	81.59	19.46	6.99	70.0	± 9.6 %
		Y	4.16	71.30	14.92		70.0	
		Z	6.60	78.28	18.09		70.0	
10314-AAA	iDEN 1:6	X	16.37	95.12	26.54	10.00	30.0	± 9.6 %
		Y	5.55	77.14	19.77		30.0	
		Z	11.38	90.04	24.85		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.13	64.52	15.64	0.17	150.0	± 9.6 %
		Y	0.98	62.76	14.03		150.0	
		Z	1.08	63.88	15.03		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.66	66.76	16.37	0.17	150.0	± 9.6 %
		Y	4.47	66.30	15.96		150.0	
		Z	4.54	66.67	16.21		150.0	
10317-AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.66	66.76	16.37	0.17	150.0	± 9.6 %
		Y	4.47	66.30	15.96		150.0	
		Z	4.54	66.67	16.21		150.0	
10400-AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.76	67.01	16.29	0.00	150.0	± 9.6 %
		Y	4.55	66.53	15.90		150.0	
		Z	4.62	66.89	16.13		150.0	
10401-AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.41	67.10	16.39	0.00	150.0	± 9.6 %
		Y	5.28	66.83	16.15		150.0	
		Z	5.32	67.06	16.30		150.0	

10402-AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.69	67.55	16.46	0.00	150.0	± 9.6 %
		Y	5.51	67.10	16.14		150.0	
		Z	5.58	67.39	16.32		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.63	69.96	14.95	0.00	115.0	± 9.6 %
		Y	1.04	64.71	11.14		115.0	
		Z	1.29	67.48	13.09		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.63	69.96	14.95	0.00	115.0	± 9.6 %
		Y	1.04	64.71	11.14		115.0	
		Z	1.29	67.48	13.09		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	121.60	30.91	0.00	100.0	± 9.6 %
		Y	14.90	94.78	23.76		100.0	
		Z	100.00	118.00	28.98		100.0	
10410-AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	X	100.00	120.72	30.61	3.23	80.0	± 9.6 %
		Y	52.68	109.61	27.00		80.0	
		Z	100.00	120.47	30.13		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.00	63.11	14.78	0.00	150.0	± 9.6 %
		Y	0.88	61.69	13.34		150.0	
		Z	0.97	62.68	14.28		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.58	66.65	16.23	0.00	150.0	± 9.6 %
		Y	4.40	66.22	15.86		150.0	
		Z	4.47	66.58	16.09		150.0	
10417-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.58	66.65	16.23	0.00	150.0	± 9.6 %
		Y	4.40	66.22	15.86		150.0	
		Z	4.47	66.58	16.09		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.57	66.80	16.24	0.00	150.0	± 9.6 %
		Y	4.38	66.37	15.87		150.0	
		Z	4.46	66.75	16.11		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.59	66.75	16.24	0.00	150.0	± 9.6 %
		Y	4.41	66.32	15.88		150.0	
		Z	4.48	66.69	16.11		150.0	
10422-AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.71	66.75	16.26	0.00	150.0	± 9.6 %
		Y	4.52	66.34	15.90		150.0	
		Z	4.60	66.69	16.13		150.0	
10423-AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.89	67.10	16.38	0.00	150.0	± 9.6 %
		Y	4.69	66.65	16.02		150.0	
		Z	4.76	67.00	16.24		150.0	
10424-AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.81	67.04	16.35	0.00	150.0	± 9.6 %
		Y	4.61	66.59	15.99		150.0	
		Z	4.68	66.95	16.21		150.0	
10425-AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.39	67.34	16.50	0.00	150.0	± 9.6 %
		Y	5.22	66.97	16.22		150.0	
		Z	5.27	67.22	16.38		150.0	
10426-AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.39	67.34	16.50	0.00	150.0	± 9.6 %
		Y	5.23	67.01	16.23		150.0	
		Z	5.28	67.26	16.39		150.0	

10427-AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.41	67.34	16.49	0.00	150.0	± 9.6 %
		Y	5.24	66.97	16.22		150.0	
		Z	5.29	67.23	16.38		150.0	
10430-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.30	70.55	18.18	0.00	150.0	± 9.6 %
		Y	4.12	70.52	17.85		150.0	
		Z	4.23	71.03	18.16		150.0	
10431-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.29	67.21	16.27	0.00	150.0	± 9.6 %
		Y	4.05	66.67	15.77		150.0	
		Z	4.14	67.11	16.06		150.0	
10432-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.58	67.09	16.31	0.00	150.0	± 9.6 %
		Y	4.37	66.61	15.90		150.0	
		Z	4.44	66.99	16.15		150.0	
10433-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.82	67.08	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.63	16.01		150.0	
		Z	4.69	66.98	16.23		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.41	71.40	18.19	0.00	150.0	± 9.6 %
		Y	4.20	71.25	17.73		150.0	
		Z	4.35	71.94	18.12		150.0	
10435-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	120.54	30.53	3.23	80.0	± 9.6 %
		Y	46.85	107.92	26.54		80.0	
		Z	100.00	120.26	30.03		80.0	
10447-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.60	67.27	15.72	0.00	150.0	± 9.6 %
		Y	3.31	66.43	14.88		150.0	
		Z	3.42	67.06	15.30		150.0	
10448-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.12	66.99	16.13	0.00	150.0	± 9.6 %
		Y	3.90	66.44	15.61		150.0	
		Z	3.98	66.89	15.92		150.0	
10449-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.38	66.92	16.22	0.00	150.0	± 9.6 %
		Y	4.18	66.42	15.78		150.0	
		Z	4.26	66.82	16.05		150.0	
10450-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.57	66.85	16.23	0.00	150.0	± 9.6 %
		Y	4.38	66.38	15.84		150.0	
		Z	4.46	66.75	16.09		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.51	67.52	15.42	0.00	150.0	± 9.6 %
		Y	3.17	66.45	14.38		150.0	
		Z	3.30	67.16	14.86		150.0	
10456-AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.24	67.91	16.66	0.00	150.0	± 9.6 %
		Y	6.09	67.55	16.40		150.0	
		Z	6.14	67.78	16.54		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.80	65.28	15.95	0.00	150.0	± 9.6 %
		Y	3.67	64.86	15.55		150.0	
		Z	3.74	65.24	15.80		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	4.04	70.60	17.63	0.00	150.0	± 9.6 %
		Y	3.78	70.18	16.90		150.0	
		Z	3.96	71.06	17.41		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	5.10	67.92	18.04	0.00	150.0	± 9.6 %
		Y	5.04	68.55	18.14		150.0	
		Z	5.06	68.63	18.14		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.93	69.01	16.61	0.00	150.0	± 9.6 %
		Y	0.67	64.78	13.34		150.0	
		Z	0.83	67.12	15.33		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.37	32.80	3.29	80.0	± 9.6 %
		Y	100.00	120.09	30.00		80.0	
		Z	100.00	125.85	32.64		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.15	25.16	3.23	80.0	± 9.6 %
		Y	2.88	68.96	12.87		80.0	
		Z	100.00	106.54	23.60		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	105.92	23.62	3.23	80.0	± 9.6 %
		Y	1.89	64.22	10.46		80.0	
		Z	16.73	86.00	17.87		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.34	31.70	3.23	80.0	± 9.6 %
		Y	100.00	117.53	28.68		80.0	
		Z	100.00	123.49	31.39		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.60	24.90	3.23	80.0	± 9.6 %
		Y	2.49	67.43	12.20		80.0	
		Z	100.00	105.93	23.31		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	99.93	105.40	23.38	3.23	80.0	± 9.6 %
		Y	1.76	63.52	10.09		80.0	
		Z	7.76	78.49	15.68		80.0	
10467-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.57	31.81	3.23	80.0	± 9.6 %
		Y	100.00	117.78	28.79		80.0	
		Z	100.00	123.77	31.51		80.0	
10468-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.77	24.97	3.23	80.0	± 9.6 %
		Y	2.58	67.81	12.37		80.0	
		Z	100.00	106.13	23.39		80.0	
10469-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	105.42	23.38	3.23	80.0	± 9.6 %
		Y	1.76	63.54	10.10		80.0	
		Z	7.98	78.76	15.76		80.0	
10470-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.60	31.81	3.23	80.0	± 9.6 %
		Y	100.00	117.78	28.78		80.0	
		Z	100.00	123.80	31.51		80.0	
10471-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.72	24.94	3.23	80.0	± 9.6 %
		Y	2.56	67.74	12.33		80.0	
		Z	100.00	106.06	23.36		80.0	
10472-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	99.99	105.37	23.35	3.23	80.0	± 9.6 %
		Y	1.76	63.49	10.07		80.0	
		Z	7.85	78.59	15.70		80.0	
10473-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.57	31.80	3.23	80.0	± 9.6 %
		Y	100.00	117.75	28.77		80.0	
		Z	100.00	123.76	31.50		80.0	
10474-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.72	24.94	3.23	80.0	± 9.6 %
		Y	2.55	67.70	12.31		80.0	
		Z	100.00	106.07	23.36		80.0	
10475-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	105.38	23.36	3.23	80.0	± 9.6 %
		Y	1.75	63.48	10.06		80.0	
		Z	7.74	78.46	15.66		80.0	

10477-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.56	24.86	3.23	80.0	± 9.6 %
		Y	2.48	67.39	12.17		80.0	
		Z	100.00	105.88	23.27		80.0	
10478-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	99.93	105.32	23.33	3.23	80.0	± 9.6 %
		Y	1.75	63.43	10.04		80.0	
		Z	7.52	78.16	15.56		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	24.99	103.36	28.63	3.23	80.0	± 9.6 %
		Y	10.71	88.94	23.39		80.0	
		Z	51.18	114.04	30.82		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	27.08	97.74	25.20	3.23	80.0	± 9.6 %
		Y	7.39	78.93	18.50		80.0	
		Z	49.11	104.52	26.12		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	20.64	93.00	23.51	3.23	80.0	± 9.6 %
		Y	5.77	75.21	16.85		80.0	
		Z	27.39	95.68	23.40		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.61	81.76	20.77	2.23	80.0	± 9.6 %
		Y	2.69	68.93	14.80		80.0	
		Z	4.28	75.68	17.93		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	11.30	85.70	21.82	2.23	80.0	± 9.6 %
		Y	4.71	72.93	16.32		80.0	
		Z	10.22	83.74	20.39		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	9.81	83.50	21.12	2.23	80.0	± 9.6 %
		Y	4.39	71.84	15.90		80.0	
		Z	8.50	81.12	19.54		80.0	
10485-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.41	81.73	21.60	2.23	80.0	± 9.6 %
		Y	3.29	71.60	16.89		80.0	
		Z	4.73	77.46	19.61		80.0	
10486-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.82	74.22	18.45	2.23	80.0	± 9.6 %
		Y	3.14	68.00	14.98		80.0	
		Z	3.94	71.61	16.84		80.0	
10487-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.72	73.57	18.19	2.23	80.0	± 9.6 %
		Y	3.14	67.70	14.85		80.0	
		Z	3.89	71.06	16.60		80.0	
10488-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.77	78.61	21.05	2.23	80.0	± 9.6 %
		Y	3.74	71.84	17.80		80.0	
		Z	4.64	75.66	19.71		80.0	
10489-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.63	72.48	18.80	2.23	80.0	± 9.6 %
		Y	3.63	68.80	16.66		80.0	
		Z	4.11	71.03	17.91		80.0	
10490-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.68	72.08	18.66	2.23	80.0	± 9.6 %
		Y	3.73	68.67	16.64		80.0	
		Z	4.18	70.76	17.81		80.0	
10491-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.40	75.41	19.95	2.23	80.0	± 9.6 %
		Y	3.98	70.66	17.54		80.0	
		Z	4.61	73.35	18.98		80.0	
10492-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.79	71.03	18.46	2.23	80.0	± 9.6 %
		Y	4.01	68.31	16.84		80.0	
		Z	4.35	69.91	17.78		80.0	

10493-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.84	70.78	18.38	2.23	80.0	± 9.6 %
		Y	4.07	68.21	16.82		80.0	
		Z	4.41	69.73	17.72		80.0	
10494-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.18	77.69	20.63	2.23	80.0	± 9.6 %
		Y	4.27	71.91	17.89		80.0	
		Z	5.10	75.11	19.51		80.0	
10495-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.89	71.61	18.71	2.23	80.0	± 9.6 %
		Y	4.04	68.68	17.03		80.0	
		Z	4.41	70.35	18.00		80.0	
10496-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.91	71.12	18.55	2.23	80.0	± 9.6 %
		Y	4.12	68.46	16.98		80.0	
		Z	4.46	69.99	17.89		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.03	77.46	18.40	2.23	80.0	± 9.6 %
		Y	1.85	64.41	11.81		80.0	
		Z	2.83	69.89	14.64		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.04	68.00	13.73	2.23	80.0	± 9.6 %
		Y	1.58	60.64	9.01		80.0	
		Z	1.87	62.71	10.38		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.89	67.10	13.20	2.23	80.0	± 9.6 %
		Y	1.55	60.27	8.69		80.0	
		Z	1.80	62.06	9.91		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.85	79.67	21.13	2.23	80.0	± 9.6 %
		Y	3.43	71.51	17.20		80.0	
		Z	4.56	76.29	19.51		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.71	73.38	18.53	2.23	80.0	± 9.6 %
		Y	3.37	68.44	15.69		80.0	
		Z	4.04	71.45	17.28		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.74	73.07	18.35	2.23	80.0	± 9.6 %
		Y	3.42	68.30	15.58		80.0	
		Z	4.07	71.20	17.12		80.0	
10503-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.68	78.36	20.94	2.23	80.0	± 9.6 %
		Y	3.69	71.63	17.70		80.0	
		Z	4.57	75.41	19.60		80.0	
10504-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.61	72.37	18.74	2.23	80.0	± 9.6 %
		Y	3.61	68.70	16.60		80.0	
		Z	4.08	70.92	17.85		80.0	
10505-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.65	71.98	18.60	2.23	80.0	± 9.6 %
		Y	3.70	68.57	16.58		80.0	
		Z	4.15	70.65	17.75		80.0	
10506-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.12	77.51	20.55	2.23	80.0	± 9.6 %
		Y	4.23	71.76	17.81		80.0	
		Z	5.05	74.93	19.43		80.0	
10507-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.87	71.54	18.67	2.23	80.0	± 9.6 %
		Y	4.03	68.61	16.98		80.0	
		Z	4.39	70.28	17.95		80.0	

10508-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.89	71.05	18.50	2.23	80.0	± 9.6 %
		Y	4.11	68.38	16.94		80.0	
		Z	4.44	69.91	17.84		80.0	
10509-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.96	74.88	19.56	2.23	80.0	± 9.6 %
		Y	4.57	70.72	17.48		80.0	
		Z	5.19	73.07	18.73		80.0	
10510-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.27	70.82	18.44	2.23	80.0	± 9.6 %
		Y	4.52	68.43	17.07		80.0	
		Z	4.83	69.75	17.85		80.0	
10511-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.27	70.43	18.33	2.23	80.0	± 9.6 %
		Y	4.58	68.22	17.03		80.0	
		Z	4.86	69.45	17.77		80.0	
10512-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.66	77.38	20.34	2.23	80.0	± 9.6 %
		Y	4.73	71.97	17.80		80.0	
		Z	5.58	74.94	19.30		80.0	
10513-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.21	71.34	18.64	2.23	80.0	± 9.6 %
		Y	4.41	68.67	17.14		80.0	
		Z	4.74	70.10	17.99		80.0	
10514-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.16	70.71	18.44	2.23	80.0	± 9.6 %
		Y	4.43	68.30	17.06		80.0	
		Z	4.73	69.61	17.84		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.96	63.31	14.85	0.00	150.0	± 9.6 %
		Y	0.84	61.78	13.32		150.0	
		Z	0.94	62.83	14.31		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.65	72.36	18.25	0.00	150.0	± 9.6 %
		Y	0.38	65.35	12.87		150.0	
		Z	0.52	68.34	15.90		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.82	65.48	15.61	0.00	150.0	± 9.6 %
		Y	0.66	62.90	13.28		150.0	
		Z	0.77	64.43	14.74		150.0	
10518-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.57	66.72	16.21	0.00	150.0	± 9.6 %
		Y	4.39	66.29	15.83		150.0	
		Z	4.46	66.66	16.07		150.0	
10519-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.77	66.98	16.33	0.00	150.0	± 9.6 %
		Y	4.57	66.53	15.96		150.0	
		Z	4.64	66.88	16.18		150.0	
10520-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.62	66.95	16.26	0.00	150.0	± 9.6 %
		Y	4.42	66.47	15.86		150.0	
		Z	4.49	66.83	16.10		150.0	
10521-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.56	66.96	16.25	0.00	150.0	± 9.6 %
		Y	4.35	66.45	15.84		150.0	
		Z	4.43	66.82	16.08		150.0	
10522-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.61	67.00	16.31	0.00	150.0	± 9.6 %
		Y	4.41	66.56	15.94		150.0	
		Z	4.49	66.93	16.18		150.0	

10523-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.49	66.88	16.16	0.00	150.0	± 9.6 %
		Y	4.29	66.41	15.77		150.0	
		Z	4.37	66.81	16.03		150.0	
10524-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.56	66.93	16.29	0.00	150.0	± 9.6 %
		Y	4.35	66.47	15.90		150.0	
		Z	4.43	66.84	16.14		150.0	
10525-AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.53	65.97	15.88	0.00	150.0	± 9.6 %
		Y	4.34	65.51	15.50		150.0	
		Z	4.42	65.91	15.75		150.0	
10526-AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.72	66.36	16.02	0.00	150.0	± 9.6 %
		Y	4.50	65.86	15.64		150.0	
		Z	4.58	66.26	15.88		150.0	
10527-AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.63	66.33	15.97	0.00	150.0	± 9.6 %
		Y	4.42	65.81	15.57		150.0	
		Z	4.50	66.22	15.82		150.0	
10528-AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.65	66.35	16.00	0.00	150.0	± 9.6 %
		Y	4.44	65.83	15.60		150.0	
		Z	4.52	66.23	15.85		150.0	
10529-AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.65	66.35	16.00	0.00	150.0	± 9.6 %
		Y	4.44	65.83	15.60		150.0	
		Z	4.52	66.23	15.85		150.0	
10531-AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.65	66.47	16.02	0.00	150.0	± 9.6 %
		Y	4.43	65.92	15.60		150.0	
		Z	4.51	66.32	15.86		150.0	
10532-AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.51	66.33	15.96	0.00	150.0	± 9.6 %
		Y	4.29	65.76	15.53		150.0	
		Z	4.37	66.17	15.79		150.0	
10533-AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.66	66.38	15.99	0.00	150.0	± 9.6 %
		Y	4.45	65.88	15.59		150.0	
		Z	4.53	66.29	15.85		150.0	
10534-AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.17	66.46	16.05	0.00	150.0	± 9.6 %
		Y	4.99	66.00	15.72		150.0	
		Z	5.06	66.33	15.92		150.0	
10535-AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.23	66.61	16.11	0.00	150.0	± 9.6 %
		Y	5.05	66.18	15.80		150.0	
		Z	5.12	66.50	16.00		150.0	
10536-AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.11	66.59	16.08	0.00	150.0	± 9.6 %
		Y	4.92	66.11	15.74		150.0	
		Z	4.99	66.46	15.96		150.0	
10537-AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.17	66.55	16.07	0.00	150.0	± 9.6 %
		Y	4.98	66.09	15.73		150.0	
		Z	5.05	66.42	15.94		150.0	
10538-AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.27	66.59	16.13	0.00	150.0	± 9.6 %
		Y	5.07	66.11	15.79		150.0	
		Z	5.13	66.43	15.99		150.0	
10540-AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.18	66.58	16.14	0.00	150.0	± 9.6 %
		Y	5.00	66.14	15.81		150.0	
		Z	5.06	66.43	16.00		150.0	

10541-AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.16	66.47	16.08	0.00	150.0	± 9.6 %
		Y	4.98	66.00	15.74		150.0	
		Z	5.04	66.33	15.94		150.0	
10542-AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.31	66.52	16.12	0.00	150.0	± 9.6 %
		Y	5.13	66.08	15.80		150.0	
		Z	5.20	66.40	15.99		150.0	
10543-AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.39	66.55	16.15	0.00	150.0	± 9.6 %
		Y	5.21	66.12	15.85		150.0	
		Z	5.27	66.42	16.03		150.0	
10544-AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.46	66.58	16.04	0.00	150.0	± 9.6 %
		Y	5.30	66.13	15.73		150.0	
		Z	5.37	66.45	15.92		150.0	
10545-AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.66	66.96	16.17	0.00	150.0	± 9.6 %
		Y	5.49	66.55	15.89		150.0	
		Z	5.55	66.83	16.06		150.0	
10546-AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.54	66.82	16.12	0.00	150.0	± 9.6 %
		Y	5.36	66.33	15.79		150.0	
		Z	5.43	66.63	15.98		150.0	
10547-AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.62	66.87	16.14	0.00	150.0	± 9.6 %
		Y	5.43	66.37	15.81		150.0	
		Z	5.50	66.68	15.99		150.0	
10548-AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.86	67.74	16.55	0.00	150.0	± 9.6 %
		Y	5.67	67.27	16.23		150.0	
		Z	5.69	67.44	16.35		150.0	
10550-AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.56	66.80	16.12	0.00	150.0	± 9.6 %
		Y	5.39	66.36	15.82		150.0	
		Z	5.46	66.66	16.01		150.0	
10551-AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.57	66.85	16.11	0.00	150.0	± 9.6 %
		Y	5.40	66.39	15.80		150.0	
		Z	5.46	66.70	15.98		150.0	
10552-AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.49	66.65	16.02	0.00	150.0	± 9.6 %
		Y	5.31	66.19	15.71		150.0	
		Z	5.39	66.53	15.91		150.0	
10553-AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.58	66.70	16.08	0.00	150.0	± 9.6 %
		Y	5.40	66.23	15.76		150.0	
		Z	5.46	66.55	15.95		150.0	
10554-AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.86	66.94	16.13	0.00	150.0	± 9.6 %
		Y	5.71	66.51	15.83		150.0	
		Z	5.78	66.81	16.01		150.0	
10555-AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.99	67.23	16.25	0.00	150.0	± 9.6 %
		Y	5.84	66.80	15.96		150.0	
		Z	5.90	67.08	16.13		150.0	
10556-AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.01	67.27	16.26	0.00	150.0	± 9.6 %
		Y	5.86	66.85	15.98		150.0	
		Z	5.92	67.13	16.14		150.0	
10557-AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.99	67.21	16.25	0.00	150.0	± 9.6 %
		Y	5.82	66.75	15.94		150.0	
		Z	5.88	67.04	16.12		150.0	

10558-AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.04	67.37	16.35	0.00	150.0	± 9.6 %
		Y	5.87	66.91	16.04		150.0	
		Z	5.93	67.19	16.21		150.0	
10560-AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.04	67.24	16.32	0.00	150.0	± 9.6 %
		Y	5.86	66.76	16.01		150.0	
		Z	5.93	67.06	16.18		150.0	
10561-AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.96	67.19	16.33	0.00	150.0	± 9.6 %
		Y	5.79	66.74	16.03		150.0	
		Z	5.85	67.02	16.20		150.0	
10562-AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.09	67.59	16.54	0.00	150.0	± 9.6 %
		Y	5.90	67.09	16.20		150.0	
		Z	5.95	67.34	16.36		150.0	
10563-AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.40	68.10	16.74	0.00	150.0	± 9.6 %
		Y	6.09	67.26	16.25		150.0	
		Z	6.10	67.40	16.34		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.91	66.83	16.38	0.46	150.0	± 9.6 %
		Y	4.72	66.39	16.00		150.0	
		Z	4.79	66.74	16.23		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.15	67.28	16.70	0.46	150.0	± 9.6 %
		Y	4.95	66.86	16.35		150.0	
		Z	5.01	67.18	16.55		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.98	67.15	16.53	0.46	150.0	± 9.6 %
		Y	4.78	66.68	16.14		150.0	
		Z	4.85	67.02	16.37		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	5.01	67.53	16.87	0.46	150.0	± 9.6 %
		Y	4.81	67.10	16.52		150.0	
		Z	4.88	67.43	16.73		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.90	66.92	16.31	0.46	150.0	± 9.6 %
		Y	4.69	66.43	15.89		150.0	
		Z	4.76	66.79	16.13		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.96	67.60	16.92	0.46	150.0	± 9.6 %
		Y	4.77	67.21	16.59		150.0	
		Z	4.85	67.56	16.82		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	5.00	67.44	16.85	0.46	150.0	± 9.6 %
		Y	4.80	67.04	16.52		150.0	
		Z	4.87	67.38	16.73		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.29	65.85	16.32	0.46	130.0	± 9.6 %
		Y	1.10	63.71	14.50		130.0	
		Z	1.22	64.94	15.58		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.31	66.54	16.72	0.46	130.0	± 9.6 %
		Y	1.11	64.23	14.81		130.0	
		Z	1.23	65.55	15.95		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	9.74	108.45	29.70	0.46	130.0	± 9.6 %
		Y	1.30	75.72	17.45		130.0	
		Z	2.64	87.43	23.09		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.61	74.07	20.25	0.46	130.0	± 9.6 %
		Y	1.18	69.07	17.08		130.0	
		Z	1.41	71.71	18.93		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.71	66.68	16.48	0.46	130.0	± 9.6 %
		Y	4.52	66.23	16.07		130.0	
		Z	4.60	66.59	16.31		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.74	66.84	16.54	0.46	130.0	± 9.6 %
		Y	4.55	66.40	16.14		130.0	
		Z	4.62	66.76	16.38		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.95	67.14	16.71	0.46	130.0	± 9.6 %
		Y	4.75	66.69	16.32		130.0	
		Z	4.81	67.03	16.54		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.85	67.32	16.81	0.46	130.0	± 9.6 %
		Y	4.65	66.85	16.42		130.0	
		Z	4.72	67.20	16.65		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.62	66.66	16.16	0.46	130.0	± 9.6 %
		Y	4.40	66.07	15.67		130.0	
		Z	4.48	66.45	15.94		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.67	66.65	16.17	0.46	130.0	± 9.6 %
		Y	4.45	66.12	15.69		130.0	
		Z	4.52	66.50	15.96		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.76	67.38	16.77	0.46	130.0	± 9.6 %
		Y	4.54	66.88	16.35		130.0	
		Z	4.62	67.26	16.61		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.57	66.41	15.96	0.46	130.0	± 9.6 %
		Y	4.35	65.82	15.45		130.0	
		Z	4.42	66.20	15.72		130.0	
10583-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.71	66.68	16.48	0.46	130.0	± 9.6 %
		Y	4.52	66.23	16.07		130.0	
		Z	4.60	66.59	16.31		130.0	
10584-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.74	66.84	16.54	0.46	130.0	± 9.6 %
		Y	4.55	66.40	16.14		130.0	
		Z	4.62	66.76	16.38		130.0	
10585-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.95	67.14	16.71	0.46	130.0	± 9.6 %
		Y	4.75	66.69	16.32		130.0	
		Z	4.81	67.03	16.54		130.0	
10586-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.85	67.32	16.81	0.46	130.0	± 9.6 %
		Y	4.65	66.85	16.42		130.0	
		Z	4.72	67.20	16.65		130.0	
10587-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.62	66.66	16.16	0.46	130.0	± 9.6 %
		Y	4.40	66.07	15.67		130.0	
		Z	4.48	66.45	15.94		130.0	
10588-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.67	66.65	16.17	0.46	130.0	± 9.6 %
		Y	4.45	66.12	15.69		130.0	
		Z	4.52	66.50	15.96		130.0	
10589-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.76	67.38	16.77	0.46	130.0	± 9.6 %
		Y	4.54	66.88	16.35		130.0	
		Z	4.62	67.26	16.61		130.0	
10590-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.57	66.41	15.96	0.46	130.0	± 9.6 %
		Y	4.35	65.82	15.45		130.0	
		Z	4.42	66.20	15.72		130.0	

