



SAR EVALUATION REPORT

Applicant Name:
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 Yeongtong-gu, Suwon-si
 Gyeonggi-do, 16677, Korea

Date of Testing:
 10/21/16 - 10/24/16
Test Site/Location:
 PCTEST Lab, Columbia, MD, USA
Document Serial No.:
 0Y1610211644.A3L

FCC ID: A3LSMG610KOR

APPLICANT: SAMSUNG ELECTRONICS CO., LTD.

DUT Type: Portable Handset
Application Type: Class II Permissive Change
FCC Rule Part(s): CFR §2.1093
Model(s): SM-G610S, SM-G610K, SM-G610L
Test Sample(s): Pre-Production [Serial Number: D93FD]
Permissive Change(s): See FCC Change Document
Date of Original Certification: 10/19/2016

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)	10 gm Phablet (W/kg)
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.41	0.60	0.72	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			0.97	0.91	1.02	N/A

Note: The table above shows Test data evaluated for the current test report. Please refer to RF Exposure Technical Report S/N 0Y1609211567-R1.A3L for original compliance evaluation.

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 1.7 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
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 17	Data	706.5 - 713.5 MHz
LTE Band 5 (Cell)	Data	824.7 - 848.3 MHz
2.4 GHz WLAN	Data	2412 - 2462 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz

1.2 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)
LTE Band 5 (Cell)	Maximum	24.5
	Nominal	24.0



1.3 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
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	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 941225 D06v02r01 Section III and FCC KDB Publication 648474 D04v01r03. The distances between the transmit antennas and the edges of the device are included in the filing.

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1.4 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.

1.5 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the DUT are shown in Figure 1-1 and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

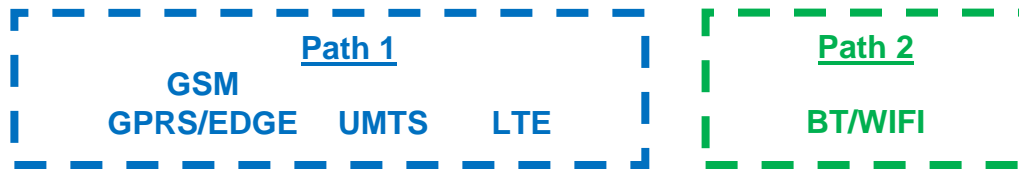


Figure 1-1

Simultaneous Transmission Paths

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

Table 1-2
Simultaneous Transmission Scenarios



No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	GSM voice + 2.4 GHz W-I-F-I	Yes	Yes	N/A	Yes	
2	GSM voice + 2.4 GHz Bluetooth	N/A	Yes	N/A	Yes	
3	UMTS + 2.4 GHz W-I-F-I	Yes	Yes	Yes	Yes	
4	UMTS + 2.4 GHz Bluetooth	N/A	Yes	N/A	Yes	
5	LTE + 2.4 GHz W-I-F-I	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
6	LTE + 2.4 GHz Bluetooth	N/A	Yes*	N/A	Yes	*-Pre-installed VOIP applications are considered.
7	GPRS/EDGE + 2.4 GHz W-I-F-I	N/A	N/A	Yes	Yes	
8	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	N/A	Yes	

- 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
- All licensed modes share the same antenna path and cannot transmit simultaneously.
- When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
- Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.

1.6 Miscellaneous SAR Test Considerations

(A) WIFI/BT

It was confirmed that the change in the device did not affect the SAR for Bluetooth/WLAN operations. Please refer to RF Exposure Technical Report S/N 0Y1609211567-R1.A3L for complete SAR evaluation for these operations.

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(B) Licensed Transmitter(s)

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Phablet SAR was not evaluated for licensed technologies since wireless router 1g SAR was < 1.2 W/kg for these modes.

1.7 Guidance Applied



- IEEE 1528-2013
- FCC KDB Publication 941225 D05v02r04, D06v02r01 (4G and Hotspot)
- 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)

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LTE INFORMATION

LTE Information			
FCC ID	A3LSMG610KOR		
Form Factor	Portable Handset		
Frequency Range of each LTE transmission band	LTE Band 17 (706.5 - 713.5 MHz)		
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)		
Channel Bandwidths	LTE Band 17: 5 MHz, 10 MHz		
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz		
Channel Numbers and Frequencies (MHz)	Low	Mid	High
LTE Band 17: 5 MHz	706.5 (23755)	710 (23790)	713.5 (23825)
LTE Band 17: 10 MHz	709 (23780)	710 (23790)	711 (23800)
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)
LTE Band 5 (Cell): 3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)
LTE Band 5 (Cell): 5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)
LTE Band 5 (Cell): 10 MHz	829 (20450)	836.5 (20525)	844 (20600)
UE Category	4		
Modulations Supported in UL	QPSK, 16QAM		
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES		
A-MPR (Additional MPR) disabled for SAR Testing?	YES		
LTE Release 10 Additional Information	This device does not support full CA features on 3GPP Release 10. All uplink communications are identical to the Release 8 Specifications. The following LTE Release 10 Features are not supported: Carrier Aggregation, Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.		

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3 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.

3.1 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 3-1).

Equation 3-1
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/m³)
- 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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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

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 4-1) 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 4-1) 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 4-1. 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.

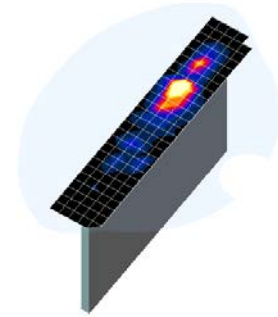




Figure 4-1
Sample SAR Area Scan

Table 4-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

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

*Also compliant to IEEE 1528-2013 Table 6

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5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

Figure 5-2 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 5-1. 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 5-1). 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].

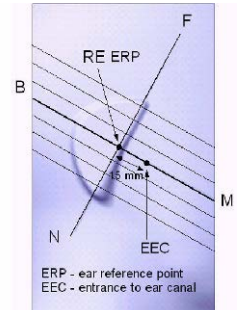


Figure 5-1
Close-Up Side view of ERP

5.2 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 5-3). The acoustic output was then 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 5-2
Front, back and side view of SAM Twin Phantom

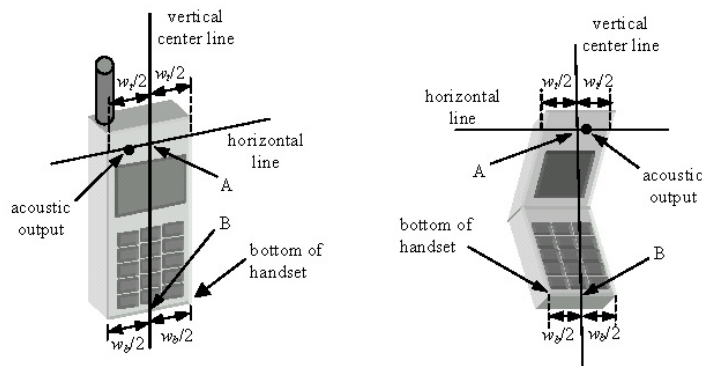




Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 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 6-1), 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.

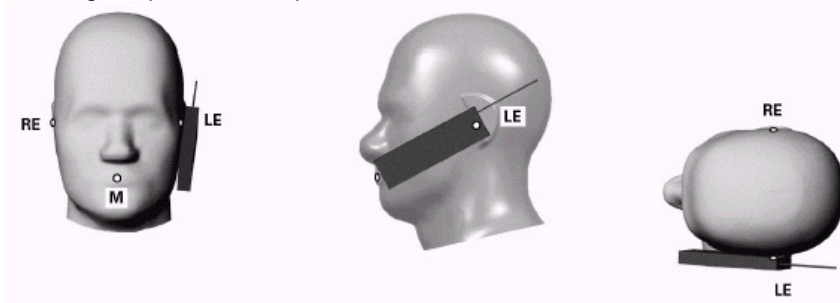




Figure 6-1 Front, Side and Top View of Cheek Position

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 with 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 6-2).

6.3 Positioning for Ear / 15° 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 15 degrees.
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 6-2).

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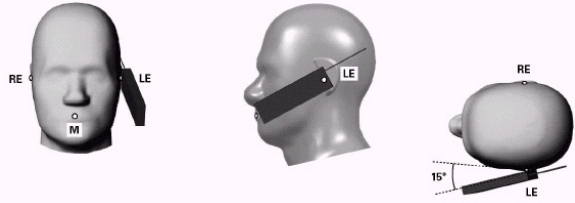


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

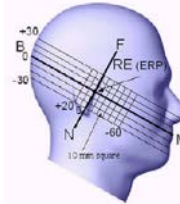


Figure 6-3 Side view w/ relevant markings

6.4 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.

6.5 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.

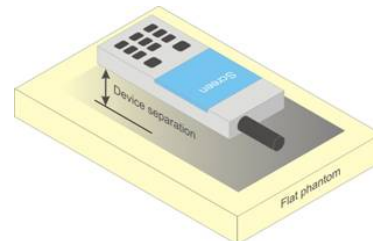




Figure 6-4 Sample Body-Worn Diagram

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.

6.6 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 1-g body and 10-g 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.



6.7 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.

6.8 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 10-g SAR. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g SAR > 1.2 W/kg.

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7 RF EXPOSURE LIMITS

7.1 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.



7.2 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 7-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6**

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT <i>General Population</i> (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT <i>Occupational</i> (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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8 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

8.1 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.

8.2 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

8.3 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.3.1 Spectrum Plots for RB Configurations



A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

8.3.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

8.3.3 A-MPR



A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

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8.3.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

- a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
 - i. The required channel and offset combination with the highest maximum output power is required for SAR.
 - ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to $\frac{1}{2}$ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/kg.

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9 RF CONDUCTED POWERS

9.1 LTE Conducted Powers

9.1.1 LTE Band 5 (Cell)



Table 9-1
LTE Band 5 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20525 (836.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.46	0	0
	1	25	24.40		0
	1	49	24.39		0
	25	0	23.29	0-1	1
	25	12	23.27		1
	25	25	23.23		1
16QAM	50	0	23.26	0-1	1
	1	0	23.25		1
	1	25	23.17		1
	1	49	23.15	0-2	2
	25	0	22.30		2
	25	12	22.25		2
	25	25	22.24	2	
	50	0	22.25	2	

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-2
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)			
			Conducted Power [dBm]					
QPSK	1	0	24.45	24.41	24.48	0	0	
	1	12	24.40	24.39	24.46		0	
	1	24	24.35	24.34	24.46		0	
	12	0	23.17	23.34	23.34	0-1	1	
	12	6	23.19	23.28	23.31		1	
	12	13	23.13	23.26	23.30		1	
16QAM	25	0	23.12	23.33	23.32	0-1	1	
	1	0	23.32	23.46	23.36		0-1	1
	1	12	23.35	23.41	23.34			1
	1	24	23.37	23.43	23.35	0-2		1
	12	0	22.05	22.33	22.31		2	
	12	6	22.04	22.29	22.28		2	
	12	13	22.03	22.28	22.24	2		
	25	0	22.16	22.35	22.24	2		



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**Table 9-3
LTE Band 5 (Cell) Conducted Powers - 3 MHz Bandwidth**

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.49	24.47	24.47	0	0
	1	7	24.48	24.49	24.45		0
	1	14	24.46	24.48	24.42		0
	8	0	23.15	23.32	23.35	0-1	1
	8	4	23.18	23.34	23.32		1
	8	7	23.16	23.33	23.34		1
	15	0	23.19	23.32	23.34		1
16QAM	1	0	23.37	23.50	23.49	0-1	1
	1	7	23.34	23.48	23.40		1
	1	14	23.35	23.44	23.41		1
	8	0	22.12	22.27	22.28	0-2	2
	8	4	22.16	22.28	22.26		2
	8	7	22.21	22.26	22.25		2
	15	0	22.12	22.36	22.30		2

**Table 9-4
LTE Band 5 (Cell) Conducted Powers -1.4 MHz Bandwidth**

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.39	24.43	24.44	0	0
	1	2	24.43	24.41	24.39		0
	1	5	24.37	24.47	24.43		0
	3	0	24.13	24.29	24.36		0
	3	2	24.11	24.33	24.33		0
	3	3	24.10	24.36	24.31		0
	6	0	23.14	23.37	23.36	0-1	1
16QAM	1	0	23.31	23.46	23.44	0-1	1
	1	2	23.25	23.44	23.48		1
	1	5	23.28	23.47	23.46		1
	3	0	22.93	23.31	23.16		1
	3	2	22.91	23.27	23.15		1
	3	3	22.90	23.26	23.18		1
	6	0	22.03	22.32	22.26	0-2	2

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

**Table 10-1
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
10/24/2016	835H	22.3	820	0.882	40.320	0.899	41.578	-1.89%	-3.03%
			835	0.896	40.115	0.900	41.500	-0.44%	-3.34%
			850	0.912	39.971	0.916	41.500	-0.44%	-3.68%
10/21/2016	835B	23.1	820	0.957	53.655	0.969	55.258	-1.24%	-2.90%
			835	0.971	53.499	0.970	55.200	0.10%	-3.08%
			850	0.989	53.410	0.988	55.154	0.10%	-3.16%

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.

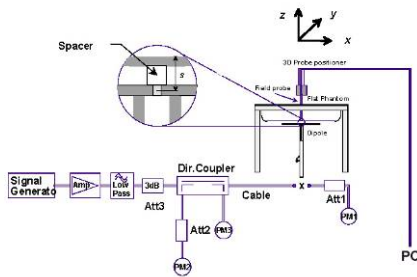
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10.2 Test System Verification

Prior to SAR assessment, the system is verified to $\pm 10\%$ 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 10-2
System Verification Results**



System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Dipole SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
C	835	HEAD	10/24/2016	23.5	22.3	0.200	4d132	7410	1.920	9.470	9.600	1.37%
A	835	BODY	10/21/2016	23.5	23.1	0.200	4d132	3022	1.910	9.660	9.550	-1.14%



**Figure 10-1
System Verification Setup Diagram**



**Figure 10-2
System Verification Setup Photo**

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data



**Table 11-1
LTE Band 5 (Cell) Head SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Side	Test Position	Modulation	RB Size	RB Offset	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.04	0	Condition 1	D93FD	Right	Cheek	QPSK	1	0	1:1	0.313	1.009	0.316	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.03	1	Condition 1	D93FD	Right	Cheek	QPSK	25	0	1:1	0.235	1.050	0.247	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.02	0	Condition 1	D93FD	Right	Tilt	QPSK	1	0	1:1	0.200	1.009	0.202	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 1	D93FD	Right	Tilt	QPSK	25	0	1:1	0.150	1.050	0.158	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.04	0	Condition 1	D93FD	Left	Cheek	QPSK	1	0	1:1	0.402	1.009	0.406	A1
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.05	1	Condition 1	D93FD	Left	Cheek	QPSK	25	0	1:1	0.308	1.050	0.323	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.01	0	Condition 1	D93FD	Left	Tilt	QPSK	1	0	1:1	0.203	1.009	0.205	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.10	1	Condition 1	D93FD	Left	Tilt	QPSK	25	0	1:1	0.156	1.050	0.164	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.07	0	Condition 2	D93FD	Right	Cheek	QPSK	1	0	1:1	0.202	1.009	0.204	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.01	1	Condition 2	D93FD	Right	Cheek	QPSK	25	0	1:1	0.166	1.050	0.174	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.04	0	Condition 2	D93FD	Right	Tilt	QPSK	1	0	1:1	0.133	1.009	0.134	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.04	1	Condition 2	D93FD	Right	Tilt	QPSK	25	0	1:1	0.108	1.050	0.113	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.06	0	Condition 2	D93FD	Left	Cheek	QPSK	1	0	1:1	0.276	1.009	0.278	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.05	1	Condition 2	D93FD	Left	Cheek	QPSK	25	0	1:1	0.222	1.050	0.233	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.02	0	Condition 2	D93FD	Left	Tilt	QPSK	1	0	1:1	0.138	1.009	0.139	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.08	1	Condition 2	D93FD	Left	Tilt	QPSK	25	0	1:1	0.112	1.050	0.118	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

11.2 Standalone Body-Worn SAR Data

**Table 11-2
LTE Band 5 (Cell) Body-Worn SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.00	0	Condition 1	D93FD	QPSK	1	0	10 mm	back	1:1	0.539	1.009	0.544	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 1	D93FD	QPSK	25	0	10 mm	back	1:1	0.449	1.050	0.471	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.00	0	Condition 2	D93FD	QPSK	1	0	10 mm	back	1:1	0.594	1.009	0.599	A2
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.01	1	Condition 2	D93FD	QPSK	25	0	10 mm	back	1:1	0.468	1.050	0.491	
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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11.3 Standalone Hotspot SAR Data



Table 11-3
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #	
MHz	Ch.																			
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.00	0	Condition 1	D93FD	QPSK	1	0	10 mm	back	1:1	0.539	1.009	0.544	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 1	D93FD	QPSK	25	0	10 mm	back	1:1	0.449	1.050	0.471	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.01	0	Condition 1	D93FD	QPSK	1	0	10 mm	front	1:1	0.585	1.009	0.590	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 1	D93FD	QPSK	25	0	10 mm	front	1:1	0.454	1.050	0.477	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.03	0	Condition 1	D93FD	QPSK	1	0	10 mm	bottom	1:1	0.403	1.009	0.407	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.03	1	Condition 1	D93FD	QPSK	25	0	10 mm	bottom	1:1	0.312	1.050	0.328	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.02	0	Condition 1	D93FD	QPSK	1	0	10 mm	right	1:1	0.275	1.009	0.277	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.04	1	Condition 1	D93FD	QPSK	25	0	10 mm	right	1:1	0.215	1.050	0.226	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.00	0	Condition 1	D93FD	QPSK	1	0	10 mm	left	1:1	0.713	1.009	0.719	A3
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 1	D93FD	QPSK	25	0	10 mm	left	1:1	0.581	1.050	0.610	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.00	0	Condition 2	D93FD	QPSK	1	0	10 mm	back	1:1	0.594	1.009	0.599	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.01	1	Condition 2	D93FD	QPSK	25	0	10 mm	back	1:1	0.468	1.050	0.491	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.03	0	Condition 2	D93FD	QPSK	1	0	10 mm	front	1:1	0.619	1.009	0.625	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.02	1	Condition 2	D93FD	QPSK	25	0	10 mm	front	1:1	0.485	1.050	0.509	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.01	0	Condition 2	D93FD	QPSK	1	0	10 mm	bottom	1:1	0.343	1.009	0.346	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.01	1	Condition 2	D93FD	QPSK	25	0	10 mm	bottom	1:1	0.275	1.050	0.289	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	-0.02	0	Condition 2	D93FD	QPSK	1	0	10 mm	right	1:1	0.177	1.009	0.179	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	-0.04	1	Condition 2	D93FD	QPSK	25	0	10 mm	right	1:1	0.148	1.050	0.155	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.46	0.03	0	Condition 2	D93FD	QPSK	1	0	10 mm	left	1:1	0.561	1.009	0.566	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.5	23.29	0.00	1	Condition 2	D93FD	QPSK	25	0	10 mm	left	1:1	0.451	1.050	0.474	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

11.4 SAR Test Notes

General Notes:



- 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.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth is at least 15.0 cm for all frequencies.
- 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.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 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.
- 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.
- 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 13 for variability analysis.
- During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).

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- 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 when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.

LTE Notes:

- LTE Considerations:** LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.4.4.
- MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
- A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
- The main antenna of this device supports two conditions for LTE Band 5 determined by the sensor status. The maximum output power is the same for both conditions and each condition was addressed independently for standalone SAR in Section 11. Detailed information about the LTE Band 5 antenna configuration conditions is included in the operational description.

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction



The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built-in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

12.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤ 1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR.

Please see RF Exposure Technical Report S/N 0Y1609211567-R1.A3L for WLAN/Bluetooth SAR assessment for simultaneous SAR compliance evaluation. The tables below only contain the combinations applicable to current test report.

SAR testing was not required for phablet exposure conditions per FCC KDB 648474 D04v01r03. Therefore, no further analysis was required to determine that possible simultaneous scenarios would not exceed the SAR limit.

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12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear)

Exposure Condition	Mode	LTE SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	LTE Band 5 (Cell)	0.406	0.559	0.965

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-2
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.0 cm)

Exposure Condition	Mode	LTE SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body-Worn	LTE Band 5 (Cell)	0.599	0.308	0.907

Table 12-3
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	LTE SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
Body-Worn	LTE Band 5 (Cell)	0.599	0.210	0.809



12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-4
Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Exposure Condition	Mode	LTE SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Hotspot SAR	LTE Band 5 (Cell)	0.719	0.302	1.021

12.6 Simultaneous Transmission Conclusion

The above numerical summed SAR results for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was not assessed for each frequency band since all measured SAR values are < 0.80 W/kg for 1g SAR.

13.2 Measurement Uncertainty



The measured SAR was < 1.5 W/kg 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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14 EQUIPMENT LIST



Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/2/2016	Annual	3/2/2017	MY45470194
Agilent	8753E	(30kHz-6GHz) Network Analyzer	3/2/2016	Annual	3/2/2017	JP38020182
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	10/5/2016	Annual	10/5/2017	GB42230325
Agilent	E4438C	ESG Vector Signal Generator	2/27/2016	Annual	2/27/2017	MY45091346
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Anritsu	ML2495A	Power Meter	10/16/2015	Biennial	10/16/2017	941001
Anritsu	MT8820C	Radio Communication Analyzer	9/15/2016	Annual	9/15/2017	6200901190
Anritsu	MA24106A	USB Power Sensor	6/2/2016	Annual	6/2/2017	1231535
Anritsu	MA24106A	USB Power Sensor	6/2/2016	Annual	6/2/2017	1231538
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M155A00-009
Control Company	4040	Digital Thermometer	3/18/2015	Biennial	3/18/2017	150194895
Control Company	4353	Long Stem Thermometer	1/22/2015	Biennial	1/22/2017	150053029
Control Company	4352	Ultra Long Stem Thermometer	3/8/2016	Biennial	3/8/2018	160261694
Gigatronics	80701A	(0.05-18GHz) Power Sensor	11/4/2015	Annual	11/4/2016	1833460
Gigatronics	8651A	Universal Power Meter	11/4/2015	Annual	11/4/2016	8650319
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
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	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mitutoyo	CD-6"CSX	Digital Caliper	3/2/2016	Biennial	3/2/2018	13264162
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	10/20/2016	Annual	10/20/2017	100976
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	7/20/2016	Annual	7/20/2017	132885
Seekonk	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	22313
SPEAG	D835V2	835 MHz SAR Dipole	1/20/2016	Annual	1/20/2017	4d132
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/12/2016	Annual	7/12/2017	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/15/2016	Annual	1/15/2017	1466
SPEAG	DAK-3.5	Dielectric Assessment Kit	9/13/2016	Annual	9/13/2017	1091
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	7/19/2016	Annual	7/19/2017	1039
SPEAG	ES3DV2	SAR Probe	7/19/2016	Annual	7/19/2017	3022
SPEAG	EX3DV4	SAR Probe	7/25/2016	Annual	7/25/2017	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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15 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 Uncertainty	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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16 CONCLUSION

16.1 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

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG610KOR; Type: Portable Handset; Serial: D93FD

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
 $f = 836.5 \text{ MHz}$; $\sigma = 0.898 \text{ S/m}$; $\epsilon_r = 40.101$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 10-24-2016; Ambient Temp: 23.5°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7410; ConvF(9.68, 9.68, 9.68); Calibrated: 7/25/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/12/2016

Phantom: Sub TWIN SAM; Type: QD000P40CC; Serial: TP-1357

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Mode: LTE Band 5 (Cell.), Left Head, Cheek, Mid.ch, 10 MHz Bandwidth,
QPSK, 1 RB, 0 RB Offset, Condition 1**

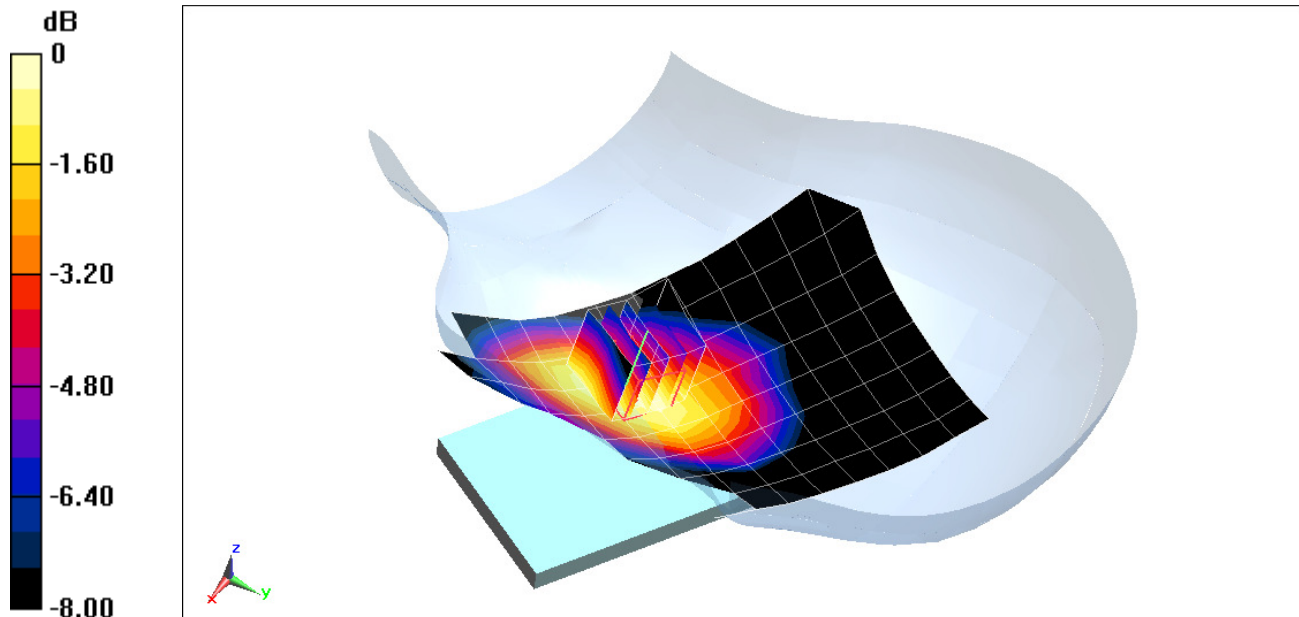
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.31 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.402 W/kg



0 dB = 0.472 W/kg = -3.26 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG610KOR; Type: Portable Handset; Serial: D93FD

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.5 \text{ MHz}$; $\sigma = 0.973 \text{ S/m}$; $\epsilon_r = 53.49$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10-21-2016; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV2 - SN3022; ConvF(6.09, 6.09, 6.09); Calibrated: 7/19/2016;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 1/15/2016
Phantom: SAM Main; Type: QD000P40CC; Serial: TP 1114
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Mode: LTE Band 5 (Cell.), Body SAR, Back Side, Mid.ch, 10 MHz Bandwidth,
QPSK, 1 RB, 0 RB Offset, Condition 2**

