FCC SAR TEST REPORT

For

Unimax Communications

RM308-315, 3/F, Block A, Tsinghua Unis Inforport No.13 Langshan Road, HiTech Park(North), Nanshan District, Shenzhen, PRC, 518057

Product Name	: MIFI MXL655
Model No.	: MXL655
FCC ID	: P46-MXL655
Date of Receipt	: 21th Apr. 2015
Date of Test	: 21th Apr.~12rd Jun. 2015
Issued Date	: 14th Jun. 2015
Report No.	: TS201504028
Report Version	: V1.0

Issue By

Shenzhen Sunway Communication CO., LTD Testing Center

1/F, Building A, SDG Info Port, KefengRoad, Hi-Tech Park, Nanshan District, Shenzhen, Guangdong, China 518104

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1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing are as follows.

<Highest SAR Summary>

Exposure Position	Frequency Band	1g-SAR (W/kg)	Highest 1g-SAR (W/kg)
Body (1cm Gap)	LTE Band 41	1.303	**1.303**

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

2. SAR Evaluation compliance

Product Name:	MIFI MXL655
Brand Name:	/
Model Name:	MXL655
Applicant:	Unimax Communications
Address:	RM308-315, 3/F, Block A, Tsinghua Unis Inforport No.13 Langshan Road, HiTech Park(North), Nanshan District, Shenzhen, PRC, 518057
Manufacturer:	Unimax Communications
Address:	RM308-315, 3/F, Block A, Tsinghua Unis Inforport No.13 Langshan Road, HiTech Park(North), Nanshan District, Shenzhen, PRC, 518057
Applicable Standard:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2003 FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03 FCC KDB 865664 D02 SAR Reporting v01r01 FCC KDB 447498 D01 General RF Exposure Guidance v05r02 FCC KDB 941225 D06 Hotspot Mode SAR v01r01 FCC KDB 248227 D01 SAR meas for 802 11abg v01r02
Performed Date:	21th Apr.~12 rd Jun. 2015
Test Engineer:	Li.zhao
Reviewed By:	Tomy.Liu
Performed Location:	Shenzhen Sunway Communication CO.,LTD Testing Center 1/F, Building A, SDG Info Port, KefengRoad, Hi-Tech Park, Nanshan District, Shenzhen, Guangdong, China 518104 Tel: +86-755-36615880 Fax: +86-755-86525532

3. General Information:

3.1 EUT Description:

EUT Information	
Product Name	MIFI MXL655
Brand Name	/
Model Name	MXL655
Antenna gain:	CDMA BC 0: -5 dBi, CDMA BC 1: -3 dBi, CDMA BC 10: -5 dBi LTE Band 25: -3 dBi, LTE Band 26: -5 dBi, LTE Band 41: -2 dBi
AC adapter:	Model: WTA0501000USA1 Input: AC 100-240V 50/60Hz 0.3A Output: DC 5V, 1000mA
Power supply:	Rechargeable Li-ion Battery DC3.7V-1600mAh
Tx Frequency	CDMA BC 0: 824.7 ~ 848.31 MHz CDMA BC 1: 1851.25 ~ 1908.75 MHz CDMA BC10: 817.9 ~ 823.1 MHz LTE Band 25: 1850MHz ~ 1915MHz LTE Band 26: 814MHz ~ 849MHz LTE Band 41: 2496MHz ~ 2690MHz Wi-Fi: 802.11b/g/n-HT20: 2412MHz ~ 2462 MHz
Mode	802.11b/g/n HT20/HT40 CDMA 1xRTT, CDMA 1xEVDO LTE

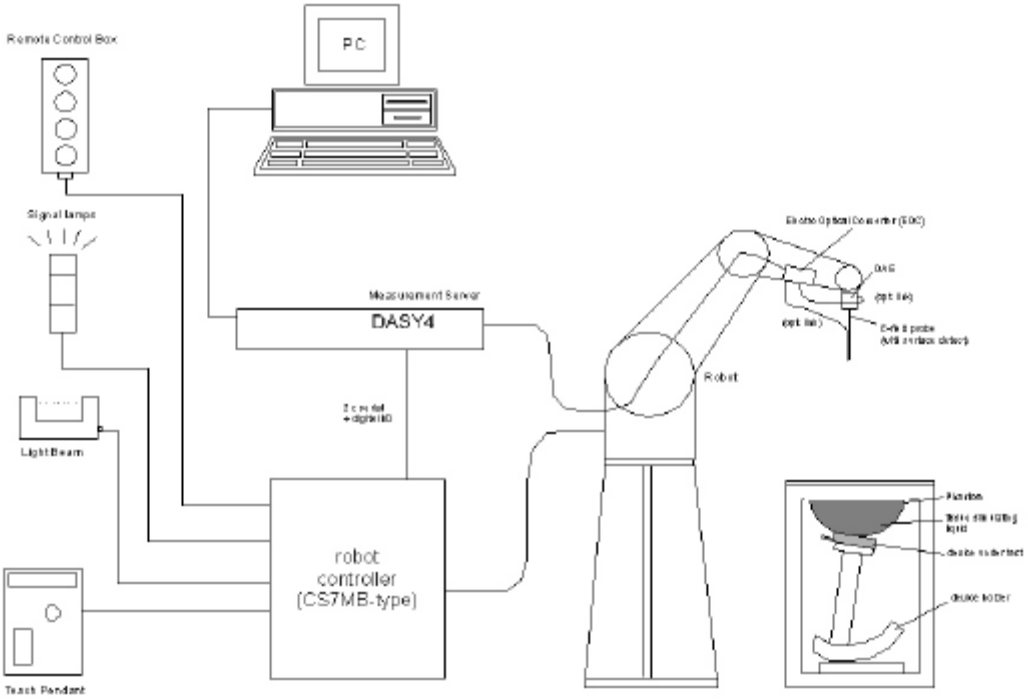
3.2 Test Environment:

Ambient conditions in the SAR laboratory:

Items	Required	Actual
Temperature (℃)	18-25	21~23
Humidity (%RH)	30-70	55~65

4. SAR Measurement System:

4.1 Dasy4 System Description:



The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc.
- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

5. System Components:

- DASY4 Measurement Server:

Calibration: No calibration required.

The DASY4 measurement server is based on a PC/104 CPU board with a 166MHz low-power pentium, 32MB chipdisk and 64MB RAM. The necessary circuits for communication with either the DAE4 (or DAE3) electronic box as well as the 16-bit AD-converter system for optical detection and digital I/O interface are contained on the DASY4 I/O-board, which is directly connected to the PC/104 bus of the CPU board.

- DATA Acquisition Electronics (DAE):

Calibration: Recommended once a year

The data acquisition electronics consists of a highly sensitive electrometer grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

- Dosimetric Probes:

Model: ES3DV3,
Frequency: 10MHz to 3G, Linearity:±0.2dB,
Dynamic Range: 10 µW/g to100 mW/g
Directivity:
± 0.3 dB in HSL (rotation around probe axis)
± 0.5 dB in tissue material (rotation normal to probe axis)

These probes are specially designed and calibrated for use in liquids with high permittivities. They should not be used in air, since the spherical isotropy in air is poor (±2 dB). The dosimetric probes have special calibrations in various liquids at different frequencies.

Calibration: Recommended once a year

- Light Beam unit:

Calibration: No calibration required.

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip. The repeatability of this process is better than 0.1 mm.

- SAM Twin Phantom:

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:
• Left hand
• Right hand
• Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

- Device Holder for SAM Twin Phantom:

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity "=3 and loss tangent _=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered

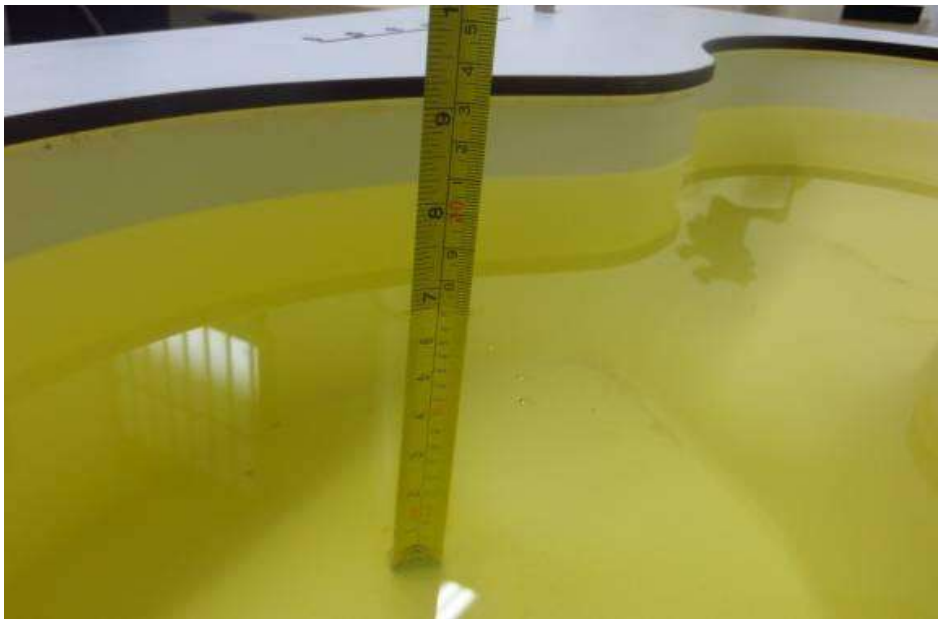
6. Tissue Simulating Liquid

6.1 The composition of the tissue simulating liquid:
The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1750	55.2	0	0	0.3	0	44.5	1.37	40.1
1800,1900,2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450~2600	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
900	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1750	70.2	0	0	0.4	0	29.4	1.49	53.4
1800,1900,2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450~2600	68.6	0	0	0	0	31.4	1.95	52.7

6.2 Tissue Calibration Result:

Frequency (MHz)	Description	Dielectric Parameters		Tissue Temp. (℃)	Date
		Permittivity (εr)	Conductivity (σ)		
2600 (Body)	Reference	52.5±5% (49.875~55.125)	2.16±5% (2.052~2.268)	NA	
	Measurement	51.2	2.13	21.5	2015/04/21
		51.5	2.10	21.5	2015/06/12

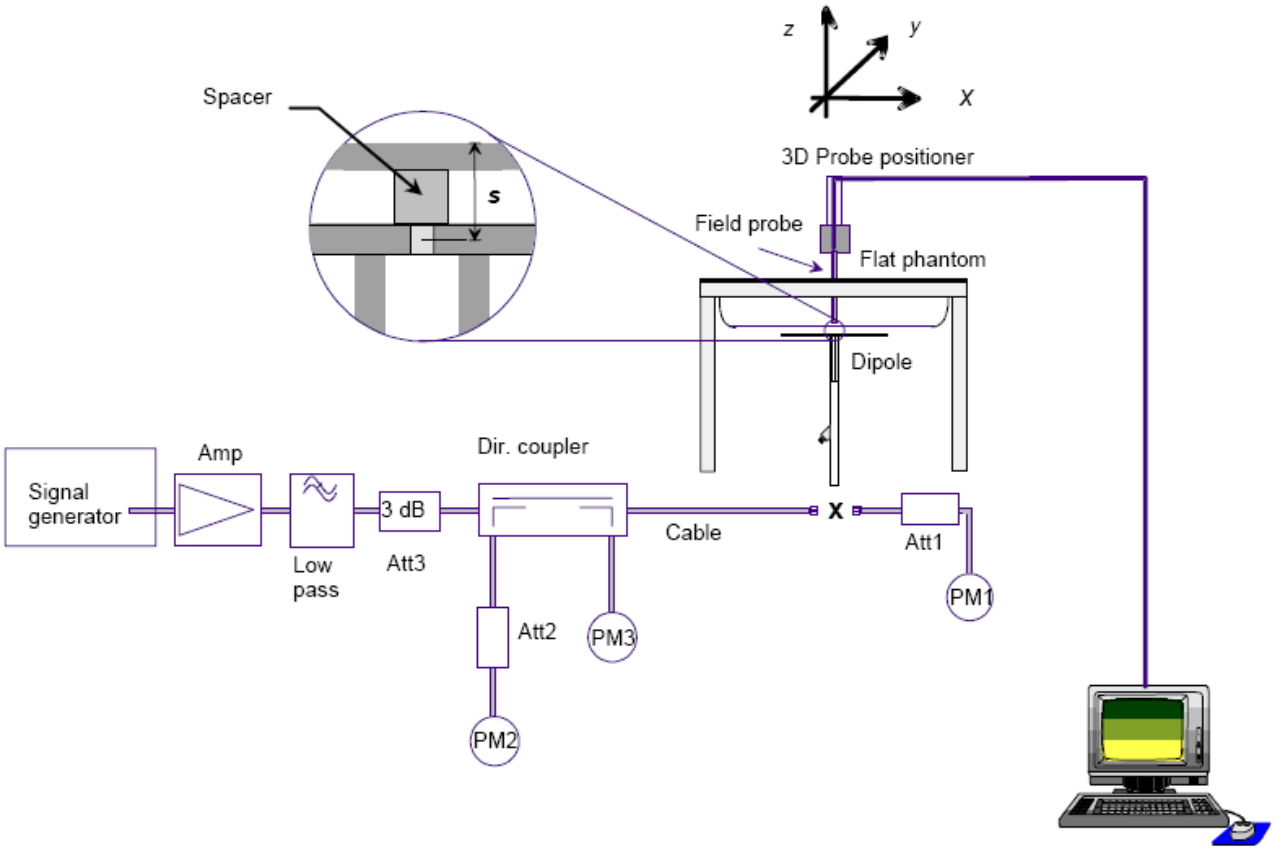


Liquid depth in the Flat Phantom (2600 MHz) (depth>15cm)

7. SAR System Validation

7.1 Validation System:

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



7.2 Validation Dipoles:

The dipoles used are based on the IEEE-1528/EN62209-1 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE-1528/EN62209-1 and FCC Supplement C.

7.3 Validation Result:

Frequency (MHz)	Description	Power fed onto dipole	SAR(1g) W/Kg	Tissue Temp. (℃)	Date
2600 (Body)	Reference	250mW	13.9±10% (12.51~15.29)	N/A	
	Measurement	250mW	14.3	22.6	2015/04/21
		250mW	14.6	22.6	2015/06/12

8. SAR Evaluation Procedures:

The procedure for assessing the average SAR value consists of the following steps:

- Power Reference Measurement

  The Power Reference Measurement and Power Drift Measurement jobs are useful jobs for monitoring the power drift of the device under test in the batch process. Both jobs measure the field at a specified reference position, at a selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

- Area Scan

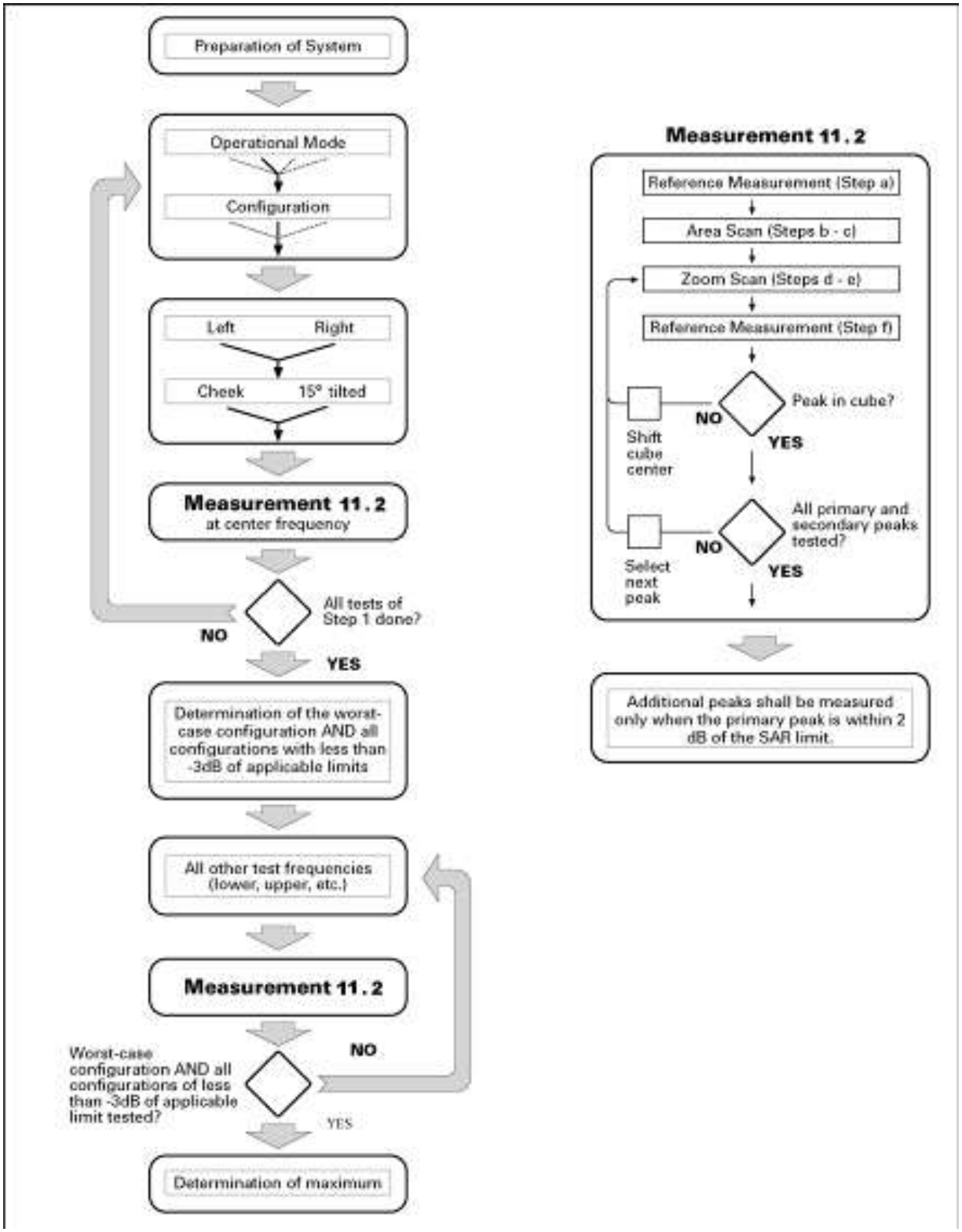
  The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a finer measurement around the hot spot. The sophisticated interpolation routines implemented in DASY4 software can find the maximum locations even in relatively coarse grids. The scanning area is defined by an editable grid. This grid is anchored at the grid reference point of the selected section in the phantom. When the Area Scan's property sheet is brought-up, grid settings can be edited by a user.

- Zoom Scan

  Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan measures 7 x 7 x 7 points (5mmx5mmx5mm) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure.

- Power Drift Measurement

  The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement.



Block diagram of the tests to be performed

9. SAR Exposure Limits

9.1 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.

