

SAR TEST REPORT



The following samples were submitted and identified on behalf of the client as:

Product Name	FILE TRANSMITTER
Brand Name	FUJIFILM
Model No.	FF210004
Prepared for	FUJIFILM Corporation 7-3, Akasaka 9-Chome, Minato-ku, Tokyo 107-0052 Japan
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013
Reference documents	KDB248227D01v02r02, KDB865664D01v01r04, KDB865664D02v01r02, KDB447498D01v06
FCC ID	W2Z-02000006
Date of Receipt	Sep. 01, 2021
Date of Test(s)	Oct. 20, 2021 ~ Dec. 23, 2021
Date of Issue In the configuration tested, the EUT Remarks:	May 04, 2022 complied with the standards specified above.

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Signed on behalf of SGS

Clerk / Kimmy Chiou	PM / Kiki Lin	Approved By / John Yeh
Kimmy Chiou	Kiki Lin	John Teh
		Date: May 04, 2022

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
ES/2021/80014	Rev.00	Initial creation of document	May 04, 2022	Kimmy Chiou	
Note:					
1. The mark " * " is the revised version of the report due to comments submitted by the certification.					

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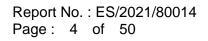


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1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. Central RF Lab					
No.134, Wu Kung Ro	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei				
City, Taiwan					
FCC Designation Number					
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FCC Designation Number	on TW0028				
Tel +886-2-2299-3279					
Fax	Fax +886-2-2298-0488				
Internet http://www.tw.sgs.com/					

1.2 Details of Applicant

Company Name	FUJIFILM Corporation
Company Address	7-3, Akasaka 9-Chome, Minato-ku, Tokyo 107-0052 Japan

1.3 Details of Manufacturer

Company Name	FUJIFILM Corporation
Company Address	7-3, Akasaka 9-Chome, Minato-ku, Tokyo 107-0052 Japan

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1.4 Description of EUT

General Information of Host:					
Equipment Under Test	FILE TRANSMITTER				
Brand Name	FUJIFILM	FUJIFILM			
Model No.	FF210004				
FCC ID	W2Z-0200006				
Mode of Operation	⊠WLAN802.11 a/b/g/n/ac (20M/40M/ ⊠BLE (FF210002 Camera)	80M)			
Duty Cycle	WLAN802.11 a/b/g/n/ac(20M/40M/80M)	Refe	er to p	age 13	
	BLE (FF210002 Camera)		62.49	%	
	WLAN802.11 b/g/n(20M)	2412	_	2462	
	WLAN802.11 a/n/ac(20M) 5.2G	5180	_	5240	
	WLAN802.11 n/ac(40M) 5.2G	5190	_	5230	
	WLAN802.11 ac(80M) 5.2G		5210	C	
	WLAN802.11 a/n/ac(20M) 5.3G	5260	—	5320	
TX Frequency Range (MHz)	WLAN802.11 n/ac(40M) 5.3G	5270	_	5310	
(WLAN802.11 ac(80M) 5.3G		5290	C	
	WLAN802.11 a/n/ac(20M) 5.8G	5745	_	5825	
	WLAN802.11 n/ac(40M) 5.8G	5755	_	5795	
	WLAN802.11 ac(80M) 5.8G		577	5	
	BLE (FF210002 Camera)	2400	_	2483.5	
	WLAN802.11 b/g/n(20M)	1	_	11	
Channel Number	WLAN802.11 a/n/ac(20M) 5.2G	36	—	48	
(ARFCN)	WLAN802.11 n/ac(40M) 5.2G	38	—	46	
WLAN802.11 ac(80M) 5.2G 42					

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	WLAN802.11 a/n/ac(20M) 5.3G	52	—	64
	WLAN802.11 n/ac(40M) 5.3G	54	_	62
	WLAN802.11 ac(80M) 5.3G		58	
Channel Number (ARFCN)	WLAN802.11 a/n/ac(20M) 5.8G	149	—	165
	WLAN802.11 n/ac(40M) 5.8G	151	—	159
	WLAN802.11 ac(80M) 5.8G		155	
	BLE (FF210002 Camera)	0	_	39

FF210004 Grip

Max. SAR (1g) (Unit: W/Kg)					
Antenna	Band	Measured	Reported	Channel	Position
	WLAN 802.11b	0.09	0.10	1	Bottom Edge
WLAN 0	WLAN 802.11ac(80M) 5.2G	0.03	0.05	42	Front Surface
VEAN 0	WLAN 802.11ac(80M) 5.3G	0.02	0.03	58	Front Surface
	WLAN 802.11ac(80M) 5.8G	0.02	0.03	155	Front Surface
	WLAN 802.11b	0.03	0.03	11	Bottom Edge
WLAN 1	WLAN 802.11ac(80M) 5.2G	0.15	0.25	42	Front Surface
	WLAN 802.11ac(80M) 5.3G	0.19	0.31	58	Front Surface
	WLAN 802.1ac(80M) 5.8G	0.14	0.19	155	Front Surface

FF210002 Camera

Max. SAR (1g) (Unit: W/Kg)					
Antenna Band Measured Reported Channel Position					
WLAN 0	BLE(GFSK)	0.03	0.07	0	Front Surface

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FF210004 Grip WLAN antenna information:

Antenna	Patern antenna		
Frequency	2.4GHz 5GHz		
Gain(dBi)	2.2 6.3		

FF210002 Camera WLAN & BT antenna information:

Antenna	Chip antenna			
Frequency	2.4GHz	5GHz		
Gain(dBi)	1.59	2.23		

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WLAN conducted power table:

FF210004 Grip

WLAN 0(port0)

	WLAN 0(port0)									
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)				
		1	2412		11.42	10.91				
	802.11b	6	2437	1Mbps	11.42	10.59				
		11	2462		11.42	10.61				
		1	2412		11.42	10.59				
2.45 GHz	802.11g	6	2437	6Mbps	11.42	10.22				
		11	2462		11.42	9.52				
		1	2412		11.42	9.97				
	802.11n20-HT0	6	2437	MCS0	11.42	9.84				
		11	2462		11.42	9.52				

	WLAN 0(port0)							
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)		
		36	5180		5.22	4.77		
	802.11a	40	5200	6Mbps	5.22	4.69		
	002.11a	44	5220	olviops	5.22	4.58		
		48	5240		5.22	4.78		
		36	5180		5.22	4.44		
	802.11n20-HT0	40	5200	MCS0	5.22	4.38		
	802.11120-1110	44	5220		5.22	4.27		
		48	5240		5.22	4.53		
5.15-5.25 GHz		36	5180		5.22	4.41		
	802.11ac20-VHT0	40	5200	MCS0	5.22	4.35		
	002.118020-01110	44	5220	10030	5.22	4.28		
		48	5240		5.22	4.45		
	802.11n40-HT0	38	5190	MCS0	5.22	4.72		
	002.11140-1110	46	5230	10030	5.22	4.82		
	802.11ac40-VHT0	38	5190	MCS0	5.22	4.71		
	002.110040-01110	46	5230	10030	5.22	4.89		
	802.11ac80-VHT0	42	5210	MCS0	5.22	3.90		

