FCC SAR Test Report

Product Name ： Mobile Medical Assistant Tablet

Model No. ： xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)

Applicant ： ONYX Healthcare Inc.

Address ： 2F,No.135,lane235,Pao Chiao Rd.Hsin-Tien Dist,New Taipei City,Taiwan,ROC.

Date of Receipt ： 2017/05/31

Issued Date ： 2017/08/18

Report No. ： 1770099R-SAUSP05V00

Report Version ： V1.0

Test Report

Issued Date: 2017/08/18
Report No.: 1770099R-SAUSP05V00

Product Name	:	Mobile Medical Assistant Tablet
Applicant	:	ONYX Healthcare Inc.
Address	:	2F,No.135,lane235,Pao Chiao Rd.Hsin-Tien Dist,New Taipei City,Taiwan,ROC.
Manufacturer	:	ONYX Healthcare Inc.
Model No.	:	xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Trade Name	:	onyx
FCC ID	:	RZ5-MD116
Applicable Standard	:	47CFR § 2.1093 KDB 447498 D01 v06
Measurement procedures	:	KDB 248227 D01 v02r02 KDB 616217 D04 V01r02 KDB 865664 D01 V01r04
Test Result	:	Max. SAR Measurement (1g) 2.4GHz: **0.145** W/kg 5 GHz: **1.16** W/kg
Application Type	:	Certification

The above equipment has been tested by DEKRA, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report.

Documented By : Genie Chang
(Senior Adm. Specialist / Genie Chang)

Tested By : Eric Chen
(Engineer / Eric Chen)

Approved By :
(Director / Vincent Lin)

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1. General Information

1.1 EUT Description

Product Name	Mobile Medical Assistant Tablet				
Trade Name	onyx				
Model No.	xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)				
FCC ID	RZ5-MD116				
TX Frequency	802.11b/g/n-20MHz:2412MHz~2462MHz,802.11n-40MHz: 2422MHz~2452MHz 802.11a/n-20:5180-5320MHz,5500-5720MHz, 5745-5825MHz 802.11n-40/MHz: 5190-5310MHz, 5510-5670MHz, 5755-5795MHz				
Channel separation	802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20: 20MHz, 802.11n-40: 40MHz,				
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7 802.11a/n-20MHz: 24; 802.11n-40MHz: 11				
Data Rate	802.11b: 1-11Mbps, 802.11a/g: 6-54Mbps, 802.11n: up to 300Mbps				
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11a/g/n: OFDM, BPSK, QPSK, 16QAM, 64QAM				
Antenna Type	PIFA				
Device Category	Portable				
RF Exposure Environment	Uncontrolled				
Summary of test result –Reported 1g SAR (W/Kg)					
Test configuration	DTS(Main)	DTS(Aux)	U-NII(Main)	U-NII(Aux)	DTS(BT)
Body-Standalone	0.145	0.088	1.160	0.592	0.170
Body-Simultaneous	DTS (Main + Aux)		U-NII (Main + Aux)		DTS(U-NII+BT)
	0.233		1.752 (SPLSR=0.009)		1.330
When BT and WIFI transmitter does simultaneously transmitter, WIFI will transmit on Main and BT will transmit on Aux					

Note : Per FCC KDB 447498 D01.The output power of BT is less than 6mW, so SAR not required.

1.2 Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ARISTOTLE ENTERPRISES INC.	RFA-25-AP152-70B340R (Main) RFA-25-AP152-70-285L (Aux)	PIFA Antenna	3.93dBi For 2.4 GHz 7.19dBi For 5.15~5.25GHz 7.30dBi For 5.25~5.35GHz 7.44dBi For 5.47~5.725GHz 7.57dBi For 5.725~5.850GHz

1.3 SAR Test Exclusion Calculation

According to KDB Publication 447498 D01, section 4.3.1, per the calculations of item 1 (Power(mW)/separation (mm)*sqrt(f(GHz)≤3.0), SAR is required as shown in the table below where calculated values are greater than 3.0 :

SAR exclusion calculations for WiFi-SISO and Bluetooth for antenna < 50mm from the user :

Antenna	Tx	Frequency (MHz)	Output Power		Separation distances (mm)					Calculated Threshold Value (≦3.0 SAR is not required)				
			dBm	mW	Back	Right	Left	Top	Bottom	Back	Right	Left	Top	Bottom
Main	WiFi	2462	17	50	30	10	290	130	60	**2.6**	7.9	>50mm	>50mm	>50mm
Main	WiFi	5240	17	50	30	10	290	130	60	3.8	11.5	>50mm	>50mm	>50mm
Main	WiFi	5320	17	50	30	10	290	130	60	3.9	11.6	>50mm	>50mm	>50mm
Main	WiFi	5700	17	50	30	10	290	130	60	4.0	12.0	>50mm	>50mm	>50mm
Main	WiFi	5825	17	50	30	10	290	130	60	4.0	12.1	>50mm	>50mm	>50mm

SAR exclusion calculations for WiFi-SISO and Bluetooth for antenna > 50mm from the user :

Antenna	Tx	Frequency (MHz)	Output Power		Separation distances (mm)					Calculated Threshold Value (SAR test exclusion power,mW)				
			dBm	mW	Back	Right	Left	Top	Bottom	Back	Right	Left	Top	Bottom
Main	WiFi	2462	17	50	30	10	290	130	60	<50mm	<50mm	2495.6	895.6	195.6
Main	WiFi	5240	17	50	30	10	290	130	60	<50mm	<50mm	2465.5	865.5	165.5
Main	WiFi	5320	17	50	30	10	290	130	60	<50mm	<50mm	2465.0	865.0	165.0
Main	WiFi	5700	17	50	30	10	290	130	60	<50mm	<50mm	2462.8	862.8	162.8
Main	WiFi	5825	17	50	30	10	290	130	60	<50mm	<50mm	2462.2	862.2	162.2

SAR exclusion calculations for WiFi-SISO and Bluetooth for antenna < 50mm from the user:

Antenna	Tx	Frequency (MHz)	Output Power		Separation distances (mm)					Calculated Threshold Value (≦3.0 SAR is not required)				
			dBm	mW	Back	Right	Left	Top	Bottom	Back	Right	Left	Top	Bottom
Aux	WiFi	2462	17	50	30	290	10	90	110	**2.6**	>50mm	7.9	>50mm	>50mm
Aux	WiFi	5240	17	50	30	290	10	90	110	3.8	>50mm	11.5	>50mm	>50mm
Aux	WiFi	5320	17	50	30	290	10	90	110	3.9	>50mm	11.6	>50mm	>50mm
Aux	WiFi	5700	17	50	30	290	10	90	110	4.0	>50mm	12.0	>50mm	>50mm
Aux	WiFi	5825	17	50	30	290	10	90	110	4.0	>50mm	12.1	>50mm	>50mm
Aux	BT	2480	6	4	30	290	10	90	110	**0.2**	>50mm	**0.6**	>50mm	>50mm

SAR exclusion calculations for WiFi-SISO and Bluetooth for antenna > 50mm from the user:

Antenna	Tx	Frequency (MHz)	Output Power		Separation distances (mm)					Calculated Threshold Value (SAR test exclusion power,mW)				
			dBm	mW	Back	Right	Left	Top	Bottom	Back	Right	Left	Top	Bottom
Aux	WiFi	2462	17	50	30	290	10	90	110	<50mm	2495.6	<50mm	495.6	695.6
Aux	WiFi	5240	17	50	30	290	10	90	110	<50mm	2465.5	<50mm	465.5	665.5
Aux	WiFi	5320	17	50	30	290	10	90	110	<50mm	2465.0	<50mm	465.0	665.0
Aux	WiFi	5700	17	50	30	290	10	90	110	<50mm	2462.8	<50mm	462.8	662.8
Aux	WiFi	5825	17	50	30	290	10	90	110	<50mm	2462.2	<50mm	462.2	662.2
Aux	BT	2480	6	4	30	290	10	90	110	<50mm	2495.3	<50mm	495.3	695.3

1.4 Test Environment

Ambient conditions in the laboratory:

Test Date: Jun. 21, 2017

Items	Required	Actual
Temperature (°C)	18-25	21.9± 2
Humidity (%RH)	30-70	51

Test Date: Jun. 22, 2017

Items	Required	Actual
Temperature (°C)	18-25	21.9± 2
Humidity (%RH)	30-70	49

Site Description:

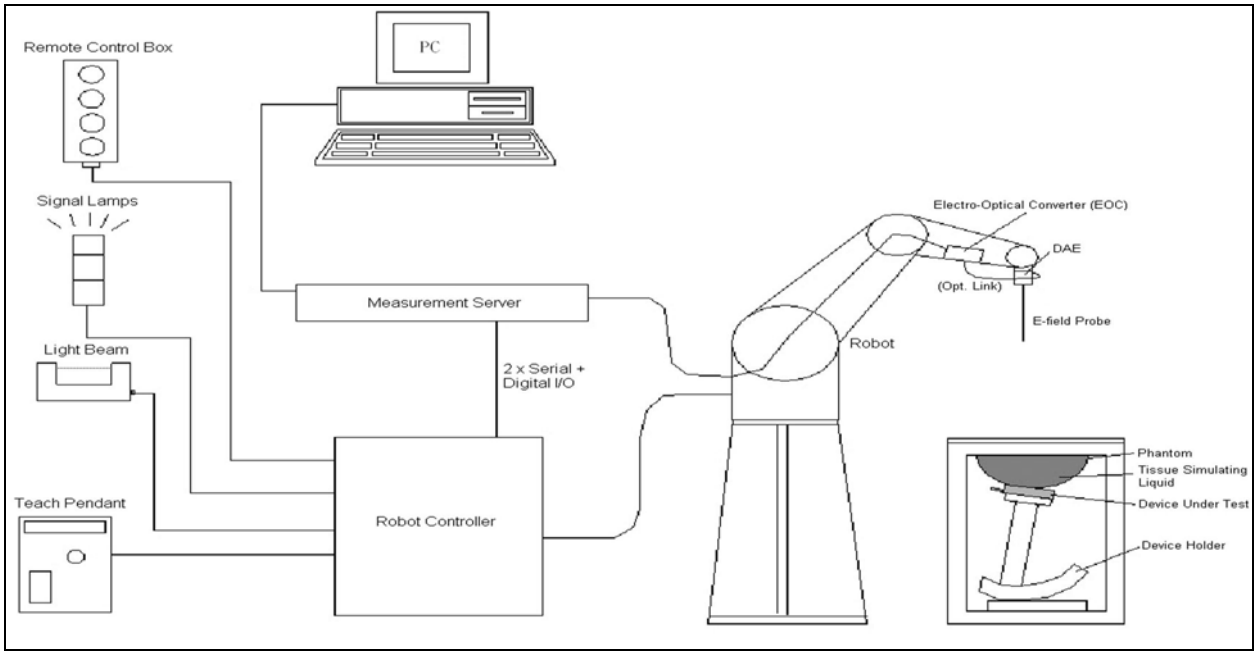
Accredited by TAF
Accredited Number: 3023
Effective through: December 12, 2017

Site Name: DEKRA Testing and Certification Co., Ltd

Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

2. SAR Measurement System

2.1 DASY5 System Description



The DASY5 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 data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

2.1.1 Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN 50383 and others.

2.1.2 Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a $10mm^2$ step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2013, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

2.1.3 Zoom Scan (Cube Scan Averaging)

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. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm, with the side length of the 10 g cube 21,5mm.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 5x5x7 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 30mm in the Z axis.

2.1.4 Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Postprocessor, DASY5 allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEEE 1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets. The field gradients are covered by the spatially flat

distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}}\cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}}\frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

2.2 DASY5 E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SPEAG. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

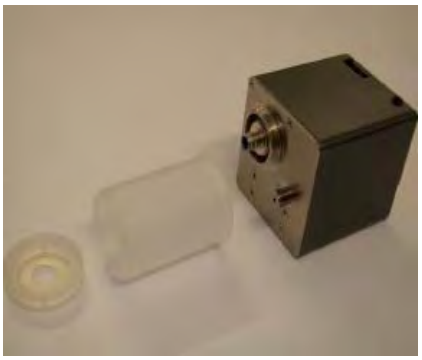
SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528, EN 62209-1, IEC 62209, etc.) under ISO 17025. The calibration data are in Appendix D**.**

2.2.1 Isotropic E-Field Probe Specification

Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

2.3 Boundary Detection Unit and Probe Mounting Device

The DASY probes use a precise connector and an additional holder for the probe, consisting of a plastic tube and a flexible silicon ring to center the probe. The connector at the DAE is flexibly mounted and held in the default position with magnets and springs. Two switching systems in the connector mount detect frontal and lateral probe collisions and trigger the necessary software response.



2.4 DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder 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.
The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chipdisk and 128MB RAM. The necessary circuits for communication with the DAE electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

2.5 Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.
The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

2.6 Light Beam Unit

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. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

2.7 Device Holder

The DASY5 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 center for both scales is the ear reference point (EPR).

Thus the device needs no repositioning when changing the angles.

The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity εr =3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

2.8 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 head
- Right head
- 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.

3. Tissue Simulating Liquid

3.1 The composition of the tissue simulating liquid

INGREDIENT (% Weight)	2450MHz Body	5200MHz Body	5800MHz Body
Water	73.2	76	75.68
Salt	0.04	0.00	0.00
Sugar	0.00	0.00	0.00
HEC	0.00	0.00	0.00
Preventol	0.00	0.00	0.00
DGBE	26.76	4.44	4.42
Triton X-100	0.00	19.56	19.47

3.2 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using APREL Dielectric Probe Kit and Agilent E5071C Vector Network Analyzer.

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
2450 MHz	Reference result ± 5% window	52.7 50.065 to 55.335	1.95 1.8525 to 2.0475	N/A
	21-Jun-17	52.74	1.97	20.9
2412 MHz	Channel 01	52.96	1.94	20.9
2437 MHz	Channel 06	52.81	1.96	20.9
2462 MHz	Channel 11	52.57	1.99	20.9

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε r	σ [s/m]	
5200MHz	Reference result ± 5% window	49 46.55 to 51.45	5.3 5.03 to 5.56	N/A
	22-Jun-17	49.07	5.31	20.9
5220 MHz	Channel 44	49.02	5.32	20.9
5240 MHz	Channel 48	48.96	5.36	20.9

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε r	σ [s/m]	
5300MHz	Reference result ± 5% window	48.9 46.45 to 51.34	5.42 5.15 to 5.69	N/A
	22-Jun-17	48.89	5.35	20.9
5280 MHz	Channel 56	48.94	5.33	20.9

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε r	σ [s/m]	
5600MHz	Reference result ± 5% window	48.5 46.07 to 50.92	5.77 5.48 to 6.06	N/A
	22-Jun-17	48.09	5.82	20.9
5560 MHz	Channel 112	48.22	5.74	20.9
5640 MHz	Channel 128	47.97	5.91	20.9

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε r	σ [s/m]	
5800MHz	Reference result ± 5% window	48.2 45.79 to 50.61	6 5.7 to 6.3	N/A
	22-Jun-17	47.44	6.19	20.9
5745 MHz	Channel 149	47.58	6.11	20.9
5825 MHz	Channel 165	47.39	6.23	20.9

3.3 Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

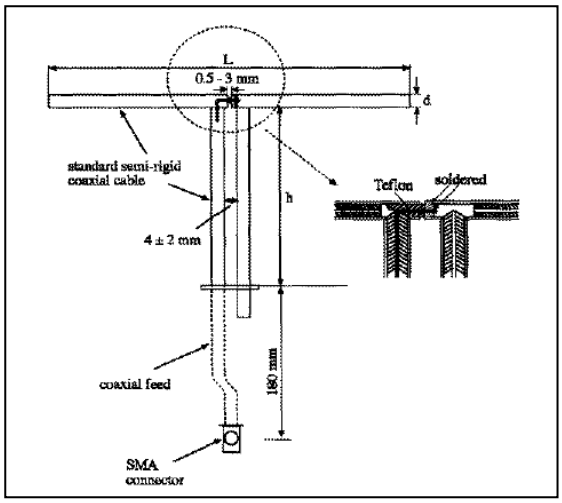
Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

4. SAR Measurement Procedure

4.1 SAR System Check

4.1.1 Dipoles



The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical specifications for the dipoles.

Frequency	L (mm)	h (mm)	d (mm)
2450MHz	53.5	30.4	3.6
5200M~5800MHz	20.6	45.4	3.6

4.1.2 System Check Result

System Performance Check at 2450MHz Dipole Kit: D2450V2				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
2450 MHz	Reference result ± 10% window	50.6 45.54 to 55.66	23.9 21.51 to 26.29	N/A
	21-Jun-17	52.4	24.32	20.9
Note: (1) The power level is used 250mW (2) All SAR values are normalized to 1W forward power. (3) The reference result is from Appendix E.				

System Performance Check at 5200MHz **Dipole Kit: D5GHzV2**				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5200 MHz	Reference result ± 10% window	74.7 67.23 to 82.17	21.0 18.90 to 23.10	N/A
	22-Jun-17	72	20.6	20.9
Note: (1) The power level is used 100mW (2) All SAR values are normalized to 1W forward power. (3) The reference result is from Appendix E.				

System Performance Check at 5300MHz **Dipole Kit: D5GHzV2**				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5300 MHz	Reference result ± 10% window	77.7 69.93 to 85.47	21.9 19.71 to 24.09	N/A
	22-Jun-17	79.1	21.1	20.9
Note: (1) The power level is used 100mW (2) All SAR values are normalized to 1W forward power. (3) The reference result is from Appendix E.				

System Performance Check at 5600MHz **Dipole Kit: D5GHzV2**				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5600 MHz	Reference result ± 10% window	80.9 72.81 to 88.99	22.6 20.34 to 24.86	N/A
	22-Jun-17	85.1	21.3	20.9
Note: (1) The power level is used 100mW (2) All SAR values are normalized to 1W forward power. (3) The reference result is from Appendix E.				

System Performance Check at 5800MHz Dipole Kit: D5GHzV2				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5800 MHz	Reference result ± 10% window	78.3 70.47 to 86.13	21.7 19.53 to 23.87	N/A
	22-Jun-17	78.4	22.4	20.9
Note: (1) The power level is used 100mW (2) All SAR values are normalized to 1W forward power. (3) The reference result is from Appendix E.				

4.2 SAR Measurement Procedure

The Dasy5 calculates SAR using the following equation,

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

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$)which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$).

5. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

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

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	**1.60 W/kg**
Spatial Average SAR (whole body)	**0.08 W/kg**
Spatial Peak SAR (10g for hands, feet, ankles and wrist)	**4.00 W/kg**

6. Test Equipment List

Instrument	Manufacturer	Model No.	Serial No.	Last Calibration	Next Calibration
Stäubli Robot TX60L	Stäubli	TX60L	F09/5BL1A1/A06	2009/05/18	only once
Controller	Speag	CS8c	N/A	2009/05/18	only once
Reference Dipole 2450MHz	Speag	D2450V2	930	2016/11/15	2018/11/14
Reference Dipole 5GHz	Speag	D5GHzV2	1041	2017/05/26	2019/05/25
SAM Twin Phantom	Speag	QD000 P40 CA	Tp 1515	N/A	N/A
Device Holder	Speag	N/A	N/A	N/A	N/A
Data Acquisition Electronic	Speag	DAE4	1425	2016/11/18	2017/11/17
E-Field Probe	Speag	EX3DV4	3979	2016/11/25	2017/11/24
SAR Software	Speag	DASY52	V52.8 (8)	N/A	N/A
Aprel Dipole Spaccer	Aprel	ALS-DS-U	QTK-295	N/A	N/A
Power Amplifier	Mini-Circuit	ZHL-42	D051404-20	N/A	N/A
Directional Coupler	Agilent	778D-012	50550	N/A	N/A
Vector Network	Agilent	E5071C	MY46106342	2016/08/10	2017/08/08
Signal Generator	Anritsu	MG3694A	041902	2016/08/09	2017/08/07
Power Meter	Anritsu	ML2487A	6K00001447	2016/09/29	2017/09/27
Wide Bandwidth Sensor	Anritsu	MA2411B	1339194	2016/09/29	2017/09/27

7. Measurement Uncertainty

DASY5 Uncertainty (According to IEEE 1528-2013) Measurement uncertainty for 30 MHz to 3 GHz								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) Veff
Measurement System								
Probe Calibration	±6%	N	1	1	1	±6.0%	±6.0%	∞
Axial Isotropy	±4.7%	R	√3	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	√3	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	√3	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Modulation Response	±2.4%	R	√3	1	1	±1.4%	±1.4%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	√3	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	√3	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	√3	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	√3	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±4.0%	R	√3	1	1	±1.2%	±1.2%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	√3	1	1	±2.9%	±2.9%	∞
Power Scaling	±0%	R	√3	1	1	±0.0%	±0.0%	
Phantom and Setup								
Phantom Uncertainty	±6.1%	R	√3	1	1	±3.5%	±3.5%	∞
SAR correction	±1.9%	R	√3	1	0.84	±1.1%	±0.9%	∞
Liquid Conductivity (meas.)	±2.5%	R	√3	0.78	0.71	±1.1%	±1.0%	∞
Liquid Permittivity (meas.)	±2.5%	R	√3	0.26	0.26	±0.3%	±0.4%	∞
Temp. unc. - Conductivity	±3.4%	R	√3	0.78	0.71	±1.5%	±1.4%	∞
Temp. unc. - Permittivity	±0.4%	R	√3	0.23	0.26	±0.1%	±0.1%	∞
Combined Std. Uncertainty						±11.2%	±11.1%	361
Expanded STD Uncertainty						±22.3%	±22.2%	