9.2 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. The 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.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

10. Measurement Uncertainty:

NO	Source	Uncert. ai（%）	Prob. Dist.	Div. k	ci (1g)	ci (10g)	Stand. Uncert. ui (1g)	Stand. Uncert. ui (10g)	*Veff*
1	Repeat	0.04	N	1	1	1	0.04	0.04	9
Instrument									
2	Probe calibration	7	N	2	1	1	3.5	3.5	∞
3	Axial isotropy	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
4	Hemispherical isotropy	9.6	R	$\sqrt{3}$	0.7	0.7	3.9	3.9	∞
5	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
7	Detection limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
8	Readout electronics	0.3	N	1	1	1	0.3	0.3	∞
9	Response time	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioner mech. restrictions	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related									
16	Device positioning	3.8	N	1	1	1	3.8	3.8	99

17	Device holder	5.1	N	1	1	1	5.1	5.1	5
18	Drift of output power	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
20	Liquid conductivity (target)	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas)	2.5	N	1	0.64	0.43	1.6	1.2	∞
22	Liquid Permittivity (target)	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.5	∞
23	Liquid Permittivity (meas)	2.5	N	1	0.6	0.49	1.5	1.2	∞
Combined standard			RSS	$U_C = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$			12.2%	11.9%	236
Expanded uncertainty (P=95%)		$U = k\ U_C$,k=2					**24.4%**	**23.8%**	

11. Conducted Power Measurement:

LTE Conducted Power

Largest channel bandwidth standalone SAR test requirements

QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.8 When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

QPSK with 50% RB allocation

The procedures required for 1 RB allocation in section 4.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.9

QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in sections 4.2.1 and 4.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 4.2.1, 5.2.2 and 4.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 4.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth. For example, 50 RB in 10 MHz channel bandwidth does not apply to 5 MHz channel bandwidth; therefore, this cannot be tested in the smaller channel bandwidth. However, 50% RB allocation in 10 MHz channel bandwidth is equivalent to 100% RB allocation in 5 MHz channel bandwidth; therefore, these are the equivalent configurations to be compared to determine the specific channel and configuration in the smaller channel bandwidth that need SAR testing.

TDD LTE configuration setup for SAR measurement

According to KDB 941225 D05v02r03 and April 2013 TCB workshop slides, SAR must be tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- see 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- "special subframe S" contains both uplink and downlink transmissions and must be taken into consideration to determine the transmission duty factor
  - according to the worst case uplink and downlink cyclic prefix requirements for UpPTS to determine the highest SAR test duty factor

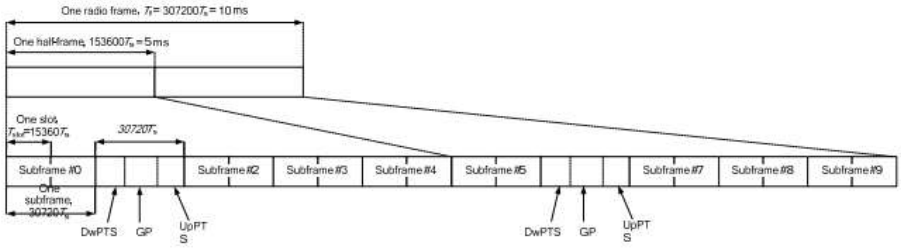


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity)

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Per 3GPP 36.211 section 4.2, each radio frame of length T_f=37200·Ts = 10 ms consists of two half-frames of length 153600·Ts = 5ms each. Each half-frame consists of five subframes of length 30720 ·Ts = 1ms. So, the uplink duty factor in special subframe as below:

Special Subframe configuration	Normal cyclic prefix in downlink		Extended cyclic prefix in downlink	
	Duty factor of Uplink		Duty factor of Uplink	
	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	7.14%	8.33%	7.14%	8.33%
1	7.14%	8.33%	7.14%	8.33%
2	7.14%	8.33%	7.14%	8.33%
3	7.14%	8.33%	7.14%	8.33%
4	7.14%	8.33%	14.27%	16.67%
5	14.27%	16.67%	14.27%	16.67%
6	14.27%	16.67%	14.27%	16.67%
7	14.27%	16.67%	14.27%	16.67%
8	14.27%	16.67%	/	/
9	14.27%	16.67%	/	/

Table 4.2-2: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

According to above table:

1. The highest duty factor is configuration 0;
2. The duty factor of uplink in one half-frame with normal cyclic prefix is: (3ms + 0.143ms)/5ms=62.86%;
3. The duty factor of uplink in one half-frame with extended cyclic prefix is: (3ms + 0.167ms)/5ms=63.34%;
4. For purpose to get the worst case SAR test duty factor, the duty factor of normal cyclic prefix in uplink scaled-up to the extended cyclic prefix in uplink, the scaling factor is 63.34%/62.86%=1.008, and the scaling factor will be taken into the final measured SAR.

LTE Band 41 part

Frequency (MHz)	Channel No.	Modulation	BW (MHz)	RB Size	RB Offset	Ave. Power (dBm)
2498.50	39675	QPSK	5.0	1	0	21.79
				1	12	22.04
				1	24	**22.57**
				12	0	21.00
				12	6	20.95
				12	11	22.55
				25	0	22.36
		16QAM		1	0	20.54
				1	12	20.73
				1	24	22.31
				12	0	20.25
				12	6	20.33
				12	11	22.19
				25	0	21.54
2545.50	40148	QPSK	5.0	1	0	22.37
				1	12	22.55
				1	24	22.08
				12	0	22.49
				12	6	22.55
				12	11	22.35
				25	0	22.41
		16QAM		1	0	22.34
				1	12	22.50
				1	24	22.01
				12	0	22.21
				12	6	22.38
				12	11	22.38
				25	0	22.33
2593.00	40620	QPSK	5.0	1	0	22.07
				1	12	22.22
				1	24	22.04
				12	0	22.18
				12	6	22.21
				12	11	22.16
				25	0	22.05
		16QAM		1	0	21.75
				1	12	21.87
				1	24	21.72
				12	0	21.44
				12	6	21.48
				12	11	21.43
				25	0	21.21

2640.30	41093	QPSK	5.0	1	0	21.40
				1	12	21.62
				1	24	21.13
				12	0	21.40
				12	6	21.61
				12	11	21.39
				25	0	21.48
		16QAM		1	0	21.46
				1	12	21.64
				1	24	21.17
				12	0	21.79
				12	6	21.85
				12	11	21.64
				25	0	21.79
2687.50	41565	QPSK	5.0	1	0	22.48
				1	12	21.94
				1	24	21.87
				12	0	22.50
				12	6	21.02
				12	11	20.87
				25	0	22.35
		16QAM		1	0	22.46
				1	12	20.71
				1	24	20.55
				12	0	21.69
				12	6	20.21
				12	11	20.13
				25	0	21.45

Frequency (MHz)	Channel No.	Modulation	BW (MHz)	RB Size	RB Offset	Ave. Power (dBm)
2501.00	39700	QPSK	10.0	1	0	21.92
				1	24	**22.86**
				1	49	22.71
				25	0	22.66
				25	12	22.64
				25	24	22.60
				50	0	22.38
		16QAM		1	0	20.73
				1	24	22.70
				1	49	22.48
				25	0	21.46
				25	12	21.68
				25	24	21.62
				50	0	21.41
2547.00	40160	QPSK	10.0	1	0	21.79
				1	24	22.23
				1	49	21.12
				25	0	22.13
				25	12	22.18
				25	24	21.82
				50	0	21.97
		16QAM		1	0	21.61
				1	24	22.07
				1	49	20.97
				25	0	22.16
				25	12	22.12
				25	24	21.88
				50	0	22.02
2593.00	40620	QPSK	10.0	1	0	22.22
				1	24	22.34
				1	49	22.11
				25	0	22.06
				25	12	22.04
				25	24	22.03
				50	0	21.92
		16QAM		1	0	22.03
				1	24	22.09
				1	49	21.91
				25	0	21.20
				25	12	21.22
				25	24	21.08
				50	0	20.97

2639.00	41080	QPSK	10.0	1	0	21.37
				1	24	21.39
				1	49	20.77
				25	0	21.26
				25	12	21.34
				25	24	20.98
				50	0	21.12
		16QAM		1	0	20.97
				1	24	21.45
				1	49	20.36
				25	0	21.23
				25	12	21.30
				25	24	21.26
				50	0	21.09
2685.00	41540	QPSK	10.0	1	0	22.49
				1	24	22.62
				1	49	21.87
				25	0	22.55
				25	12	22.63
				25	24	22.50
				50	0	22.28
		16QAM		1	0	22.41
				1	24	22.50
				1	49	20.58
				25	0	21.42
				25	12	21.56
				25	24	21.43
				50	0	21.22

Frequency (MHz)	Channel No.	Modulation	BW (MHz)	RB Size	RB Offset	Average (dBm)
2503.50	39725	QPSK	15.0	1	0	22.05
				1	37	**22.94**
				1	74	22.87
				36	0	22.55
				36	18	22.56
				36	37	22.60
				75	0	22.40
		16QAM		1	0	20.88
				1	37	22.86
				1	74	22.59
				36	0	21.39
				36	18	21.55
				36	37	21.70
				75	0	21.52
2548.50	40173	QPSK	15.0	1	0	21.40
				1	37	21.87
				1	74	20.50
				36	0	21.76
				36	18	21.78
				36	37	21.28
				75	0	21.53
		16QAM		1	0	21.19
				1	37	21.63
				1	74	20.24
				36	0	21.45
				36	18	21.38
				36	37	21.04
				75	0	21.27
2593.00	40620	QPSK	15.0	1	0	22.15
				1	37	22.25
				1	74	22.10
				36	0	22.13
				36	18	22.01
				36	37	21.95
				75	0	21.88
		16QAM		1	0	22.13
				1	37	22.07
				1	74	21.99
				36	0	21.07
				36	18	21.00
				36	37	20.91
				75	0	20.96

2637.80	41068	QPSK	15.0	1	0	21.27
				1	37	21.77
				1	74	20.39
				36	0	21.66
				36	18	21.68
				36	37	21.21
				75	0	21.44
		16QAM		1	0	21.13
				1	37	21.57
				1	74	20.20
				36	0	21.41
				36	18	21.55
				36	37	21.11
				75	0	21.23
2682.50	41515	QPSK	15.0	1	0	22.25
				1	37	22.57
				1	74	21.84
				36	0	22.29
				36	18	22.32
				36	37	22.36
				75	0	22.19
		16QAM		1	0	22.12
				1	37	22.21
				1	74	20.72
				36	0	21.17
				36	18	21.31
				36	37	21.26
				75	0	21.20

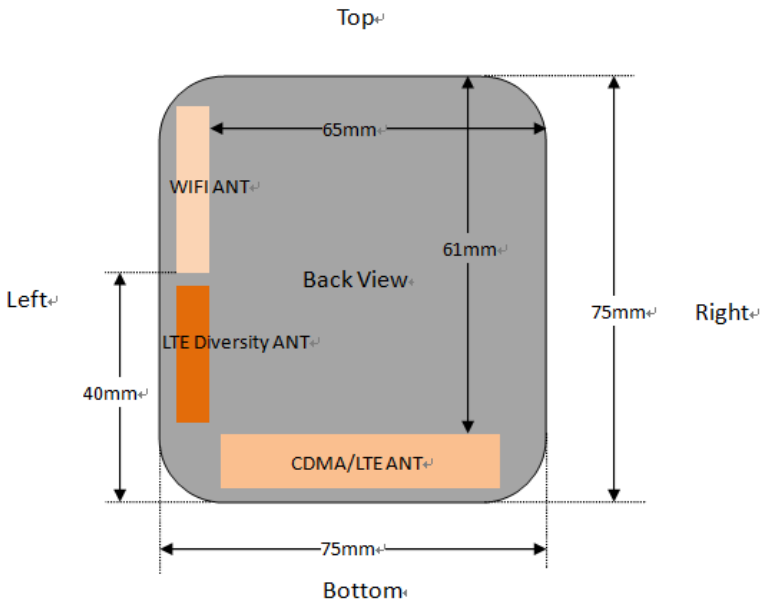
Frequency (MHz)	Channel No.	Modulation	BW (MHz)	RB Size	RB Offset	Ave. Power (dBm)
2506.00	39750	QPSK	20.0	1	0	21.94
				1	49	**23.07**
				1	99	22.84
				50	0	22.39
				50	24	22.58
				50	49	22.64
				100	0	22.50
		16QAM		1	0	20.89
				1	49	22.97
				1	99	22.73
				50	0	21.47
				50	24	21.56
				50	49	21.70
				100	0	21.65
2549.50	40185	QPSK	20.0	1	0	22.13
				1	49	22.43
				1	99	20.75
				50	0	22.47
				50	24	22.36
				50	49	22.62
				100	0	22.14
		16QAM		1	0	22.16
				1	49	22.49
				1	99	20.85
				50	0	22.54
				50	24	22.47
				50	49	21.94
				100	0	22.29
2593.00	40620	QPSK	20.0	1	0	22.11
				1	49	23.03
				1	99	22.08
				50	0	21.93
				50	24	21.87
				50	49	22.60
				100	0	22.00
		16QAM		1	0	22.00
				1	49	22.12
				1	99	21.96
				50	0	20.97
				50	24	20.88
				50	49	20.96
				100	0	21.10

2636.50	41055	QPSK	20.0	1	0	21.25
				1	49	21.75
				1	99	20.33
				50	0	21.77
				50	24	21.76
				50	49	21.78
				100	0	21.51
		16QAM		1	0	21.62
				1	49	21.71
				1	99	20.62
				50	0	21.60
				50	24	21.59
				50	49	21.64
				100	0	21.45
2680.00	41490	QPSK	20.0	1	0	22.04
				1	49	22.86
				1	99	21.76
				50	0	21.91
				50	24	22.05
				50	49	22.32
				100	0	22.15
		16QAM		1	0	21.91
				1	49	22.50
				1	99	20.70
				50	0	20.89
				50	24	21.15
				50	49	21.31
				100	0	21.17

Note:

Per KDB 447498 D01v05r02 section 4.1, 6), the required test channels number is 5 for LTE Band 41.

12. Antenna Location



Distance of Antennas to EUT edge/surface Test distance: 15mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
CDMA/LTE	<25mm	<25mm	61mm	<25mm	<25mm	<25mm
WLAN	<25mm	<25mm	<25mm	40mm	65mm	<25mm

Test Positions Test distance: 15mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
CDMA/LTE	Yes	Yes	No	Yes	Yes	Yes
WLAN	Yes	Yes	Yes	No	No	Yes

Note:

1. A body-worn mode SAR assessment is required.
2. Per KDB 447498 D01v05r02, for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user, 10 mm for body-worn SAR.

13. Results and Test photos:

13.1 SAR result summary:

➢ TDD-LTE 1 RB Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Duty Factor	Scaling Factor	Reported SAR_{1g} (W/kg)
1	Band41/20MHz/RB#49	Front	39750	2506.0	23.07	0.037	23.5	0.328	1.008	1.104	0.365
2	Band41/20MHz/RB#49	Back	39750	2506.0	23.07	0.178	23.5	0.882	1.008	1.104	0.982
3	Band41/20MHz/RB#49	Back	40185	2549.5	22.43	-0.123	22.5	0.635	1.008	1.016	0.650
4	Band41/20MHz/RB#49	Back	40620	2593.0	23.03	0.081	23.5	1.160	1.008	1.114	1.303
5	**Band41/20MHz/RB#49**	**Back**	**40620**	**2593.0**	**23.03**	**0.065**	**23.5**	**1.156**	**1.008**	**1.114**	**1.298**
6	Band41/20MHz/RB#49	Back	41055	2636.5	21.75	-0.093	22.0	0.975	1.008	1.059	1.041
7	Band41/20MHz/RB#49	Back	41490	2680.0	22.86	0.009	23.0	0.834	1.008	1.033	0.868
8	Band41/20MHz/RB#49	Left	39750	2506.0	23.07	0.013	23.5	0.685	1.008	1.104	0.762
9	Band41/20MHz/RB#49	Left	40185	2549.5	22.43	0.007	22.5	0.810	1.008	1.016	0.830
10	Band41/20MHz/RB#49	Left	40620	2593.0	23.03	0.004	23.5	0.742	1.008	1.114	0.833
11	Band41/20MHz/RB#49	Left	41055	2636.5	21.75	0.034	22.0	1.120	1.008	1.059	1.196
12	Band41/20MHz/RB#49	Left	41490	2680.0	22.86	0.107	23.0	0.691	1.008	1.033	0.720
13	Band41/20MHz/RB#49	Right	39750	2506.0	23.07	0.165	23.5	0.032	1.008	1.104	0.036
14	Band41/20MHz/RB#49	Bottom	39750	2506.0	23.07	0.087	23.5	0.058	1.008	1.104	0.065
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ TDD-LTE 50% RB Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Duty Factor	Scaling Factor	Reported SAR_{1g} (W/kg)
15	Band41/20MHz/RB#49	Front	39750	2506.0	22.64	0.022	23.0	0.302	1.008	1.086	0.331
16	Band41/20MHz/RB#49	Back	39750	2506.0	22.64	0.146	23.0	0.925	1.008	1.086	1.013
17	Band41/20MHz/RB#49	Back	40185	2549.5	22.62	-0.088	23.0	0.519	1.008	1.091	0.571
18	Band41/20MHz/RB#49	Back	40620	2593.0	22.60	0.175	23.0	1.120	1.008	1.096	1.237
19	Band41/20MHz/RB#49	Back	41055	2636.5	21.78	-0.068	22.0	0.781	1.008	1.052	0.828
20	Band41/20MHz/RB#49	Back	41490	2680.0	22.32	0.020	22.5	0.844	1.008	1.042	0.887
21	Band41/20MHz/RB#49	Left	39750	2506.0	22.64	-0.121	23.0	0.585	1.008	1.086	0.640
22	Band41/20MHz/RB#49	Left	40185	2549.5	22.62	0.090	23.0	0.678	1.008	1.091	0.746
23	Band41/20MHz/RB#49	Left	40620	2593.0	22.60	-0.014	23.0	0.633	1.008	1.096	0.699
24	Band41/20MHz/RB#49	Left	41055	2636.5	21.78	0.030	22.0	1.070	1.008	1.052	1.135
25	Band41/20MHz/RB#49	Left	41490	2680.0	22.32	-0.031	22.5	0.668	1.008	1.042	0.702
26	Band41/20MHz/RB#49	Right	39750	2506.0	22.64	0.065	23.0	0.031	1.008	1.086	0.034
27	Band41/20MHz/RB#49	Bottom	39750	2506.0	22.64	0.004	23.0	0.057	1.008	1.086	0.062
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ TDD-LTE 100% RB Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Duty Factor	Scaling Factor	Reported SAR_{1g} (W/kg)
28	Band41/20MHz/RB#0	Back	39750	2506.0	22.50	0.126	22.50	0.947	1.008	1.000	0.955
29	Band41/20MHz/RB#0	Back	40185	2549.5	22.14	0.116	22.50	0.529	1.008	1.086	0.579
30	Band41/20MHz/RB#0	Back	40620	2593.0	22.00	-0.021	22.00	1.180	1.008	1.000	1.189
31	Band41/20MHz/RB#0	Back	41055	2636.5	21.51	0.185	22.00	0.797	1.008	1.119	0.899
32	Band41/20MHz/RB#0	Back	41490	2680.0	22.15	0.078	22.50	0.917	1.008	1.084	1.002
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

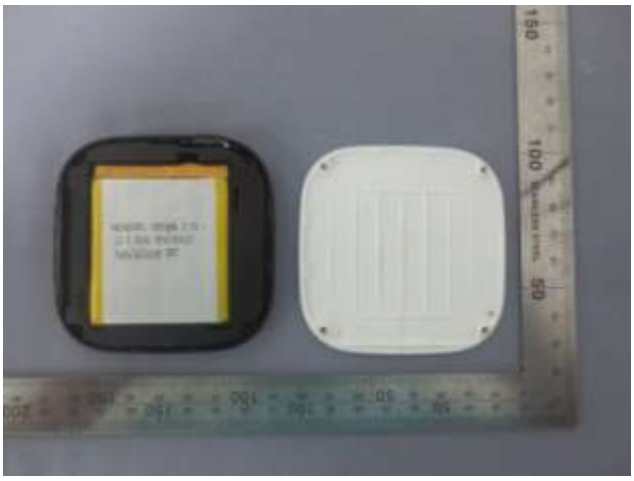
13.2 Repeated SAR measurement

Band/ Mode	Test Position	CH.	Freq. (MHz)	Measured SAR (W/kg)				
				Original	1st Repeated		2nd Repeated	
					Value	Ratio	Value	Ratio
Band41/20MHz/RB#49	Back	40620	2593.0	1.16	1.156	1.00	/	/
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population				**1.6 W/kg (mW/g) Averaged over 1g**				

Note:

1. Per KDB 865664 D01v01r03, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8 W/kg
2. Per KDB 865664 D01v01r03, if the ratio of *original* and *repeated* is ≤ 1.2 and the measured SAR <1.45 W/kg, only one repeated measurement is required.

