SAR TEST REPORT

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

Equipment Under Test	Convertible PC
Brand Name	HP
Model No.	TPN-C137
Company Name	HP Inc.
Company Address	3390 East Harmony Road Fort Collins, Colorado 80528 United States
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013, KDB616217D04v01r02,KDB865664D01v01r04, KDB865664D02v01r02,KDB447498D01v06, KDB248227D01v02r02,KDB941225D01v03r01, KDB941225D05v02r05, KDB941225D05Av01r02
FCC ID	B94TNC137FWPH
Date of Receipt	Jul. 13, 2018
Date of Test(s)	Aug. 10, 2018 ~ Aug. 17, 2018
Date of Issue	Aug. 27, 2018

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Electronic & Communication Laboratory or testing done by SGS Taiwan Electronic & Communication Laboratory in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronic & Communication Laboratory in writing.

Signed on behalf of SGS

Clerk / Ruby Ou	Asst. Supervisor / Afu Chen	Asst. Manager / John Yeh
Ruby Ou	afu Chen	John Yeh

Date: Aug. 27, 2018

Revision History

Report Number	Revision	Description	Issue Date
EN/2018/70009	Rev.00	Initial creation of document	Aug. 27, 2018

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Contents

1. General Information

1.1 Testing Laboratory

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Tel	+886-2-2299-3279
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Internet	http://www.tw.sgs.com/

1.2 Details of Applicant

Company Name	HP Inc.
Company Address	3390 East Harmony Road Fort Collins, Colorado 80528 United States

1.3 Description of EUT

Equipment Under Test	Convertible PC	
Brand Name	HP	
Model No.	TPN-C137	
FCC ID	B94TNC137FWPH	
Integrated Module	WLAN	Brand Name : Intel Model Name : 8265D2W
	WWAN	Brand Name : Fibocom Model Name : L860-GL
Mode of Operation	☒WLAN802.11 a/b/g/n(20M/40M)/ac(20M/40M/80M) ☒Bluetooth ☒WCDMA ☒HSDPA ☒HSUPA ☒HSPA+ ☒DC-HSDPA ☒LTE FDD ☒LTE TDD	
Duty Cycle	WLAN802.11 a/b/g/n(20M/40M)/ ac(20M/40M/80M)	1
	Bluetooth	1
	WCDMA	1
	LTE FDD	1
	LTE TDD	0.633
TX Frequency Range (MHz)	WCDMA Band II	1850 – 1910
	WCDMA Band IV	1710 – 1755
	WCDMA Band V	824 – 849
	LTE FDD Band 2	1850 – 1910
	LTE FDD Band 4	1710 – 1755
	LTE FDD Band 5	824 – 849
	LTE FDD Band 12	699 – 716
	LTE FDD Band 13	777 – 787
	LTE FDD Band 14	788 – 798
	LTE FDD Band 17	704 – 716

TX Frequency Range (MHz)	LTE FDD Band 25	1850	—	1915
	LTE FDD Band 26	814	—	849
	LTE FDD Band 30	2305	—	2315
	LTE TDD Band 38	2570	—	2620
	LTE TDD Band 41	2496	—	2690
	LTE FDD Band 66	1710	—	1780
	WLAN802.11 b/g/n(20M)	2412	—	2472
	WLAN802.11 n(40M)	2422	—	2462
	WLAN802.11 a/n(20M)/ac(20M) 5.2G	5180	—	5240
	WLAN802.11 n(40M)/ac(40M) 5.2G	5190	—	5230
	WLAN802.11 ac(80M) 5.2G	5210		
	WLAN802.11 a/n(20M)/ac(20M) 5.3G	5260	—	5320
	WLAN802.11 n(40M)/ac(40M) 5.3G	5270	—	5310
	WLAN802.11 ac(80M) 5.3G	5290		
	WLAN802.11 a/n/ac(20M) 5.6G	5500	—	5720
	WLAN802.11 n/ac(40M) 5.6G	5510	—	5710
	WLAN802.11 ac(80M) 5.6G	5530	—	5690
	WLAN802.11 a/n(20M)/ac(20M) 5.8G	5745	—	5825
	WLAN802.11 n(40M)/ac(40M) 5.8G	5710	—	5795
	WLAN802.11 ac(80M) 5.8G	5775		
	Bluetooth	2402	—	2480
Channel Number (ARFCN)	WCDMA Band II	9262	—	9538
	WCDMA Band IV	1312	—	1513
	WCDMA Band V	4132	—	4233
	LTE FDD Band 2	18607	—	19193
	LTE FDD Band 4	19957	—	20393
	LTE FDD Band 5	20407	—	20643

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Channel Number (ARFCN)	LTE FDD Band 12	23017	–	23173
	LTE FDD Band 13	23205	–	23255
	LTE FDD Band 14	23305	–	23355
	LTE FDD Band 17	23755	–	23825
	LTE FDD Band 25	26047	–	26683
	LTE FDD Band 26	26697	–	27033
	LTE FDD Band 30	27685	–	27735
	LTE TDD Band 38	37775	–	38225
	LTE TDD Band 41	39675	–	41565
	LTE FDD Band 66	131979	–	132665
	WLAN802.11 b/g/n(20M)	1	–	13
	WLAN802.11 n(40M)	3	–	11
	WLAN802.11 a/n(20M)/ac(20M) 5.2G	36	–	48
	WLAN802.11 n(40M)/ac(40M) 5.2G	38	–	46
	WLAN802.11 ac(80M) 5.2G	42		
	WLAN802.11 a/n(20M)/ac(20M) 5.3G	52	–	64
	WLAN802.11 n(40M)/ac(40M) 5.3G	54	–	62
	WLAN802.11 ac(80M) 5.3G	58		
	WLAN802.11 a/n/ac(20M) 5.6G	100	–	144
	WLAN802.11 n/ac(40M) 5.6G	102	–	142
	WLAN802.11 ac(80M) 5.6G	106	–	138
	WLAN802.11 a/n(20M)/ac(20M) 5.8G	149	–	165
	WLAN802.11 n(40M)/ac(40M) 5.8G	151	–	159
	WLAN802.11 ac(80M) 5.8G	155		
	Bluetooth	0	–	78

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Antenna Information

Tablet mode								
Vendor	Advanced Wireless & Antenna Inc.							
Antenna	Main (PIFA)				Aux (PIFA)			
Part Number	DC330024W20(AML6Y-200004)				DC330024W20(AML6Y-200004)			
Frequency	2.4	5.2	5.5	5.8	2.4	5.2	5.5	5.8
Gain (dBi)	-5.59	0.65	-1.12	-1.03	-1.28	-1.53	0.34	-0.63
Laptop mode								
Vendor	Advanced Wireless & Antenna Inc.							
Antenna	Main (PIFA)				Aux (PIFA)			
Part Number	DC330024W20(AML6Y-200004)				DC330024W20(AML6Y-200004)			
Frequency	2.4	5.2	5.5	5.8	2.4	5.2	5.5	5.8
Gain (dBi)	-4.79	0.16	-2.02	-3.08	-6.65	-4.55	-2.86	-1.82