10591-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.86	66.73	16.57	0.46	130.0	± 9.6 %
		Y	4.68	66.31	16.19		130.0	
		Z	4.75	66.65	16.42		130.0	
10592-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.03	67.07	16.70	0.46	130.0	± 9.6 %
		Y	4.82	66.64	16.32		130.0	
		Z	4.89	66.98	16.55		130.0	
10593-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.95	67.01	16.59	0.46	130.0	± 9.6 %
		Y	4.74	66.53	16.19		130.0	
		Z	4.81	66.88	16.42		130.0	
10594-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.00	67.16	16.74	0.46	130.0	± 9.6 %
		Y	4.80	66.71	16.35		130.0	
		Z	4.87	67.05	16.58		130.0	
10595-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.98	67.12	16.64	0.46	130.0	± 9.6 %
		Y	4.77	66.66	16.24		130.0	
		Z	4.84	67.01	16.48		130.0	
10596-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.91	67.13	16.65	0.46	130.0	± 9.6 %
		Y	4.70	66.64	16.23		130.0	
		Z	4.77	67.00	16.48		130.0	
10597-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.86	67.05	16.54	0.46	130.0	± 9.6 %
		Y	4.65	66.53	16.11		130.0	
		Z	4.72	66.89	16.35		130.0	
10598-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.85	67.29	16.80	0.46	130.0	± 9.6 %
		Y	4.64	66.79	16.39		130.0	
		Z	4.71	67.14	16.62		130.0	
10599-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.52	67.26	16.75	0.46	130.0	± 9.6 %
		Y	5.35	66.89	16.44		130.0	
		Z	5.40	67.12	16.60		130.0	
10600-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.66	67.69	16.93	0.46	130.0	± 9.6 %
		Y	5.48	67.29	16.61		130.0	
		Z	5.51	67.49	16.75		130.0	
10601-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.55	67.44	16.82	0.46	130.0	± 9.6 %
		Y	5.37	67.03	16.50		130.0	
		Z	5.41	67.28	16.67		130.0	
10602-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.63	67.42	16.73	0.46	130.0	± 9.6 %
		Y	5.47	67.07	16.43		130.0	
		Z	5.52	67.35	16.62		130.0	
10603-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.73	67.77	17.03	0.46	130.0	± 9.6 %
		Y	5.54	67.38	16.72		130.0	
		Z	5.59	67.61	16.88		130.0	
10604-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.52	67.21	16.74	0.46	130.0	± 9.6 %
		Y	5.37	66.89	16.47		130.0	
		Z	5.43	67.20	16.66		130.0	
10605-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.62	67.51	16.90	0.46	130.0	± 9.6 %
		Y	5.47	67.18	16.61		130.0	
		Z	5.51	67.41	16.77		130.0	
10606-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.41	67.01	16.51	0.46	130.0	± 9.6 %
		Y	5.20	66.48	16.11		130.0	
		Z	5.26	66.76	16.30		130.0	

10607-AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.70	66.05	16.19	0.46	130.0	± 9.6 %
		Y	4.50	65.58	15.79		130.0	
		Z	4.58	65.97	16.04		130.0	
10608-AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.90	66.46	16.36	0.46	130.0	± 9.6 %
		Y	4.68	65.97	15.95		130.0	
		Z	4.76	66.35	16.20		130.0	
10609-AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.79	66.33	16.21	0.46	130.0	± 9.6 %
		Y	4.57	65.80	15.77		130.0	
		Z	4.65	66.20	16.03		130.0	
10610-AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.84	66.49	16.37	0.46	130.0	± 9.6 %
		Y	4.62	65.97	15.94		130.0	
		Z	4.70	66.36	16.20		130.0	
10611-AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.76	66.30	16.22	0.46	130.0	± 9.6 %
		Y	4.54	65.77	15.78		130.0	
		Z	4.62	66.16	16.05		130.0	
10612-AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.77	66.46	16.27	0.46	130.0	± 9.6 %
		Y	4.54	65.90	15.81		130.0	
		Z	4.62	66.31	16.09		130.0	
10613-AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.78	66.37	16.16	0.46	130.0	± 9.6 %
		Y	4.54	65.78	15.69		130.0	
		Z	4.62	66.17	15.96		130.0	
10614-AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.71	66.54	16.39	0.46	130.0	± 9.6 %
		Y	4.49	65.99	15.94		130.0	
		Z	4.57	66.38	16.21		130.0	
10615-AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.76	66.13	16.01	0.46	130.0	± 9.6 %
		Y	4.53	65.58	15.54		130.0	
		Z	4.61	65.99	15.82		130.0	
10616-AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.34	66.54	16.37	0.46	130.0	± 9.6 %
		Y	5.15	66.08	16.02		130.0	
		Z	5.22	66.40	16.23		130.0	
10617-AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.40	66.66	16.40	0.46	130.0	± 9.6 %
		Y	5.22	66.26	16.08		130.0	
		Z	5.28	66.57	16.28		130.0	
10618-AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.29	66.72	16.45	0.46	130.0	± 9.6 %
		Y	5.11	66.26	16.09		130.0	
		Z	5.17	66.59	16.31		130.0	
10619-AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.31	66.54	16.30	0.46	130.0	± 9.6 %
		Y	5.12	66.05	15.93		130.0	
		Z	5.19	66.37	16.14		130.0	
10620-AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.42	66.61	16.38	0.46	130.0	± 9.6 %
		Y	5.21	66.11	16.00		130.0	
		Z	5.27	66.42	16.21		130.0	
10621-AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.40	66.69	16.53	0.46	130.0	± 9.6 %
		Y	5.22	66.26	16.21		130.0	
		Z	5.28	66.57	16.40		130.0	
10622-AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.40	66.82	16.59	0.46	130.0	± 9.6 %
		Y	5.23	66.42	16.28		130.0	
		Z	5.29	66.72	16.47		130.0	

10623-AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.29	66.39	16.26	0.46	130.0	± 9.6 %
		Y	5.10	65.92	15.89		130.0	
		Z	5.17	66.24	16.10		130.0	
10624-AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.48	66.58	16.41	0.46	130.0	± 9.6 %
		Y	5.30	66.14	16.07		130.0	
		Z	5.36	66.44	16.27		130.0	
10625-AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.86	67.56	16.95	0.46	130.0	± 9.6 %
		Y	5.64	67.07	16.59		130.0	
		Z	5.66	67.24	16.72		130.0	
10626-AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.61	66.59	16.31	0.46	130.0	± 9.6 %
		Y	5.45	66.15	15.99		130.0	
		Z	5.52	66.46	16.19		130.0	
10627-AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.85	67.11	16.53	0.46	130.0	± 9.6 %
		Y	5.69	66.72	16.24		130.0	
		Z	5.74	66.98	16.41		130.0	
10628-AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.66	66.72	16.28	0.46	130.0	± 9.6 %
		Y	5.48	66.22	15.91		130.0	
		Z	5.54	66.51	16.11		130.0	
10629-AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.75	66.81	16.31	0.46	130.0	± 9.6 %
		Y	5.55	66.27	15.93		130.0	
		Z	5.61	66.56	16.12		130.0	
10630-AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.18	68.27	17.04	0.46	130.0	± 9.6 %
		Y	5.98	67.75	16.67		130.0	
		Z	5.96	67.79	16.74		130.0	
10631-AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.10	68.12	17.15	0.46	130.0	± 9.6 %
		Y	5.88	67.58	16.79		130.0	
		Z	5.92	67.78	16.93		130.0	
10632-AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.82	67.18	16.70	0.46	130.0	± 9.6 %
		Y	5.67	66.81	16.43		130.0	
		Z	5.72	67.07	16.59		130.0	
10633-AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.73	66.90	16.39	0.46	130.0	± 9.6 %
		Y	5.54	66.39	16.03		130.0	
		Z	5.61	66.71	16.24		130.0	
10634-AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.72	66.92	16.46	0.46	130.0	± 9.6 %
		Y	5.53	66.43	16.11		130.0	
		Z	5.60	66.74	16.31		130.0	
10635-AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.61	66.29	15.89	0.46	130.0	± 9.6 %
		Y	5.40	65.72	15.48		130.0	
		Z	5.47	66.04	15.69		130.0	
10636-AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.02	66.96	16.40	0.46	130.0	± 9.6 %
		Y	5.87	66.52	16.09		130.0	
		Z	5.93	66.81	16.27		130.0	
10637-AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.18	67.32	16.56	0.46	130.0	± 9.6 %
		Y	6.02	66.91	16.26		130.0	
		Z	6.07	67.17	16.43		130.0	
10638-AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.18	67.31	16.53	0.46	130.0	± 9.6 %
		Y	6.02	66.87	16.22		130.0	
		Z	6.08	67.16	16.40		130.0	

10639-AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.17	67.29	16.57	0.46	130.0	± 9.6 %
		Y	6.00	66.82	16.24		130.0	
		Z	6.05	67.10	16.42		130.0	
10640-AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.18	67.33	16.53	0.46	130.0	± 9.6 %
		Y	6.00	66.82	16.18		130.0	
		Z	6.05	67.09	16.35		130.0	
10641-AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.20	67.15	16.46	0.46	130.0	± 9.6 %
		Y	6.05	66.75	16.16		130.0	
		Z	6.10	67.02	16.33		130.0	
10642-AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.26	67.46	16.78	0.46	130.0	± 9.6 %
		Y	6.09	67.01	16.47		130.0	
		Z	6.15	67.28	16.64		130.0	
10643-AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.09	67.13	16.52	0.46	130.0	± 9.6 %
		Y	5.92	66.67	16.19		130.0	
		Z	5.98	66.95	16.36		130.0	
10644-AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.28	67.70	16.83	0.46	130.0	± 9.6 %
		Y	6.07	67.13	16.44		130.0	
		Z	6.12	67.37	16.60		130.0	
10645-AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.69	68.48	17.16	0.46	130.0	± 9.6 %
		Y	6.34	67.56	16.61		130.0	
		Z	6.31	67.59	16.66		130.0	
10646-AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	81.88	138.93	44.99	9.30	60.0	± 9.6 %
		Y	20.09	105.55	34.68		60.0	
		Z	49.56	129.13	42.50		60.0	
10647-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	77.69	138.77	45.14	9.30	60.0	± 9.6 %
		Y	19.01	105.10	34.68		60.0	
		Z	43.65	127.19	42.16		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.73	64.13	11.44	0.00	150.0	± 9.6 %
		Y	0.50	60.94	8.11		150.0	
		Z	0.62	62.66	9.90		150.0	
10652-AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	4.23	68.60	17.43	2.23	80.0	± 9.6 %
		Y	3.70	66.70	16.11		80.0	
		Z	3.95	67.96	16.88		80.0	
10653-AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.67	67.66	17.40	2.23	80.0	± 9.6 %
		Y	4.26	66.28	16.44		80.0	
		Z	4.43	67.13	16.98		80.0	
10654-AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.61	67.29	17.38	2.23	80.0	± 9.6 %
		Y	4.24	65.98	16.48		80.0	
		Z	4.40	66.77	16.98		80.0	
10655-AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.67	67.29	17.41	2.23	80.0	± 9.6 %
		Y	4.30	65.98	16.52		80.0	
		Z	4.46	66.74	17.01		80.0	
10658-AAA	Pulse Waveform (200Hz, 10%)	X	77.76	113.37	29.51	10.00	50.0	± 9.6 %
		Y	8.85	80.14	18.93		50.0	
		Z	55.85	107.32	27.27		50.0	
10659-AAA	Pulse Waveform (200Hz, 20%)	X	100.00	113.86	27.83	6.99	60.0	± 9.6 %
		Y	15.18	87.15	19.66		60.0	
		Z	100.00	112.04	26.63		60.0	

10660-AAA	Pulse Waveform (200Hz, 40%)	X	100.00	112.50	25.83	3.98	80.0	± 9.6 %
		Y	63.58	100.49	21.01		80.0	
		Z	100.00	110.06	24.42		80.0	
10661-AAA	Pulse Waveform (200Hz, 60%)	X	100.00	114.00	25.19	2.22	100.0	± 9.6 %
		Y	13.64	84.95	15.36		100.0	
		Z	100.00	110.38	23.34		100.0	
10662-AAA	Pulse Waveform (200Hz, 80%)	X	100.00	118.57	25.30	0.97	120.0	± 9.6 %
		Y	0.28	60.00	4.66		120.0	
		Z	100.00	111.08	22.00		120.0	

[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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Accreditation No.: SCS 0108

Client **PC Test** **Certificate No: EX3-7406_Apr17**

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:7406

Calibration procedure(s): QA CAL-01.v9, QA CAL-12.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

BNV 5-3-2017

Calibration date: April 18, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	31-Dec-16 (No. ES3-3013_Dec16)	Dec-17
DAE4	SN: 660	7-Dec-16 (No. DAE4-660_Dec16)	Dec-17
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 18, 2017

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

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., ϑ = 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) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) 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 ϑ = 0 (f ≤ 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 (no uncertainty required). 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 ≤ 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).

Probe EX3DV4

SN:7406

Manufactured: November 24, 2015
Calibrated: April 18, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7406

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.47	0.42	0.45	± 10.1 %
DCP (mV)[B]	99.5	98.3	95.1	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	138.9	±2.5 %
		Y	0.0	0.0	1.0		129.6	
		Z	0.0	0.0	1.0		128.2	

Note: For details on UID parameters see Appendix.

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	48.83	366.9	36.13	15.06	1.101	4.968	0.251	0.437	1.003
Y	19.57	145.7	35.6	3.888	0.704	4.934	0	0.021	1.004
Z	45.42	343.9	36.58	10.69	0.846	4.98	0	0.36	1.004

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] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7406

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz)[C]	Relative Permittivity[F]	Conductivity (S/m)[F]	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unc (k=2)
600	42.7	0.88	10.42	10.42	10.42	0.10	1.20	± 13.3 %
750	41.9	0.89	10.26	10.26	10.26	0.52	0.80	± 12.0 %
835	41.5	0.90	9.97	9.97	9.97	0.53	0.81	± 12.0 %
1750	40.1	1.37	8.88	8.88	8.88	0.42	0.80	± 12.0 %
1900	40.0	1.40	8.40	8.40	8.40	0.26	0.87	± 12.0 %
2300	39.5	1.67	8.04	8.04	8.04	0.25	0.80	± 12.0 %
2450	39.2	1.80	7.68	7.68	7.68	0.38	0.80	± 12.0 %
2600	39.0	1.96	7.44	7.44	7.44	0.40	0.83	± 12.0 %

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

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7406

Calibration Parameter Determined in Body Tissue Simulating Media

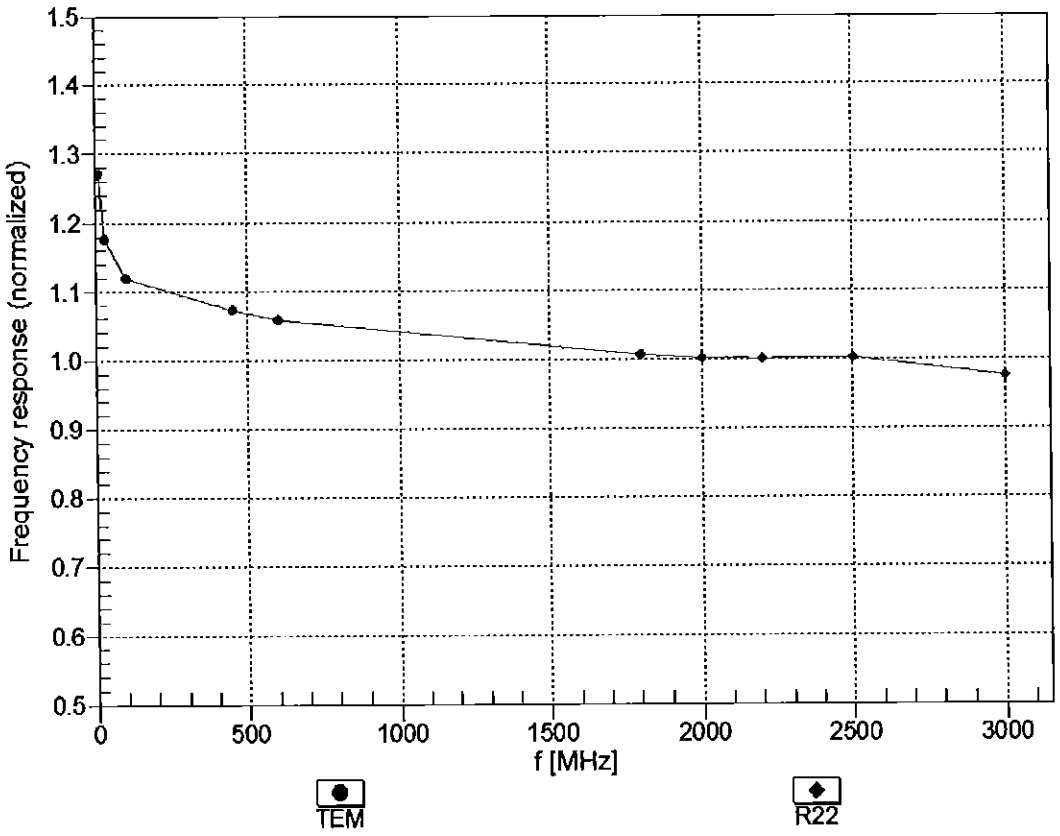
f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
600	56.1	0.95	10.82	10.82	10.82	0.10	1.20	± 13.3 %
750	55.5	0.96	9.90	9.90	9.90	0.51	0.83	± 12.0 %
835	55.2	0.97	9.77	9.77	9.77	0.46	0.80	± 12.0 %
1750	53.4	1.49	8.08	8.08	8.08	0.41	0.85	± 12.0 %
1900	53.3	1.52	7.81	7.81	7.81	0.44	0.80	± 12.0 %
2300	52.9	1.81	7.65	7.65	7.65	0.38	0.84	± 12.0 %
2450	52.7	1.95	7.60	7.60	7.60	0.33	0.89	± 12.0 %
2600	52.5	2.16	7.31	7.31	7.31	0.31	0.94	± 12.0 %

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

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

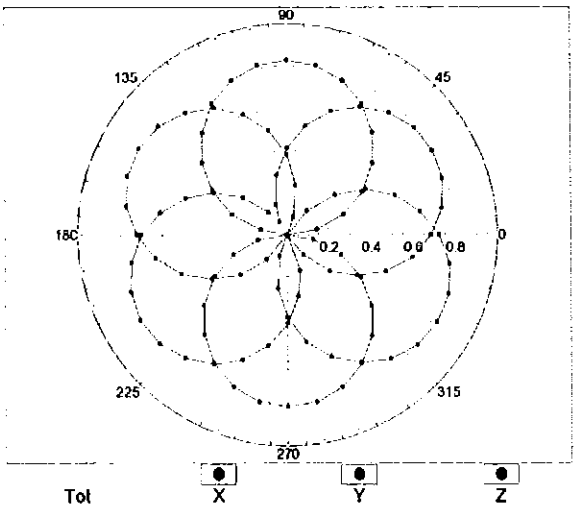
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



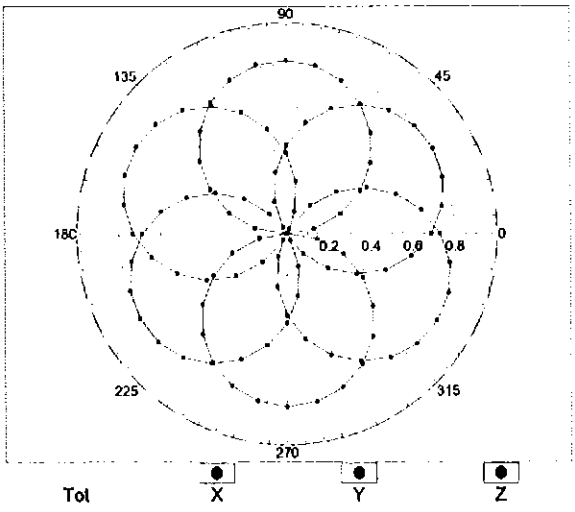
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

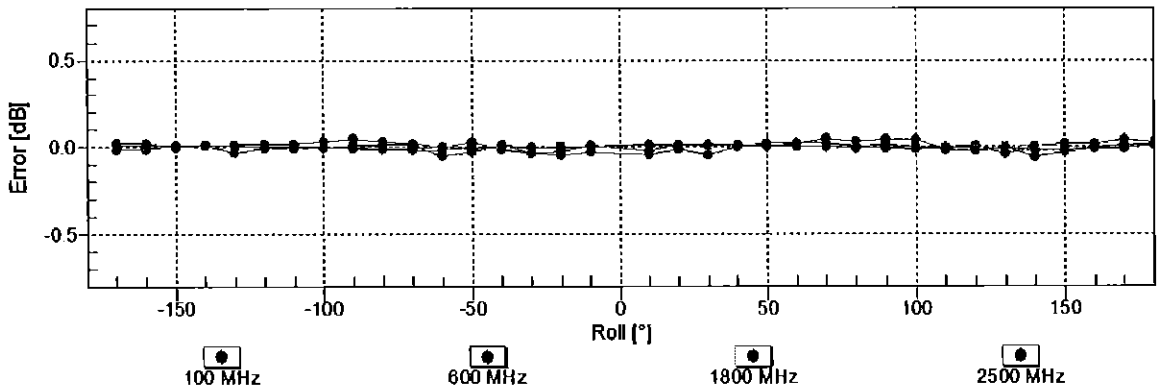
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



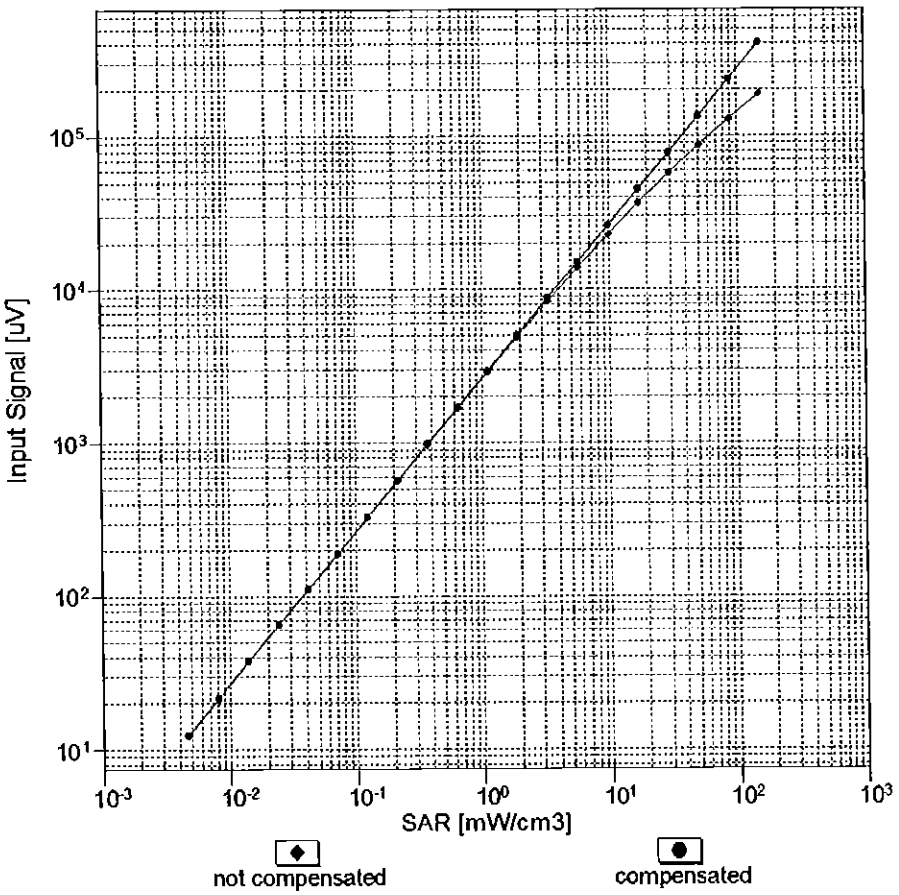
f=1800 MHz,R22

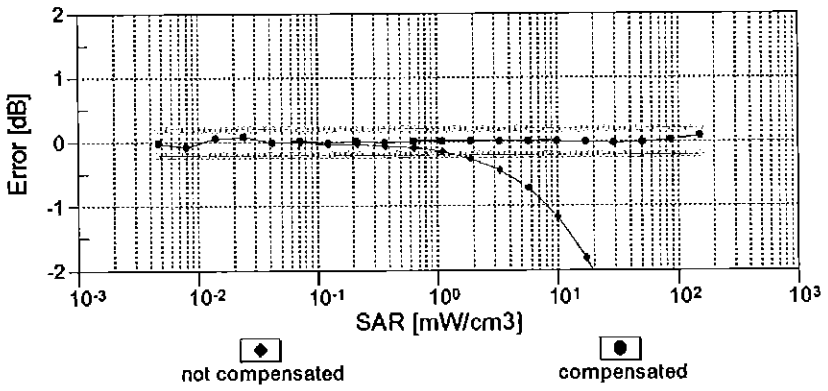




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR$_{head}$)
(TEM cell , f_{eval}= 1900 MHz)

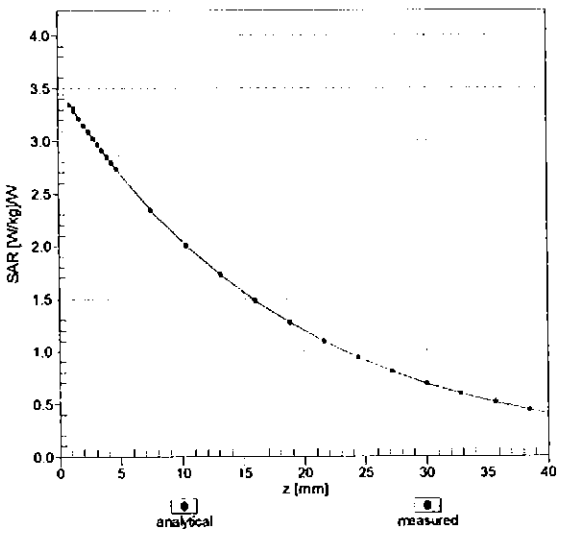




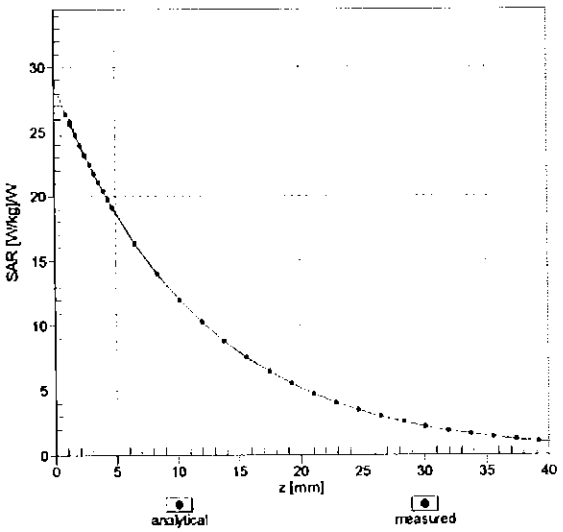
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