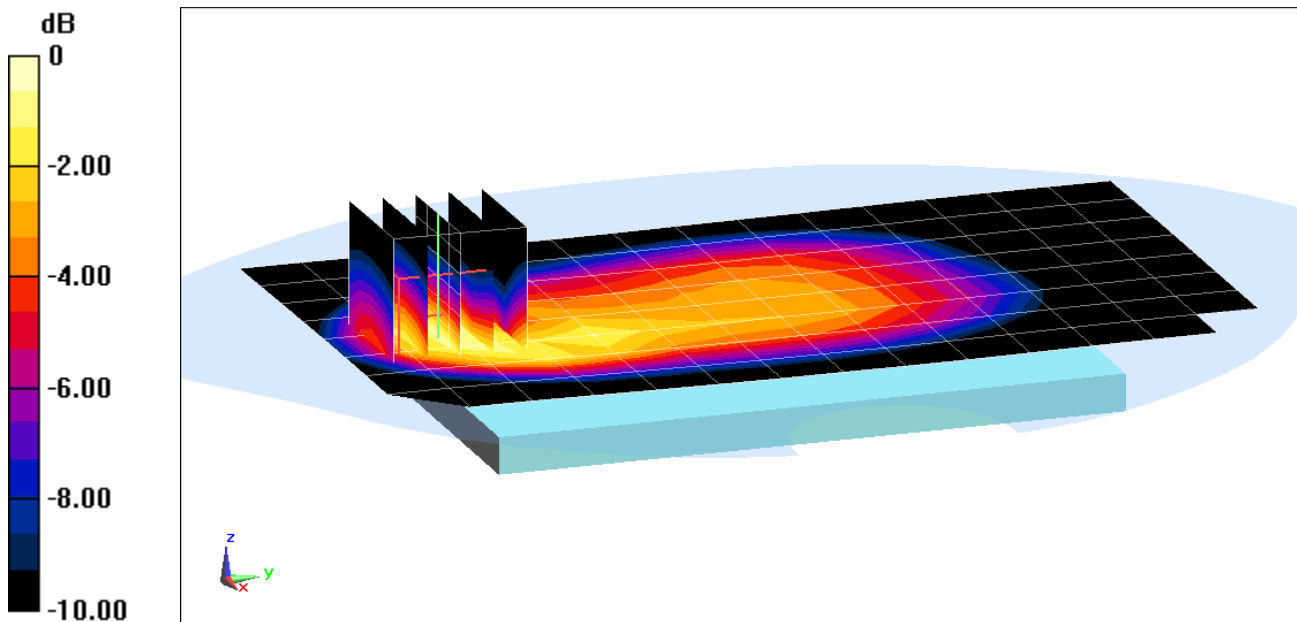
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.40 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.594 W/kg



0 dB = 0.749 W/kg = -1.26 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG610KOR; Type: Portable Handset; Serial: D93FD

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.5 \text{ MHz}$; $\sigma = 0.973 \text{ S/m}$; $\epsilon_r = 53.49$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10-21-2016; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV2 - SN3022; ConvF(6.09, 6.09, 6.09); Calibrated: 7/19/2016;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 1/15/2016
Phantom: SAM Main; Type: QD000P40CC; Serial: TP 1114
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Mode: LTE Band 5 (Cell.), Body SAR, Left Edge, Mid.ch, 10 MHz Bandwidth,
QPSK, 1 RB, 0 RB Offset, Condition 1**

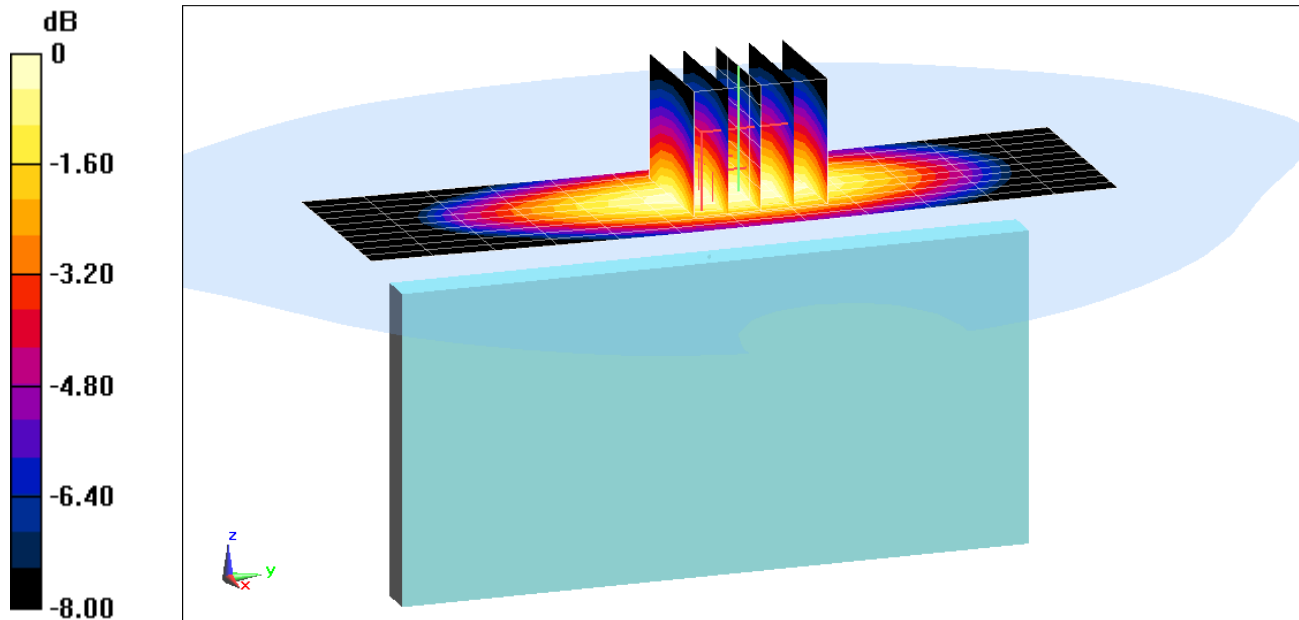
Area Scan (11x13x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.32 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.995 W/kg

SAR(1 g) = 0.713 W/kg



0 dB = 0.812 W/kg = -0.90 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.896 \text{ S/m}$; $\epsilon_r = 40.115$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10-24-2016; Ambient Temp: 23.5°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7410; ConvF(9.68, 9.68, 9.68); Calibrated: 7/25/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/12/2016

Phantom: Sub TWIN SAM; Type: QD000P40CC; Serial: TP-1357

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

835 MHz System Verification at 23.0 dBm (200 mW)

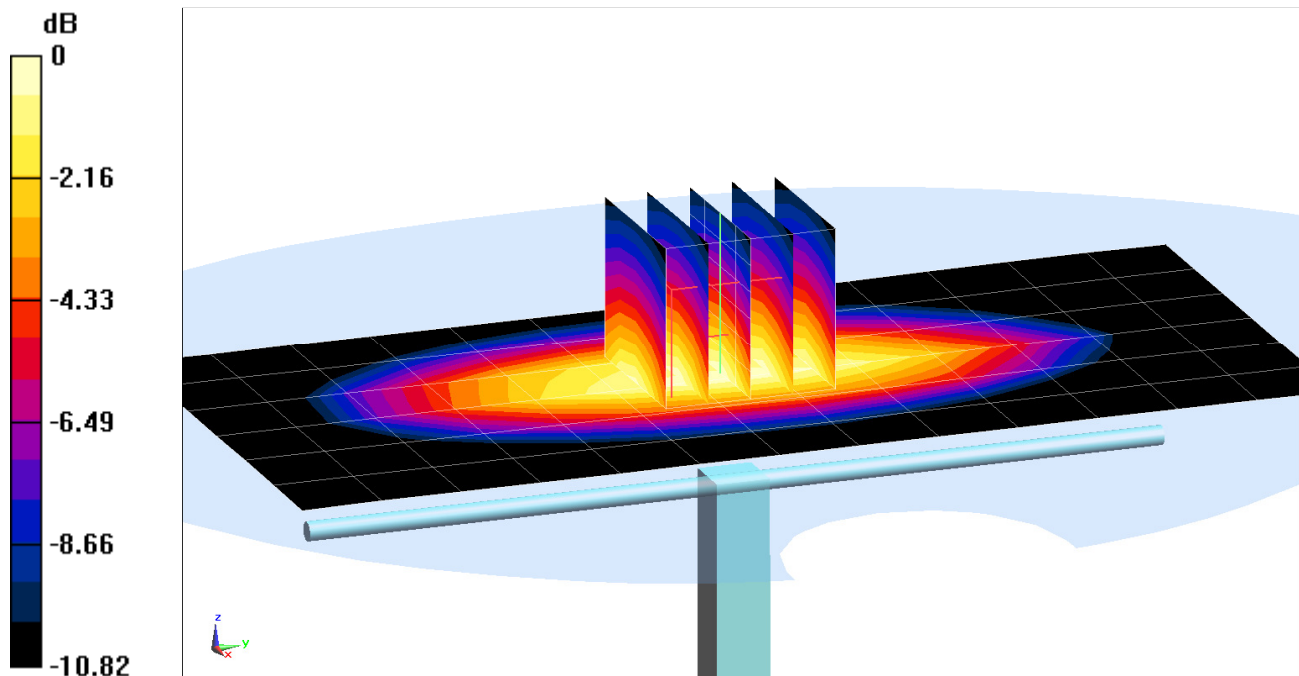
Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 2.86 W/kg

SAR(1 g) = 1.92 W/kg

Deviation(1 g) = 1.37%



0 dB = 2.56 W/kg = 4.08 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.971 \text{ S/m}$; $\epsilon_r = 53.499$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10-21-2016; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV2 - SN3022; ConvF(6.09, 6.09, 6.09); Calibrated: 7/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/15/2016

Phantom: SAM Main; Type: QD000P40CC; Serial: TP 1114

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

835 MHz System Verification at 23.0 dBm (200 mW)

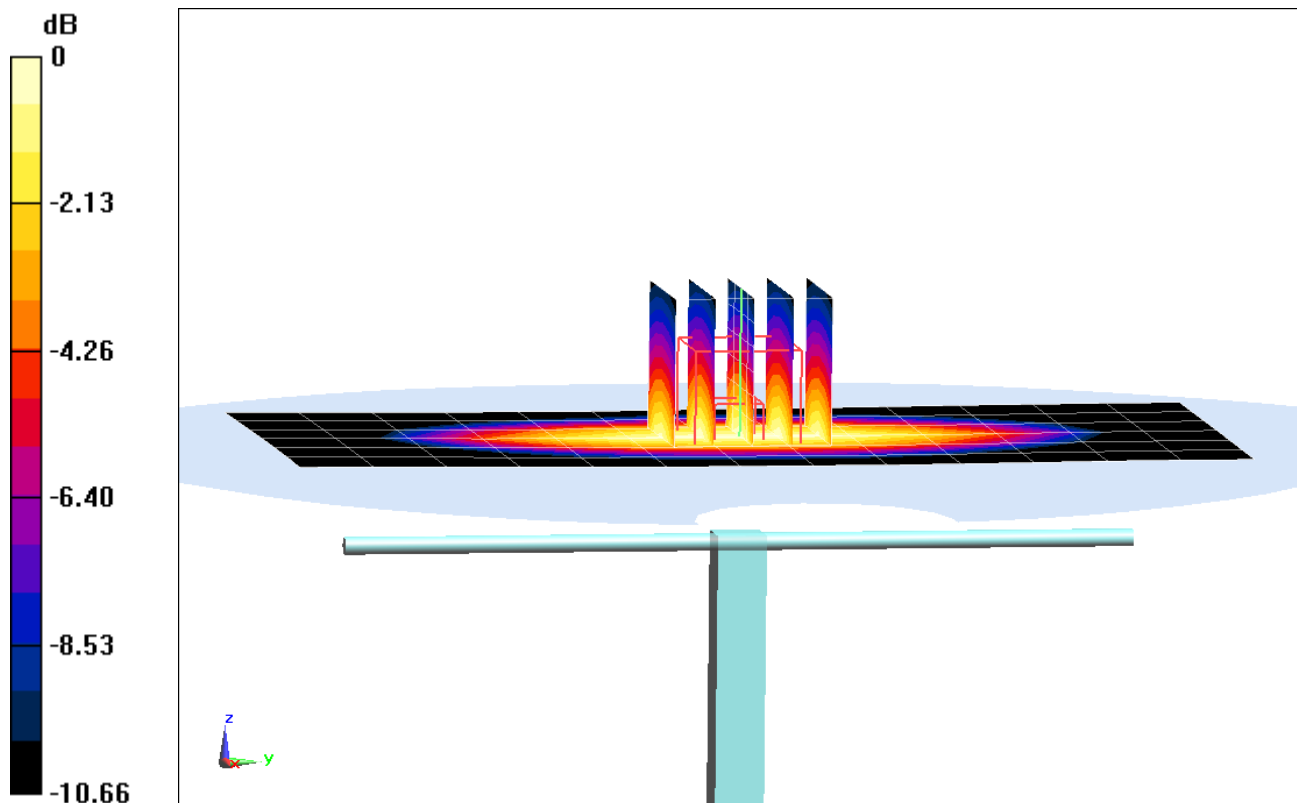
Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 1.91 W/kg

Deviation(1 g) = -1.14%



APPENDIX C: PROBE CALIBRATION



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

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D835V2-4d132_Jan16**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d132**

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

*BNV
1/28/2016*

Calibration date: **January 20, 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 EPM-442A	GB37480704	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	19-Oct-01 (in house check Oct-15)	In house check: Oct-16

Calibrated by: **Jeton Kastrati** (Name), **Laboratory Technician** (Function), *[Signature]* (Signature)

Approved by: **Katja Poković** (Name), **Technical Manager** (Function), *[Signature]* (Signature)

Issued: January 20, 2016

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



Accredited by the Swiss Accreditation Service (SAS)

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

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

- 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
- 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
- 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
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- 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	DASYS	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz \pm 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2) °C	42.0 \pm 6 %	0.93 mho/m \pm 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.42 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.47 W/kg \pm 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.57 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.17 W/kg \pm 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 \pm 0.2) °C	55.2 \pm 6 %	1.01 mho/m \pm 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.49 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.66 W/kg \pm 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.63 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.37 W/kg \pm 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.2 Ω - 2.7 j Ω
Return Loss	- 30.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.8 Ω - 4.9 j Ω
Return Loss	- 25.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.388 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	July 22, 2011

DASY5 Validation Report for Head TSL

Date: 20.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d132

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.93$ S/m; $\epsilon_r = 42$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.83, 9.83; 9.83); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue EX-Probe/Pin=250 mW, d=15mm/Zoom Scan

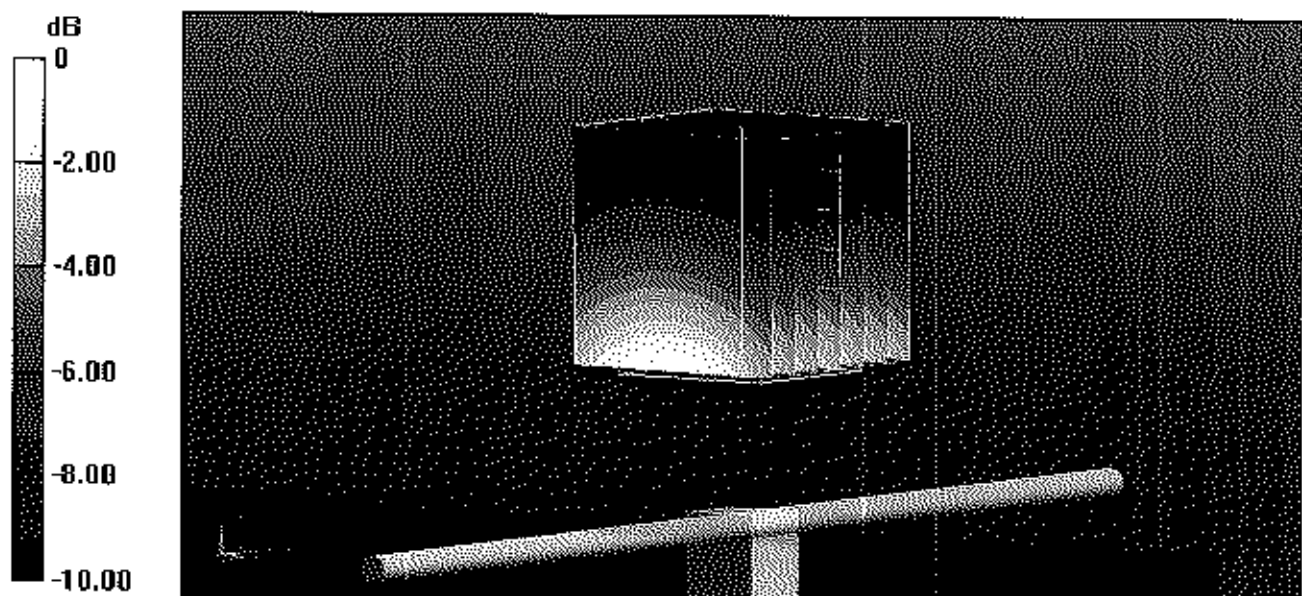
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 61.94 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.57 W/kg

Maximum value of SAR (measured) = 3.24 W/kg

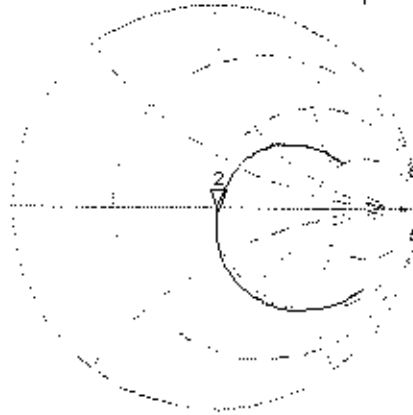


0 dB = 3.24 W/kg = 5.11 dBW/kg

Impedance Measurement Plot for Head TSL

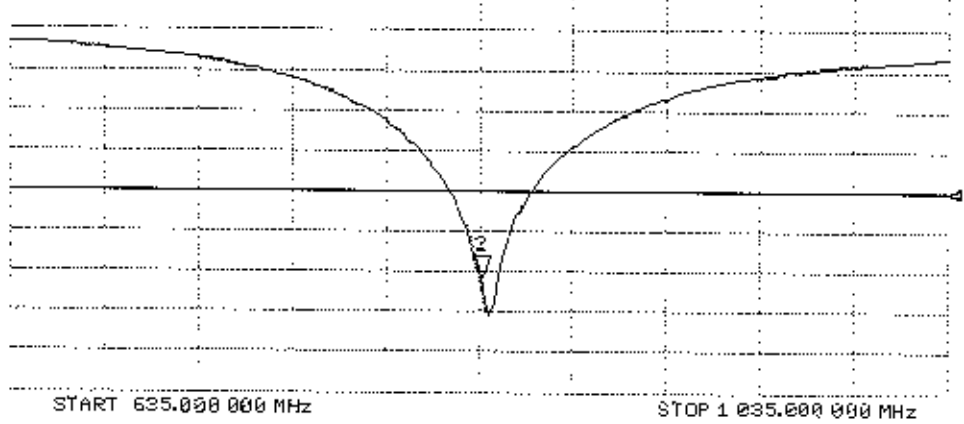
20 Jan 2016 14:27:15
CH2 S11 1 U FS 2: 51.188 Ω -2.6738 Ω 71.285 pF 835.000 000 MHz

*
De1
CA
Avg
15
H1 d



CM2 S11 LOG 5 dB/REF -20 dB 2: -30.776 dB 835.000 000 MHz

CA
Avg
16
H1 d



START 635.000 000 MHz STOP 1 835.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 20.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d132

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ S/m}$; $\epsilon_r = 55.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.73, 9.73, 9.73); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue EX-Probe/Pin=250 mW, d=15mm/Zoom Scan

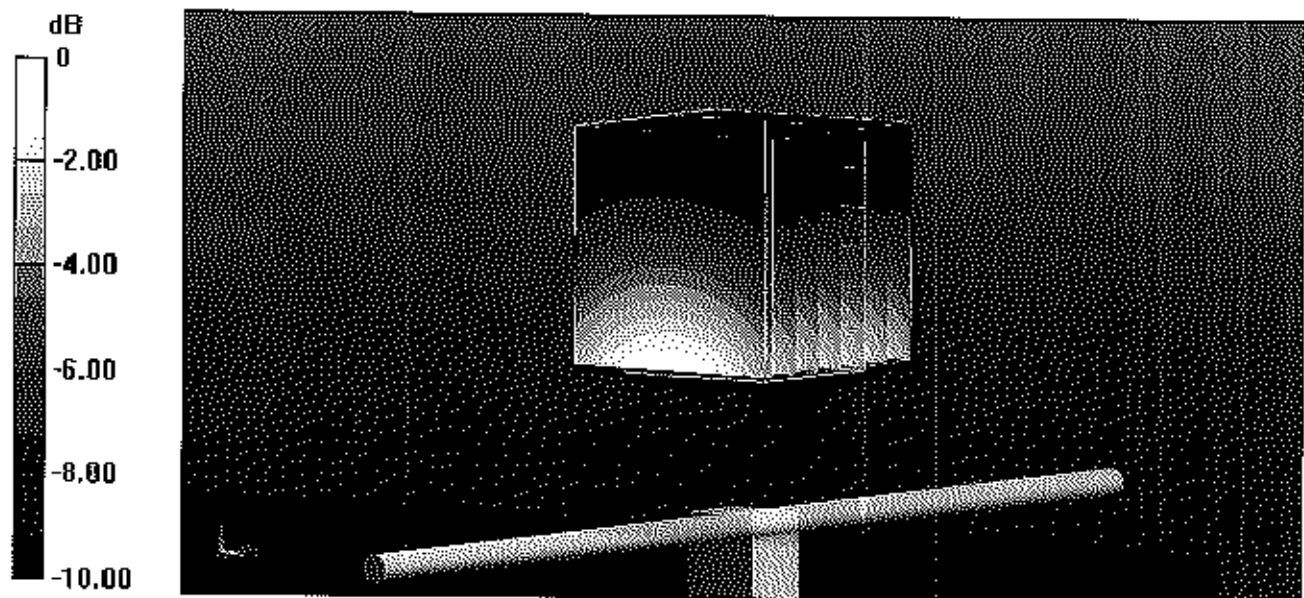
(7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 60.29 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.66 W/kg

SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.63 W/kg

Maximum value of SAR (measured) = 3.29 W/kg

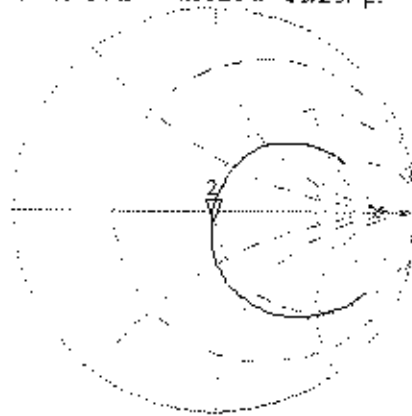


0 dB = 3.29 W/kg = 5.17 dBW/kg

Impedance Measurement Plot for Body TSL

20 Jan 2016 13:29:15
[CH1] S11 1 U FS 2: 47.784 Ω -4.8516 Ω 39.287 pF 835.000 000 MHz

*
Del
CA



Avg
16

↑

CH2 S11 LOG 5 dB/REF -20 dB 2: -25.260 dB 835.000 000 MHz

CA

Avg
16

↑

START 635.000 000 MHz

STOP 1.635.000 000 MHz



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Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **EX3-7410_Jul16**

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 25, 2016**

*BN ✓
08/04/2016*

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: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

Calibrated by:	Name Michael Weber	Function Laboratory Technician	Signature <i>M. Weber</i>
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature <i>K. Pokovic</i>
			Issued: July 27, 2016
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,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:

- 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
- 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
- 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
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,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.
- DCP_{x,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
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,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 NORM_{x,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 NORM_x (no uncertainty required).

Probe EX3DV4

SN:7410

Manufactured: November 24, 2015
Calibrated: July 25, 2016

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 ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.42	0.48	0.44	$\pm 10.1 \%$
DCP (mV) ^B	97.4	99.9	97.1	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	148.7	$\pm 2.5 \%$
		Y	0.0	0.0	1.0		155.2	
		Z	0.0	0.0	1.0		152.3	

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	48.41	366.5	36.58	12.47	0.954	4.961	0	0.406	1.003
Y	51.56	389.6	36.52	11.42	0.862	4.986	0.508	0.351	1.004
Z	61.39	470.2	37.3	11.14	1.039	4.997	0	0.506	1.005

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 E²-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	10.05	10.05	10.05	0.58	0.80	± 12.0 %
835	41.5	0.90	9.68	9.68	9.68	0.54	0.81	± 12.0 %
1750	40.1	1.37	8.41	8.41	8.41	0.39	0.80	± 12.0 %
1900	40.0	1.40	8.05	8.05	8.05	0.37	0.80	± 12.0 %
2300	39.5	1.67	7.73	7.73	7.73	0.33	0.88	± 12.0 %
2450	39.2	1.80	7.37	7.37	7.37	0.31	0.92	± 12.0 %
2600	39.0	1.96	7.11	7.11	7.11	0.36	0.84	± 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

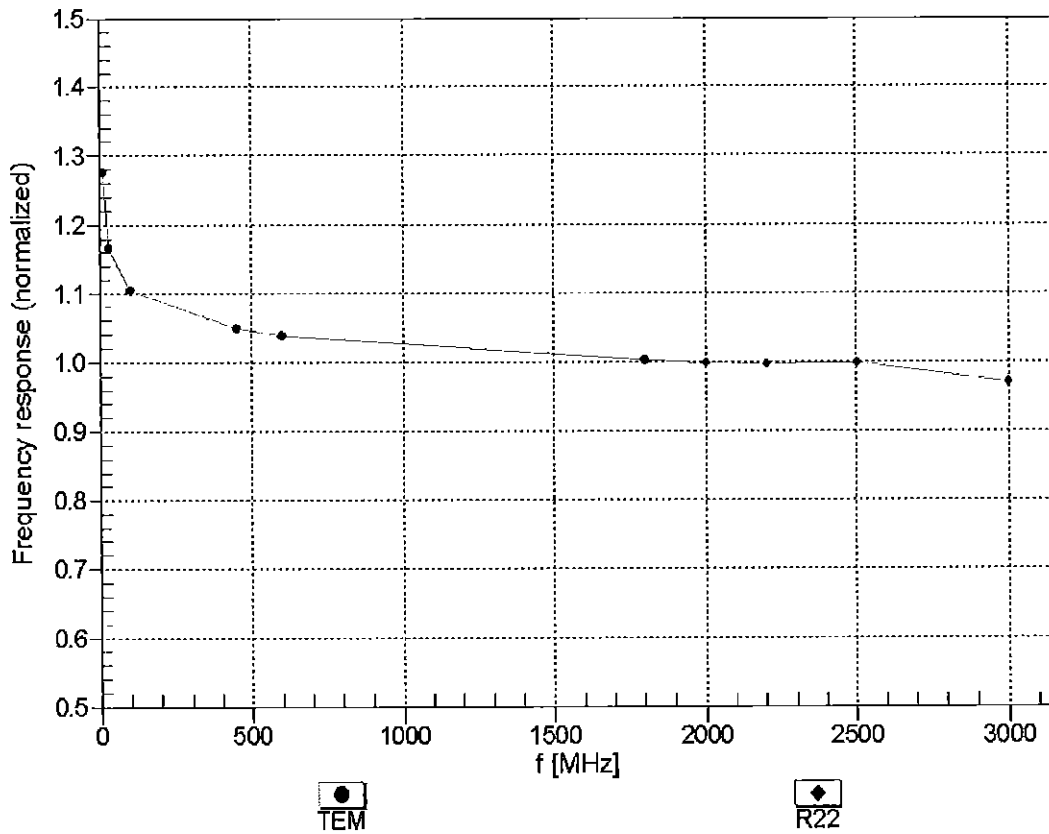
f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	9.93	9.93	9.93	0.35	1.05	± 12.0 %
835	55.2	0.97	9.72	9.72	9.72	0.47	0.80	± 12.0 %
1750	53.4	1.49	7.95	7.95	7.95	0.43	0.80	± 12.0 %
1900	53.3	1.52	7.64	7.64	7.64	0.39	0.80	± 12.0 %
2300	52.9	1.81	7.46	7.46	7.46	0.45	0.80	± 12.0 %
2450	52.7	1.95	7.40	7.40	7.40	0.35	0.80	± 12.0 %
2600	52.5	2.16	7.03	7.03	7.03	0.30	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.