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	WLAN 0(port0)								
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)			
		52	5260		5.22	4.62			
	802.11a	56	5280	6Mbps	5.22	4.50			
	002.11d	60	5300	olviops	5.22	4.27			
		64	5320		5.22	4.21			
		52	5260		5.22	4.35			
	802.11n20-HT0	56	5280	MCS0	5.22	4.27			
		60	5300		5.22	4.03			
		64	5320		5.22	3.99			
5.25-5.35 GHz		52	5260		5.22	4.35			
	802.11ac20-VHT0	56	5280	MCS0	5.22	4.24			
	002.118620-01110	60	5300	10030	5.22	4.05			
		64	5320		5.22	3.99			
	802.11n40-HT0	54	5270	MCS0	5.22	4.93			
	002.11140-1110	62	5310	10030	5.22	4.59			
	802.11ac40-VHT0	54	5270	MCS0	5.22	4.69			
	002.118040-10110	62	5310	10030	5.22	4.59			
	802.11ac80-VHT0	58	5290	MCS0	5.22	4.00			

	WLAN 0(port0)							
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)		
		149	5745		4.03	3.92		
	802.11a	157	5785	6Mbps	4.03	3.11		
		165	5825		4.03	3.25		
		149	5745		4.03	3.67		
	802.11n20-HT0	157	5785	MCS0	4.03	3.77		
		165	5825		4.03	3.87		
5.8 GHz		149	5745		4.03	3.66		
5.0 GI IZ	802.11ac20-VHT0	157	5785	MCS0	4.03	3.76		
		165	5825		4.03	3.87		
	802.11n40-HT0	151	5755	MCS0	4.03	3.03		
	002.11140-F110	159	5795	10030	4.03	3.78		
	802.11ac40-VHT0	151	5755	MCS0	4.03	3.04		
	002.11ac40-VH10	159	5795	10030	4.03	3.39		
	802.11ac80-VHT0	155	5775	MCS0	4.03	3.43		

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WLAN 1(port1)

	WLAN 1(port1)								
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)			
		1	2412		10.04	9.50			
	802.11b	6	2437	1 Mbps	10.04	9.41			
		11	2462		10.04	9.53			
		1	2412		10.04	9.77			
2.45 GHz	802.11g	6	2437	6Mbps	10.04	9.03			
		11	2462		10.04	9.74			
		1	2412		10.04	8.75			
	802.11n20-HT0	6	2437	MCS0	10.04	9.11			
		11	2462		10.04	8.81			

	WLAN 1(port1)									
Band	Mode	Channel	Frequency (MHz)	Data Rate	Set	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)			
		36	5180		12.00	8.29	7.26			
	802.11a	40	5200	GMbbb	12.00	8.29	7.38			
	002.11a	44	5220	6Mbps	12.00	8.29	7.32			
		48	5240		12.00	8.29	7.42			
		36	5180		12.00	8.29	6.95			
	802.11n20-HT0	40	5200	MCS0	12.00	8.29	6.89			
		44	5220		12.00	8.29	6.94			
		48	5240		12.00	8.29	7.11			
5.15-5.25 GHz		36	5180		12.00	8.29	7.09			
	802.11ac20-VHT0	40	5200	MCS0	12.00	8.29	7.10			
	002.118020-01110	44	5220	10030	12.00	8.29	6.92			
		48	5240		12.00	8.29	6.64			
	802.11n40-HT0	38	5190	MCS0	12.00	8.29	7.00			
	002.11140-FTTU	46	5230	10050	12.00	8.29	7.69			
	802.11ac40-VHT0	38	5190	MCS0	12.00	8.29	7.11			
		46	5230	110.50	12.00	8.29	7.44			
	802.11ac80-VHT0	42	5210	MCS0	12.00	8.29	6.79			

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	WLAN 1(port1)								
Band	Mode	Channel	Frequency (MHz)	Data Rate	Set	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)		
		52	5260		12.00	8.29	7.15		
	802.11a	56	5280	6Mbps	12.00	8.29	7.45		
	002.11a	60	5300	oviops	12.00	8.29	7.42		
		64	5320		12.00	8.29	7.35		
		52	5260		12.00	8.29	6.95		
	802.11n20-HT0	56	5280	MCS0	12.00	8.29	6.97		
		60	5300	10030	12.00	8.29	6.87		
		64	5320		12.00	8.29	6.86		
5.25-5.35 GHz		52	5260		12.00	8.29	6.81		
	802.11ac20-VHT0	56	5280	MCS0	12.00	8.29	6.83		
	002.11ac20-0110	60	5300	1010-50	12.00	8.29	6.82		
		64	5320		12.00	8.29	6.79		
	802.11n40-HT0	54	5270	MCS0	12.00	8.29	7.70		
	002.11140-1110	62	5310	101030	12.00	8.29	7.68		
	802.11ac40-VHT0	54	5270	MCS0	12.00	8.29	7.39		
	002.11ac40-VH10	62	5310	10030	12.00	8.29	7.32		
	802.11ac80-VHT0	58	5290	MCS0	12.00	8.29	7.06		

	WLAN 1(port1)								
Mode	set	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)			
		149	5745		5.00	4.79			
	802.11a	157	5785	6Mbps	5.00	4.96			
		165	5825		5.00	4.97			
		149	5745		5.00	4.71			
	802.11n20-HT0	157	5785	MCS0	5.00	4.81			
		165	5825		5.00	4.89			
5.8 GHz		149	5745		5.00	4.33			
5.0 OI 12	802.11ac20-VHT0	157	5785	MCS0	5.00	4.91			
		165	5825		5.00	4.51			
	802.11n40-HT0	151	5755	MCS0	5.00	4.87			
	002.111140-H10	159	5795	10050	5.00	4.05			
	802 11ac/0 \/HT0	151	5755	MCS0	5.00	4.81			
	802.11ac40-VHT0	159	5795	10030	5.00	3.91			
	802.11ac80-VHT0	155	5775	MCS0	5.00	4.52			

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FF210002 Camera BLE conducted power table:

Mode	Channel	Frequency	GFS	SK
wode	Gnanner	(MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Output Power (dBm)
	CH 00	2402		4.67
BLE	CH 19	2440	6	4.49
	CH 39	2480		4.19

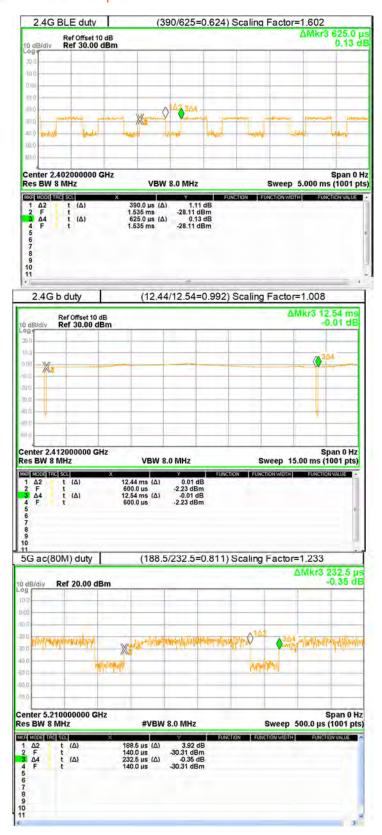
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1.5 Test Environment

Ambient Temperature: 22±2° C Tissue Simulating Liquid: 22±2° C

1.6 Operation Description

Use chipset specific software to control the EUT, and makes it transmit in maximum power. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.