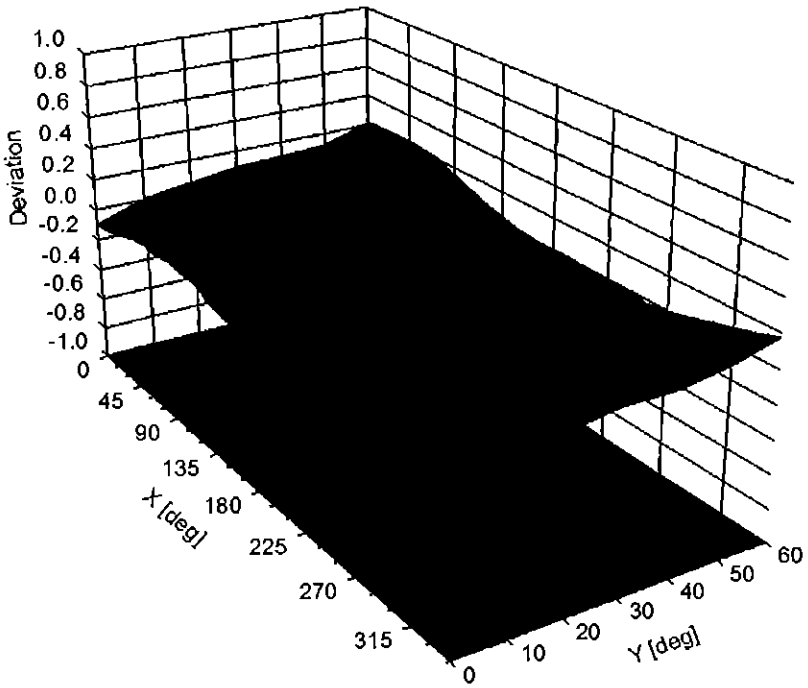


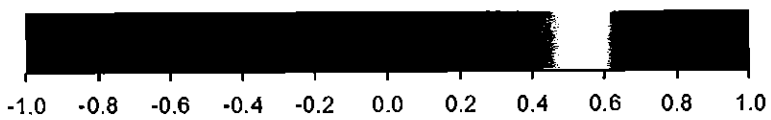
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7406

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	0
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	138.9	± 2.5 %
		Y	0.00	0.00	1.00		129.6	
		Z	0.00	0.00	1.00		128.2	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	2.73	66.22	10.89	10.00	20.0	± 9.6 %
		Y	2.50	65.91	10.39		20.0	
		Z	2.53	65.90	10.54		20.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.16	69.53	16.71	0.00	150.0	± 9.6 %
		Y	1.55	76.79	19.47		150.0	
		Z	1.09	68.24	15.96		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.21	64.38	15.70	0.41	150.0	± 9.6 %
		Y	1.20	65.37	16.13		150.0	
		Z	1.18	63.82	15.33		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.87	66.56	16.98	1.46	150.0	± 9.6 %
		Y	4.34	67.27	16.96		150.0	
		Z	4.83	66.50	16.95		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	9.99	82.36	18.50	9.39	50.0	± 9.6 %
		Y	13.63	85.86	18.88		50.0	
		Z	18.22	90.00	20.60		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	8.49	80.16	17.78	9.57	50.0	± 9.6 %
		Y	7.32	78.16	16.31		50.0	
		Z	12.47	85.19	19.17		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	18.19	89.55	19.31	6.56	60.0	± 9.6 %
		Y	100.00	107.67	23.01		60.0	
		Z	100.00	108.36	23.76		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	5.54	75.78	27.74	12.57	50.0	± 9.6 %
		Y	8.76	92.32	36.08		50.0	
		Z	4.44	70.37	25.26		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	9.90	90.96	31.21	9.56	60.0	± 9.6 %
		Y	5.70	81.99	28.84		60.0	
		Z	7.85	86.95	30.11		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	106.69	22.59	4.80	80.0	± 9.6 %
		Y	100.00	110.45	23.34		80.0	
		Z	100.00	108.23	22.93		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	107.01	22.11	3.55	100.0	± 9.6 %
		Y	100.00	117.41	25.54		100.0	
		Z	100.00	109.42	22.79		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	6.41	81.80	26.70	7.80	80.0	± 9.6 %
		Y	3.86	73.74	24.21		80.0	
		Z	5.17	78.18	25.56		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	13.75	86.21	17.68	5.30	70.0	± 9.6 %
		Y	8.41	82.76	15.88		70.0	
		Z	100.00	106.60	22.49		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	106.42	20.68	1.88	100.0	± 9.6 %
		Y	100.00	120.98	25.51		100.0	
		Z	100.00	108.89	21.35		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	113.18	22.62	1.17	100.0	± 9.6 %
		Y	100.00	160.14	39.75		100.0	
		Z	100.00	117.70	24.05		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	6.02	81.27	20.17	5.30	70.0	± 9.6 %
		Y	2.18	67.67	12.00		70.0	
		Z	5.24	80.63	20.08		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.82	75.11	17.10	1.88	100.0	± 9.6 %
		Y	0.75	61.82	7.32		100.0	
		Z	2.29	73.13	16.28		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	2.17	73.18	16.32	1.17	100.0	± 9.6 %
		Y	0.59	61.24	6.75		100.0	
		Z	1.79	71.19	15.39		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	7.12	83.90	21.15	5.30	70.0	± 9.6 %
		Y	2.26	68.25	12.32		70.0	
		Z	6.24	83.43	21.13		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.66	74.41	16.79	1.88	100.0	± 9.6 %
		Y	0.71	61.41	7.10		100.0	
		Z	2.15	72.41	15.96		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	2.20	73.62	16.61	1.17	100.0	± 9.6 %
		Y	0.60	61.36	6.93		100.0	
		Z	1.80	71.51	15.64		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.76	78.09	18.48	0.00	150.0	± 9.6 %
		Y	0.37	60.00	5.64		150.0	
		Z	2.22	74.97	16.93		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	7.43	78.80	16.12	7.78	50.0	± 9.6 %
		Y	8.26	80.71	16.15		50.0	
		Z	12.01	84.59	17.75		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	100.49	0.10	0.00	150.0	± 9.6 %
		Y	0.04	60.00	50.13		150.0	
		Z	0.00	96.59	0.05		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	6.27	73.35	16.78	13.80	25.0	± 9.6 %
		Y	5.47	69.78	14.42		25.0	
		Z	7.09	74.59	16.89		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	6.62	76.07	16.59	10.79	40.0	± 9.6 %
		Y	5.50	73.13	14.63		40.0	
		Z	7.47	77.74	16.92		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	8.73	81.97	20.70	9.03	50.0	± 9.6 %
		Y	5.30	74.02	15.71		50.0	
		Z	9.70	84.35	21.49		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.93	77.02	24.10	6.55	100.0	± 9.6 %
		Y	3.18	70.36	21.96		100.0	
		Z	4.10	73.99	23.08		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.26	65.49	16.19	0.61	110.0	± 9.6 %
		Y	1.20	65.95	16.36		110.0	
		Z	1.20	64.67	15.74		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	13.21	104.87	27.26	1.30	110.0	± 9.6 %
		Y	4.90	96.93	26.57		110.0	
		Z	4.52	91.43	23.95		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	2.92	78.86	20.97	2.04	110.0	± 9.6 %
		Y	1.70	73.25	19.05		110.0	
		Z	2.19	75.27	19.88		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.70	66.68	16.55	0.49	100.0	± 9.6 %
		Y	4.18	67.42	16.56		100.0	
		Z	4.65	66.61	16.51		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.70	66.73	16.62	0.72	100.0	± 9.6 %
		Y	4.18	67.49	16.63		100.0	
		Z	4.66	66.66	16.57		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.99	66.98	16.82	0.86	100.0	± 9.6 %
		Y	4.36	67.60	16.75		100.0	
		Z	4.94	66.90	16.78		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.85	66.84	16.87	1.21	100.0	± 9.6 %
		Y	4.23	67.25	16.71		100.0	
		Z	4.80	66.75	16.83		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.86	66.83	16.99	1.46	100.0	± 9.6 %
		Y	4.21	67.08	16.71		100.0	
		Z	4.80	66.72	16.95		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.14	66.93	17.36	2.04	100.0	± 9.6 %
		Y	4.40	67.10	16.99		100.0	
		Z	5.08	66.86	17.34		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.19	66.98	17.55	2.55	100.0	± 9.6 %
		Y	4.52	67.37	17.35		100.0	
		Z	5.12	66.84	17.50		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.27	66.95	17.72	2.67	100.0	± 9.6 %
		Y	4.52	67.17	17.38		100.0	
		Z	5.20	66.85	17.69		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.96	66.60	17.22	1.99	100.0	± 9.6 %
		Y	4.44	67.29	17.20		100.0	
		Z	4.91	66.53	17.19		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.94	66.90	17.40	2.30	100.0	± 9.6 %
		Y	4.35	67.27	17.25		100.0	
		Z	4.87	66.79	17.36		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.99	67.03	17.67	2.83	100.0	± 9.6 %
		Y	4.41	67.49	17.58		100.0	
		Z	4.92	66.90	17.63		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.97	66.91	17.78	3.30	100.0	± 9.6 %
		Y	4.49	67.70	17.84		100.0	
		Z	4.90	66.77	17.74		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.02	67.05	18.08	3.82	90.0	± 9.6 %
		Y	4.55	67.83	18.12		90.0	
		Z	4.94	66.85	18.01		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.03	66.84	18.17	4.15	90.0	± 9.6 %
		Y	4.61	67.72	18.28		90.0	
		Z	4.95	66.65	18.12		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.06	66.90	18.26	4.30	90.0	± 9.6 %
		Y	4.65	67.85	18.42		90.0	
		Z	4.98	66.71	18.21		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	1.05	69.26	14.55	0.00	150.0	± 9.6 %
		Y	0.28	60.00	5.33		150.0	
		Z	0.92	67.44	13.36		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.71	58.22	3.69	4.77	80.0	± 9.6 %
		Y	0.41	56.78	1.87		80.0	
		Z	0.54	57.53	2.88		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	17.35	89.03	19.19	6.56	60.0	± 9.6 %
		Y	100.00	107.61	23.00		60.0	
		Z	100.00	108.37	23.77		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.96	68.94	16.57	0.00	150.0	± 9.6 %
		Y	2.57	76.20	18.23		150.0	
		Z	1.90	68.41	16.17		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.92	68.91	16.54	0.00	150.0	± 9.6 %
		Y	2.54	76.26	18.30		150.0	
		Z	1.86	68.36	16.14		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	9.94	91.01	31.21	9.56	60.0	± 9.6 %
		Y	5.73	82.09	28.86		60.0	
		Z	7.90	87.03	30.13		60.0	
10100-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.32	71.40	17.37	0.00	150.0	± 9.6 %
		Y	2.95	71.83	18.07		150.0	
		Z	3.20	70.72	17.06		150.0	
10101-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.33	67.99	16.32	0.00	150.0	± 9.6 %
		Y	3.00	68.42	16.63		150.0	
		Z	3.27	67.68	16.15		150.0	
10102-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.43	67.94	16.40	0.00	150.0	± 9.6 %
		Y	3.10	68.46	16.71		150.0	
		Z	3.37	67.66	16.24		150.0	
10103-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.02	73.90	19.30	3.98	65.0	± 9.6 %
		Y	4.68	73.18	19.41		65.0	
		Z	5.62	73.49	19.33		65.0	
10104-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.42	73.34	19.91	3.98	65.0	± 9.6 %
		Y	4.72	70.79	18.81		65.0	
		Z	5.88	72.35	19.63		65.0	
10105-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	6.34	73.01	20.09	3.98	65.0	± 9.6 %
		Y	4.65	70.25	18.83		65.0	
		Z	5.51	70.92	19.28		65.0	
10108-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.90	70.63	17.22	0.00	150.0	± 9.6 %
		Y	2.58	72.09	18.15		150.0	
		Z	2.79	69.99	16.90		150.0	
10109-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.99	67.94	16.29	0.00	150.0	± 9.6 %
		Y	2.69	69.27	16.60		150.0	
		Z	2.93	67.61	16.08		150.0	
10110-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.37	69.82	16.91	0.00	150.0	± 9.6 %
		Y	2.17	72.66	17.66		150.0	
		Z	2.27	69.17	16.53		150.0	
10111-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.75	69.14	16.80	0.00	150.0	± 9.6 %
		Y	2.72	72.65	17.00		150.0	
		Z	2.68	68.77	16.52		150.0	

10112-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.11	67.90	16.33	0.00	150.0	± 9.6 %
		Y	2.81	69.41	16.67		150.0	
		Z	3.05	67.61	16.14		150.0	
10113-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.91	69.24	16.90	0.00	150.0	± 9.6 %
		Y	2.80	72.45	16.91		150.0	
		Z	2.83	68.91	16.64		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.18	67.36	16.63	0.00	150.0	± 9.6 %
		Y	4.69	67.54	16.80		150.0	
		Z	5.15	67.30	16.59		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.48	67.50	16.70	0.00	150.0	± 9.6 %
		Y	4.94	67.76	16.85		150.0	
		Z	5.42	67.37	16.64		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.28	67.57	16.65	0.00	150.0	± 9.6 %
		Y	4.76	67.79	16.84		150.0	
		Z	5.24	67.47	16.61		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.14	67.22	16.57	0.00	150.0	± 9.6 %
		Y	4.68	67.44	16.77		150.0	
		Z	5.11	67.13	16.53		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.56	67.71	16.81	0.00	150.0	± 9.6 %
		Y	4.92	67.65	16.80		150.0	
		Z	5.51	67.59	16.75		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.26	67.51	16.64	0.00	150.0	± 9.6 %
		Y	4.75	67.71	16.81		150.0	
		Z	5.23	67.43	16.60		150.0	
10140-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.47	67.94	16.32	0.00	150.0	± 9.6 %
		Y	3.08	68.53	16.60		150.0	
		Z	3.41	67.65	16.15		150.0	
10141-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.59	68.02	16.48	0.00	150.0	± 9.6 %
		Y	3.23	68.87	16.85		150.0	
		Z	3.53	67.77	16.33		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.17	70.14	16.75	0.00	150.0	± 9.6 %
		Y	1.93	72.39	15.85		150.0	
		Z	2.06	69.38	16.26		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.69	70.39	16.77	0.00	150.0	± 9.6 %
		Y	1.77	67.88	12.65		150.0	
		Z	2.58	69.83	16.31		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.37	67.50	14.86	0.00	150.0	± 9.6 %
		Y	1.24	63.02	9.52		150.0	
		Z	2.27	66.99	14.42		150.0	
10145-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.43	67.32	13.24	0.00	150.0	± 9.6 %
		Y	0.41	60.00	4.04		150.0	
		Z	1.25	65.61	11.99		150.0	
10146-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.83	65.71	11.47	0.00	150.0	± 9.6 %
		Y	19.01	355.37	40.53		150.0	
		Z	1.52	64.01	10.27		150.0	
10147-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.14	67.65	12.55	0.00	150.0	± 9.6 %
		Y	123.11	63.95	2.67		150.0	
		Z	1.70	65.34	11.08		150.0	

10149-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.00	68.01	16.34	0.00	150.0	± 9.6 %
		Y	2.71	69.38	16.67		150.0	
		Z	2.94	67.68	16.14		150.0	
10150-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.12	67.96	16.38	0.00	150.0	± 9.6 %
		Y	2.83	69.51	16.73		150.0	
		Z	3.06	67.68	16.19		150.0	
10151-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.55	76.73	20.51	3.98	65.0	± 9.6 %
		Y	4.65	75.11	19.92		65.0	
		Z	5.91	75.87	20.37		65.0	
10152-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.92	73.14	19.51	3.98	65.0	± 9.6 %
		Y	4.14	70.22	17.64		65.0	
		Z	5.38	72.11	19.20		65.0	
10153-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	6.32	74.15	20.32	3.98	65.0	± 9.6 %
		Y	4.49	71.52	18.62		65.0	
		Z	5.75	73.14	20.03		65.0	
10154-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.44	70.37	17.23	0.00	150.0	± 9.6 %
		Y	2.24	73.24	17.96		150.0	
		Z	2.32	69.67	16.83		150.0	
10155-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.75	69.15	16.81	0.00	150.0	± 9.6 %
		Y	2.75	72.83	17.10		150.0	
		Z	2.68	68.79	16.53		150.0	
10156-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.05	70.60	16.74	0.00	150.0	± 9.6 %
		Y	1.46	69.42	13.50		150.0	
		Z	1.92	69.63	16.11		150.0	
10157-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.25	68.47	15.12	0.00	150.0	± 9.6 %
		Y	0.93	61.53	7.91		150.0	
		Z	2.13	67.76	14.53		150.0	
10158-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.91	69.31	16.96	0.00	150.0	± 9.6 %
		Y	2.84	72.68	17.03		150.0	
		Z	2.84	68.99	16.70		150.0	
10159-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.39	69.07	15.47	0.00	150.0	± 9.6 %
		Y	0.94	61.44	7.84		150.0	
		Z	2.25	68.30	14.85		150.0	
10160-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.87	69.48	16.90	0.00	150.0	± 9.6 %
		Y	2.53	71.06	17.44		150.0	
		Z	2.80	69.08	16.66		150.0	
10161-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.02	67.94	16.33	0.00	150.0	± 9.6 %
		Y	2.72	69.68	16.46		150.0	
		Z	2.96	67.65	16.13		150.0	
10162-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.13	68.07	16.43	0.00	150.0	± 9.6 %
		Y	2.84	70.03	16.63		150.0	
		Z	3.07	67.81	16.24		150.0	
10166-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.48	69.00	18.84	3.01	150.0	± 9.6 %
		Y	2.37	66.02	18.17		150.0	
		Z	3.30	68.39	18.62		150.0	
10167-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.17	71.58	19.19	3.01	150.0	± 9.6 %
		Y	2.29	67.15	18.12		150.0	
		Z	3.79	70.56	18.83		150.0	

10168-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.66	74.00	20.63	3.01	150.0	± 9.6 %
		Y	2.48	69.25	19.67		150.0	
		Z	4.22	72.96	20.30		150.0	
10169-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.83	68.21	18.52	3.01	150.0	± 9.6 %
		Y	1.98	64.24	17.28		150.0	
		Z	2.57	66.84	17.97		150.0	
10170-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	3.78	73.87	20.84	3.01	150.0	± 9.6 %
		Y	1.95	66.56	18.68		150.0	
		Z	3.16	71.49	20.02		150.0	
10171-AAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.08	69.63	17.94	3.01	150.0	± 9.6 %
		Y	1.72	64.21	16.34		150.0	
		Z	2.64	67.80	17.26		150.0	
10172-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.42	80.62	23.60	6.02	65.0	± 9.6 %
		Y	2.15	69.85	20.42		65.0	
		Z	4.45	78.76	23.36		65.0	
10173-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	8.97	86.28	23.79	6.02	65.0	± 9.6 %
		Y	2.26	72.00	19.72		65.0	
		Z	6.61	83.59	23.38		65.0	
10174-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	7.82	83.09	22.18	6.02	65.0	± 9.6 %
		Y	1.97	69.58	18.06		65.0	
		Z	5.22	78.89	21.15		65.0	
10175-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.79	67.90	18.26	3.01	150.0	± 9.6 %
		Y	1.97	64.07	17.08		150.0	
		Z	2.54	66.56	17.72		150.0	
10176-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.78	73.89	20.85	3.01	150.0	± 9.6 %
		Y	1.95	66.57	18.69		150.0	
		Z	3.16	71.52	20.03		150.0	
10177-CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.82	68.06	18.36	3.01	150.0	± 9.6 %
		Y	1.98	64.12	17.12		150.0	
		Z	2.56	66.70	17.81		150.0	
10178-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	3.74	73.65	20.71	3.01	150.0	± 9.6 %
		Y	1.95	66.53	18.65		150.0	
		Z	3.13	71.32	19.91		150.0	
10179-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.39	71.59	19.23	3.01	150.0	± 9.6 %
		Y	1.82	65.39	17.45		150.0	
		Z	2.87	69.52	18.50		150.0	
10180-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.08	69.55	17.88	3.01	150.0	± 9.6 %
		Y	1.72	64.21	16.33		150.0	
		Z	2.64	67.75	17.21		150.0	
10181-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.81	68.04	18.35	3.01	150.0	± 9.6 %
		Y	1.97	64.11	17.12		150.0	
		Z	2.56	66.68	17.80		150.0	
10182-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	3.73	73.62	20.70	3.01	150.0	± 9.6 %
		Y	1.95	66.51	18.64		150.0	
		Z	3.13	71.29	19.90		150.0	
10183-AAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.07	69.53	17.87	3.01	150.0	± 9.6 %
		Y	1.72	64.19	16.32		150.0	
		Z	2.64	67.72	17.20		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.82	68.08	18.37	3.01	150.0	± 9.6 %
		Y	1.98	64.13	17.13		150.0	
		Z	2.56	66.72	17.83		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	3.75	73.70	20.74	3.01	150.0	± 9.6 %
		Y	1.96	66.56	18.67		150.0	
		Z	3.14	71.36	19.94		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.09	69.60	17.91	3.01	150.0	± 9.6 %
		Y	1.73	64.23	16.35		150.0	
		Z	2.65	67.78	17.23		150.0	
10187-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.83	68.13	18.43	3.01	150.0	± 9.6 %
		Y	1.99	64.22	17.23		150.0	
		Z	2.57	66.77	17.89		150.0	
10188-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	3.88	74.41	21.15	3.01	150.0	± 9.6 %
		Y	1.98	66.86	18.93		150.0	
		Z	3.23	71.97	20.32		150.0	
10189-AAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.15	70.02	18.19	3.01	150.0	± 9.6 %
		Y	1.74	64.44	16.55		150.0	
		Z	2.70	68.15	17.50		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.57	66.79	16.35	0.00	150.0	± 9.6 %
		Y	4.14	67.99	16.59		150.0	
		Z	4.54	66.72	16.28		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.75	67.11	16.47	0.00	150.0	± 9.6 %
		Y	4.22	68.00	16.68		150.0	
		Z	4.70	67.02	16.41		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.79	67.14	16.49	0.00	150.0	± 9.6 %
		Y	4.23	67.92	16.65		150.0	
		Z	4.74	67.05	16.43		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.58	66.86	16.37	0.00	150.0	± 9.6 %
		Y	4.11	67.92	16.54		150.0	
		Z	4.54	66.78	16.30		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.76	67.13	16.48	0.00	150.0	± 9.6 %
		Y	4.23	68.00	16.69		150.0	
		Z	4.71	67.04	16.42		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.79	67.15	16.50	0.00	150.0	± 9.6 %
		Y	4.22	67.91	16.64		150.0	
		Z	4.74	67.07	16.44		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.53	66.88	16.34	0.00	150.0	± 9.6 %
		Y	4.08	68.06	16.58		150.0	
		Z	4.49	66.80	16.27		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.76	67.10	16.47	0.00	150.0	± 9.6 %
		Y	4.22	67.96	16.67		150.0	
		Z	4.71	67.01	16.41		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.80	67.08	16.48	0.00	150.0	± 9.6 %
		Y	4.25	67.92	16.65		150.0	
		Z	4.75	67.00	16.42		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.12	67.23	16.57	0.00	150.0	± 9.6 %
		Y	4.67	67.48	16.77		150.0	
		Z	5.09	67.14	16.52		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.42	67.42	16.68	0.00	150.0	± 9.6 %
		Y	4.85	67.57	16.77		150.0	
		Z	5.40	67.40	16.67		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.17	67.35	16.56	0.00	150.0	± 9.6 %
		Y	4.71	67.68	16.79		150.0	
		Z	5.13	67.25	16.51		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.87	66.58	15.73	0.00	150.0	± 9.6 %
		Y	2.38	67.09	13.98		150.0	
		Z	2.82	66.38	15.50		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	9.50	87.34	24.24	6.02	65.0	± 9.6 %
		Y	2.34	72.67	20.10		65.0	
		Z	6.98	84.60	23.83		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	8.72	84.77	22.80	6.02	65.0	± 9.6 %
		Y	2.21	71.55	18.95		65.0	
		Z	6.78	83.00	22.65		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	7.70	87.24	26.02	6.02	65.0	± 9.6 %
		Y	2.35	71.63	21.26		65.0	
		Z	5.43	82.72	24.92		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	9.03	86.38	23.83	6.02	65.0	± 9.6 %
		Y	2.27	72.06	19.75		65.0	
		Z	6.67	83.69	23.42		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	8.29	83.90	22.43	6.02	65.0	± 9.6 %
		Y	2.13	70.90	18.60		65.0	
		Z	6.44	82.12	22.26		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	7.38	86.38	25.64	6.02	65.0	± 9.6 %
		Y	2.30	71.12	20.95		65.0	
		Z	5.24	81.97	24.56		65.0	
10232-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	9.02	86.36	23.83	6.02	65.0	± 9.6 %
		Y	2.27	72.05	19.75		65.0	
		Z	6.65	83.67	23.41		65.0	
10233-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	8.28	83.89	22.42	6.02	65.0	± 9.6 %
		Y	2.13	70.87	18.59		65.0	
		Z	6.43	82.09	22.25		65.0	
10234-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	7.10	85.54	25.23	6.02	65.0	± 9.6 %
		Y	2.26	70.79	20.68		65.0	
		Z	5.08	81.30	24.19		65.0	
10235-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	9.02	86.38	23.84	6.02	65.0	± 9.6 %
		Y	2.27	72.05	19.76		65.0	
		Z	6.65	83.69	23.42		65.0	
10236-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	8.34	83.99	22.45	6.02	65.0	± 9.6 %
		Y	2.15	70.97	18.63		65.0	
		Z	6.48	82.21	22.28		65.0	
10237-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	7.38	86.43	25.66	6.02	65.0	± 9.6 %
		Y	2.30	71.11	20.95		65.0	
		Z	5.24	82.00	24.57		65.0	
10238-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	9.00	86.33	23.82	6.02	65.0	± 9.6 %
		Y	2.26	72.03	19.74		65.0	
		Z	6.63	83.64	23.40		65.0	

10239-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	8.25	83.86	22.41	6.02	65.0	± 9.6 %
		Y	2.13	70.85	18.59		65.0	
		Z	6.41	82.06	22.24		65.0	
10240-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	7.36	86.38	25.64	6.02	65.0	± 9.6 %
		Y	2.30	71.11	20.95		65.0	
		Z	5.22	81.96	24.56		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	7.65	78.90	23.86	6.98	65.0	± 9.6 %
		Y	4.15	74.63	23.03		65.0	
		Z	6.65	77.23	23.41		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	7.40	78.25	23.51	6.98	65.0	± 9.6 %
		Y	3.84	73.21	22.33		65.0	
		Z	6.07	75.38	22.52		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	6.13	75.50	23.22	6.98	65.0	± 9.6 %
		Y	3.68	71.24	22.18		65.0	
		Z	5.17	72.72	22.17		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	4.96	71.78	16.23	3.98	65.0	± 9.6 %
		Y	1.47	60.59	6.86		65.0	
		Z	4.27	70.57	15.63		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	4.90	71.39	16.01	3.98	65.0	± 9.6 %
		Y	1.47	60.48	6.73		65.0	
		Z	4.22	70.14	15.39		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	4.94	75.03	17.94	3.98	65.0	± 9.6 %
		Y	1.46	62.04	8.51		65.0	
		Z	4.23	73.72	17.40		65.0	
10247-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	4.94	72.43	17.57	3.98	65.0	± 9.6 %
		Y	2.10	63.24	9.90		65.0	
		Z	4.38	71.34	17.07		65.0	
10248-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	4.96	72.03	17.39	3.98	65.0	± 9.6 %
		Y	2.10	62.93	9.72		65.0	
		Z	4.40	70.92	16.87		65.0	
10249-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	6.07	78.35	20.13	3.98	65.0	± 9.6 %
		Y	2.33	67.19	12.94		65.0	
		Z	5.28	77.21	19.80		65.0	
10250-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	5.95	75.24	20.37	3.98	65.0	± 9.6 %
		Y	3.82	70.93	16.95		65.0	
		Z	5.33	74.14	20.02		65.0	
10251-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.69	73.28	19.20	3.98	65.0	± 9.6 %
		Y	3.45	68.36	15.25		65.0	
		Z	5.13	72.25	18.83		65.0	
10252-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.58	78.88	21.28	3.98	65.0	± 9.6 %
		Y	4.11	75.12	18.99		65.0	
		Z	5.80	77.80	21.07		65.0	
10253-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.80	72.65	19.29	3.98	65.0	± 9.6 %
		Y	4.01	69.64	16.98		65.0	
		Z	5.29	71.67	18.98		65.0	
10254-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	6.17	73.58	20.02	3.98	65.0	± 9.6 %
		Y	4.31	70.68	17.76		65.0	
		Z	5.63	72.60	19.71		65.0	