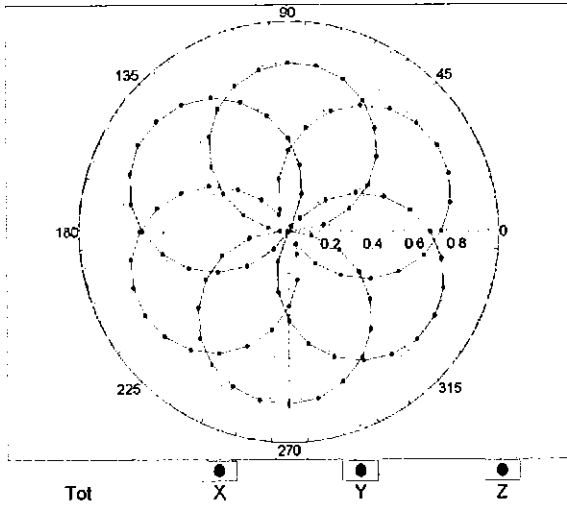
Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



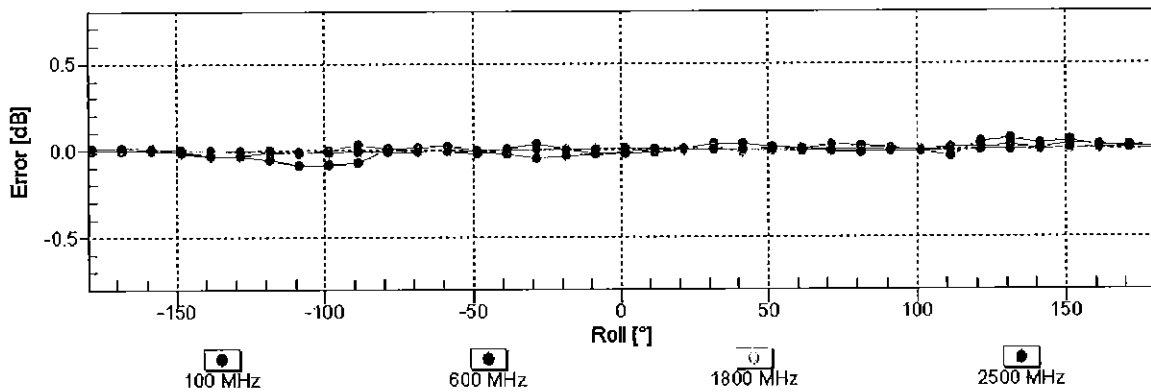
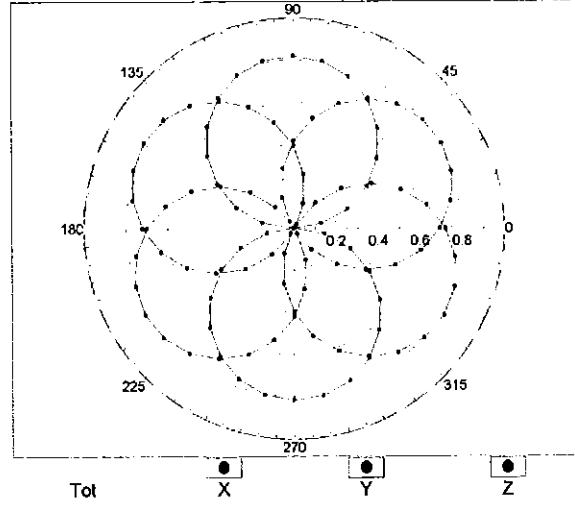
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\vartheta = 0^\circ$

f=600 MHz,TEM

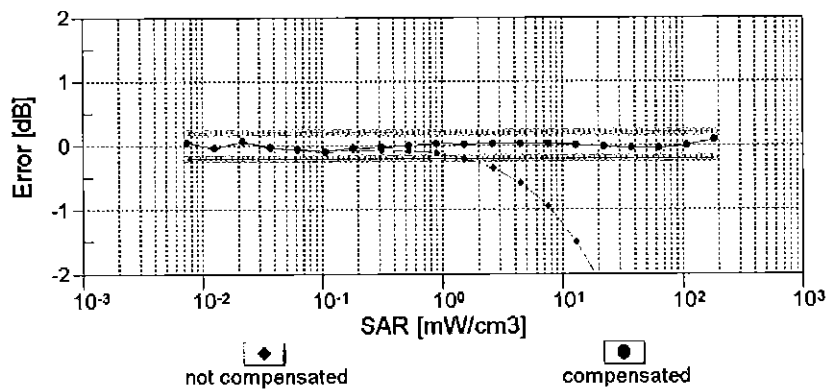
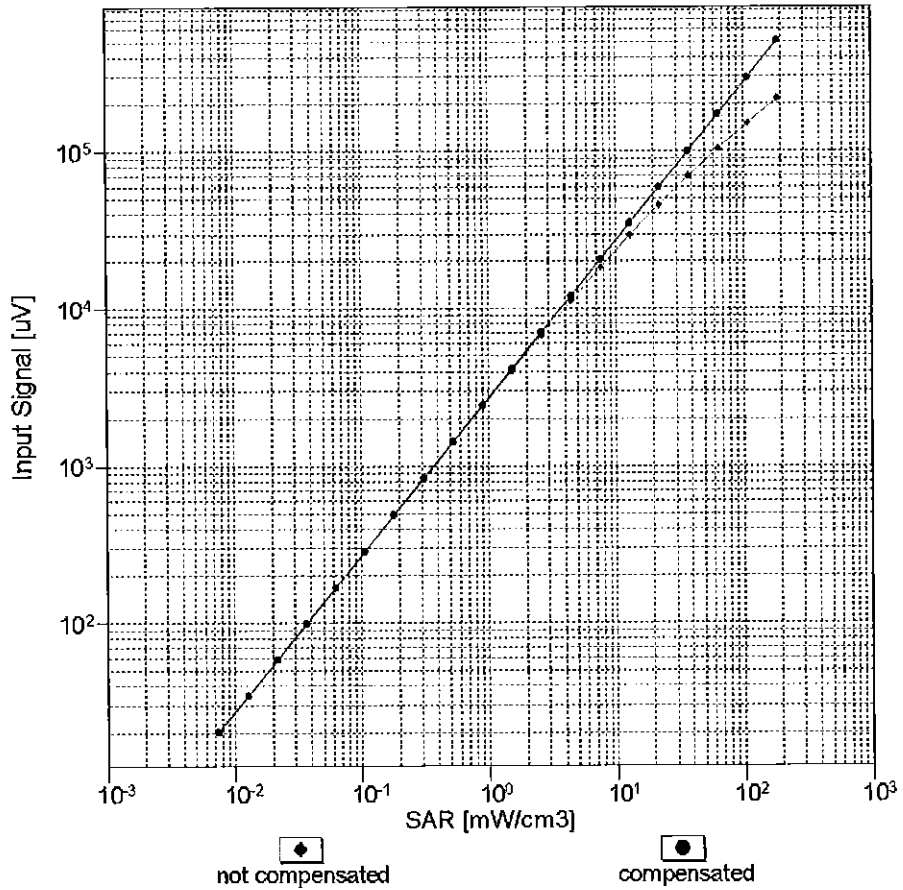


f=1800 MHz,R22



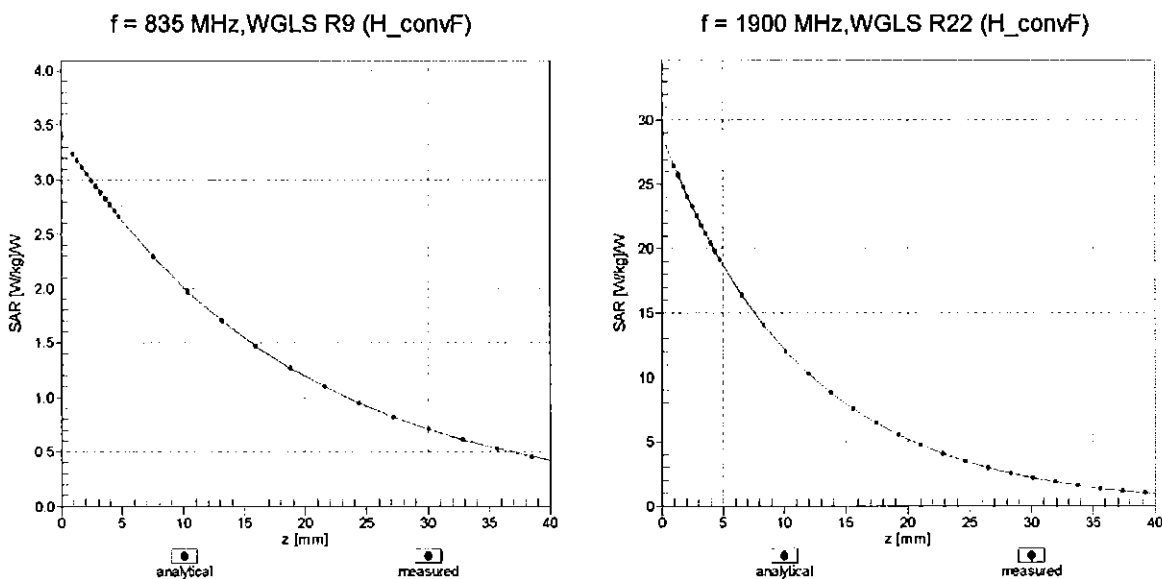
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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

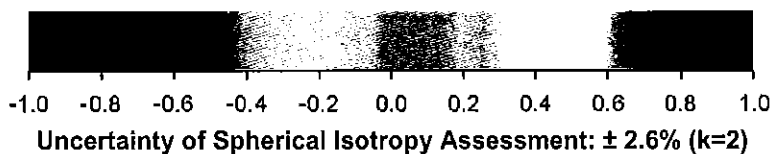
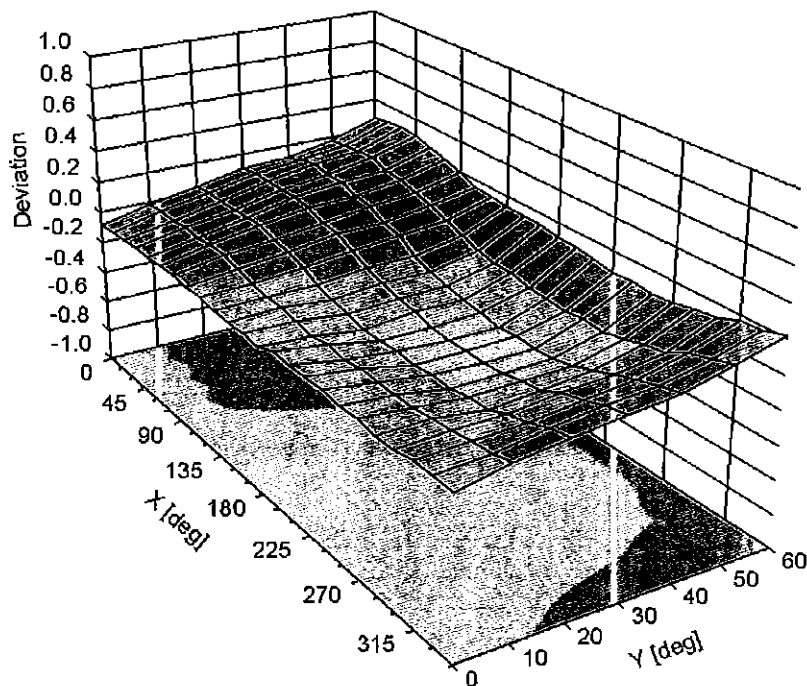


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), f = 900 MHz



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

Sensor Arrangement	Triangular
Connector Angle (°)	1.5
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 $\sqrt{\mu V}$	C	D dB	VR mV	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	148.7	± 2.5 %
		Y	0.00	0.00	1.00		155.2	
		Z	0.00	0.00	1.00		152.3	
10010- CAA	SAR Validation (Square, 100ms, 10ms)	X	2.43	65.21	10.17	10.00	20.0	± 9.6 %
		Y	2.50	65.70	10.39		20.0	
		Z	2.85	67.36	11.61		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	1.09	68.25	15.97	0.00	150.0	± 9.6 %
		Y	1.24	70.76	17.39		150.0	
		Z	1.10	67.70	15.71		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.18	63.82	15.30	0.41	150.0	± 9.6 %
		Y	1.19	64.46	15.91		150.0	
		Z	1.18	63.56	15.24		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.85	66.42	16.89	1.46	150.0	± 9.6 %
		Y	4.89	66.57	17.08		150.0	
		Z	4.98	66.33	16.97		150.0	
10021- DAB	GSM-FDD (TDMA, GMSK)	X	7.58	78.77	16.90	9.39	50.0	± 9.6 %
		Y	17.86	89.55	20.42		50.0	
		Z	41.06	101.79	24.54		50.0	
10023- DAB	GPRS-FDD (TDMA, GMSK, TN 0)	X	6.69	77.05	16.32	9.57	50.0	± 9.6 %
		Y	13.04	85.58	19.26		50.0	
		Z	25.47	95.55	22.91		50.0	
10024- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	8.74	81.57	16.60	6.56	60.0	± 9.6 %
		Y	100.00	108.03	23.63		60.0	
		Z	100.00	111.32	25.30		60.0	
10025- DAB	EDGE-FDD (TDMA, 8PSK, TN 0)	X	4.47	70.15	24.88	12.57	50.0	± 9.6 %
		Y	10.89	98.18	38.43		50.0	
		Z	4.49	70.03	25.10		50.0	
10026- DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	8.34	87.45	29.94	9.56	60.0	± 9.6 %
		Y	10.91	95.48	33.60		60.0	
		Z	8.51	87.76	30.38		60.0	
10027- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	41.47	97.27	19.98	4.80	80.0	± 9.6 %
		Y	100.00	107.82	22.77		80.0	
		Z	100.00	111.23	24.44		80.0	
10028- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	105.76	21.32	3.55	100.0	± 9.6 %
		Y	100.00	108.92	22.59		100.0	
		Z	100.00	112.30	24.21		100.0	
10029- DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	5.53	79.01	25.60	7.80	80.0	± 9.6 %
		Y	6.25	82.85	27.73		80.0	
		Z	5.71	79.47	26.07		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	6.23	78.34	14.97	5.30	70.0	± 9.6 %
		Y	100.00	106.49	22.48		70.0	
		Z	100.00	109.96	24.20		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	104.45	19.64	1.88	100.0	± 9.6 %
		Y	100.00	108.59	21.21		100.0	
		Z	100.00	112.40	22.95		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	110.63	21.37	1.17	100.0	± 9.6 %
		Y	100.00	118.45	24.27		100.0	
		Z	100.00	119.90	25.08		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	4.68	78.17	18.99	5.30	70.0	± 9.6 %
		Y	7.85	87.36	22.81		70.0	
		Z	6.11	84.09	22.37		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.20	72.10	15.84	1.88	100.0	± 9.6 %
		Y	3.02	77.54	18.56		100.0	
		Z	2.34	73.73	17.65		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	1.76	70.56	15.16	1.17	100.0	± 9.6 %
		Y	2.26	74.85	17.46		100.0	
		Z	1.79	71.09	16.41		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	5.38	80.36	19.85	5.30	70.0	± 9.6 %
		Y	10.10	91.41	24.17		70.0	
		Z	7.37	87.30	23.55		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.10	71.54	15.58	1.88	100.0	± 9.6 %
		Y	2.84	76.78	18.24		100.0	
		Z	2.25	73.29	17.43		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	1.77	70.87	15.40	1.17	100.0	± 9.6 %
		Y	2.29	75.33	17.77		100.0	
		Z	1.81	71.42	16.65		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.26	75.07	17.20	0.00	150.0	± 9.6 %
		Y	2.99	79.22	19.11		150.0	
		Z	2.13	73.17	17.12		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	4.99	74.55	14.33	7.78	50.0	± 9.6 %
		Y	13.44	85.55	17.97		50.0	
		Z	42.42	100.06	22.60		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	97.63	0.45	0.00	150.0	± 9.6 %
		Y	0.00	105.63	0.06		150.0	
		Z	0.00	96.62	1.01		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	5.59	71.38	15.61	13.80	25.0	± 9.6 %
		Y	7.04	74.56	16.88		25.0	
		Z	9.46	79.38	19.30		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	5.69	73.97	15.42	10.79	40.0	± 9.6 %
		Y	7.55	77.84	16.94		40.0	
		Z	10.67	83.35	19.52		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	7.92	80.69	20.07	9.03	50.0	± 9.6 %
		Y	12.20	88.23	23.05		50.0	
		Z	10.66	86.87	23.26		50.0	
10058-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.35	74.75	23.16	6.55	100.0	± 9.6 %
		Y	4.67	77.08	24.63		100.0	
		Z	4.50	75.20	23.59		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.21	64.69	15.68	0.61	110.0	± 9.6 %
		Y	1.23	65.53	16.44		110.0	
		Z	1.21	64.46	15.69		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	4.17	88.85	22.71	1.30	110.0	± 9.6 %
		Y	67.79	132.65	34.60		110.0	
		Z	4.39	90.74	23.85		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	2.24	74.92	19.41	2.04	110.0	± 9.6 %
		Y	2.89	80.48	22.16		110.0	
		Z	2.29	75.62	20.19		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.68	66.56	16.48	0.49	100.0	± 9.6 %
		Y	4.72	66.69	16.64		100.0	
		Z	4.82	66.46	16.52		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.69	66.60	16.53	0.72	100.0	± 9.6 %
		Y	4.73	66.75	16.71		100.0	
		Z	4.83	66.52	16.60		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.97	66.86	16.74	0.86	100.0	± 9.6 %
		Y	5.03	67.01	16.92		100.0	
		Z	5.16	66.85	16.84		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.83	66.69	16.78	1.21	100.0	± 9.6 %
		Y	4.88	66.88	16.98		100.0	
		Z	5.00	66.71	16.90		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.83	66.66	16.89	1.46	100.0	± 9.6 %
		Y	4.89	66.87	17.11		100.0	
		Z	5.02	66.70	17.03		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.11	66.77	17.26	2.04	100.0	± 9.6 %
		Y	5.17	66.95	17.49		100.0	
		Z	5.29	66.72	17.39		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.15	66.79	17.44	2.55	100.0	± 9.6 %
		Y	5.22	67.02	17.70		100.0	
		Z	5.36	66.88	17.63		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.23	66.78	17.61	2.67	100.0	± 9.6 %
		Y	5.30	67.00	17.88		100.0	
		Z	5.43	66.80	17.79		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.93	66.44	17.12	1.99	100.0	± 9.6 %
		Y	4.97	66.61	17.34		100.0	
		Z	5.06	66.38	17.23		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.90	66.71	17.28	2.30	100.0	± 9.6 %
		Y	4.95	66.92	17.53		100.0	
		Z	5.05	66.71	17.42		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.94	66.81	17.53	2.83	100.0	± 9.6 %
		Y	5.00	67.03	17.80		100.0	
		Z	5.09	66.79	17.68		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.92	66.68	17.64	3.30	100.0	± 9.6 %
		Y	4.97	66.89	17.92		100.0	
		Z	5.05	66.64	17.81		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	4.96	66.78	17.91	3.82	90.0	± 9.6 %
		Y	5.01	67.04	18.23		90.0	
		Z	5.11	66.84	18.14		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	4.97	66.56	18.00	4.15	90.0	± 9.6 %
		Y	5.01	66.78	18.31		90.0	
		Z	5.08	66.50	18.18		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	4.99	66.62	18.09	4.30	90.0	± 9.6 %
		Y	5.03	66.84	18.39		90.0	
		Z	5.10	66.53	18.25		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.95	67.59	13.64	0.00	150.0	± 9.6 %
		Y	1.16	70.64	15.38		150.0	
		Z	1.00	67.16	14.09		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.60	57.37	2.77	4.77	80.0	± 9.6 %
		Y	0.75	60.00	4.53		80.0	
		Z	0.77	60.00	4.83		80.0	
10090-DAB	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	8.51	81.27	16.52	6.56	60.0	± 9.6 %
		Y	100.00	108.05	23.66		60.0	
		Z	100.00	111.34	25.32		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.90	68.28	16.17	0.00	150.0	± 9.6 %
		Y	1.99	69.20	16.79		150.0	
		Z	1.89	67.54	15.97		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.86	68.23	16.14	0.00	150.0	± 9.6 %
		Y	1.95	69.19	16.78		150.0	
		Z	1.85	67.50	15.94		150.0	
10099-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	8.38	87.52	29.95	9.56	60.0	± 9.6 %
		Y	10.98	95.58	33.62		60.0	
		Z	8.55	87.83	30.39		60.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.23	70.79	17.06	0.00	150.0	± 9.6 %
		Y	3.41	71.78	17.57		150.0	
		Z	3.32	70.68	16.93		150.0	
10101-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.30	67.71	16.16	0.00	150.0	± 9.6 %
		Y	3.37	68.16	16.45		150.0	
		Z	3.40	67.70	16.13		150.0	
10102-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.40	67.69	16.25	0.00	150.0	± 9.6 %
		Y	3.47	68.06	16.51		150.0	
		Z	3.50	67.64	16.22		150.0	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	5.69	73.19	19.02	3.98	65.0	± 9.6 %
		Y	6.17	74.96	19.98		65.0	
		Z	5.81	73.32	19.29		65.0	
10104-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.05	72.46	19.54	3.98	65.0	± 9.6 %
		Y	6.18	73.22	20.12		65.0	
		Z	6.17	72.56	19.81		65.0	
10105-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	5.63	70.95	19.16	3.98	65.0	± 9.6 %
		Y	5.99	72.46	20.09		65.0	
		Z	5.69	70.87	19.35		65.0	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.83	70.04	16.91	0.00	150.0	± 9.6 %
		Y	2.98	71.00	17.43		150.0	
		Z	2.93	69.87	16.76		150.0	
10109-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.96	67.63	16.10	0.00	150.0	± 9.6 %
		Y	3.03	68.09	16.42		150.0	
		Z	3.07	67.52	16.08		150.0	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.30	69.18	16.55	0.00	150.0	± 9.6 %
		Y	2.44	70.23	17.16		150.0	
		Z	2.41	68.88	16.42		150.0	
10111-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.70	68.70	16.54	0.00	150.0	± 9.6 %
		Y	2.78	69.16	16.89		150.0	
		Z	2.78	68.21	16.45		150.0	

10112-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.08	67.62	16.16	0.00	150.0	± 9.6 %
		Y	3.15	68.01	16.44		150.0	
		Z	3.19	67.46	16.12		150.0	
10113-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.86	68.84	16.66	0.00	150.0	± 9.6 %
		Y	2.93	69.21	16.97		150.0	
		Z	2.94	68.29	16.56		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.18	67.28	16.58	0.00	150.0	± 9.6 %
		Y	5.20	67.36	16.66		150.0	
		Z	5.26	67.11	16.50		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.47	67.42	16.65	0.00	150.0	± 9.6 %
		Y	5.52	67.56	16.76		150.0	
		Z	5.64	67.43	16.67		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.28	67.48	16.61	0.00	150.0	± 9.6 %
		Y	5.31	67.60	16.71		150.0	
		Z	5.39	67.39	16.57		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.14	67.13	16.52	0.00	150.0	± 9.6 %
		Y	5.17	67.25	16.63		150.0	
		Z	5.27	67.13	16.53		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.56	67.64	16.77	0.00	150.0	± 9.6 %
		Y	5.61	67.77	16.88		150.0	
		Z	5.71	67.60	16.76		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.25	67.43	16.59	0.00	150.0	± 9.6 %
		Y	5.28	67.53	16.69		150.0	
		Z	5.37	67.34	16.56		150.0	
10140-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.44	67.68	16.16	0.00	150.0	± 9.6 %
		Y	3.51	68.06	16.42		150.0	
		Z	3.55	67.64	16.14		150.0	
10141-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.56	67.79	16.34	0.00	150.0	± 9.6 %
		Y	3.63	68.11	16.56		150.0	
		Z	3.67	67.69	16.30		150.0	
10142-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.09	69.36	16.32	0.00	150.0	± 9.6 %
		Y	2.25	70.57	17.05		150.0	
		Z	2.19	68.88	16.26		150.0	
10143-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.61	69.75	16.40	0.00	150.0	± 9.6 %
		Y	2.72	70.39	16.89		150.0	
		Z	2.67	69.00	16.41		150.0	
10144-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.32	67.05	14.58	0.00	150.0	± 9.6 %
		Y	2.43	67.76	15.14		150.0	
		Z	2.46	66.90	14.91		150.0	
10145-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.34	66.28	12.62	0.00	150.0	± 9.6 %
		Y	1.54	68.26	13.94		150.0	
		Z	1.57	67.41	14.13		150.0	
10146-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.64	64.60	10.83	0.00	150.0	± 9.6 %
		Y	2.05	67.15	12.43		150.0	
		Z	2.36	68.27	13.85		150.0	
10147-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	1.86	66.07	11.71	0.00	150.0	± 9.6 %
		Y	2.50	69.63	13.73		150.0	
		Z	2.82	70.78	15.17		150.0	

10149-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.97	67.70	16.15	0.00	150.0	± 9.6 %
		Y	3.04	68.16	16.47		150.0	
		Z	3.08	67.58	16.13		150.0	
10150-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.09	67.68	16.20	0.00	150.0	± 9.6 %
		Y	3.16	68.07	16.48		150.0	
		Z	3.20	67.52	16.17		150.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	5.99	75.51	20.02	3.98	65.0	± 9.6 %
		Y	6.36	76.99	20.90		65.0	
		Z	6.09	75.53	20.32		65.0	
10152-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.54	72.18	19.10	3.98	65.0	± 9.6 %
		Y	5.71	73.12	19.80		65.0	
		Z	5.69	72.36	19.51		65.0	
10153-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	5.91	73.18	19.92	3.98	65.0	± 9.6 %
		Y	6.05	73.98	20.54		65.0	
		Z	6.01	73.15	20.24		65.0	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.36	69.70	16.86	0.00	150.0	± 9.6 %
		Y	2.51	70.74	17.47		150.0	
		Z	2.47	69.42	16.75		150.0	
10155-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.70	68.72	16.55	0.00	150.0	± 9.6 %
		Y	2.78	69.17	16.90		150.0	
		Z	2.78	68.20	16.45		150.0	
10156-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.96	69.66	16.22	0.00	150.0	± 9.6 %
		Y	2.14	71.11	17.09		150.0	
		Z	2.06	69.17	16.26		150.0	
10157-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.18	67.85	14.74	0.00	150.0	± 9.6 %
		Y	2.32	68.78	15.42		150.0	
		Z	2.31	67.60	15.12		150.0	
10158-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.87	68.91	16.71	0.00	150.0	± 9.6 %
		Y	2.94	69.28	17.02		150.0	
		Z	2.94	68.35	16.60		150.0	
10159-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.31	68.41	15.07	0.00	150.0	± 9.6 %
		Y	2.45	69.32	15.74		150.0	
		Z	2.44	68.13	15.45		150.0	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.82	69.05	16.65	0.00	150.0	± 9.6 %
		Y	2.93	69.73	17.07		150.0	
		Z	2.91	68.73	16.50		150.0	
10161-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.99	67.64	16.15	0.00	150.0	± 9.6 %
		Y	3.06	68.03	16.44		150.0	
		Z	3.09	67.43	16.12		150.0	
10162-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.10	67.78	16.25	0.00	150.0	± 9.6 %
		Y	3.17	68.13	16.52		150.0	
		Z	3.20	67.48	16.19		150.0	
10166-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.36	68.36	18.51	3.01	150.0	± 9.6 %
		Y	3.53	69.30	19.09		150.0	
		Z	3.62	68.52	18.65		150.0	
10167-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	3.90	70.55	18.73	3.01	150.0	± 9.6 %
		Y	4.29	72.16	19.56		150.0	
		Z	4.34	70.90	18.97		150.0	