DASY5 Uncertainty (According to IEEE 1528-2013) Measurement uncertainty for 3GHz to 6 GHz								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.55%	N	1	1	1	±6.55%	±6.55%	∞
Axial Isotropy	±4.7%	R	√3	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	√3	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±2.0%	R	√3	1	1	±1.2%	±1.2%	∞
Linearity	±4.7%	R	√3	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Modulation Response	±2.4%	R	√3	1	1	±1.4%	±1.4%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	√3	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	√3	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.8%	R	√3	1	1	±0.5%	±0.5%	∞
Probe Positioning	±6.7%	R	√3	1	1	±3.9%	±3.9%	∞
Post-processing	±4.0%	R	√3	1	1	±2.3%	±2.3%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	√3	1	1	±2.9%	±2.9%	∞
Power Scaling	±0%	R	√3	1	1	±0.0%	±0.0%	
Phantom and Setup								
Phantom Uncertainty	±6.6%	R	√3	1	1	±3.8%	±3.8%	∞
SAR correction	±1.9%	R	√3	1	1	±1.1%	±0.9%	∞
Liquid Conductivity (meas.)	±2.5%	R	√3	1	0.84	±1.1%	±1.0%	∞
Liquid Permittivity (meas.)	±2.5%	R	√3	0.26	0.26	±0.3%	±0.4%	∞
Temp. unc. - Conductivity	±3.4%	R	√3	0.78	0.71	±1.5%	±1.4%	∞
Temp. unc. - Permittivity	±0.4%	R	√3	0.23	0.26	±0.1%	±0.1%	∞
Combined Std. Uncertainty						±12.3%	±12.2%	748
Expanded STD Uncertainty						±24.6%	±24.5%	

8. Conducted Power Measurement (Including tolerance allowed for production unit)

SISO-Main(TX1)																		
DSSS/OFDM mode specified maximum output power at an antenna port	Mode	BW	15.247 (2.4GHz)			U-NII-1 (5150~5250MHz)			U-NII-2A (5250~5350MHz)			U-NII-2C (5470~5725MHz)			U-NII-3 (5725~5850MHz)		
			CH	Max	Power	CH	Max	Power	CH	Max	Power	CH	Max	Power	CH	Max	Power
	b	20	1	17	16.77												
			6	17	16.99												
			11	17	16.97												
	g	20	1	16.5	16.32												
			6	16.5	16.41												
			11	16.5	16.39												
	a	20				36	16	15.87	52	17	16.85	100	14	13.72	132	17	16.79
						40	17	16.57	56	17	16.56	112	17	16.84	149	17	16.81
						44	17	16.48	60	17	16.97	116	17	16.71	165	17	16.73
						48	17	16.71	64	16.5	16.22	128	17	16.96			
	n(HT)	20	1	16.5	16.31	36	16	15.57	52	16	15.97	100	16	15.59	132	16	15.19
			6	16.5	16.38	40	16	15.63	56	16	15.11	112	16	15.49	149	16	15.24
			11	16.5	16.27	44	16	15.68	60	16	15.24	116	16	15.34	165	16	15.61
						48	16	15.83	64	16	16.00	128	16	15.47			
		40	3	16	15.82	38	16	15.33	54	16	15.76	102	16	15.39	134	16	15.56
			6	16	15.85	46	16	15.71	62	16	15.63	110	16	15.44	142	16	15.48
			9	16	15.96							118	16	15.49	151	16	15.32
												126	16	15.53	159	16	16.00

SISO-Aux(TX2)																		
DSSS/OFDM mode specified maximum output power at an antenna port	Mode	BW	15.247 (2.4GHz)			U-NII-1 (5150~5250MHz)			U-NII-2A (5250~5350MHz)			U-NII-2C (5470~5725MHz)			U-NII-3 (5725~5850MHz)		
			CH	Max	Power	CH	Max	Power	CH	Max	Power	CH	Max	Power	CH	Max	Power
	b	20	1	17	16.71												
			6	17	17.00												
			11	17	16.76												
	g	20	1	16.5	16.22												
			6	16.5	16.45												
			11	16.5	16.42												
	a	20				36	16	15.73	52	17	16.79	100	14	13.82	132	17	16.41
						40	17	16.91	56	17	17.00	112	17	17.00	149	17	16.81
						44	17	16.97	60	17	16.32	116	17	16.69	165	17	16.89
						48	17	16.87	64	16.5	16.31	128	17	16.42			
	n(HT)	20	1	16.5	16.20	36	16	16.00	52	16	16.00	100	16	15.72	132	16	15.75
			6	16.5	16.43	40	16	16.00	56	16	15.61	112	16	15.63	149	16	16.00
			11	16.5	16.39	44	16	15.77	60	16	15.85	116	16	15.67	165	16	15.96
						48	16	16.00	64	16	15.69	128	16	15.41			
		40	3	**16**	15.47	38	16	16.00	54	16	15.63	102	16	15.34	134	16	16.00
			6	**16**	15.91	46	16	15.89	62	16	15.65	110	16	15.59	142	16	15.75
			9	**16**	15.56							118	16	15.68	151	16	15.89
												126	16	15.33	159	16	16.00

9. Test Results

9.1 SAR Test Results Summary

SAR MEASUREMENT								
Ambient Temperature (°C) : 20.9 ±2					Relative Humidity (%): 51			
Liquid Temperature (°C) : 21.9 ±2					Depth of Liquid (cm):>15			
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)		**SAR** 1g (W/kg)		Limit (W/kg)
		Channel	MHz	Measurement	Tune-up Limit	Measurement	Tune-up Scaled	
Test Mode: 802.11b - 2450 MHz - Main Antenna								
Right-Side	Fixed	6	2437	16.99	17	0.145	0.145	1.6
Back	Fixed	6	2437	16.99	17	N/A	N/A	1.6
Test Mode: 802.11b - 2450 MHz - Aux Antenna								
Left-Side	Fixed	6	2437	17	17	0.088	0.088	1.6
Back	Fixed	6	2437	17	17	0.000601	0.001	1.6

Note : 1. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required.

2. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

SAR MEASUREMENT								
Ambient Temperature (°C) : 20.2 ±2				Relative Humidity (%): 49				
Liquid Temperature (°C) : 21.9 ±2				Depth of Liquid (cm):>15				
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)		**SAR** 1g (W/kg)		Limit (W/kg)
		Channel	MHz	Measurement	Tune-up Limit	Measurement	Tune-up Scaled	
Test Mode: 802.11a-5GHz –Main Antenna								
Right-Side	Fixed	48	5240	16.71	17	0.396	0.423	1.6
Right-Side	Fixed	60	5300	16.97	17	0.272	0.274	1.6
Right-Side	Fixed	128	5640	16.96	17	0.492	0.497	1.6
Right-Side	Fixed	149	5745	16.81	17	1.110	**1.160**	1.6
Right-Side	Fixed	165	5825	16.73	17	0.732	0.779	1.6
Back	Fixed	60	5300	16.97	17	0.00424	0.004	1.6
Back	Fixed	128	5640	16.96	17	N/A	N/A	1.6
Back	Fixed	149	5745	16.81	17	NA	NA	1.6
Test Mode: 802.11a-5GHz –Aux Antenna								
Left-Side	Fixed	44	5220	16.97	17	0.194	0.195	1.6
Left-Side	Fixed	56	5280	17.00	17	0.255	0.255	1.6
Left-Side	Fixed	112	5560	17.00	17	0.500	0.500	1.6
Left-Side	Fixed	165	5825	16.89	17	0.577	0.592	1.6
Back	Fixed	56	5280	17.00	17	N/A	N/A	1.6
Back	Fixed	112	5560	17.00	17	NA	NA	1.6
Back	Fixed	165	5825	16.89	17	N/A	N/A	1.6

Note : 1. When multiple transmission modes (802.11 n) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected

2. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required in that exposure configuration.

9.2 Simultaneous Transmission

9.2.1 Simultaneous transmission of MIMO in 802.11 test exclusion considerations

Frequency (GHz)	Test Position (Body)	WLAN Main SAR (W/Kg)	WLAN Aux SAR W/Kg)	Simultaneous Transmission (W/Kg)	Antenna pair in mm	Peak location separation ratio
2.4	Back	N/A	0.037	0.037	N/A	N/A
2.4	Right/Left	0.145	0.088	0.233	N/A	N/A
5	Back	0.004	N/A	0.004	N/A	N/A
5	Right/Left	1.160	0.592	1.725	270	0.009

Note : The sum of value is less than 1.6W/Kg or the ratio is determined by $(SAR1 + SAR2)^{1.5}/Ri$, rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for SAR test exclusion.

9.2.2.2 simultaneous transmission of Wi-Fi and other wireless technologies

According the FCC: KDB 447498 D01 Section 4.3.2, ISED: Notice 2016-DRS001, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion

FCC: KDB 447498 D01 Section 4.3.2

(max. power of channel, mW)/(min. test separation distance, mm)]·[√f(GHz)/7.5]

ISED: Notice 2016-DRS001

$$\left| \frac{\textit{maximum power level including tune-up tolerance for transmitter A}}{\textit{maximum power level of exemption at the same frequency and distance}} \times 0.4\,W/kg \right|$$

Standard	Mode	Frequency	Max. power (mW)	Test separation distance ,(mm)	Estimated SAR (W/Kg)
FCC	BT	2441	4	5	0.17
ISED	N/A	N/A	N/A	N/A	N/A

Note : A test separation distance of 5 mm must be applied to determine test exclusion according to the SAR Test Exclusion Threshold requirements

When the sum of SAR is larger than the limit, The ratio is determined by ***(SAR1 + SAR2)^1.5/Ri,*** rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. The estimation result as below:

For DTS Band:

Mode	WLAN Main SAR (W/Kg)	Estimated BT SAR (W/Kg)	Simultaneous Transmission (W/Kg)	Antenna pair in mm	Peak location separation ratio
Right-Side	0.145	0.17	0.162	N/A	N/A

The sum of value is less than 1.6W/Kg, thus simultaneous SAR testing is not needed.

For U-NII Band:

Mode	WLAN Main SAR (W/Kg)	Estimated BT SAR (W/Kg)	Simultaneous Transmission (W/Kg)	Antenna pair in mm	Peak location separation ratio
Right-Side	1.160	0.17	1.330	N/A	N/A

The sum of value is less than 1.6W/Kg, thus simultaneous SAR testing is not needed.

10. SAR measurement variability

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Frequency		**SAR** 1g (W/kg)						
Channel	MHz	Original	First Repeated		Second Repeated		Third Repeated	
			Value	Ratio	Value	Ratio	Value	Ratio
149	5745	1.110	1.020	1.088	N/A	N/A	N/A	N/A

Appendix

Appendix A. SAR System Check Data

Appendix B. SAR measurement Data

Appendix C. Test Setup Photographs & EUT Photographs

Appendix D. Probe Calibration Data

Appendix E. Dipole Calibration Data

Appendix A. SAR System Check Data

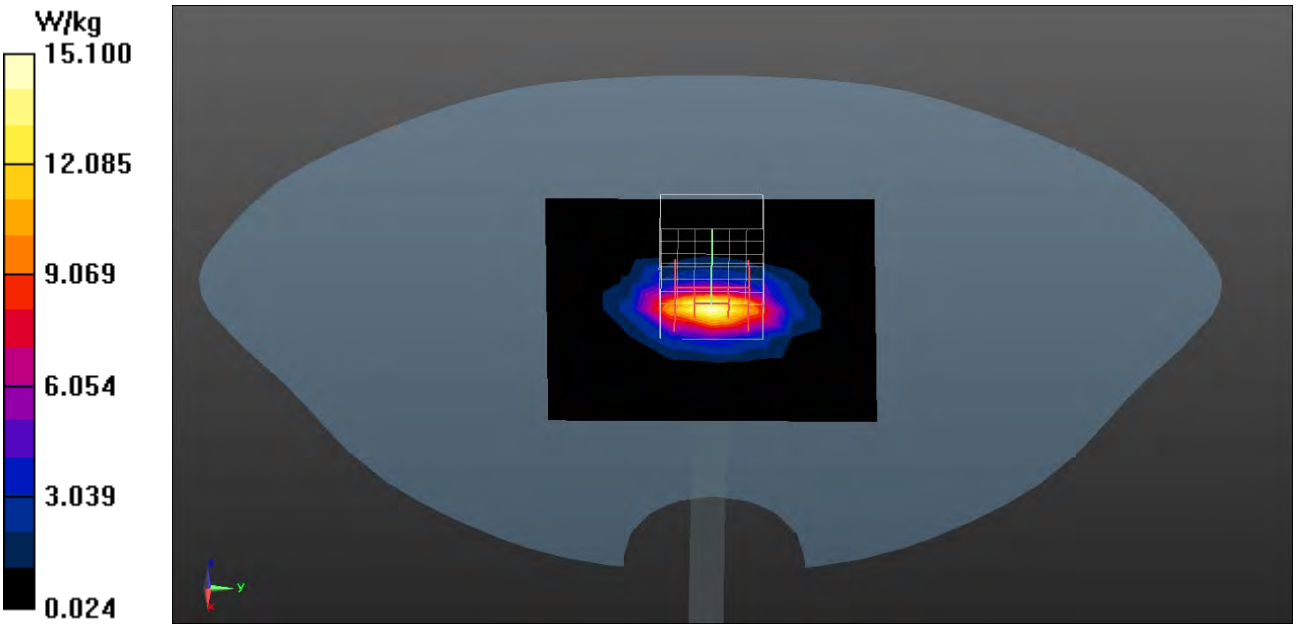
Test Laboratory: DEKRA Date/Time: 2017/06/21

System Performance Check_2450MHz-Body
DUT: Dipole 2450 MHz; Type:D2450V2
Communication System: UID 0, CW; Frequency: 2450 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 2450 MHz; σ = 1.97 S/m; ε_r = 52.74; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.9
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(7.47, 7.47, 7.47); Calibrated: 2016/11/25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/2450MHz Body/Area Scan (9x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 15.1 W/kg

Configuration/2450MHz Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.29 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.08 W/kg
Maximum value of SAR (measured) = 15.3 W/kg



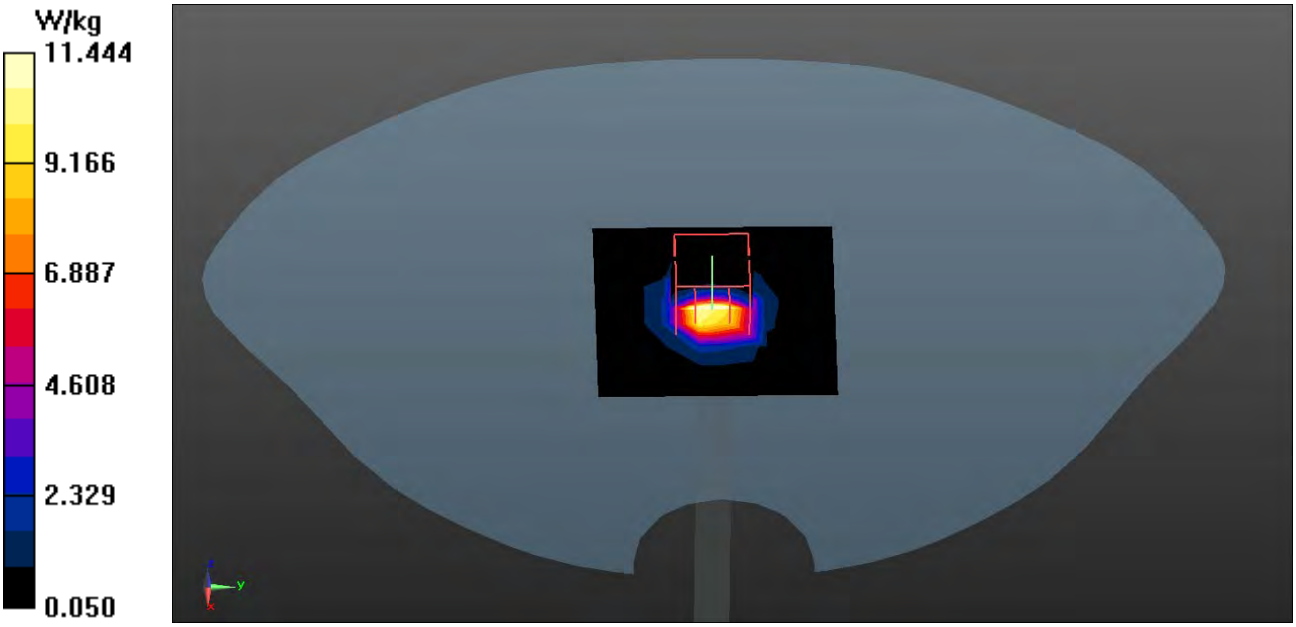
Test Laboratory: DEKRA Date/Time: 2017/06/22

System Performance Check_5200MHz-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: UID 0, CW; Frequency: 5200 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5200 MHz; σ = 5.31 S/m; ε_r = 49.07; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.75, 4.75, 4.75); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/5200MHz-Body/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 11.4 W/kg

Configuration/5200MHz-Body/Zoom Scan (7x7x12), dist=1.4mm (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 68.56 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 30.4 W/kg
SAR(1 g) = 7.2 W/kg; SAR(10 g) = 2.06 W/kg
Maximum value of SAR (measured) = 18.4 W/kg



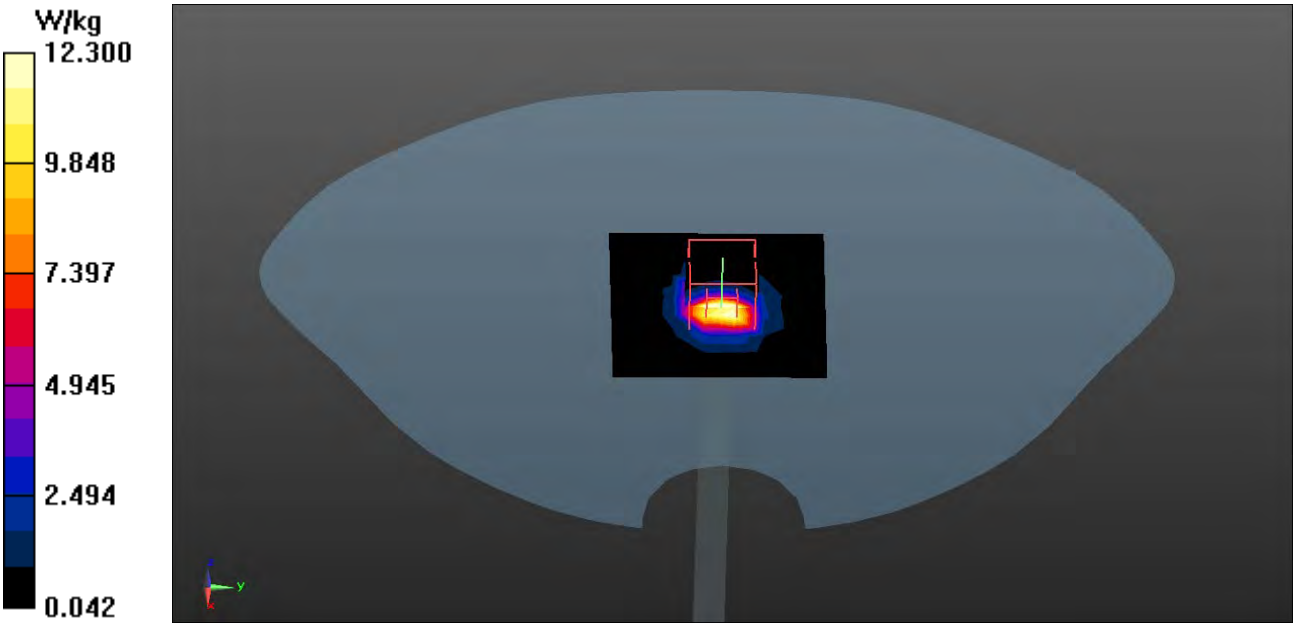
Test Laboratory: DEKRA Date/Time: 2017/06/22

System Performance Check_5300MHz-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: UID 0, CW; Frequency: 5300 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5300 MHz; σ = 5.35 S/m; ε_r = 48.89; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.55, 4.55, 4.55); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/5300MHz-Body/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.3 W/kg

Configuration/5300MHz-Body/Zoom Scan (7x7x12), dist=1.4mm (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 68.87 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 30.0 W/kg
SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.11 W/kg
Maximum value of SAR (measured) = 19.3 W/kg



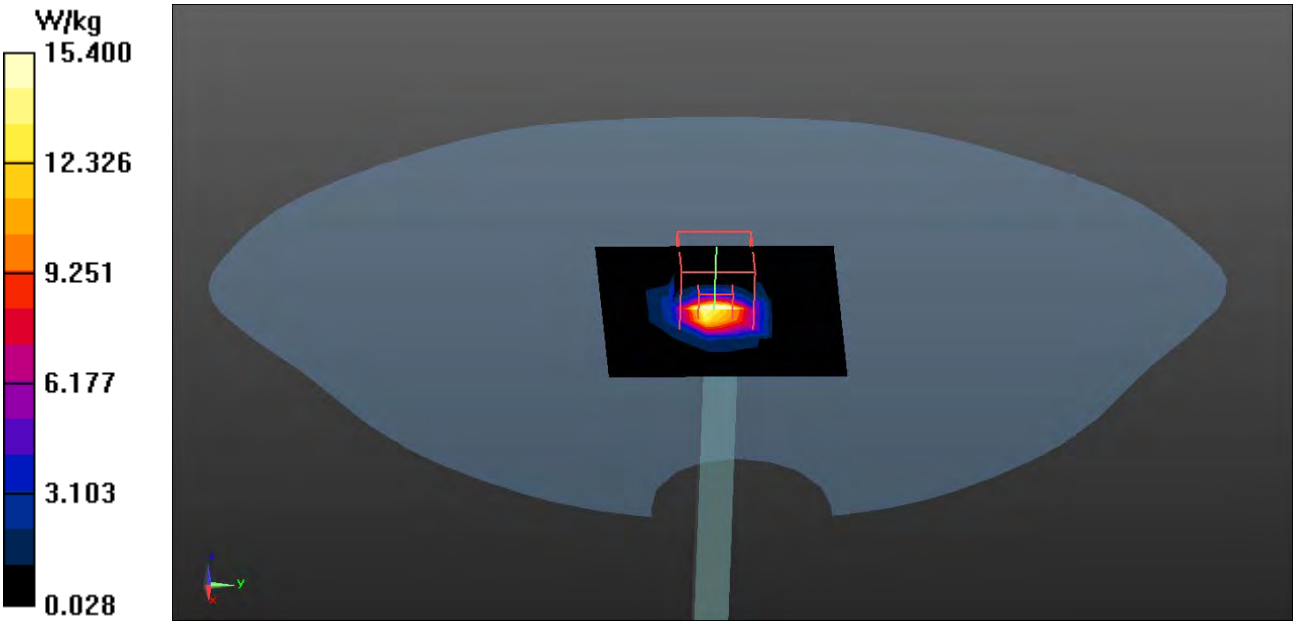
Test Laboratory: DEKRA Date/Time: 2017/06/22