Tablet mode						
Vendor	Advanced Wireless & Antenna Inc.					
Antenna	PIFA					
Part Number	AML6Y-10057(DC330024W00)					
Frequency	750	835	1750	1900	2300	2600
Gain (dBi)	-11.68	-14.01	-3.75	-5.17	-2.27	-7.49
Laptop mode						
Vendor	Advanced Wireless & Antenna Inc.					
Antenna	PIFA					
Part Number	AML6Y-10057(DC330024W00)					
Frequency	750	835	1750	1900	2300	2600
Gain (dBi)	-1.14	-2.71	2.39	2.48	2.62	-0.81

Tablet mode

Max. SAR (1 g) (Unit: W/Kg)				
Band	Measured	Reported	Channel	Position
WCDMA Band II	0.42	0.56	9262	Right side
WCDMA Band IV	0.59	0.76	1513	Right side
WCDMA Band V	0.07	0.10	4233	Top side
LTE FDD Band 2	0.47	0.49	18700	Right side
LTE FDD Band 4	0.61	0.67	20300	Right side
LTE FDD Band 5	0.08	0.09	20600	Top side
LTE FDD Band 12	0.07	0.08	23130	Right side
LTE FDD Band 13	0.13	0.13	23230	Right side
LTE FDD Band 14	0.13	0.14	23330	Right side
LTE FDD Band 17	0.07	0.09	23800	Top side
LTE FDD Band 25	0.40	0.43	26140	Right side
LTE FDD Band 26	0.08	0.09	26965	Top side
LTE FDD Band 30	0.07	0.22	27710	Top side
LTE TDD Band 38	0.07	0.08	38150	Top side
LTE TDD Band 41	0.12	0.13	41055	Top side
LTE FDD Band 66	0.84	0.93	132572	Right side

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Max. SAR (1g) (Unit: W/Kg)					
Antenna	Band	Measured	Reported	Channel	Position
Main	WLAN802.11 b	1.44	1.54	10	Top side
	WLAN 802.11g	1.31	1.45	6	Top side
	WLAN 802.11n(20M)	1.30	1.49	6	Top side
	WLAN 802.11n(40M)	0.90	0.92	6	Top side
	Bluetooth	0.15	0.15	39	Top side
	WLAN 802.11a 5.2G	1.37	1.40	40	Top side
	WLAN 802.11n(20M) 5.2G	1.37	1.39	40	Top side
	WLAN 802.11ac(20M) 5.2G	1.41	1.43	44	Top side
	WLAN 802.11n(40M) 5.2G	1.36	1.39	46	Top side
	WLAN 802.11ac(40M) 5.2G	1.34	1.34	46	Top side
	WLAN 802.11a 5.3G	1.47	1.47	52	Top side
	WLAN 802.11n(20M) 5.3G	1.55	1.57	60	Top side
	WLAN 802.11ac(20M) 5.3G	1.49	1.49	52	Top side
	WLAN 802.11n(40M) 5.3G	1.51	1.53	62	Top side
	WLAN 802.11ac(40M) 5.3G	1.50	1.51	62	Top side
	WLAN 802.11ac(80M) 5.6G	1.04	1.04	138	Top side
	WLAN 802.11ac(80M) 5.8G	1.17	1.17	155	Top side

Max. SAR (1g) (Unit: W/Kg)					
Antenna	Band	Measured	Reported	Channel	Position
Aux	WLAN 802.11b	1.23	1.23	6	Top side
	WLAN 802.11ac(80M) 5.2G	1.12	1.14	42	Top side
	WLAN 802.11a 5.3G	1.18	1.18	64	Top side
	WLAN 802.11n(20M) 5.3G	1.17	1.20	60	Top side
	WLAN 802.11n(40M) 5.3G	1.17	1.19	62	Top side
	WLAN 802.11ac(40M) 5.3G	1.18	1.20	62	Top side
	WLAN 802.11n(40M) 5.6G	1.44	1.46	102	Top side
	WLAN 802.11ac(80M) 5.6G	1.44	1.46	106	Top side
	WLAN 802.11ac(80M) 5.8G	1.04	1.06	155	Top side

Notebook mode

Max. SAR (1g) (Unit: W/Kg)					
Antenna	Band	Measured	Reported	Channel	Position
Main	WLAN802.11 b	0.53	0.56	6	Bottom side
	Bluetooth	0.10	0.10	39	Bottom side
	WLAN 802.11a 5.2G	1.40	1.40	44	Bottom side
	WLAN 802.11n(40M) 5.2G	1.39	1.41	46	Bottom side
	WLAN 802.11a 5.3G	1.39	1.40	52	Bottom side
	WLAN 802.11a 5.6G	0.62	0.63	136	Bottom side
	WLAN 802.11ac(80M) 5.6G	0.69	0.70	138	Bottom side
	WLAN 802.11ac(80M) 5.8G	0.69	0.69	155	Bottom side

Max. SAR (1g) (Unit: W/Kg)					
Antenna	Band	Measured	Reported	Channel	Position
Aux	WLAN 802.11b	0.67	0.68	6	Bottom side
	WLAN 802.11a 5.2G	0.75	0.75	44	Bottom side
	WLAN 802.11n(40M) 5.2G	0.76	0.76	46	Bottom side
	WLAN 802.11a 5.3G	0.72	0.72	52	Bottom side
	WLAN 802.11n(40M) 5.6G	1.07	1.07	134	Bottom side
	WLAN 802.11ac(80M) 5.6G	0.95	0.95	138	Bottom side
	WLAN 802.11ac(80M) 5.8G	0.92	0.93	155	Bottom side

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WCDMA Band II / Band IV / Band V - HSDPA / HSUPA conducted power table:
Unit: dBm

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**25.00**		
3GPP Rel 99	RMC 12.2Kbps	23.76	23.86	23.79
3GPP Rel 5	HSDPA Subtest-1	23.71	23.84	23.69
	HSDPA Subtest-2	23.66	23.74	23.57
	HSDPA Subtest-3	22.65	22.71	22.56
	HSDPA Subtest-4	22.91	22.92	22.79
3GPP Rel 6	HSUPA Subtest-1	23.18	23.25	23.11
	HSUPA Subtest-2	22.72	22.78	22.68
	HSUPA Subtest-3	23.75	23.74	23.64
	HSUPA Subtest-4	22.68	22.79	22.62
	HSUPA Subtest-5	23.04	23.16	23.15
3GPP Rel 7	HSPA+	23.15	23.23	23.17
3GPP Rel 8	DC-HSDPA Subtest-1	23.67	23.79	23.66
	DC-HSDPA Subtest-2	23.58	23.72	23.53
	DC-HSDPA Subtest-3	22.56	22.71	22.51
	DC-HSDPA Subtest-4	22.89	22.88	22.78