Per FCC guidance, EUT was tested as below,

Utilize the flat phantom and test for 1 gram SAR on all surfaces and side edges with a transmitting antenna at ≤ 25 mm from that surface or edge, but at 0 mm separation to the phantom using head simulant tissue.

Note:

802.11b DSSS SAR Test Requirements:

- 1. SAR is measured for 2.4 GHz 802.11b DSSS mode using the highest measured maximum output power channel, when the reported SAR of the highest measured maximum output power channel for the exposure configuration is \leq 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

802.11g/n OFDM SAR Test Exclusion Requirements:

- 3. SAR is not required for 802.11g/n since 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.
- 4. According to KDB447498 D01, testing of other required channels is not required when the reported 1-g SAR for the highest output channel is \leq 0.8 W/kg, when the transmission band is ≤ 100 MHz.

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- 5. According to KDB865664 D01, SAR measurement variability must be assessed for each frequency band. When the original highest measured SAR is ≥ 0.8 W/kg, repeated that measurement once. 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 \geq 1.45 W/kg (~10% from the 1-g SAR limit)
- 6. Power settings are decreased from the original grant conditions, this platform is evaluated to ensure compliance of applicable FCC rules intent.
- 7. FF210002 Camera is the test peripheral.

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1.7 The SAR Measurement System

A block diagram of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY 5 professional system). The model EX3DV4 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|²)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.

The DASY 5 system for performing compliance tests consists of the following items:

- 1. A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).
- 2. A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage intissue simulating liquid. The probe is equipped with an optical surface detector system.
- 3. 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.

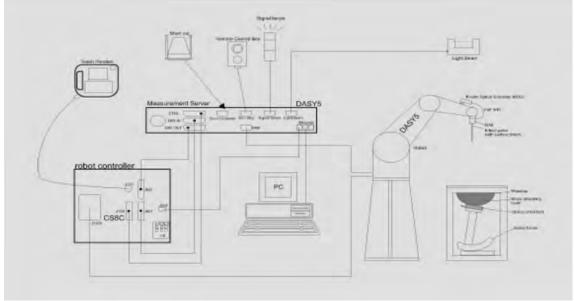


Fig. a The block diagram of SAR system

- 4. 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. The EOC is connected to the measurement server.
- 5. The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.

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- 6. A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- 7. A computer operating Windows 7.
- 8. DASY 5 software.
- 9. Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- Tissue simulating liquid mixed according to the given recipes. 10.
- Validation dipole kits allowing to validate the proper functioning of the system. 11.

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1.8 System Components

EX3DV4 E-Field Probe

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)				
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 2450/5200/5300/5800 MHz Additional CF for other liquids and frequencies upon request	C. States in the			
Frequency	10 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	10μ W/g to > 100 mW/g				
Range	Linearity: $\pm 0.2 \text{ dB}$ (noise: typically < 1 μ W/g)				
Dimensions	Tip diameter: 2.5 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%.				

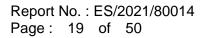
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PHANTOM					
Model	ELI				
Construction	body-mounted wireless de to 6 GHz. ELI is fully standard and all known ti optimized regarding its pe our standard phantom tabl liquid. Reference marking the complete setup, inclu and measurement grids, b	for compliance testing of handheld and evices in the frequency range of 30 MHz compatible with the IEC 62209-2 ssue simulating liquids. ELI has been erformance and can be integrated into les. A cover prevents evaporation of the s on the phantom allow installation o ding all predefined phantom positions by teaching three points. The phantom AG dosimetric probes and dipoles.			
Shell	2 ± 0.2 mm	Constant Constant			
Thickness		and a second sec			
Filling Volume	Approx. 30 liters				
Dimensions	Major axis: 600 mm				
	Minor axis: 400 mm				

DEVICE HOLDER

Construction	The device holder (Supporter) for Notebook is made by POM (polyoxymethylene resin) , which is non-metal and non-conductive. The height can be adjusted to fit varies kind of notebooks.	
		Device Holder

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1.9 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. These tests were done at 2450/5200/5300/5800 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the liquid depth above the ear reference points was \geq 15 cm \pm 5 mm (frequency \leq 3 GHz) or \geq 10 cm \pm 5 mm (frequency > 3 G Hz) in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

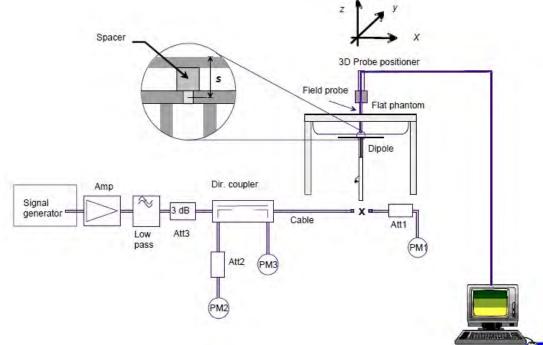


Fig. b The block diagram of system verification

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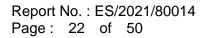


Validation Kit	S/N	Frequency (MHz)				(MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D2450V2	727	2450	Head	53.9	13.50	54	0.19%	Oct. 20, 2021				
Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	Pin=100mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date				
		5200	Head	77.9	8.14	81.4	4.49%	Dec. 23, 2021				
D5GHzV2	1023	5300	Head	80.4	8.03	80.3	-0.12%	Dec. 23, 2021				
	5800 Head		80.9	7.92	79.2	-2.10%	Dec. 23, 2021					

Table 1. Results of system validation

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1.10 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this Head-simulant fluid were measured by using the SPEAG Dielectric Assessment Kit (DAKS-3.5)

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The measured conductivity and permittivity are all within ± 5% of the target values.