System Performance Check_5600MHz-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: UID 0, CW; Frequency: 5600 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5600 MHz; σ = 5.82 S/m; ε_r = 48.09; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.03, 4.03, 4.03); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/5600MHz-Body/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.4 W/kg

Configuration/5600MHz-Body/Zoom Scan (7x7x12), dist=1.4mm (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 70.58 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 36.2 W/kg
SAR(1 g) = 8.51 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 22.6 W/kg



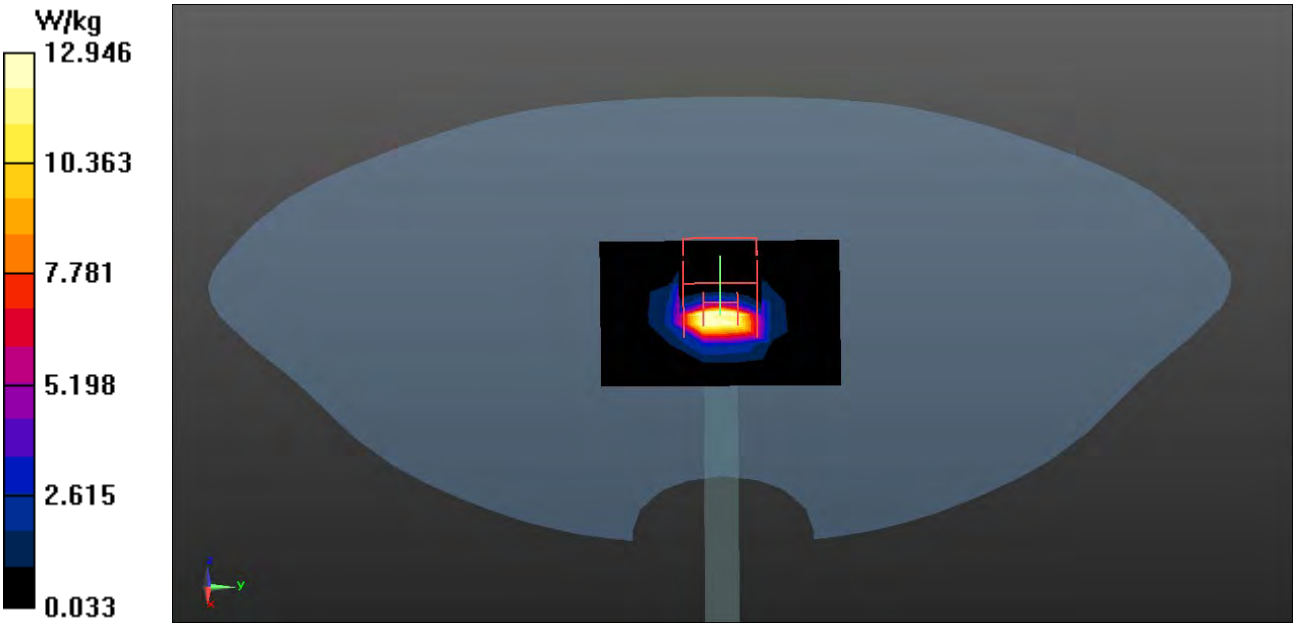
Test Laboratory: DEKRA Date/Time: 2017/06/22

System Performance Check_5800MHz-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: UID 0, CW; Frequency: 5800 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5800 MHz; σ = 6.19 S/m; ε_r = 47.44; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.27, 4.27, 4.27); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/5800MHz-Body/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.9 W/kg

Configuration/5800MHz-Body/Zoom Scan (7x7x12), dist=1.4mm (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 69.11 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 37.7 W/kg
SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.24 W/kg
Maximum value of SAR (measured) = 21.1 W/kg



Appendix B. SAR measurement Data

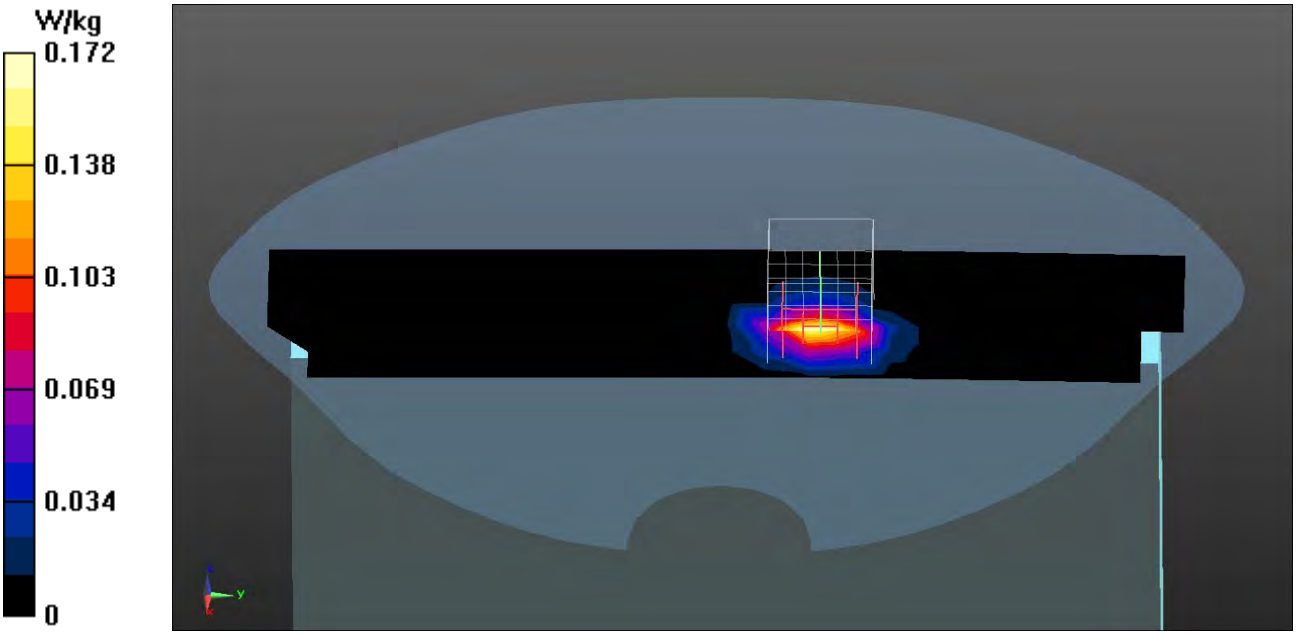
Test Laboratory: DEKRA Date/Time: 2017/06/21

802.11b_6-Right-side Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 2.4G; Frequency: 2437 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 2437 MHz; σ = 1.96 S/m; ε_r = 52.81; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.9
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(7.47, 7.47, 7.47); Calibrated: 2016/11/25;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x23x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.172 W/kg

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.657 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.316 W/kg
SAR(1 g) = 0.145 W/kg; SAR(10 g) = 0.059 W/kg
Maximum value of SAR (measured) = 0.201 W/kg



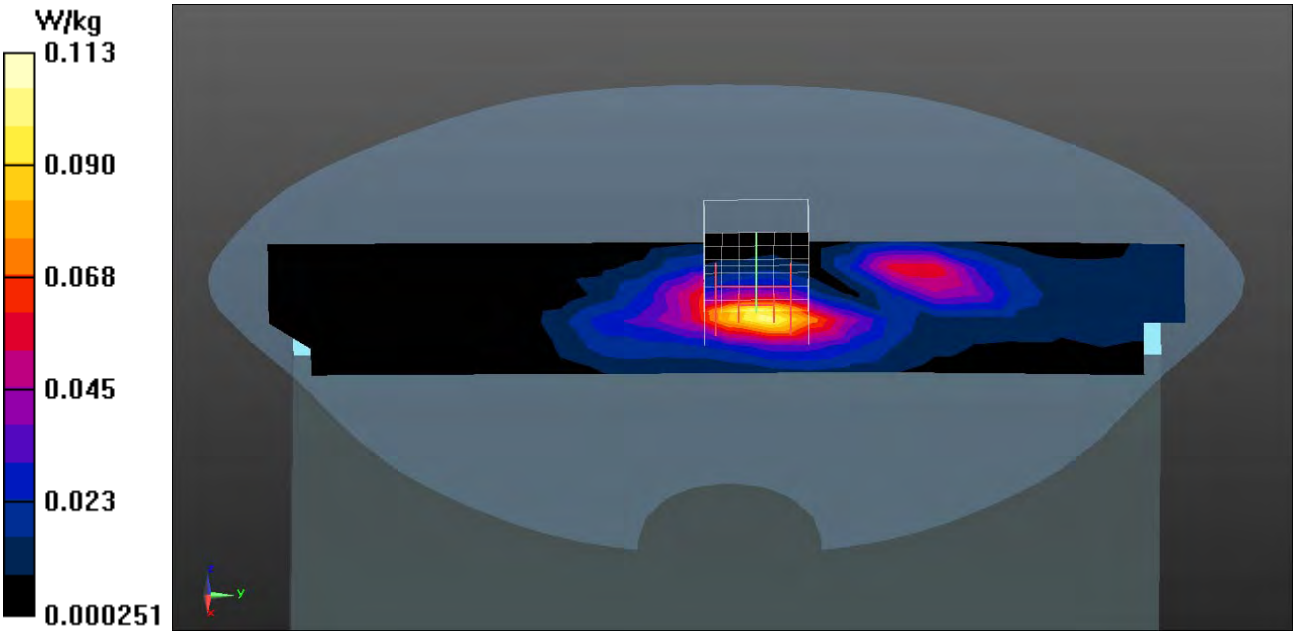
Test Laboratory: DEKRA Date/Time: 2017/06/21

802.11b_6-Left-side Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 2.4G; Frequency: 2437 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 2437 MHz; σ = 1.96 S/m; ε_r = 52.81; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.9
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(7.47, 7.47, 7.47); Calibrated: 2016/11/25;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x23x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.104 W/kg

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.069 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.044 W/kg
Maximum value of SAR (measured) = 0.113 W/kg



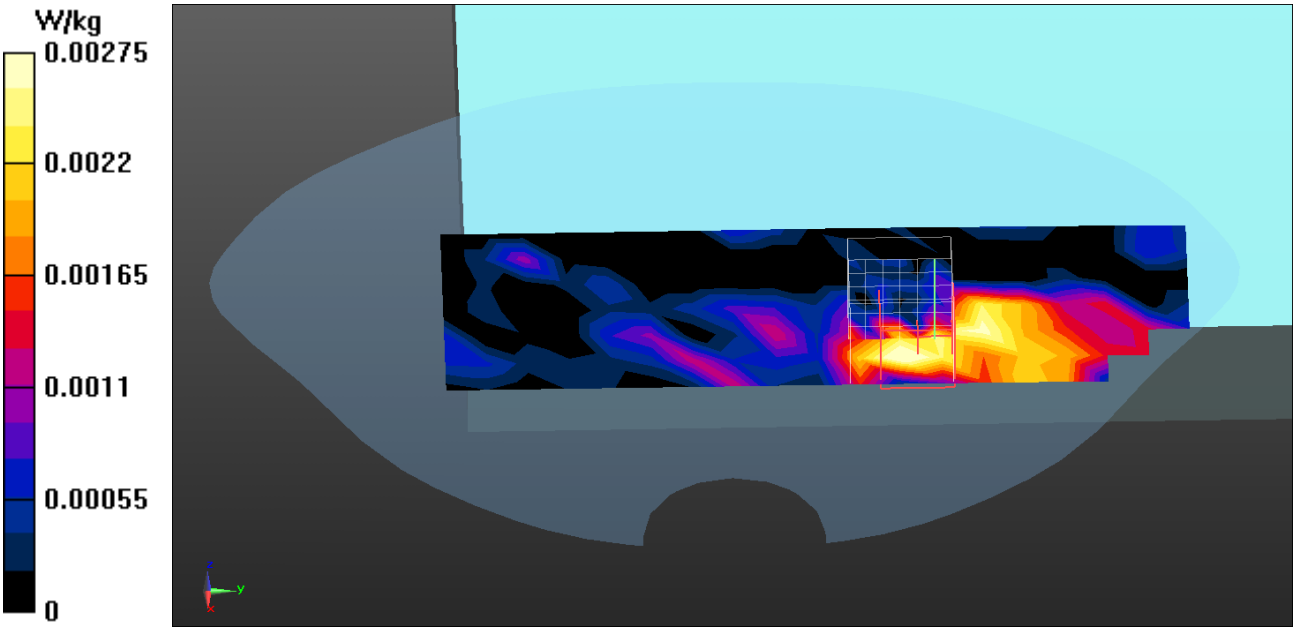
Test Laboratory: DEKRA Date/Time: 2017/06/21

802.11b_6-Back Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 2.4G; Frequency: 2437 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 2437 MHz; σ = 1.96 S/m; ε_r = 52.81; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.9
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(7.47, 7.47, 7.47); Calibrated: 2016/11/25;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

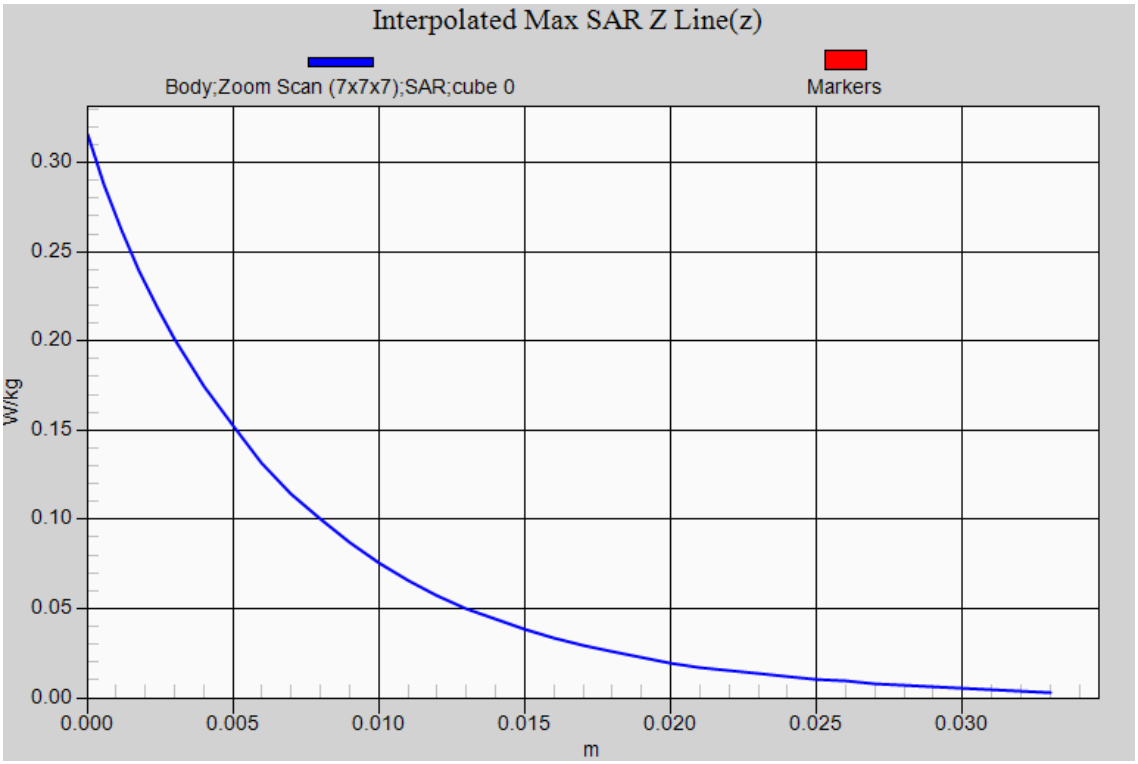
Configuration/Body/Area Scan (7x19x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.00295 W/kg

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.2230 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.00563 W/kg
SAR(1 g) = 0.000601 W/kg; SAR(10 g) = 0.000474 W/kg
Maximum value of SAR (measured) = 0.00275 W/kg



802.11b_Right-Side (MAIN), Z-Axis plot

Channel: 6



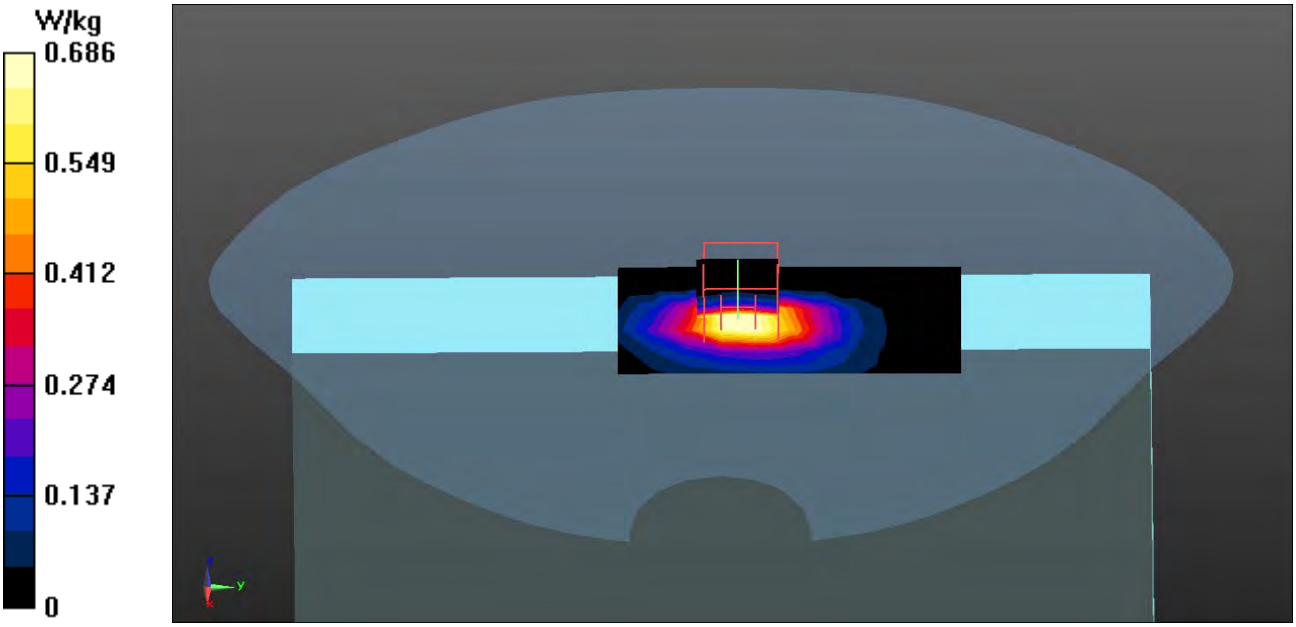
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_48-Right-Side-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5240 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5240 MHz; σ = 5.33 S/m; ε_r = 48.96; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.75, 4.75, 4.75); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.686 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.78 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.396 W/kg; SAR(10 g) = 0.132 W/kg
Maximum value of SAR (measured) = 0.940 W/kg



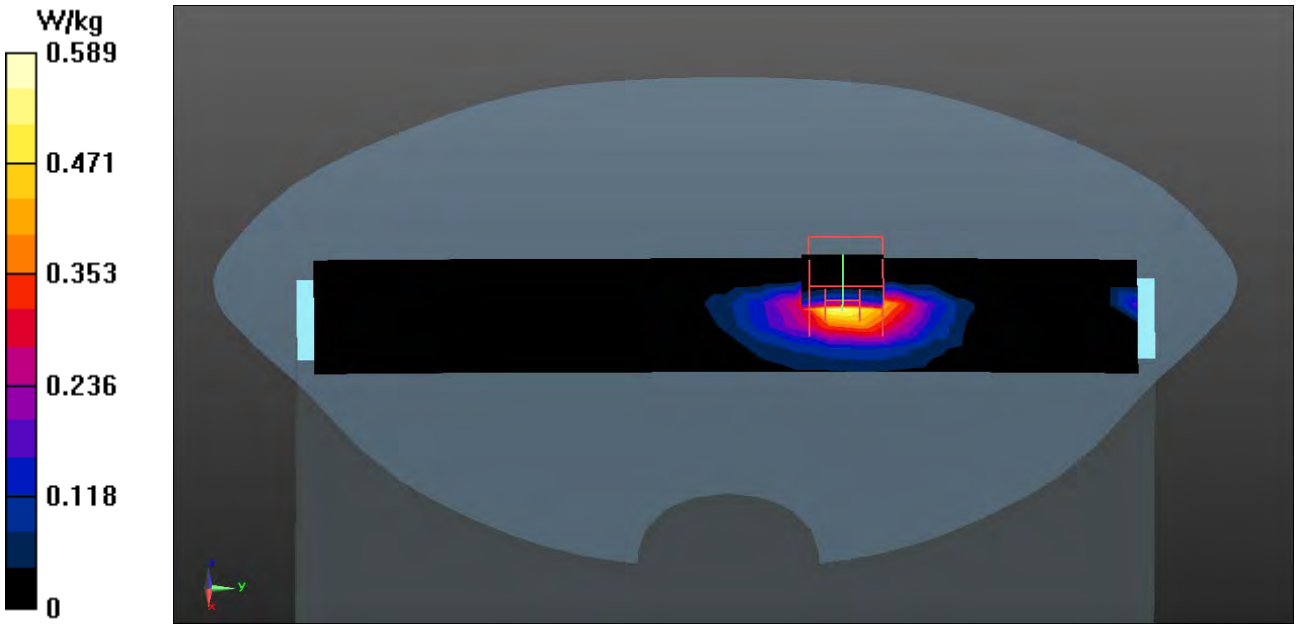
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_60-Right-Side-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5300 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5300 MHz; σ = 5.35 S/m; ε_r = 48.89; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.55, 4.55, 4.55); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x25x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.589 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.034 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.272 W/kg; SAR(10 g) = 0.090 W/kg
Maximum value of SAR (measured) = 0.653 W/kg