10168-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.33	72.84	20.14	3.01	150.0	± 9.6 %
		Y	4.76	74.39	20.88		150.0	
		Z	4.75	72.87	20.21		150.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.65	67.13	17.99	3.01	150.0	± 9.6 %
		Y	2.87	68.82	18.95		150.0	
		Z	3.02	68.58	18.68		150.0	
10170-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	3.33	71.93	20.05	3.01	150.0	± 9.6 %
		Y	3.91	74.96	21.42		150.0	
		Z	4.03	74.00	20.87		150.0	
10171-AAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.78	68.15	17.28	3.01	150.0	± 9.6 %
		Y	3.20	70.75	18.58		150.0	
		Z	3.32	69.91	18.08		150.0	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.63	78.31	22.72	6.02	65.0	± 9.6 %
		Y	7.76	88.95	27.14		65.0	
		Z	5.95	81.91	24.44		65.0	
10173-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	6.69	82.24	22.42	6.02	65.0	± 9.6 %
		Y	11.56	92.23	26.20		65.0	
		Z	9.46	87.18	24.62		65.0	
10174-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	5.13	77.25	20.10	6.02	65.0	± 9.6 %
		Y	9.30	87.37	24.03		65.0	
		Z	7.14	81.53	22.17		65.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.62	66.84	17.74	3.01	150.0	± 9.6 %
		Y	2.84	68.52	18.71		150.0	
		Z	2.98	68.24	18.41		150.0	
10176-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.33	71.95	20.06	3.01	150.0	± 9.6 %
		Y	3.91	74.99	21.43		150.0	
		Z	4.04	74.03	20.88		150.0	
10177-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.64	66.99	17.84	3.01	150.0	± 9.6 %
		Y	2.86	68.68	18.80		150.0	
		Z	3.01	68.43	18.53		150.0	
10178-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	3.30	71.73	19.93	3.01	150.0	± 9.6 %
		Y	3.87	74.74	21.30		150.0	
		Z	3.98	73.72	20.71		150.0	
10179-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.02	69.89	18.51	3.01	150.0	± 9.6 %
		Y	3.52	72.74	19.87		150.0	
		Z	3.63	71.76	19.30		150.0	
10180-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	2.77	68.08	17.23	3.01	150.0	± 9.6 %
		Y	3.19	70.67	18.53		150.0	
		Z	3.31	69.81	18.01		150.0	
10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.64	66.97	17.83	3.01	150.0	± 9.6 %
		Y	2.85	68.66	18.79		150.0	
		Z	3.00	68.41	18.52		150.0	
10182-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	3.30	71.71	19.92	3.01	150.0	± 9.6 %
		Y	3.86	74.72	21.29		150.0	
		Z	3.97	73.69	20.70		150.0	
10183-AAA	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.76	68.06	17.22	3.01	150.0	± 9.6 %
		Y	3.18	70.65	18.52		150.0	
		Z	3.30	69.79	18.00		150.0	

10184-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.65	67.01	17.86	3.01	150.0	± 9.6 %
		Y	2.87	68.70	18.82		150.0	
		Z	3.01	68.45	18.54		150.0	
10185-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	3.31	71.78	19.96	3.01	150.0	± 9.6 %
		Y	3.88	74.79	21.33		150.0	
		Z	3.99	73.77	20.74		150.0	
10186-AAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	2.78	68.12	17.26	3.01	150.0	± 9.6 %
		Y	3.20	70.72	18.55		150.0	
		Z	3.32	69.86	18.04		150.0	
10187-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.65	67.06	17.91	3.01	150.0	± 9.6 %
		Y	2.87	68.75	18.88		150.0	
		Z	3.02	68.48	18.58		150.0	
10188-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	3.41	72.42	20.36	3.01	150.0	± 9.6 %
		Y	4.01	75.49	21.72		150.0	
		Z	4.14	74.52	21.17		150.0	
10189-AAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	2.83	68.50	17.53	3.01	150.0	± 9.6 %
		Y	3.27	71.16	18.84		150.0	
		Z	3.39	70.29	18.33		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.57	66.69	16.29	0.00	150.0	± 9.6 %
		Y	4.60	66.79	16.40		150.0	
		Z	4.69	66.53	16.28		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.74	67.01	16.41	0.00	150.0	± 9.6 %
		Y	4.78	67.12	16.52		150.0	
		Z	4.88	66.90	16.40		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.78	67.04	16.43	0.00	150.0	± 9.6 %
		Y	4.82	67.14	16.54		150.0	
		Z	4.93	66.91	16.40		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.57	66.76	16.31	0.00	150.0	± 9.6 %
		Y	4.61	66.86	16.43		150.0	
		Z	4.71	66.63	16.32		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.75	67.03	16.42	0.00	150.0	± 9.6 %
		Y	4.80	67.14	16.54		150.0	
		Z	4.90	66.92	16.41		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.78	67.05	16.44	0.00	150.0	± 9.6 %
		Y	4.83	67.16	16.55		150.0	
		Z	4.93	66.92	16.41		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.52	66.77	16.27	0.00	150.0	± 9.6 %
		Y	4.56	66.88	16.40		150.0	
		Z	4.66	66.64	16.28		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.75	67.00	16.41	0.00	150.0	± 9.6 %
		Y	4.79	67.11	16.53		150.0	
		Z	4.90	66.91	16.40		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.79	66.98	16.42	0.00	150.0	± 9.6 %
		Y	4.83	67.08	16.53		150.0	
		Z	4.94	66.86	16.40		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.12	67.14	16.52	0.00	150.0	± 9.6 %
		Y	5.15	67.26	16.62		150.0	
		Z	5.25	67.15	16.53		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.42	67.35	16.64	0.00	150.0	± 9.6 %
		Y	5.46	67.44	16.73		150.0	
		Z	5.63	67.50	16.73		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.16	67.26	16.51	0.00	150.0	± 9.6 %
		Y	5.20	67.37	16.61		150.0	
		Z	5.30	67.25	16.51		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.85	66.34	15.56	0.00	150.0	± 9.6 %
		Y	2.90	66.62	15.85		150.0	
		Z	2.95	66.07	15.65		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	7.03	83.16	22.84	6.02	65.0	± 9.6 %
		Y	12.37	93.52	26.70		65.0	
		Z	9.98	88.21	25.07		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	6.67	81.24	21.58	6.02	65.0	± 9.6 %
		Y	10.92	89.92	24.91		65.0	
		Z	9.08	85.42	23.57		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	5.82	82.70	24.42	6.02	65.0	± 9.6 %
		Y	8.66	91.29	28.01		65.0	
		Z	7.51	86.59	26.22		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	6.74	82.34	22.46	6.02	65.0	± 9.6 %
		Y	11.64	92.33	26.24		65.0	
		Z	9.52	87.27	24.66		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	6.38	80.48	21.23	6.02	65.0	± 9.6 %
		Y	10.29	88.87	24.49		65.0	
		Z	8.67	84.58	23.21		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	5.61	81.97	24.07	6.02	65.0	± 9.6 %
		Y	8.28	90.36	27.61		65.0	
		Z	7.23	85.81	25.86		65.0	
10232-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	6.73	82.32	22.45	6.02	65.0	± 9.6 %
		Y	11.62	92.32	26.23		65.0	
		Z	9.51	87.25	24.65		65.0	
10233-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	6.37	80.46	21.22	6.02	65.0	± 9.6 %
		Y	10.27	88.86	24.48		65.0	
		Z	8.66	84.57	23.20		65.0	
10234-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	5.44	81.28	23.70	6.02	65.0	± 9.6 %
		Y	7.95	89.46	27.19		65.0	
		Z	6.99	85.05	25.48		65.0	
10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	6.73	82.33	22.46	6.02	65.0	± 9.6 %
		Y	11.64	92.36	26.25		65.0	
		Z	9.51	87.27	24.66		65.0	
10236-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	6.42	80.55	21.25	6.02	65.0	± 9.6 %
		Y	10.39	89.01	24.53		65.0	
		Z	8.73	84.68	23.23		65.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.61	82.00	24.08	6.02	65.0	± 9.6 %
		Y	8.30	90.45	27.64		65.0	
		Z	7.24	85.86	25.88		65.0	
10238-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	6.71	82.29	22.44	6.02	65.0	± 9.6 %
		Y	11.60	92.30	26.22		65.0	
		Z	9.48	87.23	24.64		65.0	

10239-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	6.35	80.43	21.21	6.02	65.0	± 9.6 %
		Y	10.24	88.83	24.48		65.0	
		Z	8.64	84.54	23.19		65.0	
10240-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	5.60	81.96	24.07	6.02	65.0	± 9.6 %
		Y	8.27	90.39	27.62		65.0	
		Z	7.22	85.81	25.86		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.85	77.04	23.11	6.98	65.0	± 9.6 %
		Y	7.49	79.26	24.40		65.0	
		Z	7.25	77.10	23.54		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	6.14	74.82	22.06	6.98	65.0	± 9.6 %
		Y	7.20	78.43	23.97		65.0	
		Z	6.54	74.89	22.49		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.23	72.34	21.79	6.98	65.0	± 9.6 %
		Y	5.93	75.45	23.61		65.0	
		Z	5.51	72.34	22.13		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	4.40	70.43	15.58	3.98	65.0	± 9.6 %
		Y	5.04	72.95	17.16		65.0	
		Z	5.35	73.61	18.17		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	4.37	70.09	15.38	3.98	65.0	± 9.6 %
		Y	4.97	72.51	16.92		65.0	
		Z	5.33	73.32	18.00		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	4.30	73.38	17.22	3.98	65.0	± 9.6 %
		Y	5.07	76.58	19.00		65.0	
		Z	5.01	76.04	19.34		65.0	
10247-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	4.52	71.33	17.06	3.98	65.0	± 9.6 %
		Y	4.81	72.85	18.15		65.0	
		Z	4.88	72.58	18.50		65.0	
10248-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	4.56	70.99	16.90	3.98	65.0	± 9.6 %
		Y	4.85	72.43	17.96		65.0	
		Z	4.96	72.25	18.34		65.0	
10249-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	5.28	76.52	19.41	3.98	65.0	± 9.6 %
		Y	6.13	79.64	21.06		65.0	
		Z	5.67	77.77	20.67		65.0	
10250-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	5.47	74.06	19.88	3.98	65.0	± 9.6 %
		Y	5.68	75.16	20.68		65.0	
		Z	5.59	74.19	20.44		65.0	
10251-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.28	72.27	18.76	3.98	65.0	± 9.6 %
		Y	5.49	73.33	19.56		65.0	
		Z	5.45	72.47	19.36		65.0	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	5.85	77.24	20.65	3.98	65.0	± 9.6 %
		Y	6.43	79.46	21.88		65.0	
		Z	5.97	77.37	21.15		65.0	
10253-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.44	71.73	18.89	3.98	65.0	± 9.6 %
		Y	5.58	72.56	19.56		65.0	
		Z	5.55	71.76	19.29		65.0	
10254-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	5.78	72.64	19.62	3.98	65.0	± 9.6 %
		Y	5.90	73.38	20.24		65.0	
		Z	5.86	72.55	19.96		65.0	

10255-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	5.76	75.01	20.03	3.98	65.0	± 9.6 %
		Y	6.07	76.37	20.89		65.0	
		Z	5.82	74.90	20.31		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.47	67.17	13.03	3.98	65.0	± 9.6 %
		Y	3.94	69.35	14.53		65.0	
		Z	4.53	71.23	16.27		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.45	66.80	12.77	3.98	65.0	± 9.6 %
		Y	3.89	68.84	14.21		65.0	
		Z	4.52	70.83	16.01		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	3.34	69.51	14.70	3.98	65.0	± 9.6 %
		Y	3.87	72.27	16.41		65.0	
		Z	4.23	73.43	17.64		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	4.89	72.37	18.09	3.98	65.0	± 9.6 %
		Y	5.16	73.74	19.08		65.0	
		Z	5.16	73.13	19.18		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	4.94	72.20	18.03	3.98	65.0	± 9.6 %
		Y	5.20	73.52	18.99		65.0	
		Z	5.23	73.01	19.14		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	5.30	76.20	19.69	3.98	65.0	± 9.6 %
		Y	5.96	78.79	21.13		65.0	
		Z	5.56	76.94	20.65		65.0	
10262-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	5.46	74.01	19.83	3.98	65.0	± 9.6 %
		Y	5.67	75.12	20.64		65.0	
		Z	5.58	74.15	20.41		65.0	
10263-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.28	72.25	18.75	3.98	65.0	± 9.6 %
		Y	5.48	73.31	19.56		65.0	
		Z	5.44	72.46	19.36		65.0	
10264-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	5.80	77.07	20.56	3.98	65.0	± 9.6 %
		Y	6.38	79.29	21.79		65.0	
		Z	5.93	77.23	21.07		65.0	
10265-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.54	72.19	19.11	3.98	65.0	± 9.6 %
		Y	5.71	73.12	19.81		65.0	
		Z	5.69	72.36	19.52		65.0	
10266-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	5.90	73.17	19.91	3.98	65.0	± 9.6 %
		Y	6.05	73.96	20.53		65.0	
		Z	6.01	73.14	20.23		65.0	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	5.98	75.47	20.01	3.98	65.0	± 9.6 %
		Y	6.35	76.95	20.89		65.0	
		Z	6.08	75.49	20.30		65.0	
10268-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.21	72.40	19.64	3.98	65.0	± 9.6 %
		Y	6.32	73.04	20.16		65.0	
		Z	6.32	72.39	19.87		65.0	
10269-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	6.21	72.06	19.55	3.98	65.0	± 9.6 %
		Y	6.30	72.64	20.05		65.0	
		Z	6.29	72.00	19.77		65.0	
10270-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.09	73.71	19.47	3.98	65.0	± 9.6 %
		Y	6.28	74.60	20.08		65.0	
		Z	6.17	73.66	19.67		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.64	66.74	15.50	0.00	150.0	± 9.6 %
		Y	2.69	67.10	15.83		150.0	
		Z	2.68	66.27	15.47		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.68	68.56	16.07	0.00	150.0	± 9.6 %
		Y	1.82	70.02	16.93		150.0	
		Z	1.71	68.06	15.90		150.0	
10277-CAA	PHS (QPSK)	X	2.36	61.61	7.31	9.03	50.0	± 9.6 %
		Y	2.39	61.94	7.61		50.0	
		Z	2.65	62.95	8.78		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	3.91	68.51	13.42	9.03	50.0	± 9.6 %
		Y	4.49	70.95	14.83		50.0	
		Z	5.58	74.75	17.31		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	4.01	68.77	13.58	9.03	50.0	± 9.6 %
		Y	4.63	71.27	15.02		50.0	
		Z	5.76	75.05	17.47		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.64	70.48	14.99	0.00	150.0	± 9.6 %
		Y	2.03	73.52	16.59		150.0	
		Z	1.73	69.96	15.45		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.93	67.30	13.49	0.00	150.0	± 9.6 %
		Y	1.12	70.21	15.17		150.0	
		Z	0.98	66.89	13.94		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.38	73.80	16.83	0.00	150.0	± 9.6 %
		Y	2.07	80.16	19.66		150.0	
		Z	1.24	71.27	16.43		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	3.07	85.81	21.79	0.00	150.0	± 9.6 %
		Y	6.07	96.86	25.67		150.0	
		Z	1.83	77.45	19.50		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	6.96	78.18	20.42	9.03	50.0	± 9.6 %
		Y	7.83	81.11	22.06		50.0	
		Z	6.78	78.87	21.87		50.0	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.84	70.16	16.98	0.00	150.0	± 9.6 %
		Y	3.00	71.12	17.50		150.0	
		Z	2.95	69.98	16.83		150.0	
10298-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.69	68.82	14.85	0.00	150.0	± 9.6 %
		Y	1.92	70.71	16.01		150.0	
		Z	1.84	68.81	15.45		150.0	
10299-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.19	67.55	13.30	0.00	150.0	± 9.6 %
		Y	2.73	70.37	14.89		150.0	
		Z	2.77	69.78	15.28		150.0	
10300-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.74	63.95	10.77	0.00	150.0	± 9.6 %
		Y	2.00	65.46	11.83		150.0	
		Z	2.23	65.89	12.71		150.0	
10301-AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.62	64.90	17.27	4.17	50.0	± 9.6 %
		Y	4.66	64.93	17.38		50.0	
		Z	4.85	64.86	17.39		50.0	
10302-AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.11	65.59	18.02	4.96	50.0	± 9.6 %
		Y	5.22	65.96	18.33		50.0	
		Z	5.33	65.52	18.12		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.86	65.21	17.85	4.96	50.0	± 9.6 %
		Y	4.96	65.60	18.18		50.0	
		Z	5.09	65.21	18.01		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.67	65.13	17.38	4.17	50.0	± 9.6 %
		Y	4.77	65.45	17.65		50.0	
		Z	4.88	65.05	17.48		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.29	66.71	19.24	6.02	35.0	± 9.6 %
		Y	4.41	67.36	19.84		35.0	
		Z	4.48	66.53	19.55		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.61	65.80	18.84	6.02	35.0	± 9.6 %
		Y	4.71	66.29	19.31		35.0	
		Z	4.82	65.72	19.10		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.52	65.99	18.83	6.02	35.0	± 9.6 %
		Y	4.62	66.53	19.33		35.0	
		Z	4.74	65.99	19.12		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.49	66.16	18.95	6.02	35.0	± 9.6 %
		Y	4.60	66.71	19.46		35.0	
		Z	4.69	66.08	19.21		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.66	66.00	18.97	6.02	35.0	± 9.6 %
		Y	4.78	66.55	19.48		35.0	
		Z	4.90	66.00	19.26		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.56	65.87	18.82	6.02	35.0	± 9.6 %
		Y	4.66	66.36	19.30		35.0	
		Z	4.77	65.77	19.06		35.0	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.21	69.42	16.61	0.00	150.0	± 9.6 %
		Y	3.37	70.28	17.06		150.0	
		Z	3.31	69.30	16.49		150.0	
10313-AAA	iDEN 1:3	X	2.81	69.11	14.09	6.99	70.0	± 9.6 %
		Y	3.08	70.97	15.07		70.0	
		Z	2.93	70.30	15.05		70.0	
10314-AAA	iDEN 1:6	X	3.62	73.54	18.63	10.00	30.0	± 9.6 %
		Y	4.32	76.97	20.16		30.0	
		Z	3.95	75.50	19.89		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.10	63.87	15.37	0.17	150.0	± 9.6 %
		Y	1.11	64.51	15.98		150.0	
		Z	1.10	63.55	15.25		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.60	16.30	0.17	150.0	± 9.6 %
		Y	4.63	66.74	16.45		150.0	
		Z	4.73	66.50	16.32		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.60	16.30	0.17	150.0	± 9.6 %
		Y	4.63	66.74	16.45		150.0	
		Z	4.73	66.50	16.32		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.73	67.05	16.39	0.00	150.0	± 9.6 %
		Y	4.78	67.18	16.53		150.0	
		Z	4.89	66.94	16.38		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.44	67.25	16.56	0.00	150.0	± 9.6 %
		Y	5.46	67.32	16.65		150.0	
		Z	5.53	67.04	16.47		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.69	67.53	16.56	0.00	150.0	± 9.6 %
		Y	5.72	67.65	16.66		150.0	
		Z	5.83	67.58	16.59		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.64	70.48	14.99	0.00	115.0	± 9.6 %
		Y	2.03	73.52	16.59		115.0	
		Z	1.73	69.96	15.45		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.64	70.48	14.99	0.00	115.0	± 9.6 %
		Y	2.03	73.52	16.59		115.0	
		Z	1.73	69.96	15.45		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	13.26	97.32	24.83	0.00	100.0	± 9.6 %
		Y	100.00	124.36	31.36		100.0	
		Z	10.91	94.13	24.60		100.0	
10410-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.72	60.00	3.04	2.23	80.0	± 9.6 %
		Y	0.68	60.00	3.38		80.0	
		Z	0.75	60.00	4.37		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.28	15.02	0.00	150.0	± 9.6 %
		Y	1.04	63.86	15.57		150.0	
		Z	1.03	62.95	14.84		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.73	16.35	0.00	150.0	± 9.6 %
		Y	4.60	66.83	16.47		150.0	
		Z	4.69	66.56	16.32		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.73	16.35	0.00	150.0	± 9.6 %
		Y	4.60	66.83	16.47		150.0	
		Z	4.69	66.56	16.32		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	X	4.56	66.90	16.38	0.00	150.0	± 9.6 %
		Y	4.60	66.99	16.49		150.0	
		Z	4.67	66.70	16.33		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	X	4.58	66.84	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.94	16.49		150.0	
		Z	4.70	66.66	16.34		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.70	66.83	16.39	0.00	150.0	± 9.6 %
		Y	4.73	66.93	16.50		150.0	
		Z	4.83	66.67	16.35		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.86	67.15	16.50	0.00	150.0	± 9.6 %
		Y	4.91	67.26	16.61		150.0	
		Z	5.03	67.05	16.49		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.78	67.10	16.47	0.00	150.0	± 9.6 %
		Y	4.83	67.22	16.59		150.0	
		Z	4.94	66.98	16.45		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.39	67.41	16.65	0.00	150.0	± 9.6 %
		Y	5.43	67.52	16.75		150.0	
		Z	5.52	67.33	16.61		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.40	67.45	16.67	0.00	150.0	± 9.6 %
		Y	5.43	67.53	16.75		150.0	
		Z	5.53	67.36	16.63		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.41	67.42	16.64	0.00	150.0	± 9.6 %
		Y	5.44	67.51	16.73		150.0	
		Z	5.55	67.37	16.63		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.45	71.73	18.77	0.00	150.0	± 9.6 %
		Y	4.40	71.27	18.63		150.0	
		Z	4.47	70.59	18.48		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.25	67.32	16.37	0.00	150.0	± 9.6 %
		Y	4.31	67.47	16.53		150.0	
		Z	4.42	67.11	16.39		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.55	67.17	16.43	0.00	150.0	± 9.6 %
		Y	4.60	67.29	16.56		150.0	
		Z	4.71	67.02	16.42		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.80	67.14	16.50	0.00	150.0	± 9.6 %
		Y	4.84	67.25	16.61		150.0	
		Z	4.95	67.03	16.48		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.61	72.82	18.83	0.00	150.0	± 9.6 %
		Y	4.55	72.29	18.69		150.0	
		Z	4.58	71.41	18.52		150.0	
10435-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.73	60.00	3.01	2.23	80.0	± 9.6 %
		Y	0.68	60.00	3.36		80.0	
		Z	0.75	60.00	4.36		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.55	67.41	15.73	0.00	150.0	± 9.6 %
		Y	3.63	67.67	16.01		150.0	
		Z	3.73	67.17	15.91		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.09	67.11	16.23	0.00	150.0	± 9.6 %
		Y	4.15	67.25	16.40		150.0	
		Z	4.24	66.89	16.24		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.36	67.00	16.34	0.00	150.0	± 9.6 %
		Y	4.41	67.13	16.47		150.0	
		Z	4.50	66.84	16.32		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.56	66.91	16.35	0.00	150.0	± 9.6 %
		Y	4.60	67.03	16.48		150.0	
		Z	4.68	66.78	16.33		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.45	67.62	15.36	0.00	150.0	± 9.6 %
		Y	3.55	67.96	15.70		150.0	
		Z	3.66	67.46	15.67		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.26	67.94	16.78	0.00	150.0	± 9.6 %
		Y	6.28	68.03	16.86		150.0	
		Z	6.38	67.96	16.79		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.82	65.36	16.06	0.00	150.0	± 9.6 %
		Y	3.83	65.45	16.19		150.0	
		Z	3.87	65.19	16.05		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.25	66.87	14.70	0.00	150.0	± 9.6 %
		Y	3.37	67.28	15.13		150.0	
		Z	3.47	66.67	15.15		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.42	65.45	15.79	0.00	150.0	± 9.6 %
		Y	4.47	65.46	15.97		150.0	
		Z	4.68	65.26	16.05		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.97	69.30	16.98	0.00	150.0	± 9.6 %
		Y	1.12	72.49	18.75		150.0	
		Z	0.95	68.36	16.51		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.00	70.76	15.49	3.29	80.0	± 9.6 %
		Y	8.58	90.35	22.50		80.0	
		Z	5.73	83.80	20.83		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.92	60.00	7.79	3.23	80.0	± 9.6 %
		Y	1.03	61.08	8.56		80.0	
		Z	1.56	63.86	10.58		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.31	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.51		80.0	
		Z	1.28	61.47	8.99		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.64	68.18	13.89	3.23	80.0	± 9.6 %
		Y	5.92	84.53	20.09		80.0	
		Z	4.51	80.04	19.05		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.92	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.61	8.25		80.0	
		Z	1.45	63.13	10.17		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.26	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.46		80.0	
		Z	1.23	61.06	8.73		80.0	
10467-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.68	68.56	14.08	3.23	80.0	± 9.6 %
		Y	6.58	85.94	20.55		80.0	
		Z	4.80	80.91	19.37		80.0	
10468-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.74	3.23	80.0	± 9.6 %
		Y	0.99	60.72	8.32		80.0	
		Z	1.47	63.29	10.26		80.0	
10469-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.26	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.45		80.0	
		Z	1.22	61.07	8.73		80.0	
10470-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.67	68.54	14.07	3.23	80.0	± 9.6 %
		Y	6.57	85.96	20.55		80.0	
		Z	4.78	80.90	19.36		80.0	
10471-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.68	8.29		80.0	
		Z	1.46	63.25	10.23		80.0	
10472-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.25	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.44		80.0	
		Z	1.22	61.03	8.70		80.0	
10473-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.67	68.52	14.05	3.23	80.0	± 9.6 %
		Y	6.55	85.90	20.53		80.0	
		Z	4.77	80.86	19.34		80.0	
10474-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.66	8.27		80.0	
		Z	1.46	63.22	10.22		80.0	
10475-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.25	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.44		80.0	
		Z	1.22	61.02	8.70		80.0	

10477-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.71	3.23	80.0	± 9.6 %
		Y	0.97	60.55	8.20		80.0	
		Z	1.44	63.08	10.13		80.0	
10478-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.24	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.43		80.0	
		Z	1.21	60.99	8.67		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.95	60.00	5.82	1.99	80.0	± 9.6 %
		Y	0.92	60.00	6.29		80.0	
		Z	0.98	60.00	7.60		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.29	60.00	5.13	1.99	80.0	± 9.6 %
		Y	1.24	60.00	5.53		80.0	
		Z	1.27	60.00	6.83		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.38	60.00	4.87	1.99	80.0	± 9.6 %
		Y	1.30	60.00	5.29		80.0	
		Z	1.30	60.00	6.60		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.80	65.32	12.67	1.99	80.0	± 9.6 %
		Y	2.45	69.59	15.01		80.0	
		Z	2.44	68.90	15.30		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.00	63.35	11.20	1.99	80.0	± 9.6 %
		Y	2.66	66.99	13.38		80.0	
		Z	3.12	68.57	14.87		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.01	63.13	11.12	1.99	80.0	± 9.6 %
		Y	2.60	66.51	13.20		80.0	
		Z	3.09	68.18	14.73		80.0	
10485-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.39	68.72	15.30	1.99	80.0	± 9.6 %
		Y	3.15	73.04	17.51		80.0	
		Z	2.83	70.70	16.85		80.0	
10486-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.42	65.67	13.59	1.99	80.0	± 9.6 %
		Y	2.81	68.02	15.07		80.0	
		Z	2.84	67.42	15.25		80.0	
10487-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.44	65.45	13.49	1.99	80.0	± 9.6 %
		Y	2.81	67.66	14.91		80.0	
		Z	2.87	67.19	15.16		80.0	
10488-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.96	69.84	16.73	1.99	80.0	± 9.6 %
		Y	3.52	72.86	18.30		80.0	
		Z	3.28	70.80	17.48		80.0	
10489-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.01	67.19	15.77	1.99	80.0	± 9.6 %
		Y	3.26	68.65	16.74		80.0	
		Z	3.22	67.65	16.42		80.0	
10490-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.11	67.12	15.78	1.99	80.0	± 9.6 %
		Y	3.35	68.47	16.70		80.0	
		Z	3.33	67.53	16.40		80.0	
10491-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.29	69.03	16.67	1.99	80.0	± 9.6 %
		Y	3.67	71.05	17.79		80.0	
		Z	3.54	69.64	17.16		80.0	
10492-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.43	66.97	16.12	1.99	80.0	± 9.6 %
		Y	3.61	67.99	16.83		80.0	
		Z	3.61	67.22	16.52		80.0	