13.3 DUT and setup photos

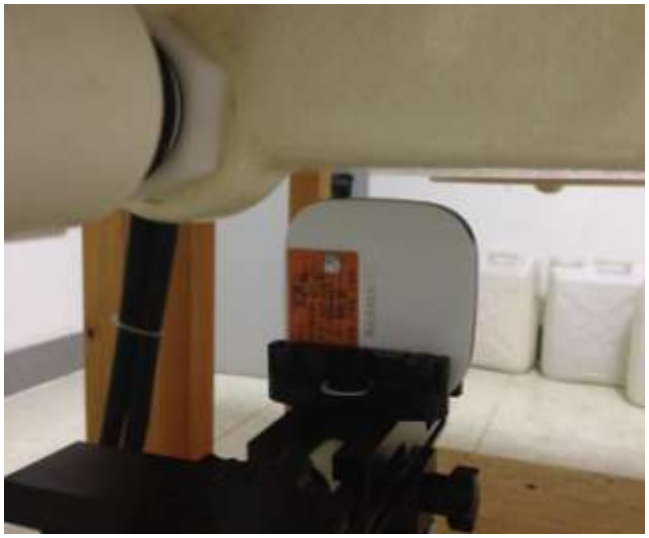


Body

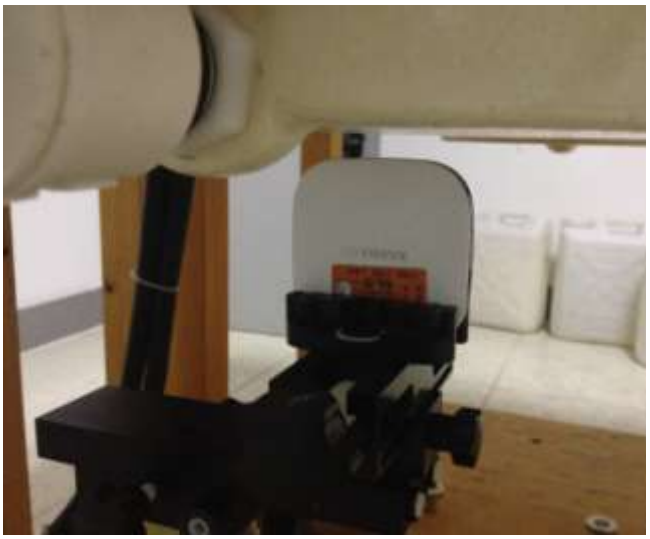
Front side (10mm)

Back side(10mm)

Left side (10mm)



Right side (10mm)



Bottom side (10mm)

14. Equipment List:

NO.	Instrument	Manufacturer	Model	S/N	Cal. Date	Cal. Due Date
1	Communication Tester	Agilent	E5515C	MY50267264	Dec 27th 2014	Dec 26th 2015
2	E-field Probe	Speag	ES3DV3	3028	Oct 22th 2014	Oct 21th 2015
3	Dielectric Probe Kit	Speag	DAK	1038	N/A	N/A
4	DAE	Speag	DAE4	689	Oct 1th 2014	Sep 30th 2015
5	SAM TWIN phantom	Speag	SAM	1360/1432	N/A	N/A
6	Robot	Stabuli	TX60L	N/A	N/A	N/A
7	Device Holder	Speag	SD000H01HA	N/A	N/A	N/A
8	Vector Network	Agilent	E5071C	MY46107615	Jan 6th 2015	Jan 7th 2016
9	Signal Generator	Agilent	E4438C	MY49072279	Nov 27th 2014	Nov 26th 2015
10	Amplifier	Mini-circuits	ZHL-42W	QA098002	N/A	N/A
11	Power Meter	Agilent	N1419A	MY50001563	Nov 27th 2014	Nov 26th 2015
12	Power Sensor	Agilent	N8481H	MY51020010	Nov 27th 2014	Nov 26th 2015
13	Directional Coupler	Agilent	772D	MY46151275	Nov 27th 2014	Nov 26th 2015
14	Directional Coupler	Agilent	778D	MY48220607	Nov 27th 2014	Nov 26th 2015
15	Dipole 2600MHz	Speag	D2600V2	1048	Jun 23th 2014	Jun 27th 2017

Appendix A. System validation plots:

Date: 4/21/2015 Test Laboratory: SUNWAY COMMUNICATION CO.,LTD.

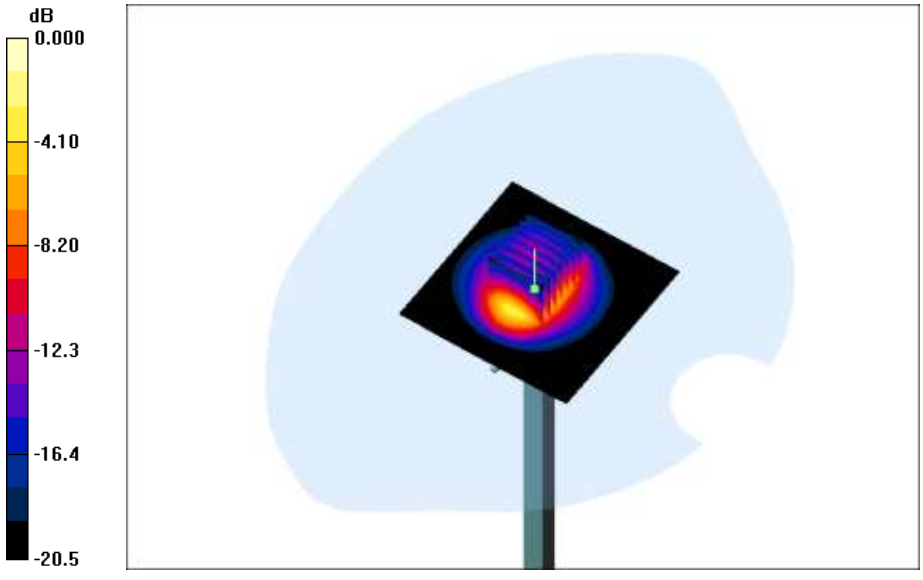
DUT: Dipole 2600 MHz; Type: D2600V2;
Program Name: System Performance Check Body at 2600 MHz

Communication System: CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.209 mho/m; ε_r = 51.123; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=10mm, Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 25.1 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.7 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 34.1 W/kg
SAR(1 g) = 14.3 mW/g; SAR(10 g) = 6.45 mW/g
Maximum value of SAR (measured) = 23.2 mW/g



0 dB = 23.2mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

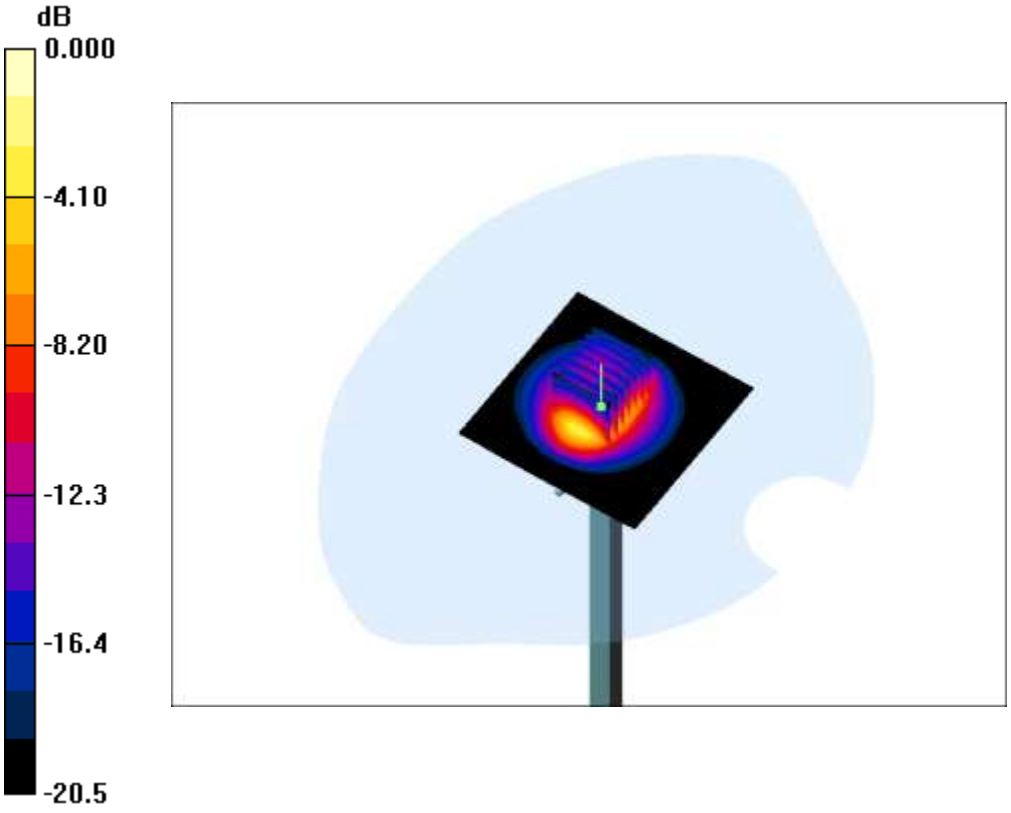
DUT: Dipole 2600 MHz; Type: D2600V2;
Program Name: System Performance Check Body at 2600 MHz

Communication System: CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.207 mho/m; ε_r = 51.127; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=10mm, Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 25.4 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.2 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 34.1 W/kg
SAR(1 g) = 14.6 mW/g; SAR(10 g) = 6.44 mW/g
Maximum value of SAR (measured) = 23.4 mW/g



0 dB = 23.4mW/g

Appendix B. SAR Test plots:

LTE Band41_20M_1RB 49_Front_Ch39750

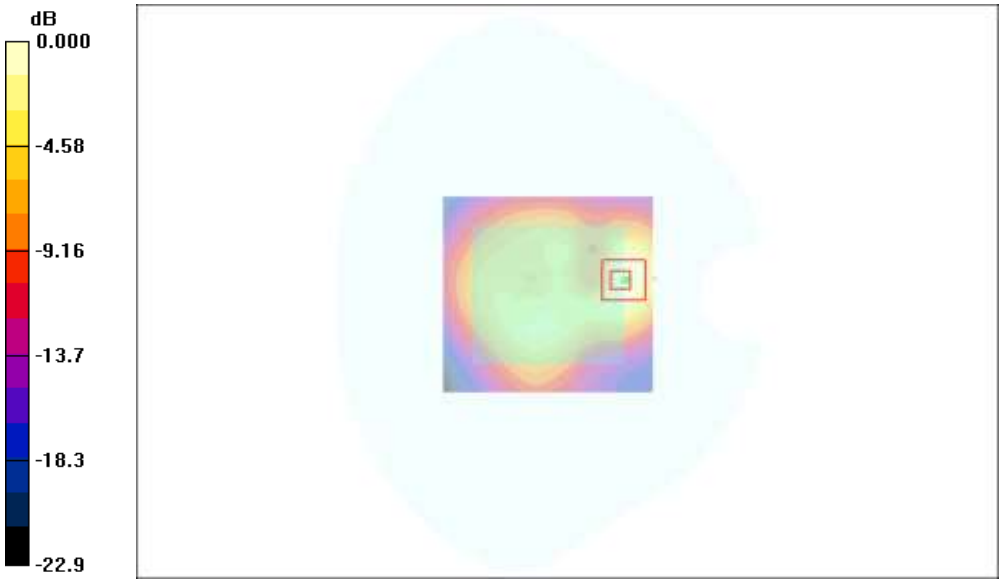
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz; Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.349 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.41 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.344 mW/g



0 dB = 0.344mW/g

LTE Band41_20M_1RB 49_Back_Ch39750

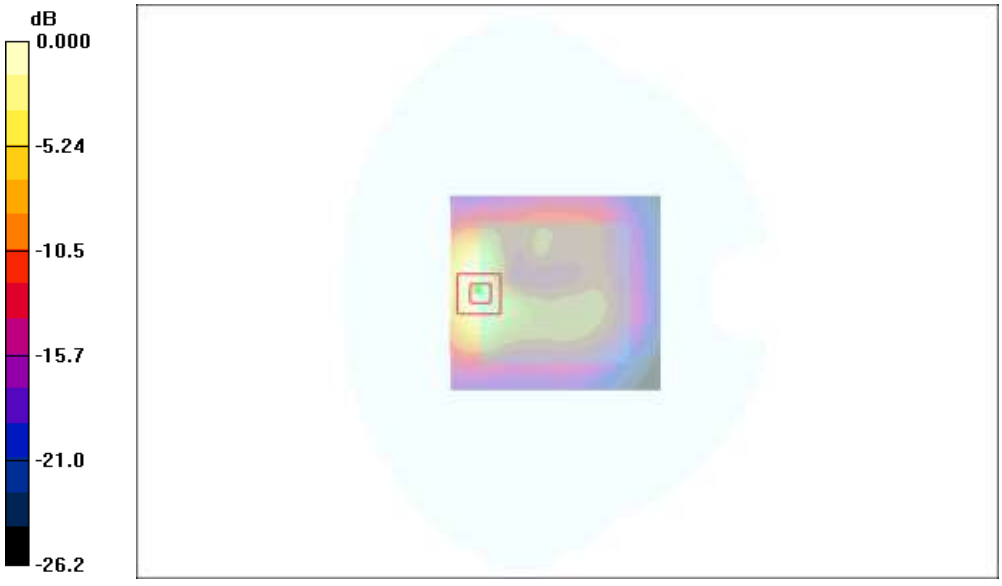
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.02 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.32 V/m; Power Drift = 0.178 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(1 g) = 0.882 mW/g; SAR(10 g) = 0.420 mW/g
Maximum value of SAR (measured) = 0.939 mW/g



0 dB = 0.939mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

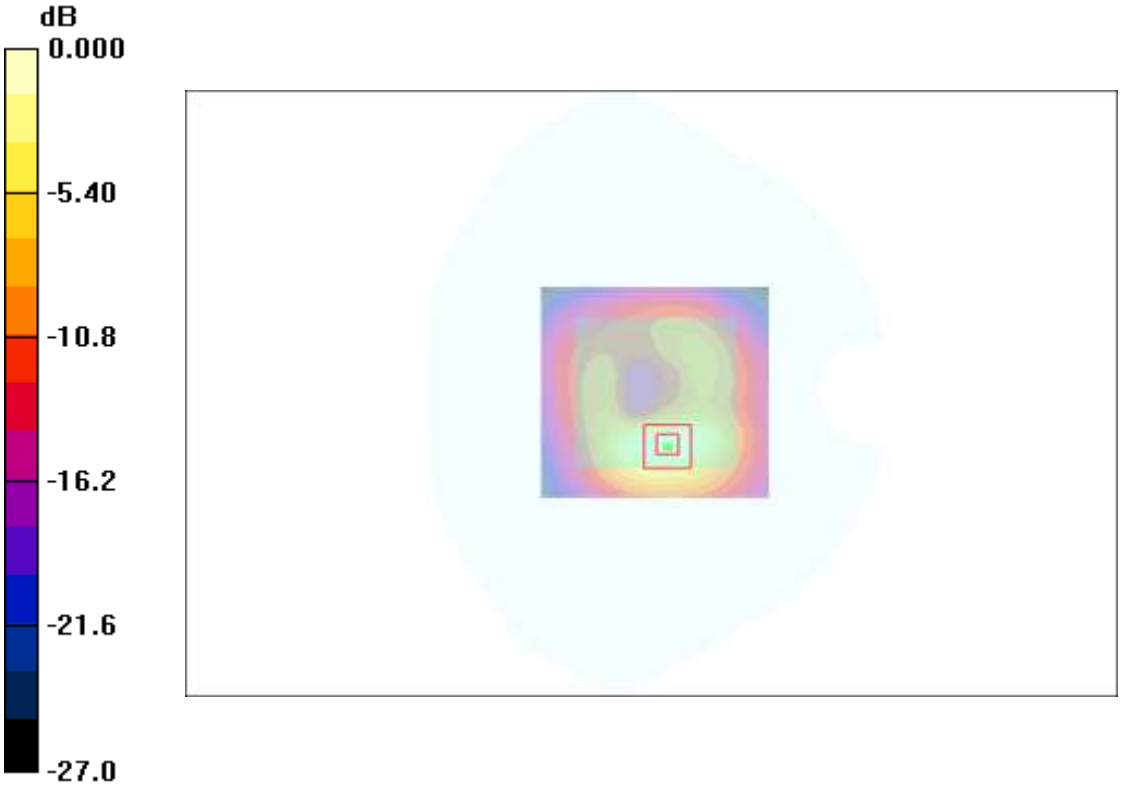
LTE Band41_20M_1RB 49_Back_Ch40185

Communication System: LTE Band 41; Frequency: 2549.5 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2550 MHz; σ = 1.93 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40185/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.755 mW/g