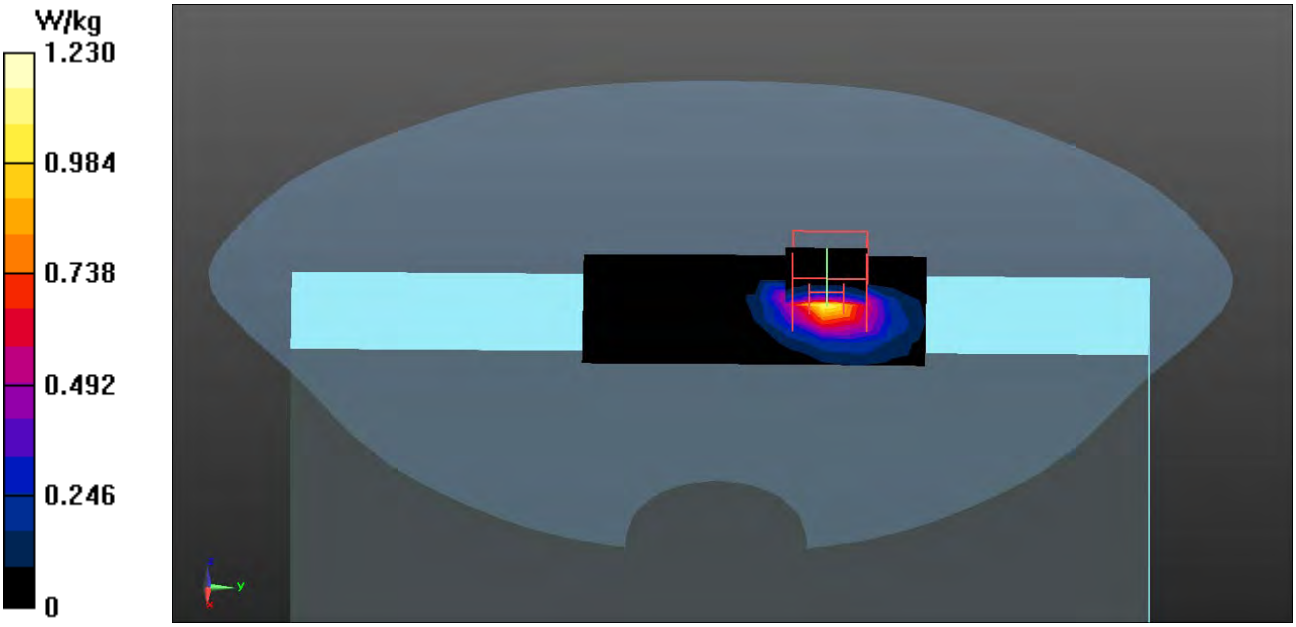
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_128-Right-Side-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5640 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5640 MHz; σ = 5.91 S/m; ε_r = 47.91; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.03, 4.03, 4.03); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.23 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.662 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.17 W/kg
SAR(1 g) = 0.492 W/kg; SAR(10 g) = 0.155 W/kg
Maximum value of SAR (measured) = 1.21 W/kg



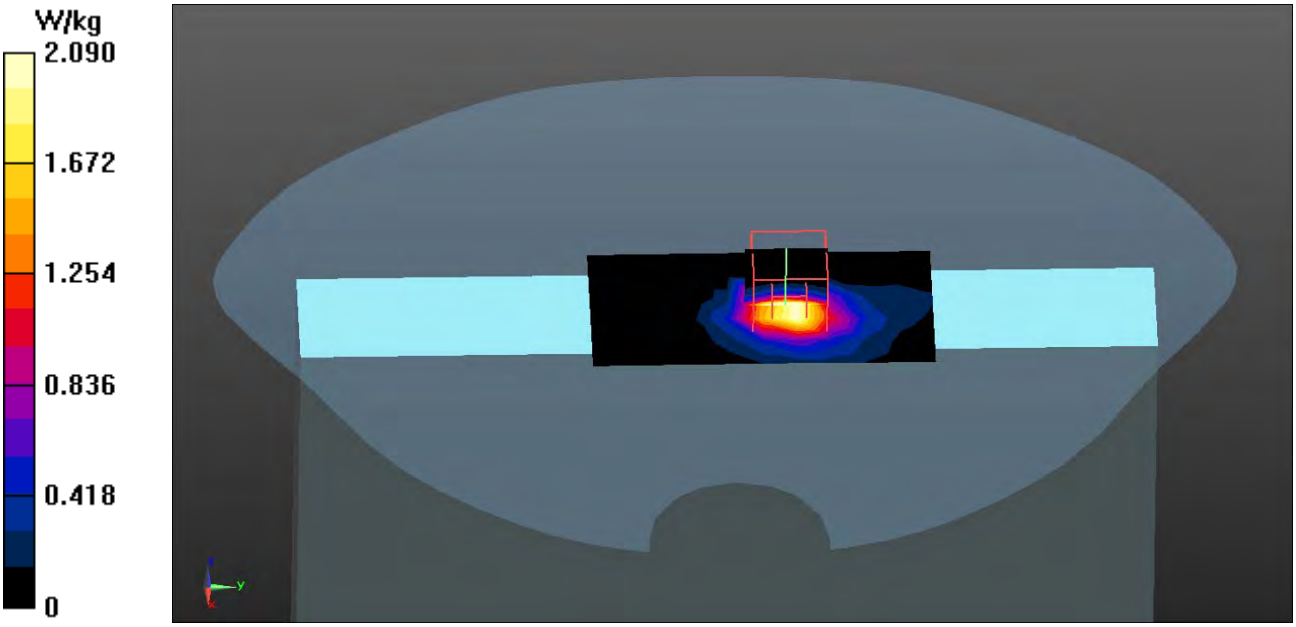
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_149-Right-Side-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5745 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5745 MHz; σ = 6.11 S/m; ε_r = 47.58; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.27, 4.27, 4.27); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.09 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 10.10 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 4.98 W/kg
SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.345 W/kg
Maximum value of SAR (measured) = 2.79 W/kg



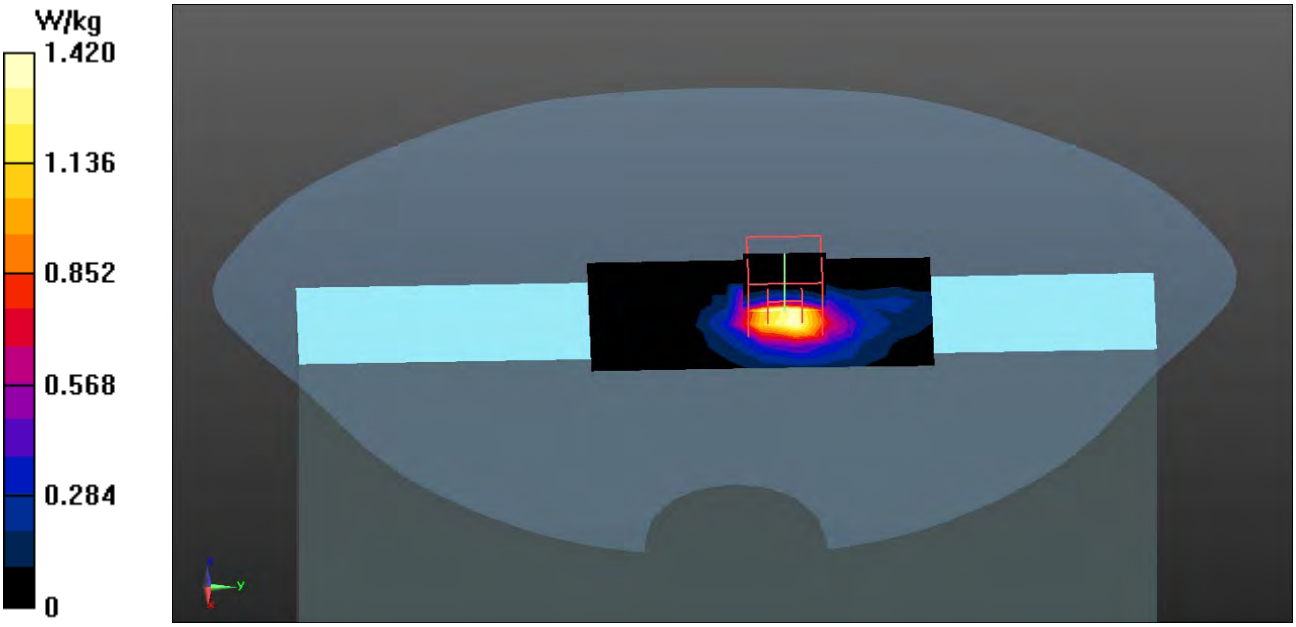
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_165-Right-Side-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5825 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5825 MHz; σ = 6.23 S/m; ε_r = 47.39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.27, 4.27, 4.27); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.42 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.691 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 3.36 W/kg
SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.224 W/kg
Maximum value of SAR (measured) = 1.85 W/kg



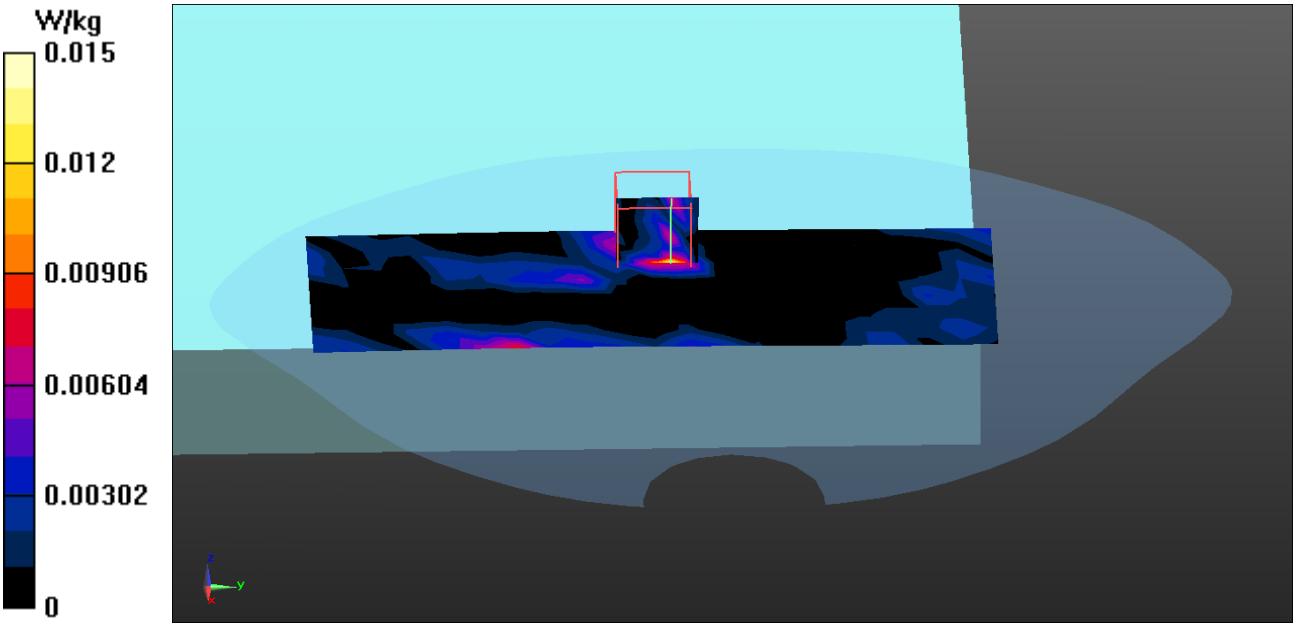
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_60-Back-Main
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5300 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5300 MHz; σ = 5.35 S/m; ε_r = 48.89; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.55, 4.55, 4.55); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (8x21x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0151 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.0410 W/kg
SAR(1 g) = 0.00424 W/kg; SAR(10 g) = 0.0011 W/kg
Maximum value of SAR (measured) = 0.0132 W/kg



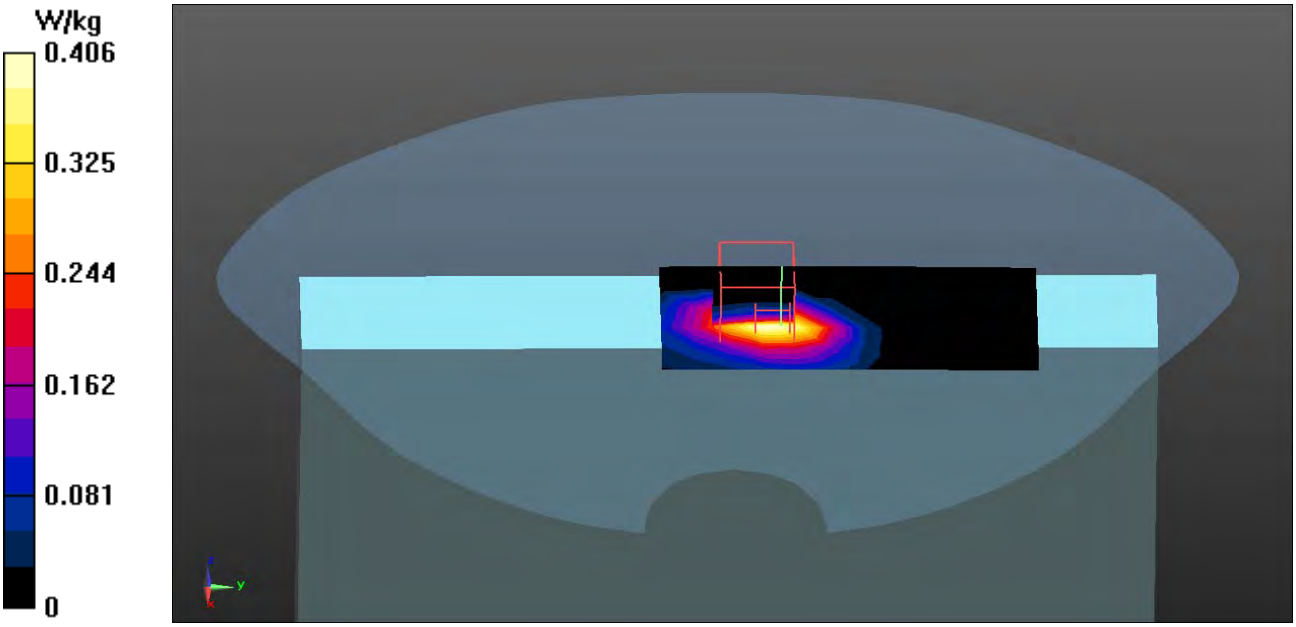
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_44-Left-Side-Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5220 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5220 MHz; σ = 5.32 S/m; ε_r = 49.02; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.75, 4.75, 4.75); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x12x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.406 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 7.277 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.745 W/kg
SAR(1 g) = 0.194 W/kg; SAR(10 g) = 0.066 W/kg
Maximum value of SAR (measured) = 0.440 W/kg



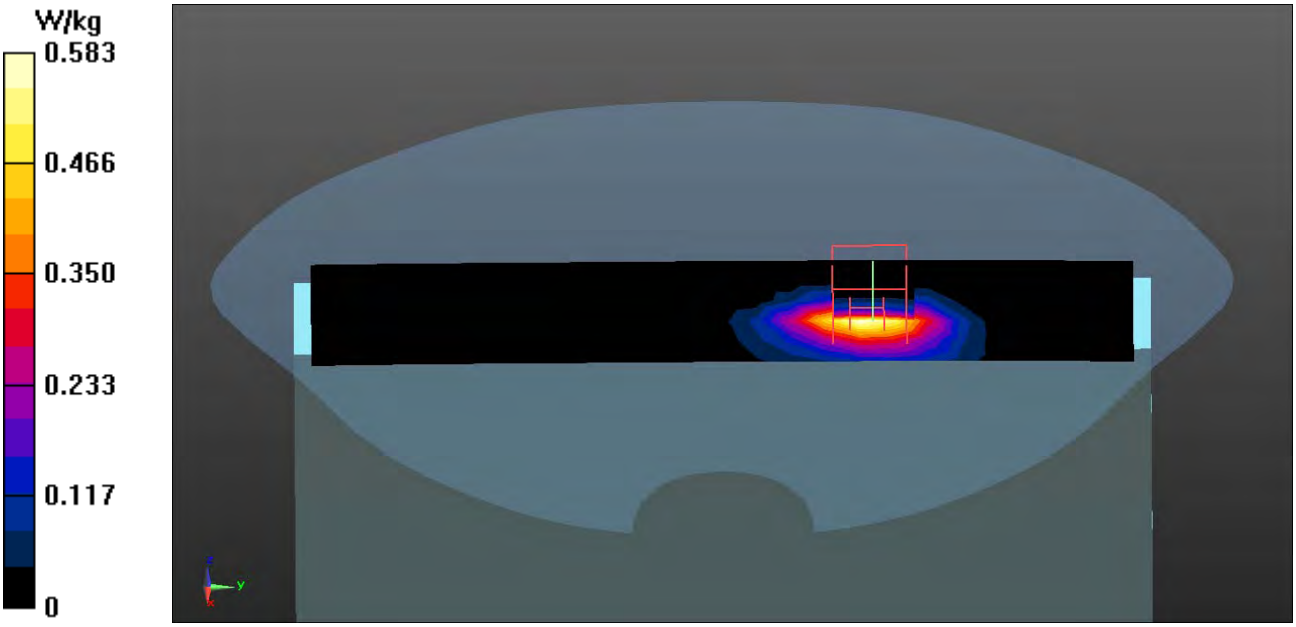
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_56-Left-Side-Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5280 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5280 MHz; σ = 5.33 S/m; ε_r = 48.94; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.55, 4.55, 4.55); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x25x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.583 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.631 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.094 W/kg
Maximum value of SAR (measured) = 0.590 W/kg



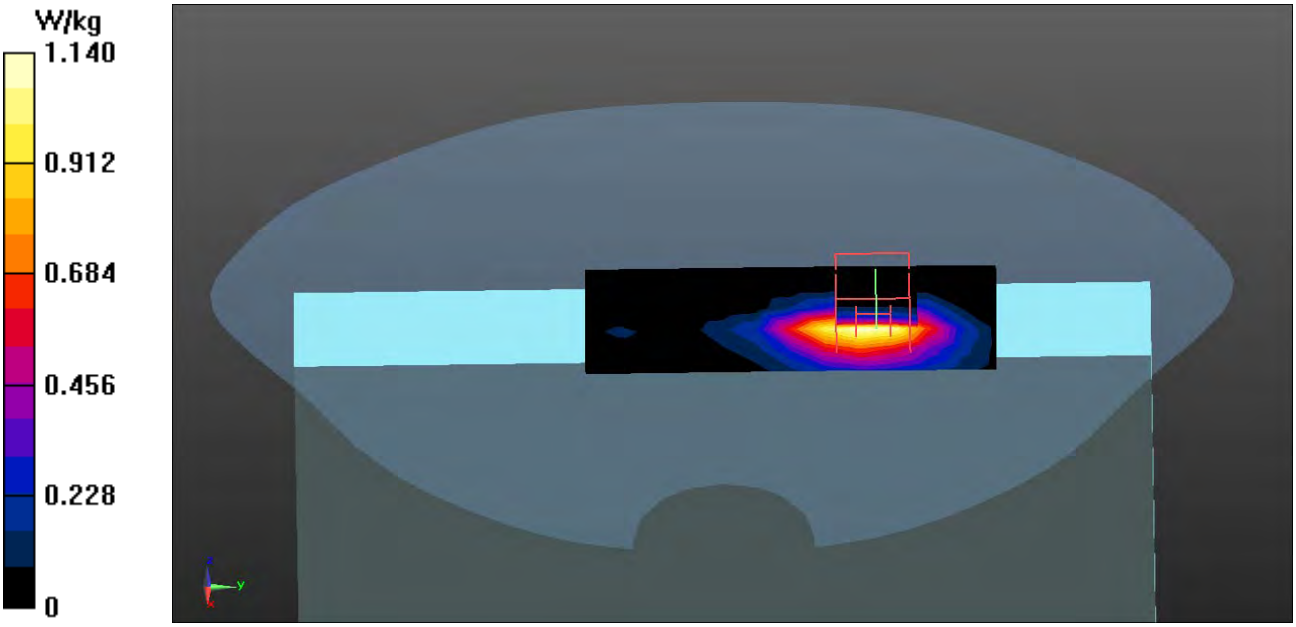
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_112-Left-Side-Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5560 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5560 MHz; σ = 5.74 S/m; ε_r = 48.22; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.03, 4.03, 4.03); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.14 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.563 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 0.500 W/kg; SAR(10 g) = 0.188 W/kg
Maximum value of SAR (measured) = 1.17 W/kg



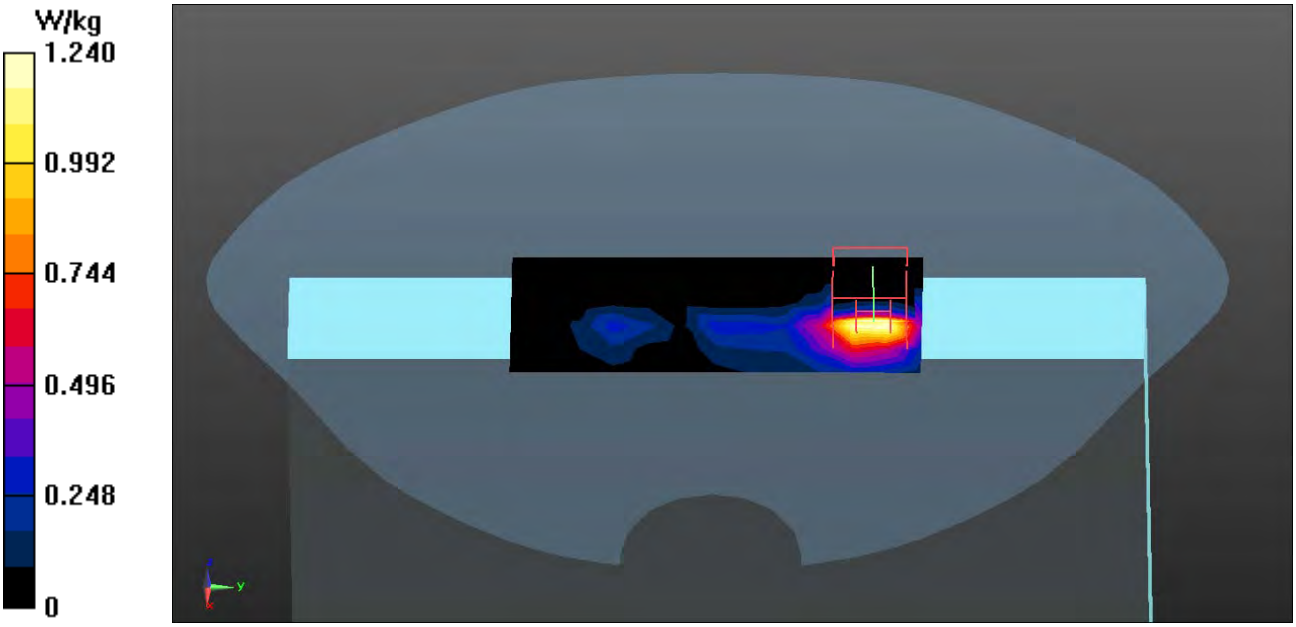
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_165-Left-Side-Aux
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5825 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5825 MHz; σ = 6.23 S/m; ε_r = 47.39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.27, 4.27, 4.27); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