10493-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.50	66.90	16.11	1.99	80.0	± 9.6 %
		Y	3.67	67.85	16.79		80.0	
		Z	3.69	67.13	16.51		80.0	
10494-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.51	70.19	16.96	1.99	80.0	± 9.6 %
		Y	4.05	72.69	18.25		80.0	
		Z	3.84	71.09	17.53		80.0	
10495-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.46	67.32	16.29	1.99	80.0	± 9.6 %
		Y	3.65	68.43	17.04		80.0	
		Z	3.64	67.68	16.71		80.0	
10496-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.55	67.15	16.28	1.99	80.0	± 9.6 %
		Y	3.72	68.14	16.96		80.0	
		Z	3.73	67.44	16.66		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.19	60.95	9.43	1.99	80.0	± 9.6 %
		Y	1.47	63.55	11.23		80.0	
		Z	1.77	65.18	12.83		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.30	60.00	8.07	1.99	80.0	± 9.6 %
		Y	1.31	60.00	8.51		80.0	
		Z	1.65	61.76	10.34		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.33	60.00	7.95	1.99	80.0	± 9.6 %
		Y	1.33	60.00	8.38		80.0	
		Z	1.65	61.45	10.06		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.61	69.10	15.88	1.99	80.0	± 9.6 %
		Y	3.24	72.69	17.76		80.0	
		Z	2.96	70.41	17.01		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.69	66.46	14.53	1.99	80.0	± 9.6 %
		Y	3.03	68.43	15.80		80.0	
		Z	3.01	67.53	15.72		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.75	66.36	14.44	1.99	80.0	± 9.6 %
		Y	3.08	68.25	15.67		80.0	
		Z	3.08	67.43	15.64		80.0	
10503-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.92	69.64	16.62	1.99	80.0	± 9.6 %
		Y	3.47	72.63	18.19		80.0	
		Z	3.23	70.60	17.38		80.0	
10504-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.99	67.09	15.71	1.99	80.0	± 9.6 %
		Y	3.24	68.56	16.68		80.0	
		Z	3.21	67.57	16.36		80.0	
10505-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.10	67.03	15.72	1.99	80.0	± 9.6 %
		Y	3.33	68.38	16.64		80.0	
		Z	3.31	67.44	16.35		80.0	
10506-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.48	70.04	16.88	1.99	80.0	± 9.6 %
		Y	4.01	72.53	18.17		80.0	
		Z	3.80	70.94	17.46		80.0	
10507-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.44	67.26	16.25	1.99	80.0	± 9.6 %
		Y	3.63	68.37	17.00		80.0	
		Z	3.63	67.61	16.67		80.0	

10508-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	67.08	16.23	1.99	80.0	± 9.6 %
		Y	3.71	68.07	16.92		80.0	
		Z	3.72	67.37	16.62		80.0	
10509-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.89	69.27	16.68	1.99	80.0	± 9.6 %
		Y	4.25	70.96	17.61		80.0	
		Z	4.15	69.90	17.10		80.0	
10510-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.95	67.24	16.43	1.99	80.0	± 9.6 %
		Y	4.11	68.10	17.01		80.0	
		Z	4.14	67.56	16.74		80.0	
10511-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.02	67.05	16.41	1.99	80.0	± 9.6 %
		Y	4.16	67.82	16.95		80.0	
		Z	4.19	67.31	16.70		80.0	
10512-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.97	70.39	16.94	1.99	80.0	± 9.6 %
		Y	4.51	72.66	18.09		80.0	
		Z	4.31	71.32	17.48		80.0	
10513-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.83	67.43	16.48	1.99	80.0	± 9.6 %
		Y	4.01	68.42	17.12		80.0	
		Z	4.02	67.86	16.84		80.0	
10514-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.87	67.11	16.42	1.99	80.0	± 9.6 %
		Y	4.02	67.96	17.01		80.0	
		Z	4.04	67.44	16.74		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.00	63.49	15.10	0.00	150.0	± 9.6 %
		Y	1.01	64.14	15.70		150.0	
		Z	1.00	63.14	14.91		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.67	72.17	18.58	0.00	150.0	± 9.6 %
		Y	1.03	81.20	22.83		150.0	
		Z	0.63	70.53	17.66		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.86	65.66	15.91	0.00	150.0	± 9.6 %
		Y	0.90	67.17	16.99		150.0	
		Z	0.86	65.18	15.61		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.56	66.81	16.33	0.00	150.0	± 9.6 %
		Y	4.60	66.91	16.45		150.0	
		Z	4.69	66.64	16.31		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.75	67.04	16.45	0.00	150.0	± 9.6 %
		Y	4.79	67.15	16.57		150.0	
		Z	4.90	66.93	16.45		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.60	67.00	16.38	0.00	150.0	± 9.6 %
		Y	4.64	67.13	16.50		150.0	
		Z	4.75	66.91	16.37		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.53	67.00	16.36	0.00	150.0	± 9.6 %
		Y	4.58	67.13	16.49		150.0	
		Z	4.69	66.92	16.36		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.59	67.10	16.45	0.00	150.0	± 9.6 %
		Y	4.64	67.21	16.57		150.0	
		Z	4.73	66.89	16.39		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.47	66.97	16.30	0.00	150.0	± 9.6 %
		Y	4.51	67.08	16.42		150.0	
		Z	4.60	66.79	16.26		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.53	67.01	16.42	0.00	150.0	± 9.6 %
		Y	4.58	67.13	16.54		150.0	
		Z	4.68	66.85	16.38		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.53	66.07	16.01	0.00	150.0	± 9.6 %
		Y	4.56	66.17	16.13		150.0	
		Z	4.64	65.88	15.97		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.69	66.43	16.15	0.00	150.0	± 9.6 %
		Y	4.74	66.55	16.27		150.0	
		Z	4.84	66.29	16.12		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.61	66.39	16.10	0.00	150.0	± 9.6 %
		Y	4.66	66.53	16.22		150.0	
		Z	4.76	66.26	16.07		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.63	66.41	16.13	0.00	150.0	± 9.6 %
		Y	4.68	66.54	16.25		150.0	
		Z	4.77	66.28	16.10		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.63	66.41	16.13	0.00	150.0	± 9.6 %
		Y	4.68	66.54	16.25		150.0	
		Z	4.77	66.28	16.10		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.62	66.51	16.14	0.00	150.0	± 9.6 %
		Y	4.68	66.66	16.28		150.0	
		Z	4.79	66.43	16.13		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.48	66.37	16.08	0.00	150.0	± 9.6 %
		Y	4.53	66.52	16.22		150.0	
		Z	4.63	66.29	16.07		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.64	66.46	16.12	0.00	150.0	± 9.6 %
		Y	4.69	66.59	16.24		150.0	
		Z	4.79	66.30	16.08		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.17	66.49	16.17	0.00	150.0	± 9.6 %
		Y	5.20	66.61	16.28		150.0	
		Z	5.29	66.44	16.16		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.24	66.68	16.26	0.00	150.0	± 9.6 %
		Y	5.27	66.78	16.35		150.0	
		Z	5.36	66.58	16.21		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.10	66.63	16.22	0.00	150.0	± 9.6 %
		Y	5.14	66.75	16.32		150.0	
		Z	5.23	66.57	16.19		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.16	66.59	16.20	0.00	150.0	± 9.6 %
		Y	5.20	66.71	16.30		150.0	
		Z	5.30	66.55	16.18		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.25	66.60	16.25	0.00	150.0	± 9.6 %
		Y	5.29	66.73	16.35		150.0	
		Z	5.41	66.62	16.26		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.19	66.63	16.28	0.00	150.0	± 9.6 %
		Y	5.22	66.75	16.38		150.0	
		Z	5.31	66.56	16.24		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.15	66.49	16.20	0.00	150.0	± 9.6 %
		Y	5.19	66.61	16.30		150.0	
		Z	5.29	66.47	16.19		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.31	66.56	16.24	0.00	150.0	± 9.6 %
		Y	5.35	66.67	16.34		150.0	
		Z	5.44	66.51	16.23		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.38	66.59	16.28	0.00	150.0	± 9.6 %
		Y	5.43	66.70	16.38		150.0	
		Z	5.53	66.52	16.25		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.48	66.59	16.16	0.00	150.0	± 9.6 %
		Y	5.51	66.70	16.25		150.0	
		Z	5.57	66.55	16.14		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.68	67.02	16.33	0.00	150.0	± 9.6 %
		Y	5.71	67.13	16.41		150.0	
		Z	5.79	66.97	16.29		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.54	66.80	16.23	0.00	150.0	± 9.6 %
		Y	5.58	66.93	16.33		150.0	
		Z	5.67	66.84	16.25		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.61	66.84	16.24	0.00	150.0	± 9.6 %
		Y	5.65	66.96	16.34		150.0	
		Z	5.76	66.91	16.27		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.87	67.78	16.68	0.00	150.0	± 9.6 %
		Y	5.93	67.99	16.82		150.0	
		Z	6.09	68.03	16.80		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.57	66.83	16.25	0.00	150.0	± 9.6 %
		Y	5.60	66.93	16.34		150.0	
		Z	5.69	66.78	16.23		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.58	66.87	16.23	0.00	150.0	± 9.6 %
		Y	5.61	66.98	16.33		150.0	
		Z	5.71	66.88	16.24		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.49	66.66	16.14	0.00	150.0	± 9.6 %
		Y	5.52	66.77	16.23		150.0	
		Z	5.61	66.64	16.13		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.57	66.69	16.19	0.00	150.0	± 9.6 %
		Y	5.61	66.81	16.28		150.0	
		Z	5.70	66.69	16.18		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.89	66.95	16.25	0.00	150.0	± 9.6 %
		Y	5.91	67.05	16.33		150.0	
		Z	5.98	66.93	16.24		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.02	67.25	16.37	0.00	150.0	± 9.6 %
		Y	6.05	67.36	16.46		150.0	
		Z	6.13	67.27	16.38		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.04	67.30	16.39	0.00	150.0	± 9.6 %
		Y	6.07	67.41	16.48		150.0	
		Z	6.14	67.28	16.38		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.00	67.20	16.36	0.00	150.0	± 9.6 %
		Y	6.03	67.32	16.45		150.0	
		Z	6.12	67.24	16.38		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.05	67.36	16.45	0.00	150.0	± 9.6 %
		Y	6.09	67.49	16.55		150.0	
		Z	6.19	67.44	16.49		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.04	67.20	16.41	0.00	150.0	± 9.6 %
		Y	6.08	67.33	16.51		150.0	
		Z	6.17	67.26	16.44		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.97	67.18	16.44	0.00	150.0	± 9.6 %
		Y	6.00	67.30	16.54		150.0	
		Z	6.09	67.21	16.46		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.09	67.54	16.62	0.00	150.0	± 9.6 %
		Y	6.13	67.71	16.74		150.0	
		Z	6.25	67.71	16.71		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.28	67.73	16.67	0.00	150.0	± 9.6 %
		Y	6.42	68.15	16.91		150.0	
		Z	6.58	68.23	16.91		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.88	66.82	16.44	0.46	150.0	± 9.6 %
		Y	4.92	66.94	16.57		150.0	
		Z	5.01	66.71	16.44		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.11	67.29	16.78	0.46	150.0	± 9.6 %
		Y	5.15	67.40	16.89		150.0	
		Z	5.28	67.22	16.79		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.94	67.12	16.58	0.46	150.0	± 9.6 %
		Y	4.99	67.26	16.71		150.0	
		Z	5.10	67.06	16.60		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.97	67.55	16.96	0.46	150.0	± 9.6 %
		Y	5.01	67.64	17.06		150.0	
		Z	5.13	67.47	16.96		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.84	66.85	16.31	0.46	150.0	± 9.6 %
		Y	4.89	67.01	16.47		150.0	
		Z	5.00	66.75	16.32		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.93	67.64	17.02	0.46	150.0	± 9.6 %
		Y	4.96	67.70	17.10		150.0	
		Z	5.06	67.47	16.97		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.97	67.50	16.96	0.46	150.0	± 9.6 %
		Y	5.01	67.58	17.05		150.0	
		Z	5.12	67.34	16.93		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.16	64.12	15.40	0.46	130.0	± 9.6 %
		Y	1.18	64.87	16.09		130.0	
		Z	1.16	63.87	15.37		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.17	64.68	15.75	0.46	130.0	± 9.6 %
		Y	1.19	65.49	16.47		130.0	
		Z	1.17	64.40	15.71		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	1.55	80.94	21.57	0.46	130.0	± 9.6 %
		Y	4.30	99.88	28.41		130.0	
		Z	1.40	79.23	21.07		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.27	70.25	18.64	0.46	130.0	± 9.6 %
		Y	1.37	72.33	19.95		130.0	
		Z	1.25	69.67	18.44		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.50	16.38	0.46	130.0	± 9.6 %
		Y	4.68	66.64	16.54		130.0	
		Z	4.77	66.40	16.42		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.68	16.46	0.46	130.0	± 9.6 %
		Y	4.71	66.81	16.61		130.0	
		Z	4.80	66.57	16.49		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	66.97	16.63	0.46	130.0	± 9.6 %
		Y	4.92	67.11	16.78		130.0	
		Z	5.04	66.92	16.68		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.77	67.15	16.75	0.46	130.0	± 9.6 %
		Y	4.81	67.28	16.88		130.0	
		Z	4.93	67.09	16.78		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.35	15.99	0.46	130.0	± 9.6 %
		Y	4.58	66.57	16.20		130.0	
		Z	4.69	66.37	16.09		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.56	66.39	16.01	0.46	130.0	± 9.6 %
		Y	4.62	66.60	16.22		130.0	
		Z	4.73	66.35	16.08		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.66	67.17	16.68	0.46	130.0	± 9.6 %
		Y	4.71	67.31	16.82		130.0	
		Z	4.82	67.12	16.71		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.46	66.10	15.77	0.46	130.0	± 9.6 %
		Y	4.52	66.34	16.00		130.0	
		Z	4.64	66.12	15.87		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.50	16.38	0.46	130.0	± 9.6 %
		Y	4.68	66.64	16.54		130.0	
		Z	4.77	66.40	16.42		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.68	16.46	0.46	130.0	± 9.6 %
		Y	4.71	66.81	16.61		130.0	
		Z	4.80	66.57	16.49		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	66.97	16.63	0.46	130.0	± 9.6 %
		Y	4.92	67.11	16.78		130.0	
		Z	5.04	66.92	16.68		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.77	67.15	16.75	0.46	130.0	± 9.6 %
		Y	4.81	67.28	16.88		130.0	
		Z	4.93	67.09	16.78		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.35	15.99	0.46	130.0	± 9.6 %
		Y	4.58	66.57	16.20		130.0	
		Z	4.69	66.37	16.09		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.56	66.39	16.01	0.46	130.0	± 9.6 %
		Y	4.62	66.60	16.22		130.0	
		Z	4.73	66.35	16.08		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.66	67.17	16.68	0.46	130.0	± 9.6 %
		Y	4.71	67.31	16.82		130.0	
		Z	4.82	67.12	16.71		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.46	66.10	15.77	0.46	130.0	± 9.6 %
		Y	4.52	66.34	16.00		130.0	
		Z	4.64	66.12	15.87		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.79	66.58	16.49	0.46	130.0	± 9.6 %
		Y	4.83	66.70	16.64		130.0	
		Z	4.93	66.49	16.53		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.94	66.91	16.63	0.46	130.0	± 9.6 %
		Y	4.99	67.04	16.77		130.0	
		Z	5.10	66.84	16.66		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.86	66.81	16.50	0.46	130.0	± 9.6 %
		Y	4.91	66.96	16.65		130.0	
		Z	5.03	66.77	16.55		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.92	66.99	16.66	0.46	130.0	± 9.6 %
		Y	4.97	67.12	16.80		130.0	
		Z	5.08	66.92	16.70		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.88	66.93	16.55	0.46	130.0	± 9.6 %
		Y	4.93	67.07	16.70		130.0	
		Z	5.05	66.89	16.60		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.82	66.92	16.54	0.46	130.0	± 9.6 %
		Y	4.87	67.07	16.71		130.0	
		Z	4.99	66.87	16.59		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.77	66.81	16.42	0.46	130.0	± 9.6 %
		Y	4.82	66.99	16.59		130.0	
		Z	4.94	66.80	16.49		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.75	67.07	16.71	0.46	130.0	± 9.6 %
		Y	4.80	67.22	16.86		130.0	
		Z	4.92	67.06	16.77		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.47	67.15	16.72	0.46	130.0	± 9.6 %
		Y	5.50	67.24	16.83		130.0	
		Z	5.61	67.15	16.76		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.60	67.56	16.89	0.46	130.0	± 9.6 %
		Y	5.65	67.71	17.03		130.0	
		Z	5.81	67.73	17.02		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.49	67.30	16.78	0.46	130.0	± 9.6 %
		Y	5.53	67.44	16.92		130.0	
		Z	5.66	67.37	16.85		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.59	67.33	16.71	0.46	130.0	± 9.6 %
		Y	5.62	67.44	16.84		130.0	
		Z	5.75	67.36	16.76		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.67	67.64	17.01	0.46	130.0	± 9.6 %
		Y	5.71	67.76	17.13		130.0	
		Z	5.85	67.70	17.06		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.48	67.14	16.74	0.46	130.0	± 9.6 %
		Y	5.50	67.20	16.84		130.0	
		Z	5.62	67.10	16.76		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.59	67.44	16.88	0.46	130.0	± 9.6 %
		Y	5.62	67.56	17.01		130.0	
		Z	5.72	67.39	16.90		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.32	66.74	16.39	0.46	130.0	± 9.6 %
		Y	5.38	66.94	16.57		130.0	
		Z	5.49	66.84	16.49		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.63	65.90	16.12	0.46	130.0	± 9.6 %
		Y	4.67	66.03	16.27		130.0	
		Z	4.76	65.78	16.13		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.81	66.29	16.28	0.46	130.0	± 9.6 %
		Y	4.87	66.45	16.44		130.0	
		Z	4.97	66.21	16.30		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.70	66.13	16.11	0.46	130.0	± 9.6 %
		Y	4.75	66.30	16.28		130.0	
		Z	4.86	66.07	16.15		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.75	66.30	16.28	0.46	130.0	± 9.6 %
		Y	4.80	66.46	16.44		130.0	
		Z	4.91	66.23	16.31		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.66	66.09	16.12	0.46	130.0	± 9.6 %
		Y	4.72	66.26	16.29		130.0	
		Z	4.83	66.05	16.17		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.67	66.22	16.15	0.46	130.0	± 9.6 %
		Y	4.73	66.43	16.33		130.0	
		Z	4.84	66.19	16.19		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.67	66.11	16.03	0.46	130.0	± 9.6 %
		Y	4.74	66.32	16.22		130.0	
		Z	4.86	66.11	16.10		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.62	66.33	16.29	0.46	130.0	± 9.6 %
		Y	4.68	66.50	16.45		130.0	
		Z	4.79	66.30	16.34		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.66	65.90	15.87	0.46	130.0	± 9.6 %
		Y	4.72	66.09	16.06		130.0	
		Z	4.83	65.85	15.93		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.28	66.38	16.32	0.46	130.0	± 9.6 %
		Y	5.33	66.52	16.45		130.0	
		Z	5.43	66.39	16.36		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.35	66.56	16.38	0.46	130.0	± 9.6 %
		Y	5.39	66.69	16.51		130.0	
		Z	5.48	66.48	16.37		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.24	66.57	16.40	0.46	130.0	± 9.6 %
		Y	5.28	66.70	16.53		130.0	
		Z	5.38	66.55	16.43		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.25	66.36	16.23	0.46	130.0	± 9.6 %
		Y	5.30	66.53	16.38		130.0	
		Z	5.40	66.37	16.27		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.34	66.40	16.30	0.46	130.0	± 9.6 %
		Y	5.39	66.57	16.45		130.0	
		Z	5.52	66.49	16.38		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.35	66.56	16.51	0.46	130.0	± 9.6 %
		Y	5.38	66.67	16.62		130.0	
		Z	5.49	66.56	16.54		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.36	66.72	16.58	0.46	130.0	± 9.6 %
		Y	5.40	66.85	16.70		130.0	
		Z	5.49	66.68	16.58		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.23	66.22	16.20	0.46	130.0	± 9.6 %
		Y	5.27	66.37	16.34		130.0	
		Z	5.38	66.24	16.24		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.42	66.43	16.37	0.46	130.0	± 9.6 %
		Y	5.47	66.57	16.50		130.0	
		Z	5.57	66.43	16.41		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.78	67.38	16.89	0.46	130.0	± 9.6 %
		Y	5.86	67.62	17.07		130.0	
		Z	5.99	67.53	16.99		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.58	66.44	16.28	0.46	130.0	± 9.6 %
		Y	5.61	66.57	16.40		130.0	
		Z	5.69	66.43	16.30		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.83	67.02	16.53	0.46	130.0	± 9.6 %
		Y	5.86	67.15	16.65		130.0	
		Z	5.95	67.00	16.54		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.61	66.51	16.21	0.46	130.0	± 9.6 %
		Y	5.66	66.69	16.36		130.0	
		Z	5.75	66.60	16.27		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.68	66.56	16.23	0.46	130.0	± 9.6 %
		Y	5.75	66.79	16.40		130.0	
		Z	5.84	66.66	16.30		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.13	68.08	16.98	0.46	130.0	± 9.6 %
		Y	6.22	68.39	17.20		130.0	
		Z	6.43	68.55	17.23		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.03	67.90	17.10	0.46	130.0	± 9.6 %
		Y	6.09	68.10	17.24		130.0	
		Z	6.28	68.23	17.28		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.80	67.10	16.72	0.46	130.0	± 9.6 %
		Y	5.83	67.19	16.81		130.0	
		Z	5.93	67.09	16.72		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.67	66.68	16.33	0.46	130.0	± 9.6 %
		Y	5.72	66.84	16.46		130.0	
		Z	5.85	66.86	16.43		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.66	66.72	16.41	0.46	130.0	± 9.6 %
		Y	5.70	66.87	16.53		130.0	
		Z	5.82	66.84	16.49		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.53	66.00	15.77	0.46	130.0	± 9.6 %
		Y	5.59	66.22	15.94		130.0	
		Z	5.70	66.15	15.87		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.81	16.37	0.46	130.0	± 9.6 %
		Y	6.03	66.94	16.49		130.0	
		Z	6.10	66.84	16.41		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.16	67.20	16.55	0.46	130.0	± 9.6 %
		Y	6.19	67.33	16.66		130.0	
		Z	6.27	67.24	16.58		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.15	67.16	16.50	0.46	130.0	± 9.6 %
		Y	6.19	67.30	16.62		130.0	
		Z	6.27	67.20	16.54		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.13	67.11	16.52	0.46	130.0	± 9.6 %
		Y	6.17	67.26	16.65		130.0	
		Z	6.27	67.22	16.60		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.13	67.11	16.46	0.46	130.0	± 9.6 %
		Y	6.18	67.29	16.61		130.0	
		Z	6.30	67.29	16.57		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.18	67.03	16.44	0.46	130.0	± 9.6 %
		Y	6.21	67.15	16.56		130.0	
		Z	6.29	67.03	16.46		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.22	67.29	16.75	0.46	130.0	± 9.6 %
		Y	6.26	67.42	16.86		130.0	
		Z	6.36	67.38	16.81		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	66.96	16.47	0.46	130.0	± 9.6 %
		Y	6.09	67.11	16.60		130.0	
		Z	6.19	67.03	16.53		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.21	67.43	16.73	0.46	130.0	± 9.6 %
		Y	6.27	67.66	16.90		130.0	
		Z	6.42	67.74	16.91		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.50	67.90	16.92	0.46	130.0	± 9.6 %
		Y	6.70	68.50	17.27		130.0	
		Z	6.78	68.33	17.14		130.0	

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



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **ES3-3022_Jul16**

CALIBRATION CERTIFICATE

Object: **ES3DV2 - SN:3022**

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 19, 2016**

BNI ✓
07/27/2016

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: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

Calibrated by:	Name Claudio Leubler	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	

Issued: July 19, 2016

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
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,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:

- 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
- 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
- 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
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,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.
- DCP_{x,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
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,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 NORM_{x,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 NORM_x (no uncertainty required).

Probe ES3DV2

SN:3022

Manufactured: April 15, 2003
Calibrated: July 19, 2016

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

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.99	1.04	0.95	$\pm 10.1 \%$
DCP (mV) ^B	102.3	100.0	101.8	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	204.0	$\pm 3.3 \%$
		Y	0.0	0.0	1.0		188.8	
		Z	0.0	0.0	1.0		209.9	

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	58.89	429.7	36.49	29.69	3.141	5.1	0	0.551	1.012
Y	53.83	392.1	36.34	29.42	2.866	5.1	0.704	0.458	1.009
Z	50.44	364.8	35.93	29	2.624	5.1	0.36	0.436	1.009

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 E²-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: ES3DV2 - SN:3022

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	6.38	6.38	6.38	0.24	2.07	± 12.0 %
835	41.5	0.90	6.13	6.13	6.13	0.34	1.69	± 12.0 %
1750	40.1	1.37	5.15	5.15	5.15	0.43	1.50	± 12.0 %
1900	40.0	1.40	4.96	4.96	4.96	0.35	1.64	± 12.0 %
2300	39.5	1.67	4.63	4.63	4.63	0.42	1.56	± 12.0 %
2450	39.2	1.80	4.27	4.27	4.27	0.57	1.40	± 12.0 %
2600	39.0	1.96	4.16	4.16	4.16	0.70	1.27	± 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: ES3DV2 - SN:3022

Calibration Parameter Determined in Body Tissue Simulating Media

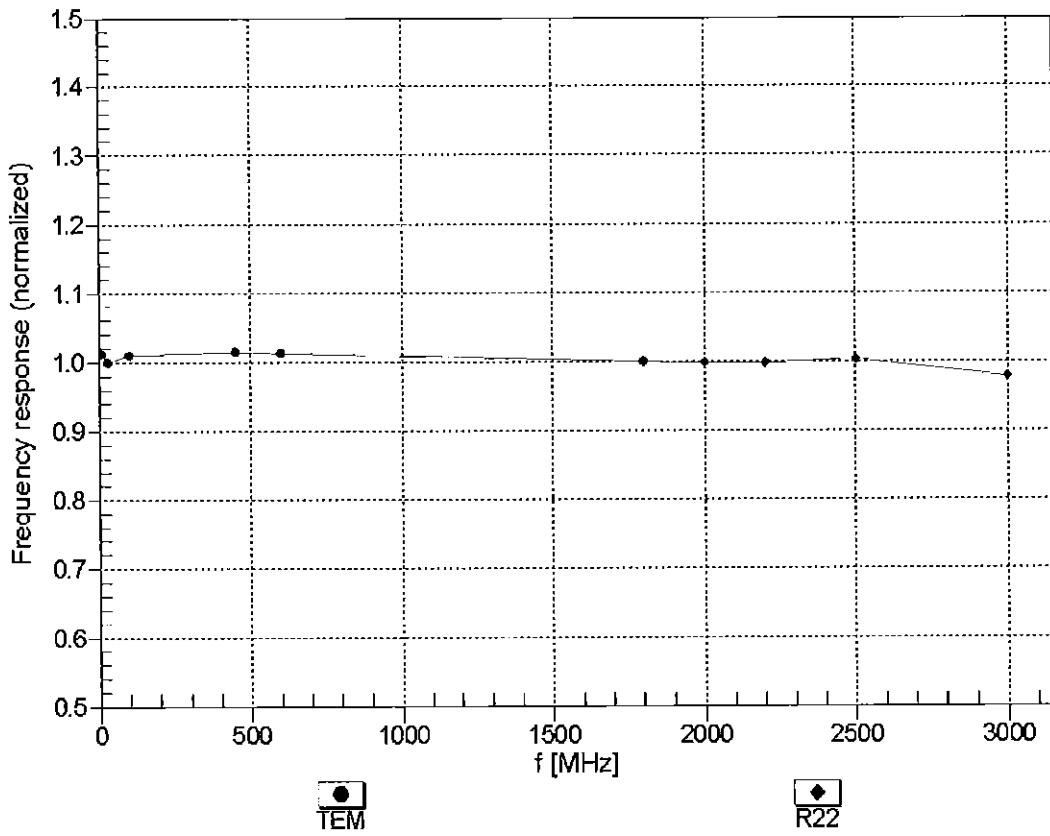
f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	6.10	6.10	6.10	0.51	1.30	± 12.0 %
835	55.2	0.97	6.09	6.09	6.09	0.32	1.70	± 12.0 %
1750	53.4	1.49	4.78	4.78	4.78	0.42	1.61	± 12.0 %
1900	53.3	1.52	4.59	4.59	4.59	0.50	1.54	± 12.0 %
2300	52.9	1.81	4.32	4.32	4.32	0.69	1.25	± 12.0 %
2450	52.7	1.95	4.13	4.13	4.13	0.80	1.12	± 12.0 %
2600	52.5	2.16	3.94	3.94	3.94	0.74	1.13	± 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.