10255-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.29	76.23	20.52	3.98	65.0	± 9.6 %
		Y	4.41	74.27	19.43		65.0	
		Z	5.67	75.30	20.34		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.88	68.28	13.63	3.98	65.0	± 9.6 %
		Y	1.05	58.86	4.54		65.0	
		Z	3.28	66.95	12.85		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.85	67.85	13.35	3.98	65.0	± 9.6 %
		Y	1.05	58.75	4.36		65.0	
		Z	3.25	66.51	12.54		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	3.78	70.85	15.35	3.98	65.0	± 9.6 %
		Y	1.11	60.00	5.99		65.0	
		Z	3.18	69.35	14.58		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	5.33	73.49	18.59	3.98	65.0	± 9.6 %
		Y	2.60	65.55	12.14		65.0	
		Z	4.76	72.43	18.16		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.38	73.29	18.52	3.98	65.0	± 9.6 %
		Y	2.62	65.36	12.01		65.0	
		Z	4.80	72.23	18.08		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	6.02	77.89	20.37	3.98	65.0	± 9.6 %
		Y	2.87	69.70	14.96		65.0	
		Z	5.26	76.76	20.06		65.0	
10262-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	5.94	75.19	20.32	3.98	65.0	± 9.6 %
		Y	3.80	70.83	16.88		65.0	
		Z	5.32	74.09	19.98		65.0	
10263-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.68	73.26	19.19	3.98	65.0	± 9.6 %
		Y	3.45	68.35	15.24		65.0	
		Z	5.12	72.23	18.82		65.0	
10264-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	6.52	78.70	21.19	3.98	65.0	± 9.6 %
		Y	4.06	74.89	18.86		65.0	
		Z	5.75	77.62	20.97		65.0	
10265-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.92	73.14	19.52	3.98	65.0	± 9.6 %
		Y	4.14	70.23	17.64		65.0	
		Z	5.38	72.12	19.20		65.0	
10266-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	6.31	74.13	20.31	3.98	65.0	± 9.6 %
		Y	4.49	71.50	18.60		65.0	
		Z	5.75	73.12	20.02		65.0	
10267-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.54	76.70	20.49	3.98	65.0	± 9.6 %
		Y	4.64	75.05	19.89		65.0	
		Z	5.90	75.83	20.35		65.0	
10268-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.58	73.24	19.99	3.98	65.0	± 9.6 %
		Y	4.89	71.06	18.92		65.0	
		Z	6.05	72.29	19.72		65.0	
10269-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	6.56	72.88	19.90	3.98	65.0	± 9.6 %
		Y	4.96	70.94	18.86		65.0	
		Z	6.05	71.95	19.63		65.0	
10270-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.52	74.64	19.85	3.98	65.0	± 9.6 %
		Y	4.97	73.67	19.72		65.0	
		Z	5.98	73.87	19.71		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.66	67.03	15.70	0.00	150.0	± 9.6 %
		Y	2.34	68.55	14.63		150.0	
		Z	2.62	66.83	15.48		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.75	69.41	16.56	0.00	150.0	± 9.6 %
		Y	2.02	74.91	18.12		150.0	
		Z	1.67	68.59	16.06		150.0	
10277-CAA	PHS (QPSK)	X	2.57	62.13	7.82	9.03	50.0	± 9.6 %
		Y	1.60	59.68	4.94		50.0	
		Z	2.26	61.44	7.11		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	4.26	69.41	14.02	9.03	50.0	± 9.6 %
		Y	2.29	61.84	7.55		50.0	
		Z	3.87	68.64	13.41		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	4.37	69.66	14.18	9.03	50.0	± 9.6 %
		Y	2.31	61.88	7.61		50.0	
		Z	3.97	68.90	13.58		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.85	72.31	15.88	0.00	150.0	± 9.6 %
		Y	0.36	60.00	5.29		150.0	
		Z	1.58	70.17	14.63		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	1.02	68.88	14.36	0.00	150.0	± 9.6 %
		Y	0.28	60.00	5.31		150.0	
		Z	0.90	67.15	13.20		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.80	77.95	18.61	0.00	150.0	± 9.6 %
		Y	0.38	62.69	7.21		150.0	
		Z	1.39	74.03	16.69		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	5.83	95.82	25.10	0.00	150.0	± 9.6 %
		Y	100.00	107.50	20.43		150.0	
		Z	3.54	87.74	22.15		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	7.34	78.85	20.80	9.03	50.0	± 9.6 %
		Y	17.07	85.10	19.02		50.0	
		Z	7.80	80.40	21.29		50.0	
10297-AAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.92	70.76	17.30	0.00	150.0	± 9.6 %
		Y	2.60	72.27	18.25		150.0	
		Z	2.80	70.10	16.98		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.81	69.98	15.49	0.00	150.0	± 9.6 %
		Y	0.52	60.00	6.04		150.0	
		Z	1.63	68.52	14.51		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.47	68.97	14.03	0.00	150.0	± 9.6 %
		Y	0.58	60.00	4.73		150.0	
		Z	2.10	67.38	13.05		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.87	64.64	11.20	0.00	150.0	± 9.6 %
		Y	0.56	60.00	4.04		150.0	
		Z	1.64	63.62	10.41		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.64	64.99	17.32	4.17	50.0	± 9.6 %
		Y	3.97	66.09	16.87		50.0	
		Z	4.63	65.19	17.38		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.19	65.93	18.20	4.96	50.0	± 9.6 %
		Y	4.41	66.55	17.60		50.0	
		Z	5.08	65.68	18.02		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.95	65.59	18.05	4.96	50.0	± 9.6 %
		Y	4.26	66.62	17.49		50.0	
		Z	4.83	65.30	17.84		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.75	65.47	17.56	4.17	50.0	± 9.6 %
		Y	4.05	66.34	16.93		50.0	
		Z	4.65	65.23	17.38		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.49	67.73	19.78	6.02	35.0	± 9.6 %
		Y	3.71	67.28	16.67		35.0	
		Z	4.28	66.94	19.23		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.75	66.48	19.22	6.02	35.0	± 9.6 %
		Y	4.04	67.06	17.49		35.0	
		Z	4.60	65.99	18.86		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.67	66.74	19.24	6.02	35.0	± 9.6 %
		Y	3.93	66.99	17.33		35.0	
		Z	4.50	66.15	18.83		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.65	66.96	19.39	6.02	35.0	± 9.6 %
		Y	3.96	67.42	17.62		35.0	
		Z	4.47	66.34	18.96		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.80	66.69	19.36	6.02	35.0	± 9.6 %
		Y	4.07	67.23	17.68		35.0	
		Z	4.64	66.17	18.98		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.70	66.58	19.22	6.02	35.0	± 9.6 %
		Y	4.03	67.27	17.61		35.0	
		Z	4.55	66.06	18.84		35.0	
10311-AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.29	69.98	16.90	0.00	150.0	± 9.6 %
		Y	2.90	70.63	17.62		150.0	
		Z	3.17	69.35	16.60		150.0	
10313-AAA	iDEN 1:3	X	3.28	70.39	14.65	6.99	70.0	± 9.6 %
		Y	2.53	71.17	15.80		70.0	
		Z	2.85	70.12	14.78		70.0	
10314-AAA	iDEN 1:6	X	4.28	75.46	19.37	10.00	30.0	± 9.6 %
		Y	4.79	80.62	22.06		30.0	
		Z	4.09	76.26	19.99		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.12	64.41	15.77	0.17	150.0	± 9.6 %
		Y	1.15	65.92	16.47		150.0	
		Z	1.10	63.89	15.39		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.61	66.72	16.37	0.17	150.0	± 9.6 %
		Y	4.09	67.47	16.39		150.0	
		Z	4.56	66.65	16.32		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.61	66.72	16.37	0.17	150.0	± 9.6 %
		Y	4.09	67.47	16.39		150.0	
		Z	4.56	66.65	16.32		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.74	67.15	16.46	0.00	150.0	± 9.6 %
		Y	4.09	67.65	16.48		150.0	
		Z	4.69	67.06	16.40		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.44	67.31	16.60	0.00	150.0	± 9.6 %
		Y	4.84	67.31	16.60		150.0	
		Z	5.42	67.27	16.57		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.69	67.61	16.60	0.00	150.0	± 9.6 %
		Y	5.24	67.76	16.80		150.0	
		Z	5.65	67.50	16.56		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.85	72.31	15.88	0.00	115.0	± 9.6 %
		Y	0.36	60.00	5.29		115.0	
		Z	1.58	70.17	14.63		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.85	72.31	15.88	0.00	115.0	± 9.6 %
		Y	0.36	60.00	5.29		115.0	
		Z	1.58	70.17	14.63		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	53.12	115.17	29.24	0.00	100.0	± 9.6 %
		Y	100.00	124.65	27.76		100.0	
		Z	28.83	109.13	27.97		100.0	
10410-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.68	83.50	19.17	3.23	80.0	± 9.6 %
		Y	1.37	73.33	16.57		80.0	
		Z	5.13	82.70	19.33		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.04	63.68	15.36	0.00	150.0	± 9.6 %
		Y	1.11	65.66	16.32		150.0	
		Z	1.04	63.32	15.03		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.58	66.83	16.42	0.00	150.0	± 9.6 %
		Y	4.11	67.78	16.58		150.0	
		Z	4.54	66.76	16.35		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.58	66.83	16.42	0.00	150.0	± 9.6 %
		Y	4.11	67.78	16.58		150.0	
		Z	4.54	66.76	16.35		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.57	67.00	16.44	0.00	150.0	± 9.6 %
		Y	4.09	68.01	16.69		150.0	
		Z	4.53	66.93	16.39		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.59	66.94	16.44	0.00	150.0	± 9.6 %
		Y	4.11	67.93	16.65		150.0	
		Z	4.55	66.87	16.38		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.71	66.93	16.45	0.00	150.0	± 9.6 %
		Y	4.19	67.82	16.64		150.0	
		Z	4.66	66.86	16.39		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.87	67.25	16.56	0.00	150.0	± 9.6 %
		Y	4.27	68.04	16.70		150.0	
		Z	4.82	67.16	16.50		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.79	67.20	16.54	0.00	150.0	± 9.6 %
		Y	4.21	67.94	16.67		150.0	
		Z	4.74	67.12	16.47		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.39	67.48	16.69	0.00	150.0	± 9.6 %
		Y	4.86	67.72	16.85		150.0	
		Z	5.35	67.38	16.64		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.40	67.51	16.70	0.00	150.0	± 9.6 %
		Y	4.89	67.85	16.91		150.0	
		Z	5.37	67.47	16.68		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.41	67.49	16.68	0.00	150.0	± 9.6 %
		Y	4.87	67.71	16.83		150.0	
		Z	5.37	67.41	16.64		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.48	71.93	18.89	0.00	150.0	± 9.6 %
		Y	5.16	77.88	19.19		150.0	
		Z	4.43	71.96	18.79		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.27	67.46	16.46	0.00	150.0	± 9.6 %
		Y	3.63	68.54	16.11		150.0	
		Z	4.21	67.36	16.35		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.56	67.28	16.50	0.00	150.0	± 9.6 %
		Y	3.98	68.25	16.55		150.0	
		Z	4.51	67.19	16.43		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.81	67.24	16.56	0.00	150.0	± 9.6 %
		Y	4.24	68.00	16.70		150.0	
		Z	4.76	67.15	16.49		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.67	73.09	18.99	0.00	150.0	± 9.6 %
		Y	4.20	74.62	16.81		150.0	
		Z	4.61	73.09	18.84		150.0	
10435-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.37	82.80	18.90	3.23	80.0	± 9.6 %
		Y	1.33	72.76	16.26		80.0	
		Z	4.91	82.00	19.05		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.58	67.63	15.88	0.00	150.0	± 9.6 %
		Y	2.52	66.35	12.95		150.0	
		Z	3.50	67.43	15.64		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.11	67.25	16.33	0.00	150.0	± 9.6 %
		Y	3.54	68.41	16.05		150.0	
		Z	4.05	67.14	16.22		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.38	67.12	16.41	0.00	150.0	± 9.6 %
		Y	3.87	68.13	16.50		150.0	
		Z	4.33	67.03	16.33		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.57	67.02	16.42	0.00	150.0	± 9.6 %
		Y	4.09	67.80	16.59		150.0	
		Z	4.53	66.93	16.35		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.49	67.88	15.53	0.00	150.0	± 9.6 %
		Y	2.00	64.08	10.79		150.0	
		Z	3.38	67.58	15.21		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.26	68.00	16.81	0.00	150.0	± 9.6 %
		Y	6.16	68.95	17.43		150.0	
		Z	6.24	67.94	16.79		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.82	65.46	16.13	0.00	150.0	± 9.6 %
		Y	3.61	66.92	16.42		150.0	
		Z	3.81	65.40	16.06		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.29	67.12	14.89	0.00	150.0	± 9.6 %
		Y	1.44	60.53	7.42		150.0	
		Z	3.18	66.78	14.49		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.43	65.51	15.86	0.00	150.0	± 9.6 %
		Y	2.62	61.35	10.29		150.0	
		Z	4.37	65.53	15.72		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	1.04	71.02	17.96	0.00	150.0	± 9.6 %
		Y	1.96	84.00	22.92		150.0	
		Z	0.97	69.34	16.98		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.48	77.15	17.91	3.29	80.0	± 9.6 %
		Y	0.97	69.25	15.91		80.0	
		Z	2.58	75.48	17.77		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.03	60.33	8.14	3.23	80.0	± 9.6 %
		Y	0.21	55.42	3.53		80.0	
		Z	0.84	60.00	7.93		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.51	3.23	80.0	± 9.6 %
		Y	28.36	203.22	3.05		80.0	
		Z	0.86	60.00	7.39		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.64	73.32	15.98	3.23	80.0	± 9.6 %
		Y	0.75	66.12	13.77		80.0	
		Z	2.03	72.11	15.91		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.99	60.00	7.91	3.23	80.0	± 9.6 %
		Y	29.96	194.97	5.15		80.0	
		Z	0.84	60.00	7.86		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.46	3.23	80.0	± 9.6 %
		Y	30.98	196.96	1.83		80.0	
		Z	0.86	60.00	7.34		80.0	
10467-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.77	73.96	16.25	3.23	80.0	± 9.6 %
		Y	0.77	66.65	14.10		80.0	
		Z	2.12	72.73	16.19		80.0	
10468-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.99	60.08	7.96	3.23	80.0	± 9.6 %
		Y	0.21	55.39	3.50		80.0	
		Z	0.84	60.00	7.88		80.0	
10469-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.46	3.23	80.0	± 9.6 %
		Y	30.66	197.41	1.31		80.0	
		Z	0.86	60.00	7.34		80.0	
10470-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.76	73.94	16.23	3.23	80.0	± 9.6 %
		Y	0.77	66.67	14.10		80.0	
		Z	2.11	72.72	16.18		80.0	
10471-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.99	60.05	7.93	3.23	80.0	± 9.6 %
		Y	29.34	196.18	6.49		80.0	
		Z	0.84	60.00	7.87		80.0	
10472-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.45	3.23	80.0	± 9.6 %
		Y	30.49	197.73	1.27		80.0	
		Z	0.86	60.00	7.33		80.0	
10473-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.76	73.90	16.22	3.23	80.0	± 9.6 %
		Y	0.77	66.63	14.08		80.0	
		Z	2.11	72.69	16.16		80.0	
10474-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.99	60.03	7.93	3.23	80.0	± 9.6 %
		Y	29.25	196.25	6.42		80.0	
		Z	0.84	60.00	7.87		80.0	
10475-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.45	3.23	80.0	± 9.6 %
		Y	30.47	197.62	1.42		80.0	
		Z	0.86	60.00	7.33		80.0	

10477-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.98	60.00	7.89	3.23	80.0	± 9.6 %
		Y	29.49	195.72	5.56		80.0	
		Z	0.84	60.00	7.84		80.0	
10478-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.01	60.00	7.44	3.23	80.0	± 9.6 %
		Y	30.62	197.39	1.80		80.0	
		Z	0.86	60.00	7.32		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.88	74.90	18.39	3.23	80.0	± 9.6 %
		Y	2.49	77.92	19.26		80.0	
		Z	3.49	74.59	18.40		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.37	69.78	14.78	3.23	80.0	± 9.6 %
		Y	0.68	60.27	8.31		80.0	
		Z	2.92	69.11	14.47		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.92	67.65	13.55	3.23	80.0	± 9.6 %
		Y	0.66	60.00	7.51		80.0	
		Z	2.50	66.84	13.14		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.52	68.86	15.13	2.23	80.0	± 9.6 %
		Y	0.83	60.00	6.91		80.0	
		Z	2.14	67.39	14.41		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.86	67.07	13.71	2.23	80.0	± 9.6 %
		Y	1.05	60.00	5.62		80.0	
		Z	2.44	65.81	13.01		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.80	66.60	13.51	2.23	80.0	± 9.6 %
		Y	1.07	60.00	5.60		80.0	
		Z	2.40	65.34	12.79		80.0	
10485-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.96	70.85	16.91	2.23	80.0	± 9.6 %
		Y	1.17	62.58	10.56		80.0	
		Z	2.58	69.54	16.39		80.0	
10486-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.96	67.72	15.13	2.23	80.0	± 9.6 %
		Y	1.13	60.00	7.87		80.0	
		Z	2.66	66.76	14.61		80.0	
10487-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.97	67.43	14.99	2.23	80.0	± 9.6 %
		Y	1.16	60.00	7.81		80.0	
		Z	2.67	66.49	14.47		80.0	
10488-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.38	70.90	17.67	2.23	80.0	± 9.6 %
		Y	2.25	69.00	16.17		80.0	
		Z	3.02	69.76	17.29		80.0	
10489-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.39	68.12	16.57	2.23	80.0	± 9.6 %
		Y	2.32	66.16	14.18		80.0	
		Z	3.13	67.37	16.26		80.0	
10490-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.49	68.02	16.54	2.23	80.0	± 9.6 %
		Y	2.33	65.79	13.96		80.0	
		Z	3.23	67.30	16.25		80.0	
10491-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.68	69.90	17.42	2.23	80.0	± 9.6 %
		Y	2.62	68.57	16.67		80.0	
		Z	3.36	68.97	17.13		80.0	
10492-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.77	67.68	16.72	2.23	80.0	± 9.6 %
		Y	2.84	66.78	15.53		80.0	
		Z	3.53	67.02	16.47		80.0	

10493-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.84	67.59	16.70	2.23	80.0	± 9.6 %
		Y	2.87	66.60	15.40		80.0	
		Z	3.60	66.95	16.45		80.0	
10494-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.93	71.14	17.78	2.23	80.0	± 9.6 %
		Y	2.77	69.47	17.23		80.0	
		Z	3.56	70.11	17.48		80.0	
10495-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.80	68.03	16.89	2.23	80.0	± 9.6 %
		Y	2.91	67.12	16.06		80.0	
		Z	3.55	67.32	16.64		80.0	
10496-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.89	67.83	16.85	2.23	80.0	± 9.6 %
		Y	2.99	66.99	16.00		80.0	
		Z	3.64	67.16	16.61		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.81	64.83	12.37	2.23	80.0	± 9.6 %
		Y	0.97	60.00	4.80		80.0	
		Z	1.52	63.38	11.47		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.56	60.98	9.46	2.23	80.0	± 9.6 %
		Y	19.60	209.65	15.97		80.0	
		Z	1.35	60.00	8.64		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.53	60.58	9.11	2.23	80.0	± 9.6 %
		Y	17.31	229.94	5.52		80.0	
		Z	1.37	60.00	8.51		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.10	70.67	17.16	2.23	80.0	± 9.6 %
		Y	1.60	65.48	12.91		80.0	
		Z	2.73	69.49	16.71		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.16	67.97	15.73	2.23	80.0	± 9.6 %
		Y	1.34	60.72	9.33		80.0	
		Z	2.88	67.15	15.31		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.22	67.87	15.63	2.23	80.0	± 9.6 %
		Y	1.33	60.43	9.07		80.0	
		Z	2.93	67.06	15.21		80.0	
10503-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.34	70.72	17.57	2.23	80.0	± 9.6 %
		Y	2.22	68.78	16.06		80.0	
		Z	2.98	69.59	17.20		80.0	
10504-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.37	68.03	16.51	2.23	80.0	± 9.6 %
		Y	2.30	66.01	14.09		80.0	
		Z	3.11	67.28	16.20		80.0	
10505-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.47	67.93	16.49	2.23	80.0	± 9.6 %
		Y	2.31	65.66	13.87		80.0	
		Z	3.21	67.21	16.19		80.0	
10506-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.90	71.01	17.71	2.23	80.0	± 9.6 %
		Y	2.75	69.34	17.15		80.0	
		Z	3.53	69.98	17.41		80.0	
10507-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.78	67.97	16.85	2.23	80.0	± 9.6 %
		Y	2.90	67.04	16.01		80.0	
		Z	3.53	67.26	16.61		80.0	