Ch40185/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.66 V/m; Power Drift = -0.123 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.635 mW/g; SAR(10 g) = 0.301 mW/g
Maximum value of SAR (measured) = 0.719 mW/g



0 dB = 0.719mW/g

LTE Band41_20M_1RB 49_Back_Ch40620

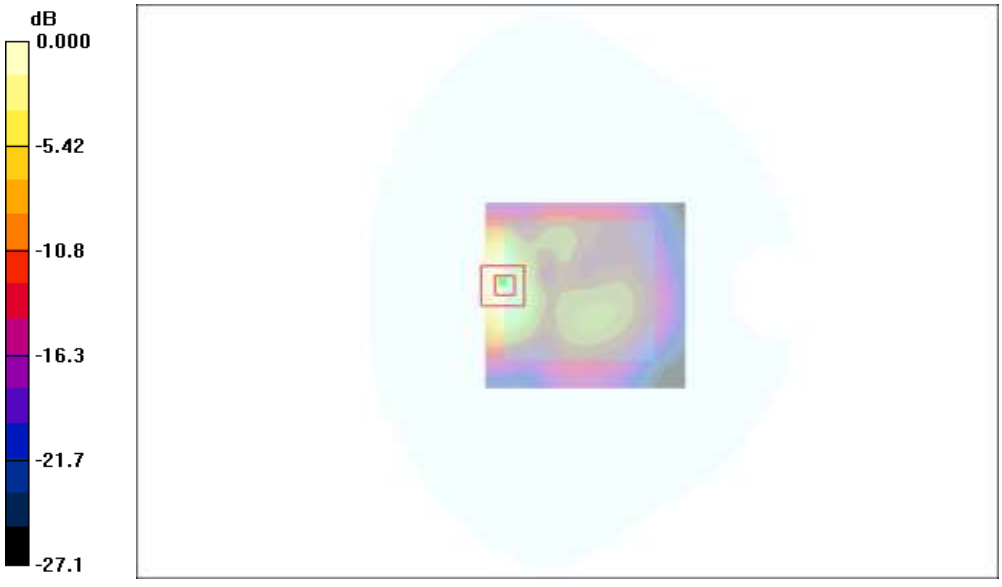
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2592.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2592.9 MHz; σ = 1.97 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.37 mW/g
Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.73 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 2.34 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.555 mW/g
Maximum value of SAR (measured) = 1.33 mW/g



0 dB = 1.33mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

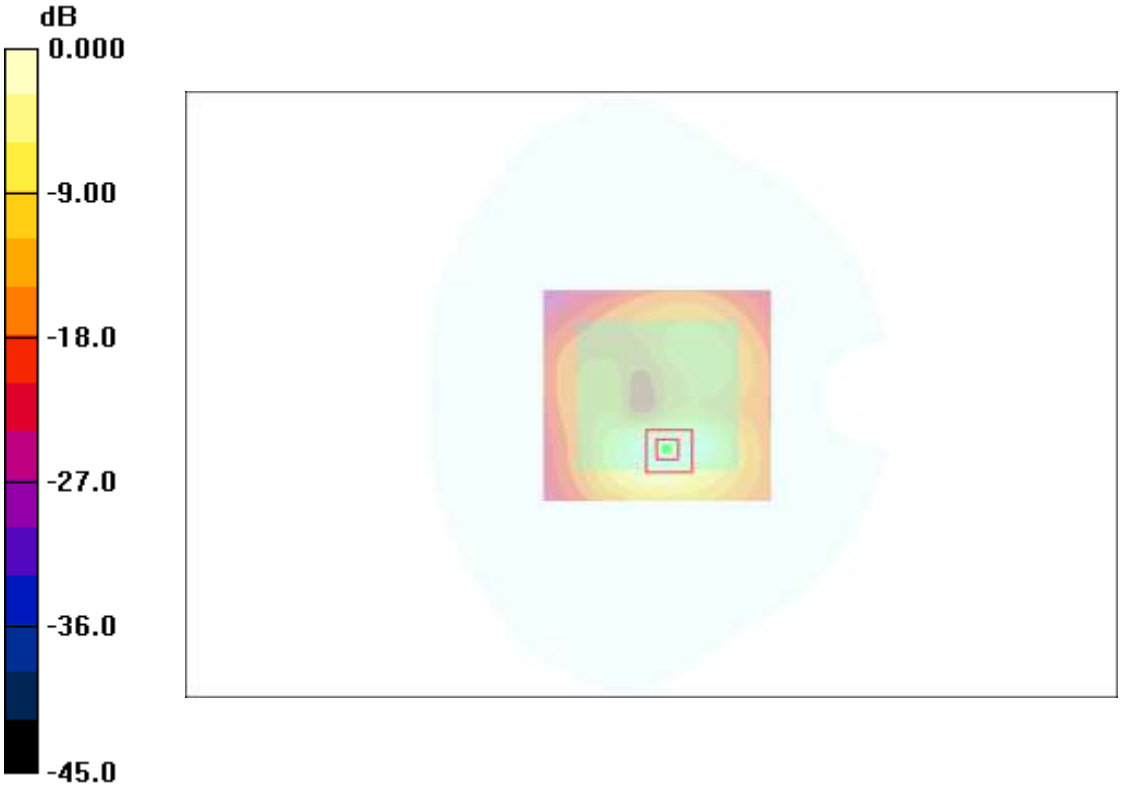
LTE Band41_20M_1RB 49_Back_Ch41055

Communication System: LTE Band 41; Frequency: 2636.5 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 2.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41055/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.22 mW/g

Ch41055/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.85 V/m; Power Drift = -0.093 dB
Peak SAR (extrapolated) = 2.04 W/kg
SAR(1 g) = 0.975 mW/g; SAR(10 g) = 0.461 mW/g
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

LTE Band41_20M_1RB 49_Back_Ch41490

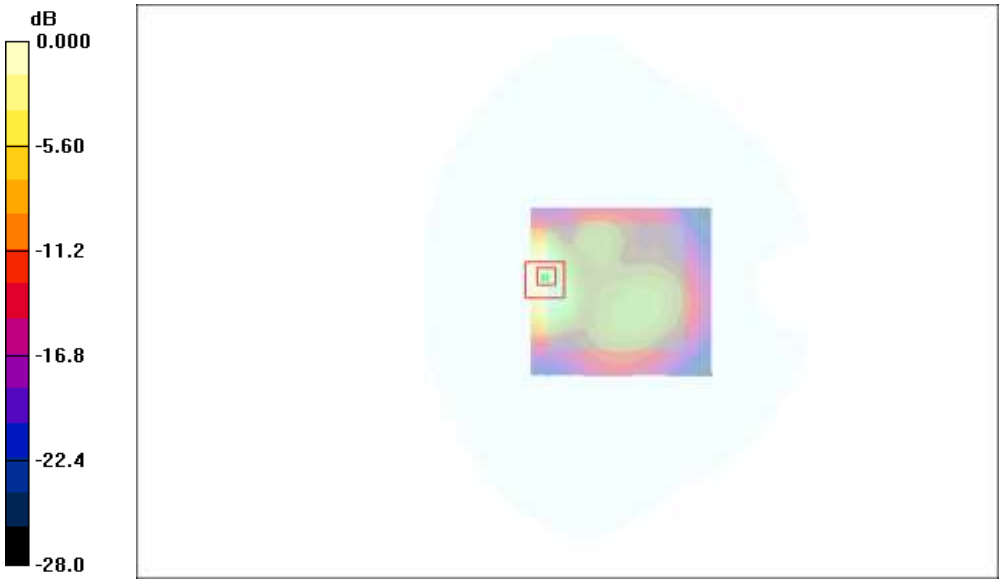
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.963 mW/g
Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.10 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.834 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.927 mW/g



0 dB = 0.927mW/g

LTE Band41_20M_1RB 49_Left Side_Ch39750

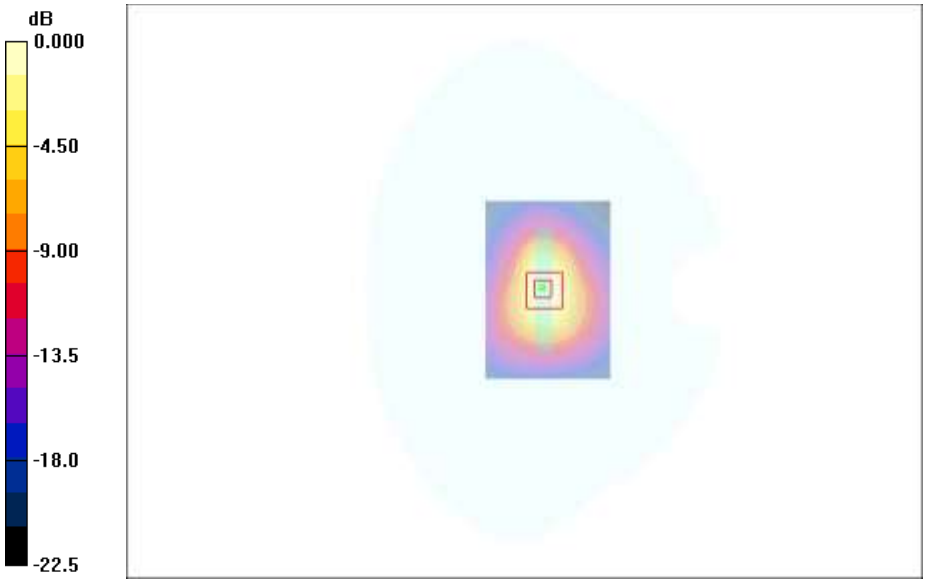
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.922 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.7 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.685 mW/g; SAR(10 g) = 0.349 mW/g
Maximum value of SAR (measured) = 0.771 mW/g



0 dB = 0.771mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

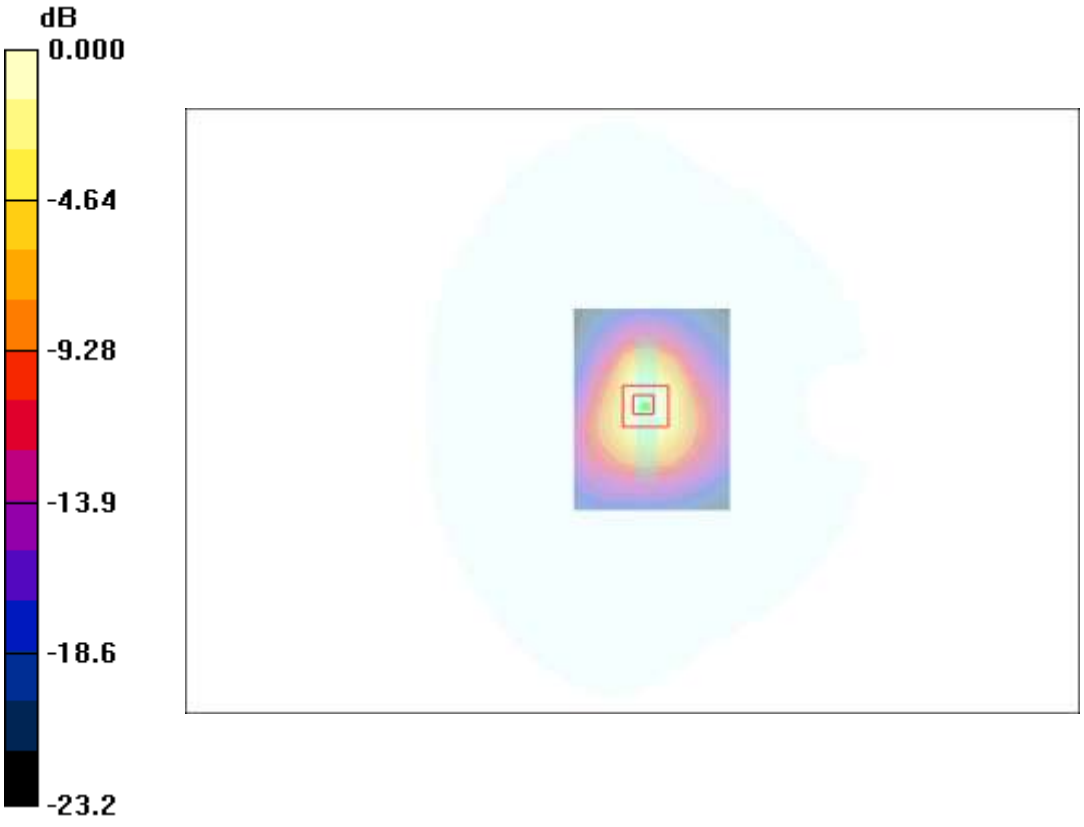
LTE Band41_20M_1RB 49_Left Side_Ch40185

Communication System: LTE Band 41; Frequency: 2549.5 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2550 MHz; σ = 1.93 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40185/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.07 mW/g

Ch40185/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.810 mW/g; SAR(10 g) = 0.399 mW/g
Maximum value of SAR (measured) = 0.918 mW/g



0 dB = 0.918mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

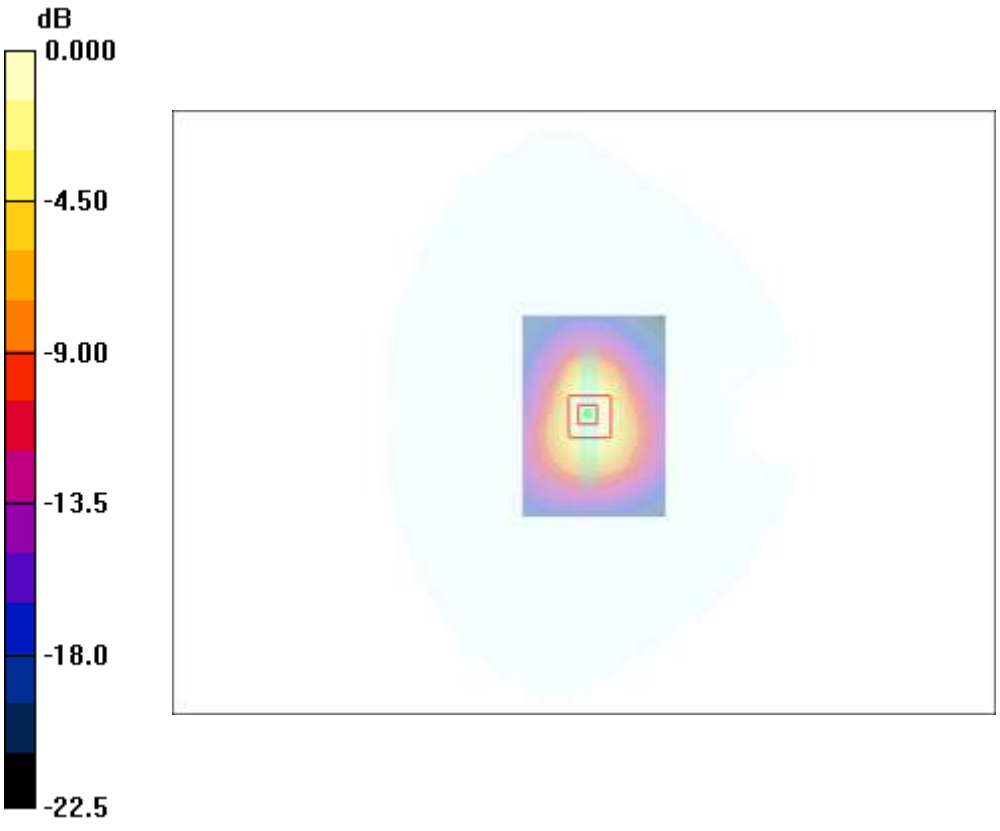
LTE Band41_20M_1RB 49_Left Side_Ch40620

Communication System: LTE Band 41; Frequency: 2592.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2592.9 MHz; σ = 1.97 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.996 mW/g

Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.9 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.742 mW/g; SAR(10 g) = 0.377 mW/g
Maximum value of SAR (measured) = 0.831 mW/g



0 dB = 0.831mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

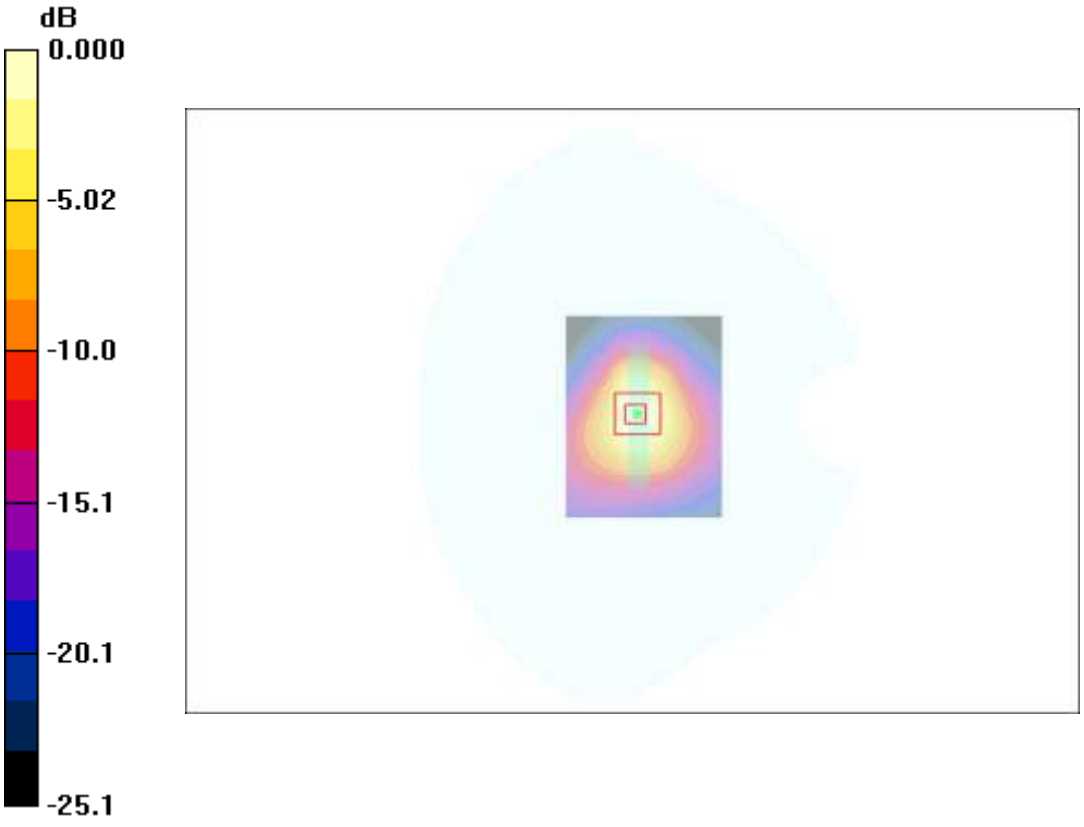
LTE Band41_20M_1RB 49_Left Side_Ch41055

Communication System: LTE Band 41; Frequency: 2636.5 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 2.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41055/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.82 mW/g