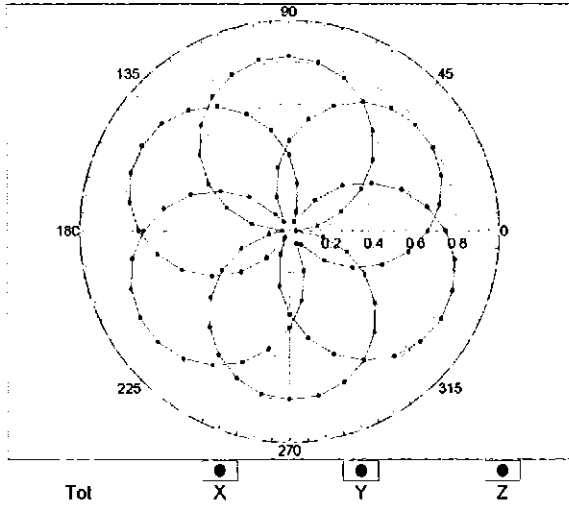
Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



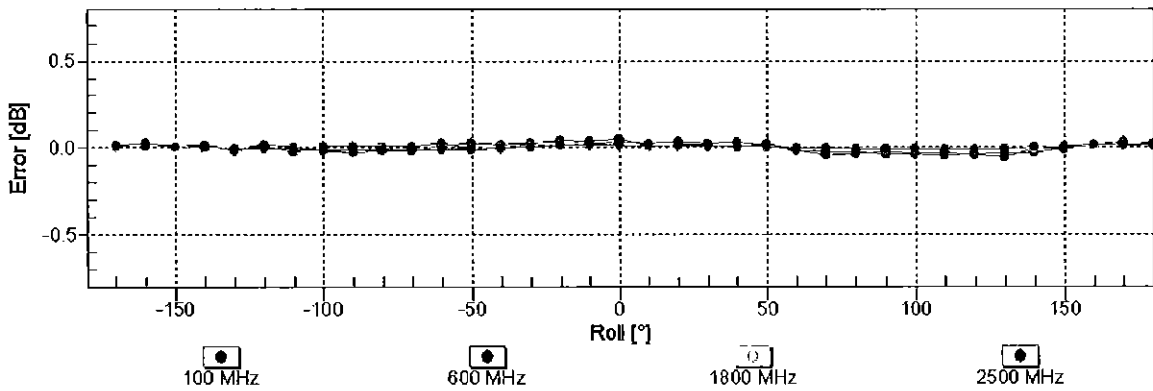
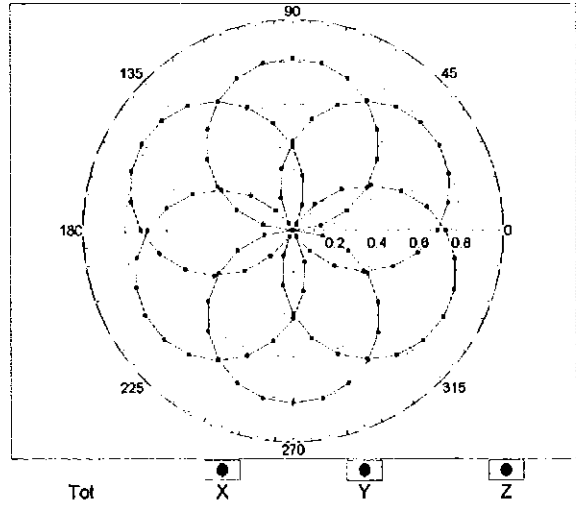
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

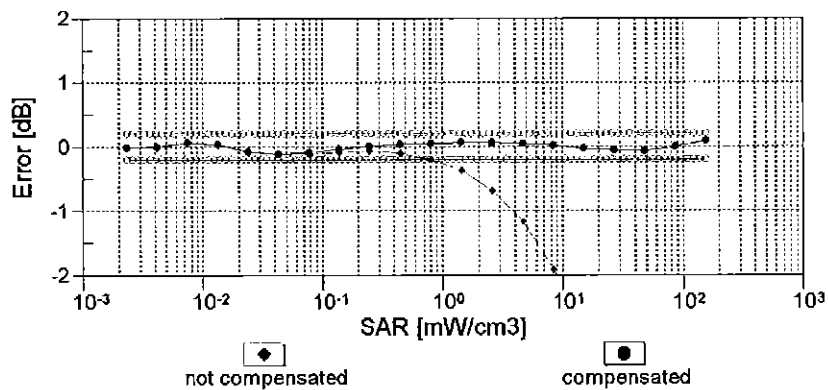
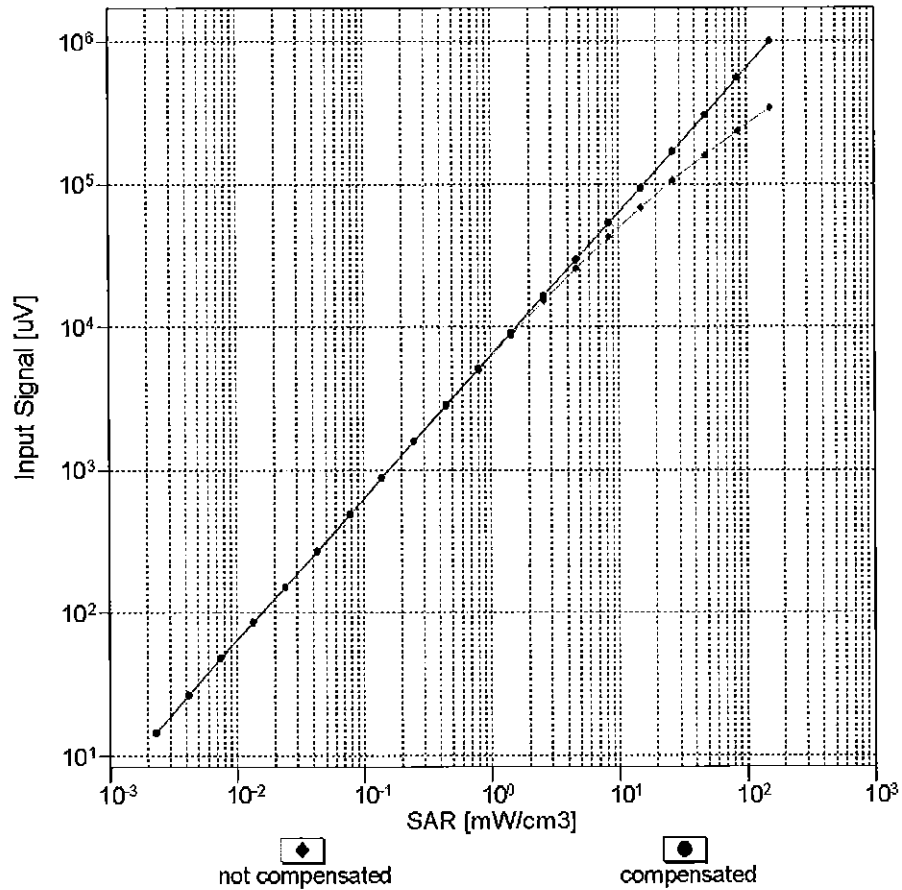


f=1800 MHz,R22



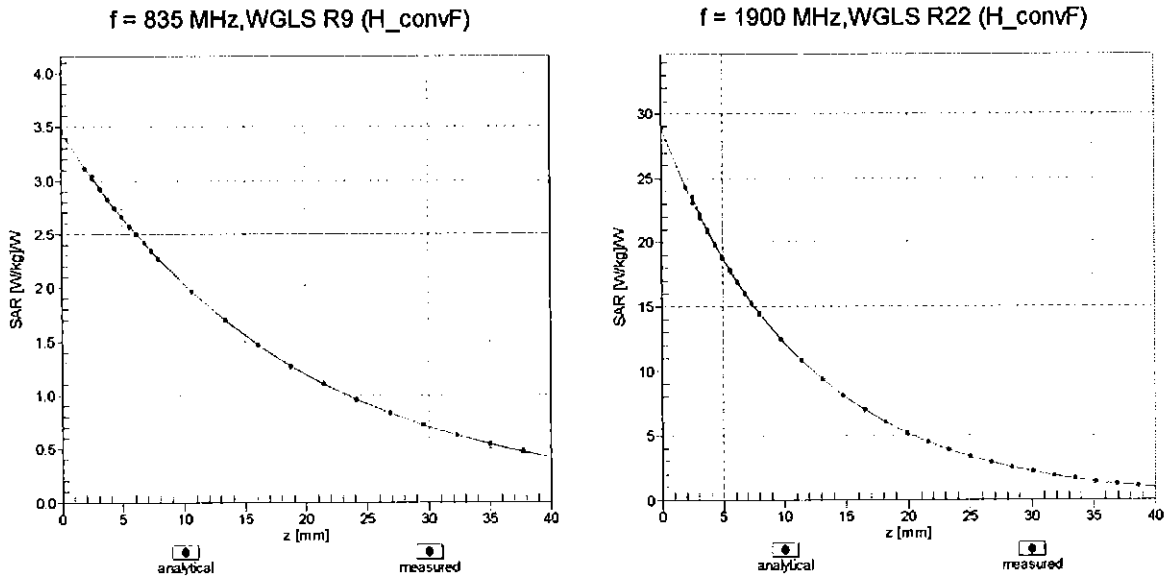
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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

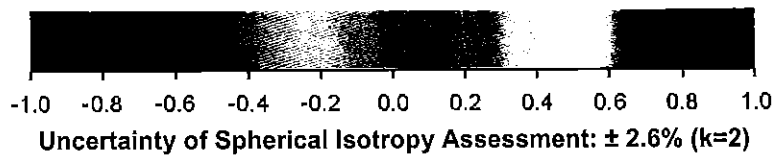
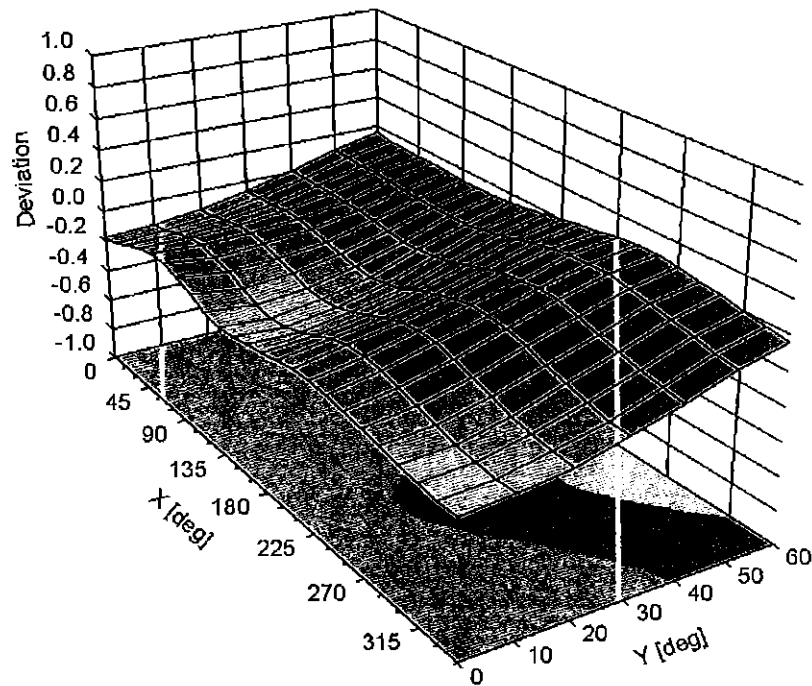


Uncertainty of Linearity Assessment: $\pm 0.6\%$ (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), f = 900 MHz



DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	99.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB $\sqrt{\mu V}$	C	D dB	VR mV	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	204.0	$\pm 3.3\%$
		Y	0.00	0.00	1.00		188.8	
		Z	0.00	0.00	1.00		209.9	
10010- CAA	SAR Validation (Square, 100ms, 10ms)	X	10.04	82.57	20.76	10.00	25.0	$\pm 9.6\%$
		Y	10.73	83.77	21.02		25.0	
		Z	10.90	83.99	20.87		25.0	
10011- CAB	UMTS-FDD (WCDMA)	X	1.12	68.12	15.80	0.00	150.0	$\pm 9.6\%$
		Y	1.05	66.98	15.07		150.0	
		Z	1.10	68.19	15.77		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.34	65.20	16.01	0.41	150.0	$\pm 9.6\%$
		Y	1.32	64.81	15.67		150.0	
		Z	1.33	65.29	16.02		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.20	67.28	17.55	1.46	150.0	$\pm 9.6\%$
		Y	5.15	67.26	17.47		150.0	
		Z	5.12	67.39	17.54		150.0	
10021- DAB	GSM-FDD (TDMA, GMSK)	X	21.17	96.89	27.34	9.39	50.0	$\pm 9.6\%$
		Y	31.41	103.93	29.32		50.0	
		Z	35.00	105.46	29.48		50.0	
10023- DAB	GPRS-FDD (TDMA, GMSK, TN 0)	X	18.97	94.85	26.74	9.57	50.0	$\pm 9.6\%$
		Y	26.05	100.58	28.37		50.0	
		Z	28.47	101.84	28.47		50.0	
10024- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	120.85	31.99	6.56	60.0	$\pm 9.6\%$
		Y	100.00	120.62	31.75		60.0	
		Z	100.00	120.02	31.34		60.0	
10025- DAB	EDGE-FDD (TDMA, 8PSK, TN 0)	X	17.56	103.12	39.40	12.57	50.0	$\pm 9.6\%$
		Y	14.67	97.75	37.12		50.0	
		Z	18.25	105.68	40.52		50.0	
10026- DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	18.29	101.23	35.12	9.56	60.0	$\pm 9.6\%$
		Y	16.46	98.83	34.20		60.0	
		Z	20.10	104.74	36.45		60.0	
10027- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	119.73	30.48	4.80	80.0	$\pm 9.6\%$
		Y	100.00	119.52	30.28		80.0	
		Z	100.00	119.08	29.96		80.0	
10028- DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	119.97	29.73	3.55	100.0	$\pm 9.6\%$
		Y	100.00	119.74	29.53		100.0	
		Z	100.00	119.49	29.32		100.0	
10029- DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	12.76	93.34	31.27	7.80	80.0	$\pm 9.6\%$
		Y	11.53	91.16	30.39		80.0	
		Z	13.01	94.76	31.89		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	119.30	30.64	5.30	70.0	$\pm 9.6\%$
		Y	100.00	118.98	30.37		70.0	
		Z	100.00	118.44	30.00		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	121.44	28.74	1.88	100.0	$\pm 9.6\%$
		Y	100.00	120.69	28.34		100.0	
		Z	100.00	120.87	28.33		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	126.29	29.65	1.17	100.0	± 9.6 %
		Y	100.00	125.01	29.05		100.0	
		Z	100.00	126.01	29.38		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	15.01	94.18	26.31	5.30	70.0	± 9.6 %
		Y	15.70	94.82	26.30		70.0	
		Z	18.31	97.29	26.87		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	6.96	86.30	22.21	1.88	100.0	± 9.6 %
		Y	6.66	85.32	21.56		100.0	
		Z	8.37	88.58	22.43		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	4.14	80.42	19.91	1.17	100.0	± 9.6 %
		Y	3.83	79.03	19.06		100.0	
		Z	4.65	81.85	19.90		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	17.57	97.01	27.25	5.30	70.0	± 9.6 %
		Y	18.86	98.07	27.36		70.0	
		Z	22.45	100.84	27.98		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	6.70	85.80	22.01	1.88	100.0	± 9.6 %
		Y	6.31	84.57	21.28		100.0	
		Z	7.83	87.67	22.11		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	4.26	81.08	20.23	1.17	100.0	± 9.6 %
		Y	3.94	79.65	19.38		100.0	
		Z	4.79	82.53	20.23		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.02	72.60	16.60	0.00	150.0	± 9.6 %
		Y	1.82	71.28	15.70		150.0	
		Z	1.96	72.82	16.21		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	52.74	109.86	29.28	7.78	50.0	± 9.6 %
		Y	100.00	119.48	31.50		50.0	
		Z	100.00	118.79	31.03		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.01	106.98	1.62	0.00	150.0	± 9.6 %
		Y	0.01	93.06	0.03		150.0	
		Z	0.01	104.47	1.40		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	11.70	83.99	24.83	13.80	25.0	± 9.6 %
		Y	13.25	86.85	25.74		25.0	
		Z	13.41	87.23	25.62		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	13.87	88.69	25.11	10.79	40.0	± 9.6 %
		Y	16.44	92.06	26.12		40.0	
		Z	17.05	92.62	26.04		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	12.83	87.49	25.06	9.03	50.0	± 9.6 %
		Y	13.49	88.62	25.29		50.0	
		Z	14.51	90.06	25.62		50.0	
10058-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	9.53	87.74	28.51	6.55	100.0	± 9.6 %
		Y	8.70	85.87	27.73		100.0	
		Z	9.39	88.23	28.78		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.52	67.35	17.07	0.61	110.0	± 9.6 %
		Y	1.48	66.83	16.68		110.0	
		Z	1.50	67.47	17.09		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	132.17	34.30	1.30	110.0	± 9.6 %
		Y	69.75	126.35	32.85		110.0	
		Z	100.00	132.44	34.30		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	8.82	93.73	26.45	2.04	110.0	± 9.6 %
		Y	7.76	91.56	25.66		110.0	
		Z	10.12	96.51	27.28		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.91	67.02	16.82	0.49	100.0	± 9.6 %
		Y	4.86	66.98	16.74		100.0	
		Z	4.83	67.10	16.81		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.96	67.18	16.96	0.72	100.0	± 9.6 %
		Y	4.90	67.15	16.88		100.0	
		Z	4.87	67.27	16.95		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.29	67.53	17.24	0.86	100.0	± 9.6 %
		Y	5.22	67.47	17.15		100.0	
		Z	5.17	67.57	17.20		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.20	67.58	17.41	1.21	100.0	± 9.6 %
		Y	5.13	67.52	17.33		100.0	
		Z	5.09	67.62	17.38		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.26	67.72	17.65	1.46	100.0	± 9.6 %
		Y	5.19	67.65	17.56		100.0	
		Z	5.15	67.76	17.62		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.59	67.91	18.12	2.04	100.0	± 9.6 %
		Y	5.52	67.87	18.04		100.0	
		Z	5.48	68.01	18.12		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.74	68.29	18.51	2.55	100.0	± 9.6 %
		Y	5.66	68.19	18.40		100.0	
		Z	5.60	68.29	18.47		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.82	68.25	18.70	2.67	100.0	± 9.6 %
		Y	5.74	68.18	18.59		100.0	
		Z	5.69	68.31	18.68		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.36	67.54	17.95	1.99	100.0	± 9.6 %
		Y	5.31	67.51	17.87		100.0	
		Z	5.27	67.64	17.94		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.43	68.12	18.28	2.30	100.0	± 9.6 %
		Y	5.37	68.06	18.19		100.0	
		Z	5.33	68.18	18.27		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.58	68.50	18.72	2.83	100.0	± 9.6 %
		Y	5.51	68.43	18.63		100.0	
		Z	5.47	68.57	18.71		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.62	68.59	18.98	3.30	100.0	± 9.6 %
		Y	5.56	68.52	18.88		100.0	
		Z	5.52	68.67	18.97		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.79	69.12	19.51	3.82	90.0	± 9.6 %
		Y	5.71	68.97	19.36		90.0	
		Z	5.67	69.11	19.45		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.81	68.94	19.64	4.15	90.0	± 9.6 %
		Y	5.74	68.81	19.51		90.0	
		Z	5.71	68.99	19.62		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.85	69.04	19.75	4.30	90.0	± 9.6 %
		Y	5.79	68.92	19.62		90.0	
		Z	5.76	69.10	19.74		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.98	67.14	13.79	0.00	150.0	± 9.6 %
		Y	0.89	65.95	12.85		150.0	
		Z	0.92	66.89	13.19		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	2.40	65.02	9.82	4.77	80.0	± 9.6 %
		Y	2.29	64.68	9.51		80.0	
		Z	2.21	64.49	9.27		80.0	
10090-DAB	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	120.93	32.05	6.56	60.0	± 9.6 %
		Y	100.00	120.70	31.81		60.0	
		Z	100.00	120.10	31.40		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.89	67.68	15.91	0.00	150.0	± 9.6 %
		Y	1.84	67.30	15.56		150.0	
		Z	1.88	67.98	15.90		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.86	67.66	15.88	0.00	150.0	± 9.6 %
		Y	1.81	67.25	15.52		150.0	
		Z	1.84	67.95	15.88		150.0	
10099-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	18.21	101.08	35.07	9.56	60.0	± 9.6 %
		Y	16.42	98.73	34.16		60.0	
		Z	20.01	104.58	36.39		60.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.29	70.69	16.89	0.00	150.0	± 9.6 %
		Y	3.17	70.13	16.59		150.0	
		Z	3.21	70.63	16.88		150.0	
10101-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.39	67.84	16.15	0.00	150.0	± 9.6 %
		Y	3.32	67.56	15.95		150.0	
		Z	3.31	67.79	16.11		150.0	
10102-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.49	67.75	16.22	0.00	150.0	± 9.6 %
		Y	3.42	67.52	16.05		150.0	
		Z	3.41	67.72	16.18		150.0	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	8.57	77.88	21.29	3.98	65.0	± 9.6 %
		Y	8.37	77.72	21.21		65.0	
		Z	8.66	78.64	21.59		65.0	
10104-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.60	76.75	21.67	3.98	65.0	± 9.6 %
		Y	8.45	76.61	21.56		65.0	
		Z	8.51	77.09	21.79		65.0	
10105-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	7.66	74.39	20.91	3.98	65.0	± 9.6 %
		Y	7.76	74.87	21.08		65.0	
		Z	8.12	76.10	21.64		65.0	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.91	69.93	16.73	0.00	150.0	± 9.6 %
		Y	2.79	69.40	16.43		150.0	
		Z	2.82	69.90	16.73		150.0	
10109-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	3.05	67.65	16.07	0.00	150.0	± 9.6 %
		Y	2.98	67.37	15.86		150.0	
		Z	2.97	67.64	16.02		150.0	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.39	69.06	16.42	0.00	150.0	± 9.6 %
		Y	2.28	68.50	16.06		150.0	
		Z	2.30	69.09	16.40		150.0	
10111-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.74	68.19	16.31	0.00	150.0	± 9.6 %
		Y	2.67	67.98	16.09		150.0	
		Z	2.67	68.35	16.26		150.0	

10112-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.17	67.58	16.10	0.00	150.0	± 9.6 %
		Y	3.10	67.35	15.91		150.0	
		Z	3.09	67.60	16.06		150.0	
10113-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.89	68.27	16.41	0.00	150.0	± 9.6 %
		Y	2.82	68.11	16.22		150.0	
		Z	2.82	68.46	16.37		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.27	67.35	16.58	0.00	150.0	± 9.6 %
		Y	5.24	67.34	16.54		150.0	
		Z	5.22	67.46	16.61		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.65	67.73	16.78	0.00	150.0	± 9.6 %
		Y	5.58	67.62	16.69		150.0	
		Z	5.52	67.64	16.71		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.41	67.65	16.65	0.00	150.0	± 9.6 %
		Y	5.36	67.61	16.60		150.0	
		Z	5.32	67.69	16.65		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.27	67.34	16.59	0.00	150.0	± 9.6 %
		Y	5.21	67.24	16.50		150.0	
		Z	5.18	67.31	16.55		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.74	67.93	16.89	0.00	150.0	± 9.6 %
		Y	5.69	67.90	16.84		150.0	
		Z	5.63	67.91	16.86		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.38	67.60	16.65	0.00	150.0	± 9.6 %
		Y	5.33	67.54	16.58		150.0	
		Z	5.30	67.63	16.64		150.0	
10140-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.53	67.76	16.14	0.00	150.0	± 9.6 %
		Y	3.46	67.52	15.97		150.0	
		Z	3.45	67.73	16.10		150.0	
10141-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.65	67.80	16.28	0.00	150.0	± 9.6 %
		Y	3.58	67.60	16.13		150.0	
		Z	3.57	67.80	16.26		150.0	
10142-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.16	69.01	16.19	0.00	150.0	± 9.6 %
		Y	2.05	68.42	15.76		150.0	
		Z	2.08	69.10	16.09		150.0	
10143-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.60	68.85	16.14	0.00	150.0	± 9.6 %
		Y	2.52	68.61	15.83		150.0	
		Z	2.53	69.08	15.98		150.0	
10144-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.44	67.03	14.81	0.00	150.0	± 9.6 %
		Y	2.34	66.65	14.40		150.0	
		Z	2.32	67.00	14.49		150.0	
10145-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.49	66.91	13.54	0.00	150.0	± 9.6 %
		Y	1.35	65.78	12.56		150.0	
		Z	1.32	65.90	12.39		150.0	
10146-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.04	72.14	15.77	0.00	150.0	± 9.6 %
		Y	2.51	69.11	13.64		150.0	
		Z	2.25	68.26	13.01		150.0	
10147-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.86	75.64	17.39	0.00	150.0	± 9.6 %
		Y	3.09	71.90	15.02		150.0	
		Z	2.75	70.85	14.33		150.0	