10508-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.87	67.76	16.81	2.23	80.0	± 9.6 %
		Y	2.97	66.90	15.95		80.0	
		Z	3.63	67.09	16.57		80.0	
10509-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.29	70.13	17.39	2.23	80.0	± 9.6 %
		Y	3.19	68.68	17.10		80.0	
		Z	3.96	69.31	17.16		80.0	
10510-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.29	67.87	16.94	2.23	80.0	± 9.6 %
		Y	3.35	66.74	16.37		80.0	
		Z	4.04	67.22	16.73		80.0	
10511-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.35	67.67	16.90	2.23	80.0	± 9.6 %
		Y	3.43	66.67	16.35		80.0	
		Z	4.11	67.05	16.70		80.0	
10512-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.41	71.37	17.74	2.23	80.0	± 9.6 %
		Y	3.20	69.31	17.29		80.0	
		Z	4.03	70.41	17.47		80.0	
10513-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.17	68.08	17.01	2.23	80.0	± 9.6 %
		Y	3.27	66.70	16.44		80.0	
		Z	3.92	67.38	16.78		80.0	
10514-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.20	67.73	16.93	2.23	80.0	± 9.6 %
		Y	3.34	66.53	16.38		80.0	
		Z	3.96	67.07	16.71		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.01	63.92	15.46	0.00	150.0	± 9.6 %
		Y	1.07	66.05	16.52		150.0	
		Z	1.00	63.52	15.11		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.80	76.03	20.57	0.00	150.0	± 9.6 %
		Y	1.63	90.26	26.95		150.0	
		Z	0.67	72.14	18.59		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.88	66.52	16.52	0.00	150.0	± 9.6 %
		Y	0.99	69.72	18.29		150.0	
		Z	0.86	65.67	15.91		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.57	66.91	16.40	0.00	150.0	± 9.6 %
		Y	4.10	67.98	16.63		150.0	
		Z	4.53	66.84	16.34		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.75	67.14	16.51	0.00	150.0	± 9.6 %
		Y	4.20	68.09	16.69		150.0	
		Z	4.70	67.05	16.44		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.61	67.11	16.44	0.00	150.0	± 9.6 %
		Y	4.07	67.97	16.60		150.0	
		Z	4.56	67.01	16.37		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.54	67.11	16.43	0.00	150.0	± 9.6 %
		Y	4.00	67.83	16.53		150.0	
		Z	4.49	67.00	16.36		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.60	67.20	16.52	0.00	150.0	± 9.6 %
		Y	4.00	67.82	16.53		150.0	
		Z	4.55	67.12	16.45		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.49	67.08	16.37	0.00	150.0	± 9.6 %
		Y	4.01	68.16	16.68		150.0	
		Z	4.44	67.01	16.31		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.54	67.12	16.48	0.00	150.0	± 9.6 %
		Y	3.97	67.92	16.63		150.0	
		Z	4.49	67.03	16.42		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.54	66.18	16.08	0.00	150.0	± 9.6 %
		Y	4.09	67.26	16.38		150.0	
		Z	4.50	66.10	16.02		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.71	66.55	16.22	0.00	150.0	± 9.6 %
		Y	4.14	67.37	16.43		150.0	
		Z	4.65	66.45	16.16		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.63	66.51	16.17	0.00	150.0	± 9.6 %
		Y	4.11	67.44	16.42		150.0	
		Z	4.58	66.41	16.10		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.64	66.53	16.20	0.00	150.0	± 9.6 %
		Y	4.10	67.35	16.39		150.0	
		Z	4.59	66.42	16.13		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.64	66.53	16.20	0.00	150.0	± 9.6 %
		Y	4.10	67.35	16.39		150.0	
		Z	4.59	66.42	16.13		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.64	66.64	16.22	0.00	150.0	± 9.6 %
		Y	4.06	67.36	16.37		150.0	
		Z	4.58	66.51	16.14		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.50	66.50	16.16	0.00	150.0	± 9.6 %
		Y	3.98	67.28	16.33		150.0	
		Z	4.44	66.37	16.07		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.65	66.58	16.19	0.00	150.0	± 9.6 %
		Y	4.11	67.58	16.46		150.0	
		Z	4.60	66.49	16.13		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.17	66.59	16.23	0.00	150.0	± 9.6 %
		Y	4.70	66.96	16.45		150.0	
		Z	5.13	66.48	16.18		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.24	66.77	16.31	0.00	150.0	± 9.6 %
		Y	4.70	67.00	16.48		150.0	
		Z	5.20	66.68	16.26		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.11	66.73	16.27	0.00	150.0	± 9.6 %
		Y	4.62	67.02	16.47		150.0	
		Z	5.07	66.63	16.22		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.17	66.69	16.25	0.00	150.0	± 9.6 %
		Y	4.71	67.16	16.55		150.0	
		Z	5.13	66.59	16.20		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.26	66.70	16.30	0.00	150.0	± 9.6 %
		Y	4.72	66.92	16.45		150.0	
		Z	5.21	66.59	16.24		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.19	66.73	16.33	0.00	150.0	± 9.6 %
		Y	4.66	66.87	16.46		150.0	
		Z	5.14	66.60	16.27		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.16	66.59	16.25	0.00	150.0	± 9.6 %
		Y	4.67	66.90	16.44		150.0	
		Z	5.12	66.48	16.19		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.31	66.65	16.29	0.00	150.0	± 9.6 %
		Y	4.80	66.97	16.49		150.0	
		Z	5.27	66.55	16.25		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.39	66.68	16.33	0.00	150.0	± 9.6 %
		Y	4.85	67.01	16.54		150.0	
		Z	5.34	66.57	16.28		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.48	66.68	16.21	0.00	150.0	± 9.6 %
		Y	5.09	66.77	16.36		150.0	
		Z	5.46	66.59	16.17		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.68	67.10	16.37	0.00	150.0	± 9.6 %
		Y	5.20	67.11	16.51		150.0	
		Z	5.65	67.02	16.33		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.55	66.89	16.28	0.00	150.0	± 9.6 %
		Y	5.10	66.84	16.37		150.0	
		Z	5.51	66.77	16.22		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.62	66.93	16.29	0.00	150.0	± 9.6 %
		Y	5.22	67.15	16.53		150.0	
		Z	5.58	66.82	16.24		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.87	67.85	16.72	0.00	150.0	± 9.6 %
		Y	5.13	67.04	16.46		150.0	
		Z	5.82	67.71	16.65		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.58	66.91	16.30	0.00	150.0	± 9.6 %
		Y	5.24	67.42	16.68		150.0	
		Z	5.55	66.83	16.27		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.58	66.96	16.28	0.00	150.0	± 9.6 %
		Y	5.07	66.77	16.33		150.0	
		Z	5.54	66.84	16.23		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.50	66.76	16.19	0.00	150.0	± 9.6 %
		Y	5.09	66.99	16.43		150.0	
		Z	5.47	66.66	16.15		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.58	66.78	16.23	0.00	150.0	± 9.6 %
		Y	5.11	66.82	16.35		150.0	
		Z	5.54	66.67	16.18		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.89	67.03	16.29	0.00	150.0	± 9.6 %
		Y	5.55	66.98	16.39		150.0	
		Z	5.87	66.94	16.25		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.02	67.33	16.41	0.00	150.0	± 9.6 %
		Y	5.61	67.17	16.48		150.0	
		Z	5.99	67.24	16.37		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.04	67.38	16.43	0.00	150.0	± 9.6 %
		Y	5.65	67.28	16.52		150.0	
		Z	6.02	67.29	16.39		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.01	67.28	16.40	0.00	150.0	± 9.6 %
		Y	5.60	67.14	16.47		150.0	
		Z	5.97	67.17	16.35		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.05	67.44	16.50	0.00	150.0	± 9.6 %
		Y	5.55	67.02	16.43		150.0	
		Z	6.02	67.33	16.45		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.05	67.29	16.46	0.00	150.0	± 9.6 %
		Y	5.59	67.02	16.46		150.0	
		Z	6.01	67.17	16.41		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.97	67.26	16.48	0.00	150.0	± 9.6 %
		Y	5.53	66.98	16.46		150.0	
		Z	5.94	67.16	16.44		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.09	67.63	16.67	0.00	150.0	± 9.6 %
		Y	5.59	67.19	16.57		150.0	
		Z	6.05	67.48	16.60		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.29	67.85	16.73	0.00	150.0	± 9.6 %
		Y	5.86	67.78	16.84		150.0	
		Z	6.16	67.47	16.55		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.89	66.92	16.50	0.46	150.0	± 9.6 %
		Y	4.37	67.73	16.65		150.0	
		Z	4.84	66.85	16.44		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.12	67.38	16.83	0.46	150.0	± 9.6 %
		Y	4.53	68.17	16.98		150.0	
		Z	5.07	67.30	16.78		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.95	67.23	16.64	0.46	150.0	± 9.6 %
		Y	4.37	67.89	16.75		150.0	
		Z	4.90	67.13	16.58		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.98	67.65	17.02	0.46	150.0	± 9.6 %
		Y	4.44	68.37	17.19		150.0	
		Z	4.94	67.56	16.97		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.85	66.96	16.38	0.46	150.0	± 9.6 %
		Y	4.20	67.26	16.25		150.0	
		Z	4.80	66.87	16.32		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.94	67.75	17.08	0.46	150.0	± 9.6 %
		Y	4.45	68.76	17.43		150.0	
		Z	4.90	67.68	17.04		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.98	67.59	17.02	0.46	150.0	± 9.6 %
		Y	4.39	68.33	17.21		150.0	
		Z	4.93	67.52	16.97		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.19	64.81	15.85	0.46	130.0	± 9.6 %
		Y	1.17	65.59	16.16		130.0	
		Z	1.15	64.12	15.44		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.21	65.43	16.24	0.46	130.0	± 9.6 %
		Y	1.18	66.27	16.61		130.0	
		Z	1.17	64.67	15.80		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	2.73	90.43	24.99	0.46	130.0	± 9.6 %
		Y	2.86	95.55	28.03		130.0	
		Z	1.51	81.07	21.85		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.39	72.10	19.60	0.46	130.0	± 9.6 %
		Y	1.35	73.36	20.46		130.0	
		Z	1.26	70.26	18.73		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.65	66.62	16.45	0.46	130.0	± 9.6 %
		Y	4.13	67.33	16.45		130.0	
		Z	4.61	66.55	16.40		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.68	66.80	16.53	0.46	130.0	± 9.6 %
		Y	4.17	67.68	16.63		130.0	
		Z	4.64	66.73	16.48		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.88	67.09	16.70	0.46	130.0	± 9.6 %
		Y	4.28	67.86	16.75		130.0	
		Z	4.83	67.01	16.65		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.78	67.27	16.82	0.46	130.0	± 9.6 %
		Y	4.22	68.05	16.92		130.0	
		Z	4.73	67.18	16.77		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.53	66.48	16.08	0.46	130.0	± 9.6 %
		Y	3.91	66.80	15.89		130.0	
		Z	4.48	66.37	16.01		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.58	66.51	16.09	0.46	130.0	± 9.6 %
		Y	3.89	66.66	15.78		130.0	
		Z	4.53	66.42	16.03		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.68	67.30	16.76	0.46	130.0	± 9.6 %
		Y	4.14	68.18	16.94		130.0	
		Z	4.63	67.21	16.71		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.23	15.85	0.46	130.0	± 9.6 %
		Y	3.80	66.45	15.61		130.0	
		Z	4.42	66.12	15.78		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.65	66.62	16.45	0.46	130.0	± 9.6 %
		Y	4.13	67.33	16.45		130.0	
		Z	4.61	66.55	16.40		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.68	66.80	16.53	0.46	130.0	± 9.6 %
		Y	4.17	67.68	16.63		130.0	
		Z	4.64	66.73	16.48		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.88	67.09	16.70	0.46	130.0	± 9.6 %
		Y	4.28	67.86	16.75		130.0	
		Z	4.83	67.01	16.65		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.78	67.27	16.82	0.46	130.0	± 9.6 %
		Y	4.22	68.05	16.92		130.0	
		Z	4.73	67.18	16.77		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.53	66.48	16.08	0.46	130.0	± 9.6 %
		Y	3.91	66.80	15.89		130.0	
		Z	4.48	66.37	16.01		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.58	66.51	16.09	0.46	130.0	± 9.6 %
		Y	3.89	66.66	15.78		130.0	
		Z	4.53	66.42	16.03		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.68	67.30	16.76	0.46	130.0	± 9.6 %
		Y	4.14	68.18	16.94		130.0	
		Z	4.63	67.21	16.71		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.23	15.85	0.46	130.0	± 9.6 %
		Y	3.80	66.45	15.61		130.0	
		Z	4.42	66.12	15.78		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.80	66.69	16.56	0.46	130.0	± 9.6 %
		Y	4.29	67.48	16.65		130.0	
		Z	4.76	66.62	16.52		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.96	67.02	16.69	0.46	130.0	± 9.6 %
		Y	4.35	67.66	16.74		130.0	
		Z	4.91	66.95	16.65		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.87	66.92	16.57	0.46	130.0	± 9.6 %
		Y	4.28	67.58	16.60		130.0	
		Z	4.82	66.84	16.52		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.93	67.10	16.73	0.46	130.0	± 9.6 %
		Y	4.32	67.69	16.75		130.0	
		Z	4.88	67.02	16.68		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.90	67.04	16.62	0.46	130.0	± 9.6 %
		Y	4.28	67.67	16.66		130.0	
		Z	4.85	66.97	16.57		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.83	67.04	16.62	0.46	130.0	± 9.6 %
		Y	4.19	67.48	16.58		130.0	
		Z	4.78	66.95	16.57		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.78	66.93	16.50	0.46	130.0	± 9.6 %
		Y	4.17	67.42	16.44		130.0	
		Z	4.73	66.84	16.44		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.77	67.20	16.78	0.46	130.0	± 9.6 %
		Y	4.23	67.87	16.85		130.0	
		Z	4.72	67.09	16.72		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.48	67.23	16.77	0.46	130.0	± 9.6 %
		Y	5.11	68.05	17.18		130.0	
		Z	5.44	67.15	16.74		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.60	67.61	16.93	0.46	130.0	± 9.6 %
		Y	5.02	67.79	17.02		130.0	
		Z	5.57	67.57	16.91		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.49	67.38	16.83	0.46	130.0	± 9.6 %
		Y	4.99	67.77	17.04		130.0	
		Z	5.46	67.31	16.81		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.59	67.40	16.75	0.46	130.0	± 9.6 %
		Y	5.00	67.54	16.84		130.0	
		Z	5.57	67.40	16.76		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.67	67.72	17.05	0.46	130.0	± 9.6 %
		Y	5.02	67.69	17.07		130.0	
		Z	5.64	67.68	17.04		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.49	67.21	16.78	0.46	130.0	± 9.6 %
		Y	5.00	67.56	16.96		130.0	
		Z	5.49	67.27	16.82		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.59	67.50	16.92	0.46	130.0	± 9.6 %
		Y	4.95	67.41	16.89		130.0	
		Z	5.56	67.47	16.92		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.33	66.83	16.44	0.46	130.0	± 9.6 %
		Y	4.96	67.58	16.81		130.0	
		Z	5.28	66.72	16.40		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.64	66.02	16.19	0.46	130.0	± 9.6 %
		Y	4.16	66.91	16.36		130.0	
		Z	4.60	65.95	16.15		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.83	66.42	16.36	0.46	130.0	± 9.6 %
		Y	4.22	67.08	16.44		130.0	
		Z	4.78	66.34	16.31		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.71	66.26	16.19	0.46	130.0	± 9.6 %
		Y	4.14	66.94	16.27		130.0	
		Z	4.67	66.17	16.14		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.77	66.42	16.36	0.46	130.0	± 9.6 %
		Y	4.18	67.09	16.43		130.0	
		Z	4.72	66.34	16.31		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.68	66.22	16.20	0.46	130.0	± 9.6 %
		Y	4.10	66.87	16.26		130.0	
		Z	4.63	66.13	16.14		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.69	66.36	16.23	0.46	130.0	± 9.6 %
		Y	4.03	66.77	16.18		130.0	
		Z	4.63	66.26	16.18		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.69	66.24	16.12	0.46	130.0	± 9.6 %
		Y	4.05	66.68	16.06		130.0	
		Z	4.63	66.13	16.05		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.64	66.46	16.37	0.46	130.0	± 9.6 %
		Y	4.09	67.10	16.44		130.0	
		Z	4.59	66.36	16.31		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.68	66.02	15.96	0.46	130.0	± 9.6 %
		Y	4.06	66.66	15.97		130.0	
		Z	4.62	65.94	15.90		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.29	66.48	16.38	0.46	130.0	± 9.6 %
		Y	4.78	66.74	16.52		130.0	
		Z	5.26	66.40	16.35		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.36	66.65	16.44	0.46	130.0	± 9.6 %
		Y	4.78	66.75	16.51		130.0	
		Z	5.33	66.60	16.42		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.25	66.67	16.46	0.46	130.0	± 9.6 %
		Y	4.72	66.85	16.58		130.0	
		Z	5.21	66.61	16.44		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.26	66.46	16.29	0.46	130.0	± 9.6 %
		Y	4.77	66.81	16.49		130.0	
		Z	5.22	66.38	16.26		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.35	66.50	16.36	0.46	130.0	± 9.6 %
		Y	4.78	66.60	16.41		130.0	
		Z	5.31	66.41	16.33		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.35	66.65	16.56	0.46	130.0	± 9.6 %
		Y	4.83	66.85	16.68		130.0	
		Z	5.32	66.59	16.54		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.37	66.81	16.63	0.46	130.0	± 9.6 %
		Y	4.79	66.84	16.68		130.0	
		Z	5.33	66.74	16.61		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.24	66.32	16.25	0.46	130.0	± 9.6 %
		Y	4.72	66.50	16.34		130.0	
		Z	5.20	66.24	16.22		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.43	66.52	16.42	0.46	130.0	± 9.6 %
		Y	4.88	66.72	16.52		130.0	
		Z	5.40	66.45	16.39		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.79	67.47	16.94	0.46	130.0	± 9.6 %
		Y	5.00	67.06	16.76		130.0	
		Z	5.70	67.26	16.85		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.59	66.53	16.33	0.46	130.0	± 9.6 %
		Y	5.18	66.57	16.44		130.0	
		Z	5.56	66.46	16.31		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.83	67.09	16.57	0.46	130.0	± 9.6 %
		Y	5.32	67.03	16.66		130.0	
		Z	5.81	67.05	16.57		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.62	66.61	16.26	0.46	130.0	± 9.6 %
		Y	5.14	66.45	16.28		130.0	
		Z	5.58	66.50	16.22		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.69	66.66	16.28	0.46	130.0	± 9.6 %
		Y	5.30	66.90	16.51		130.0	
		Z	5.66	66.57	16.25		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.12	68.14	17.02	0.46	130.0	± 9.6 %
		Y	5.23	66.85	16.50		130.0	
		Z	6.06	67.97	16.95		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.03	67.99	17.15	0.46	130.0	± 9.6 %
		Y	5.35	67.44	17.00		130.0	
		Z	5.98	67.84	17.09		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.80	67.18	16.76	0.46	130.0	± 9.6 %
		Y	5.50	67.84	17.20		130.0	
		Z	5.78	67.15	16.76		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.68	66.78	16.38	0.46	130.0	± 9.6 %
		Y	5.16	66.59	16.40		130.0	
		Z	5.65	66.69	16.35		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.67	66.82	16.47	0.46	130.0	± 9.6 %
		Y	5.24	66.99	16.65		130.0	
		Z	5.63	66.72	16.43		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.54	66.10	15.82	0.46	130.0	± 9.6 %
		Y	5.01	65.92	15.79		130.0	
		Z	5.50	65.99	15.78		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.89	16.41	0.46	130.0	± 9.6 %
		Y	5.65	66.81	16.48		130.0	
		Z	5.98	66.82	16.39		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.16	67.27	16.58	0.46	130.0	± 9.6 %
		Y	5.75	67.13	16.64		130.0	
		Z	6.14	67.21	16.57		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.15	67.24	16.55	0.46	130.0	± 9.6 %
		Y	5.76	67.17	16.64		130.0	
		Z	6.13	67.17	16.53		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.13	67.20	16.57	0.46	130.0	± 9.6 %
		Y	5.71	67.01	16.60		130.0	
		Z	6.11	67.11	16.54		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.13	67.19	16.51	0.46	130.0	± 9.6 %
		Y	5.60	66.69	16.38		130.0	
		Z	6.11	67.10	16.47		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.18	67.10	16.48	0.46	130.0	± 9.6 %
		Y	5.73	66.87	16.49		130.0	
		Z	6.17	67.05	16.47		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.23	67.38	16.79	0.46	130.0	± 9.6 %
		Y	5.75	67.07	16.76		130.0	
		Z	6.20	67.30	16.77		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	67.04	16.51	0.46	130.0	± 9.6 %
		Y	5.58	66.67	16.43		130.0	
		Z	6.04	66.97	16.50		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.22	67.52	16.78	0.46	130.0	± 9.6 %
		Y	5.68	67.01	16.62		130.0	
		Z	6.17	67.37	16.71		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.52	68.03	16.98	0.46	130.0	± 9.6 %
		Y	6.07	67.95	17.07		130.0	
		Z	6.34	67.53	16.76		130.0	
10646-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	13.12	97.57	31.83	9.30	60.0	± 9.6 %
		Y	3.90	78.39	26.30		60.0	
		Z	9.88	93.63	31.05		60.0	
10647-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	12.04	96.40	31.56	9.30	60.0	± 9.6 %
		Y	3.54	76.66	25.68		60.0	
		Z	8.93	92.04	30.63		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.77	65.21	11.99	0.00	150.0	± 9.6 %
		Y	0.27	60.00	4.67		150.0	
		Z	0.71	64.17	11.12		150.0	

[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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S Schweizerischer Kalibrierdienst
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Accreditation No.: SCS 0108

Client PC Test

Certificate No: EX3-7308_Aug17

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:7308

Calibration procedure(s): QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

PM ✓ 8/27/17

Calibration date: August 16, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	31-Dec-16 (No. ES3-3013_Dec16)	Dec-17
DAE4	SN: 660	7-Dec-16 (No. DAE4-660_Dec16)	Dec-17
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibreted by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 16, 2017

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

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., ϑ = 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) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) 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 ϑ = 0 (f ≤ 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 (no uncertainty required). 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 ≤ 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).

Probe EX3DV4

SN:7308

Manufactured: March 11, 2014
Calibrated: August 16, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7308

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.49	0.60	0.44	± 10.1 %
DCP (mV)[B]	97.0	91.7	98.5	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	134.5	±3.3 %
		Y	0.0	0.0	1.0		130.8	
		Z	0.0	0.0	1.0		149.9	

Note: For details on UID parameters see Appendix.

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	46.65	351.1	36.16	14.68	0.000	5.088	0.834	0.399	1.005
Y	52.88	402.1	36.74	19.55	0.309	5.100	0.477	0.605	1.007
Z	36.70	273.3	35.48	9.322	0.000	5.034	0.373	0.314	1.002

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] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7308

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
5250	35.9	4.71	5.25	5.25	5.25	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.83	4.83	4.83	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.11	5.11	5.11	0.40	1.80	± 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. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7308

Calibration Parameter Determined in Body Tissue Simulating Media

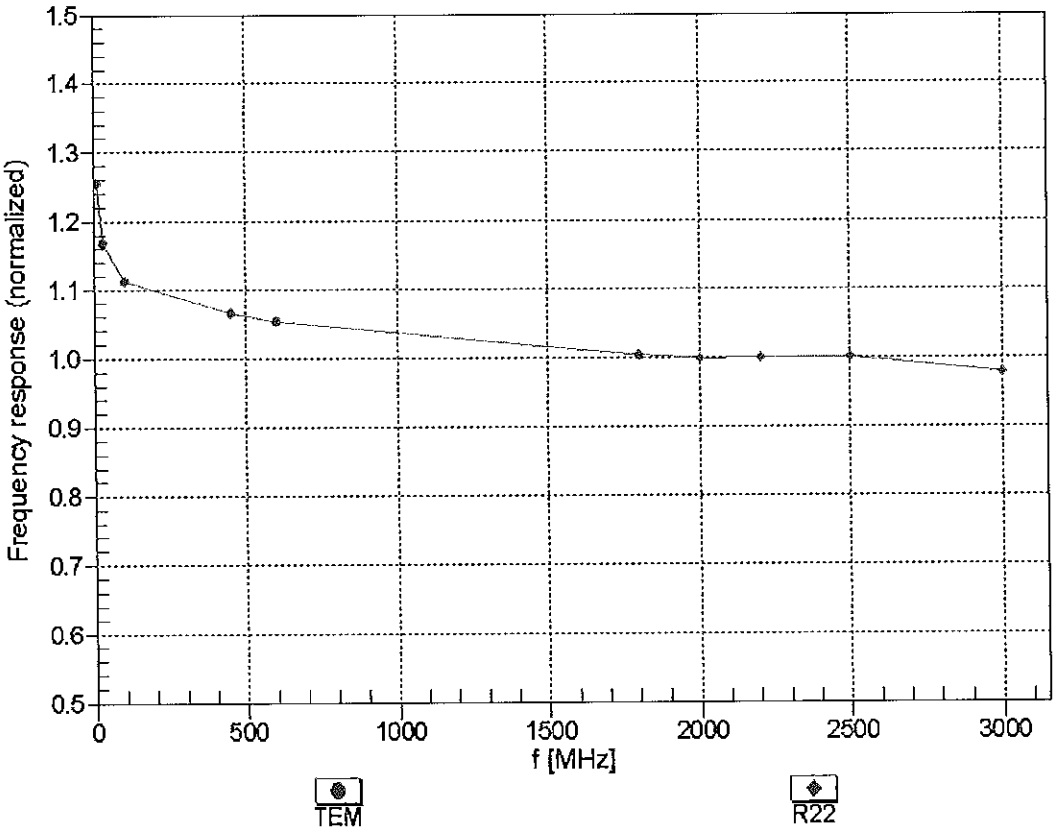
f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	10.39	10.39	10.39	0.54	0.85	± 12.0 %
835	55.2	0.97	10.21	10.21	10.21	0.47	0.84	± 12.0 %
1750	53.4	1.49	8.24	8.24	8.24	0.41	0.84	± 12.0 %
1900	53.3	1.52	7.96	7.96	7.96	0.37	0.80	± 12.0 %
2300	52.9	1.81	7.77	7.77	7.77	0.39	0.86	± 12.0 %
2450	52.7	1.95	7.66	7.66	7.66	0.35	0.85	± 12.0 %
2600	52.5	2.16	7.46	7.46	7.46	0.31	0.95	± 12.0 %
5250	48.9	5.36	4.84	4.84	4.84	0.35	1.90	± 13.1 %
5600	48.5	5.77	4.23	4.23	4.23	0.40	1.90	± 13.1 %
5750	48.3	5.94	4.50	4.50	4.50	0.40	1.90	± 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. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[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.

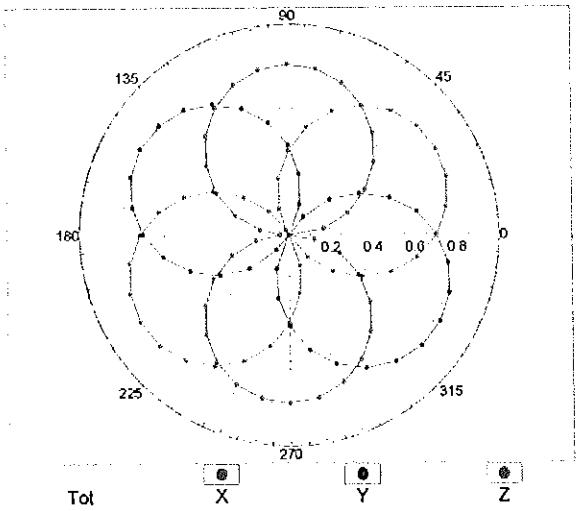
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



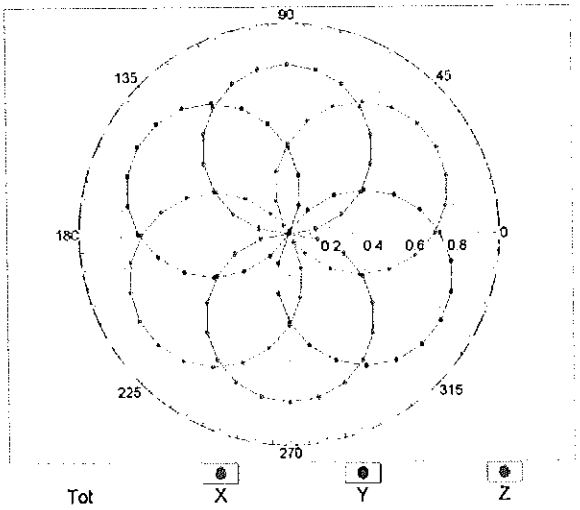
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

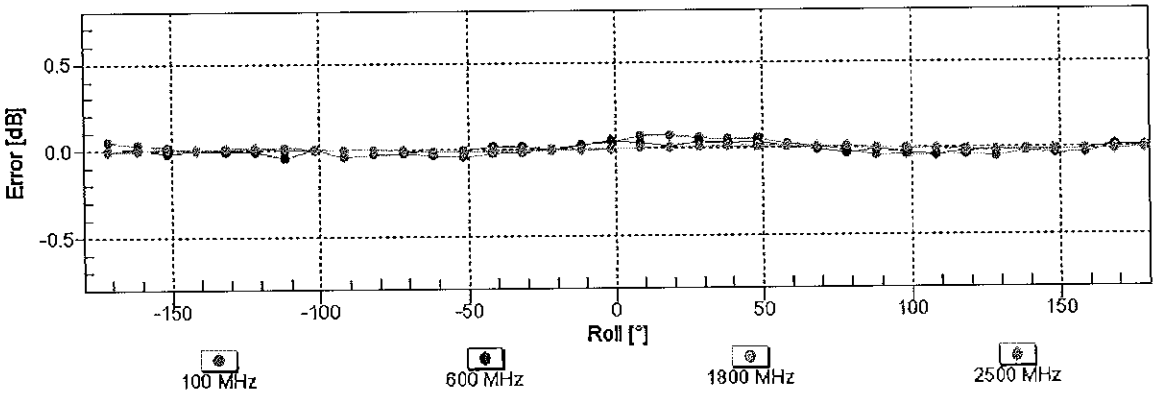
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

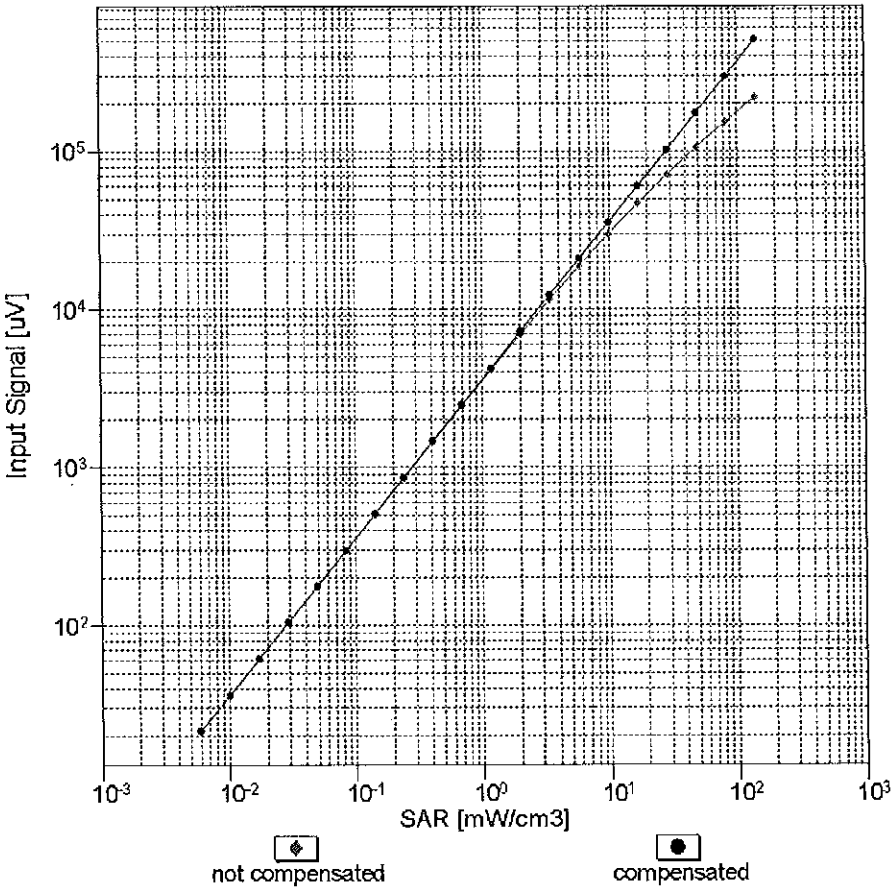


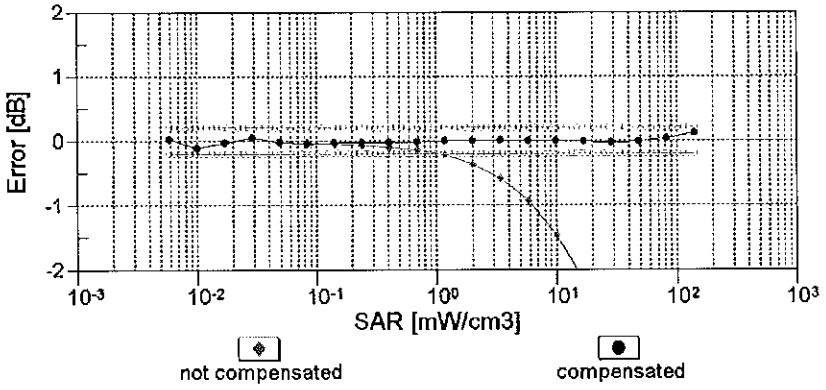


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

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

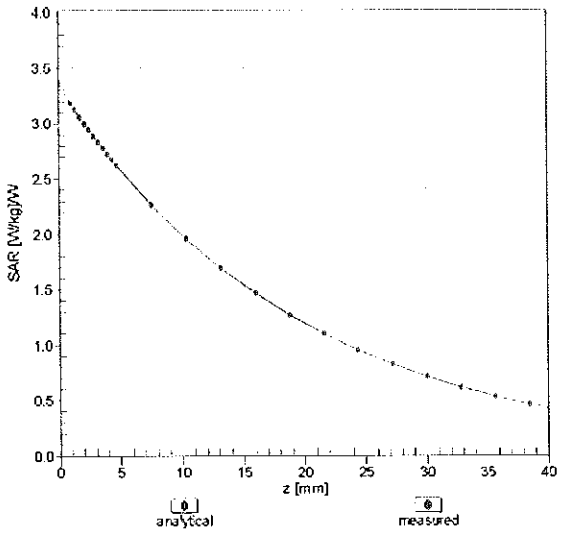




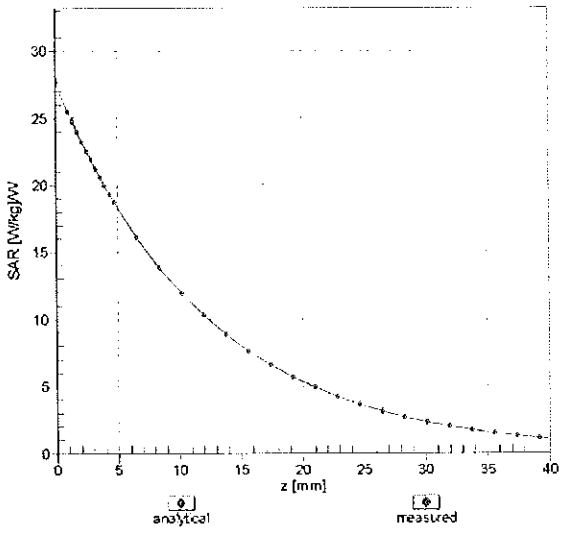
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (M_convF)