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Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**25.00**		
3GPP Rel 99	RMC 12.2Kbps	23.90	24.00	23.89
3GPP Rel 5	HSDPA Subtest-1	23.82	23.99	23.86
	HSDPA Subtest-2	23.86	23.96	23.82
	HSDPA Subtest-3	22.87	22.97	22.87
	HSDPA Subtest-4	22.64	22.64	22.63
3GPP Rel 6	HSUPA Subtest-1	23.54	23.64	23.49
	HSUPA Subtest-2	22.83	22.92	22.78
	HSUPA Subtest-3	23.33	23.43	23.21
	HSUPA Subtest-4	22.85	22.96	22.78
	HSUPA Subtest-5	23.51	23.62	23.44
3GPP Rel 7	HSPA+	23.56	23.65	23.48
3GPP Rel 8	DC-HSDPA Subtest-1	23.75	23.90	23.85
	DC-HSDPA Subtest-2	23.79	23.91	23.79
	DC-HSDPA Subtest-3	22.81	22.97	22.83
	DC-HSDPA Subtest-4	22.58	22.62	22.60
Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**25.00**		
3GPP Rel 99	RMC 12.2Kbps	24.14	23.98	23.89
3GPP Rel 5	HSDPA Subtest-1	24.11	23.97	23.87
	HSDPA Subtest-2	24.04	23.94	23.74
	HSDPA Subtest-3	23.50	23.41	23.15
	HSDPA Subtest-4	23.28	23.15	22.89
3GPP Rel 6	HSUPA Subtest-1	23.50	23.41	23.20
	HSUPA Subtest-2	22.99	22.91	22.78
	HSUPA Subtest-3	23.46	23.35	23.12
	HSUPA Subtest-4	22.97	22.94	22.84
	HSUPA Subtest-5	23.99	23.90	23.67
3GPP Rel 7	HSPA+	24.03	23.92	23.82
3GPP Rel 8	DC-HSDPA Subtest-1	24.04	23.88	23.84
	DC-HSDPA Subtest-2	23.98	23.92	23.74
	DC-HSDPA Subtest-3	23.44	23.41	23.07
	DC-HSDPA Subtest-4	23.21	23.08	22.88

LTE FDD Band 2 / Band 4 / Band 5 / Band 12 / Band 13 / Band 14 / Band 17 / Band 25 / Band 26 / Band 30 / Band 66 power table :

FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	1860	18700	24.84	25	0
				1880	18900	24.88	25	0
				1900	19100	24.47	25	0
			50	1860	18700	24.72	25	0
				1880	18900	24.69	25	0
				1900	19100	24.55	25	0
			99	1860	18700	24.78	25	0
				1880	18900	24.46	25	0
				1900	19100	24.40	25	0
		50 RB	0	1860	18700	23.71	24	0-1
				1880	18900	23.73	24	0-1
				1900	19100	23.48	24	0-1
			25	1860	18700	23.75	24	0-1
				1880	18900	23.68	24	0-1
				1900	19100	23.59	24	0-1
			50	1860	18700	23.79	24	0-1
				1880	18900	23.61	24	0-1
				1900	19100	23.65	24	0-1
		100RB		1860	18700	23.80	24	0-1
				1880	18900	23.77	24	0-1
				1900	19100	23.68	24	0-1
	16-QAM	1 RB	0	1860	18700	23.74	24	0-1
				1880	18900	23.85	24	0-1
				1900	19100	23.63	24	0-1
			50	1860	18700	23.92	24	0-1
				1880	18900	23.94	24	0-1
				1900	19100	23.82	24	0-1
			99	1860	18700	23.98	24	0-1
				1880	18900	23.72	24	0-1
				1900	19100	23.60	24	0-1
		50 RB	0	1860	18700	22.75	23	0-2
				1880	18900	22.71	23	0-2
				1900	19100	22.51	23	0-2
			25	1860	18700	22.78	23	0-2
				1880	18900	22.65	23	0-2
				1900	19100	22.60	23	0-2
			50	1860	18700	22.79	23	0-2
				1880	18900	22.62	23	0-2
				1900	19100	22.66	23	0-2
		100RB		1860	18700	22.81	23	0-2
				1880	18900	22.72	23	0-2
				1900	19100	22.65	23	0-2

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FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1857.5	18675	24.72	25	0
				1880	18900	24.81	25	0
				1902.5	19125	24.45	25	0
			36	1857.5	18675	24.55	25	0
				1880	18900	24.71	25	0
				1902.5	19125	24.61	25	0
			74	1857.5	18675	24.77	25	0
				1880	18900	24.52	25	0
				1902.5	19125	24.30	25	0
		36 RB	0	1857.5	18675	23.73	24	0-1
				1880	18900	23.70	24	0-1
				1902.5	19125	23.54	24	0-1
			18	1857.5	18675	23.59	24	0-1
				1880	18900	23.68	24	0-1
				1902.5	19125	23.59	24	0-1
			37	1857.5	18675	23.70	24	0-1
				1880	18900	23.60	24	0-1
				1902.5	19125	23.59	24	0-1
		75RB		1857.5	18675	23.61	24	0-1
				1880	18900	23.73	24	0-1
				1902.5	19125	23.65	24	0-1
	16-QAM	1 RB	0	1857.5	18675	23.85	24	0-1
				1880	18900	23.75	24	0-1
				1902.5	19125	23.69	24	0-1
			36	1857.5	18675	23.83	24	0-1
				1880	18900	23.95	24	0-1
				1902.5	19125	23.82	24	0-1
			74	1857.5	18675	23.99	24	0-1
				1880	18900	23.85	24	0-1
				1902.5	19125	23.54	24	0-1
		36 RB	0	1857.5	18675	22.78	23	0-2
				1880	18900	22.68	23	0-2
				1902.5	19125	22.60	23	0-2
			18	1857.5	18675	22.65	23	0-2
				1880	18900	22.67	23	0-2
				1902.5	19125	22.62	23	0-2
			37	1857.5	18675	22.76	23	0-2
				1880	18900	22.58	23	0-2
				1902.5	19125	22.58	23	0-2
		75RB		1857.5	18675	22.64	23	0-2
				1880	18900	22.67	23	0-2
				1902.5	19125	22.62	23	0-2

FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1855	18650	24.77	25	0
				1880	18900	24.77	25	0
				1905	19150	24.61	25	0
			25	1855	18650	24.60	25	0
				1880	18900	24.65	25	0
				1905	19150	24.59	25	0
			49	1855	18650	24.66	25	0
				1880	18900	24.62	25	0
				1905	19150	24.28	25	0
		25 RB	0	1855	18650	23.80	24	0-1
				1880	18900	23.71	24	0-1
				1905	19150	23.62	24	0-1
			12	1855	18650	23.67	24	0-1
				1880	18900	23.69	24	0-1
				1905	19150	23.69	24	0-1
			25	1855	18650	23.60	24	0-1
				1880	18900	23.67	24	0-1
				1905	19150	23.56	24	0-1
		50RB		1855	18650	23.67	24	0-1
				1880	18900	23.68	24	0-1
				1905	19150	23.61	24	0-1
	16-QAM	1 RB	0	1855	18650	23.98	24	0-1
				1880	18900	23.87	24	0-1
				1905	19150	23.89	24	0-1
			25	1855	18650	23.87	24	0-1
				1880	18900	23.92	24	0-1
				1905	19150	23.83	24	0-1
			49	1855	18650	23.92	24	0-1
				1880	18900	23.84	24	0-1
				1905	19150	23.56	24	0-1
		25 RB	0	1855	18650	22.86	23	0-2
				1880	18900	22.70	23	0-2
				1905	19150	22.66	23	0-2
			12	1855	18650	22.76	23	0-2
				1880	18900	22.69	23	0-2
				1905	19150	22.70	23	0-2
			25	1855	18650	22.68	23	0-2
				1880	18900	22.68	23	0-2
				1905	19150	22.57	23	0-2
		50RB		1855	18650	22.70	23	0-2
				1880	18900	22.66	23	0-2
				1905	19150	22.61	23	0-2

FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1852.5	18625	24.67	25	0
				1880	18900	24.69	25	0
				1907.5	19175	24.56	25	0
			12	1852.5	18625	24.66	25	0
				1880	18900	24.68	25	0
				1907.5	19175	24.41	25	0
			24	1852.5	18625	24.64	25	0
				1880	18900	24.69	25	0
				1907.5	19175	24.28	25	0
		12 RB	0	1852.5	18625	23.80	24	0-1
				1880	18900	23.80	24	0-1
				1907.5	19175	23.67	24	0-1
			6	1852.5	18625	23.85	24	0-1
				1880	18900	23.78	24	0-1
				1907.5	19175	23.60	24	0-1
			13	1852.5	18625	23.79	24	0-1
				1880	18900	23.79	24	0-1
				1907.5	19175	23.58	24	0-1
		25RB		1852.5	18625	23.82	24	0-1
				1880	18900	23.77	24	0-1
				1907.5	19175	23.60	24	0-1
	16-QAM	1 RB	0	1852.5	18625	23.88	24	0-1
				1880	18900	23.95	24	0-1
				1907.5	19175	23.79	24	0-1
			12	1852.5	18625	23.94	24	0-1
				1880	18900	23.91	24	0-1
				1907.5	19175	23.68	24	0-1
			24	1852.5	18625	23.80	24	0-1
				1880	18900	23.89	24	0-1
				1907.5	19175	23.47	24	0-1
		12 RB	0	1852.5	18625	22.85	23	0-2
				1880	18900	22.78	23	0-2
				1907.5	19175	22.64	23	0-2
			6	1852.5	18625	22.89	23	0-2
				1880	18900	22.74	23	0-2
				1907.5	19175	22.57	23	0-2
			13	1852.5	18625	22.85	23	0-2
				1880	18900	22.76	23	0-2
				1907.5	19175	22.58	23	0-2
		25RB		1852.5	18625	22.85	23	0-2
				1880	18900	22.76	23	0-2
				1907.5	19175	22.60	23	0-2

FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1851.5	18615	24.59	25	0
				1880	18900	24.61	25	0
				1908.5	19185	24.37	25	0
			7	1851.5	18615	24.60	25	0
				1880	18900	24.65	25	0
				1908.5	19185	24.38	25	0
			14	1851.5	18615	24.62	25	0
				1880	18900	24.58	25	0
				1908.5	19185	24.17	25	0
		8 RB	0	1851.5	18615	23.68	24	0-1
				1880	18900	23.68	24	0-1
				1908.5	19185	23.49	24	0-1
			4	1851.5	18615	23.68	24	0-1
				1880	18900	23.66	24	0-1
				1908.5	19185	23.46	24	0-1
			7	1851.5	18615	23.74	24	0-1
				1880	18900	23.66	24	0-1
				1908.5	19185	23.40	24	0-1
		15RB		1851.5	18615	23.69	24	0-1
				1880	18900	23.68	24	0-1
				1908.5	19185	23.48	24	0-1
	16-QAM	1 RB	0	1851.5	18615	23.80	24	0-1
				1880	18900	23.83	24	0-1
				1908.5	19185	23.58	24	0-1
			7	1851.5	18615	23.83	24	0-1
				1880	18900	23.91	24	0-1
				1908.5	19185	23.61	24	0-1
			14	1851.5	18615	23.87	24	0-1
				1880	18900	23.89	24	0-1
				1908.5	19185	23.39	24	0-1
		8 RB	0	1851.5	18615	22.71	23	0-2
				1880	18900	22.63	23	0-2
				1908.5	19185	22.44	23	0-2
			4	1851.5	18615	22.68	23	0-2
				1880	18900	22.62	23	0-2
				1908.5	19185	22.43	23	0-2
			7	1851.5	18615	22.76	23	0-2
				1880	18900	22.65	23	0-2
				1908.5	19185	22.38	23	0-2
		15RB		1851.5	18615	22.67	23	0-2
				1880	18900	22.61	23	0-2
				1908.5	19185	22.43	23	0-2

FDD Band 2								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1850.7	18607	24.64	25	0
				1880	18900	24.68	25	0
				1909.3	19193	24.38	25	0
			2	1850.7	18607	24.60	25	0
				1880	18900	24.63	25	0
				1909.3	19193	24.23	25	0
			5	1850.7	18607	24.64	25	0
				1880	18900	24.69	25	0
				1909.3	19193	24.29	25	0
		3 RB	0	1850.7	18607	24.63	25	0
				1880	18900	24.67	25	0
				1909.3	19193	24.26	25	0
			2	1850.7	18607	24.63	25	0
				1880	18900	24.66	25	0
				1909.3	19193	24.23	25	0
			3	1850.7	18607	24.62	25	0
				1880	18900	24.67	25	0
				1909.3	19193	24.22	25	0
		6RB		1850.7	18607	23.69	24	0-1
				1880	18900	23.69	24	0-1
				1909.3	19193	23.38	24	0-1
	16-QAM	1 RB	0	1850.7	18607	23.84	24	0-1
				1880	18900	23.89	24	0-1
				1909.3	19193	23.52	24	0-1
			2	1850.7	18607	23.82	24	0-1
				1880	18900	23.84	24	0-1
				1909.3	19193	23.43	24	0-1
			5	1850.7	18607	23.85	24	0-1
				1880	18900	23.91	24	0-1
				1909.3	19193	23.45	24	0-1
		3 RB	0	1850.7	18607	23.68	24	0-1
				1880	18900	23.74	24	0-1
				1909.3	19193	23.34	24	0-1
			2	1850.7	18607	23.71	24	0-1
				1880	18900	23.74	24	0-1
				1909.3	19193	23.30	24	0-1
			3	1850.7	18607	23.68	24	0-1
				1880	18900	23.73	24	0-1
				1909.3	19193	23.30	24	0-1
		6RB		1850.7	18607	22.67	23	0-2
				1880	18900	22.63	23	0-2
				1909.3	19193	22.40	23	0-2

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FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
20	QPSK	1 RB	0	1720	20050	24.62	25	0
				1732.5	20175	24.63	25	0
				1745	20300	24.61	25	0
			50	1720	20050	24.47	25	0
				1732.5	20175	24.51	25	0
				1745	20300	24.60	25	0
			99	1720	20050	24.53	25	0
				1732.5	20175	24.48	25	0
				1745	20300	24.55	25	0
		50 RB	0	1720	20050	23.48	24	0-1
				1732.5	20175	23.52	24	0-1
				1745	20300	23.51	24	0-1
			25	1720	20050	23.40	24	0-1
				1732.5	20175	23.48	24	0-1
				1745	20300	23.56	24	0-1
			50	1720	20050	23.49	24	0-1
				1732.5	20175	23.41	24	0-1
				1745	20300	23.49	24	0-1
		100RB		1720	20050	23.44	24	0-1
				1732.5	20175	23.54	24	0-1
				1745	20300	23.60	24	0-1
	16-QAM	1 RB	0	1720	20050	23.96	24	0-1
				1732.5	20175	23.82	24	0-1
				1745	20300	23.86	24	0-1
			50	1720	20050	23.74	24	0-1
				1732.5	20175	23.71	24	0-1
				1745	20300	23.88	24	0-1
			99	1720	20050	23.71	24	0-1
				1732.5	20175	23.79	24	0-1
				1745	20300	23.88	24	0-1
		50 RB	0	1720	20050	22.50	23	0-2
				1732.5	20175	22.53	23	0-2
				1745	20300	22.57	23	0-2
			25	1720	20050	22.42	23	0-2
				1732.5	20175	22.50	23	0-2
				1745	20300	22.60	23	0-2
			50	1720	20050	22.52	23	0-2
				1732.5	20175	22.46	23	0-2
				1745	20300	22.55	23	0-2
		100RB		1720	20050	22.45	23	0-2
				1732.5	20175	22.54	23	0-2
				1745	20300	22.61	23	0-2