The depth of the tissue simulant in the flat section of the phantom was ≥ 15 cm ± 5 mm (Frequency \leq 3G) or \geq 10 cm \pm 5 mm (Frequency >3G) during all tests. (Fig. 2)

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	% dev ɛr	% dev σ	Ambient temprature	liquid tempature
		2402	39.285	1.757	39.107	1.745	-0.45%	-0.70%		
		2412	39.268	1.766	39.087	1.755	-0.46%	-0.64%		
		2417	39.259	1.771	39.078	1.759	-0.46%	-0.66%		22.6
	Oct. 20, 2021	2437	39.223	1.788	39.029	1.777	-0.49%	-0.64%	22.4	
		2450	39.200	1.800	39.020	1.788	-0.46%	-0.67%		
		2457	39.191	1.808	38.999	1.795	-0.49%	-0.70%		
Head		2462	39.185	1.813	38.981	1.800	-0.52%	-0.72%		
		5200	35.986	4.655	35.286	4.565	-1.95%	-1.93%		
		5210	35.974	4.665	35.274	4.575	-1.95%	-1.93%		
	Dec. 23, 2021	5290	35.883	4.747	35.183	4.656	-1.95%	-1.92%	21.3	21.1
	Dec. 23, 2021	5300	35.871	4.758	35.171	4.666	-1.95%	-1.92%	21.5	21.1
		5775	35.329	5.244	34.629	5.145	-1.98%	-1.89%		
		5800	35.300	5.270	34.600	5.170	-1.98%	-1.89%		

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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The composition of the tissue simulating liquid:

				Ingi	redient			Tatal
Frequency (MHz)	Mode	DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	Total amount
2450M	Head	550ml	450ml	_	—	—	—	1.0L(Kg)

Body Simulating Liquids for 5 GHz, Manufactured by SPEAG:

Ingredients	Water	Esters, Emulsifiers, Inhibitors	Sodium and Salt
(% by weight)	60-80	20-40	0-1.5

Table 3. Recipes for Tissue Simulating Liquid

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1.11 Evaluation Procedures

The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- 1. The extraction of the measured data (grid and values) from the Zoom Scan.
- 2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- 3. The generation of a high-resolution mesh within the measured volume
- 4. The interpolation of all measured values from the measurement grid to the high-resolution grid
- 5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- 6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within -2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

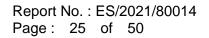
The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans. The routines are verified and optimized for the grid dimensions used in these cube measurements.

The measured volume of 30x30x30mm contains about 30g of tissue.

The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D

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interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found. If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

1.12 Probe Calibration Procedures

For the calibration of E-field probes in lossy liquids, an electric field with an accurately known field strength must be produced within the measured liquid. For standardization purposes it would be desirable if all measurements which are necessary to assess the correct field strength would be traceable to standardized measurement procedures. In the following two different calibration techniques are summarized:

1.12.1 Transfer Calibration with Temperature Probes

In lossy liquids the specific absorption rate (SAR) is related both to the

electric field (*E*) and the temperature gradient ($\delta T / \delta t$) in the liquid.

$$SAR = C \frac{\delta T}{\delta t},$$

whereby σ is the conductivity, ρ the density and c the heat capacity of the liquid.

Hence, the electric field in lossy liquid can be measured indirectly by measuring the temperature gradient in the liquid. Non-disturbing temperature probes (optical probes or thermistor probes with resistive lines) with high spatial resolution (<1-2 mm) and fast reaction time (<1 s) are available and can be easily calibrated with high precision [1]. The setup and the exciting source have no influence on the calibration; only the relative positioning uncertainties of the standard temperature probe and the E-field probe to be calibrated must be considered. However, several problems limit the available accuracy of probe calibrations with temperature probes:

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- The temperature gradient is not directly measurable but must be evaluated from temperature measurements at different time steps. Special precaution is necessary to avoid measurement errors caused by temperature gradients due to energy equalizing effects or convection currents in the liquid. Such effects cannot be completely avoided, as the measured field itself destroys the thermal equilibrium in the liquid. With a careful setup these errors can be kept small.
- The measured volume around the temperature probe is not well defined. It is difficult to calculate the energy transfer from a surrounding gradient temperature field into the probe. These effects must be considered, since temperature probes are calibrated in liquid with homogeneous temperatures. There is no traceable standard for temperature rise measurements.
- The calibration depends on the assessment of the specific density, the heat capacity and the conductivity of the medium. While the specific density and heat capacity can be measured accurately with standardized procedures (~ 2% for c; much better for ρ), there is no standard for the measurement of the conductivity. Depending on the method and liquid, the error can well exceed ±5%.
- Temperature rise measurements are not very sensitive and therefore are often performed at a higher power level than the E-field measurements. The nonlinearities in the system (e.g., power measurements, different components, etc.) must be considered.

Considering these problems, the possible accuracy of the calibration of E-field probes with temperature gradient measurements in a carefully designed setup is about $\pm 10\%$ (RSS) [2]. Recently, a setup which is a combination of the waveguide techniques and the thermal measurements was presented in [3]. The estimated uncertainty of the setup is $\pm 5\%$ (RSS) when the same liquid is used for the calibration and for actual measurements and $\pm 7-9\%$ (RSS) when not, which is in good agreement with the estimates given in [2].

1.12.2 Calibration with Analytical Fields

In this method a technical setup is used in which the field can be calculated analytically from measurements of other physical magnitudes (e.g., input power). This corresponds to the standard field method for probe calibration in air; however, there is no standard defined for fields in lossy liquids.

When using calculated fields in lossy liquids for probe calibration, several points must be considered in the assessment of the uncertainty:

- The setup must enable accurate determination of the incident power.
- The accuracy of the calculated field strength will depend on the assessment of the dielectric parameters of the liquid.
- Due to the small wavelength in liquids with high permittivity, even small

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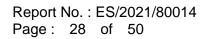
setups might be above the resonant cutoff frequencies. The field distribution in the setup must be carefully checked for conformity with the theoretical field distribution.

References

- 1. N. Kuster, Q. Balzano, and J.C. Lin, Eds., Mobile Communications Safety, Chapman & Hall, London, 1997.
- K. Meier, M. Burkhardt, T. Schmid, and N. Kuster, \Broadband 2. calibration of E-field probes in lossy media", IEEE Transactions on Microwave Theory and Techniques, vol. 44, no. 10, pp. 1954{1962, Oct. 1996.
- K. Jokela, P. Hyysalo, and L. Puranen, \Calibration of specific 3. absorption rate (SAR) probes in waveguide at 900 MHz", IEEE Transactions on Instrumentation and Measurements, vol. 47, no. 2, pp. 432{438, Apr. 1998.