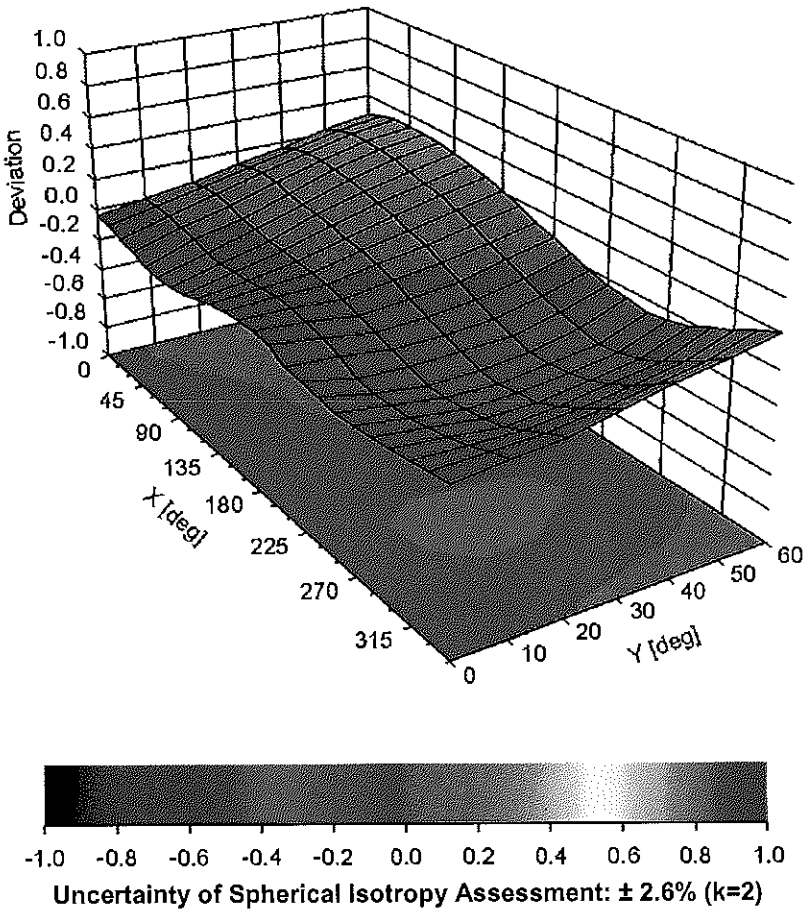


f = 1900 MHz,WGLS R22 (M_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7308

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	108.4
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	134.5	± 3.3 %
		Y	0.00	0.00	1.00		130.8	
		Z	0.00	0.00	1.00		149.9	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	2.82	69.38	11.47	10.00	20.0	± 9.6 %
		Y	8.85	81.60	16.75		20.0	
		Z	1.57	63.55	8.34		20.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.10	68.34	15.94	0.00	150.0	± 9.6 %
		Y	1.03	66.61	14.91		150.0	
		Z	1.05	68.21	15.74		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.19	64.20	15.65	0.41	150.0	± 9.6 %
		Y	1.20	63.83	15.29		150.0	
		Z	1.16	63.91	15.33		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.89	66.77	17.26	1.46	150.0	± 9.6 %
		Y	4.97	66.66	17.21		150.0	
		Z	4.71	66.76	17.06		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	100.00	115.21	27.27	9.39	50.0	± 9.6 %
		Y	100.00	118.99	29.62		50.0	
		Z	100.00	108.16	23.75		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	100.00	114.49	26.98	9.57	50.0	± 9.6 %
		Y	100.00	118.59	29.46		50.0	
		Z	100.00	107.44	23.48		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	117.36	27.41	6.56	60.0	± 9.6 %
		Y	100.00	118.20	28.43		60.0	
		Z	100.00	109.72	23.49		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	9.43	102.43	43.37	12.57	50.0	± 9.6 %
		Y	5.76	81.81	33.21		50.0	
		Z	6.64	89.92	37.39		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	12.23	103.58	38.33	9.56	60.0	± 9.6 %
		Y	13.89	103.56	37.54		60.0	
		Z	6.87	89.09	32.73		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	121.12	28.38	4.80	80.0	± 9.6 %
		Y	100.00	119.35	28.26		80.0	
		Z	100.00	113.58	24.47		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	126.40	29.97	3.55	100.0	± 9.6 %
		Y	100.00	121.68	28.61		100.0	
		Z	100.00	119.83	26.46		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	6.36	85.88	30.18	7.80	80.0	± 9.6 %
		Y	7.77	88.44	30.64		80.0	
		Z	4.37	77.58	26.51		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	116.71	26.74	5.30	70.0	± 9.6 %
		Y	100.00	116.86	27.45		70.0	
		Z	100.00	108.46	22.53		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	130.68	30.26	1.88	100.0	± 9.6 %
		Y	100.00	122.76	27.68		100.0	
		Z	100.00	121.33	25.72		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	146.47	35.43	1.17	100.0	± 9.6 %
		Y	100.00	130.05	29.64		100.0	
		Z	100.00	142.38	32.95		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	100.00	133.81	36.67	5.30	70.0	± 9.6 %
		Y	100.00	132.56	36.57		70.0	
		Z	18.79	102.95	27.19		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	7.76	92.37	23.91	1.88	100.0	± 9.6 %
		Y	6.00	87.65	22.68		100.0	
		Z	3.22	78.87	18.00		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	3.37	81.04	19.87	1.17	100.0	± 9.6 %
		Y	2.89	77.85	18.94		100.0	
		Z	2.06	74.00	15.93		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	100.00	134.35	36.91	5.30	70.0	± 9.6 %
		Y	100.00	133.01	36.79		70.0	
		Z	38.41	113.99	30.14		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	6.72	90.40	23.29	1.88	100.0	± 9.6 %
		Y	5.52	86.51	22.28		100.0	
		Z	2.77	77.09	17.35		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	3.40	81.53	20.18	1.17	100.0	± 9.6 %
		Y	2.93	78.34	19.24		100.0	
		Z	2.07	74.35	16.21		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.05	73.74	16.48	0.00	150.0	± 9.6 %
		Y	1.78	70.97	15.59		150.0	
		Z	1.68	71.87	14.68		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	100.00	111.92	25.18	7.78	50.0	± 9.6 %
		Y	100.00	114.62	26.97		50.0	
		Z	100.00	105.38	21.87		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	97.13	0.41	0.00	150.0	± 9.6 %
		Y	0.00	93.19	1.28		150.0	
		Z	0.01	94.96	0.54		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	100.00	111.98	26.96	13.80	25.0	± 9.6 %
		Y	100.00	121.05	31.60		25.0	
		Z	34.07	91.91	20.28		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	1284.72	142.21	32.21	10.79	40.0	± 9.6 %
		Y	100.00	117.51	29.18		40.0	
		Z	145.96	109.32	23.74		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	100.00	128.20	35.15	9.03	50.0	± 9.6 %
		Y	100.00	128.83	35.96		50.0	
		Z	100.00	122.10	31.77		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.71	78.88	26.31	6.55	100.0	± 9.6 %
		Y	5.67	81.33	26.92		100.0	
		Z	3.54	73.15	23.60		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.24	65.47	16.42	0.61	110.0	± 9.6 %
		Y	1.27	65.23	16.10		110.0	
		Z	1.17	64.77	15.84		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	144.38	38.50	1.30	110.0	± 9.6 %
		Y	100.00	138.88	36.40		110.0	
		Z	13.09	112.30	30.84		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	4.05	88.33	25.97	2.04	110.0	± 9.6 %
		Y	4.75	88.86	25.68		110.0	
		Z	2.16	77.73	21.68		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.69	66.76	16.65	0.49	100.0	± 9.6 %
		Y	4.76	66.60	16.58		100.0	
		Z	4.53	66.78	16.51		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.71	66.86	16.76	0.72	100.0	± 9.6 %
		Y	4.78	66.72	16.70		100.0	
		Z	4.54	66.86	16.60		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.99	67.12	16.99	0.86	100.0	± 9.6 %
		Y	5.09	67.02	16.95		100.0	
		Z	4.78	67.06	16.80		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.86	67.02	17.11	1.21	100.0	± 9.6 %
		Y	4.96	66.95	17.08		100.0	
		Z	4.65	66.90	16.87		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.88	67.05	17.29	1.46	100.0	± 9.6 %
		Y	4.99	66.99	17.27		100.0	
		Z	4.65	66.88	17.02		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.16	67.22	17.75	2.04	100.0	± 9.6 %
		Y	5.27	67.12	17.71		100.0	
		Z	4.93	67.13	17.49		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.20	67.26	17.98	2.55	100.0	± 9.6 %
		Y	5.34	67.28	18.00		100.0	
		Z	4.95	67.02	17.64		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.28	67.26	18.18	2.67	100.0	± 9.6 %
		Y	5.42	67.23	18.17		100.0	
		Z	5.02	67.05	17.83		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.98	66.86	17.58	1.99	100.0	± 9.6 %
		Y	5.07	66.77	17.55		100.0	
		Z	4.79	66.80	17.35		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.95	67.19	17.81	2.30	100.0	± 9.6 %
		Y	5.06	67.16	17.80		100.0	
		Z	4.74	67.03	17.53		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.00	67.34	18.16	2.83	100.0	± 9.6 %
		Y	5.12	67.33	18.16		100.0	
		Z	4.79	67.17	17.85		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.97	67.20	18.31	3.30	100.0	± 9.6 %
		Y	5.10	67.22	18.33		100.0	
		Z	4.78	67.07	17.99		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.00	67.30	18.63	3.82	90.0	± 9.6 %
		Y	5.15	67.40	18.70		90.0	
		Z	4.78	67.05	18.23		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.00	67.05	18.74	4.15	90.0	± 9.6 %
		Y	5.14	67.12	18.78		90.0	
		Z	4.81	66.90	18.39		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.02	67.11	18.84	4.30	90.0	± 9.6 %
		Y	5.16	67.16	18.87		90.0	
		Z	4.84	66.97	18.50		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.91	67.10	13.23	0.00	150.0	± 9.6 %
		Y	0.87	65.55	12.69		150.0	
		Z	0.76	65.80	11.60		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.67	60.00	4.34	4.77	80.0	± 9.6 %
		Y	0.83	60.00	4.98		80.0	
		Z	1.32	62.68	4.53		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	117.37	27.43	6.56	60.0	± 9.6 %
		Y	100.00	118.23	28.46		60.0	
		Z	100.00	109.70	23.50		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.89	68.18	16.03	0.00	150.0	± 9.6 %
		Y	1.82	67.06	15.47		150.0	
		Z	1.87	68.73	15.97		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.85	68.15	16.01	0.00	150.0	± 9.6 %
		Y	1.78	67.01	15.43		150.0	
		Z	1.83	68.68	15.95		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	12.41	103.93	38.44	9.56	60.0	± 9.6 %
		Y	14.05	103.81	37.62		60.0	
		Z	6.94	89.30	32.81		60.0	
10100-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.20	70.68	16.98	0.00	150.0	± 9.6 %
		Y	3.15	69.96	16.53		150.0	
		Z	3.05	70.44	16.91		150.0	
10101-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.27	67.67	16.10	0.00	150.0	± 9.6 %
		Y	3.29	67.34	15.87		150.0	
		Z	3.15	67.56	16.02		150.0	
10102-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.37	67.61	16.17	0.00	150.0	± 9.6 %
		Y	3.39	67.30	15.96		150.0	
		Z	3.26	67.54	16.10		150.0	
10103-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.70	77.76	21.71	3.98	65.0	± 9.6 %
		Y	7.25	78.01	21.66		65.0	
		Z	5.31	74.49	20.24		65.0	
10104-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.39	74.88	21.30	3.98	65.0	± 9.6 %
		Y	7.01	75.63	21.49		65.0	
		Z	5.41	72.53	20.08		65.0	
10105-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	5.93	73.22	20.87	3.98	65.0	± 9.6 %
		Y	6.37	73.62	20.93		65.0	
		Z	4.98	70.66	19.52		65.0	
10108-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.79	69.92	16.81	0.00	150.0	± 9.6 %
		Y	2.76	69.17	16.35		150.0	
		Z	2.63	69.76	16.75		150.0	
10109-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.93	67.55	16.01	0.00	150.0	± 9.6 %
		Y	2.94	67.14	15.76		150.0	
		Z	2.80	67.54	15.90		150.0	
10110-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.27	69.10	16.46	0.00	150.0	± 9.6 %
		Y	2.25	68.23	15.96		150.0	
		Z	2.13	69.06	16.32		150.0	
10111-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.65	68.45	16.32	0.00	150.0	± 9.6 %
		Y	2.64	67.76	16.00		150.0	
		Z	2.55	68.78	16.20		150.0	

10112-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.05	67.53	16.06	0.00	150.0	± 9.6 %
		Y	3.07	67.13	15.82		150.0	
		Z	2.92	67.58	15.97		150.0	
10113-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.80	68.56	16.43	0.00	150.0	± 9.6 %
		Y	2.80	67.90	16.13		150.0	
		Z	2.69	68.93	16.32		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.15	67.26	16.54	0.00	150.0	± 9.6 %
		Y	5.19	67.08	16.42		150.0	
		Z	4.99	67.20	16.47		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.43	67.37	16.60	0.00	150.0	± 9.6 %
		Y	5.52	67.34	16.56		150.0	
		Z	5.24	67.27	16.51		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.24	67.44	16.56	0.00	150.0	± 9.6 %
		Y	5.30	67.32	16.46		150.0	
		Z	5.08	67.39	16.50		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.11	67.11	16.48	0.00	150.0	± 9.6 %
		Y	5.16	66.99	16.39		150.0	
		Z	4.99	67.15	16.47		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.51	67.58	16.71	0.00	150.0	± 9.6 %
		Y	5.61	67.54	16.67		150.0	
		Z	5.31	67.44	16.61		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.22	67.40	16.54	0.00	150.0	± 9.6 %
		Y	5.27	67.25	16.44		150.0	
		Z	5.07	67.38	16.51		150.0	
10140-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.41	67.63	16.10	0.00	150.0	± 9.6 %
		Y	3.43	67.31	15.88		150.0	
		Z	3.28	67.57	16.02		150.0	
10141-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.53	67.71	16.25	0.00	150.0	± 9.6 %
		Y	3.55	67.40	16.05		150.0	
		Z	3.40	67.71	16.20		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.05	69.21	16.15	0.00	150.0	± 9.6 %
		Y	2.02	68.14	15.65		150.0	
		Z	1.90	69.18	15.79		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.53	69.32	16.06	0.00	150.0	± 9.6 %
		Y	2.50	68.40	15.76		150.0	
		Z	2.39	69.52	15.59		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.28	66.94	14.41	0.00	150.0	± 9.6 %
		Y	2.31	66.41	14.31		150.0	
		Z	2.06	66.49	13.57		150.0	
10145-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.26	65.57	12.06	0.00	150.0	± 9.6 %
		Y	1.33	65.51	12.47		150.0	
		Z	0.90	62.72	9.31		150.0	
10146-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.87	65.71	11.26	0.00	150.0	± 9.6 %
		Y	2.34	67.84	13.03		150.0	
		Z	1.05	60.97	7.27		150.0	
10147-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.17	67.47	12.23	0.00	150.0	± 9.6 %
		Y	2.79	70.16	14.23		150.0	
		Z	1.11	61.38	7.60		150.0	

10149-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.93	67.61	16.06	0.00	150.0	± 9.6 %
		Y	2.95	67.20	15.81		150.0	
		Z	2.81	67.60	15.95		150.0	
10150-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.06	67.58	16.10	0.00	150.0	± 9.6 %
		Y	3.08	67.18	15.86		150.0	
		Z	2.93	67.64	16.01		150.0	
10151-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	7.47	81.50	23.31	3.98	65.0	± 9.6 %
		Y	8.13	81.64	23.19		65.0	
		Z	5.82	78.02	21.74		65.0	
10152-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.96	75.09	21.13	3.98	65.0	± 9.6 %
		Y	6.59	75.82	21.34		65.0	
		Z	4.95	72.53	19.69		65.0	
10153-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	6.33	76.00	21.87	3.98	65.0	± 9.6 %
		Y	6.98	76.72	22.08		65.0	
		Z	5.31	73.57	20.52		65.0	
10154-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.32	69.50	16.70	0.00	150.0	± 9.6 %
		Y	2.30	68.63	16.21		150.0	
		Z	2.17	69.43	16.55		150.0	
10155-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.65	68.47	16.34	0.00	150.0	± 9.6 %
		Y	2.64	67.77	16.01		150.0	
		Z	2.55	68.82	16.23		150.0	
10156-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.90	69.38	15.98	0.00	150.0	± 9.6 %
		Y	1.87	68.22	15.49		150.0	
		Z	1.73	69.10	15.35		150.0	
10157-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.13	67.61	14.49	0.00	150.0	± 9.6 %
		Y	2.14	66.94	14.37		150.0	
		Z	1.88	66.88	13.39		150.0	
10158-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.80	68.62	16.48	0.00	150.0	± 9.6 %
		Y	2.80	67.95	16.18		150.0	
		Z	2.70	69.02	16.37		150.0	
10159-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.24	68.05	14.76	0.00	150.0	± 9.6 %
		Y	2.25	67.38	14.65		150.0	
		Z	1.97	67.26	13.62		150.0	
10160-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.79	68.96	16.56	0.00	150.0	± 9.6 %
		Y	2.78	68.29	16.16		150.0	
		Z	2.67	69.03	16.52		150.0	
10161-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.95	67.54	16.03	0.00	150.0	± 9.6 %
		Y	2.97	67.10	15.79		150.0	
		Z	2.82	67.63	15.91		150.0	
10162-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.06	67.69	16.14	0.00	150.0	± 9.6 %
		Y	3.08	67.22	15.89		150.0	
		Z	2.94	67.84	16.05		150.0	
10166-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.60	69.71	19.22	3.01	150.0	± 9.6 %
		Y	3.76	69.53	19.10		150.0	
		Z	3.14	68.43	18.52		150.0	
10167-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.49	72.92	19.79	3.01	150.0	± 9.6 %
		Y	4.71	72.48	19.58		150.0	
		Z	3.64	70.88	18.81		150.0	

10168-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.99	75.19	21.10	3.01	150.0	± 9.6 %
		Y	5.19	74.57	20.82		150.0	
		Z	4.03	73.14	20.19		150.0	
10169-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.02	69.31	19.06	3.01	150.0	± 9.6 %
		Y	3.27	69.70	19.15		150.0	
		Z	2.51	66.78	17.76		150.0	
10170-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.24	75.66	21.52	3.01	150.0	± 9.6 %
		Y	4.60	75.59	21.37		150.0	
		Z	3.08	71.28	19.66		150.0	
10171-AAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.48	71.52	18.79	3.01	150.0	± 9.6 %
		Y	3.80	71.54	18.73		150.0	
		Z	2.62	68.04	17.18		150.0	
10172-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	9.86	97.03	31.31	6.02	65.0	± 9.6 %
		Y	11.94	97.60	31.03		65.0	
		Z	3.49	77.54	23.86		65.0	
10173-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	35.90	116.24	34.55	6.02	65.0	± 9.6 %
		Y	33.36	111.72	33.12		65.0	
		Z	6.56	87.15	25.45		65.0	
10174-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	21.48	105.16	30.85	6.02	65.0	± 9.6 %
		Y	20.65	101.59	29.68		65.0	
		Z	4.70	80.63	22.56		65.0	
10175-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.98	69.02	18.83	3.01	150.0	± 9.6 %
		Y	3.23	69.39	18.90		150.0	
		Z	2.49	66.55	17.55		150.0	
10176-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.24	75.68	21.53	3.01	150.0	± 9.6 %
		Y	4.61	75.61	21.38		150.0	
		Z	3.09	71.30	19.67		150.0	
10177-CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.01	69.16	18.92	3.01	150.0	± 9.6 %
		Y	3.26	69.54	19.00		150.0	
		Z	2.50	66.65	17.62		150.0	
10178-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	4.21	75.48	21.42	3.01	150.0	± 9.6 %
		Y	4.56	75.38	21.26		150.0	
		Z	3.07	71.19	19.60		150.0	
10179-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.83	73.49	20.03	3.01	150.0	± 9.6 %
		Y	4.16	73.42	19.91		150.0	
		Z	2.83	69.59	18.31		150.0	
10180-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.47	71.46	18.75	3.01	150.0	± 9.6 %
		Y	3.79	71.47	18.68		150.0	
		Z	2.62	68.01	17.15		150.0	
10181-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	3.00	69.14	18.91	3.01	150.0	± 9.6 %
		Y	3.26	69.52	18.99		150.0	
		Z	2.50	66.64	17.62		150.0	
10182-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.20	75.46	21.41	3.01	150.0	± 9.6 %
		Y	4.55	75.36	21.25		150.0	
		Z	3.07	71.17	19.59		150.0	
10183-AAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.46	71.44	18.74	3.01	150.0	± 9.6 %
		Y	3.78	71.45	18.67		150.0	
		Z	2.62	68.00	17.14		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.01	69.18	18.93	3.01	150.0	± 9.6 %
		Y	3.27	69.56	19.01		150.0	
		Z	2.51	66.67	17.63		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.22	75.53	21.45	3.01	150.0	± 9.6 %
		Y	4.57	75.42	21.28		150.0	
		Z	3.08	71.23	19.63		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.48	71.51	18.77	3.01	150.0	± 9.6 %
		Y	3.80	71.51	18.70		150.0	
		Z	2.63	68.05	17.17		150.0	
10187-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.02	69.24	19.00	3.01	150.0	± 9.6 %
		Y	3.28	69.61	19.07		150.0	
		Z	2.52	66.73	17.71		150.0	
10188-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.35	76.17	21.80	3.01	150.0	± 9.6 %
		Y	4.72	76.08	21.65		150.0	
		Z	3.15	71.69	19.93		150.0	
10189-AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.56	71.93	19.04	3.01	150.0	± 9.6 %
		Y	3.88	71.93	18.97		150.0	
		Z	2.67	68.37	17.41		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.54	66.68	16.24	0.00	150.0	± 9.6 %
		Y	4.59	66.47	16.13		150.0	
		Z	4.40	66.85	16.19		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.70	66.99	16.36	0.00	150.0	± 9.6 %
		Y	4.77	66.80	16.26		150.0	
		Z	4.55	67.09	16.33		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.74	67.02	16.38	0.00	150.0	± 9.6 %
		Y	4.81	66.83	16.27		150.0	
		Z	4.58	67.11	16.34		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.54	66.74	16.25	0.00	150.0	± 9.6 %
		Y	4.60	66.55	16.16		150.0	
		Z	4.39	66.85	16.19		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.72	67.01	16.37	0.00	150.0	± 9.6 %
		Y	4.78	66.83	16.27		150.0	
		Z	4.56	67.10	16.33		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.75	67.04	16.39	0.00	150.0	± 9.6 %
		Y	4.81	66.85	16.28		150.0	
		Z	4.58	67.11	16.34		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.49	66.76	16.22	0.00	150.0	± 9.6 %
		Y	4.55	66.56	16.12		150.0	
		Z	4.34	66.89	16.16		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.71	66.98	16.36	0.00	150.0	± 9.6 %
		Y	4.78	66.81	16.26		150.0	
		Z	4.55	67.06	16.32		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.75	66.96	16.37	0.00	150.0	± 9.6 %
		Y	4.82	66.78	16.27		150.0	
		Z	4.59	67.05	16.33		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.08	67.12	16.48	0.00	150.0	± 9.6 %
		Y	5.14	67.00	16.39		150.0	
		Z	4.96	67.13	16.45		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.38	67.33	16.60	0.00	150.0	± 9.6 %
		Y	5.45	67.20	16.51		150.0	
		Z	5.23	67.33	16.56		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.13	67.23	16.46	0.00	150.0	± 9.6 %
		Y	5.19	67.11	16.37		150.0	
		Z	4.99	67.25	16.44		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.82	66.29	15.44	0.00	150.0	± 9.6 %
		Y	2.85	65.89	15.31		150.0	
		Z	2.69	66.42	15.13		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	40.58	118.73	35.31	6.02	65.0	± 9.6 %
		Y	36.88	113.76	33.77		65.0	
		Z	6.94	88.26	25.92		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	36.33	114.29	33.35	6.02	65.0	± 9.6 %
		Y	31.30	108.87	31.78		65.0	
		Z	6.95	87.06	24.80		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	13.65	104.05	33.59	6.02	65.0	± 9.6 %
		Y	18.81	107.23	34.08		65.0	
		Z	4.50	82.80	25.97		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	36.18	116.36	34.59	6.02	65.0	± 9.6 %
		Y	33.58	111.82	33.15		65.0	
		Z	6.61	87.25	25.49		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	32.38	112.10	32.69	6.02	65.0	± 9.6 %
		Y	28.70	107.19	31.24		65.0	
		Z	6.54	85.97	24.36		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	12.84	102.68	33.09	6.02	65.0	± 9.6 %
		Y	17.62	105.78	33.56		65.0	
		Z	4.35	82.09	25.62		65.0	
10232-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	36.15	116.36	34.59	6.02	65.0	± 9.6 %
		Y	33.55	111.82	33.15		65.0	
		Z	6.59	87.23	25.48		65.0	
10233-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	32.28	112.07	32.68	6.02	65.0	± 9.6 %
		Y	28.65	107.18	31.24		65.0	
		Z	6.52	85.93	24.35		65.0	
10234-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	12.22	101.47	32.58	6.02	65.0	± 9.6 %
		Y	16.65	104.42	33.04		65.0	
		Z	4.24	81.51	25.28		65.0	
10235-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	36.31	116.46	34.62	6.02	65.0	± 9.6 %
		Y	33.66	111.90	33.18		65.0	
		Z	6.60	87.26	25.49		65.0	
10236-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	33.06	112.44	32.77	6.02	65.0	± 9.6 %
		Y	29.12	107.43	31.30		65.0	
		Z	6.60	86.11	24.40		65.0	
10237-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	12.90	102.82	33.13	6.02	65.0	± 9.6 %
		Y	17.72	105.93	33.61		65.0	
		Z	4.35	82.12	25.64		65.0	
10238-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	36.09	116.34	34.59	6.02	65.0	± 9.6 %
		Y	33.52	111.82	33.15		65.0	
		Z	6.58	87.20	25.47		65.0	