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FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1717.5	20025	24.55	25	0
				1732.5	20175	24.57	25	0
				1747.5	20325	24.59	25	0
			36	1717.5	20025	24.49	25	0
				1732.5	20175	24.54	25	0
				1747.5	20325	24.62	25	0
			74	1717.5	20025	24.52	25	0
				1732.5	20175	24.46	25	0
				1747.5	20325	24.63	25	0
		36 RB	0	1717.5	20025	23.42	24	0-1
				1732.5	20175	23.47	24	0-1
				1747.5	20325	23.58	24	0-1
			18	1717.5	20025	23.38	24	0-1
				1732.5	20175	23.46	24	0-1
				1747.5	20325	23.57	24	0-1
			37	1717.5	20025	23.33	24	0-1
				1732.5	20175	23.47	24	0-1
				1747.5	20325	23.47	24	0-1
		75RB		1717.5	20025	23.39	24	0-1
				1732.5	20175	23.49	24	0-1
				1747.5	20325	23.58	24	0-1
	16-QAM	1 RB	0	1717.5	20025	23.82	24	0-1
				1732.5	20175	23.80	24	0-1
				1747.5	20325	23.91	24	0-1
			36	1717.5	20025	23.75	24	0-1
				1732.5	20175	23.75	24	0-1
				1747.5	20325	23.94	24	0-1
			74	1717.5	20025	23.83	24	0-1
				1732.5	20175	23.73	24	0-1
				1747.5	20325	23.93	24	0-1
		36 RB	0	1717.5	20025	22.49	23	0-2
				1732.5	20175	22.50	23	0-2
				1747.5	20325	22.65	23	0-2
			18	1717.5	20025	22.47	23	0-2
				1732.5	20175	22.51	23	0-2
				1747.5	20325	22.66	23	0-2
			37	1717.5	20025	22.40	23	0-2
				1732.5	20175	22.48	23	0-2
				1747.5	20325	22.56	23	0-2
		75RB		1717.5	20025	22.43	23	0-2
				1732.5	20175	22.49	23	0-2
				1747.5	20325	22.62	23	0-2

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FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1715	20000	24.52	25	0
				1732.5	20175	24.54	25	0
				1750	20350	24.65	25	0
			25	1715	20000	24.48	25	0
				1732.5	20175	24.48	25	0
				1750	20350	24.52	25	0
			49	1715	20000	24.47	25	0
				1732.5	20175	24.48	25	0
				1750	20350	24.63	25	0
		25 RB	0	1715	20000	23.45	24	0-1
				1732.5	20175	23.48	24	0-1
				1750	20350	23.60	24	0-1
			12	1715	20000	23.42	24	0-1
				1732.5	20175	23.47	24	0-1
				1750	20350	23.51	24	0-1
			25	1715	20000	23.40	24	0-1
				1732.5	20175	23.49	24	0-1
				1750	20350	23.51	24	0-1
		50RB		1715	20000	23.43	24	0-1
				1732.5	20175	23.46	24	0-1
				1750	20350	23.51	24	0-1
	16-QAM	1 RB	0	1715	20000	23.82	24	0-1
				1732.5	20175	23.77	24	0-1
				1750	20350	23.94	24	0-1
			25	1715	20000	23.77	24	0-1
				1732.5	20175	23.77	24	0-1
				1750	20350	23.86	24	0-1
			49	1715	20000	23.77	24	0-1
				1732.5	20175	23.73	24	0-1
				1750	20350	24.00	24	0-1
		25 RB	0	1715	20000	22.58	23	0-2
				1732.5	20175	22.53	23	0-2
				1750	20350	22.71	23	0-2
			12	1715	20000	22.52	23	0-2
				1732.5	20175	22.52	23	0-2
				1750	20350	22.64	23	0-2
			25	1715	20000	22.51	23	0-2
				1732.5	20175	22.53	23	0-2
				1750	20350	22.64	23	0-2
		50RB		1715	20000	22.45	23	0-2
				1732.5	20175	22.49	23	0-2
				1750	20350	22.58	23	0-2

FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
5	QPSK	1 RB	0	1712.5	19975	24.46	25	0
				1732.5	20175	24.50	25	0
				1752.5	20375	24.55	25	0
			12	1712.5	19975	24.43	25	0
				1732.5	20175	24.48	25	0
				1752.5	20375	24.51	25	0
			24	1712.5	19975	24.47	25	0
				1732.5	20175	24.52	25	0
				1752.5	20375	24.61	25	0
		12 RB	0	1712.5	19975	23.54	24	0-1
				1732.5	20175	23.58	24	0-1
				1752.5	20375	23.61	24	0-1
			6	1712.5	19975	23.52	24	0-1
				1732.5	20175	23.57	24	0-1
				1752.5	20375	23.60	24	0-1
			13	1712.5	19975	23.52	24	0-1
				1732.5	20175	23.57	24	0-1
				1752.5	20375	23.60	24	0-1
		25RB		1712.5	19975	23.49	24	0-1
				1732.5	20175	23.54	24	0-1
				1752.5	20375	23.57	24	0-1
	16-QAM	1 RB	0	1712.5	19975	23.81	24	0-1
				1732.5	20175	23.68	24	0-1
				1752.5	20375	23.80	24	0-1
			12	1712.5	19975	23.77	24	0-1
				1732.5	20175	23.71	24	0-1
				1752.5	20375	23.87	24	0-1
			24	1712.5	19975	23.80	24	0-1
				1732.5	20175	23.75	24	0-1
				1752.5	20375	23.93	24	0-1
		12 RB	0	1712.5	19975	22.64	23	0-2
				1732.5	20175	22.61	23	0-2
				1752.5	20375	22.77	23	0-2
			6	1712.5	19975	22.67	23	0-2
				1732.5	20175	22.60	23	0-2
				1752.5	20375	22.75	23	0-2
			13	1712.5	19975	22.64	23	0-2
				1732.5	20175	22.62	23	0-2
				1752.5	20375	22.70	23	0-2
		25RB		1712.5	19975	22.61	23	0-2
				1732.5	20175	22.57	23	0-2
				1752.5	20375	22.69	23	0-2