Ch41055/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 2.79 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.650 mW/g
Maximum value of SAR (measured) = 1.54 mW/g



0 dB = 1.54mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

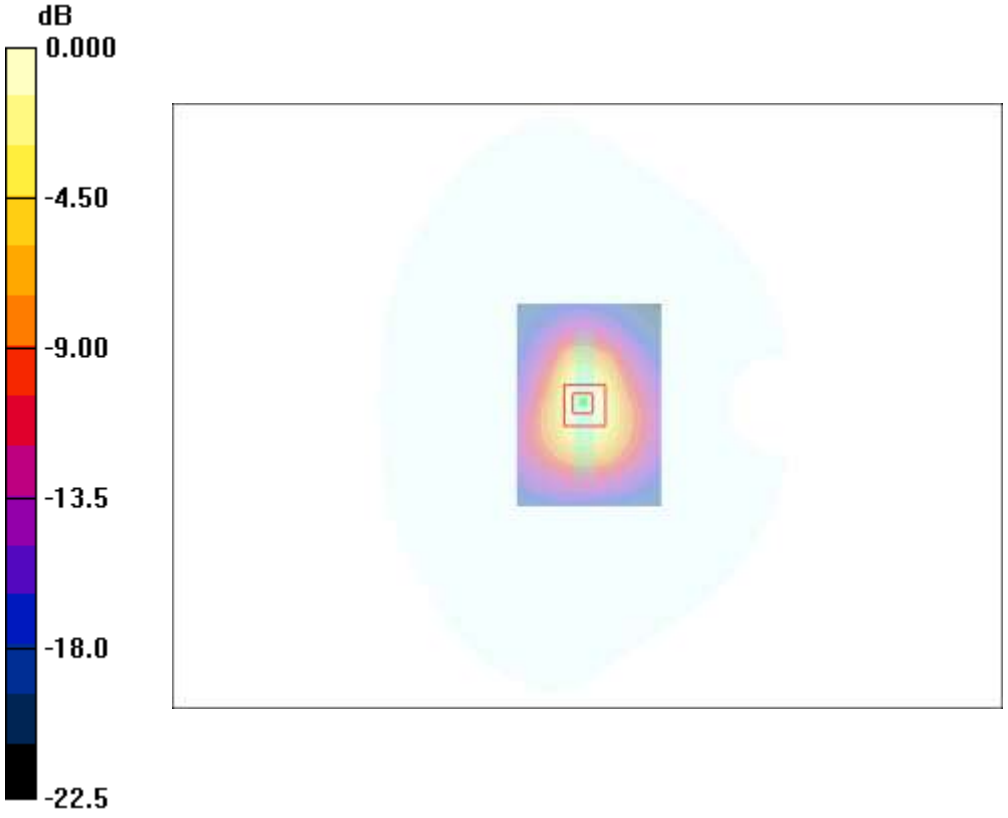
LTE Band41_20M_1RB 49_Left Side_Ch41490

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41490/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = 0.107 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.871 mW/g



0 dB = 0.871mW/g

LTE Band41_20M_1RB 49_Right Side_Ch39750

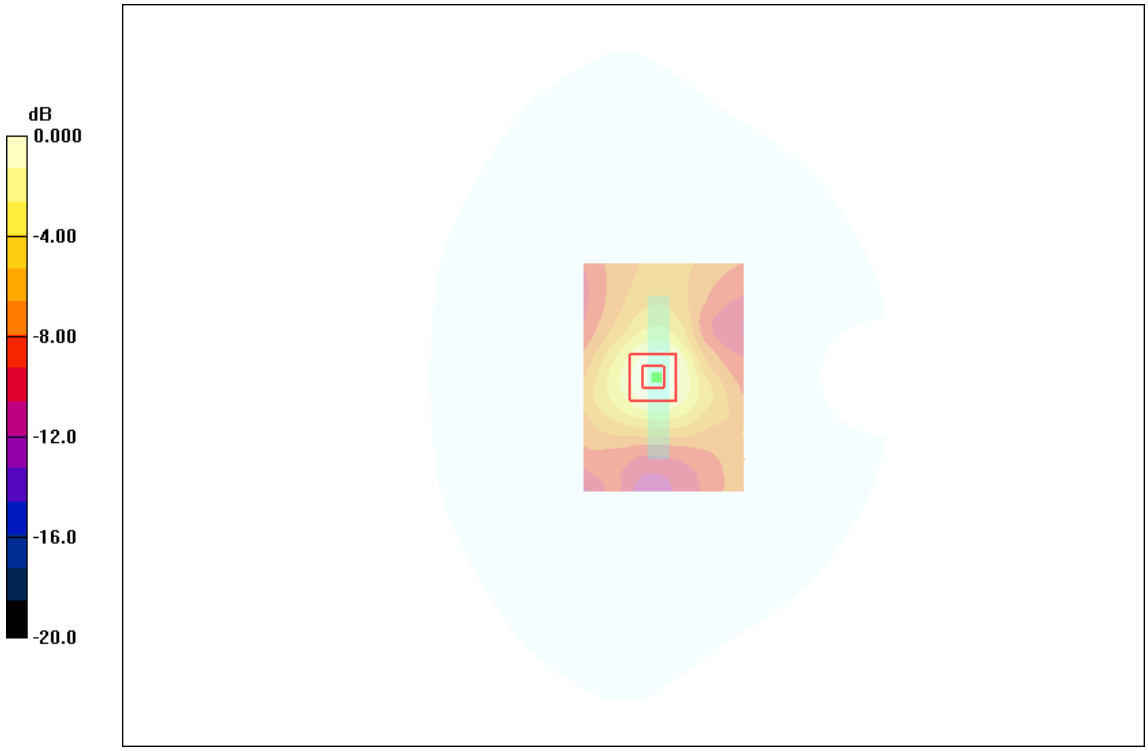
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.039 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.29 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 0.056 W/kg
SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.035 mW/g



0 dB = 0.035mW/g

LTE Band41_20M_1RB 49_Bottom_Ch39750

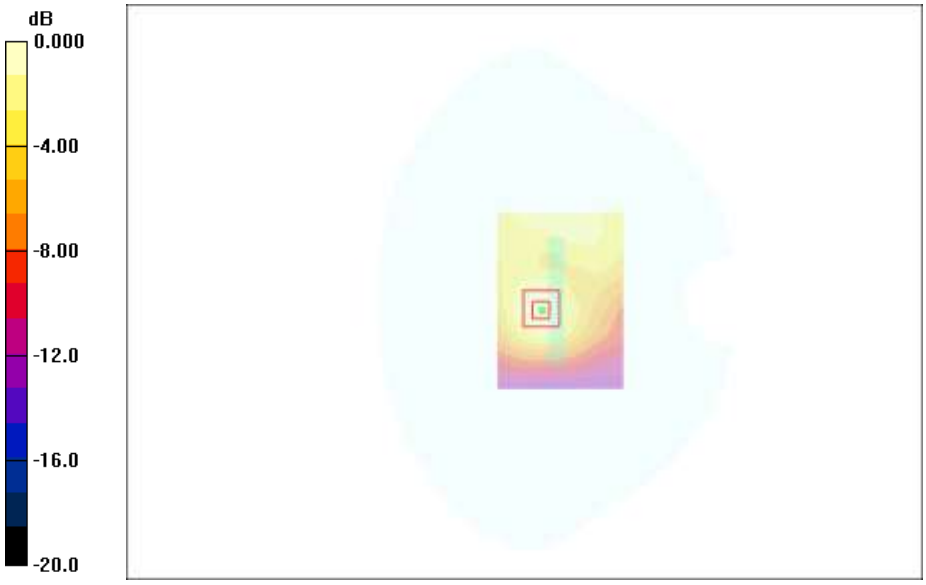
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.065 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.18 V/m; Power Drift = 0.087 dB
Peak SAR (extrapolated) = 0.105 W/kg
SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.065 mW/g



0 dB = 0.065mW/g

LTE Band41_20M_50RB 49_Front_Ch39750

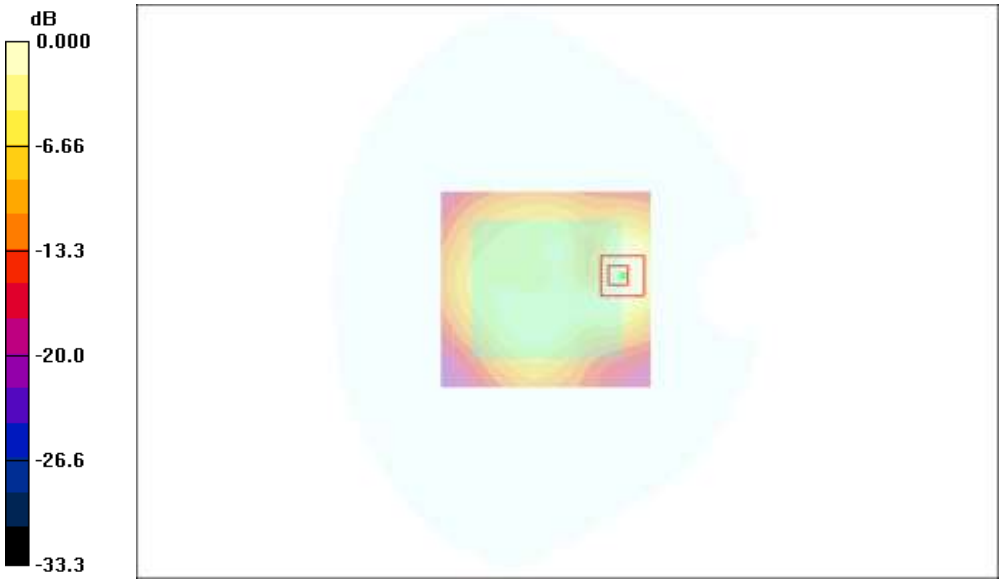
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.323 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.19 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.321 mW/g



0 dB = 0.321mW/g

LTE Band41_20M_50RB 49_Back_Ch39750

Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.03 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.01 V/m; Power Drift = 0.146 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 0.925 mW/g; SAR(10 g) = 0.442 mW/g
Maximum value of SAR (measured) = 0.942 mW/g

0 dB = 0.942mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

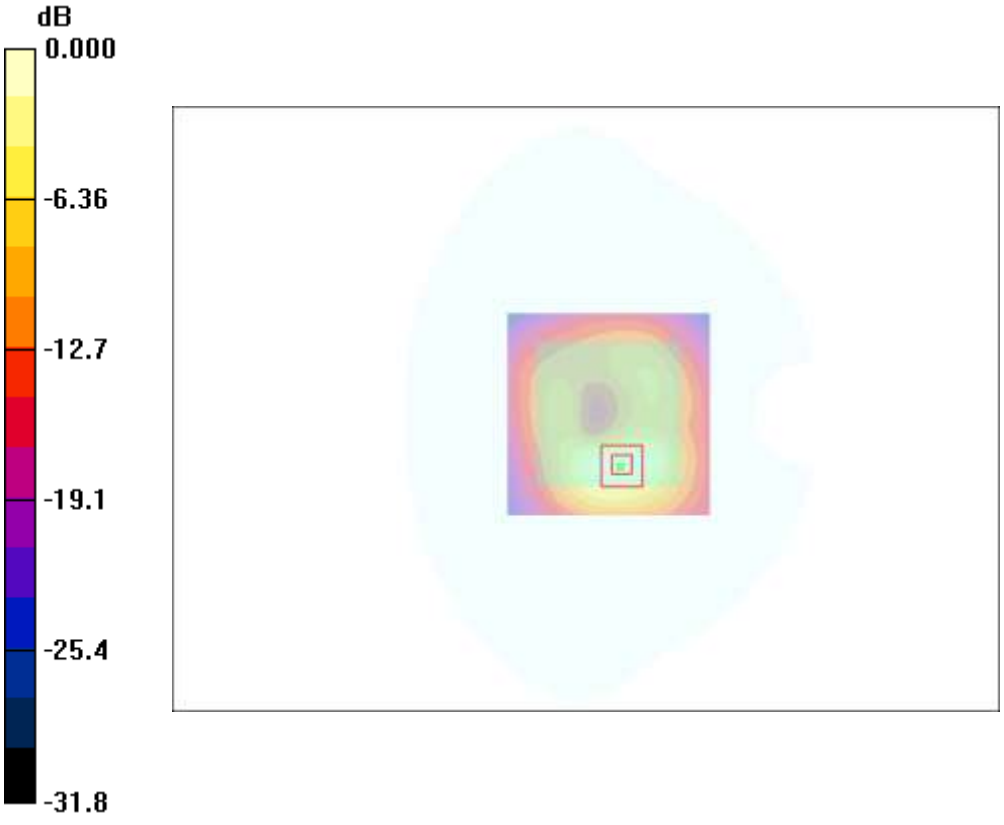
LTE Band41_20M_50%RB 0_Back_Ch40185

Communication System: LTE Band 41; Frequency: 2549.5 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2550 MHz; σ = 1.93 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40185/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.612 mW/g

Ch40185/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.36 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.519 mW/g; SAR(10 g) = 0.246 mW/g
Maximum value of SAR (measured) = 0.588 mW/g



0 dB = 0.588mW/g

LTE Band41_20M_50RB 49_Back_Ch40620

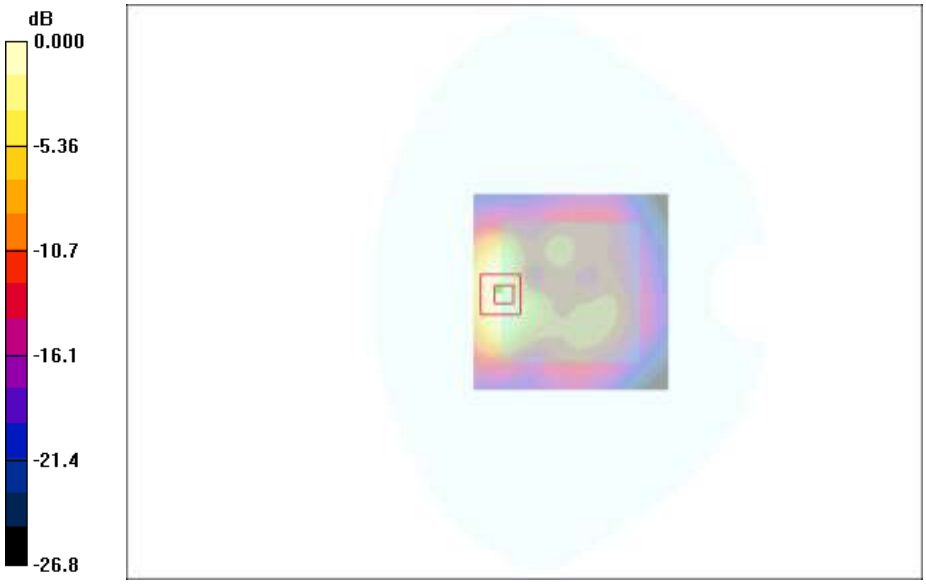
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2592.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2592.9 MHz; σ = 1.97 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.34 mW/g
Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.03 V/m; Power Drift = 0.175 dB
Peak SAR (extrapolated) = 2.34 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 1.16 mW/g



0 dB = 1.16mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

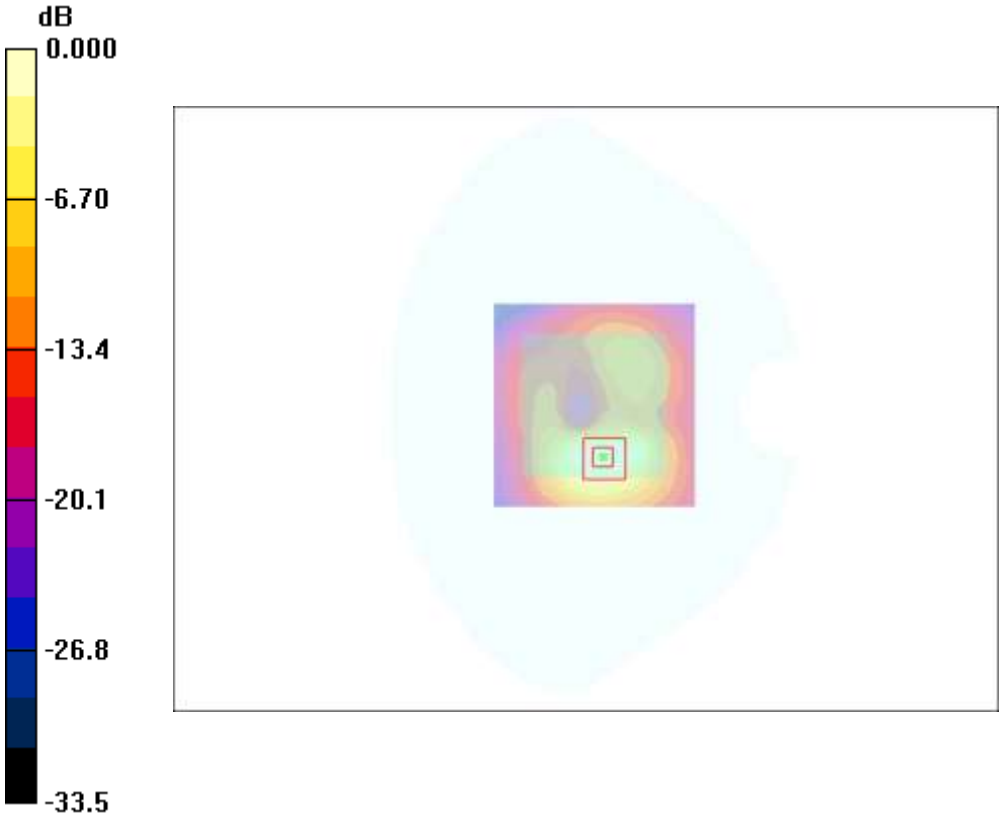
LTE Band41_20M_50%RB 0_Back_Ch41055

Communication System: LTE Band 41; Frequency: 2636.5 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 2.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41055/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.977 mW/g

Ch41055/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.52 V/m; Power Drift = -0.068 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 0.781 mW/g; SAR(10 g) = 0.368 mW/g
Maximum value of SAR (measured) = 0.865 mW/g



0 dB = 0.865mW/g

LTE Band41_20M_50RB 49_Back_Ch41490

Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41490/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.929 mW/g
Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.18 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 0.844 mW/g; SAR(10 g) = 0.400 mW/g
Maximum value of SAR (measured) = 0.881 mW/g