10239-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	32.17	112.03	32.67	6.02	65.0	± 9.6 %
		Y	28.59	107.16	31.23		65.0	
		Z	6.49	85.89	24.34		65.0	
10240-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	12.85	102.75	33.11	6.02	65.0	± 9.6 %
		Y	17.65	105.86	33.59		65.0	
		Z	4.34	82.09	25.63		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	8.52	83.40	26.72	6.98	65.0	± 9.6 %
		Y	9.34	83.46	26.63		65.0	
		Z	6.49	79.39	24.77		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	7.72	81.29	25.79	6.98	65.0	± 9.6 %
		Y	8.22	80.66	25.42		65.0	
		Z	5.72	76.85	23.63		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.95	76.72	24.82	6.98	65.0	± 9.6 %
		Y	6.41	76.67	24.65		65.0	
		Z	4.75	73.34	22.98		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	6.67	78.45	19.67	3.98	65.0	± 9.6 %
		Y	8.20	80.91	21.14		65.0	
		Z	3.50	69.23	14.35		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	6.39	77.48	19.23	3.98	65.0	± 9.6 %
		Y	7.92	80.07	20.76		65.0	
		Z	3.42	68.65	14.03		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.15	85.97	22.95	3.98	65.0	± 9.6 %
		Y	9.24	86.80	23.49		65.0	
		Z	4.03	75.23	17.77		65.0	
10247-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	5.50	76.42	20.00	3.98	65.0	± 9.6 %
		Y	6.26	77.49	20.66		65.0	
		Z	3.95	71.61	16.94		65.0	
10248-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	5.40	75.54	19.60	3.98	65.0	± 9.6 %
		Y	6.16	76.66	20.28		65.0	
		Z	3.89	70.88	16.59		65.0	
10249-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.66	89.43	25.19	3.98	65.0	± 9.6 %
		Y	10.35	89.11	25.13		65.0	
		Z	5.64	80.91	21.33		65.0	
10250-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	6.21	78.20	22.44	3.98	65.0	± 9.6 %
		Y	6.93	79.00	22.73		65.0	
		Z	4.95	74.96	20.57		65.0	
10251-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.85	75.76	21.03	3.98	65.0	± 9.6 %
		Y	6.49	76.44	21.31		65.0	
		Z	4.69	72.73	19.17		65.0	
10252-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	8.41	86.24	25.10	3.98	65.0	± 9.6 %
		Y	9.13	86.11	24.91		65.0	
		Z	5.95	81.04	22.79		65.0	
10253-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.81	74.45	20.83	3.98	65.0	± 9.6 %
		Y	6.39	75.11	21.05		65.0	
		Z	4.88	72.13	19.42		65.0	
10254-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	6.16	75.32	21.51	3.98	65.0	± 9.6 %
		Y	6.77	75.99	21.73		65.0	
		Z	5.19	73.05	20.14		65.0	

10255-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.96	80.42	23.12	3.98	65.0	± 9.6 %
		Y	7.59	80.64	23.06		65.0	
		Z	5.51	77.21	21.58		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	4.89	73.41	16.49	3.98	65.0	± 9.6 %
		Y	6.68	77.30	18.76		65.0	
		Z	2.46	64.75	10.88		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	4.63	72.26	15.89	3.98	65.0	± 9.6 %
		Y	6.35	76.13	18.19		65.0	
		Z	2.42	64.27	10.52		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	5.50	79.01	19.45	3.98	65.0	± 9.6 %
		Y	7.01	81.77	20.90		65.0	
		Z	2.56	68.30	13.54		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	5.80	77.14	20.90	3.98	65.0	± 9.6 %
		Y	6.53	78.01	21.38		65.0	
		Z	4.38	73.08	18.36		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.78	76.67	20.70	3.98	65.0	± 9.6 %
		Y	6.51	77.60	21.22		65.0	
		Z	4.39	72.73	18.19		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	8.27	86.47	24.62	3.98	65.0	± 9.6 %
		Y	9.00	86.40	24.57		65.0	
		Z	5.46	80.05	21.57		65.0	
10262-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	6.19	78.15	22.39	3.98	65.0	± 9.6 %
		Y	6.92	78.95	22.69		65.0	
		Z	4.94	74.88	20.51		65.0	
10263-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.84	75.72	21.02	3.98	65.0	± 9.6 %
		Y	6.48	76.42	21.31		65.0	
		Z	4.68	72.71	19.16		65.0	
10264-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	8.30	85.98	24.99	3.98	65.0	± 9.6 %
		Y	9.03	85.88	24.80		65.0	
		Z	5.88	80.81	22.67		65.0	
10265-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.96	75.09	21.13	3.98	65.0	± 9.6 %
		Y	6.59	75.82	21.35		65.0	
		Z	4.95	72.53	19.70		65.0	
10266-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	6.33	75.99	21.86	3.98	65.0	± 9.6 %
		Y	6.97	76.70	22.07		65.0	
		Z	5.31	73.56	20.51		65.0	
10267-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	7.45	81.44	23.28	3.98	65.0	± 9.6 %
		Y	8.11	81.58	23.17		65.0	
		Z	5.81	77.97	21.72		65.0	
10268-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.50	74.59	21.27	3.98	65.0	± 9.6 %
		Y	7.11	75.29	21.47		65.0	
		Z	5.58	72.49	20.14		65.0	
10269-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	6.45	74.07	21.10	3.98	65.0	± 9.6 %
		Y	7.04	74.76	21.30		65.0	
		Z	5.59	72.11	20.01		65.0	
10270-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.83	77.38	21.77	3.98	65.0	± 9.6 %
		Y	7.44	77.78	21.79		65.0	
		Z	5.71	75.01	20.64		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.62	66.75	15.42	0.00	150.0	± 9.6 %
		Y	2.61	66.15	15.17		150.0	
		Z	2.54	67.07	15.23		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.67	68.55	15.99	0.00	150.0	± 9.6 %
		Y	1.61	67.31	15.31		150.0	
		Z	1.61	68.63	15.84		150.0	
10277-CAA	PHS (QPSK)	X	1.74	60.91	6.37	9.03	50.0	± 9.6 %
		Y	2.31	62.75	8.24		50.0	
		Z	1.34	59.32	4.61		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	9.23	83.71	19.86	9.03	50.0	± 9.6 %
		Y	16.13	92.59	23.80		50.0	
		Z	2.80	66.68	11.50		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	9.55	84.14	20.09	9.03	50.0	± 9.6 %
		Y	16.22	92.62	23.87		50.0	
		Z	2.90	67.01	11.74		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.55	69.78	14.51	0.00	150.0	± 9.6 %
		Y	1.48	68.23	14.09		150.0	
		Z	1.19	67.52	12.47		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.89	66.83	13.08	0.00	150.0	± 9.6 %
		Y	0.85	65.35	12.57		150.0	
		Z	0.74	65.55	11.46		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.27	72.61	16.13	0.00	150.0	± 9.6 %
		Y	1.03	68.80	14.67		150.0	
		Z	1.20	72.32	14.93		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	2.34	81.60	20.09	0.00	150.0	± 9.6 %
		Y	1.43	73.64	17.27		150.0	
		Z	3.93	87.90	20.92		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	16.32	98.49	29.02	9.03	50.0	± 9.6 %
		Y	11.98	92.39	27.58		50.0	
		Z	18.77	96.90	26.52		50.0	
10297-AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.80	70.02	16.88	0.00	150.0	± 9.6 %
		Y	2.77	69.27	16.41		150.0	
		Z	2.65	69.87	16.82		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.62	68.28	14.44	0.00	150.0	± 9.6 %
		Y	1.62	67.40	14.26		150.0	
		Z	1.32	66.56	12.71		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.59	69.34	14.00	0.00	150.0	± 9.6 %
		Y	2.92	70.30	15.01		150.0	
		Z	1.54	64.05	10.22		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.92	64.86	11.14	0.00	150.0	± 9.6 %
		Y	2.24	65.95	12.27		150.0	
		Z	1.26	61.60	8.20		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.85	66.06	17.86	4.17	50.0	± 9.6 %
		Y	4.97	65.84	17.76		50.0	
		Z	4.42	65.27	17.23		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.22	66.19	18.31	4.96	50.0	± 9.6 %
		Y	5.38	66.17	18.31		50.0	
		Z	4.86	65.76	17.88		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.96	65.79	18.13	4.96	50.0	± 9.6 %
		Y	5.14	65.84	18.17		50.0	
		Z	4.61	65.34	17.65		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.78	65.69	17.62	4.17	50.0	± 9.6 %
		Y	4.94	65.66	17.62		50.0	
		Z	4.45	65.35	17.22		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.24	66.91	19.40	6.02	35.0	± 9.6 %
		Y	4.54	67.57	19.86		35.0	
		Z	3.84	65.89	18.29		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.62	66.22	19.11	6.02	35.0	± 9.6 %
		Y	4.86	66.59	19.39		35.0	
		Z	4.26	65.53	18.31		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.50	66.31	19.05	6.02	35.0	± 9.6 %
		Y	4.77	66.81	19.39		35.0	
		Z	4.12	65.47	18.17		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.47	66.49	19.18	6.02	35.0	± 9.6 %
		Y	4.73	66.98	19.51		35.0	
		Z	4.09	65.63	18.30		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.68	66.45	19.27	6.02	35.0	± 9.6 %
		Y	4.93	66.86	19.56		35.0	
		Z	4.28	65.63	18.41		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.56	66.25	19.08	6.02	35.0	± 9.6 %
		Y	4.81	66.65	19.36		35.0	
		Z	4.20	65.54	18.28		35.0	
10311-AAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.16	69.26	16.50	0.00	150.0	± 9.6 %
		Y	3.13	68.60	16.08		150.0	
		Z	3.01	69.09	16.45		150.0	
10313-AAA	iDEN 1:3	X	8.00	86.23	21.34	6.99	70.0	± 9.6 %
		Y	8.53	85.21	20.95		70.0	
		Z	3.31	75.28	17.31		70.0	
10314-AAA	iDEN 1:6	X	12.68	100.31	29.33	10.00	30.0	± 9.6 %
		Y	13.31	98.73	28.67		30.0	
		Z	5.19	85.23	24.17		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.10	64.07	15.53	0.17	150.0	± 9.6 %
		Y	1.10	63.56	15.08		150.0	
		Z	1.08	63.95	15.31		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.75	16.41	0.17	150.0	± 9.6 %
		Y	4.66	66.58	16.32		150.0	
		Z	4.43	66.78	16.29		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.75	16.41	0.17	150.0	± 9.6 %
		Y	4.66	66.58	16.32		150.0	
		Z	4.43	66.78	16.29		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.69	67.06	16.37	0.00	150.0	± 9.6 %
		Y	4.77	66.86	16.25		150.0	
		Z	4.51	67.11	16.31		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.41	67.26	16.54	0.00	150.0	± 9.6 %
		Y	5.45	67.06	16.42		150.0	
		Z	5.18	66.94	16.33		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.65	67.49	16.51	0.00	150.0	± 9.6 %
		Y	5.72	67.43	16.45		150.0	
		Z	5.51	67.47	16.48		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.55	69.78	14.51	0.00	115.0	± 9.6 %
		Y	1.48	68.23	14.09		115.0	
		Z	1.19	67.52	12.47		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.55	69.78	14.51	0.00	115.0	± 9.6 %
		Y	1.48	68.23	14.09		115.0	
		Z	1.19	67.52	12.47		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	120.41	29.76	0.00	100.0	± 9.6 %
		Y	19.72	99.25	25.38		100.0	
		Z	22.86	100.95	24.14		100.0	
10410-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.71	31.88	3.23	80.0	± 9.6 %
		Y	100.00	124.16	31.78		80.0	
		Z	8.15	91.76	22.46		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.26	14.92	0.00	150.0	± 9.6 %
		Y	1.02	62.63	14.41		150.0	
		Z	1.03	63.39	14.88		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.54	66.72	16.31	0.00	150.0	± 9.6 %
		Y	4.59	66.51	16.19		150.0	
		Z	4.40	66.84	16.26		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.54	66.72	16.31	0.00	150.0	± 9.6 %
		Y	4.59	66.51	16.19		150.0	
		Z	4.40	66.84	16.26		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.53	66.89	16.33	0.00	150.0	± 9.6 %
		Y	4.58	66.66	16.20		150.0	
		Z	4.40	67.05	16.32		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.55	66.83	16.33	0.00	150.0	± 9.6 %
		Y	4.60	66.61	16.21		150.0	
		Z	4.41	66.98	16.30		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.66	66.83	16.34	0.00	150.0	± 9.6 %
		Y	4.72	66.62	16.23		150.0	
		Z	4.52	66.95	16.31		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.82	67.13	16.45	0.00	150.0	± 9.6 %
		Y	4.90	66.96	16.35		150.0	
		Z	4.65	67.21	16.40		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.75	67.09	16.43	0.00	150.0	± 9.6 %
		Y	4.82	66.90	16.32		150.0	
		Z	4.58	67.17	16.38		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.35	67.37	16.60	0.00	150.0	± 9.6 %
		Y	5.42	67.27	16.52		150.0	
		Z	5.19	67.35	16.55		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.36	67.42	16.62	0.00	150.0	± 9.6 %
		Y	5.42	67.27	16.52		150.0	
		Z	5.21	67.42	16.58		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.37	67.38	16.60	0.00	150.0	± 9.6 %
		Y	5.43	67.25	16.50		150.0	
		Z	5.18	67.23	16.48		150.0	
10430-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.24	70.83	18.17	0.00	150.0	± 9.6 %
		Y	4.26	70.25	18.02		150.0	
		Z	4.20	71.89	18.27		150.0	
10431-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.21	67.30	16.30	0.00	150.0	± 9.6 %
		Y	4.28	67.03	16.19		150.0	
		Z	4.03	67.45	16.18		150.0	
10432-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.51	67.15	16.38	0.00	150.0	± 9.6 %
		Y	4.58	66.93	16.27		150.0	
		Z	4.34	67.27	16.32		150.0	
10433-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.76	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.83	66.94	16.34		150.0	
		Z	4.59	67.20	16.40		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.34	71.72	18.14	0.00	150.0	± 9.6 %
		Y	4.35	71.03	17.99		150.0	
		Z	4.31	72.81	18.12		150.0	
10435-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.48	31.77	3.23	80.0	± 9.6 %
		Y	100.00	123.97	31.69		80.0	
		Z	7.63	90.76	22.11		80.0	
10447-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.51	67.35	15.60	0.00	150.0	± 9.6 %
		Y	3.58	66.99	15.55		150.0	
		Z	3.28	67.36	15.16		150.0	
10448-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.06	67.09	16.17	0.00	150.0	± 9.6 %
		Y	4.12	66.80	16.05		150.0	
		Z	3.89	67.25	16.05		150.0	
10449-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.33	66.98	16.28	0.00	150.0	± 9.6 %
		Y	4.39	66.75	16.16		150.0	
		Z	4.18	67.10	16.22		150.0	
10450-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.53	66.89	16.30	0.00	150.0	± 9.6 %
		Y	4.58	66.69	16.19		150.0	
		Z	4.39	66.98	16.26		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.39	67.51	15.20	0.00	150.0	± 9.6 %
		Y	3.48	67.19	15.21		150.0	
		Z	3.10	67.22	14.48		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.22	67.91	16.74	0.00	150.0	± 9.6 %
		Y	6.28	67.83	16.68		150.0	
		Z	6.11	67.90	16.72		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.80	65.37	16.02	0.00	150.0	± 9.6 %
		Y	3.83	65.15	15.90		150.0	
		Z	3.74	65.57	15.99		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.21	66.83	14.57	0.00	150.0	± 9.6 %
		Y	3.31	66.55	14.68		150.0	
		Z	2.82	66.01	13.39		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.29	65.14	15.57	0.00	150.0	± 9.6 %
		Y	4.36	64.71	15.51		150.0	
		Z	4.04	65.27	15.07		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.96	69.26	16.86	0.00	150.0	± 9.6 %
		Y	0.88	67.02	15.53		150.0	
		Z	0.94	69.35	16.76		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	131.25	34.47	3.29	80.0	± 9.6 %
		Y	100.00	128.59	33.89		80.0	
		Z	3.16	81.29	20.28		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	18.15	90.54	19.55	3.23	80.0	± 9.6 %
		Y	100.00	110.06	25.23		80.0	
		Z	0.71	60.00	7.72		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.32	68.92	12.27	3.23	80.0	± 9.6 %
		Y	12.78	85.50	18.46		80.0	
		Z	0.72	60.00	7.06		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.50	33.02	3.23	80.0	± 9.6 %
		Y	100.00	126.31	32.66		80.0	
		Z	2.43	77.27	18.20		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	7.48	81.44	16.98	3.23	80.0	± 9.6 %
		Y	53.06	102.63	23.42		80.0	
		Z	0.71	60.00	7.65		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.86	66.75	11.37	3.23	80.0	± 9.6 %
		Y	7.10	79.26	16.56		80.0	
		Z	0.72	60.00	7.01		80.0	
10467-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.82	33.16	3.23	80.0	± 9.6 %
		Y	100.00	126.57	32.78		80.0	
		Z	2.60	78.29	18.60		80.0	
10468-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.21	83.60	17.62	3.23	80.0	± 9.6 %
		Y	76.07	106.68	24.37		80.0	
		Z	0.70	60.00	7.67		80.0	
10469-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.87	66.82	11.40	3.23	80.0	± 9.6 %
		Y	7.22	79.45	16.62		80.0	
		Z	0.72	60.00	7.01		80.0	
10470-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.87	33.17	3.23	80.0	± 9.6 %
		Y	100.00	126.61	32.79		80.0	
		Z	2.61	78.33	18.61		80.0	
10471-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.03	83.37	17.54	3.23	80.0	± 9.6 %
		Y	75.72	106.57	24.32		80.0	
		Z	0.70	60.00	7.66		80.0	
10472-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.85	66.72	11.34	3.23	80.0	± 9.6 %
		Y	7.17	79.36	16.58		80.0	
		Z	0.72	60.00	6.99		80.0	
10473-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.83	33.15	3.23	80.0	± 9.6 %
		Y	100.00	126.57	32.77		80.0	
		Z	2.60	78.28	18.59		80.0	
10474-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	8.86	83.19	17.49	3.23	80.0	± 9.6 %
		Y	73.20	106.22	24.25		80.0	
		Z	0.70	60.00	7.66		80.0	
10475-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.84	66.67	11.33	3.23	80.0	± 9.6 %
		Y	7.07	79.22	16.54		80.0	
		Z	0.72	60.00	6.99		80.0	

10477-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	7.55	81.52	16.98	3.23	80.0	± 9.6 %
		Y	56.45	103.26	23.54		80.0	
		Z	0.70	60.00	7.63		80.0	
10478-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.82	66.56	11.27	3.23	80.0	± 9.6 %
		Y	6.95	79.03	16.47		80.0	
		Z	0.72	60.00	6.98		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	10.99	93.23	25.61	3.23	80.0	± 9.6 %
		Y	9.79	90.18	24.96		80.0	
		Z	4.54	80.48	20.41		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	12.16	88.23	21.88	3.23	80.0	± 9.6 %
		Y	11.98	87.55	22.28		80.0	
		Z	2.88	70.37	14.48		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.71	82.91	19.80	3.23	80.0	± 9.6 %
		Y	9.82	84.02	20.80		80.0	
		Z	2.18	66.77	12.57		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.05	77.33	19.19	2.23	80.0	± 9.6 %
		Y	4.17	76.68	19.19		80.0	
		Z	2.07	68.66	14.58		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.93	75.57	17.70	2.23	80.0	± 9.6 %
		Y	6.34	78.50	19.36		80.0	
		Z	1.80	63.38	11.04		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.47	74.01	17.11	2.23	80.0	± 9.6 %
		Y	5.79	76.98	18.82		80.0	
		Z	1.76	62.89	10.79		80.0	
10485-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.05	77.49	20.34	2.23	80.0	± 9.6 %
		Y	4.20	76.76	20.09		80.0	
		Z	2.71	72.24	17.50		80.0	
10486-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	71.63	17.34	2.23	80.0	± 9.6 %
		Y	3.76	71.58	17.54		80.0	
		Z	2.51	67.51	14.60		80.0	
10487-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.49	71.03	17.07	2.23	80.0	± 9.6 %
		Y	3.74	71.08	17.31		80.0	
		Z	2.49	67.04	14.35		80.0	
10488-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.92	74.84	20.03	2.23	80.0	± 9.6 %
		Y	4.21	74.77	19.87		80.0	
		Z	2.99	71.49	18.31		80.0	
10489-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.58	70.14	18.01	2.23	80.0	± 9.6 %
		Y	3.82	70.22	18.04		80.0	
		Z	3.03	68.36	16.75		80.0	
10490-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.66	69.89	17.90	2.23	80.0	± 9.6 %
		Y	3.90	69.97	17.95		80.0	
		Z	3.10	68.21	16.67		80.0	
10491-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.00	72.50	19.16	2.23	80.0	± 9.6 %
		Y	4.28	72.62	19.08		80.0	
		Z	3.25	70.05	17.90		80.0	
10492-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.86	68.99	17.79	2.23	80.0	± 9.6 %
		Y	4.11	69.18	17.85		80.0	
		Z	3.37	67.61	16.86		80.0	

10493-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.92	68.82	17.72	2.23	80.0	± 9.6 %
		Y	4.17	69.02	17.78		80.0	
		Z	3.43	67.50	16.80		80.0	
10494-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.43	74.41	19.78	2.23	80.0	± 9.6 %
		Y	4.75	74.52	19.68		80.0	
		Z	3.49	71.39	18.37		80.0	
10495-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.90	69.39	18.01	2.23	80.0	± 9.6 %
		Y	4.16	69.65	18.06		80.0	
		Z	3.39	67.86	17.06		80.0	
10496-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.97	69.05	17.88	2.23	80.0	± 9.6 %
		Y	4.22	69.30	17.94		80.0	
		Z	3.47	67.65	16.99		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.87	72.14	16.05	2.23	80.0	± 9.6 %
		Y	3.23	72.92	16.83		80.0	
		Z	1.19	62.14	10.12		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.73	63.11	10.85	2.23	80.0	± 9.6 %
		Y	2.27	65.45	12.56		80.0	
		Z	1.15	60.00	7.68		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.65	62.30	10.28	2.23	80.0	± 9.6 %
		Y	2.18	64.69	12.05		80.0	
		Z	1.17	60.00	7.51		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.87	75.87	20.03	2.23	80.0	± 9.6 %
		Y	4.07	75.40	19.81		80.0	
		Z	2.80	71.83	17.80		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.57	71.05	17.60	2.23	80.0	± 9.6 %
		Y	3.78	70.97	17.70		80.0	
		Z	2.79	68.23	15.59		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.61	70.84	17.44	2.23	80.0	± 9.6 %
		Y	3.84	70.79	17.56		80.0	
		Z	2.82	68.03	15.41		80.0	
10503-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.87	74.62	19.92	2.23	80.0	± 9.6 %
		Y	4.15	74.55	19.77		80.0	
		Z	2.95	71.29	18.21		80.0	
10504-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.57	70.04	17.95	2.23	80.0	± 9.6 %
		Y	3.80	70.13	17.99		80.0	
		Z	3.01	68.26	16.69		80.0	
10505-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.64	69.79	17.85	2.23	80.0	± 9.6 %
		Y	3.88	69.88	17.89		80.0	
		Z	3.09	68.12	16.62		80.0	
10506-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.39	74.26	19.71	2.23	80.0	± 9.6 %
		Y	4.71	74.37	19.61		80.0	
		Z	3.46	71.26	18.30		80.0	
10507-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.89	69.33	17.97	2.23	80.0	± 9.6 %
		Y	4.14	69.59	18.03		80.0	
		Z	3.38	67.80	17.02		80.0	

10508-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.95	68.98	17.84	2.23	80.0	± 9.6 %
		Y	4.21	69.23	17.90		80.0	
		Z	3.46	67.59	16.95		80.0	
10509-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.62	72.40	18.91	2.23	80.0	± 9.6 %
		Y	4.92	72.59	18.86		80.0	
		Z	3.86	70.20	17.85		80.0	
10510-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.34	68.87	17.84	2.23	80.0	± 9.6 %
		Y	4.61	69.18	17.91		80.0	
		Z	3.85	67.53	17.06		80.0	
10511-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.39	68.57	17.74	2.23	80.0	± 9.6 %
		Y	4.65	68.86	17.81		80.0	
		Z	3.92	67.35	17.00		80.0	
10512-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.95	74.43	19.59	2.23	80.0	± 9.6 %
		Y	5.29	74.60	19.52		80.0	
		Z	3.97	71.52	18.28		80.0	
10513-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.24	69.19	17.98	2.23	80.0	± 9.6 %
		Y	4.52	69.55	18.06		80.0	
		Z	3.73	67.67	17.13		80.0	
10514-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.25	68.69	17.82	2.23	80.0	± 9.6 %
		Y	4.51	69.03	17.90		80.0	
		Z	3.78	67.33	17.02		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.99	63.46	15.00	0.00	150.0	± 9.6 %
		Y	0.98	62.78	14.45		150.0	
		Z	0.99	63.59	14.96		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.69	72.54	18.63	0.00	150.0	± 9.6 %
		Y	0.56	68.11	16.08		150.0	
		Z	0.67	72.15	18.45		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.85	65.62	15.80	0.00	150.0	± 9.6 %
		Y	0.82	64.42	14.91		150.0	
		Z	0.84	65.62	15.72		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.53	66.80	16.29	0.00	150.0	± 9.6 %
		Y	4.59	66.58	16.17		150.0	
		Z	4.39	66.94	16.26		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.71	67.02	16.40	0.00	150.0	± 9.6 %
		Y	4.78	66.84	16.30		150.0	
		Z	4.54	67.11	16.34		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.56	66.98	16.32	0.00	150.0	± 9.6 %
		Y	4.63	66.80	16.22		150.0	
		Z	4.40	67.05	16.26		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.49	66.97	16.31	0.00	150.0	± 9.6 %
		Y	4.56	66.79	16.20		150.0	
		Z	4.33	67.02	16.25		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.56	67.08	16.40	0.00	150.0	± 9.6 %
		Y	4.62	66.86	16.28		150.0	
		Z	4.38	67.14	16.34		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.44	66.96	16.26	0.00	150.0	± 9.6 %
		Y	4.50	66.72	16.12		150.0	
		Z	4.31	67.14	16.26		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.50	67.00	16.37	0.00	150.0	± 9.6 %
		Y	4.57	66.78	16.25		150.0	
		Z	4.33	67.10	16.33		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.49	66.06	15.96	0.00	150.0	± 9.6 %
		Y	4.54	65.82	15.83		150.0	
		Z	4.36	66.21	15.95		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.65	66.41	16.10	0.00	150.0	± 9.6 %
		Y	4.72	66.20	15.98		150.0	
		Z	4.49	66.49	16.07		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.58	66.37	16.05	0.00	150.0	± 9.6 %
		Y	4.64	66.16	15.92		150.0	
		Z	4.42	66.47	16.01		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		Y	4.65	66.18	15.96		150.0	
		Z	4.43	66.48	16.04		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		Y	4.65	66.18	15.96		150.0	
		Z	4.43	66.48	16.04		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.58	66.48	16.09	0.00	150.0	± 9.6 %
		Y	4.65	66.29	15.97		150.0	
		Z	4.40	66.51	16.02		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.44	66.34	16.02	0.00	150.0	± 9.6 %
		Y	4.51	66.14	15.90		150.0	
		Z	4.28	66.37	15.96		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.60	66.44	16.07	0.00	150.0	± 9.6 %
		Y	4.66	66.22	15.94		150.0	
		Z	4.44	66.56	16.05		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.13	66.46	16.12	0.00	150.0	± 9.6 %
		Y	5.19	66.32	16.03		150.0	
		Z	4.99	66.46	16.09		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.20	66.64	16.21	0.00	150.0	± 9.6 %
		Y	5.25	66.49	16.10		150.0	
		Z	5.03	66.59	16.15		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.07	66.60	16.17	0.00	150.0	± 9.6 %
		Y	5.12	66.44	16.06		150.0	
		Z	4.92	66.60	16.13		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.12	66.56	16.15	0.00	150.0	± 9.6 %
		Y	5.18	66.41	16.05		150.0	
		Z	4.98	66.58	16.13		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.21	66.56	16.19	0.00	150.0	± 9.6 %
		Y	5.28	66.45	16.11		150.0	
		Z	5.05	66.54	16.15		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.14	66.58	16.22	0.00	150.0	± 9.6 %
		Y	5.20	66.45	16.12		150.0	
		Z	4.98	66.51	16.15		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.12	66.46	16.14	0.00	150.0	± 9.6 %
		Y	5.18	66.32	16.05		150.0	
		Z	4.96	66.43	16.09		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.27	66.53	16.19	0.00	150.0	± 9.6 %
		Y	5.33	66.40	16.10		150.0	
		Z	5.12	66.52	16.15		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.34	66.55	16.23	0.00	150.0	± 9.6 %
		Y	5.41	66.44	16.14		150.0	
		Z	5.19	66.58	16.21		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.45	66.57	16.12	0.00	150.0	± 9.6 %
		Y	5.49	66.44	16.03		150.0	
		Z	5.33	66.54	16.08		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.64	66.98	16.28	0.00	150.0	± 9.6 %
		Y	5.69	66.86	16.18		150.0	
		Z	5.50	66.96	16.25		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.50	66.75	16.18	0.00	150.0	± 9.6 %
		Y	5.56	66.68	16.11		150.0	
		Z	5.36	66.66	16.11		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.57	66.80	16.19	0.00	150.0	± 9.6 %
		Y	5.64	66.72	16.12		150.0	
		Z	5.44	66.76	16.16		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.80	67.67	16.61	0.00	150.0	± 9.6 %
		Y	5.91	67.72	16.59		150.0	
		Z	5.58	67.38	16.44		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.54	66.80	16.21	0.00	150.0	± 9.6 %
		Y	5.59	66.67	16.11		150.0	
		Z	5.42	66.83	16.21		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.54	66.82	16.18	0.00	150.0	± 9.6 %
		Y	5.59	66.72	16.10		150.0	
		Z	5.36	66.63	16.07		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.46	66.64	16.10	0.00	150.0	± 9.6 %
		Y	5.51	66.51	16.00		150.0	
		Z	5.34	66.66	16.08		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.54	66.66	16.14	0.00	150.0	± 9.6 %
		Y	5.59	66.56	16.06		150.0	
		Z	5.39	66.61	16.09		150.0	
10554-AAB	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.86	66.92	16.20	0.00	150.0	± 9.6 %
		Y	5.89	66.81	16.12		150.0	
		Z	5.75	66.87	16.15		150.0	
10555-AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.98	67.22	16.33	0.00	150.0	± 9.6 %
		Y	6.03	67.12	16.25		150.0	
		Z	5.84	67.10	16.25		150.0	
10556-AAB	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.00	67.27	16.35	0.00	150.0	± 9.6 %
		Y	6.05	67.16	16.27		150.0	
		Z	5.88	67.20	16.30		150.0	
10557-AAB	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.96	67.16	16.31	0.00	150.0	± 9.6 %
		Y	6.02	67.08	16.25		150.0	
		Z	5.84	67.08	16.25		150.0	