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FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1711.5	19965	24.37	25	0
				1732.5	20175	24.42	25	0
				1753.5	20385	24.44	25	0
			7	1711.5	19965	24.41	25	0
				1732.5	20175	24.46	25	0
				1753.5	20385	24.48	25	0
			14	1711.5	19965	24.37	25	0
				1732.5	20175	24.43	25	0
				1753.5	20385	24.51	25	0
		8 RB	0	1711.5	19965	23.44	24	0-1
				1732.5	20175	23.48	24	0-1
				1753.5	20385	23.50	24	0-1
			4	1711.5	19965	23.42	24	0-1
				1732.5	20175	23.46	24	0-1
				1753.5	20385	23.49	24	0-1
			7	1711.5	19965	23.44	24	0-1
				1732.5	20175	23.49	24	0-1
				1753.5	20385	23.57	24	0-1
		15RB		1711.5	19965	23.42	24	0-1
				1732.5	20175	23.47	24	0-1
				1753.5	20385	23.49	24	0-1
	16-QAM	1 RB	0	1711.5	19965	23.66	24	0-1
				1732.5	20175	23.60	24	0-1
				1753.5	20385	23.72	24	0-1
			7	1711.5	19965	23.74	24	0-1
				1732.5	20175	23.70	24	0-1
				1753.5	20385	23.79	24	0-1
			14	1711.5	19965	23.72	24	0-1
				1732.5	20175	23.65	24	0-1
				1753.5	20385	23.86	24	0-1
		8 RB	0	1711.5	19965	22.53	23	0-2
				1732.5	20175	22.49	23	0-2
				1753.5	20385	22.62	23	0-2
			4	1711.5	19965	22.53	23	0-2
				1732.5	20175	22.47	23	0-2
				1753.5	20385	22.58	23	0-2
			7	1711.5	19965	22.52	23	0-2
				1732.5	20175	22.47	23	0-2
				1753.5	20385	22.66	23	0-2
		15RB		1711.5	19965	22.47	23	0-2
				1732.5	20175	22.45	23	0-2
				1753.5	20385	22.57	23	0-2

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FDD Band 4								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1710.7	19957	24.41	25	0
				1732.5	20175	24.48	25	0
				1754.3	20393	24.51	25	0
			2	1710.7	19957	24.40	25	0
				1732.5	20175	24.45	25	0
				1754.3	20393	24.54	25	0
			5	1710.7	19957	24.40	25	0
				1732.5	20175	24.47	25	0
				1754.3	20393	24.57	25	0
		3 RB	0	1710.7	19957	24.37	25	0
				1732.5	20175	24.46	25	0
				1754.3	20393	24.55	25	0
			2	1710.7	19957	24.39	25	0
				1732.5	20175	24.45	25	0
				1754.3	20393	24.54	25	0
			3	1710.7	19957	24.37	25	0
				1732.5	20175	24.45	25	0
				1754.3	20393	24.54	25	0
		6RB		1710.7	19957	23.42	24	0-1
				1732.5	20175	23.45	24	0-1
				1754.3	20393	23.57	24	0-1
	16-QAM	1 RB	0	1710.7	19957	23.74	24	0-1
				1732.5	20175	23.70	24	0-1
				1754.3	20393	23.83	24	0-1
			2	1710.7	19957	23.68	24	0-1
				1732.5	20175	23.69	24	0-1
				1754.3	20393	23.90	24	0-1
			5	1710.7	19957	23.74	24	0-1
				1732.5	20175	23.69	24	0-1
				1754.3	20393	23.86	24	0-1
		3 RB	0	1710.7	19957	23.52	24	0-1
				1732.5	20175	23.49	24	0-1
				1754.3	20393	23.70	24	0-1
			2	1710.7	19957	23.52	24	0-1
				1732.5	20175	23.49	24	0-1
				1754.3	20393	23.68	24	0-1
			3	1710.7	19957	23.51	24	0-1
				1732.5	20175	23.50	24	0-1
				1754.3	20393	23.69	24	0-1
		6RB		1710.7	19957	22.49	23	0-2
				1732.5	20175	22.46	23	0-2
				1754.3	20393	22.66	23	0-2

FDD Band 5								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
10	QPSK	1 RB	0	829	20450	24.57	25	0
				836.5	20525	24.51	25	0
				844	20600	24.56	25	0
			25	829	20450	24.48	25	0
				836.5	20525	24.54	25	0
				844	20600	24.40	25	0
			49	829	20450	24.60	25	0
				836.5	20525	24.62	25	0
				844	20600	24.38	25	0
		25 RB	0	829	20450	23.54	24	0-1
				836.5	20525	23.61	24	0-1
				844	20600	23.60	24	0-1
			12	829	20450	23.50	24	0-1
				836.5	20525	23.58	24	0-1
				844	20600	23.45	24	0-1
			25	829	20450	23.47	24	0-1
				836.5	20525	23.57	24	0-1
				844	20600	23.46	24	0-1
		50RB		829	20450	23.51	24	0-1
				836.5	20525	23.59	24	0-1
				844	20600	23.42	24	0-1
	16-QAM	1 RB	0	829	20450	23.77	24	0-1
				836.5	20525	23.86	24	0-1
				844	20600	23.81	24	0-1
			25	829	20450	23.83	24	0-1
				836.5	20525	23.83	24	0-1
				844	20600	23.66	24	0-1
			49	829	20450	23.88	24	0-1
				836.5	20525	23.84	24	0-1
				844	20600	23.60	24	0-1
		25 RB	0	829	20450	22.59	23	0-2
				836.5	20525	22.71	23	0-2
				844	20600	22.62	23	0-2
			12	829	20450	22.59	23	0-2
				836.5	20525	22.66	23	0-2
				844	20600	22.47	23	0-2
			25	829	20450	22.58	23	0-2
				836.5	20525	22.63	23	0-2
				844	20600	22.53	23	0-2
		500RB		829	20450	22.55	23	0-2
				836.5	20525	22.61	23	0-2
				844	20600	22.43	23	0-2

FDD Band 5								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	826.5	20425	24.47	25	0
				836.5	20525	24.56	25	0
				846.5	20625	24.37	25	0
			12	826.5	20425	24.46	25	0
				836.5	20525	24.51	25	0
				846.5	20625	24.37	25	0
			24	826.5	20425	24.45	25	0
				836.5	20525	24.49	25	0
				846.5	20625	24.31	25	0
		12 RB	0	826.5	20425	23.59	24	0-1
				836.5	20525	23.62	24	0-1
				846.5	20625	23.51	24	0-1
			6	826.5	20425	23.57	24	0-1
				836.5	20525	23.59	24	0-1
				846.5	20625	23.47	24	0-1
			13	826.5	20425	23.56	24	0-1
				836.5	20525	23.51	24	0-1
				846.5	20625	23.49	24	0-1
		25RB		826.5	20425	23.56	24	0-1
				836.5	20525	23.59	24	0-1
				846.5	20625	23.46	24	0-1
	16-QAM	1 RB	0	826.5	20425	23.74	24	0-1
				836.5	20525	23.88	24	0-1
				846.5	20625	23.58	24	0-1
			12	826.5	20425	23.71	24	0-1
				836.5	20525	23.74	24	0-1
				846.5	20625	23.59	24	0-1
			24	826.5	20425	23.77	24	0-1
				836.5	20525	23.74	24	0-1
				846.5	20625	23.55	24	0-1
		12 RB	0	826.5	20425	22.60	23	0-2
				836.5	20525	22.70	23	0-2
				846.5	20625	22.57	23	0-2
			6	826.5	20425	22.63	23	0-2
				836.5	20525	22.68	23	0-2
				846.5	20625	22.55	23	0-2
			13	826.5	20425	22.63	23	0-2
				836.5	20525	22.57	23	0-2
				846.5	20625	22.53	23	0-2
		25RB		826.5	20425	22.60	23	0-2
				836.5	20525	22.67	23	0-2
				846.5	20625	22.50	23	0-2