10149-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.06	67.70	16.11	0.00	150.0	± 9.6 %
		Y	2.98	67.43	15.90		150.0	
		Z	2.97	67.69	16.06		150.0	
10150-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.18	67.63	16.14	0.00	150.0	± 9.6 %
		Y	3.11	67.40	15.95		150.0	
		Z	3.09	67.65	16.10		150.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.07	80.10	22.26	3.98	65.0	± 9.6 %
		Y	9.07	80.39	22.34		65.0	
		Z	9.34	81.28	22.69		65.0	
10152-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	8.23	76.96	21.53	3.98	65.0	± 9.6 %
		Y	8.06	76.77	21.37		65.0	
		Z	8.14	77.34	21.61		65.0	
10153-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.57	77.63	22.13	3.98	65.0	± 9.6 %
		Y	8.45	77.59	22.04		65.0	
		Z	8.54	78.14	22.27		65.0	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.44	69.46	16.67	0.00	150.0	± 9.6 %
		Y	2.33	68.89	16.32		150.0	
		Z	2.35	69.46	16.63		150.0	
10155-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.74	68.19	16.32	0.00	150.0	± 9.6 %
		Y	2.67	67.99	16.10		150.0	
		Z	2.67	68.37	16.27		150.0	
10156-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.02	69.21	16.12	0.00	150.0	± 9.6 %
		Y	1.90	68.51	15.60		150.0	
		Z	1.93	69.24	15.92		150.0	
10157-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.28	67.66	14.94	0.00	150.0	± 9.6 %
		Y	2.17	67.19	14.46		150.0	
		Z	2.16	67.60	14.55		150.0	
10158-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.89	68.31	16.45	0.00	150.0	± 9.6 %
		Y	2.83	68.16	16.26		150.0	
		Z	2.82	68.52	16.41		150.0	
10159-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.38	68.04	15.20	0.00	150.0	± 9.6 %
		Y	2.27	67.61	14.73		150.0	
		Z	2.27	68.00	14.80		150.0	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.92	69.02	16.56	0.00	150.0	± 9.6 %
		Y	2.83	68.66	16.32		150.0	
		Z	2.84	69.11	16.57		150.0	
10161-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.07	67.53	16.08	0.00	150.0	± 9.6 %
		Y	3.00	67.32	15.88		150.0	
		Z	2.99	67.59	16.03		150.0	
10162-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.18	67.61	16.15	0.00	150.0	± 9.6 %
		Y	3.11	67.44	15.98		150.0	
		Z	3.10	67.72	16.13		150.0	
10166-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.81	69.85	19.56	3.01	150.0	± 9.6 %
		Y	3.78	69.99	19.42		150.0	
		Z	3.66	69.89	19.45		150.0	
10167-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.68	72.67	20.04	3.01	150.0	± 9.6 %
		Y	4.76	73.21	20.01		150.0	
		Z	4.49	72.88	19.97		150.0	

10168-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.08	74.47	21.14	3.01	150.0	± 9.6 %
		Y	5.27	75.45	21.32		150.0	
		Z	4.93	74.94	21.19		150.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.25	70.08	19.73	3.01	150.0	± 9.6 %
		Y	3.26	70.19	19.53		150.0	
		Z	3.03	69.42	19.31		150.0	
10170-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.40	75.71	21.91	3.01	150.0	± 9.6 %
		Y	4.68	76.90	22.11		150.0	
		Z	4.09	75.21	21.59		150.0	
10171-AAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.73	72.12	19.46	3.01	150.0	± 9.6 %
		Y	3.80	72.44	19.27		150.0	
		Z	3.44	71.51	19.05		150.0	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	22.19	104.91	32.74	6.02	65.0	± 9.6 %
		Y	18.18	101.07	31.34		65.0	
		Z	23.33	107.18	33.39		65.0	
10173-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	26.74	104.16	30.89	6.02	65.0	± 9.6 %
		Y	32.12	107.29	31.48		65.0	
		Z	33.23	109.04	32.12		65.0	
10174-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	21.53	98.95	28.85	6.02	65.0	± 9.6 %
		Y	25.96	102.12	29.48		65.0	
		Z	25.02	102.54	29.73		65.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.22	69.80	19.51	3.01	150.0	± 9.6 %
		Y	3.21	69.86	19.28		150.0	
		Z	3.00	69.15	19.09		150.0	
10176-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.40	75.73	21.92	3.01	150.0	± 9.6 %
		Y	4.69	76.92	22.12		150.0	
		Z	4.10	75.24	21.60		150.0	
10177-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.24	69.95	19.60	3.01	150.0	± 9.6 %
		Y	3.24	70.02	19.38		150.0	
		Z	3.03	69.29	19.17		150.0	
10178-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	4.36	75.49	21.79	3.01	150.0	± 9.6 %
		Y	4.63	76.65	21.98		150.0	
		Z	4.06	75.04	21.49		150.0	
10179-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	4.04	73.85	20.58	3.01	150.0	± 9.6 %
		Y	4.20	74.52	20.55		150.0	
		Z	3.75	73.30	20.21		150.0	
10180-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.72	72.05	19.41	3.01	150.0	± 9.6 %
		Y	3.79	72.35	19.21		150.0	
		Z	3.43	71.45	19.01		150.0	
10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	3.24	69.93	19.59	3.01	150.0	± 9.6 %
		Y	3.24	70.01	19.37		150.0	
		Z	3.02	69.27	19.16		150.0	
10182-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.35	75.47	21.78	3.01	150.0	± 9.6 %
		Y	4.62	76.63	21.97		150.0	
		Z	4.06	75.02	21.48		150.0	
10183-AAA	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.71	72.02	19.40	3.01	150.0	± 9.6 %
		Y	3.78	72.33	19.20		150.0	
		Z	3.43	71.43	18.99		150.0	

10184-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.25	69.97	19.61	3.01	150.0	± 9.6 %
		Y	3.25	70.05	19.39		150.0	
		Z	3.03	69.31	19.18		150.0	
10185-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.37	75.54	21.81	3.01	150.0	± 9.6 %
		Y	4.65	76.71	22.01		150.0	
		Z	4.08	75.08	21.52		150.0	
10186-AAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.73	72.09	19.43	3.01	150.0	± 9.6 %
		Y	3.80	72.40	19.24		150.0	
		Z	3.45	71.50	19.03		150.0	
10187-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.25	70.01	19.66	3.01	150.0	± 9.6 %
		Y	3.26	70.10	19.45		150.0	
		Z	3.04	69.36	19.24		150.0	
10188-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.50	76.15	22.16	3.01	150.0	± 9.6 %
		Y	4.81	77.45	22.42		150.0	
		Z	4.19	75.67	21.86		150.0	
10189-AAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.80	72.49	19.69	3.01	150.0	± 9.6 %
		Y	3.89	72.86	19.52		150.0	
		Z	3.52	71.89	19.29		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.68	66.74	16.32	0.00	150.0	± 9.6 %
		Y	4.63	66.69	16.23		150.0	
		Z	4.59	66.82	16.29		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.87	67.10	16.44	0.00	150.0	± 9.6 %
		Y	4.81	67.03	16.35		150.0	
		Z	4.77	67.14	16.42		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.91	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.85	67.06	16.37		150.0	
		Z	4.81	67.17	16.44		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.69	66.83	16.36	0.00	150.0	± 9.6 %
		Y	4.63	66.77	16.26		150.0	
		Z	4.60	66.89	16.31		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.89	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.82	67.05	16.37		150.0	
		Z	4.78	67.16	16.43		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.92	67.13	16.46	0.00	150.0	± 9.6 %
		Y	4.85	67.08	16.38		150.0	
		Z	4.81	67.19	16.45		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.64	66.84	16.32	0.00	150.0	± 9.6 %
		Y	4.58	66.78	16.22		150.0	
		Z	4.55	66.90	16.27		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.89	67.11	16.45	0.00	150.0	± 9.6 %
		Y	4.82	67.03	16.36		150.0	
		Z	4.78	67.14	16.42		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.92	67.07	16.45	0.00	150.0	± 9.6 %
		Y	4.86	67.01	16.37		150.0	
		Z	4.82	67.12	16.43		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.25	67.35	16.59	0.00	150.0	± 9.6 %
		Y	5.19	67.24	16.50		150.0	
		Z	5.15	67.31	16.55		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.61	67.69	16.79	0.00	150.0	± 9.6 %
		Y	5.51	67.48	16.64		150.0	
		Z	5.47	67.56	16.70		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.29	67.44	16.56	0.00	150.0	± 9.6 %
		Y	5.23	67.35	16.47		150.0	
		Z	5.20	67.43	16.53		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.93	66.24	15.61	0.00	150.0	± 9.6 %
		Y	2.88	66.11	15.40		150.0	
		Z	2.86	66.35	15.49		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	28.11	105.20	31.28	6.02	65.0	± 9.6 %
		Y	34.48	108.73	31.97		65.0	
		Z	35.55	110.42	32.58		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	23.67	100.73	29.46	6.02	65.0	± 9.6 %
		Y	28.79	104.06	30.12		65.0	
		Z	29.74	105.65	30.68		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	25.49	108.07	33.77	6.02	65.0	± 9.6 %
		Y	25.69	108.19	33.55		65.0	
		Z	28.56	111.54	34.73		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	26.78	104.17	30.90	6.02	65.0	± 9.6 %
		Y	32.21	107.33	31.50		65.0	
		Z	33.28	109.05	32.13		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	22.70	99.90	29.14	6.02	65.0	± 9.6 %
		Y	27.15	102.91	29.72		65.0	
		Z	28.07	104.53	30.30		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	24.36	107.06	33.41	6.02	65.0	± 9.6 %
		Y	24.27	106.95	33.12		65.0	
		Z	26.96	110.27	34.30		65.0	
10232-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	26.76	104.17	30.90	6.02	65.0	± 9.6 %
		Y	32.18	107.32	31.49		65.0	
		Z	33.27	109.06	32.13		65.0	
10233-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	22.70	99.91	29.15	6.02	65.0	± 9.6 %
		Y	27.14	102.92	29.72		65.0	
		Z	28.07	104.54	30.30		65.0	
10234-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	23.29	105.99	32.99	6.02	65.0	± 9.6 %
		Y	23.00	105.71	32.65		65.0	
		Z	25.54	108.99	33.83		65.0	
10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	26.83	104.23	30.92	6.02	65.0	± 9.6 %
		Y	32.29	107.40	31.52		65.0	
		Z	33.41	109.14	32.15		65.0	
10236-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	22.90	100.05	29.18	6.02	65.0	± 9.6 %
		Y	27.39	103.06	29.76		65.0	
		Z	28.37	104.70	30.34		65.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	24.55	107.24	33.46	6.02	65.0	± 9.6 %
		Y	24.44	107.11	33.17		65.0	
		Z	27.21	110.48	34.36		65.0	
10238-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	26.76	104.18	30.90	6.02	65.0	± 9.6 %
		Y	32.18	107.33	31.50		65.0	
		Z	33.28	109.07	32.13		65.0	

10239-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	22.70	99.93	29.15	6.02	65.0	± 9.6 %
		Y	27.12	102.93	29.73		65.0	
		Z	28.06	104.54	30.31		65.0	
10240-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	24.47	107.18	33.44	6.02	65.0	± 9.6 %
		Y	24.36	107.06	33.15		65.0	
		Z	27.11	110.42	34.34		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	11.77	85.84	27.41	6.98	65.0	± 9.6 %
		Y	12.07	86.61	27.47		65.0	
		Z	12.08	87.42	27.86		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	10.89	84.05	26.62	6.98	65.0	± 9.6 %
		Y	11.66	85.82	27.08		65.0	
		Z	11.06	85.44	27.01		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	9.09	81.73	26.56	6.98	65.0	± 9.6 %
		Y	9.43	82.84	26.80		65.0	
		Z	9.04	82.62	26.81		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	9.26	80.29	21.29	3.98	65.0	± 9.6 %
		Y	9.13	79.89	20.69		65.0	
		Z	8.77	79.44	20.31		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	9.14	79.83	21.06	3.98	65.0	± 9.6 %
		Y	8.96	79.34	20.43		65.0	
		Z	8.57	78.82	20.02		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.98	82.32	21.90	3.98	65.0	± 9.6 %
		Y	8.86	82.21	21.62		65.0	
		Z	9.12	82.83	21.67		65.0	
10247-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	7.66	77.47	20.57	3.98	65.0	± 9.6 %
		Y	7.50	77.27	20.26		65.0	
		Z	7.51	77.52	20.21		65.0	
10248-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	7.66	77.05	20.39	3.98	65.0	± 9.6 %
		Y	7.46	76.74	20.03		65.0	
		Z	7.45	76.97	19.98		65.0	
10249-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.79	83.92	23.10	3.98	65.0	± 9.6 %
		Y	9.86	84.24	23.05		65.0	
		Z	10.43	85.45	23.38		65.0	
10250-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	8.46	79.16	22.44	3.98	65.0	± 9.6 %
		Y	8.39	79.24	22.37		65.0	
		Z	8.51	79.84	22.56		65.0	
10251-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	8.10	77.30	21.43	3.98	65.0	± 9.6 %
		Y	7.94	77.16	21.24		65.0	
		Z	8.04	77.74	21.43		65.0	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	9.65	82.98	23.38	3.98	65.0	± 9.6 %
		Y	9.72	83.40	23.47		65.0	
		Z	10.23	84.68	23.92		65.0	
10253-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	8.03	76.40	21.33	3.98	65.0	± 9.6 %
		Y	7.88	76.23	21.16		65.0	
		Z	7.96	76.80	21.39		65.0	
10254-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	8.38	77.08	21.89	3.98	65.0	± 9.6 %
		Y	8.26	77.03	21.78		65.0	
		Z	8.34	77.57	21.99		65.0	

10255-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	8.79	79.75	22.35	3.98	65.0	± 9.6 %
		Y	8.77	79.99	22.39		65.0	
		Z	9.03	80.91	22.75		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	8.34	78.29	19.75	3.98	65.0	± 9.6 %
		Y	7.87	77.13	18.78		65.0	
		Z	7.38	76.27	18.18		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	8.16	77.60	19.40	3.98	65.0	± 9.6 %
		Y	7.65	76.36	18.38		65.0	
		Z	7.14	75.45	17.75		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	7.81	79.68	20.34	3.98	65.0	± 9.6 %
		Y	7.44	78.93	19.74		65.0	
		Z	7.33	78.78	19.45		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	7.98	78.07	21.22	3.98	65.0	± 9.6 %
		Y	7.85	77.97	21.00		65.0	
		Z	7.91	78.38	21.05		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	8.00	77.82	21.14	3.98	65.0	± 9.6 %
		Y	7.85	77.69	20.90		65.0	
		Z	7.89	78.05	20.93		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	9.39	82.95	23.03	3.98	65.0	± 9.6 %
		Y	9.40	83.20	22.99		65.0	
		Z	9.89	84.39	23.35		65.0	
10262-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	8.45	79.12	22.41	3.98	65.0	± 9.6 %
		Y	8.37	79.19	22.33		65.0	
		Z	8.49	79.79	22.52		65.0	
10263-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	8.09	77.29	21.43	3.98	65.0	± 9.6 %
		Y	7.93	77.15	21.23		65.0	
		Z	8.03	77.72	21.42		65.0	
10264-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	9.59	82.85	23.31	3.98	65.0	± 9.6 %
		Y	9.65	83.25	23.39		65.0	
		Z	10.15	84.52	23.84		65.0	
10265-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	8.23	76.96	21.54	3.98	65.0	± 9.6 %
		Y	8.05	76.77	21.37		65.0	
		Z	8.14	77.34	21.62		65.0	
10266-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	8.57	77.63	22.13	3.98	65.0	± 9.6 %
		Y	8.45	77.58	22.04		65.0	
		Z	8.54	78.13	22.27		65.0	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.05	80.07	22.24	3.98	65.0	± 9.6 %
		Y	9.05	80.35	22.33		65.0	
		Z	9.32	81.24	22.68		65.0	
10268-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	8.69	76.48	21.68	3.98	65.0	± 9.6 %
		Y	8.55	76.37	21.58		65.0	
		Z	8.60	76.83	21.80		65.0	
10269-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	8.62	76.09	21.59	3.98	65.0	± 9.6 %
		Y	8.49	75.98	21.48		65.0	
		Z	8.53	76.42	21.69		65.0	
10270-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	8.67	77.60	21.41	3.98	65.0	± 9.6 %
		Y	8.63	77.77	21.46		65.0	
		Z	8.74	78.33	21.70		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.68	66.49	15.46	0.00	150.0	± 9.6 %
		Y	2.64	66.36	15.25		150.0	
		Z	2.64	66.72	15.41		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.72	68.30	15.90	0.00	150.0	± 9.6 %
		Y	1.64	67.59	15.43		150.0	
		Z	1.68	68.42	15.88		150.0	
10277-CAA	PHS (QPSK)	X	6.02	70.66	14.97	9.03	50.0	± 9.6 %
		Y	5.73	70.04	14.38		50.0	
		Z	5.47	69.48	13.86		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	9.23	79.88	21.13	9.03	50.0	± 9.6 %
		Y	8.97	79.40	20.65		50.0	
		Z	8.63	78.73	20.10		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	9.39	80.07	21.21	9.03	50.0	± 9.6 %
		Y	9.09	79.55	20.72		50.0	
		Z	8.75	78.88	20.18		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.67	69.78	15.10	0.00	150.0	± 9.6 %
		Y	1.51	68.57	14.20		150.0	
		Z	1.56	69.54	14.49		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.96	66.88	13.65	0.00	150.0	± 9.6 %
		Y	0.87	65.74	12.73		150.0	
		Z	0.90	66.64	13.05		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.19	70.85	15.94	0.00	150.0	± 9.6 %
		Y	1.05	69.19	14.82		150.0	
		Z	1.18	71.28	15.64		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	1.65	75.83	18.54	0.00	150.0	± 9.6 %
		Y	1.46	74.00	17.41		150.0	
		Z	1.83	77.80	18.80		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	11.15	84.56	24.72	9.03	50.0	± 9.6 %
		Y	11.48	85.16	24.70		50.0	
		Z	12.19	86.43	24.99		50.0	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.92	70.02	16.79	0.00	150.0	± 9.6 %
		Y	2.80	69.49	16.50		150.0	
		Z	2.83	70.00	16.80		150.0	
10298-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.78	68.61	15.11	0.00	150.0	± 9.6 %
		Y	1.64	67.69	14.36		150.0	
		Z	1.65	68.26	14.51		150.0	
10299-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	3.45	73.44	17.11	0.00	150.0	± 9.6 %
		Y	3.15	71.73	15.70		150.0	
		Z	2.95	71.40	15.41		150.0	
10300-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.57	68.19	14.01	0.00	150.0	± 9.6 %
		Y	2.33	66.78	12.69		150.0	
		Z	2.15	66.31	12.30		150.0	
10301-AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	5.86	68.43	18.97	4.17	80.0	± 9.6 %
		Y	5.73	68.29	18.79		80.0	
		Z	5.73	68.54	18.89		80.0	
10302-AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	6.41	69.39	19.93	4.96	80.0	± 9.6 %
		Y	6.18	68.69	19.41		80.0	
		Z	6.26	69.42	19.81		80.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	6.28	69.56	20.03	4.96	80.0	± 9.6 %
		Y	6.03	68.73	19.43		80.0	
		Z	6.12	69.51	19.85		80.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	5.87	68.66	19.11	4.17	80.0	± 9.6 %
		Y	5.66	68.03	18.63		80.0	
		Z	5.73	68.70	18.98		80.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	10.87	86.28	28.15	6.02	50.0	± 9.6 %
		Y	9.20	82.14	26.05		50.0	
		Z	10.60	85.84	27.56		50.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	6.93	73.07	22.34	6.02	50.0	± 9.6 %
		Y	7.13	74.84	23.24		50.0	
		Z	6.73	72.91	22.01		50.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	7.09	73.92	22.53	6.02	50.0	± 9.6 %
		Y	7.45	76.22	23.67		50.0	
		Z	7.88	78.04	24.53		50.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	7.18	74.44	22.78	6.02	50.0	± 9.6 %
		Y	7.63	77.00	24.03		50.0	
		Z	8.15	79.07	24.99		50.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	7.07	73.44	22.54	6.02	50.0	± 9.6 %
		Y	7.26	75.20	23.43		50.0	
		Z	6.83	73.23	22.20		50.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	6.97	73.37	22.38	6.02	50.0	± 9.6 %
		Y	7.25	75.39	23.40		50.0	
		Z	6.76	73.19	22.05		50.0	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.27	69.28	16.42	0.00	150.0	± 9.6 %
		Y	3.15	68.78	16.15		150.0	
		Z	3.18	69.23	16.41		150.0	
10313-AAA	iDEN 1:3	X	7.81	79.31	19.48	6.99	70.0	± 9.6 %
		Y	7.89	79.65	19.53		70.0	
		Z	8.30	80.53	19.77		70.0	
10314-AAA	iDEN 1:6	X	9.30	83.83	23.52	10.00	30.0	± 9.6 %
		Y	10.04	85.52	24.09		30.0	
		Z	10.56	86.64	24.39		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.19	64.66	15.72	0.17	150.0	± 9.6 %
		Y	1.18	64.30	15.38		150.0	
		Z	1.18	64.77	15.73		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.79	66.96	16.55	0.17	150.0	± 9.6 %
		Y	4.74	66.91	16.46		150.0	
		Z	4.70	67.03	16.53		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.79	66.96	16.55	0.17	150.0	± 9.6 %
		Y	4.74	66.91	16.46		150.0	
		Z	4.70	67.03	16.53		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.88	67.18	16.45	0.00	150.0	± 9.6 %
		Y	4.81	67.10	16.35		150.0	
		Z	4.77	67.22	16.43		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.55	67.37	16.61	0.00	150.0	± 9.6 %
		Y	5.52	67.37	16.57		150.0	
		Z	5.50	67.52	16.66		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.84	67.79	16.66	0.00	150.0	± 9.6 %
		Y	5.77	67.68	16.57		150.0	
		Z	5.73	67.71	16.60		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.67	69.78	15.10	0.00	115.0	± 9.6 %
		Y	1.51	68.57	14.20		115.0	
		Z	1.56	69.54	14.49		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.67	69.78	15.10	0.00	115.0	± 9.6 %
		Y	1.51	68.57	14.20		115.0	
		Z	1.56	69.54	14.49		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	33.75	112.39	30.22	0.00	100.0	± 9.6 %
		Y	100.00	123.27	31.37		100.0	
		Z	100.00	125.51	32.14		100.0	
10410-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.74	63.66	8.04	2.23	80.0	± 9.6 %
		Y	1.38	61.77	6.59		80.0	
		Z	1.19	61.18	6.06		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.04	63.16	14.84	0.00	150.0	± 9.6 %
		Y	1.03	62.86	14.52		150.0	
		Z	1.04	63.27	14.85		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.68	66.78	16.37	0.00	150.0	± 9.6 %
		Y	4.63	66.73	16.29		150.0	
		Z	4.60	66.86	16.36		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.68	66.78	16.37	0.00	150.0	± 9.6 %
		Y	4.63	66.73	16.29		150.0	
		Z	4.60	66.86	16.36		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	X	4.67	66.92	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.87	16.30		150.0	
		Z	4.59	67.02	16.38		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	X	4.69	66.88	16.39	0.00	150.0	± 9.6 %
		Y	4.64	66.83	16.30		150.0	
		Z	4.61	66.97	16.38		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.82	66.89	16.41	0.00	150.0	± 9.6 %
		Y	4.76	66.85	16.33		150.0	
		Z	4.73	66.97	16.40		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	5.01	67.26	16.54	0.00	150.0	± 9.6 %
		Y	4.94	67.19	16.45		150.0	
		Z	4.90	67.30	16.52		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.92	67.19	16.51	0.00	150.0	± 9.6 %
		Y	4.86	67.13	16.42		150.0	
		Z	4.82	67.25	16.49		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.54	67.62	16.72	0.00	150.0	± 9.6 %
		Y	5.49	67.58	16.67		150.0	
		Z	5.45	67.65	16.72		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.55	67.65	16.73	0.00	150.0	± 9.6 %
		Y	5.49	67.60	16.67		150.0	
		Z	5.46	67.70	16.74		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.55	67.61	16.71	0.00	150.0	± 9.6 %
		Y	5.50	67.55	16.64		150.0	
		Z	5.46	67.63	16.70		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.31	70.12	18.04	0.00	150.0	± 9.6 %
		Y	4.29	70.45	18.10		150.0	
		Z	4.23	70.56	18.06		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.40	67.33	16.41	0.00	150.0	± 9.6 %
		Y	4.32	67.26	16.29		150.0	
		Z	4.28	67.42	16.36		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.69	67.23	16.46	0.00	150.0	± 9.6 %
		Y	4.62	67.16	16.36		150.0	
		Z	4.58	67.29	16.43		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.94	67.23	16.53	0.00	150.0	± 9.6 %
		Y	4.87	67.16	16.44		150.0	
		Z	4.83	67.28	16.51		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.38	70.81	18.01	0.00	150.0	± 9.6 %
		Y	4.37	71.21	18.05		150.0	
		Z	4.31	71.34	18.00		150.0	
10435-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.74	63.61	8.01	2.23	80.0	± 9.6 %
		Y	1.38	61.75	6.57		80.0	
		Z	1.19	61.16	6.05		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.70	67.35	15.86	0.00	150.0	± 9.6 %
		Y	3.61	67.22	15.64		150.0	
		Z	3.57	67.43	15.68		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.22	67.10	16.27	0.00	150.0	± 9.6 %
		Y	4.15	67.03	16.14		150.0	
		Z	4.12	67.20	16.22		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.49	67.04	16.35	0.00	150.0	± 9.6 %
		Y	4.42	66.97	16.25		150.0	
		Z	4.39	67.11	16.33		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.67	66.98	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.91	16.28		150.0	
		Z	4.59	67.03	16.35		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.62	67.60	15.58	0.00	150.0	± 9.6 %
		Y	3.51	67.42	15.29		150.0	
		Z	3.46	67.61	15.30		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.40	68.21	16.89	0.00	150.0	± 9.6 %
		Y	6.35	68.13	16.82		150.0	
		Z	6.32	68.18	16.86		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.88	65.40	16.09	0.00	150.0	± 9.6 %
		Y	3.86	65.36	15.99		150.0	
		Z	3.84	65.49	16.07		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.45	66.95	15.09	0.00	150.0	± 9.6 %
		Y	3.34	66.77	14.75		150.0	
		Z	3.29	66.99	14.74		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.59	65.33	15.97	0.00	150.0	± 9.6 %
		Y	4.51	65.40	15.82		150.0	
		Z	4.40	65.36	15.73		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.97	68.70	16.53	0.00	150.0	± 9.6 %
		Y	0.90	67.40	15.70		150.0	
		Z	0.96	68.91	16.58		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	126.27	33.67	3.29	80.0	± 9.6 %
		Y	100.00	124.73	32.73		80.0	
		Z	100.00	126.11	33.20		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	112.85	27.19	3.23	80.0	± 9.6 %
		Y	100.00	110.14	25.73		80.0	
		Z	100.00	110.66	25.78		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	110.01	25.82	3.23	80.0	± 9.6 %
		Y	45.24	98.68	22.35		80.0	
		Z	41.40	98.10	22.11		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.60	32.74	3.23	80.0	± 9.6 %
		Y	100.00	122.85	31.70		80.0	
		Z	100.00	124.18	32.14		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	112.39	26.96	3.23	80.0	± 9.6 %
		Y	100.00	109.65	25.48		80.0	
		Z	100.00	110.15	25.54		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.56	25.60	3.23	80.0	± 9.6 %
		Y	20.93	90.10	20.10		80.0	
		Z	19.90	90.01	19.99		80.0	
10467-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.80	32.83	3.23	80.0	± 9.6 %
		Y	100.00	123.06	31.80		80.0	
		Z	100.00	124.41	32.25		80.0	
10468-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.54	27.03	3.23	80.0	± 9.6 %
		Y	100.00	109.81	25.56		80.0	
		Z	100.00	110.32	25.61		80.0	
10469-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.58	25.60	3.23	80.0	± 9.6 %
		Y	21.63	90.47	20.19		80.0	
		Z	20.63	90.40	20.09		80.0	
10470-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.83	32.83	3.23	80.0	± 9.6 %
		Y	100.00	123.09	31.81		80.0	
		Z	100.00	124.44	32.25		80.0	
10471-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.50	27.01	3.23	80.0	± 9.6 %
		Y	100.00	109.76	25.53		80.0	
		Z	100.00	110.28	25.59		80.0	
10472-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.54	25.58	3.23	80.0	± 9.6 %
		Y	21.62	90.44	20.17		80.0	
		Z	20.65	90.38	20.07		80.0	
10473-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.81	32.82	3.23	80.0	± 9.6 %
		Y	100.00	123.06	31.79		80.0	
		Z	100.00	124.41	32.24		80.0	
10474-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.51	27.01	3.23	80.0	± 9.6 %
		Y	100.00	109.77	25.53		80.0	
		Z	100.00	110.28	25.59		80.0	
10475-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.55	25.58	3.23	80.0	± 9.6 %
		Y	21.21	90.24	20.12		80.0	
		Z	20.25	90.19	20.02		80.0	