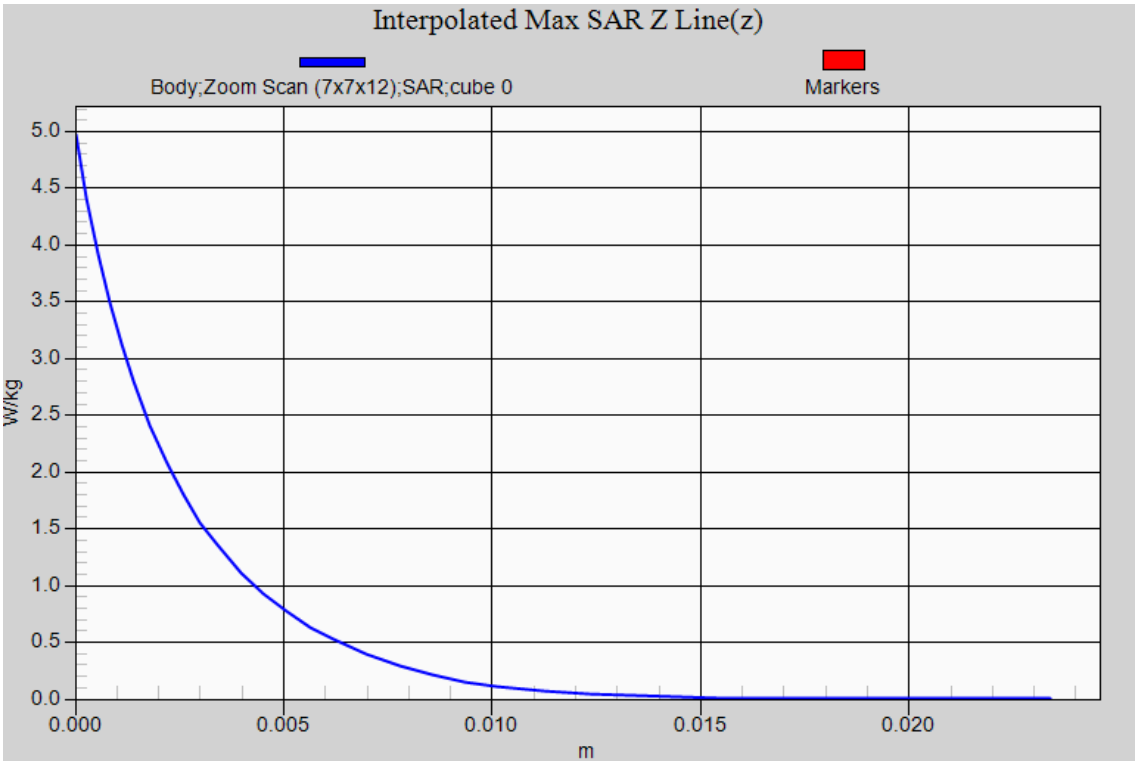
Configuration/Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.24 W/kg

Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 6.243 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.63 W/kg
SAR(1 g) = 0.577 W/kg; SAR(10 g) = 0.189 W/kg
Maximum value of SAR (measured) = 1.44 W/kg



802.11a Right-Side (Main), Z-Axis plot

Channel: 149



SAR measurement variability

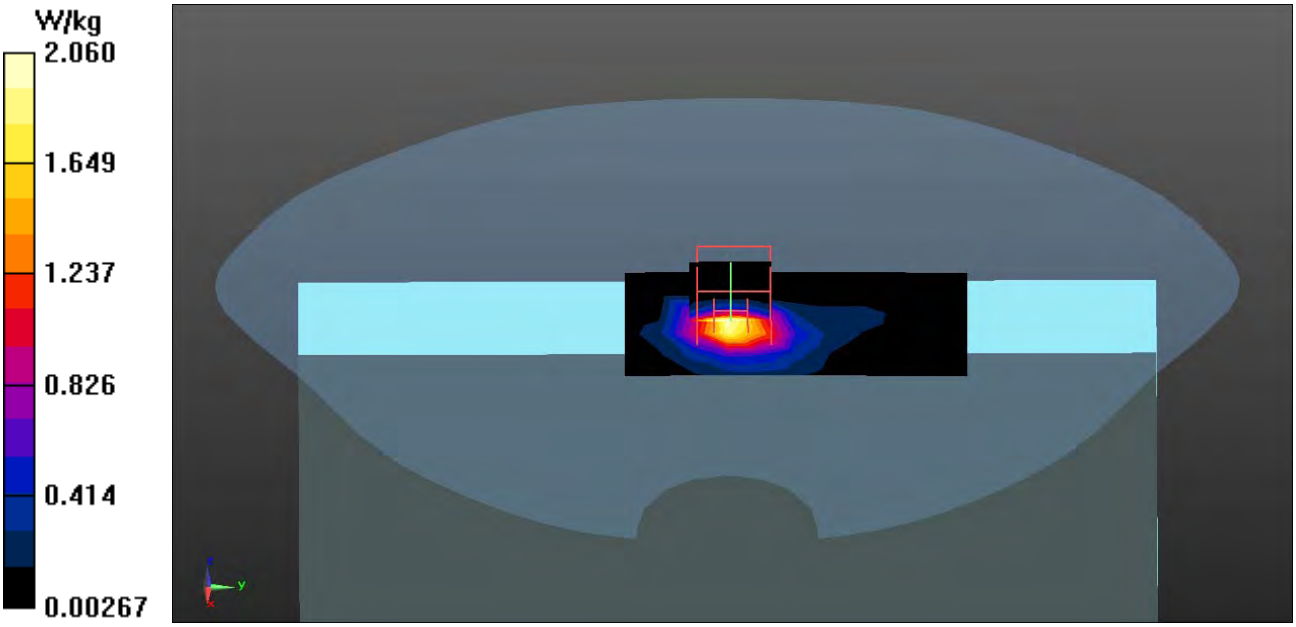
Test Laboratory: DEKRA Date/Time: 2017/06/22

802.11a_149-Right-Side-Main-Verify
DUT: Mobile Medical Assistant Tablet; Type: xxxONYX-MD116xxxxxxxxxx(Where "x" is 0~9, A~Z, "-" or blank)
Communication System: UID 0, WLAN 5G; Frequency: 5745 MHz;
Communication System PAR: 0 dB
Medium parameters used: f = 5745 MHz; σ = 6.11 S/m; ε_r = 47.58; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 21.9, Liquid Temperature (°C) : 20.2
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY5 Configuration:

- Probe: EX3DV4 - SN3979; ConvF(4.27, 4.27, 4.27); Calibrated: 2016/11/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1425; Calibrated: 2016/11/18
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

Configuration/Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.06 W/kg

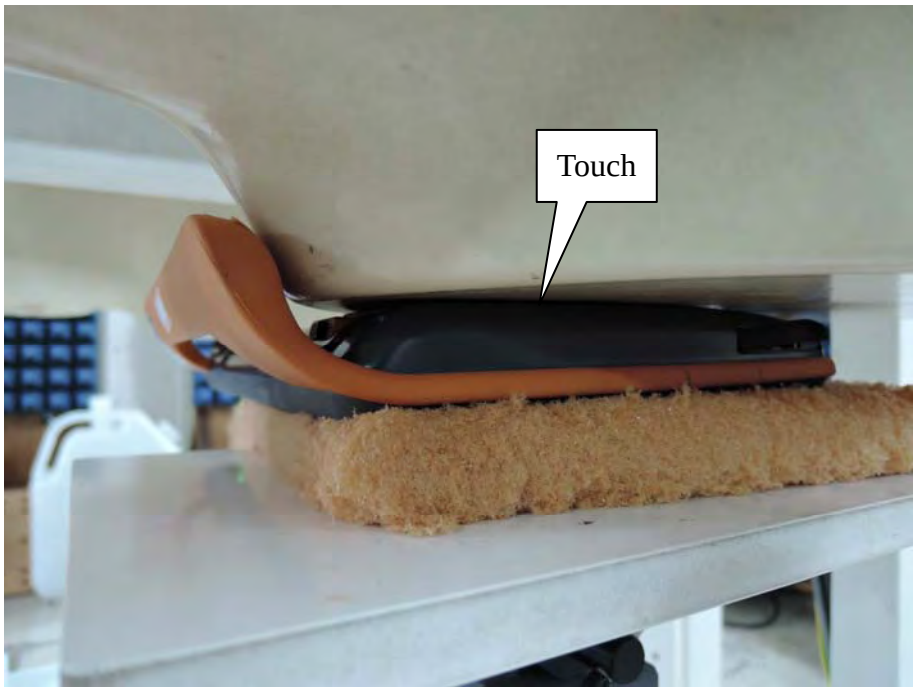
Configuration/Body/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 21.14 V/m; Power Drift = -0.70 dB
Peak SAR (extrapolated) = 4.48 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.313 W/kg
Maximum value of SAR (measured) = 2.58 W/kg



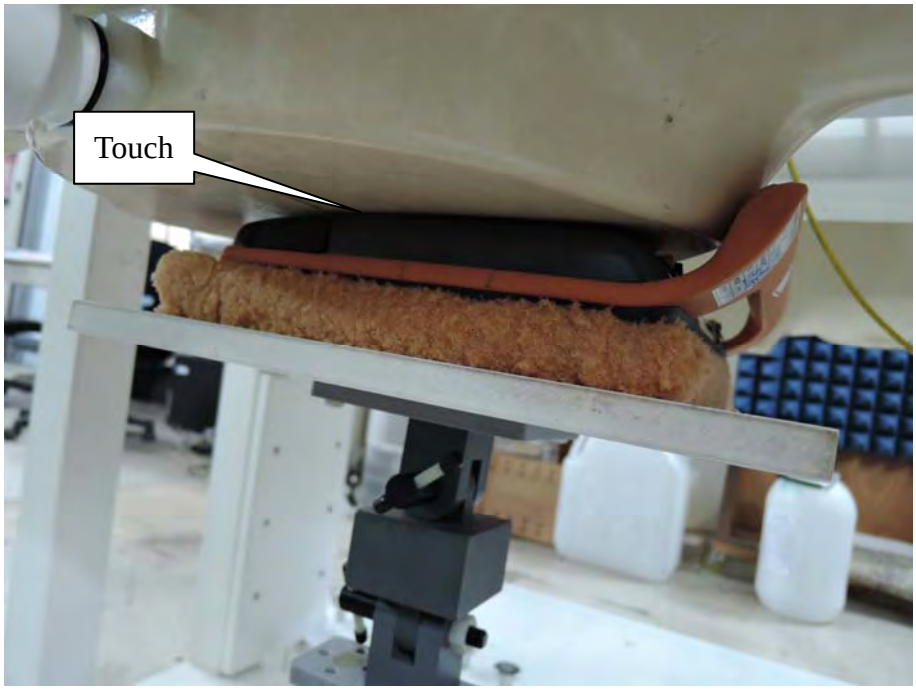
Appendix C. Test Setup Photographs & EUT Photographs

Test Setup Photographs

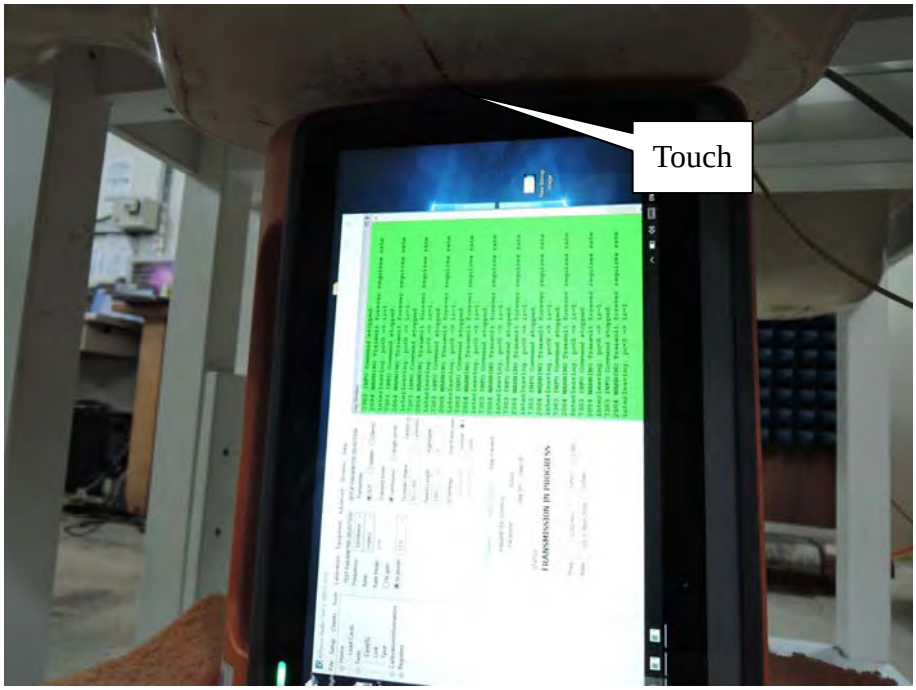
EUT Back (TX1)



EUT Back (TX2)

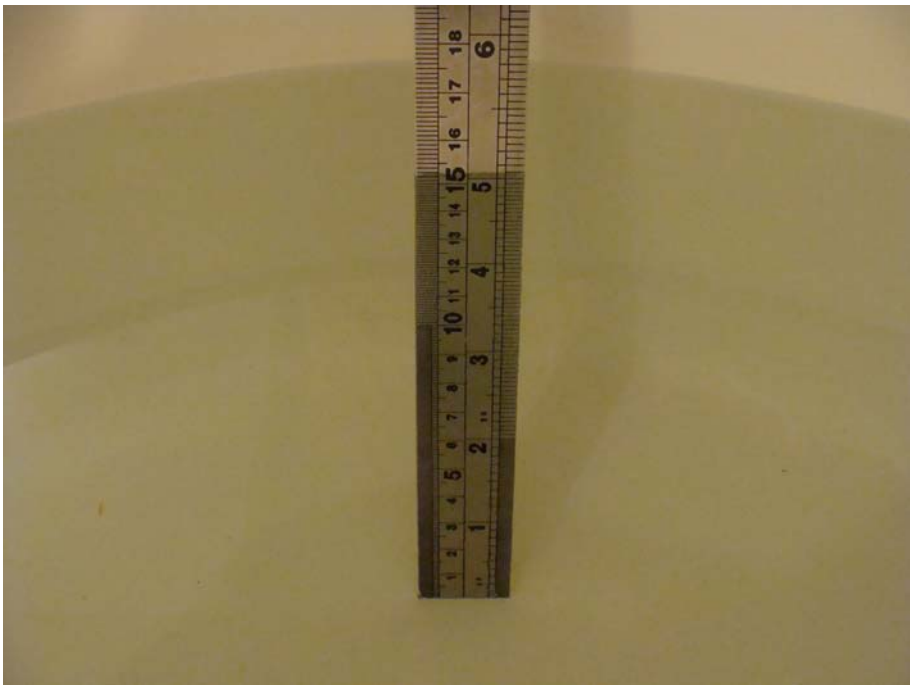


Right-Side (TX1)

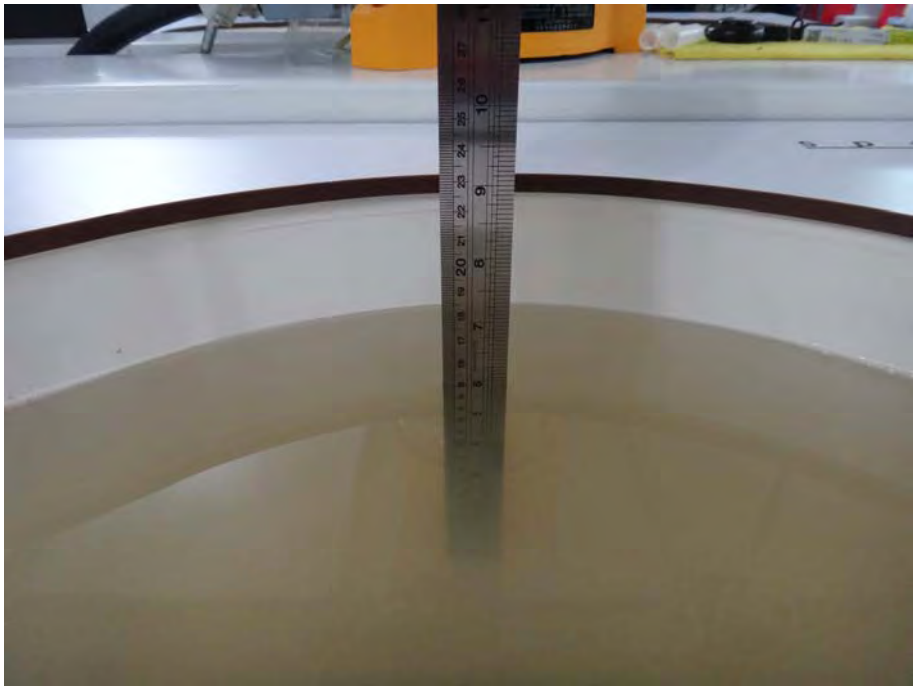


Left-Side (TX2)

Depth of the liquid in the phantom-Zoom In (2.4GHz)

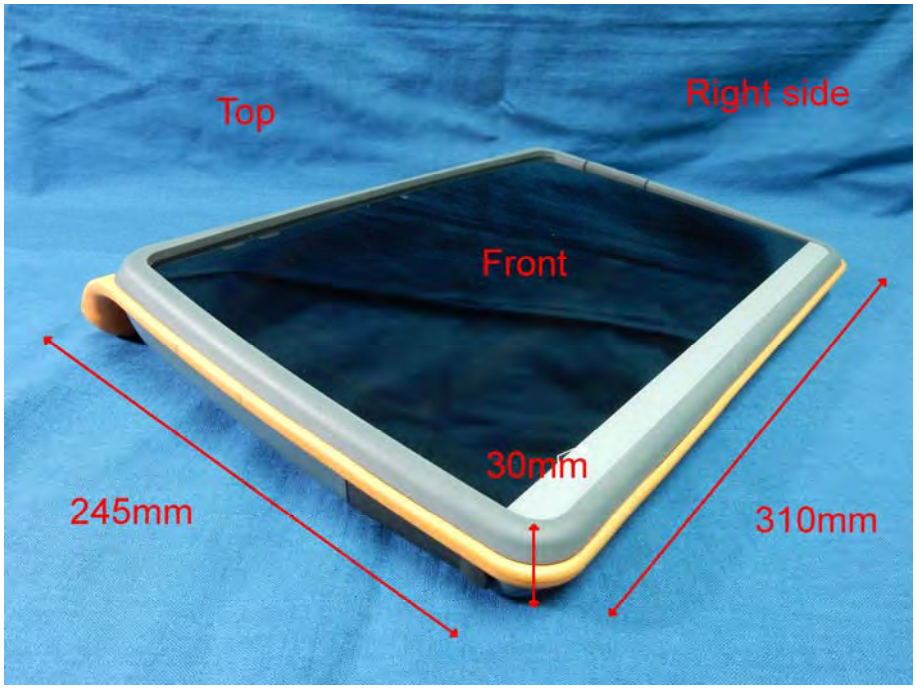


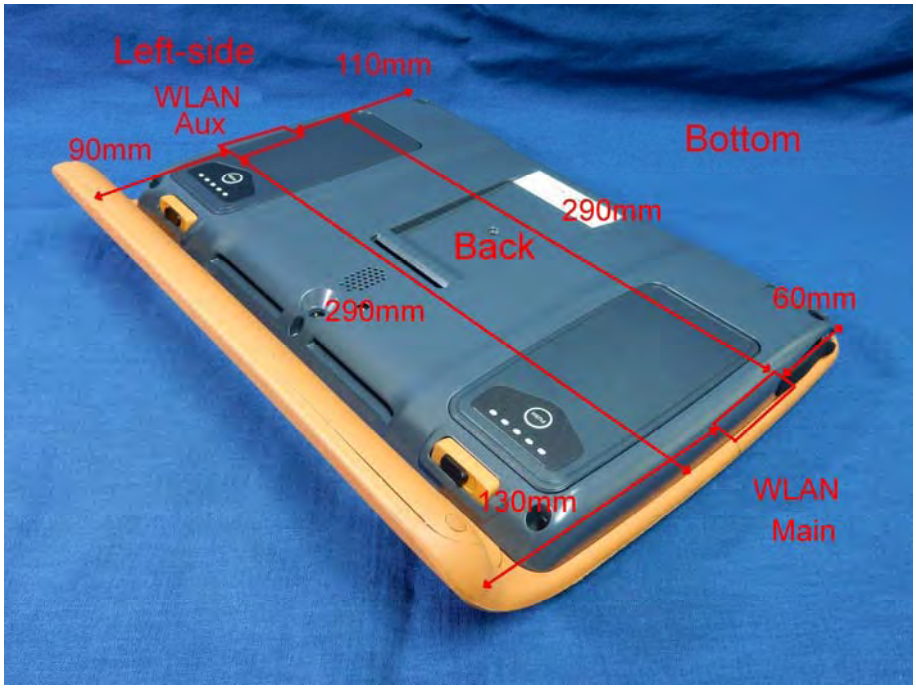
Depth of the liquid in the phantom-Zoom In (5GHz)



Note: The positions used in the measurements were according to IEEE 1528-2013.