0 dB = 0.881mW/g

LTE Band41_20M_50RB 49_Left Side_Ch39750

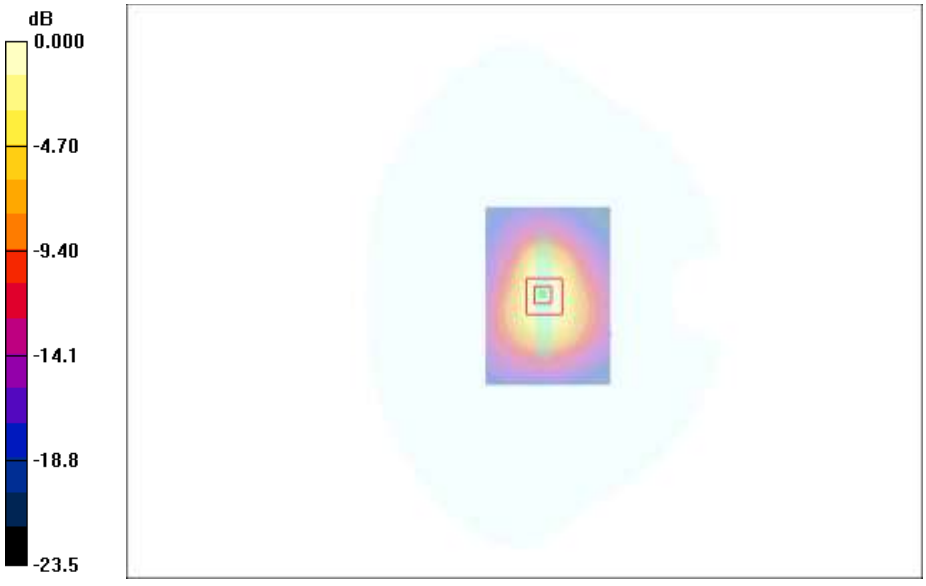
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.803 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.585 mW/g; SAR(10 g) = 0.294 mW/g
Maximum value of SAR (measured) = 0.669 mW/g



0 dB = 0.669mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/201

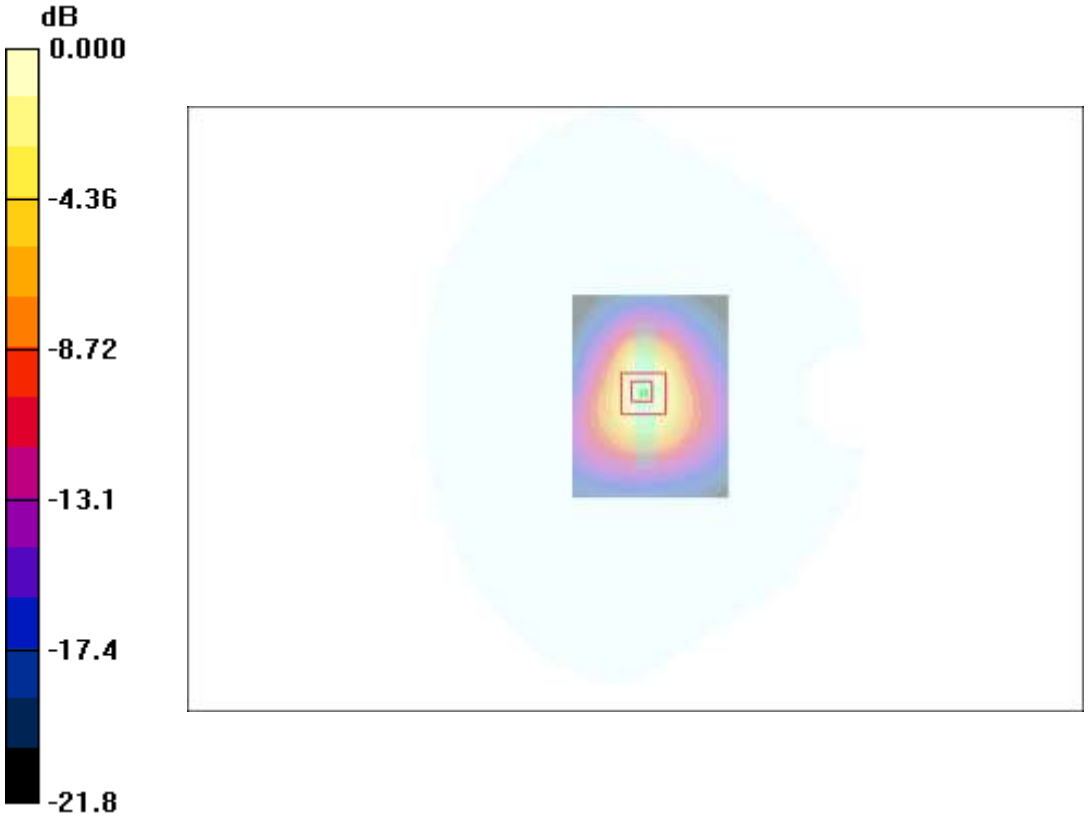
LTE Band41_20M_50%RB 0_Left Side_Ch40185

Communication System: LTE Band 41; Frequency: 2549.5 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2550 MHz; σ = 1.93 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40185/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.898 mW/g

Ch40185/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.9 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.334 mW/g
Maximum value of SAR (measured) = 0.766 mW/g



0 dB = 0.766mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

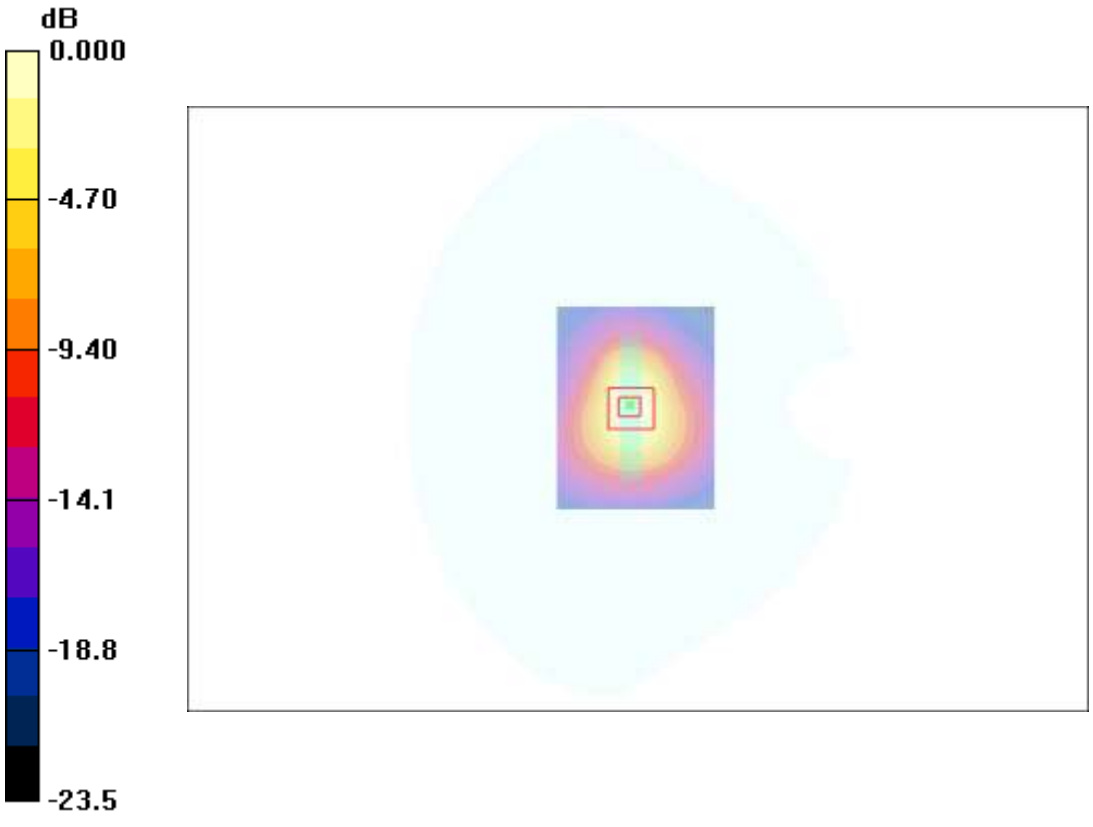
LTE Band41_20M_50%RB 49_Left Side_Ch40620

Communication System: LTE Band 41; Frequency: 2592.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2592.9 MHz; σ = 1.97 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.868 mW/g

Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.7 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.318 mW/g
Maximum value of SAR (measured) = 0.723 mW/g



0 dB = 0.723mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

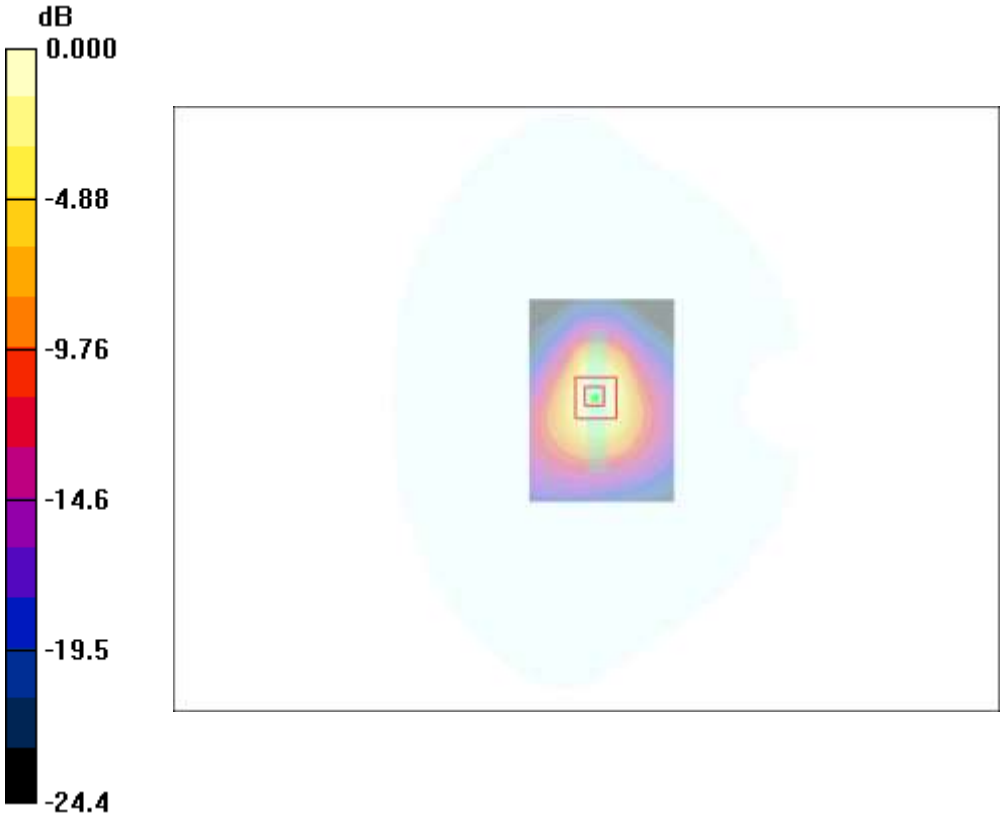
LTE Band41_20M_50%RB 0_Left Side_Ch41055

Communication System: LTE Band 41; Frequency: 2636.5 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 2.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41055/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.44 mW/g

Ch41055/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.3 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 2.22 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.509 mW/g
Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

Date: 6/12/2015 Test Laboratory: SUNWAY COMMUNICATION CO.,LTD.

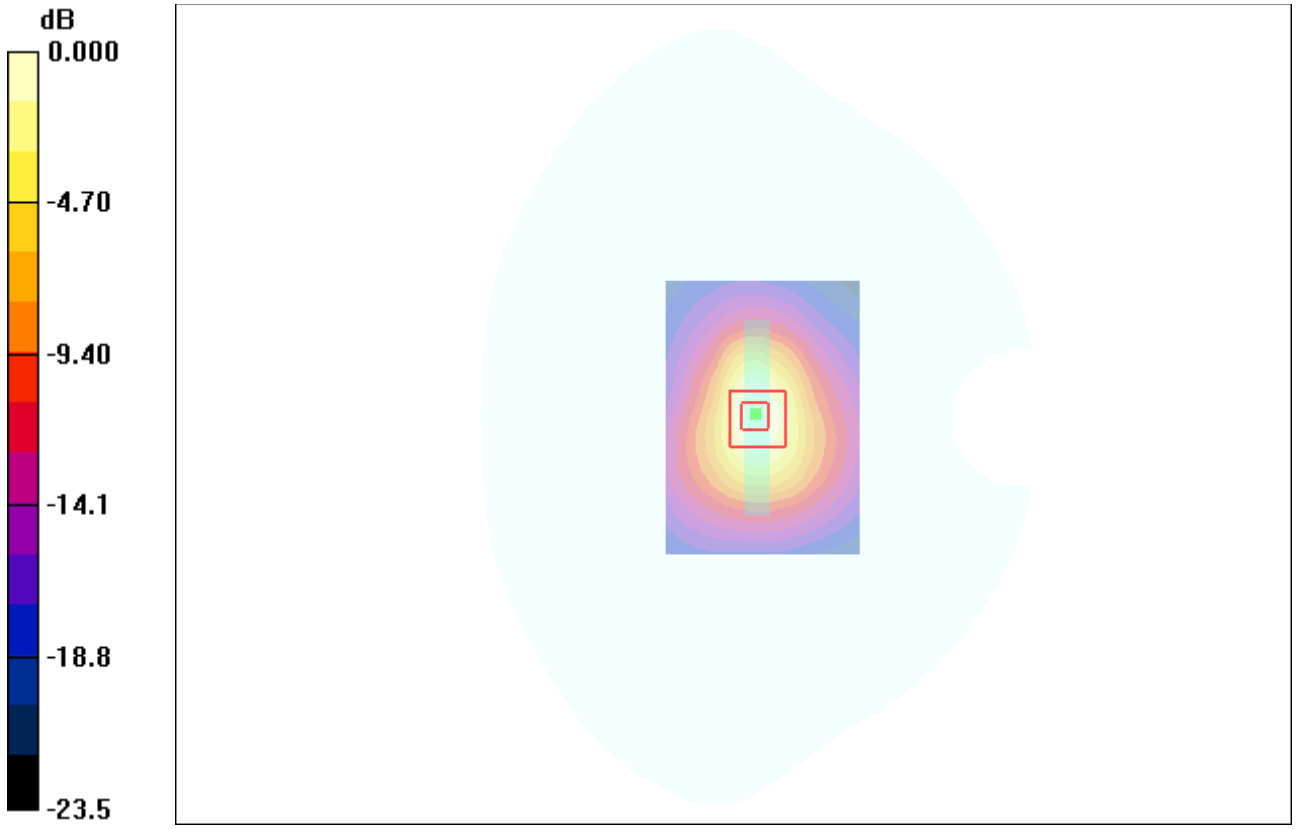
LTE Band41_20M_50%RB 49_Left Side_Ch41490

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41490/Area Scan (51x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.915 mW/g

Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.2 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.668 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.762 mW/g



0 dB = 0.762mW/g

LTE Band41_20M_50RB 49_Right Side_Ch39750

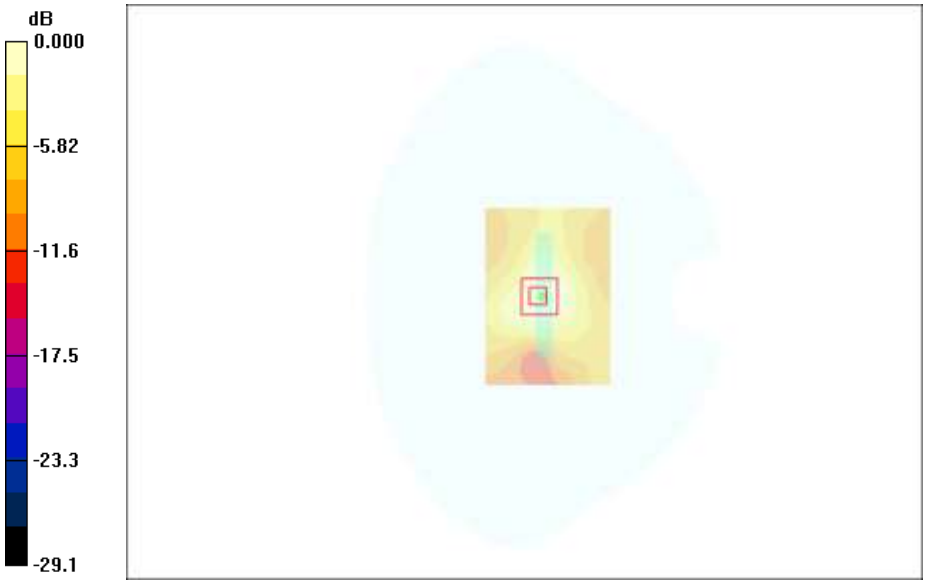
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.038 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.32 V/m; Power Drift = 0.065 dB
Peak SAR (extrapolated) = 0.054 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.033 mW/g



0 dB = 0.033mW/g

LTE Band41_20M_50RB 49_Bottom Side_Ch39750

Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (51x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.063 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.04 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.105 W/kg
SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.064 mW/g

0 dB = 0.064mW/g

LTE Band41_20M_100RB 0_Back_Ch39750

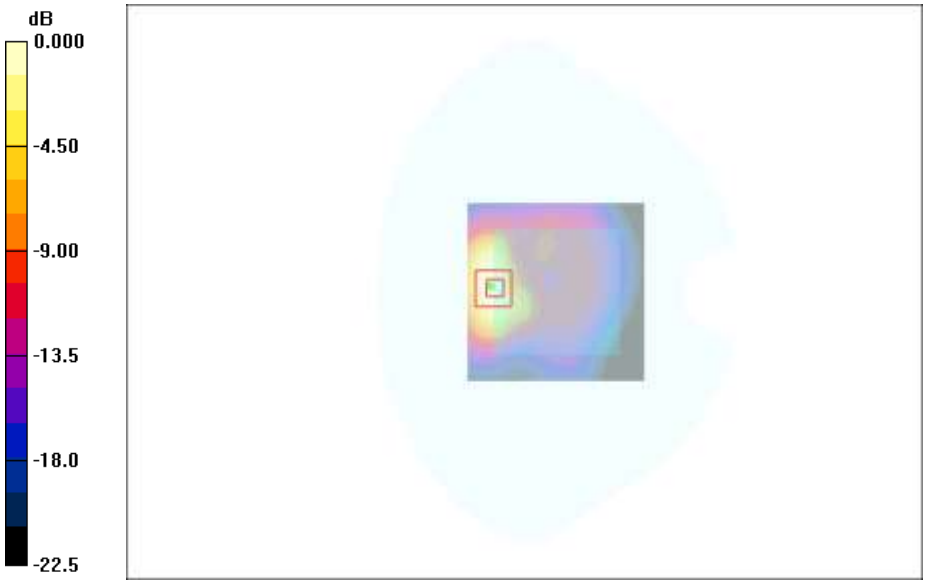
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2496.1 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2496.1 MHz; σ = 1.87 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch39750/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.06 mW/g
Ch39750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.85 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 0.947 mW/g; SAR(10 g) = 0.452 mW/g
Maximum value of SAR (measured) = 0.964 mW/g