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1.13 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1, By the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

- Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the (1) whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube).
- Occupational/Controlled limits apply when persons are exposed as a (2) consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.
- Limits for General Population/Uncontrolled exposure: 0.08 W/kg as (3) averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not

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exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section. (Table 4.)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational		
Spatial Peak SAR (Brain)	1.60 W/kg	8.00 W/kg		
Spatial Average SAR (Whole Body)	0.08 W/kg	0.40 W/kg		
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 W/kg	20.00 W/kg		

Table 4. RF exposure limits

Notes:

- 1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
- 2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

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2. Summary of Results

2.1 Decision rules

Reported measurement data comply with IEEE 1528-2013: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.2 Summary of Results

Antenna Mode	Mode	Position	Distance (mm)	сн	Freq. (MHz)	Max. Rated Avg. Power + Max.	Measured Avg. Power	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		Plot page
		()		()	Tolerance (dBm)	(dBm)	g		Measured	Reported		
		Front Surface	0	1	2412	11.42	10.91	1.01	112.46%	0.057	0.065	-
	WLAN 802.11b	Bottom Edge	0	1	2412	11.42	10.91	1.01	112.46%	0.090	0.102	35
	WEAN 802.110	Bottom Edge	0	6	2437	11.42	10.59	1.01	121.06%	0.076	0.093	-
		Bottom Edge	0	11	2462	11.42	10.61	1.01	120.50%	0.080	0.097	-
		Front Surface	0	0	2402	6.00	4.67	1.60	135.83%	0.031	0.067	36
	FF210002 Camera	Front Surface	0	19	2440	6.00	4.49	1.60	141.58%	0.024	0.054	-
WLAN 0	BLE (GFSK)	Front Surface	0	39	2480	6.00	4.19	1.60	151.71%	0.022	0.053	-
WLAN U		Bottom Edge	0	0	2402	6.00	4.67	1.60	135.83%	0.026	0.057	-
	WI AN 000 11 (000 0 5 00	Front Surface	0	42	5210	5.22	3.90	1.23	135.52%	0.028	0.047	37
	WLAN 802.11ac(80M) 5.2G	Bottom Edge	0	42	5210	5.22	3.90	1.23	135.52%	0.013	0.022	-
	WLAN 802.11ac(80M) 5.3G	Front Surface	0	58	5290	5.22	4.00	1.23	132.43%	0.021	0.034	38
	WEAN 802.11ac(8010) 5.5G	Bottom Edge	0	58	5290	5.22	4.00	1.23	132.43%	0.015	0.024	-
	WLAN 802.11ac(80M) 5.8G	Front Surface	0	155	5775	4.03	3.43	1.23	114.82%	0.021	0.030	39
	WEAN 802.11ac(8000) 5.8G	Bottom Edge	0	155	5775	4.03	3.43	1.23	114.82%	0.016	0.023	-
		Front Surface	0	11	2462	10.04	9.53	1.01	112.46%	0.025	0.028	-
	WLAN 802.11b	Bottom Edge	0	1	2412	10.04	9.50	1.01	113.24%	0.024	0.027	-
	WEAN 802.11D	Bottom Edge	0	6	2437	10.04	9.41	1.01	115.61%	0.021	0.024	-
		Bottom Edge	0	11	2462	10.04	9.53	1.01	112.46%	0.028	0.032	40
WLAN 1	WLAN 802,11ac(80M) 5.2G	Front Surface	0	42	5210	8.29	6.79	1.23	141.25%	0.145	0.253	41
VVLAIN 1	W LAIN OUZ. 118C(80M) 5.2G	Bottom Edge	0	42	5210	8.29	6.79	1.23	141.25%	0.063	0.110	-
	W/LAN 902 11cc/90M 5 20	Front Surface	0	58	5290	8.29	7.06	1.23	132.74%	0.188	0.308	42
	WLAN 802.11ac(80M) 5.3G	Bottom Edge	0	58	5290	8.29	7.06	1.23	132.74%	0.078	0.128	-
		Front Surface	0	155	5775	5.00	4.52	1.23	111.69%	0.140	0.193	43
	WLAN 802.11ac(80M) 5.8G	Bottom Edge	0	155	5775	5.00	4.52	1.23	111.69%	0.106	0.146	- 1

Note:

Scaling = $\frac{\text{reported SAR}}{\text{measured SAR}} = \frac{P2(mW)}{P1(mW)} = 10^{\left(\frac{P2-P1}{10}\right)(dBm)}$ Reported SAR = measured SAR * (scaling)

Where P2 is maximum specified power, P1 is measured conducted power

2.3 Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

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3. Simultaneous Transmission Analysis

Simultaneous Transmission Scenarios:

Simultaneous Transmit Configurations	Body						
Grip 2.4GHz WLAN0 + Grip 2.4GHz WLAN1 + Camera BLE	Yes						
Grip 5GHz WLAN0 + Grip 5GHz WLAN1 + Camera BLE	Yes						
Camera BLE + Grip 2.4GHz WLAN0	Yes						
Camera BLE + Grip 5GHz WLAN0	Yes						
Note: 1. For 2.4/5GHz WLAN Main and Aux antennas, the maximum output power of each antenna							

during simultaneous transmission is the same with (or less than) that used in standalone transmission, and we used the sum of 1-g SAR provision in KDB447498D01 to exclude the simultaneous transmitted SAR measurement.

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3.1 Estimated SAR calculation

According to KDB447498 D01v06 – When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

Estimated SAR = $\frac{\text{Max. tune up power (mW)}}{\text{Min. test separation distance(mm)}} \times \frac{\sqrt{f(\text{GHz})}}{7.5}$

If the minimum test separation distance is < 5mm, a distance of 5mm is used for estimated SAR calculation. When the test separation distance is >50mm, the 0.4W/kg is used for SAR-1g.

3.2 SPLSR evaluation and analysis

Per KDB447498D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR sum to peak location separation ratio(SPLSR).

The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion.

The ratio is determined by (SAR1 + SAR2)^1.5/Ri, rounded to two decimal digits, and must be \leq 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

SAR1 and SAR2 are the highest reported or estimated SAR for each antenna in the pair, and Ri is the separation distance between the peak SAR locations for the antenna pair in mm.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna.