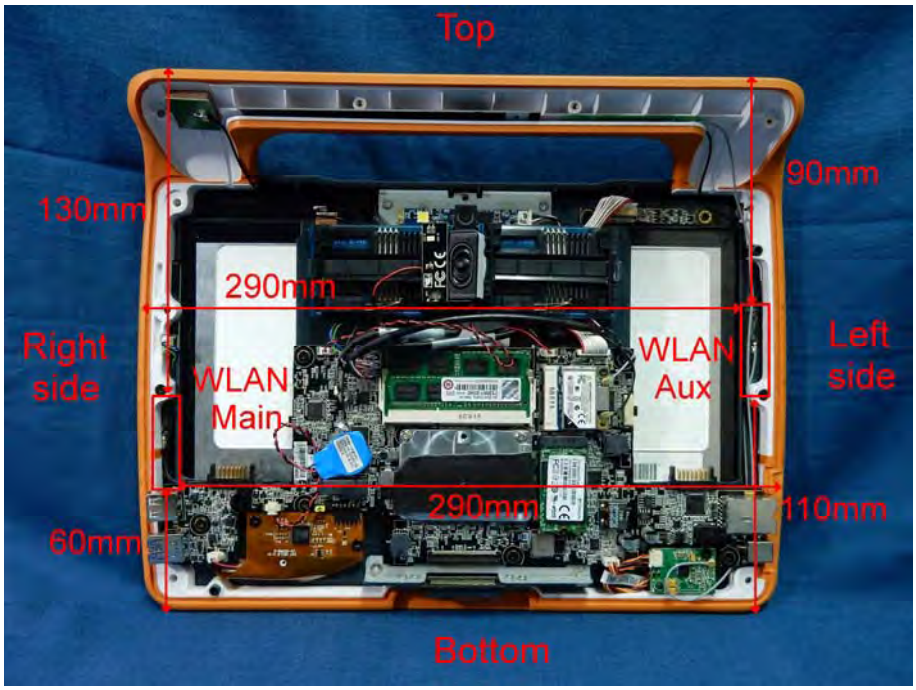
EUT Photographs






PUSH


MODEL NO:OPM-P03T-01 Part NO:9789OMD100
Rating : 7.2 VDC 4545mAh/32.72Wh
Rechargeable Li-ion Battery
onyx
Cells Made in China
Assembled in China
WARNING:Do not incinerate, or dispose of in fire or water. Do not store near heat sources or in direct sunlight. Do not short terminals, disassemble or modify in any way. For use with ONYX product only. See User's Manual for storage and disposal of battery.
(EU 4545mAh)
廢電池請回收
2ICP8/36/41-3
株式会社 V-net
7.2V
4545mAh
Onyx Healthcare
http://www.onyx-healthcare.com
LISTED
I.T.E. ACCESSORY
E171051
DEC
Li-Ion
2017/05/02 Sample 07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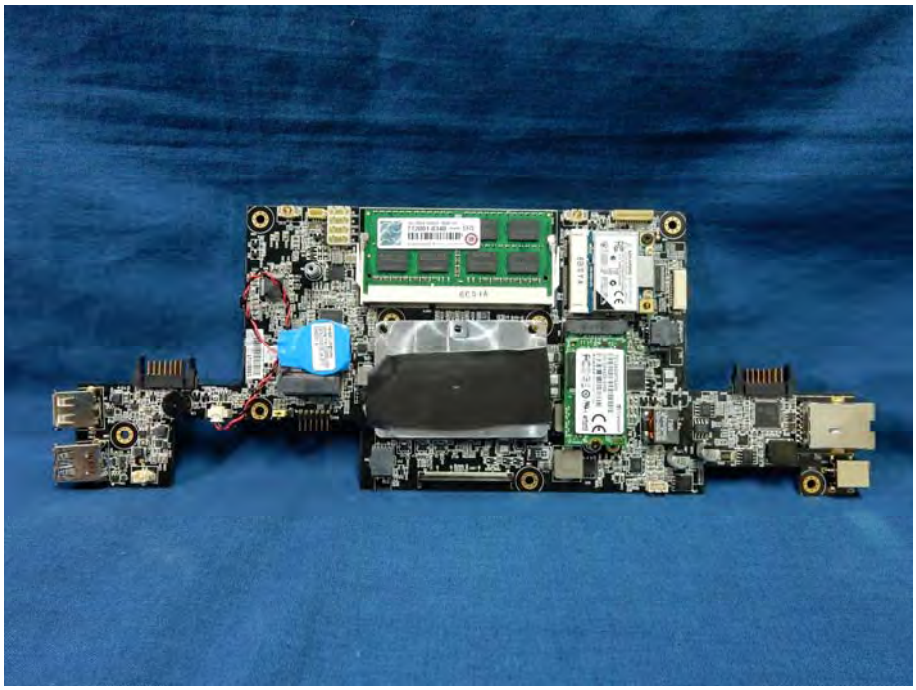
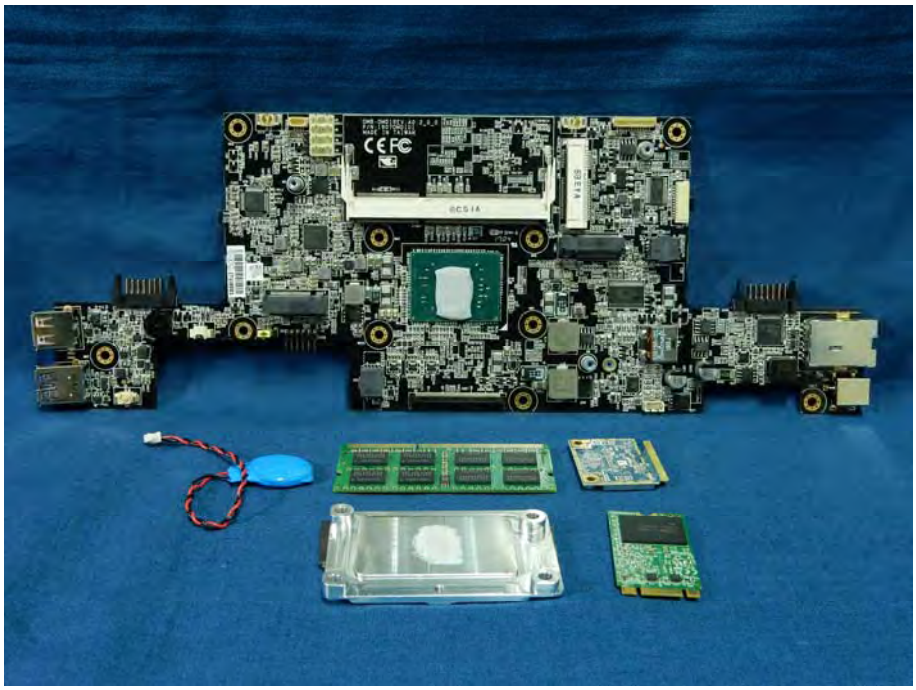
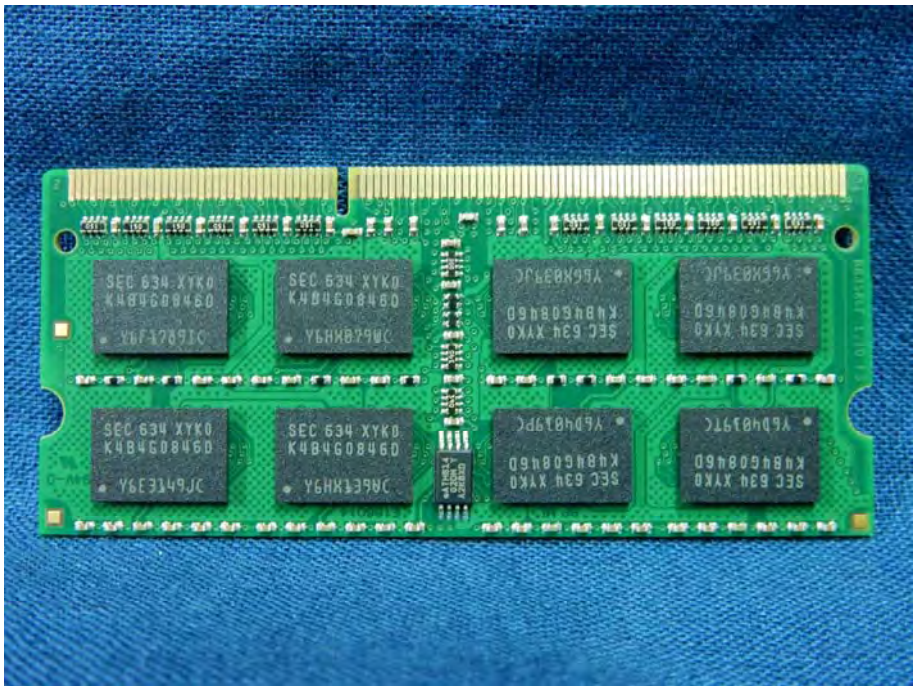
130mm
90mm
290mm
Right side
WLAN Main
WLAN Aux
Left side
290mm
110mm
60mm
Bottom



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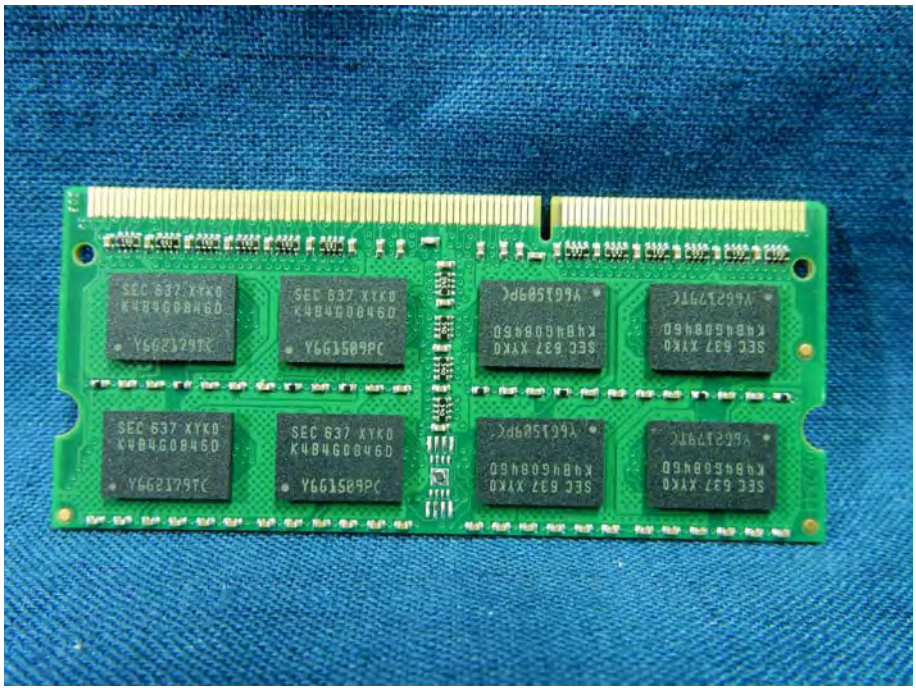
K4B4G08460


SEC 637 XYK0
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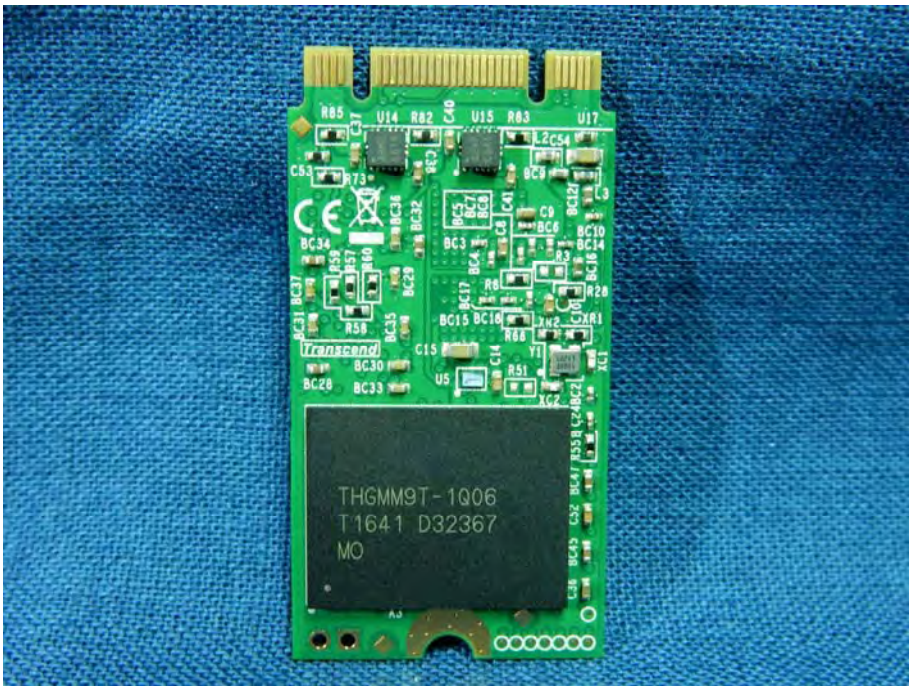
BP-4M E186014
Transcend
THGMM9T-1Q06
T1641 D32367
MO


Transcend
THGMM9T-1Q06
T1641 D32367
MO


CH0
CH1
AEH-AR9462 SERIES (AR5B22)
11N mPCIe DB WIFI+BT - 2x2 WB222
FCC ID: 2AE3B-AEH-AR9462
IC ID: 20662-AEHAR9462
003WWA111393 003XWA111396
003WWA111394 003YWA111397
003GZA111395 D111398003
PEEL-OPEN


CH0
CH1
ATHEROS
WB222
250-02062-070
AEH-AR9462 SERIES (AR5B22)
11N mPCIe DB WIFI+BT - 2x2 WB222
FCC ID: 2AE3B-AEH-AR9462
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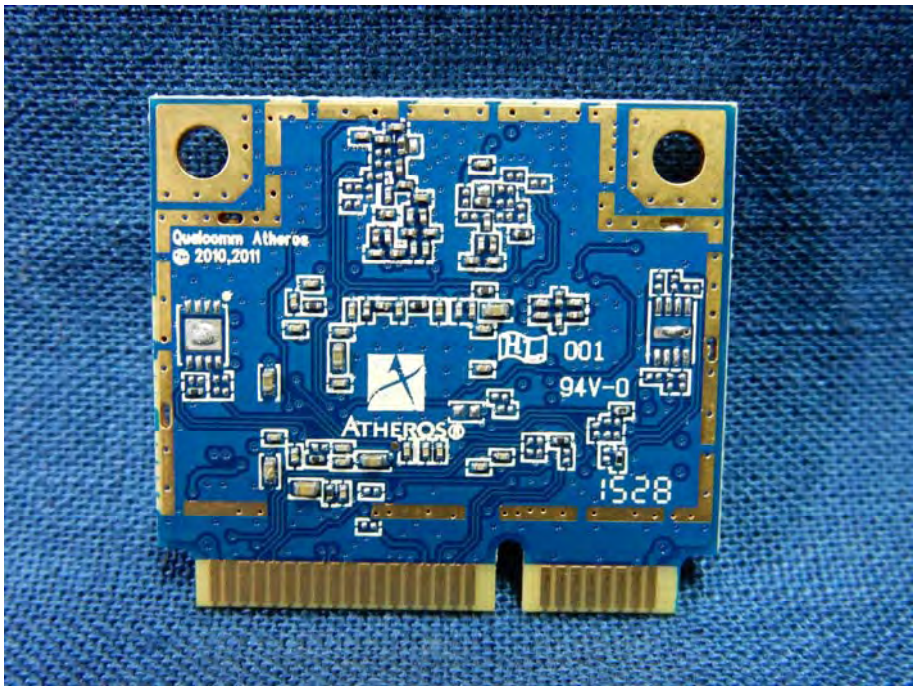
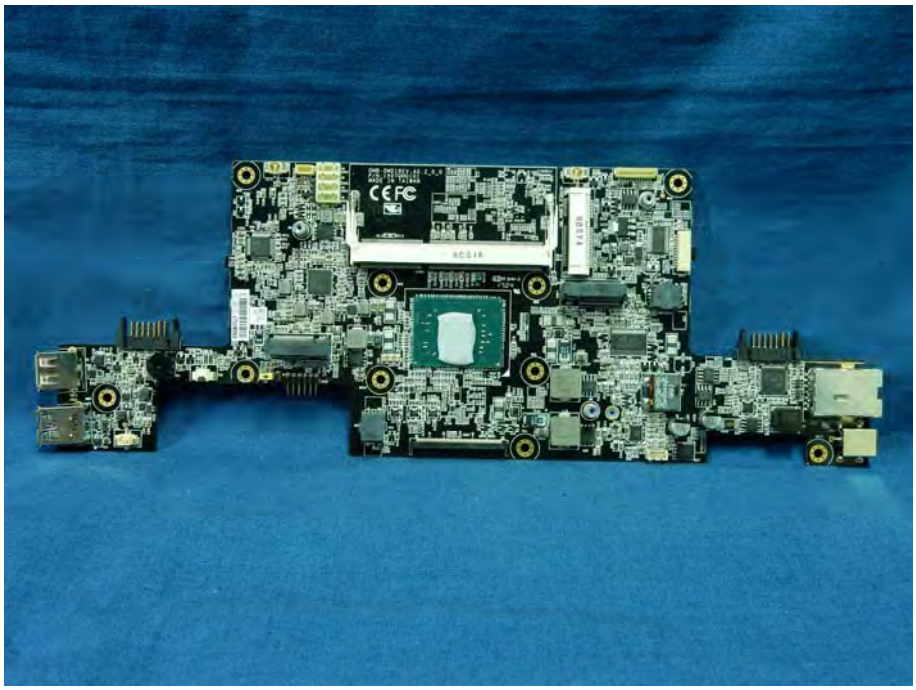
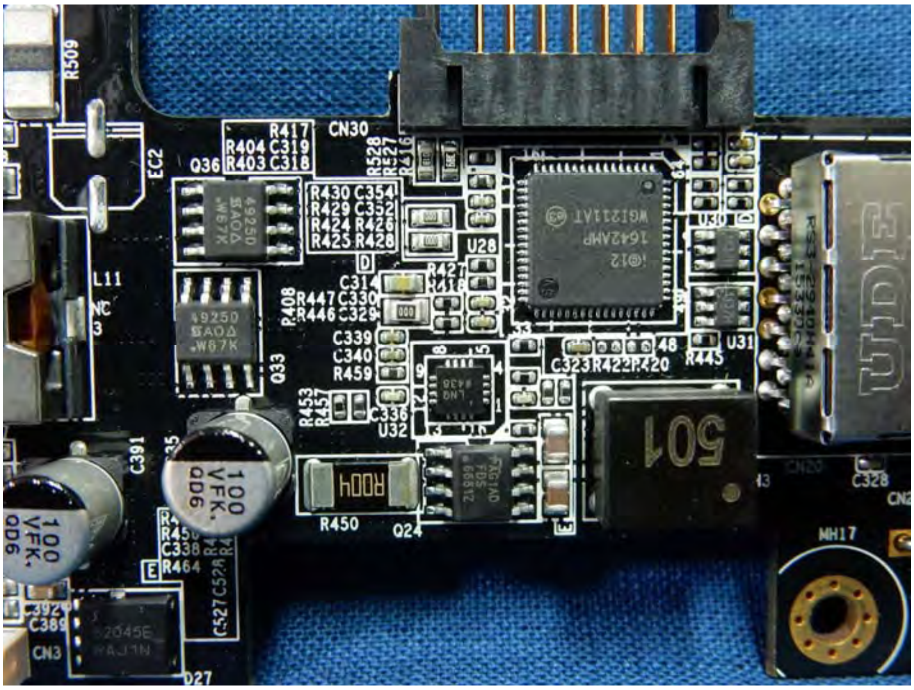

Qualcomm Atheros
© 2010,2011
001
94V-0
ATHEROS
1528


CE FC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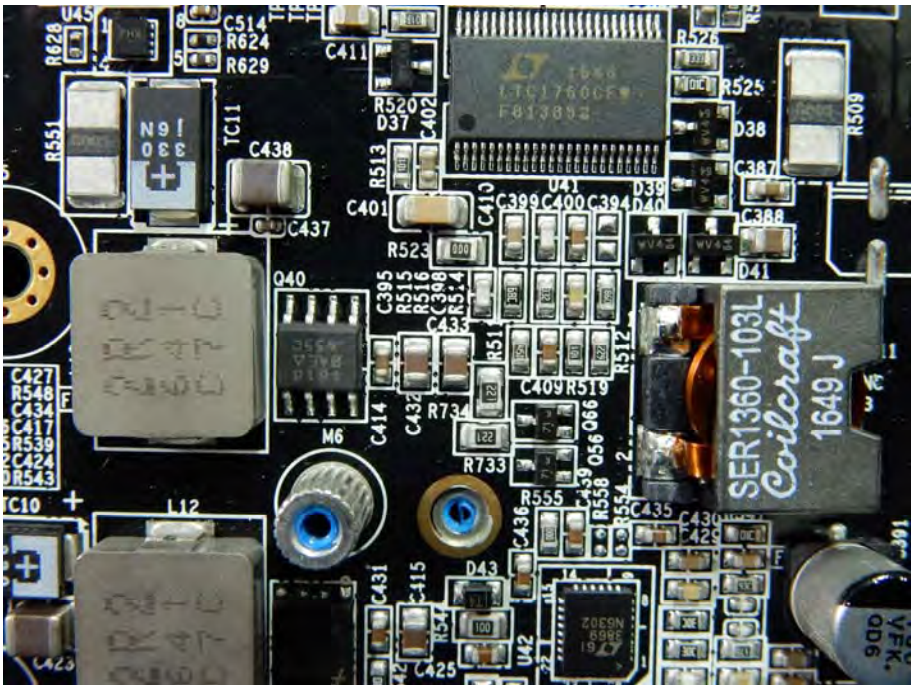
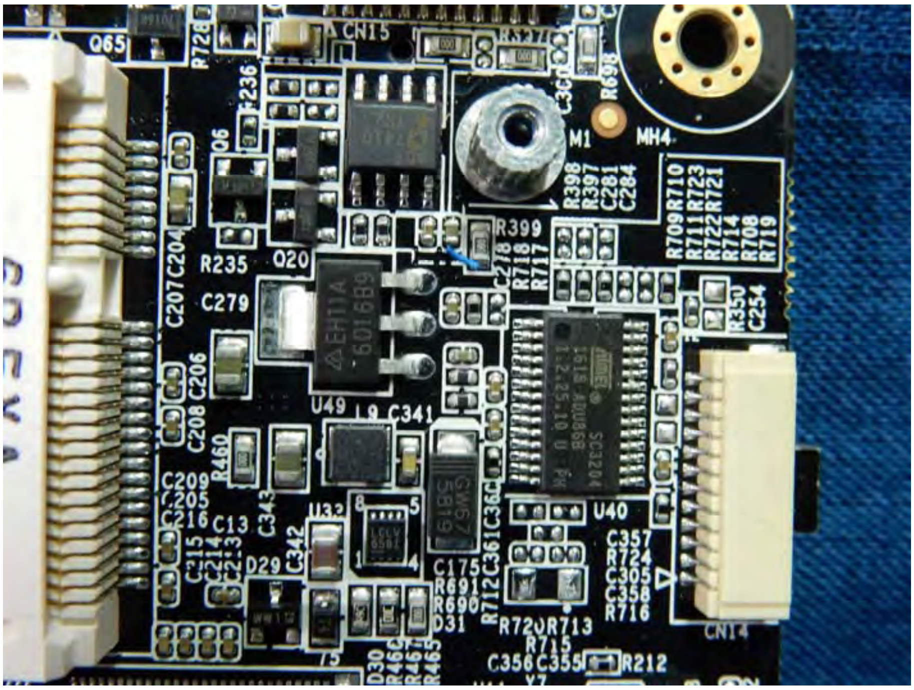
100
VFK.
0D6
R450
MH17