0 dB = 0.964mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

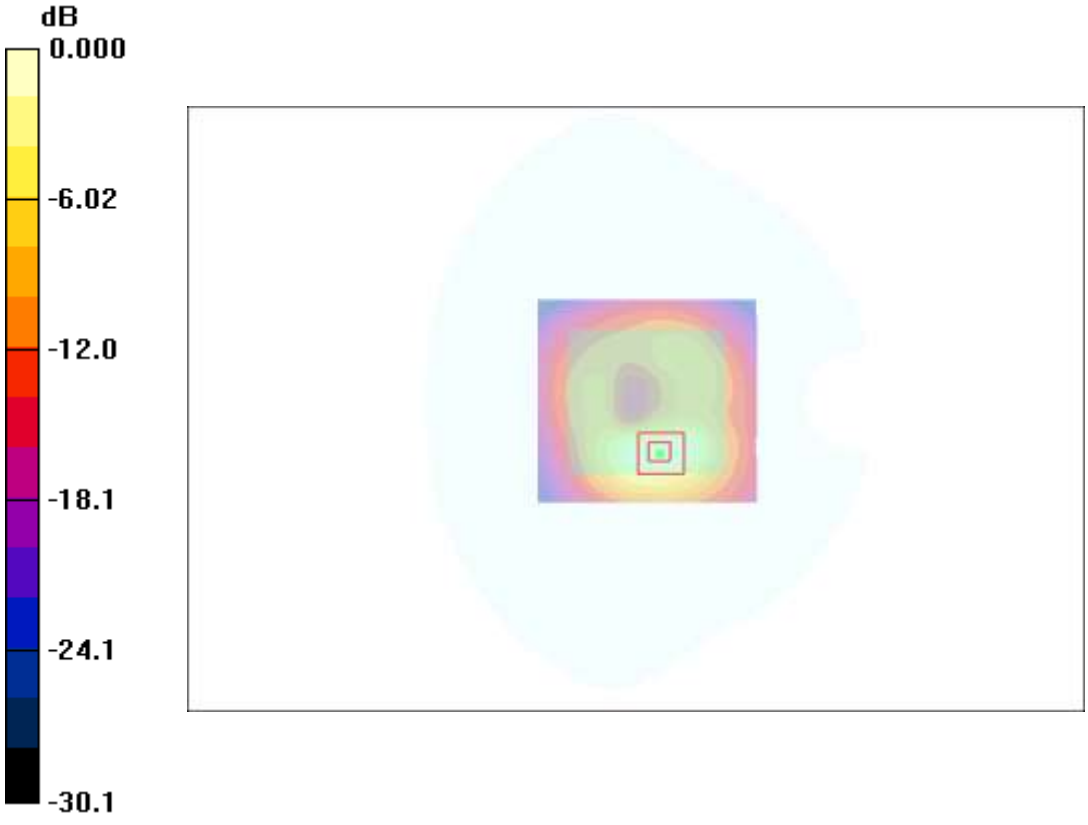
LTE Band41_20M_100%RB 0_Back_Ch40185

Communication System: LTE Band 41; Frequency: 2549.5 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2550 MHz; σ = 1.93 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.14, 4.14, 4.14); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40185/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.630 mW/g

Ch40185/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.25 V/m; Power Drift = 0.116 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.529 mW/g; SAR(10 g) = 0.252 mW/g
Maximum value of SAR (measured) = 0.597 mW/g



0 dB = 0.597mW/g

LTE Band41_20M_100RB 0_Back_Ch40620

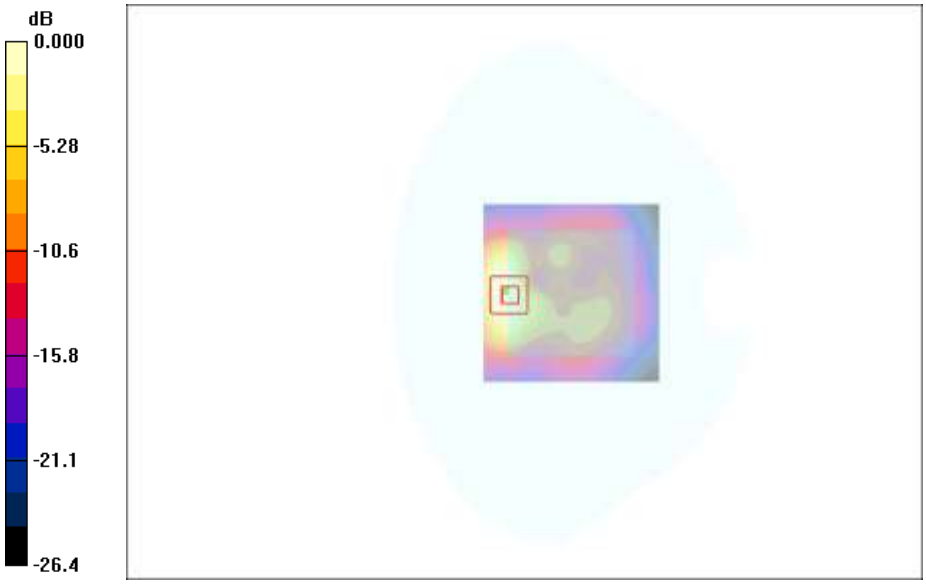
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch40620/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.41 mW/g
Ch40620/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.13 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 2.47 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.556 mW/g
Maximum value of SAR (measured) = 1.22 mW/g



0 dB = 1.22mW/g

Test Laboratory: SUNWAY COMMUNICATION CO.,LTD. Date: 6/12/2015

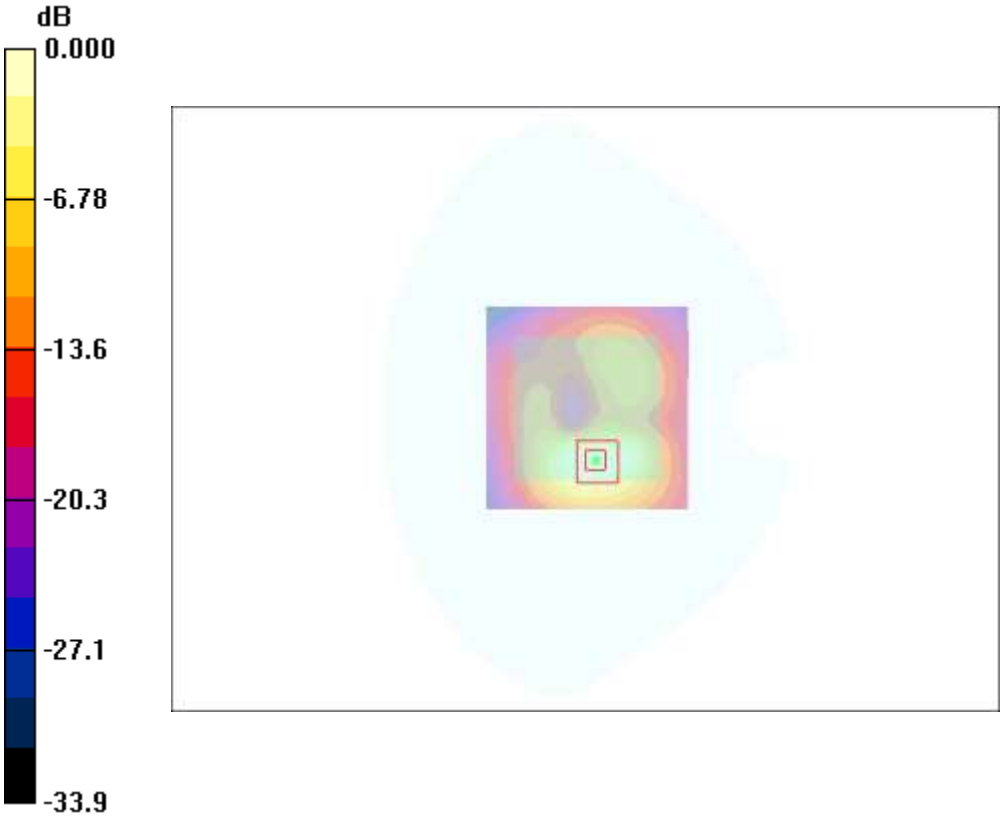
LTE Band41_20M_100%RB 0_Back_Ch41055

Communication System: LTE Band 41; Frequency: 2636.5 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 2.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41055/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.980 mW/g

Ch41055/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.51 V/m; Power Drift = 0.185 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.375 mW/g
Maximum value of SAR (measured) = 0.878 mW/g



0 dB = 0.878mW/g

LTE Band41_20M_100RB 0_Back_Ch41490

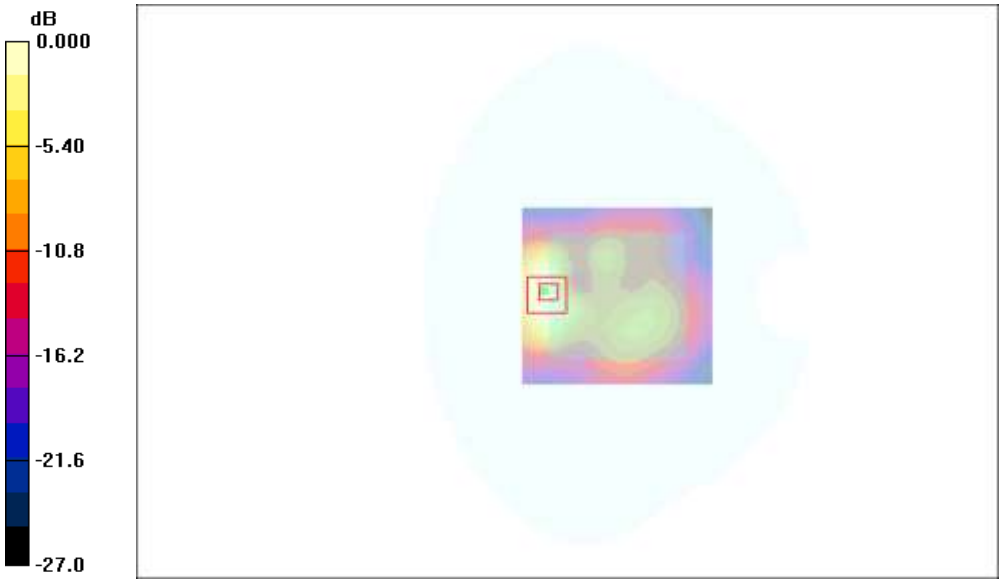
Date: 4/21/2015

DUT: MXL655; Type: SI PIN; Serial: IMEI Number
Program Name: MXL655

Communication System: LTE Band 41; Frequency: 2689.9 MHz;Duty Cycle: 1:1.58
Medium parameters used (interpolated): f = 2689.9 MHz; σ = 2.08 mho/m; ε_r = 50; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3028; ConvF(4.02, 4.02, 4.02); Calibrated: 10/22/2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn689; Calibrated: 10/1/2014
- Phantom: SAM 1; Type: SAM; Serial: TP-1360
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch41490/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.14 mW/g
Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.77 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 0.917 mW/g; SAR(10 g) = 0.428 mW/g
Maximum value of SAR (measured) = 0.930 mW/g



0 dB = 0.930mW/g

Appendix C. Probe Calibration Data:

In Collaboration with
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CALIBRATION No. L0570

Client AUDEN Certificate No: Z14-97115

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3028
Calibration Procedure(s)	TMC-OS-E-02-195 Calibration Procedures for Dosimetric E-field Probes
Calibration date:	October 22, 2014

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)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Power sensor NRP-Z91	101547	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Power sensor NRP-Z91	101548	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Reference10dBAttenuator	BT0520	12-Dec-12(TMC,No.JZ12-867)	Dec-14
Reference20dBAttenuator	BT0267	12-Dec-12(TMC,No.JZ12-866)	Dec-14
Reference Probe EX3DV4	SN 3617	28-Aug-14(SPEAG,No.EX3-3617_Aug14)	Aug-15
DAE4	SN 1331	23-Jan-14 (SPEAG, DAE4-1331_Jan14)	Jan -15
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
SignalGeneratorMG3700A	6201052605	01-Jul-14 (CTTL, No.J14X02145)	Jun-15
Network Analyzer E5071C	MY46110673	15-Feb-14 (TMC, No.JZ14-781)	Feb-15

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: October 23, 2014

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Glossary:

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

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005

Methods Applied and Interpretation of Parameters:

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

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Probe ES3DV3

SN: 3028

Calibrated: October 22, 2014

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

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DASY – Parameters of Probe: ES3DV3 - SN: 3028

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm(μV/(V/m)^2)^A	1.16	1.27	1.21	±10.8%
DCP(mV)^B	105.8	103.2	103.8	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	282.9	±2.2%
		Y	0.0	0.0	1.0		282.0	
		Z	0.0	0.0	1.0		290.3	

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

^{A} The uncertainties of Norm X, Y, Z do not affect the E^2-field uncertainty inside TSL (see Page 5 and Page 6).
^{B} Numerical linearization parameter: uncertainty not required.
^{E} Uncertainly 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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DASY – Parameters of Probe: ES3DV3 - SN: 3028

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)	Unct. (k=2)
750	41.9	0.89	6.36	6.36	6.36	0.37	1.44	±12%
835	41.5	0.90	6.19	6.19	6.19	0.39	1.42	±12%
1750	40.1	1.37	4.97	4.97	4.97	0.55	1.34	±12%
1900	40.0	1.40	4.68	4.68	4.68	0.70	1.23	±12%
2300	39.5	1.67	4.52	4.52	4.52	0.80	1.17	±12%
2450	39.2	1.80	4.21	4.21	4.21	0.98	1.04	±12%
2600	39.0	1.96	4.06	4.06	4.06	0.86	1.11	±12%

[C] Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

[F] At frequency 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 the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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DASY – Parameters of Probe: ES3DV3 - SN: 3028

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)	Unct. (k=2)
750	55.5	0.96	6.02	6.02	6.02	0.33	1.68	±12%
835	55.2	0.97	6.02	6.02	6.02	0.34	1.79	±12%
1750	53.4	1.49	4.69	4.69	4.69	0.63	1.30	±12%
1900	53.3	1.52	4.48	4.48	4.48	0.60	1.34	±12%
2300	52.9	1.81	4.37	4.37	4.37	0.74	1.25	±12%
2450	52.7	1.95	4.14	4.14	4.14	0.68	1.35	±12%
2600	52.5	2.16	4.02	4.02	4.02	0.84	1.16	±12%

[C] Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

[F] At frequency 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 the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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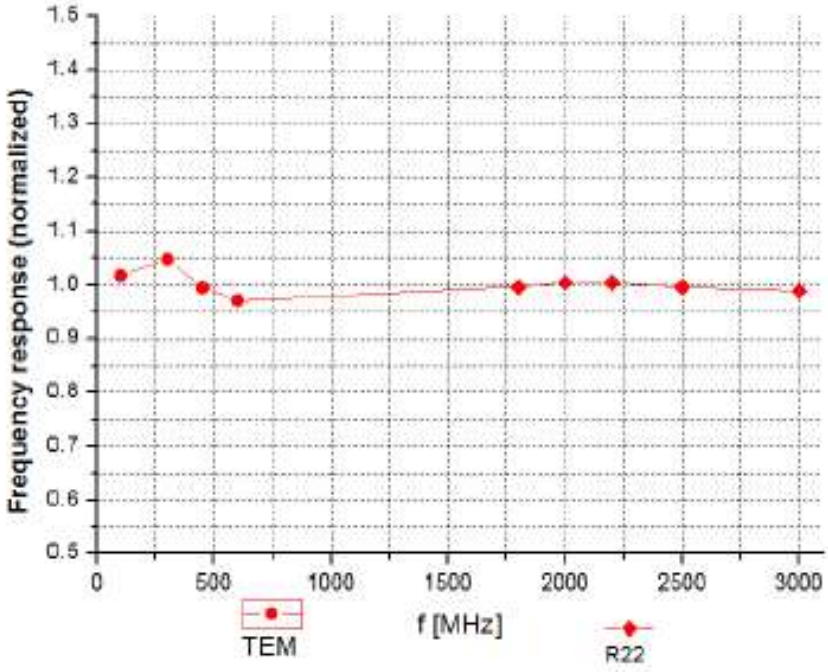
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.5% (k=2)

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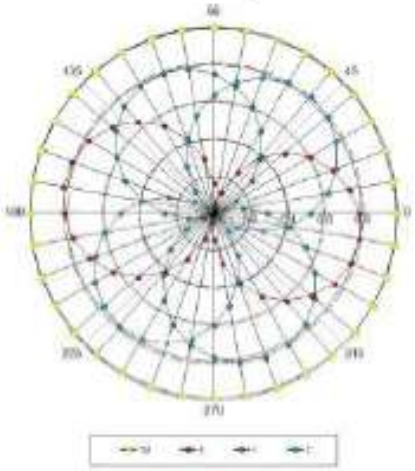
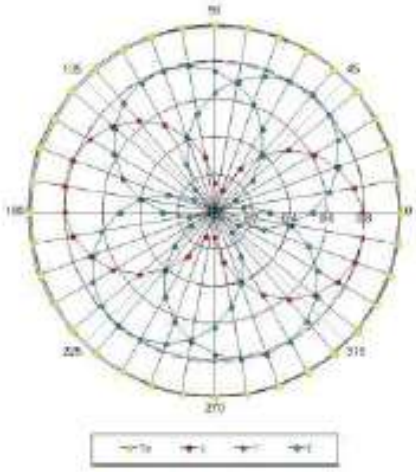
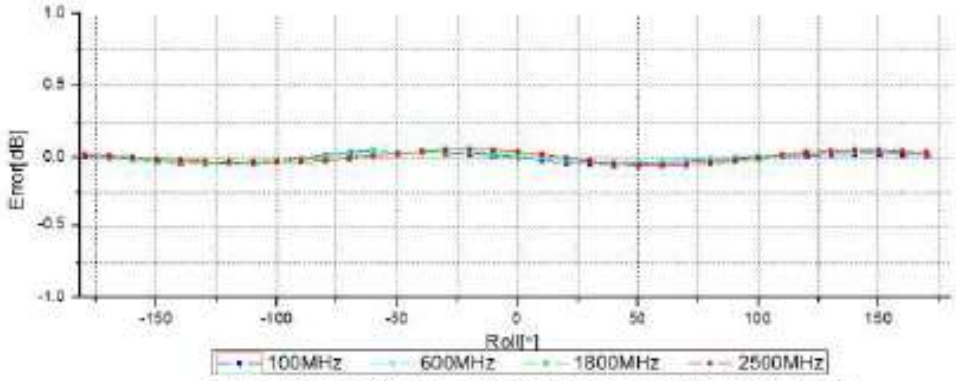
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±0.9% (k=2)