10558-AAB	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.01	67.32	16.41	0.00	150.0	± 9.6 %
		Y	6.07	67.25	16.34		150.0	
		Z	5.85	67.15	16.31		150.0	
10560-AAB	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.01	67.17	16.37	0.00	150.0	± 9.6 %
		Y	6.06	67.10	16.31		150.0	
		Z	5.87	67.07	16.30		150.0	
10561-AAB	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.93	67.15	16.40	0.00	150.0	± 9.6 %
		Y	5.98	67.06	16.32		150.0	
		Z	5.80	67.05	16.32		150.0	
10562-AAB	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.04	67.49	16.57	0.00	150.0	± 9.6 %
		Y	6.12	67.48	16.53		150.0	
		Z	5.85	67.23	16.41		150.0	
10563-AAB	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.18	67.55	16.56	0.00	150.0	± 9.6 %
		Y	6.43	68.00	16.75		150.0	
		Z	5.95	67.17	16.35		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.86	66.88	16.45	0.46	150.0	± 9.6 %
		Y	4.92	66.69	16.36		150.0	
		Z	4.71	66.96	16.39		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.08	67.30	16.76	0.46	150.0	± 9.6 %
		Y	5.16	67.15	16.67		150.0	
		Z	4.90	67.36	16.69		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.91	67.15	16.58	0.46	150.0	± 9.6 %
		Y	4.99	67.00	16.50		150.0	
		Z	4.74	67.18	16.50		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.94	67.52	16.92	0.46	150.0	± 9.6 %
		Y	5.01	67.38	16.84		150.0	
		Z	4.77	67.57	16.87		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.83	66.96	16.38	0.46	150.0	± 9.6 %
		Y	4.90	66.77	16.27		150.0	
		Z	4.63	66.92	16.25		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.90	67.63	17.00	0.46	150.0	± 9.6 %
		Y	4.96	67.44	16.88		150.0	
		Z	4.75	67.78	17.00		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.93	67.48	16.92	0.46	150.0	± 9.6 %
		Y	5.00	67.29	16.82		150.0	
		Z	4.76	67.58	16.89		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.18	64.69	15.93	0.46	130.0	± 9.6 %
		Y	1.20	64.37	15.58		130.0	
		Z	1.13	64.22	15.49		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.19	65.27	16.29	0.46	130.0	± 9.6 %
		Y	1.21	64.91	15.92		130.0	
		Z	1.14	64.74	15.83		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	2.77	92.16	26.12	0.46	130.0	± 9.6 %
		Y	1.86	83.27	22.47		130.0	
		Z	1.57	83.20	23.00		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.31	71.26	19.39	0.46	130.0	± 9.6 %
		Y	1.31	70.26	18.63		130.0	
		Z	1.20	70.00	18.67		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		Z	4.47	66.69	16.39		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.83	16.58	0.46	130.0	± 9.6 %
		Y	4.73	66.66	16.49		130.0	
		Z	4.50	66.89	16.47		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	67.11	16.74	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.66		130.0	
		Z	4.67	67.12	16.61		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.76	67.25	16.83	0.46	130.0	± 9.6 %
		Y	4.84	67.12	16.76		130.0	
		Z	4.57	67.26	16.72		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	
		Z	4.33	66.48	15.99		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.57	66.63	16.21	0.46	130.0	± 9.6 %
		Y	4.66	66.47	16.12		130.0	
		Z	4.36	66.53	16.01		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.65	67.30	16.78	0.46	130.0	± 9.6 %
		Y	4.73	67.15	16.70		130.0	
		Z	4.48	67.34	16.69		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89		130.0	
		Z	4.26	66.25	15.78		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		Z	4.47	66.69	16.39		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.83	16.58	0.46	130.0	± 9.6 %
		Y	4.73	66.66	16.49		130.0	
		Z	4.50	66.89	16.47		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	67.11	16.74	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.66		130.0	
		Z	4.67	67.12	16.61		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.76	67.25	16.83	0.46	130.0	± 9.6 %
		Y	4.84	67.12	16.76		130.0	
		Z	4.57	67.26	16.72		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	
		Z	4.33	66.48	15.99		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.57	66.63	16.21	0.46	130.0	± 9.6 %
		Y	4.66	66.47	16.12		130.0	
		Z	4.36	66.53	16.01		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.65	67.30	16.78	0.46	130.0	± 9.6 %
		Y	4.73	67.15	16.70		130.0	
		Z	4.48	67.34	16.69		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.47	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89		130.0	
		Z	4.26	66.25	15.78		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.79	66.72	16.61	0.46	130.0	± 9.6 %
		Y	4.86	66.57	16.53		130.0	
		Z	4.63	66.78	16.50		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.94	67.05	16.74	0.46	130.0	± 9.6 %
		Y	5.02	66.91	16.66		130.0	
		Z	4.75	67.07	16.63		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.86	66.96	16.62	0.46	130.0	± 9.6 %
		Y	4.94	66.83	16.55		130.0	
		Z	4.67	66.95	16.49		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.91	67.12	16.77	0.46	130.0	± 9.6 %
		Y	5.00	66.98	16.70		130.0	
		Z	4.72	67.12	16.65		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.88	67.08	16.67	0.46	130.0	± 9.6 %
		Y	4.96	66.94	16.59		130.0	
		Z	4.69	67.10	16.56		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.82	67.08	16.68	0.46	130.0	± 9.6 %
		Y	4.90	66.94	16.60		130.0	
		Z	4.62	67.07	16.55		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.77	66.98	16.56	0.46	130.0	± 9.6 %
		Y	4.85	66.85	16.49		130.0	
		Z	4.57	66.94	16.41		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.75	67.19	16.80	0.46	130.0	± 9.6 %
		Y	4.83	67.08	16.74		130.0	
		Z	4.56	67.16	16.67		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.46	67.23	16.81	0.46	130.0	± 9.6 %
		Y	5.53	67.13	16.74		130.0	
		Z	5.31	67.22	16.74		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.59	67.67	17.00	0.46	130.0	± 9.6 %
		Y	5.69	67.62	16.95		130.0	
		Z	5.40	67.56	16.88		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.48	67.41	16.88	0.46	130.0	± 9.6 %
		Y	5.56	67.33	16.83		130.0	
		Z	5.31	67.36	16.79		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.59	67.49	16.85	0.46	130.0	± 9.6 %
		Y	5.65	67.34	16.75		130.0	
		Z	5.41	67.42	16.75		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.65	67.74	17.10	0.46	130.0	± 9.6 %
		Y	5.74	67.66	17.04		130.0	
		Z	5.48	67.71	17.02		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.49	67.31	16.87	0.46	130.0	± 9.6 %
		Y	5.53	67.10	16.74		130.0	
		Z	5.37	67.37	16.83		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.58	67.57	17.01	0.46	130.0	± 9.6 %
		Y	5.65	67.44	16.92		130.0	
		Z	5.40	67.46	16.88		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.32	66.88	16.52	0.46	130.0	± 9.6 %
		Y	5.42	66.88	16.50		130.0	
		Z	5.18	66.90	16.45		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.63	66.06	16.24	0.46	130.0	± 9.6 %
		Y	4.69	65.87	16.14		130.0	
		Z	4.48	66.14	16.16		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.81	66.46	16.41	0.46	130.0	± 9.6 %
		Y	4.89	66.28	16.31		130.0	
		Z	4.62	66.47	16.30		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.70	66.31	16.25	0.46	130.0	± 9.6 %
		Y	4.78	66.14	16.15		130.0	
		Z	4.52	66.31	16.13		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.75	66.46	16.40	0.46	130.0	± 9.6 %
		Y	4.83	66.29	16.31		130.0	
		Z	4.57	66.47	16.29		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.67	66.27	16.25	0.46	130.0	± 9.6 %
		Y	4.74	66.11	16.17		130.0	
		Z	4.48	66.27	16.14		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.68	66.43	16.31	0.46	130.0	± 9.6 %
		Y	4.76	66.26	16.21		130.0	
		Z	4.47	66.40	16.18		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.68	66.30	16.19	0.46	130.0	± 9.6 %
		Y	4.76	66.16	16.10		130.0	
		Z	4.47	66.22	16.03		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.62	66.47	16.40	0.46	130.0	± 9.6 %
		Y	4.70	66.33	16.32		130.0	
		Z	4.44	66.44	16.27		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.67	66.12	16.05	0.46	130.0	± 9.6 %
		Y	4.75	65.95	15.95		130.0	
		Z	4.48	66.11	15.92		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.28	66.50	16.42	0.46	130.0	± 9.6 %
		Y	5.35	66.40	16.35		130.0	
		Z	5.12	66.44	16.33		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.35	66.70	16.50	0.46	130.0	± 9.6 %
		Y	5.42	66.55	16.40		130.0	
		Z	5.16	66.57	16.37		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.24	66.70	16.51	0.46	130.0	± 9.6 %
		Y	5.30	66.57	16.42		130.0	
		Z	5.08	66.64	16.42		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.25	66.50	16.35	0.46	130.0	± 9.6 %
		Y	5.33	66.41	16.28		130.0	
		Z	5.09	66.45	16.26		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.34	66.53	16.41	0.46	130.0	± 9.6 %
		Y	5.42	66.46	16.35		130.0	
		Z	5.16	66.45	16.31		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.34	66.65	16.59	0.46	130.0	± 9.6 %
		Y	5.41	66.55	16.51		130.0	
		Z	5.17	66.56	16.48		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.35	66.81	16.66	0.46	130.0	± 9.6 %
		Y	5.42	66.71	16.59		130.0	
		Z	5.16	66.65	16.52		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.23	66.36	16.32	0.46	130.0	± 9.6 %
		Y	5.30	66.25	16.24		130.0	
		Z	5.05	66.22	16.17		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.42	66.55	16.47	0.46	130.0	± 9.6 %
		Y	5.50	66.45	16.40		130.0	
		Z	5.25	66.47	16.36		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.75	67.41	16.95	0.46	130.0	± 9.6 %
		Y	5.89	67.51	16.98		130.0	
		Z	5.34	66.63	16.50		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.59	66.56	16.38	0.46	130.0	± 9.6 %
		Y	5.64	66.46	16.31		130.0	
		Z	5.45	66.47	16.28		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.82	67.13	16.63	0.46	130.0	± 9.6 %
		Y	5.88	67.03	16.55		130.0	
		Z	5.67	67.05	16.54		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.61	66.64	16.32	0.46	130.0	± 9.6 %
		Y	5.68	66.59	16.27		130.0	
		Z	5.44	66.46	16.18		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.69	66.69	16.34	0.46	130.0	± 9.6 %
		Y	5.78	66.69	16.31		130.0	
		Z	5.54	66.62	16.26		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.09	68.10	17.05	0.46	130.0	± 9.6 %
		Y	6.25	68.29	17.11		130.0	
		Z	5.78	67.54	16.72		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.99	67.90	17.13	0.46	130.0	± 9.6 %
		Y	6.12	67.99	17.15		130.0	
		Z	5.75	67.56	16.92		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.79	67.18	16.78	0.46	130.0	± 9.6 %
		Y	5.85	67.07	16.70		130.0	
		Z	5.67	67.21	16.76		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.68	66.80	16.43	0.46	130.0	± 9.6 %
		Y	5.74	66.74	16.37		130.0	
		Z	5.48	66.57	16.27		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.66	66.82	16.49	0.46	130.0	± 9.6 %
		Y	5.73	66.76	16.44		130.0	
		Z	5.50	66.72	16.40		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.54	66.19	15.93	0.46	130.0	± 9.6 %
		Y	5.62	66.14	15.87		130.0	
		Z	5.36	66.00	15.77		130.0	
10636-AAB	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.92	16.46	0.46	130.0	± 9.6 %
		Y	6.05	66.85	16.41		130.0	
		Z	5.88	66.82	16.36		130.0	
10637-AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.16	67.31	16.64	0.46	130.0	± 9.6 %
		Y	6.21	67.23	16.58		130.0	
		Z	6.00	67.12	16.50		130.0	
10638-AAB	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.16	67.28	16.60	0.46	130.0	± 9.6 %
		Y	6.21	67.20	16.54		130.0	
		Z	6.02	67.18	16.51		130.0	

10639-AAB	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.13	67.21	16.61	0.46	130.0	± 9.6 %
		Y	6.20	67.17	16.57		130.0	
		Z	5.98	67.06	16.49		130.0	
10640-AAB	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.13	67.23	16.57	0.46	130.0	± 9.6 %
		Y	6.21	67.21	16.53		130.0	
		Z	5.95	66.98	16.40		130.0	
10641-AAB	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.19	67.17	16.55	0.46	130.0	± 9.6 %
		Y	6.24	67.06	16.48		130.0	
		Z	6.04	67.04	16.44		130.0	
10642-AAB	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.22	67.37	16.82	0.46	130.0	± 9.6 %
		Y	6.28	67.33	16.77		130.0	
		Z	6.06	67.23	16.70		130.0	
10643-AAB	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	67.09	16.58	0.46	130.0	± 9.6 %
		Y	6.12	67.02	16.52		130.0	
		Z	5.91	66.93	16.45		130.0	
10644-AAB	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.20	67.52	16.82	0.46	130.0	± 9.6 %
		Y	6.31	67.59	16.83		130.0	
		Z	5.97	67.13	16.57		130.0	
10645-AAB	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.41	67.77	16.91	0.46	130.0	± 9.6 %
		Y	6.76	68.49	17.23		130.0	
		Z	6.10	67.18	16.56		130.0	
10646-AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	32.54	128.38	44.23	9.30	60.0	± 9.6 %
		Y	33.21	124.21	42.28		60.0	
		Z	8.58	97.27	34.21		60.0	
10647-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	24.86	122.50	42.74	9.30	60.0	± 9.6 %
		Y	27.83	120.75	41.46		60.0	
		Z	7.33	94.04	33.20		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.71	63.99	11.07	0.00	150.0	± 9.6 %
		Y	0.72	63.38	11.01		150.0	
		Z	0.57	62.72	9.40		150.0	
10652-AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.64	67.29	16.91	2.23	80.0	± 9.6 %
		Y	3.79	67.25	16.93		80.0	
		Z	3.31	66.63	16.20		80.0	
10653-AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.13	66.44	16.95	2.23	80.0	± 9.6 %
		Y	4.30	66.53	16.99		80.0	
		Z	3.84	65.89	16.44		80.0	
10654-AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.11	66.04	16.93	2.23	80.0	± 9.6 %
		Y	4.26	66.17	16.97		80.0	
		Z	3.86	65.50	16.46		80.0	
10655-AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.17	66.02	16.96	2.23	80.0	± 9.6 %
		Y	4.32	66.18	17.01		80.0	
		Z	3.93	65.42	16.50		80.0	

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

APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity ε_r' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{\left[\ln(b/a)\right]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r'\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where *Y* is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

Table D-I
Composition of the Tissue Equivalent Matter

Frequency (MHz)	2450	2450	5200-5800	5200-5800
Tissue	Head	Body	Head	Body
Ingredients (% by weight)				
DGBE	See page 2	26.7	See page 3	
NaCl		0.1		
Polysorbate (Tween) 80				20
Water		73.2		80

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3 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 73 %	
Non-ionic detergents	25 – 50 %	polyoxyethylenesorbitan monolaurate
NaCl	0 – 2 %	
Preservative	0.05 – 0.1%	Preventol-D7

Safety relevant ingredients:

CAS-No. 55965-84-9	< 0.1 %	aqueous preparation, containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone
CAS-No. 9005-64-5	<50 %	polyoxyethylenesorbitan monolaurate

According to international guidelines, the product is not a dangerous mixture and therefore not required to be marked by symbols.

Figure D-1
Composition of 2.4 GHz Head Tissue Equivalent Matter

Note: 2.4 GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL1900-3800V3)**
Product No.	SL AAH 196 AB (Batch: 160330-1)
Manufacturer	SPEAG

Measurement Method
TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation
Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters
Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

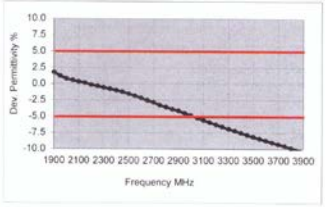
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	30-Mar-16
Operator	WM

Additional Information

TSL Density	1.054 g/cm³
TSL Heat-capacity	3.389 kJ/(kg*K)

	Measured			Target		Diff to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
1900	40.7	12.3	1.3	40.0	1.4	1.7	-6.9
1950	40.5	12.5	1.4	40.0	1.4	1.2	-3.3
2000	40.3	12.6	1.4	40.0	1.4	0.8	0.1
2050	40.1	12.7	1.5	39.9	1.4	0.6	0.5
2100	39.9	12.9	1.5	39.8	1.5	0.3	0.9
2150	39.8	13.0	1.6	39.7	1.5	0.1	1.2
2200	39.6	13.1	1.6	39.6	1.6	-0.2	1.7
2250	39.4	13.2	1.7	39.6	1.6	-0.3	2.0
2300	39.2	13.3	1.7	39.5	1.7	-0.6	2.4
2350	39.1	13.5	1.8	39.4	1.7	-0.8	2.9
2400	38.9	13.6	1.8	39.3	1.8	-1.0	3.4
2450	38.7	13.7	1.9	39.2	1.8	-1.2	4.0
2500	38.5	13.8	1.9	39.1	1.9	-1.5	3.9
2550	38.3	13.9	2.0	39.1	1.9	-1.9	3.5
2600	38.2	14.1	2.0	39.0	2.0	-2.2	3.9
2650	37.9	14.2	2.1	38.9	2.0	-2.6	3.8
2700	37.8	14.3	2.2	38.9	2.1	-2.8	3.9
2750	37.5	14.4	2.2	38.8	2.1	-3.3	3.6
2800	37.4	14.5	2.3	38.8	2.2	-3.6	3.6
2850	37.2	14.6	2.3	38.7	2.2	-3.9	3.7
2900	37.0	14.7	2.4	38.6	2.3	-4.1	3.8
2950	36.8	14.8	2.4	38.6	2.3	-4.5	3.7
3000	36.6	14.9	2.5	38.5	2.4	-4.8	3.6
3050	36.4	15.0	2.5	38.4	2.5	-5.2	3.8
3100	36.2	15.1	2.6	38.4	2.5	-5.6	3.8
3150	36.1	15.2	2.7	38.3	2.6	-5.9	4.0
3200	35.9	15.2	2.7	38.3	2.6	-6.2	3.9
3250	35.7	15.3	2.8	38.2	2.7	-6.6	4.1
3300	35.5	15.3	2.8	38.2	2.7	-6.9	4.0
3350	35.4	15.4	2.9	38.1	2.8	-7.2	4.2
3400	35.2	15.5	2.9	38.0	2.8	-7.5	4.1
3450	35.0	15.5	3.0	38.0	2.9	-7.8	4.2
3500	34.9	15.6	3.0	37.9	2.9	-8.1	4.2
3550	34.7	15.6	3.1	37.9	3.0	-8.4	4.2
3600	34.5	15.7	3.1	37.8	3.0	-8.7	4.4
3650	34.4	15.8	3.2	37.8	3.1	-9.0	4.3
3700	34.2	15.8	3.3	37.7	3.1	-9.3	4.5
3750	34.1	15.9	3.3	37.6	3.2	-9.5	4.4
3800	33.9	15.9	3.4	37.6	3.2	-9.9	4.7
3850	33.7	16.0	3.4	37.5	3.3	-10.1	4.7



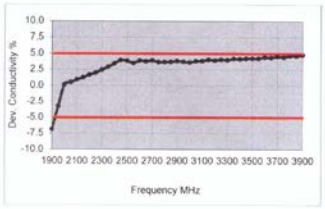


Figure D-2
2.4 GHz Head Tissue Equivalent Matter

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2 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 65%
Mineral oil	10 – 30%
Emulsifiers	8 – 25%
Sodium salt	0 – 1.5%

Figure D-3
Composition of 5 GHz Head Tissue Equivalent Matter

Note: 5GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL3500-5800V5)**
Product No.	SL AAH 502 AG (Batch: 160331-2)
Manufacturer	SPEAG

Measurement Method
TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation
Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters
Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

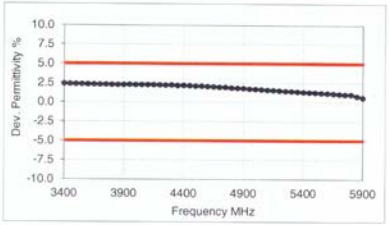
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	4-Apr-16
Operator	WM

Additional Information

TSL Density	0.985 g/cm^3
TSL Heat-capacity	3.383 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
3400	39.0	15.12	2.86	38.0	2.81	2.5	1.8
3500	**38.8**	**15.09**	**2.94**	**37.9**	**2.91**	**2.3**	**0.9**
3600	38.7	15.08	3.02	37.8	3.02	2.3	0.2
3700	**38.6**	**15.08**	**3.10**	**37.7**	**3.12**	**2.4**	**-0.6**
3800	38.4	15.07	3.19	37.6	3.22	2.2	-0.9
3900	38.3	15.09	3.27	37.5	3.32	2.2	-1.6
4000	38.2	15.10	3.36	37.4	3.43	2.3	-1.9
4100	38.1	15.13	3.45	37.2	3.53	2.3	-2.2
4200	38.0	15.18	3.55	37.1	3.63	2.3	-2.2
4300	37.8	15.22	3.64	37.0	3.73	2.1	-2.5
4400	37.7	15.29	3.74	36.9	3.84	2.2	-2.5
4500	37.6	15.34	3.84	36.8	3.94	2.2	-2.5
4600	37.4	15.41	3.94	36.7	4.04	2.0	-2.5
4700	37.3	15.47	4.05	36.6	4.14	2.0	-2.2
4800	37.1	15.53	4.15	36.4	4.25	1.8	-2.2
4850	37.1	15.57	4.20	36.4	4.30	2.0	-2.2
4900	37.0	15.60	4.25	36.3	4.35	1.8	-2.2
4950	36.9	15.62	4.30	36.3	4.40	1.7	-2.2
5000	36.8	15.66	4.35	36.2	4.45	1.6	-2.2
5050	36.8	15.68	4.40	36.2	4.50	1.8	-2.2
5100	36.7	15.73	4.46	36.1	4.55	1.7	-2.0
5150	36.6	15.75	4.51	36.0	4.60	1.5	-2.0
5200	**36.5**	**15.78**	**4.57**	**36.0**	**4.66**	**1.4**	**-1.8**
5250	36.4	15.80	4.62	35.9	4.71	1.3	-1.8
5300	36.4	15.84	4.67	35.9	4.76	1.5	-1.8
5350	36.3	15.85	4.72	35.8	4.81	1.4	-1.8
5400	36.2	15.88	4.77	35.8	4.86	1.2	-1.9
5450	36.2	15.90	4.82	35.7	4.91	1.4	-1.9
5500	**36.1**	**15.91**	**4.87**	**35.6**	**4.96**	**1.3**	**-1.9**
5550	36.0	15.95	4.93	35.6	5.01	1.2	-1.7
5600	35.9	15.99	4.98	35.5	5.07	1.0	-1.7
5650	35.9	16.02	5.04	35.5	5.12	1.2	-1.5
5700	35.8	16.05	5.09	35.4	5.17	1.1	-1.5
5750	35.7	16.09	5.15	35.4	5.22	1.0	-1.3
5800	**35.7**	**16.10**	**5.20**	**35.3**	**5.27**	**1.1**	**-1.3**
5850	35.6	16.14	5.25	35.3	5.34	0.8	-1.6
5900	35.5	16.15	5.30	35.3	5.40	0.6	-1.9



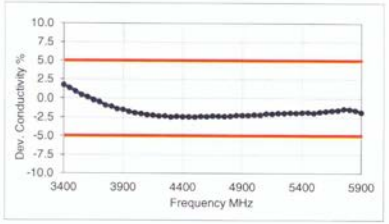


Figure D-4
5GHz Head Tissue Equivalent Matter

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APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table E-1
SAR System Validation Summary – 1g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND. (σ)	PERM. (εr)	CW VALIDATION			MOD. VALIDATION		
									SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
H	2450	9/5/2017	7410	EX3DV4	2450	Head	1.869	38.852	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
H	5250	1/31/2018	3589	EX3DV4	5250	Head	4.516	36.066	PASS	PASS	PASS	OFDM	N/A	PASS
H	5600	1/31/2018	3589	EX3DV4	5600	Head	4.869	35.597	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	1/31/2018	3589	EX3DV4	5750	Head	5.112	35.351	PASS	PASS	PASS	OFDM	N/A	PASS
K	2450	5/3/2017	7406	EX3DV4	2450	Body	1.995	50.521	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-2
SAR System Validation Summary – 10g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND. (σ)	PERM. (εr)	CW VALIDATION			MOD. VALIDATION		
									SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
K	2450	5/3/2017	7406	EX3DV4	2450	Body	1.995	50.521	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

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