10477-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.36	26.94	3.23	80.0	± 9.6 %
		Y	100.00	109.61	25.45		80.0	
		Z	100.00	110.11	25.51		80.0	
10478-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.50	25.56	3.23	80.0	± 9.6 %
		Y	20.76	89.98	20.04		80.0	
		Z	19.84	89.93	19.94		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	58.51	99.71	21.84	1.99	80.0	± 9.6 %
		Y	2.83	68.12	11.73		80.0	
		Z	2.02	65.19	10.20		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.94	62.29	8.97	1.99	80.0	± 9.6 %
		Y	1.48	60.00	7.15		80.0	
		Z	1.40	60.00	6.83		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.69	60.76	7.96	1.99	80.0	± 9.6 %
		Y	1.51	60.00	6.93		80.0	
		Z	1.42	60.00	6.60		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.22	79.53	19.48	1.99	80.0	± 9.6 %
		Y	5.67	78.20	18.70		80.0	
		Z	6.21	79.55	18.96		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.79	83.22	20.89	1.99	80.0	± 9.6 %
		Y	8.22	80.16	19.24		80.0	
		Z	7.74	79.40	18.72		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.79	81.50	20.33	1.99	80.0	± 9.6 %
		Y	7.36	78.50	18.69		80.0	
		Z	6.86	77.66	18.14		80.0	
10485-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.82	81.36	20.95	1.99	80.0	± 9.6 %
		Y	6.50	80.76	20.54		80.0	
		Z	7.40	82.92	21.18		80.0	
10486-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.82	73.42	17.80	1.99	80.0	± 9.6 %
		Y	4.63	72.97	17.36		80.0	
		Z	4.74	73.53	17.43		80.0	
10487-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.75	72.86	17.59	1.99	80.0	± 9.6 %
		Y	4.55	72.39	17.14		80.0	
		Z	4.62	72.85	17.16		80.0	
10488-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.33	79.06	20.79	1.99	80.0	± 9.6 %
		Y	6.06	78.64	20.56		80.0	
		Z	6.53	80.22	21.14		80.0	
10489-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.90	72.77	18.64	1.99	80.0	± 9.6 %
		Y	4.78	72.60	18.46		80.0	
		Z	4.87	73.25	18.68		80.0	
10490-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.94	72.37	18.52	1.99	80.0	± 9.6 %
		Y	4.82	72.23	18.34		80.0	
		Z	4.89	72.83	18.55		80.0	
10491-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.76	75.71	19.73	1.99	80.0	± 9.6 %
		Y	5.56	75.41	19.57		80.0	
		Z	5.77	76.39	19.98		80.0	
10492-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.05	71.42	18.41	1.99	80.0	± 9.6 %
		Y	4.93	71.27	18.27		80.0	
		Z	4.97	71.74	18.46		80.0	

10493-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.09	71.18	18.33	1.99	80.0	± 9.6 %
		Y	4.98	71.04	18.20		80.0	
		Z	5.01	71.48	18.38		80.0	
10494-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.53	77.72	20.27	1.99	80.0	± 9.6 %
		Y	6.28	77.34	20.10		80.0	
		Z	6.58	78.46	20.55		80.0	
10495-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.16	72.02	18.64	1.99	80.0	± 9.6 %
		Y	5.03	71.83	18.50		80.0	
		Z	5.08	72.30	18.71		80.0	
10496-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.18	71.54	18.50	1.99	80.0	± 9.6 %
		Y	5.05	71.37	18.37		80.0	
		Z	5.08	71.80	18.56		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.22	73.94	16.64	1.99	80.0	± 9.6 %
		Y	3.52	71.56	15.30		80.0	
		Z	3.45	71.36	14.94		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.80	66.23	12.64	1.99	80.0	± 9.6 %
		Y	2.34	64.22	11.27		80.0	
		Z	2.12	63.36	10.55		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.72	65.59	12.23	1.99	80.0	± 9.6 %
		Y	2.26	63.61	10.85		80.0	
		Z	2.04	62.73	10.11		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.32	79.75	20.69	1.99	80.0	± 9.6 %
		Y	6.07	79.31	20.38		80.0	
		Z	6.73	81.21	20.99		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.85	73.09	18.10	1.99	80.0	± 9.6 %
		Y	4.71	72.83	17.79		80.0	
		Z	4.82	73.48	17.94		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.86	72.75	17.93	1.99	80.0	± 9.6 %
		Y	4.72	72.50	17.62		80.0	
		Z	4.81	73.08	17.74		80.0	
10503-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.23	78.82	20.68	1.99	80.0	± 9.6 %
		Y	5.95	78.37	20.44		80.0	
		Z	6.42	79.94	21.02		80.0	
10504-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.87	72.67	18.59	1.99	80.0	± 9.6 %
		Y	4.75	72.49	18.40		80.0	
		Z	4.84	73.13	18.62		80.0	
10505-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.91	72.27	18.46	1.99	80.0	± 9.6 %
		Y	4.79	72.12	18.28		80.0	
		Z	4.86	72.72	18.49		80.0	
10506-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.46	77.55	20.19	1.99	80.0	± 9.6 %
		Y	6.21	77.15	20.02		80.0	
		Z	6.51	78.26	20.46		80.0	
10507-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.14	71.96	18.61	1.99	80.0	± 9.6 %
		Y	5.01	71.75	18.46		80.0	
		Z	5.06	72.23	18.67		80.0	

10508-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.16	71.47	18.46	1.99	80.0	± 9.6 %
		Y	5.03	71.29	18.32		80.0	
		Z	5.06	71.72	18.51		80.0	
10509-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.14	74.73	19.20	1.99	80.0	± 9.6 %
		Y	5.97	74.49	19.09		80.0	
		Z	6.10	75.16	19.39		80.0	
10510-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.51	71.17	18.39	1.99	80.0	± 9.6 %
		Y	5.39	70.97	18.27		80.0	
		Z	5.40	71.31	18.44		80.0	
10511-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.51	70.78	18.29	1.99	80.0	± 9.6 %
		Y	5.39	70.61	18.18		80.0	
		Z	5.40	70.92	18.33		80.0	
10512-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.82	76.98	19.86	1.99	80.0	± 9.6 %
		Y	6.58	76.61	19.70		80.0	
		Z	6.81	77.47	20.06		80.0	
10513-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.48	71.72	18.59	1.99	80.0	± 9.6 %
		Y	5.34	71.47	18.45		80.0	
		Z	5.36	71.82	18.62		80.0	
10514-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.41	71.11	18.42	1.99	80.0	± 9.6 %
		Y	5.28	70.89	18.29		80.0	
		Z	5.30	71.22	18.45		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.00	63.36	14.91	0.00	150.0	± 9.6 %
		Y	0.99	63.02	14.56		150.0	
		Z	1.00	63.47	14.92		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.68	71.55	17.93	0.00	150.0	± 9.6 %
		Y	0.59	68.73	16.35		150.0	
		Z	0.68	71.90	18.11		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.87	65.47	15.63	0.00	150.0	± 9.6 %
		Y	0.84	64.73	15.06		150.0	
		Z	0.86	65.56	15.65		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.68	66.86	16.35	0.00	150.0	± 9.6 %
		Y	4.62	66.81	16.27		150.0	
		Z	4.59	66.94	16.34		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.89	67.14	16.50	0.00	150.0	± 9.6 %
		Y	4.82	67.07	16.40		150.0	
		Z	4.78	67.18	16.46		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.74	67.11	16.42	0.00	150.0	± 9.6 %
		Y	4.67	67.03	16.32		150.0	
		Z	4.63	67.14	16.38		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.67	67.11	16.40	0.00	150.0	± 9.6 %
		Y	4.60	67.02	16.30		150.0	
		Z	4.56	67.13	16.37		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.72	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.66	67.08	16.37		150.0	
		Z	4.62	67.23	16.46		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.59	67.00	16.30	0.00	150.0	± 9.6 %
		Y	4.53	66.94	16.21		150.0	
		Z	4.50	67.08	16.29		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.67	67.07	16.44	0.00	150.0	± 9.6 %
		Y	4.60	67.01	16.35		150.0	
		Z	4.56	67.14	16.42		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.63	66.09	16.01	0.00	150.0	± 9.6 %
		Y	4.58	66.04	15.93		150.0	
		Z	4.55	66.18	16.00		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.83	66.49	16.16	0.00	150.0	± 9.6 %
		Y	4.76	66.42	16.07		150.0	
		Z	4.72	66.55	16.15		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.74	66.45	16.11	0.00	150.0	± 9.6 %
		Y	4.68	66.38	16.02		150.0	
		Z	4.64	66.51	16.09		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.76	66.47	16.14	0.00	150.0	± 9.6 %
		Y	4.69	66.40	16.05		150.0	
		Z	4.66	66.53	16.12		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.76	66.47	16.14	0.00	150.0	± 9.6 %
		Y	4.69	66.40	16.05		150.0	
		Z	4.66	66.53	16.12		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.77	66.61	16.17	0.00	150.0	± 9.6 %
		Y	4.69	66.52	16.07		150.0	
		Z	4.65	66.64	16.14		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.62	66.47	16.10	0.00	150.0	± 9.6 %
		Y	4.55	66.36	16.00		150.0	
		Z	4.51	66.48	16.07		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.77	66.50	16.12	0.00	150.0	± 9.6 %
		Y	4.70	66.43	16.03		150.0	
		Z	4.67	66.57	16.11		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.29	66.64	16.21	0.00	150.0	± 9.6 %
		Y	5.24	66.57	16.14		150.0	
		Z	5.20	66.65	16.19		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.36	66.79	16.27	0.00	150.0	± 9.6 %
		Y	5.31	66.74	16.21		150.0	
		Z	5.28	66.85	16.28		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.23	66.76	16.24	0.00	150.0	± 9.6 %
		Y	5.17	66.68	16.16		150.0	
		Z	5.14	66.78	16.23		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.29	66.75	16.24	0.00	150.0	± 9.6 %
		Y	5.23	66.66	16.16		150.0	
		Z	5.20	66.75	16.22		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.40	66.82	16.31	0.00	150.0	± 9.6 %
		Y	5.33	66.70	16.22		150.0	
		Z	5.29	66.77	16.27		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.31	66.77	16.31	0.00	150.0	± 9.6 %
		Y	5.26	66.70	16.23		150.0	
		Z	5.22	66.80	16.30		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.28	66.64	16.23	0.00	150.0	± 9.6 %
		Y	5.22	66.56	16.15		150.0	
		Z	5.19	66.65	16.21		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.44	66.72	16.29	0.00	150.0	± 9.6 %
		Y	5.38	66.64	16.21		150.0	
		Z	5.35	66.72	16.27		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.53	66.75	16.32	0.00	150.0	± 9.6 %
		Y	5.47	66.70	16.26		150.0	
		Z	5.43	66.78	16.32		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.58	66.73	16.19	0.00	150.0	± 9.6 %
		Y	5.54	66.67	16.13		150.0	
		Z	5.51	66.75	16.18		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.81	67.22	16.38	0.00	150.0	± 9.6 %
		Y	5.76	67.15	16.31		150.0	
		Z	5.72	67.23	16.37		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.68	67.02	16.30	0.00	150.0	± 9.6 %
		Y	5.62	66.92	16.22		150.0	
		Z	5.58	66.98	16.26		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.76	67.10	16.33	0.00	150.0	± 9.6 %
		Y	5.70	67.00	16.25		150.0	
		Z	5.65	67.02	16.27		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	6.17	68.50	17.00	0.00	150.0	± 9.6 %
		Y	6.07	68.26	16.85		150.0	
		Z	5.98	68.20	16.84		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.69	66.98	16.29	0.00	150.0	± 9.6 %
		Y	5.64	66.92	16.22		150.0	
		Z	5.61	67.01	16.29		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.70	67.05	16.28	0.00	150.0	± 9.6 %
		Y	5.64	66.94	16.20		150.0	
		Z	5.61	67.02	16.25		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.60	66.80	16.17	0.00	150.0	± 9.6 %
		Y	5.55	66.72	16.10		150.0	
		Z	5.52	66.80	16.15		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.70	66.86	16.23	0.00	150.0	± 9.6 %
		Y	5.64	66.77	16.15		150.0	
		Z	5.60	66.84	16.20		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.99	67.13	16.30	0.00	150.0	± 9.6 %
		Y	5.95	67.06	16.23		150.0	
		Z	5.92	67.12	16.27		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.14	67.48	16.45	0.00	150.0	± 9.6 %
		Y	6.10	67.40	16.38		150.0	
		Z	6.07	67.46	16.42		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.16	67.50	16.45	0.00	150.0	± 9.6 %
		Y	6.11	67.42	16.38		150.0	
		Z	6.08	67.49	16.43		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.13	67.44	16.44	0.00	150.0	± 9.6 %
		Y	6.08	67.33	16.36		150.0	
		Z	6.04	67.39	16.40		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.20	67.65	16.56	0.00	150.0	± 9.6 %
		Y	6.14	67.52	16.46		150.0	
		Z	6.10	67.56	16.50		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.18	67.44	16.49	0.00	150.0	± 9.6 %
		Y	6.12	67.33	16.41		150.0	
		Z	6.08	67.39	16.45		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	6.10	67.42	16.52	0.00	150.0	± 9.6 %
		Y	6.05	67.32	16.44		150.0	
		Z	6.01	67.38	16.49		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.28	67.96	16.80	0.00	150.0	± 9.6 %
		Y	6.20	67.79	16.67		150.0	
		Z	6.15	67.80	16.70		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.68	68.69	17.11	0.00	150.0	± 9.6 %
		Y	6.58	68.48	16.98		150.0	
		Z	6.41	68.18	16.85		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	5.03	67.01	16.56	0.46	150.0	± 9.6 %
		Y	4.97	66.94	16.46		150.0	
		Z	4.93	67.07	16.53		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.28	67.47	16.87	0.46	150.0	± 9.6 %
		Y	5.21	67.40	16.78		150.0	
		Z	5.16	67.50	16.84		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	5.11	67.35	16.71	0.46	150.0	± 9.6 %
		Y	5.04	67.26	16.61		150.0	
		Z	5.00	67.36	16.67		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	5.13	67.69	17.02	0.46	150.0	± 9.6 %
		Y	5.07	67.63	16.95		150.0	
		Z	5.02	67.71	16.99		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	5.03	67.13	16.49	0.46	150.0	± 9.6 %
		Y	4.96	67.05	16.39		150.0	
		Z	4.92	67.19	16.48		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	5.07	67.71	17.04	0.46	150.0	± 9.6 %
		Y	5.02	67.69	16.99		150.0	
		Z	4.98	67.79	17.05		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	5.12	67.58	17.00	0.46	150.0	± 9.6 %
		Y	5.05	67.55	16.93		150.0	
		Z	5.01	67.66	16.99		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.38	66.08	16.43	0.46	130.0	± 9.6 %
		Y	1.35	65.63	16.06		130.0	
		Z	1.37	66.19	16.44		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.41	66.72	16.79	0.46	130.0	± 9.6 %
		Y	1.38	66.24	16.41		130.0	
		Z	1.39	66.84	16.81		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	4.59	94.97	25.99	0.46	130.0	± 9.6 %
		Y	2.81	86.76	23.19		130.0	
		Z	5.35	97.84	26.86		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.66	73.23	19.83	0.46	130.0	± 9.6 %
		Y	1.58	72.19	19.23		130.0	
		Z	1.66	73.54	19.96		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.85	66.89	16.67	0.46	130.0	± 9.6 %
		Y	4.79	66.84	16.58		130.0	
		Z	4.76	66.97	16.65		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.87	67.04	16.72	0.46	130.0	± 9.6 %
		Y	4.81	67.00	16.64		130.0	
		Z	4.78	67.12	16.70		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	5.09	67.36	16.90	0.46	130.0	± 9.6 %
		Y	5.03	67.30	16.81		130.0	
		Z	4.98	67.40	16.87		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.51	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.46	16.91		130.0	
		Z	4.88	67.55	16.96		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	66.93	16.38	0.46	130.0	± 9.6 %
		Y	4.70	66.80	16.25		130.0	
		Z	4.66	66.93	16.33		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.82	66.92	16.39	0.46	130.0	± 9.6 %
		Y	4.75	66.82	16.27		130.0	
		Z	4.71	66.97	16.36		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.89	67.58	16.94	0.46	130.0	± 9.6 %
		Y	4.83	67.51	16.86		130.0	
		Z	4.78	67.62	16.91		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.71	16.20	0.46	130.0	± 9.6 %
		Y	4.65	66.57	16.05		130.0	
		Z	4.61	66.72	16.14		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.85	66.89	16.67	0.46	130.0	± 9.6 %
		Y	4.79	66.84	16.58		130.0	
		Z	4.76	66.97	16.65		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.87	67.04	16.72	0.46	130.0	± 9.6 %
		Y	4.81	67.00	16.64		130.0	
		Z	4.78	67.12	16.70		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	5.09	67.36	16.90	0.46	130.0	± 9.6 %
		Y	5.03	67.30	16.81		130.0	
		Z	4.98	67.40	16.87		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.51	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.46	16.91		130.0	
		Z	4.88	67.55	16.96		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	66.93	16.38	0.46	130.0	± 9.6 %
		Y	4.70	66.80	16.25		130.0	
		Z	4.66	66.93	16.33		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.82	66.92	16.39	0.46	130.0	± 9.6 %
		Y	4.75	66.82	16.27		130.0	
		Z	4.71	66.97	16.36		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.89	67.58	16.94	0.46	130.0	± 9.6 %
		Y	4.83	67.51	16.86		130.0	
		Z	4.78	67.62	16.91		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.71	16.20	0.46	130.0	± 9.6 %
		Y	4.65	66.57	16.05		130.0	
		Z	4.61	66.72	16.14		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.99	66.93	16.75	0.46	130.0	± 9.6 %
		Y	4.94	66.89	16.67		130.0	
		Z	4.90	67.00	16.73		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.16	67.28	16.88	0.46	130.0	± 9.6 %
		Y	5.10	67.23	16.80		130.0	
		Z	5.06	67.34	16.86		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	5.09	67.23	16.79	0.46	130.0	± 9.6 %
		Y	5.02	67.16	16.69		130.0	
		Z	4.98	67.26	16.75		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.14	67.37	16.92	0.46	130.0	± 9.6 %
		Y	5.08	67.31	16.84		130.0	
		Z	5.03	67.42	16.90		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	5.12	67.34	16.83	0.46	130.0	± 9.6 %
		Y	5.05	67.27	16.74		130.0	
		Z	5.00	67.38	16.80		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	5.06	67.35	16.84	0.46	130.0	± 9.6 %
		Y	4.99	67.28	16.75		130.0	
		Z	4.94	67.40	16.81		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	5.01	67.28	16.74	0.46	130.0	± 9.6 %
		Y	4.94	67.19	16.64		130.0	
		Z	4.89	67.30	16.70		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.98	67.50	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.42	16.89		130.0	
		Z	4.87	67.51	16.94		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.68	67.56	16.98	0.46	130.0	± 9.6 %
		Y	5.62	67.48	16.90		130.0	
		Z	5.58	67.56	16.95		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.91	68.28	17.31	0.46	130.0	± 9.6 %
		Y	5.82	68.12	17.19		130.0	
		Z	5.76	68.13	17.22		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.74	67.85	17.11	0.46	130.0	± 9.6 %
		Y	5.67	67.74	17.02		130.0	
		Z	5.62	67.80	17.06		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.82	67.84	17.03	0.46	130.0	± 9.6 %
		Y	5.76	67.75	16.94		130.0	
		Z	5.72	67.86	17.02		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.89	68.08	17.27	0.46	130.0	± 9.6 %
		Y	5.84	68.02	17.20		130.0	
		Z	5.78	68.09	17.25		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.68	67.52	16.98	0.46	130.0	± 9.6 %
		Y	5.62	67.43	16.90		130.0	
		Z	5.58	67.52	16.96		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.81	67.91	17.18	0.46	130.0	± 9.6 %
		Y	5.76	67.86	17.11		130.0	
		Z	5.72	67.97	17.19		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.56	67.28	16.74	0.46	130.0	± 9.6 %
		Y	5.50	67.19	16.64		130.0	
		Z	5.45	67.23	16.68		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.82	66.21	16.35	0.46	130.0	± 9.6 %
		Y	4.77	66.17	16.27		130.0	
		Z	4.73	66.30	16.34		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	5.03	66.64	16.51	0.46	130.0	± 9.6 %
		Y	4.96	66.59	16.44		130.0	
		Z	4.92	66.71	16.51		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.92	66.52	16.38	0.46	130.0	± 9.6 %
		Y	4.85	66.45	16.28		130.0	
		Z	4.81	66.57	16.36		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.97	66.66	16.53	0.46	130.0	± 9.6 %
		Y	4.90	66.60	16.44		130.0	
		Z	4.86	66.72	16.51		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.89	66.50	16.39	0.46	130.0	± 9.6 %
		Y	4.82	66.42	16.30		130.0	
		Z	4.78	66.54	16.37		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.91	66.67	16.44	0.46	130.0	± 9.6 %
		Y	4.84	66.58	16.34		130.0	
		Z	4.80	66.72	16.42		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.92	66.59	16.35	0.46	130.0	± 9.6 %
		Y	4.84	66.48	16.24		130.0	
		Z	4.80	66.60	16.31		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.85	66.73	16.55	0.46	130.0	± 9.6 %
		Y	4.78	66.65	16.46		130.0	
		Z	4.74	66.75	16.52		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.90	66.35	16.19	0.46	130.0	± 9.6 %
		Y	4.82	66.26	16.08		130.0	
		Z	4.79	66.40	16.17		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.48	66.77	16.56	0.46	130.0	± 9.6 %
		Y	5.43	66.70	16.49		130.0	
		Z	5.39	66.77	16.54		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.54	66.89	16.59	0.46	130.0	± 9.6 %
		Y	5.50	66.89	16.55		130.0	
		Z	5.47	67.00	16.62		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.44	66.95	16.63	0.46	130.0	± 9.6 %
		Y	5.38	66.88	16.56		130.0	
		Z	5.34	66.97	16.62		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.46	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.41	66.74	16.43		130.0	
		Z	5.37	66.83	16.49		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.58	66.89	16.60	0.46	130.0	± 9.6 %
		Y	5.50	66.78	16.50		130.0	
		Z	5.46	66.84	16.55		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.54	66.90	16.71	0.46	130.0	± 9.6 %
		Y	5.48	66.84	16.65		130.0	
		Z	5.45	66.92	16.70		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.55	67.07	16.78	0.46	130.0	± 9.6 %
		Y	5.51	67.04	16.74		130.0	
		Z	5.47	67.13	16.79		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.43	66.63	16.45	0.46	130.0	± 9.6 %
		Y	5.38	66.55	16.37		130.0	
		Z	5.34	66.65	16.44		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.63	66.84	16.62	0.46	130.0	± 9.6 %
		Y	5.58	66.77	16.54		130.0	
		Z	5.53	66.84	16.59		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	6.11	68.13	17.31	0.46	130.0	± 9.6 %
		Y	6.03	68.00	17.21		130.0	
		Z	5.95	67.97	17.21		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.74	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.71	66.73	16.43		130.0	
		Z	5.68	66.81	16.48		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	6.03	67.45	16.78	0.46	130.0	± 9.6 %
		Y	5.99	67.40	16.72		130.0	
		Z	5.95	67.48	16.78		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.82	66.99	16.49	0.46	130.0	± 9.6 %
		Y	5.76	66.89	16.41		130.0	
		Z	5.73	66.96	16.46		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.90	67.05	16.51	0.46	130.0	± 9.6 %
		Y	5.85	66.99	16.45		130.0	
		Z	5.82	67.07	16.50		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.61	69.31	17.64	0.46	130.0	± 9.6 %
		Y	6.48	69.02	17.45		130.0	
		Z	6.38	68.93	17.44		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.34	68.62	17.47	0.46	130.0	± 9.6 %
		Y	6.23	68.40	17.34		130.0	
		Z	6.16	68.34	17.32		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.98	67.43	16.90	0.46	130.0	± 9.6 %
		Y	5.94	67.41	16.86		130.0	
		Z	5.90	67.48	16.91		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.89	67.17	16.60	0.46	130.0	± 9.6 %
		Y	5.82	67.02	16.49		130.0	
		Z	5.77	67.05	16.53		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.86	67.13	16.64	0.46	130.0	± 9.6 %
		Y	5.80	67.03	16.56		130.0	
		Z	5.75	67.07	16.59		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.76	66.56	16.11	0.46	130.0	± 9.6 %
		Y	5.69	66.42	16.00		130.0	
		Z	5.65	66.49	16.06		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.17	67.20	16.60	0.46	130.0	± 9.6 %
		Y	6.13	67.14	16.54		130.0	
		Z	6.10	67.19	16.58		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.35	67.63	16.79	0.46	130.0	± 9.6 %
		Y	6.31	67.57	16.73		130.0	
		Z	6.27	67.63	16.78		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.35	67.61	16.76	0.46	130.0	± 9.6 %
		Y	6.31	67.54	16.70		130.0	
		Z	6.27	67.60	16.74		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.33	67.57	16.79	0.46	130.0	± 9.6 %
		Y	6.28	67.47	16.71		130.0	
		Z	6.24	67.51	16.74		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.37	67.69	16.79	0.46	130.0	± 9.6 %
		Y	6.30	67.53	16.68		130.0	
		Z	6.25	67.55	16.71		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.36	67.41	16.67	0.46	130.0	± 9.6 %
		Y	6.32	67.35	16.61		130.0	
		Z	6.29	67.45	16.68		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.41	67.68	16.96	0.46	130.0	± 9.6 %
		Y	6.36	67.61	16.90		130.0	
		Z	6.32	67.64	16.93		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.25	67.42	16.75	0.46	130.0	± 9.6 %
		Y	6.20	67.33	16.66		130.0	
		Z	6.17	67.40	16.71		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.50	68.17	17.14	0.46	130.0	± 9.6 %
		Y	6.41	67.95	16.99		130.0	
		Z	6.34	67.93	17.00		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.97	69.08	17.55	0.46	130.0	± 9.6 %
		Y	6.97	69.13	17.54		130.0	
		Z	6.77	68.78	17.39		130.0	

^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 can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

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)	835	835
Tissue	Head	Body
Ingredients (% by weight)		
Bactericide	0.1	0.1
HEC	1	1
NaCl	1.45	0.94
Sucrose	57	44.9
Water	40.45	53.06

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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-I
SAR System Validation Summary

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(ϵ_r)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
C	835	9/8/2016	7410	EX3DV4	835	Head	0.893	39.801	PASS	PASS	PASS	GMSK	PASS	N/A
A	835	9/6/2016	3022	ES3DV2	835	Body	0.948	55.220	PASS	PASS	PASS	GMSK	PASS	N/A

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.

FCC ID: A3LSMG610KOR		SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 10/21/16 - 10/24/16	DUT Type: Portable Handset			APPENDIX E: Page 1 of 1