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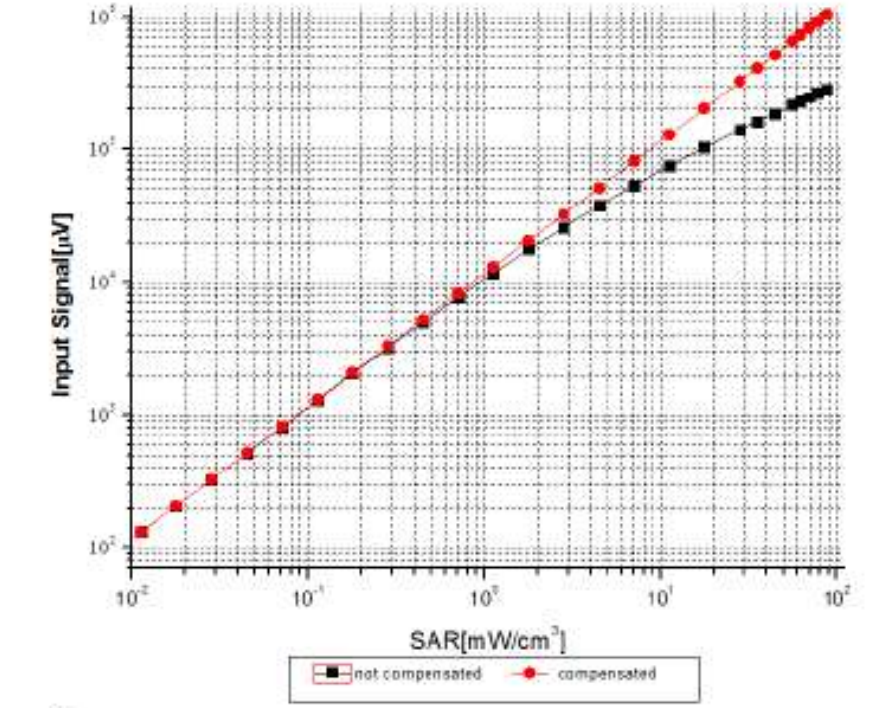
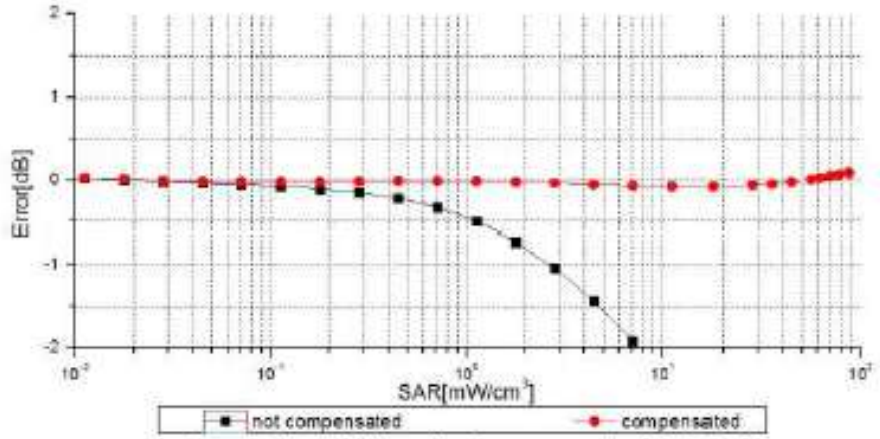
Dynamic Range f(SAR_{head})
(TEM cell, f = 900 MHz)





Uncertainty of Linearity Assessment: ±0.9% (k=2)

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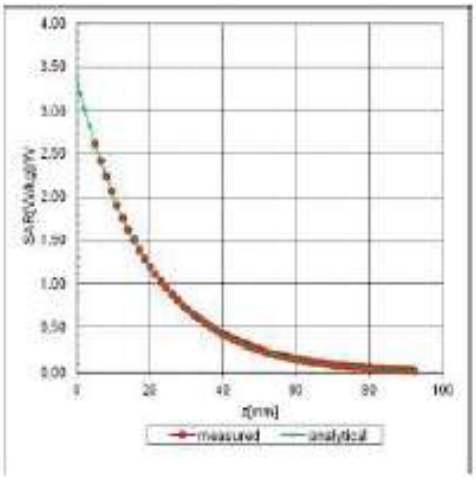
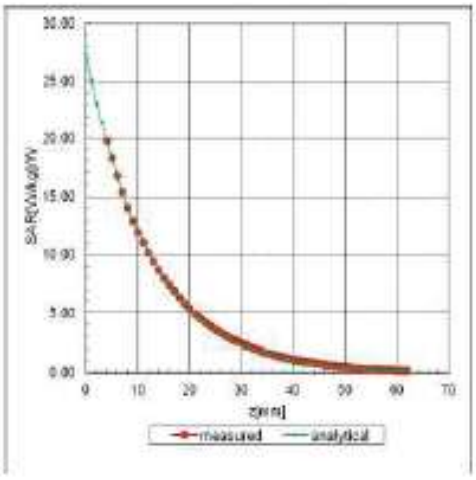
Conversion Factor Assessment

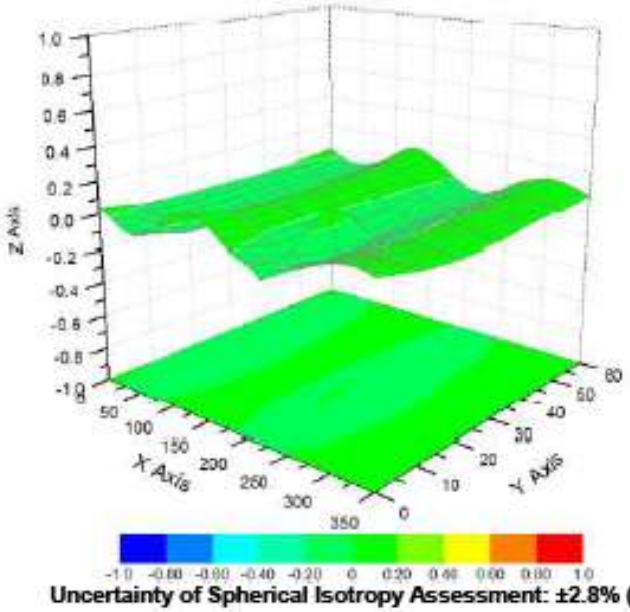
f=835 MHz, WGLS R9(H_convF)



f=1750 MHz, WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: ±2.8% (K=2)

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DASY - Parameters of Probe: ES3DV3 - SN: 3208

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	54.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	10mm
Tip Diameter	4mm
Probe Tip to Sensor X Calibration Point	2mm
Probe Tip to Sensor Y Calibration Point	2mm
Probe Tip to Sensor Z Calibration Point	2mm
Recommended Measurement Distance from Surface	3mm

June 26, 2013

Acceptable Conditions for SAR Measurements Using Probes and Dipoles Calibrated under the SPEAG-TMC Dual-Logo Calibration Program to Support FCC Equipment Certification

The acceptable conditions for SAR measurements using probes, dipoles and DAEs calibrated by TMC (*Telecommunication Metrology Center of MITT in Beijing, China*), under the Dual-Logo Calibration Certificate program and quality assurance (QA) protocols established between SPEAG (*Schmid & Partner Engineering AG, Switzerland*) and TMC, to support FCC (*U.S. Federal Communications Commission*) equipment certification are defined and described in the following.

1) The agreement established between SPEAG and TMC is only applicable to calibration services performed by TMC where its clients (companies and divisions of such companies) are headquartered in the Greater China Region, including Taiwan and Hong Kong. This agreement is subject to renewal at the end of each calendar year between SPEAG and TMC. TMC shall inform the FCC of any changes or early termination to the agreement.
2) Only a subset of the calibration services specified in the SPEAG-TMC agreement, while it remains valid, are applicable to SAR measurements performed using such equipment for supporting FCC equipment certification. These are identified in the following.
   a) Calibration of dosimetric (SAR) probes EX3DVx, ET3DVx and ES3DVx.
      i) Free-space E-field and H-field probes, including those used for HAC (hearing aid compatibility) evaluation, temperature probes, other probes or equipment not identified in this document, when calibrated by TMC, are excluded and cannot be used for measurements to support FCC equipment certification.
      ii) Signal specific and bundled probe calibrations based on PMR (probe modulation response) characteristics are handled according to the requirements of KDB 865664; that is, "Until standardized procedures are available to make such determination, the applicability of a signal specific probe calibration for testing specific wireless modes and technologies is determined on a case-by-case basis through KDB inquiries, including SAR system verification requirements."
   b) Calibration of SAR system validation dipoles, excluding HAC dipoles.
   c) Calibration of data acquisition electronics DAE3Vx, DAE4Vx and DAEasyVx.
   d) For FCC equipment certification purposes, the frequency range of SAR probe and dipole calibrations is limited to 700 MHz - 6 GHz and provided it is supported by the equipment identified in the TMC QA protocol (a separate attachment to this document).
   e) The identical system and equipment setup, measurement configurations, hardware, evaluation algorithms, calibration and QA protocols, including the format of calibration certificates and reports used by SPEAG shall be applied by TMC.
   f) The calibrated items are only applicable to SPEAG DASY 4 and DASY 5 or higher version systems.

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

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

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

Accreditation No.: SCS 108

Client Sunway-SZ (Auden) Certificate No: DAE4-689_Oct14

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BM - SN: 689
Calibration procedure(s)	QA CAL-06.v28 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	October 01, 2014

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
Keithley Multimeter Type 2001	SN: 0810278	01-Oct-13 (No:13976)	Oct-14
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	07-Jan-14 (in house check)	In house check: Jan-15
Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-14 (in house check)	In house check: Jan-15

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Technician	
Approved by:	Fin Bomholt	Deputy Technical Manager	

Issued: October 1, 2014

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

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

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Accreditation No.: SCS 108

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity*: Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

Appendix D. DAE Calibration Data:

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	full range =	-100...+300 mV
Low Range:	1LSB =	61nV ,	full range =	-1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.239 ± 0.02% (k=2)	404.156 ± 0.02% (k=2)	404.835 ± 0.02% (k=2)
Low Range	3.94871 ± 1.50% (k=2)	3.98364 ± 1.50% (k=2)	4.00706 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	83.0 ° ± 1 °

Appendix (Additional assessments outside the scope of SCS108)

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	200037.45	-2.43	-0.00
Channel X	+ Input	20004.97	0.89	0.00
Channel X	- Input	-20004.37	1.76	-0.01
Channel Y	+ Input	200038.83	1.40	0.00
Channel Y	+ Input	20005.93	1.88	0.01
Channel Y	- Input	-20004.16	1.95	-0.01
Channel Z	+ Input	200036.92	-0.75	-0.00
Channel Z	+ Input	20003.46	-0.50	-0.00
Channel Z	- Input	-20002.36	3.79	-0.02

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2000.93	0.43	0.02
Channel X	+ Input	200.65	0.11	0.05
Channel X	- Input	-198.95	0.46	-0.23
Channel Y	+ Input	2000.28	0.04	0.00
Channel Y	+ Input	200.24	-0.14	-0.07
Channel Y	- Input	-199.00	-0.30	0.16
Channel Z	+ Input	2000.87	0.60	0.03
Channel Z	+ Input	199.31	-1.12	-0.56
Channel Z	- Input	-200.09	-0.51	0.25

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	22.24	21.85
	- 200	-19.90	-22.18
Channel Y	200	1.27	-0.05
	- 200	4.06	3.25
Channel Z	200	16.18	15.97
	- 200	-18.12	-18.54

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	-1.25	-1.10
Channel Y	200	4.48	-	-0.80
Channel Z	200	7.05	3.04	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15661	16385
Channel Y	16252	16126
Channel Z	16131	16597

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.41	0.05	2.73	0.67
Channel Y	0.68	-1.71	2.71	0.60
Channel Z	-0.36	-1.58	0.75	0.46

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

Appendix E. Dipole Calibration Data:

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

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

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

Accreditation No.: SCS 108

Client Auden

Certificate No: D2600V2-1058_Jun14

CALIBRATION CERTIFICATE

Object	D2600V2 - SN: 1058
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	June 23, 2014

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	09-Oct-13 (No. 217-01827)	Oct-14
Power sensor HP 8481A	US37292783	09-Oct-13 (No. 217-01827)	Oct-14
Power sensor HP 8481A	MY41092317	09-Oct-13 (No. 217-01828)	Oct-14
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-13 (No. ES3-3205_Dec13)	Dec-14
DAE4	SN: 601	30-Apr-14 (No. DAE4-601_Apr14)	Apr-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-13)	In house check: Oct-14

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

Issued: June 23, 2014

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

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
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Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.0 ± 6 %	2.00 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.7 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**57.9 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.60 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**26.2 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	50.8 ± 6 %	2.19 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	14.4 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**56.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.37 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**25.3 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.2 Ω - 6.3 jΩ
Return Loss	- 24.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.7 Ω - 4.6 jΩ
Return Loss	- 23.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.150 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 14, 2012

DASY5 Validation Report for Head TSL

Date: 18.06.2014

Test Laboratory: SPEAG, Zurich, Switzerland

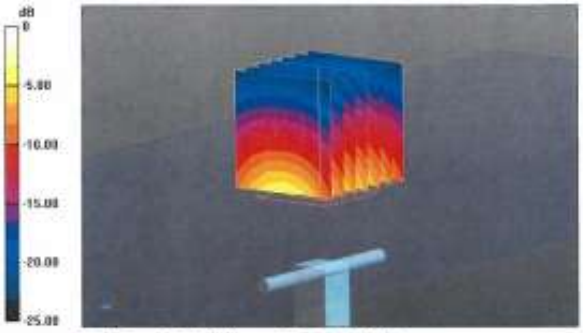
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1058

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2 S/m; ε_r = 38; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

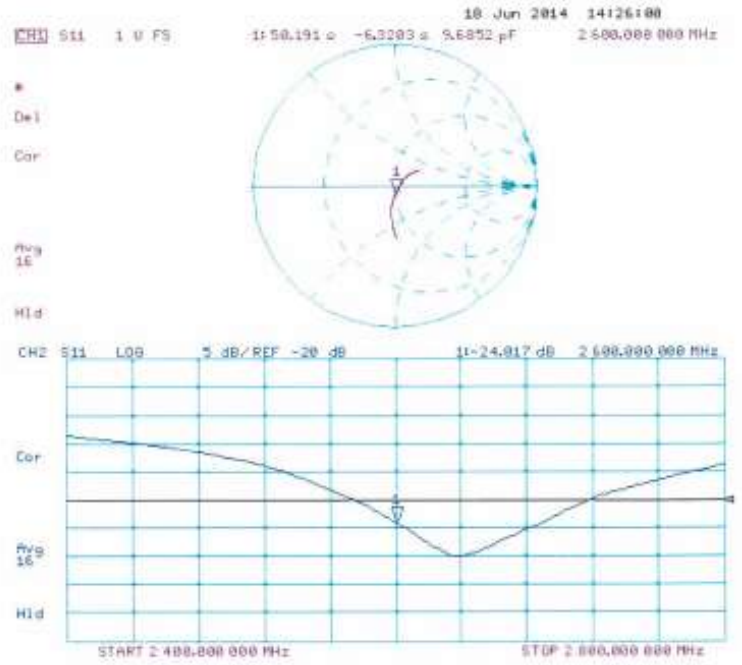
- Probe: ES3DV3 - SN3205; ConvF(4.46, 4.46, 4.46); Calibrated: 30.12.2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 103.4 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 30.9 W/kg
SAR(1 g) = 14.7 W/kg; SAR(10 g) = 6.6 W/kg
Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 23.06.2014

Test Laboratory: SPEAG, Zurich, Switzerland

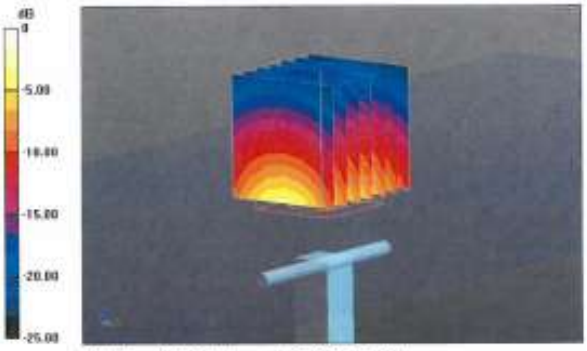
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1058

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.19 S/m; ε_r = 50.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

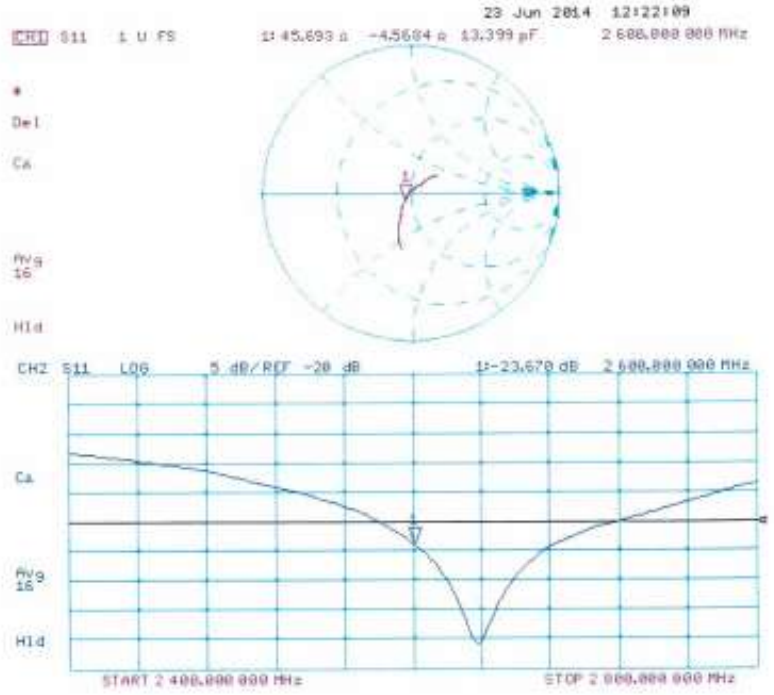
- Probe: ES3DV3 - SN3205; ConvF(4.24, 4.24, 4.24); Calibrated: 30.12.2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.00 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 30.8 W/kg
SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.37 W/kg
Maximum value of SAR (measured) = 19.2 W/kg



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

Impedance Measurement Plot for Body TSL



China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L6487)

Shenzhen Sunway Communication Co., Ltd. Testing Center

1/F., Building A, SDG Info Port, Kefeng Road, Hi-Tech Park,

Nanshan District, Shenzhen, Guangdong, China

is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing.

The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.

Date of Issue：2013-10-29

Date of Expiry：2016-10-28

Date of Initial Accreditation：2013-10-29

Date of Update： 2013-10-29

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Mutilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

No.CNAS AL 2

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*****END OF REPORT*****