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FDD Band 5								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	825.5	20415	24.37	25	0
				836.5	20525	24.48	25	0
				847.5	20635	24.33	25	0
			7	825.5	20415	24.45	25	0
				836.5	20525	24.52	25	0
				847.5	20635	24.40	25	0
			14	825.5	20415	24.40	25	0
				836.5	20525	24.34	25	0
				847.5	20635	24.19	25	0
		8 RB	0	825.5	20415	23.49	24	0-1
				836.5	20525	23.54	24	0-1
				847.5	20635	23.37	24	0-1
			4	825.5	20415	23.48	24	0-1
				836.5	20525	23.51	24	0-1
				847.5	20635	23.38	24	0-1
			7	825.5	20415	23.47	24	0-1
				836.5	20525	23.44	24	0-1
				847.5	20635	23.37	24	0-1
		15RB		825.5	20415	23.48	24	0-1
				836.5	20525	23.51	24	0-1
				847.5	20635	23.40	24	0-1
	16-QAM	1 RB	0	825.5	20415	23.73	24	0-1
				836.5	20525	23.83	24	0-1
				847.5	20635	23.59	24	0-1
			7	825.5	20415	23.70	24	0-1
				836.5	20525	23.76	24	0-1
				847.5	20635	23.66	24	0-1
			14	825.5	20415	23.71	24	0-1
				836.5	20525	23.67	24	0-1
				847.5	20635	23.46	24	0-1
		8 RB	0	825.5	20415	22.46	23	0-2
				836.5	20525	22.58	23	0-2
				847.5	20635	22.41	23	0-2
			4	825.5	20415	22.49	23	0-2
				836.5	20525	22.56	23	0-2
				847.5	20635	22.42	23	0-2
			7	825.5	20415	22.48	23	0-2
				836.5	20525	22.48	23	0-2
				847.5	20635	22.37	23	0-2
		15RB		825.5	20415	22.43	23	0-2
				836.5	20525	22.52	23	0-2
				847.5	20635	22.38	23	0-2

FDD Band 5								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	824.7	20407	24.44	25	0
				836.5	20525	24.52	25	0
				848.3	20643	24.37	25	0
			2	824.7	20407	24.42	25	0
				836.5	20525	24.48	25	0
				848.3	20643	24.29	25	0
			5	824.7	20407	24.46	25	0
				836.5	20525	24.49	25	0
				848.3	20643	24.27	25	0
		3 RB	0	824.7	20407	24.44	25	0
				836.5	20525	24.49	25	0
				848.3	20643	24.32	25	0
			2	824.7	20407	24.43	25	0
				836.5	20525	24.46	25	0
				848.3	20643	24.26	25	0
			3	824.7	20407	24.45	25	0
				836.5	20525	24.47	25	0
				848.3	20643	24.27	25	0
		6RB		824.7	20407	23.46	24	0-1
				836.5	20525	23.51	24	0-1
				848.3	20643	23.36	24	0-1
	16-QAM	1 RB	0	824.7	20407	23.76	24	0-1
				836.5	20525	23.81	24	0-1
				848.3	20643	23.68	24	0-1
			2	824.7	20407	23.67	24	0-1
				836.5	20525	23.75	24	0-1
				848.3	20643	23.54	24	0-1
			5	824.7	20407	23.71	24	0-1
				836.5	20525	23.78	24	0-1
				848.3	20643	23.52	24	0-1
		3 RB	0	824.7	20407	23.53	24	0-1
				836.5	20525	23.58	24	0-1
				848.3	20643	23.43	24	0-1
			2	824.7	20407	23.52	24	0-1
				836.5	20525	23.58	24	0-1
				848.3	20643	23.35	24	0-1
			3	824.7	20407	23.53	24	0-1
				836.5	20525	23.57	24	0-1
				848.3	20643	23.37	24	0-1
		6RB		824.7	20407	22.48	23	0-2
				836.5	20525	22.54	23	0-2
				848.3	20643	22.34	23	0-2

FDD Band 12								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	704	23060	23.85	25	0
				707.5	23095	23.86	25	0
				711	23130	24.21	25	0
			25	704	23060	24.10	25	0
				707.5	23095	24.10	25	0
				711	23130	24.25	25	0
			49	704	23060	24.24	25	0
				707.5	23095	24.26	25	0
				711	23130	24.29	25	0
		25 RB	0	704	23060	22.93	24	0-1
				707.5	23095	23.05	24	0-1
				711	23130	23.04	24	0-1
			12	704	23060	22.98	24	0-1
				707.5	23095	23.11	24	0-1
				711	23130	23.03	24	0-1
			25	704	23060	23.05	24	0-1
				707.5	23095	23.05	24	0-1
				711	23130	23.25	24	0-1
		50RB		704	23060	23.00	24	0-1
				707.5	23095	23.08	24	0-1
				711	23130	23.17	24	0-1
	16-QAM	1 RB	0	704	23060	22.75	24	0-1
				707.5	23095	23.42	24	0-1
				711	23130	22.80	24	0-1
			25	704	23060	23.21	24	0-1
				707.5	23095	23.76	24	0-1
				711	23130	23.16	24	0-1
			49	704	23060	23.88	24	0-1
				707.5	23095	23.27	24	0-1
				711	23130	23.71	24	0-1
		25 RB	0	704	23060	21.98	23	0-2
				707.5	23095	22.17	23	0-2
				711	23130	22.11	23	0-2
			12	704	23060	21.97	23	0-2
				707.5	23095	22.25	23	0-2
				711	23130	22.21	23	0-2
			25	704	23060	22.20	23	0-2
				707.5	23095	22.11	23	0-2
				711	23130	22.31	23	0-2
		50RB		704	23060	22.12	23	0-2
				707.5	23095	22.10	23	0-2
				711	23130	22.26	23	0-2

FDD Band 12								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	701.5	23035	23.80	25	0
				707.5	23095	24.13	25	0
				713.5	23155	24.09	25	0
			12	701.5	23035	23.84	25	0
				707.5	23095	23.96	25	0
				713.5	23155	23.93	25	0
			24	701.5	23035	23.88	25	0
				707.5	23095	24.03	25	0
				713.5	23155	24.03	25	0
		12 RB	0	701.5	23035	22.94	24	0-1
				707.5	23095	22.99	24	0-1
				713.5	23155	23.05	24	0-1
			6	701.5	23035	22.99	24	0-1
				707.5	23095	23.09	24	0-1
				713.5	23155	23.13	24	0-1
			13	701.5	23035	22.96	24	0-1
				707.5	23095	23.11	24	0-1
				713.5	23155	23.17	24	0-1
		25RB		701.5	23035	22.99	24	0-1
				707.5	23095	23.09	24	0-1
				713.5	23155	23.16	24	0-1
	16-QAM	1 RB	0	701.5	23035	22.85	24	0-1
				707.5	23095	23.28	24	0-1
				713.5	23155	23.47	24	0-1
			12	701.5	23035	22.83	24	0-1
				707.5	23095	23.30	24	0-1
				713.5	23155	23.36	24	0-1
			24	701.5	23035	23.16	24	0-1
				707.5	23095	23.26	24	0-1
				713.5	23155	23.53	24	0-1
		12 RB	0	701.5	23035	21.91	23	0-2
				707.5	23095	22.03	23	0-2
				713.5	23155	22.18	23	0-2
			6	701.5	23035	22.06	23	0-2
				707.5	23095	22.22	23	0-2
				713.5	23155	22.20	23	0-2
			13	701.5	23035	22.14	23	0-2
				707.5	23095	22.20	23	0-2
				713.5	23155	22.32	23	0-2
		25RB		701.5	23035	22.07	23	0-2
				707.5	23095	22.14	23	0-2
				713.5	23155	22.27	23	0-2