LTC1760CFW
C438
C401
Q40
M6
L12
SER1360-103L
Coilcraft
1649 J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Q20
U49
C341
U40
CN14
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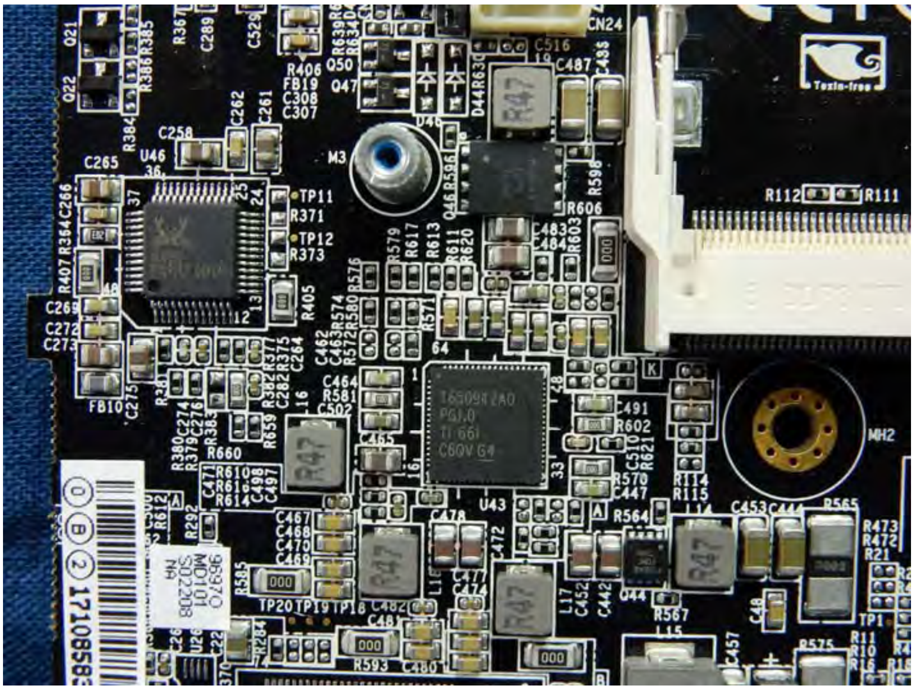
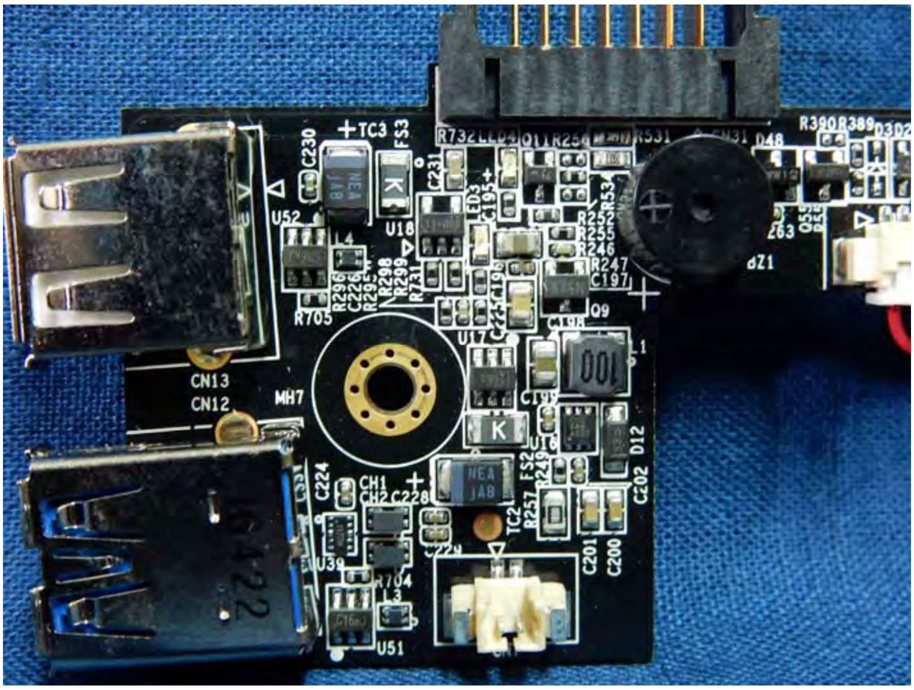

CN24
M3
TP11
R371
TP12
R373
U43
MH2
R47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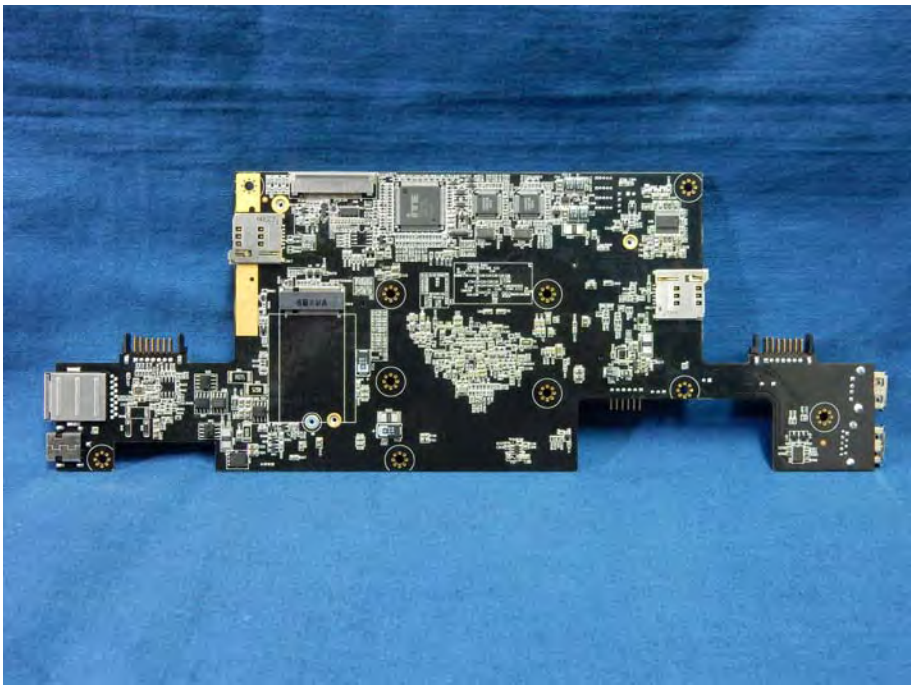
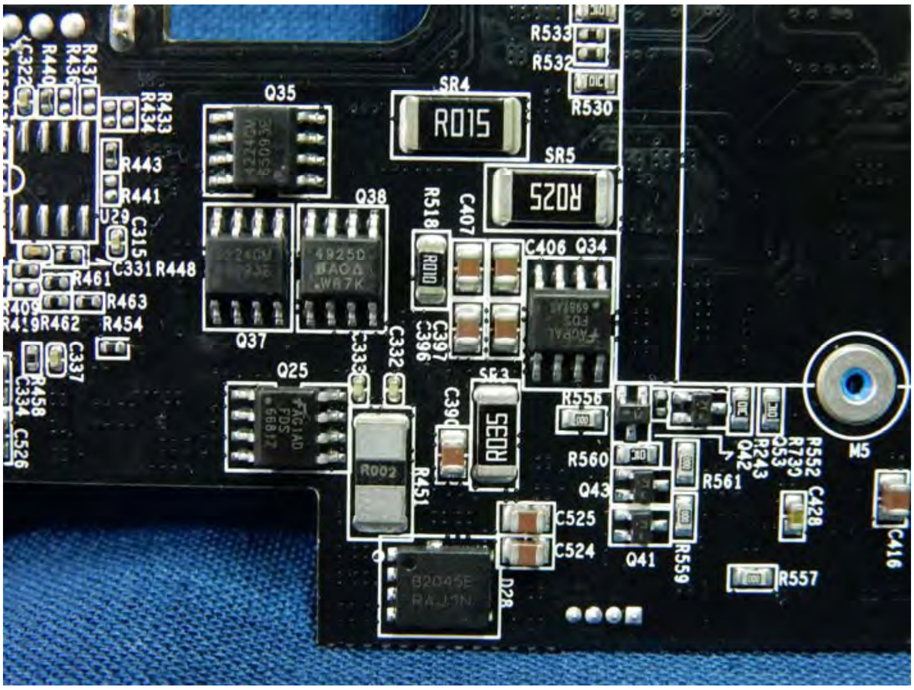
MH7
U52
R705
U18
U51
U39
C230
C224
R704
D12
C202
C201
C200
Q9

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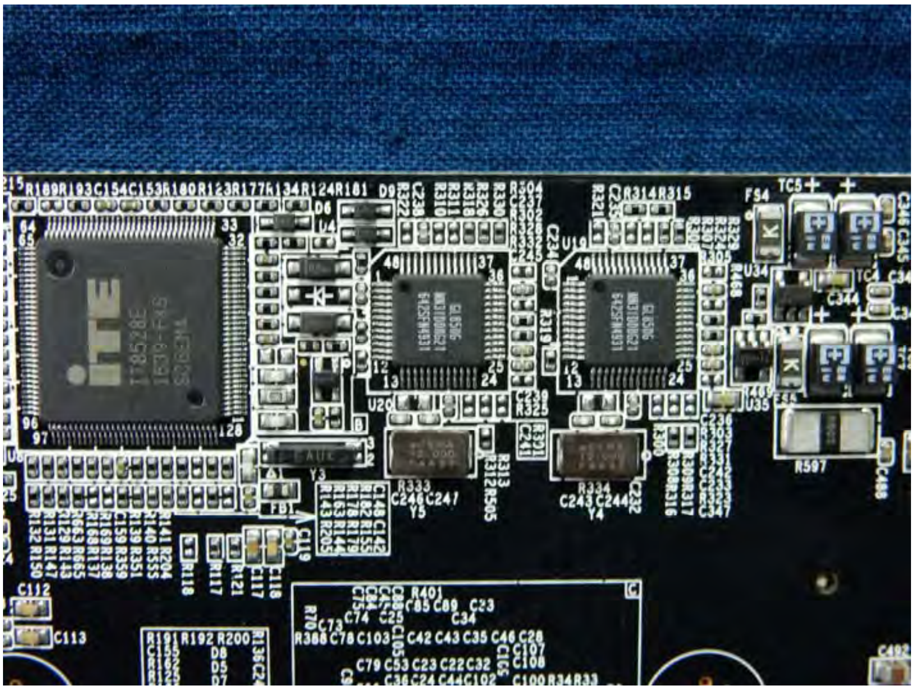
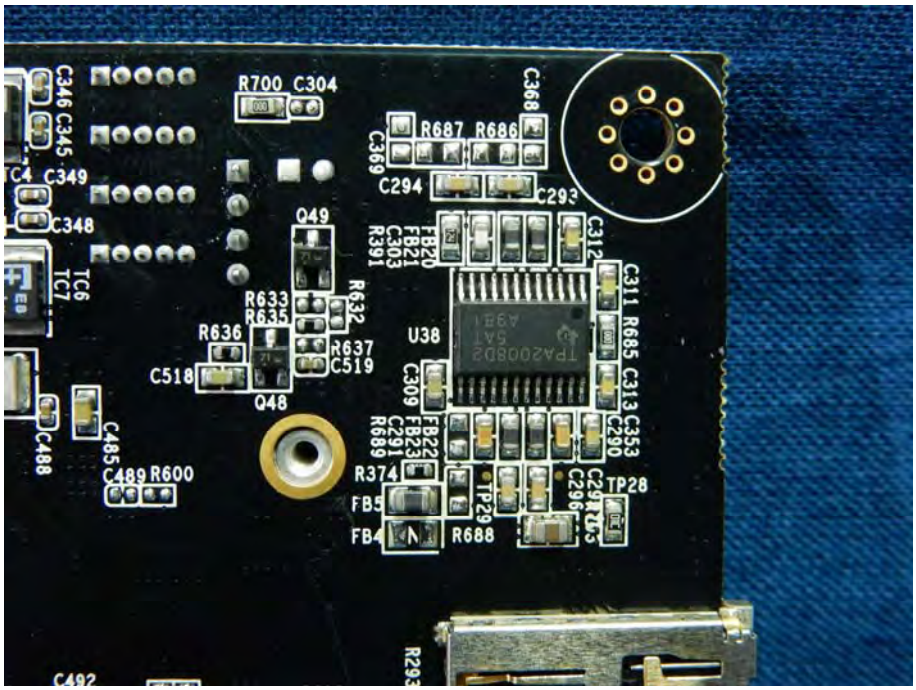
SR4
R015
SR5
R025
Q38
Q34
Q37
Q25
R002
M5

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C346 C345
C4 C349
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TC6
TC7
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C518
C519
Q48
C485
C488
C489 R600
C368
R687 R686
C369
C294
C293
FB20
FB21
C303
R391
C312
C311 R685 C313 C353
U38
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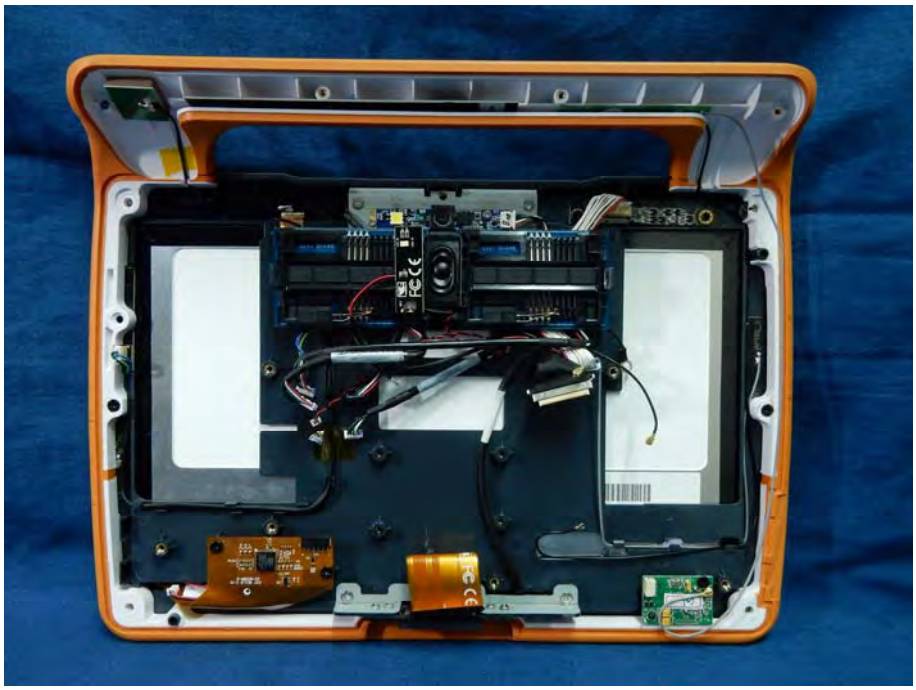
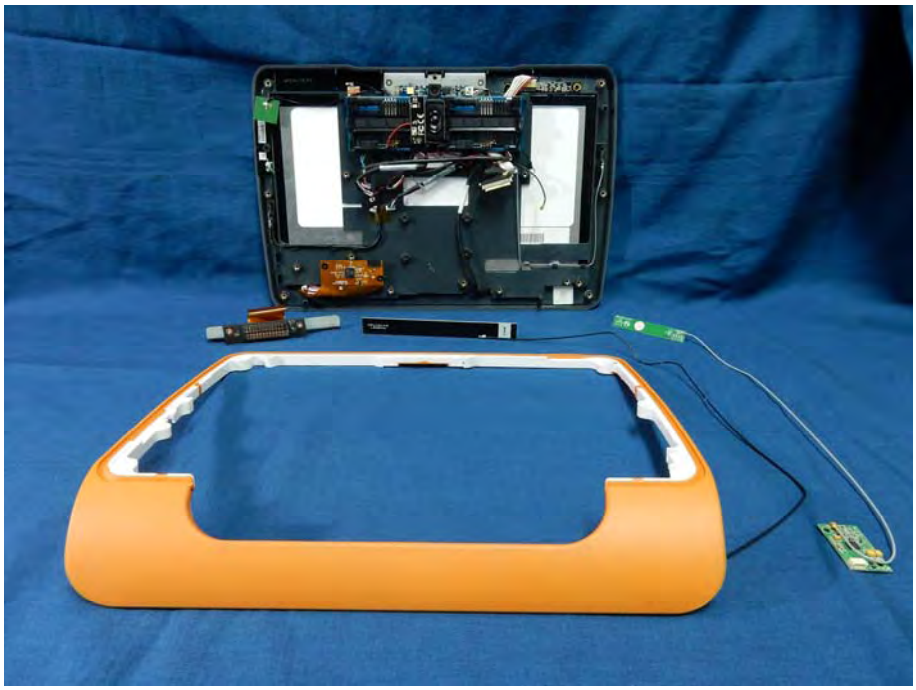
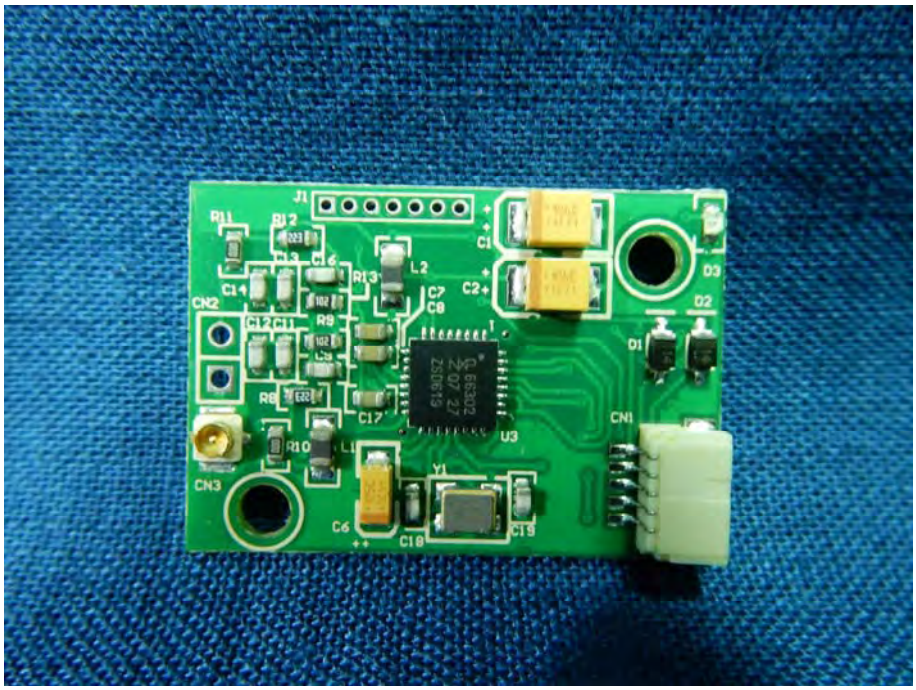
FB5
FB4
TP29
R688
TP28
C492