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The simultaneous Transmission conditions											
Exposure position 1g(W/kg)	1	2	3	4	5	Scenario 1	Scenario 2	Scenario 3	Scenario 4		
	2.4GHz WLAN0	2.4GHz WLAN1	5GHz WLAN0	5GHz WLAN1	FF210002 Camera BLE	1+2+5 Sum	3+4+5 Sum	1+5 Sum	3+5 Sum	SPLSR	
Front Surface	0.065	0.028	0.047	0.308	0.067	0.160	0.422	0.132	0.114	ΣSAR<1.6, Not required	
Bottom Edge	0.102	0.032	0.024	0.146	0.057	0.191	0.227	0.159	0.081	ΣSAR<1.6, Not required	

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4. Instruments List

Manufacturer	Device	Туре	Serial number	Date of last calibration	Date of next calibration
SPEAG	Dosimetric E-Field	EX3DV4	7642	Mar.19,2021	Mar.18,2022
SPEAG	Probe	EX3DV4	3938	Feb.22,2021	Feb.21,2022
SPEAG	System Validation	D2450V2	727	Apr.14,2021	Apr.13,2022
	Dipole	D5GHzV2	1023	Jan.26,2021	Jan.25,2022
SPEAG	Data acquisition	DAE4	877	Mar.22,2021	Mar.21,2022
SFEAG	Electronics	DAC4	547	Mar.22,2021	Mar.21,2022
SPEAG	Software	DASY52 4.7.80	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
SPEAG	Dielectric Assessment Kit	DAKS-3.5	1053	Feb.17,2021	Feb.16,2022
Agilent	Dual-directional	772D	MY46151242	Aug.16.2021	Aug.15.2022
	coupler	778D	MY48220468	Aug.16.2021	Aug.15.2022
Agilent	Signal Generator	N5181A	MY50141235	May.30,2021	May.29,2022
Agilent	Power Meter	E4417A	MY51410006	Mar.23,2021	Mar.22,2022
Agilopt	Power Sensor	E9301H	MY51470001	Mar.23,2021	Mar.22,2022
Agilent	FUWEI SEIISUI	E93010	MY51470002	Mar.23,2021	Mar.22,2022
TECPEL	Digital thermometer	DTM-303A	TP130074	Apr.26,2021	Apr.25,2022

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5. Measurements

Date: 2021/10/20

Report No. :ES/2021/80014

WLAN 802.11b_Body_Bottom Edge_CH 1_WLAN 0_0mm

Communication System: WLAN; Frequency: 2462 MHz; Duty Cycle: 1:1.008 Medium parameters used: f = 2462 MHz; σ = 1.8 S/m; ε_r = 38.981; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 22.4°C; Liquid temperature: 22.6°C

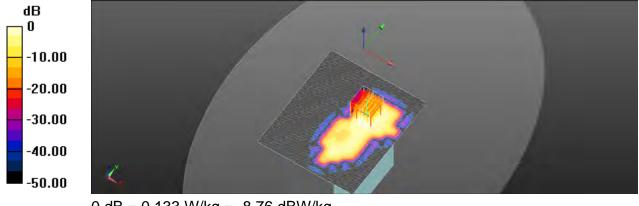
DASY5 Configuration:

- Probe: EX3DV4 SN7642; ConvF(8.16, 8.16, 8.16); Calibrated: 2021/03/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x141x1): Interpolated grid: dx=12 mm, dy=12 mm Maximum value of SAR (interpolated) = 0.171 W/kg

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

Reference Value = 4.333 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 0.196 W/kg SAR(1 g) = 0.090 W/kg; SAR(10 g) = 0.041 W/kgSmallest distance from peaks to all points 3 dB below = 9.5 mm Ratio of SAR at M2 to SAR at M1 = 45.5%Maximum value of SAR (measured) = 0.133 W/kg



0 dB = 0.133 W/kg = -8.76 dBW/kg

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Date: 2021/10/20

Report No. :ES/2021/80014

Bluetooth Low Energy(GFSK) Body Front Surface FF210002 Camera 0mm

Communication System: Bluetooth Low Energy; Frequency: 2402 MHz; Duty Cycle: 1:1.602 Medium parameters used: f = 2402 MHz; σ = 1.745 S/m; ϵ_r = 39.107; ρ = 1000 kg/m³ Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 22.6°C

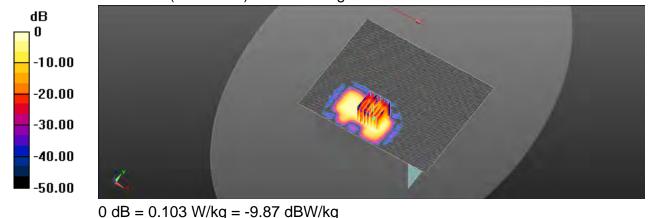
DASY5 Configuration:

- Probe: EX3DV4 SN7642; ConvF(8.16, 8.16, 8.16); Calibrated: 2021/03/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (161x131x1): Interpolated grid: dx=12 mm, dy=12 mm Maximum value of SAR (interpolated) = 0.123 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.220 V/m; Power Drift = 0.09 dB Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.012 W/kgSmallest distance from peaks to all points 3 dB below = 6.1 mm Ratio of SAR at M2 to SAR at M1 = 43.9%Maximum value of SAR (measured) = 0.103 W/kg



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Report No. : ES/2021/80014 Page: 37 of 50

Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.2G Body Front Surface CH 42 0mm WLAN 0 Communication System: WLAN; Frequency: 5210 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5210 MHz; σ = 4.575 S/m; ϵ_r = 35.274; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

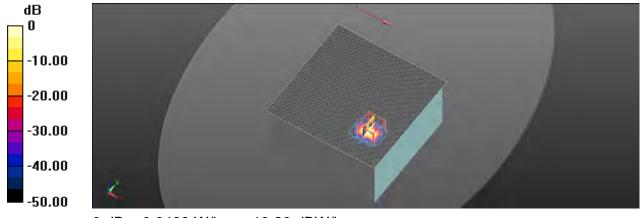
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.0473 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 51.3 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 0.342 W/kg SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.00858 W/kg Smallest distance from peaks to all points 3 dB below = 7.4 mm Ratio of SAR at M2 to SAR at M1 = 54.3% Maximum value of SAR (measured) = 0.0469 W/kg



0 dB = 0.0469 W/kg = -13.29 dBW/kg

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Report No. : ES/2021/80014 Page: 38 of 50

Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.3G Body Front Surface CH 58 0mm WLAN 0 Communication System: WLAN; Frequency: 5290 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5290 MHz; σ = 4.656 S/m; ϵ_r = 35.183; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

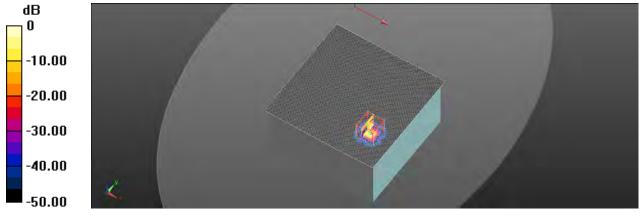
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.0370 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 39.5 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 0.205 W/kg SAR(1 g) = 0.021 W/kg; SAR(10 g) = 0.00662 W/kg Smallest distance from peaks to all points 3 dB below = 9 mm Ratio of SAR at M2 to SAR at M1 = 52.1% Maximum value of SAR (measured) = 0.0413 W/kg



0 dB = 0.0413 W/kg = -13.84 dBW/kg

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Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.8G Body Front Surface CH 155 0mm WLAN 0 Communication System: WLAN; Frequency: 5775 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5775 MHz; σ = 5.145 S/m; ϵ_r = 34.629; ρ = 1000 kg/m³ Phantom section: Flat Section

Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

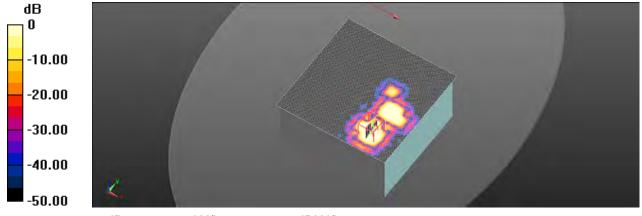
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(4.7, 4.7, 4.7); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.0921 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 43.2 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.273 W/kg SAR(1 g) = 0.021 W/kg; SAR(10 g) = 0.00392 W/kg Smallest distance from peaks to all points 3 dB below = 8 mm Ratio of SAR at M2 to SAR at M1 = 52.5% Maximum value of SAR (measured) = 0.0315 W/kg



0 dB = 0.0315 W/kg = -15.02 dBW/kg

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Date: 2021/10/20

Report No. :ES/2021/80014 WLAN 802.11b Body Bottom Edge CH 11 WLAN 1 0mm Communication System: WLAN; Frequency: 2462 MHz; Duty Cycle: 1:1.008 Medium parameters used: f = 2462 MHz; σ = 1.8 S/m; ε_r = 38.981; ρ = 1000 kg/m³ Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 SN7642; ConvF(8.16, 8.16, 8.16); Calibrated: 2021/03/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x141x1): Interpolated grid: dx=12 mm, dy=12 mm Maximum value of SAR (interpolated) = 0.0816 W/kg

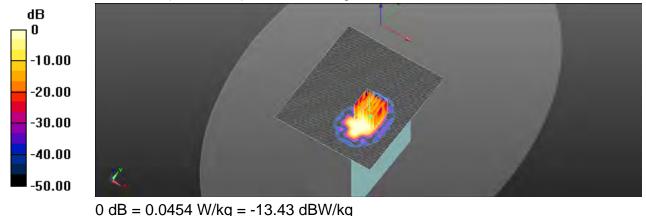
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.492 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0640 W/kg

SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.012 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid Ratio of SAR at M2 to SAR at M1 = 46.1%

Maximum value of SAR (measured) = 0.0454 W/kg



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.2G Body Front Surface CH 42 0mm WLAN 1 Communication System: WLAN; Frequency: 5210 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5210 MHz; σ = 4.575 S/m; ϵ_r = 35.274; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

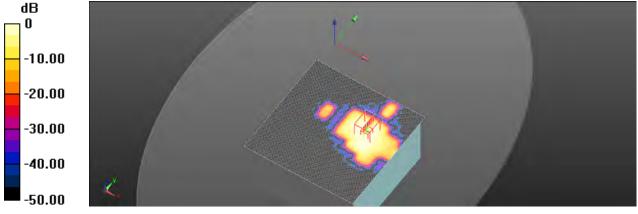
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.281 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.21 V/m; Power Drift = -0.02 dB Peak SAR (extrapolated) = 0.569 W/kg SAR(1 g) = 0.145 W/kg; SAR(10 g) = 0.053 W/kg Smallest distance from peaks to all points 3 dB below = 10.9 mm Ratio of SAR at M2 to SAR at M1 = 53.7% Maximum value of SAR (measured) = 0.267 W/kg



0 dB = 0.267 W/kg = -5.73 dBW/kg

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Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.3G Body Front Surface CH 58 0mm WLAN 1 Communication System: WLAN; Frequency: 5290 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5290 MHz; σ = 4.656 S/m; ϵ_r = 35.183; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

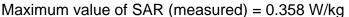
DASY5 Configuration:

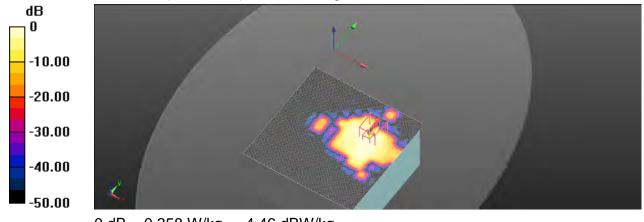
- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.320 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 38.6 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 0.655 W/kg SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.055 W/kg Smallest distance from peaks to all points 3 dB below = 8.8 mm Ratio of SAR at M2 to SAR at M1 = 53.8%





0 dB = 0.358 W/kg = -4.46 dBW/kg

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Date: 2021/12/23

Report No. : ES/2021/80014 WLAN 802.11ac(80M) 5.8G Body Front Surface CH 155 0mm WLAN 1 Communication System: WLAN; Frequency: 5775 MHz; Duty Cycle: 1:1.233 Medium parameters used: f = 5775 MHz; σ = 5.145 S/m; ϵ_r = 34.629; ρ = 1000 kg/m³ Phantom section: Flat Section

Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

DASY5 Configuration:

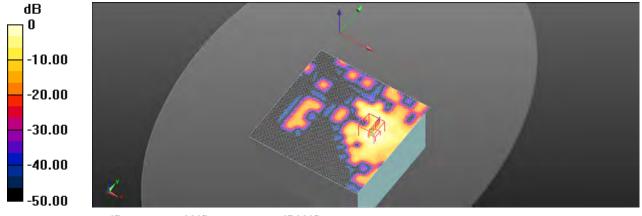
- Probe: EX3DV4 SN3938; ConvF(4.7, 4.7, 4.7); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (151x151x1): Interpolated grid: dx=10 mm, dy=10 mm Maximum value of SAR (interpolated) = 0.274 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.6 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 0.580 W/kg SAR(1 g) = 0.140 W/kg; SAR(10 g) = 0.047 W/kg Smallest distance from peaks to all points 3 dB below = 11.2 mm Ratio of SAR at M2 to SAR at M1 = 58.5%

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Maximum value of SAR (measured) = 0.280 W/kg
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0 dB = 0.280 W/kg = -5.53 dBW/kg

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6. SAR System Performance Verification

Date: 2021/10/20

Report No. :ES/2021/80014 Dipole 2450 MHz SN:727

Communication System: CW: Frequency: 2450 MHz; Duty Cycle: 1:1 Medium parameters used: f = 2450 MHz; σ = 1.788 S/m; ϵ_r = 39.02; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 22.4°C; Liquid temperature: 22.6°C

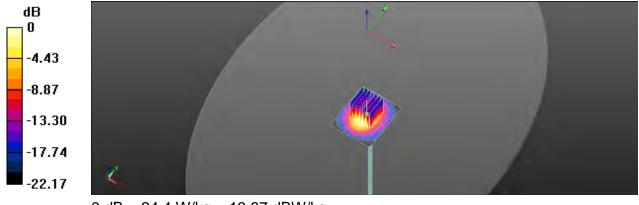
DASY5 Configuration:

- Probe: EX3DV4 SN7642; ConvF(8.16, 8.16, 8.16); Calibrated: 2021/03/19 •
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)
- Area Scan (51x61x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 26.5 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 90.41 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 33.0 W/kg SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.15 W/kgSmallest distance from peaks to all points 3 dB below = 9.5 mm Ratio of SAR at M2 to SAR at M1 = 48.6%

Maximum value of SAR (measured) = 24.4 W/kg



0 dB = 24.4 W/kg = 13.87 dBW/kg

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Date: 2021/12/23

Report No. : ES/2021/80014 Dipole 5200 MHz_SN :1023

Communication System: CW: Frequency: 5200 MHz; Duty Cycle: 1:1 Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ϵ_r = 35.286; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

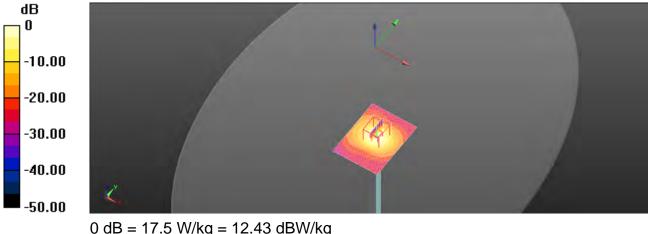
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 18.4 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm Reference Value = 61.47 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 36.7 W/kg SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.29 W/kgSmallest distance from peaks to all points 3 dB below = 7.4 mm Ratio of SAR at M2 to SAR at M1 = 51.3% Maximum value of SAR (measured) = 17.5 W/kg



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Date: 2021/12/23

Report No. : ES/2021/80014 Dipole 5300 MHz_SN :1023

Communication System: CW: Frequency: 5300 MHz; Duty Cycle: 1:1 Medium parameters used: f = 5300 MHz; σ = 4.666 S/m; ϵ_r = 35.171; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

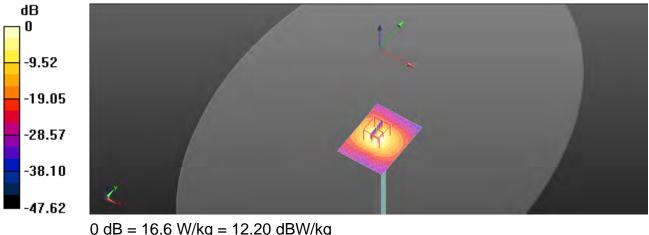
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 15.9 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm Reference Value = 56.96 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 34.3 W/kg SAR(1 g) = 8.03 W/kg; SAR(10 g) = 2.33 W/kgSmallest distance from peaks to all points 3 dB below = 7.2 mm Ratio of SAR at M2 to SAR at M1 = 51.4% Maximum value of SAR (measured) = 16.6 W/kg



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Date: 2021/12/23

Report No. : ES/2021/80014 Dipole 5800 MHz_SN :1023

Communication System: CW: Frequency: 5800 MHz; Duty Cycle: 1:1 Medium parameters used: f = 5800 MHz; σ = 5.17 S/m; ϵ_r = 34.6; ρ = 1000 kg/m³ Phantom section: Flat Section Ambient temperature: 21.3°C; Liquid temperature: 21.1°C

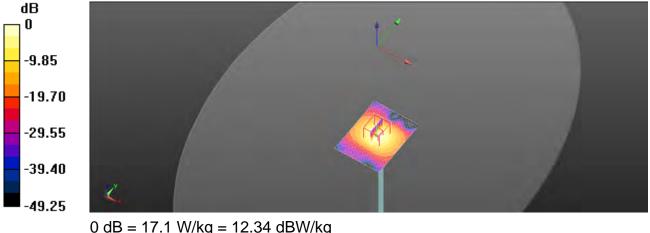
DASY5 Configuration:

- Probe: EX3DV4 SN3938; ConvF(4.7, 4.7, 4.7); Calibrated: 2021/2/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2021/03/22
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 16.8 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm Reference Value = 60.47 V/m; Power Drift = -0.04 dB Peak SAR (extrapolated) = 39.4 W/kg SAR(1 g) = 7.92 W/kg; SAR(10 g) = 2.21 W/kgSmallest distance from peaks to all points 3 dB below = 7.6 mm Ratio of SAR at M2 to SAR at M1 = 57.8% Maximum value of SAR (measured) = 17.1 W/kg



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7. Uncertainty Budget

Measurement Uncertainty evaluation template for DUT SAR test (3-6G)

A	с	D	е		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
Measurement system									
Probe calibration	6.55%	Ν	1	1	1	1	6.55%	6.55%	8
lsotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	8
lsotropy, Hemispherical	9.60%	R	√3	1.732	1	1	5.54%	5.54%	8
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	8
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	œ
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	œ
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	8
Readout Electronics	0.30%	Ν	1	1	1	1	0.30%	0.30%	8
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	œ
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	8
Measurement drift (class A evaluation)	1.75%	R	√3	1.732	1	1	1.01%	1.01%	œ
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	8
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	8
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	œ
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	80
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	80
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	œ
Test Sample related									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	Ν	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	8
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	œ
Liquid permittivity (mea.)	1.98%	Ν	1	1	0.64	0.43	1.27%	0.85%	М
Liquid Conductivity (mea.)	1.93%	Ν	1	1	0.6	0.49	1.16%	0.95%	М
Combined standard uncertainty		RSS					11.84%	11.78%	
Expant uncertainty (95% confidence interval), K=2							23.68%	23.55%	

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A	с	D	е		f	g	h=c * f / e	i=c*g∕e	k
Source of Uncertainty	Tolerance/	Probability	Div	Div Value	ci (1g)	ci (10g)	Standard	Standard	vi, or Veff
obtree of oncertainty	Uncertainty	Distributio	DIV	Div value	ci (19)	cr (Tog)	uncertainty	uncertainty	vi, or ven
Measurement system									
Probe calibration	6.00%	N	1	1	1	1	6.00%	6.00%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
lsotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
lsotropy, Hemispherical	9.60%	R	√3	1.732	1	1	5.54%	5.54%	~
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	~
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	~
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	8
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	~
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	~
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Measurement drift (class A evaluation)	1.75%	R	√3	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	8
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	8
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	~
Test Sample related									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	8
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	0.52%	N	1	1	0.64	0.43	0.33%	0.22%	М
Liquid Conductivity (mea.)	0.72%	N	1	1	0.6	0.49	0.43%	0.35%	М
Combined standard uncertainty		RSS		1			11.43%	11.42%	
Expant uncertainty (95% confidence interval), K=2							22.86%	22.83%	

Measurement Uncertainty evaluation template for DUT SAR test (0.3-3G)

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Appendixes

Refer to separated files for the following appendixes.

ES202180014 SAR_Appendix A Photographs

ES202180014 SAR_Appendix B DAE & Probe Cal. Certificate

ES202180014 SAR_Appendix C Phantom Description & Dipole Cal. Certificate

- End of report -

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