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R12
C16
C14
R13
L2
C7
C8
C2+
C1
D3
D2
D1
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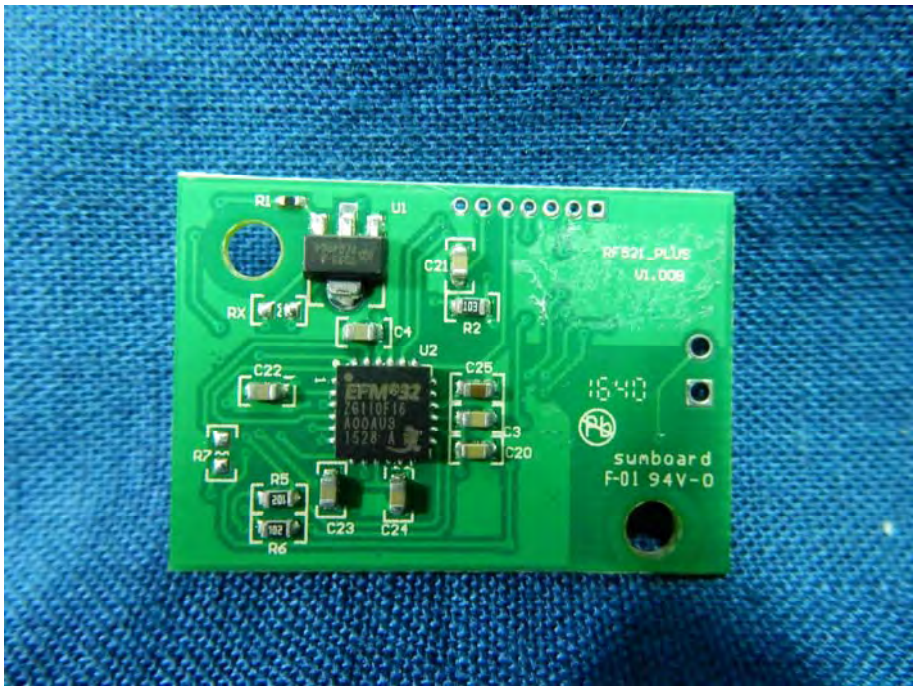
R10
L1
Y1
CN3
C6
C18
C19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RX
R2
C4
U2
C22
C25
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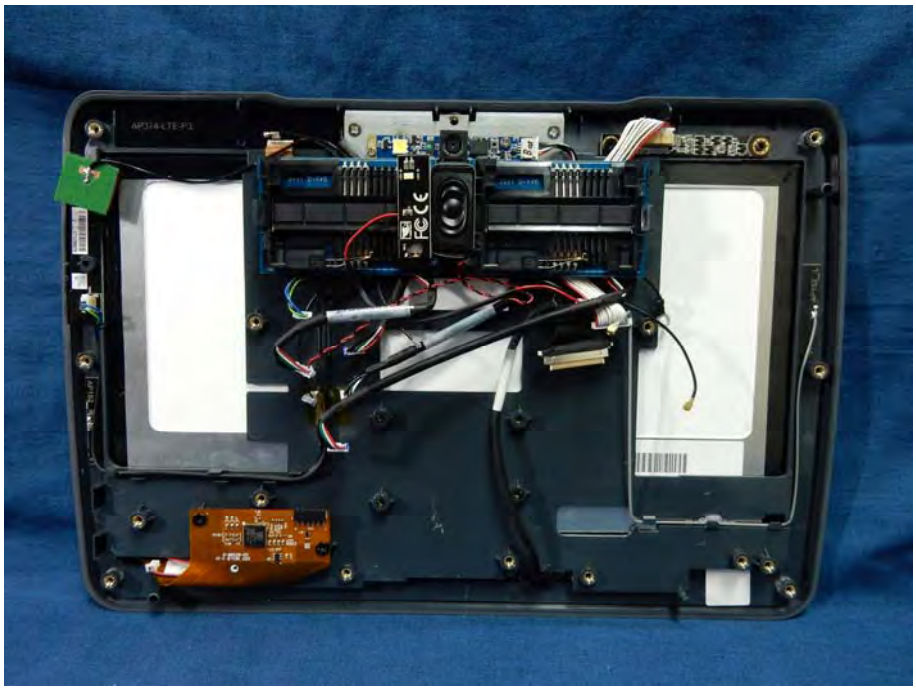
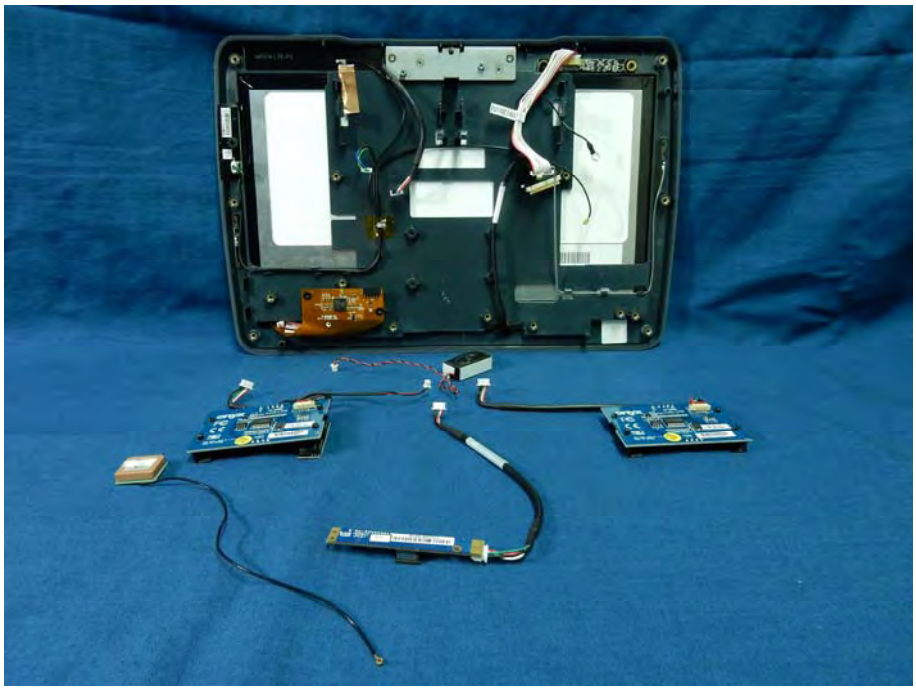
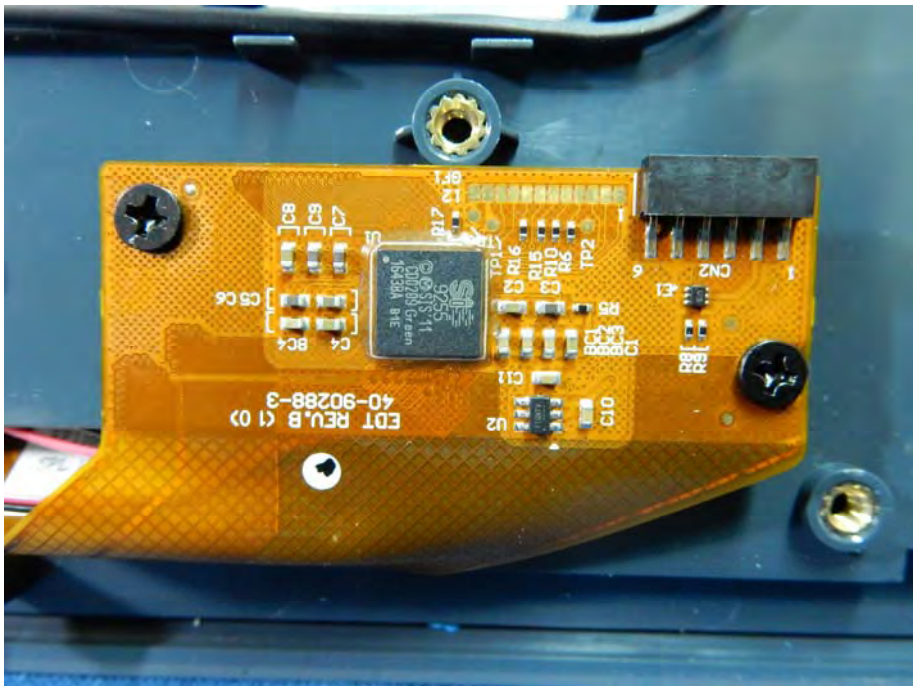
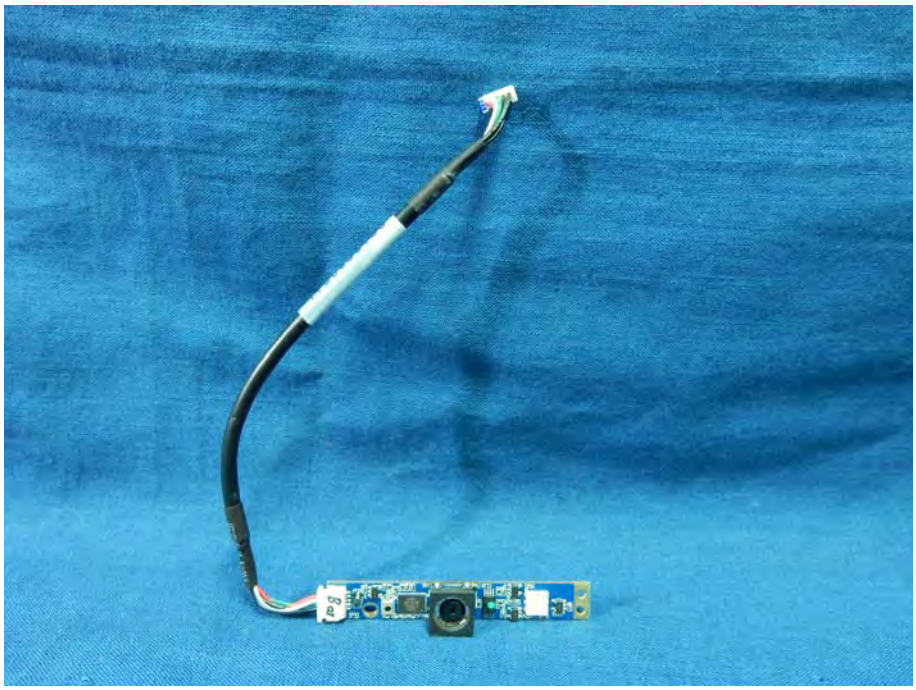
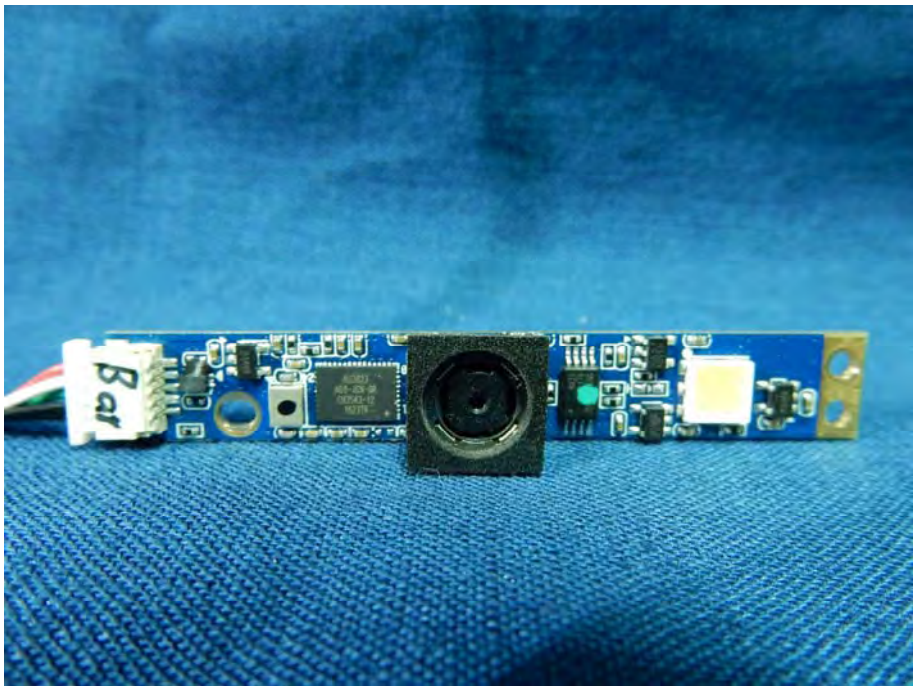
RF82f_PLUS
V1.00B
sumboard
F-01 94V-0






40-90288-3
EDT REV.B (1.0)

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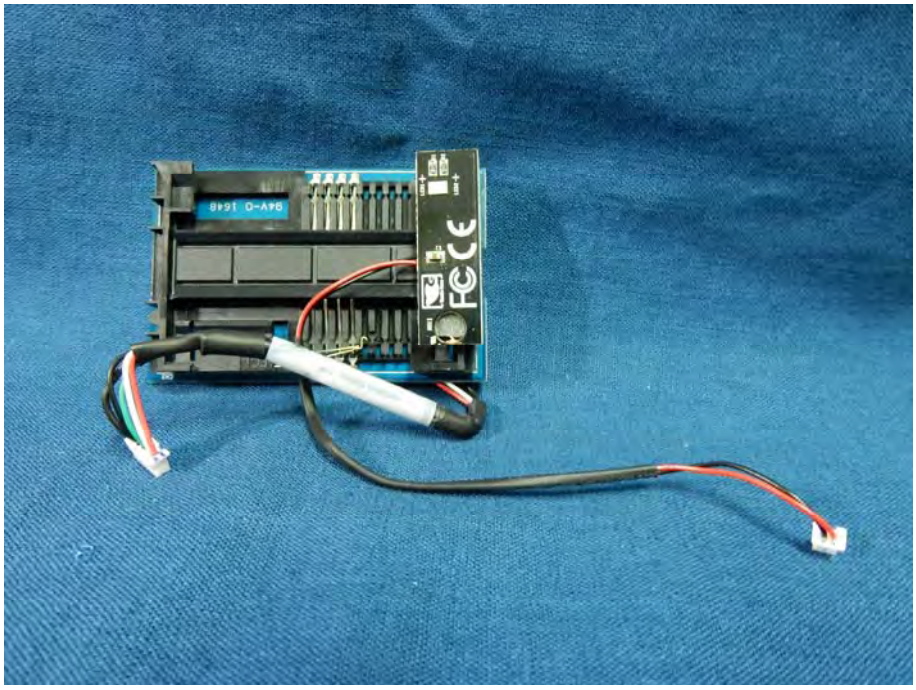

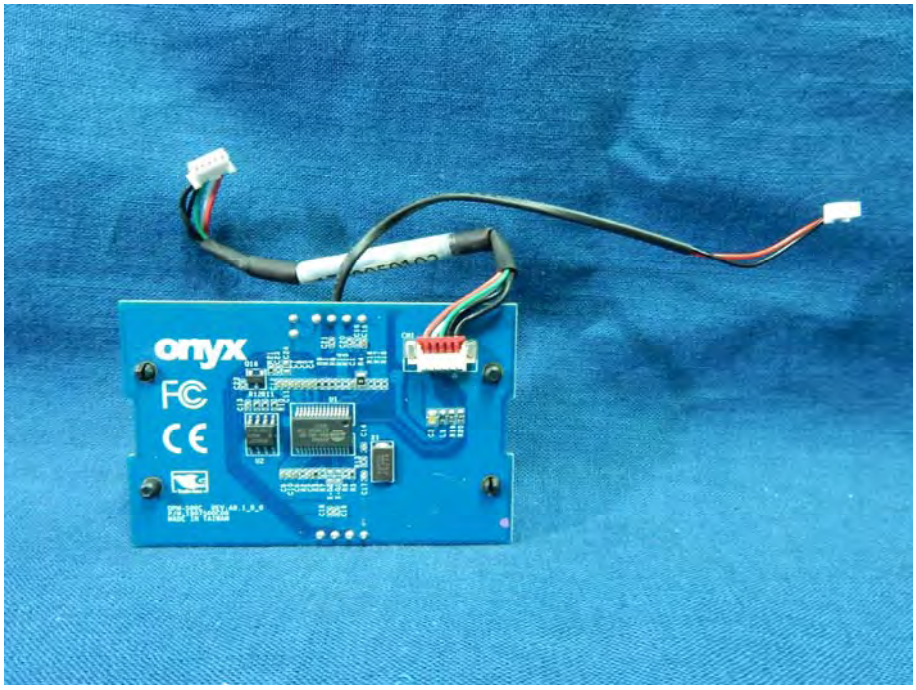
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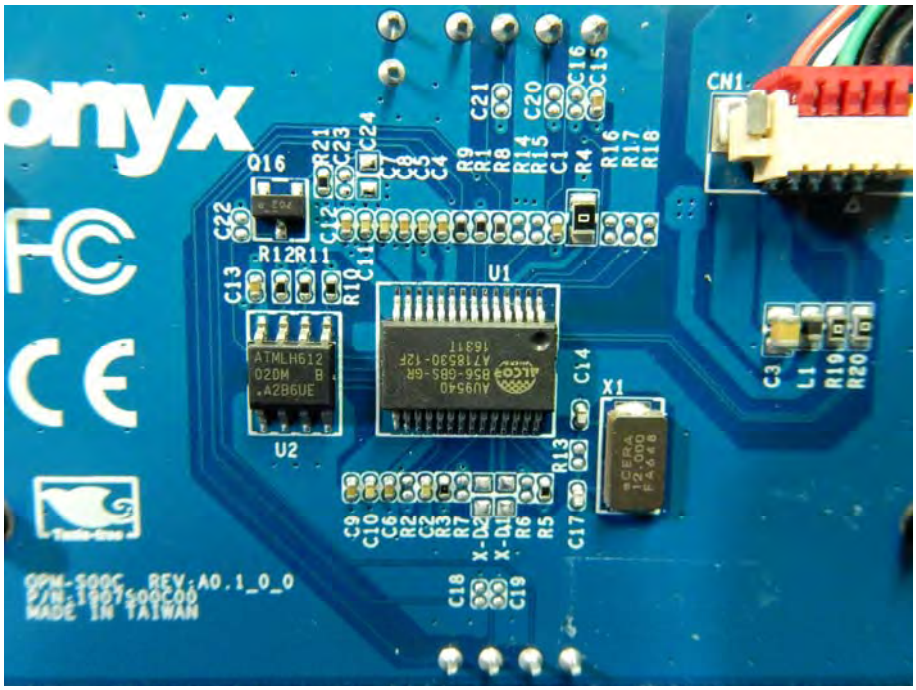
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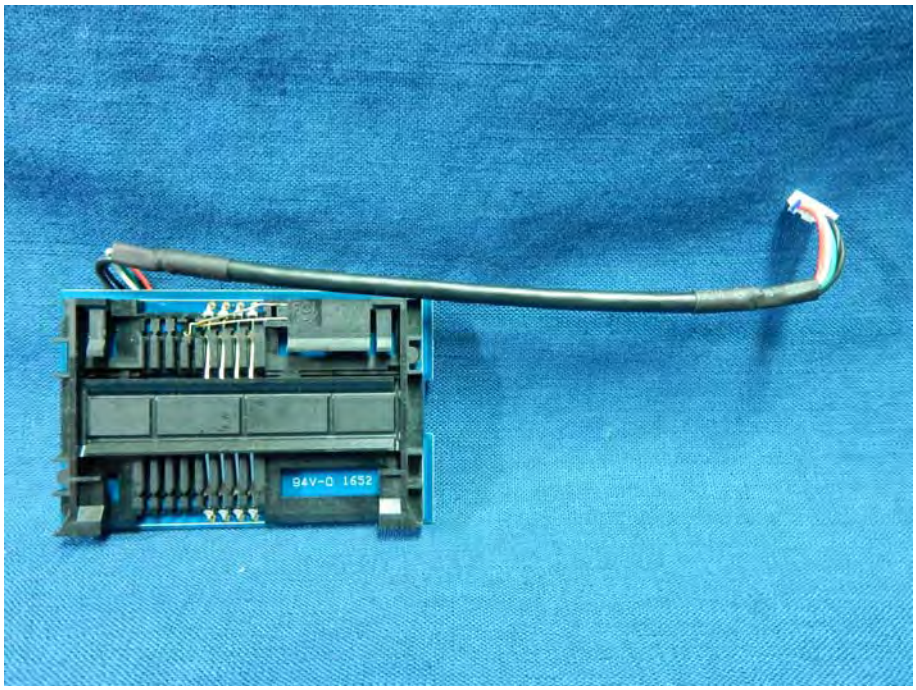
MADE IN TAIWAN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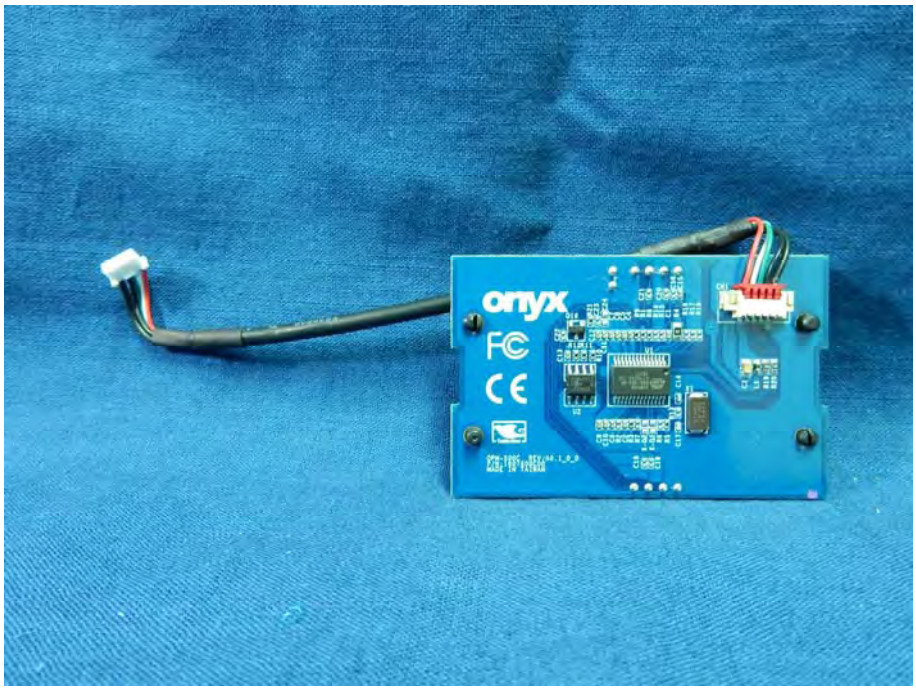
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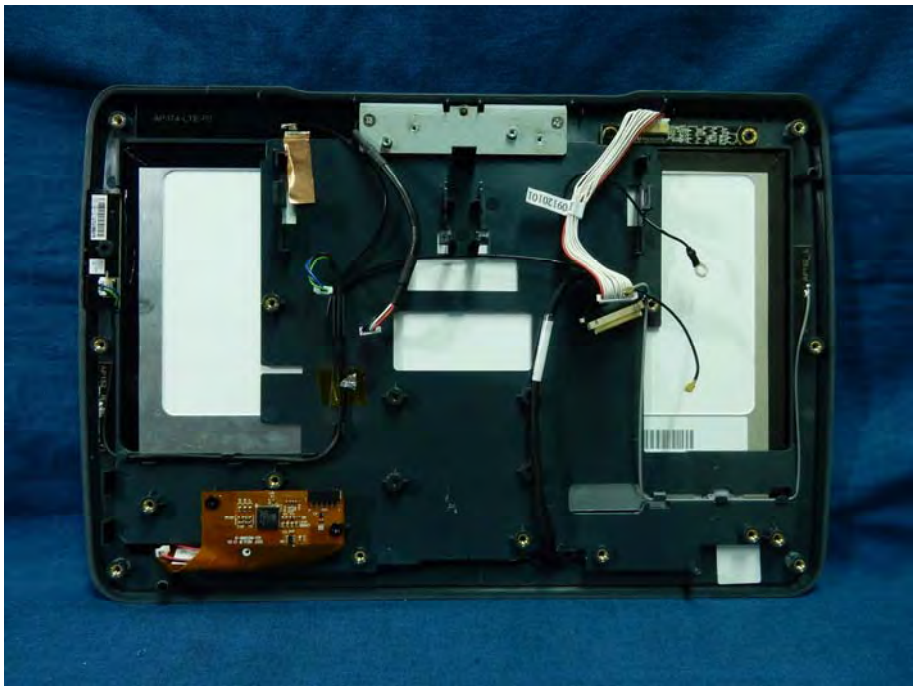


ARISTOTLE
Aux Antenna
Part No. RFA-25-AP152-70-285L


ARISTOTLE
Main Antenna
Part No. RFA-25-AP152-70B340R
V1
AP152