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FDD Band 12								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	700.5	23025	23.74	25	0
				707.5	23095	23.88	25	0
				714.5	23165	24.07	25	0
			7	700.5	23025	23.72	25	0
				707.5	23095	24.00	25	0
				714.5	23165	24.14	25	0
			14	700.5	23025	23.88	25	0
				707.5	23095	23.98	25	0
				714.5	23165	23.96	25	0
		8 RB	0	700.5	23025	22.82	24	0-1
				707.5	23095	22.92	24	0-1
				714.5	23165	23.03	24	0-1
			4	700.5	23025	22.80	24	0-1
				707.5	23095	23.00	24	0-1
				714.5	23165	23.07	24	0-1
			7	700.5	23025	22.98	24	0-1
				707.5	23095	23.07	24	0-1
				714.5	23165	23.06	24	0-1
		15RB		700.5	23025	22.83	24	0-1
				707.5	23095	23.01	24	0-1
				714.5	23165	23.11	24	0-1
	16-QAM	1 RB	0	700.5	23025	22.64	24	0-1
				707.5	23095	23.11	24	0-1
				714.5	23165	23.34	24	0-1
			7	700.5	23025	23.04	24	0-1
				707.5	23095	23.40	24	0-1
				714.5	23165	23.48	24	0-1
			14	700.5	23025	23.18	24	0-1
				707.5	23095	23.15	24	0-1
				714.5	23165	23.58	24	0-1
		8 RB	0	700.5	23025	21.83	23	0-2
				707.5	23095	22.06	23	0-2
				714.5	23165	22.04	23	0-2
			4	700.5	23025	21.83	23	0-2
				707.5	23095	21.93	23	0-2
				714.5	23165	21.97	23	0-2
			7	700.5	23025	21.84	23	0-2
				707.5	23095	22.11	23	0-2
				714.5	23165	21.93	23	0-2
		15RB		700.5	23025	21.84	23	0-2
				707.5	23095	21.91	23	0-2
				714.5	23165	21.99	23	0-2

FDD Band 12								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
1.4	QPSK	1 RB	0	699.7	23017	23.68	25	0
				707.5	23095	23.98	25	0
				715.3	23173	24.10	25	0
			2	699.7	23017	23.67	25	0
				707.5	23095	23.91	25	0
				715.3	23173	23.95	25	0
			5	699.7	23017	23.85	25	0
				707.5	23095	23.89	25	0
				715.3	23173	24.11	25	0
		3 RB	0	699.7	23017	23.75	24	0
				707.5	23095	23.93	24	0
				715.3	23173	23.90	24	0
			2	699.7	23017	23.81	24	0
				707.5	23095	23.95	24	0
				715.3	23173	23.99	24	0
			3	699.7	23017	23.77	24	0
				707.5	23095	23.95	24	0
				715.3	23173	23.87	24	0
		6RB		699.7	23017	22.79	24	0-1
				707.5	23095	22.93	24	0-1
				715.3	23173	23.05	24	0-1
	16-QAM	1 RB	0	699.7	23017	23.10	24	0-1
				707.5	23095	23.20	24	0-1
				715.3	23173	23.45	24	0-1
			2	699.7	23017	23.01	24	0-1
				707.5	23095	23.17	24	0-1
				715.3	23173	23.34	24	0-1
			5	699.7	23017	23.13	24	0-1
				707.5	23095	23.28	24	0-1
				715.3	23173	23.27	24	0-1
		3 RB	0	699.7	23017	22.92	23	0-1
				707.5	23095	22.77	23	0-1
				715.3	23173	22.94	23	0-1
			2	699.7	23017	22.85	23	0-1
				707.5	23095	22.86	23	0-1
				715.3	23173	22.89	23	0-1
			3	699.7	23017	22.82	23	0-1
				707.5	23095	22.88	23	0-1
				715.3	23173	22.97	23	0-1
		6RB		699.7	23017	21.88	23	0-2
				707.5	23095	22.03	23	0-2
				715.3	23173	22.11	23	0-2

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FDD Band 13								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	782	23230	24.52	25	0
			25	782	23230	24.74	25	0
			49	782	23230	24.95	25	0
		25 RB	0	782	23230	23.66	24	0-1
			12	782	23230	23.63	24	0-1
			25	782	23230	23.87	24	0-1
		50RB		782	23230	23.81	24	0-1
	16-QAM	1 RB	0	782	23230	23.56	24	0-1
			25	782	23230	23.69	24	0-1
			49	782	23230	23.89	24	0-1
		25 RB	0	782	23230	22.84	23	0-2
			12	782	23230	22.72	23	0-2
			25	782	23230	22.89	23	0-2
		50RB		782	23230	22.79	23	0-2

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FDD Band 13								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	779.5	23205	24.27	25	0
				782	23230	24.58	25	0
				784.5	23255	24.57	25	0
			12	779.5	23205	24.64	25	0
				782	23230	24.63	25	0
				784.5	23255	24.73	25	0
			24	779.5	23205	24.47	25	0
				782	23230	24.76	25	0
				784.5	23255	24.85	25	0
		12 RB	0	779.5	23205	23.51	24	0-1
				782	23230	23.61	24	0-1
				784.5	23255	23.72	24	0-1
			6	779.5	23205	23.67	24	0-1
				782	23230	23.45	24	0-1
				784.5	23255	23.78	24	0-1
			13	779.5	23205	23.69	24	0-1
				782	23230	23.62	24	0-1
				784.5	23255	23.79	24	0-1
		25RB		779.5	23205	23.51	24	0-1
				782	23230	23.55	24	0-1
				784.5	23255	23.78	24	0-1
	16-QAM	1 RB	0	779.5	23205	23.75	24	0-1
				782	23230	23.81	24	0-1
				784.5	23255	23.76	24	0-1
			12	779.5	23205	23.89	24	0-1
				782	23230	23.82	24	0-1
				784.5	23255	23.94	24	0-1
			24	779.5	23205	23.96	24	0-1
				782	23230	23.84	24	0-1
				784.5	23255	23.84	24	0-1
		12 RB	0	779.5	23205	22.69	23	0-2
				782	23230	22.78	23	0-2
				784.5	23255	22.64	23	0-2
			6	779.5	23205	22.77	23	0-2
				782	23230	22.56	23	0-2
				784.5	23255	22.67	23	0-2
			13	779.5	23205	22.71	23	0-2
				782	23230	22.67	23	0-2
				784.5	23255	22.84	23	0-2
		25RB		779.5	23205	22.59	23	0-2
				782	23230	22.67	23	0-2
				784.5	23255	22.77	23	0-2

FDD Band 14								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	793	23330	24.62	25	0
			25	793	23330	24.67	25	0
			49	793	23330	24.63	25	0
		25 RB	0	793	23330	23.71	24	0-1
			12	793	23330	23.73	24	0-1
			25	793	23330	23.81	24	0-1
		50RB		793	23330	23.80	24	0-1
	16-QAM	1 RB	0	793	23330	23.76	24	0-1
			25	793	23330	23.72	24	0-1
			49	793	23330	23.72	24	0-1
		25 RB	0	793	23330	22.70	23	0-2
			12	793	23330	22.72	23	0-2
			25	793	23330	22.74	23	0-2
		50RB		793	23330	22.77	23	0-2

FDD Band 14								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
5	QPSK	1 RB	0	790.5	23305	24.51	25	0
				793	23330	24.56	25	0
				795.5	23355	24.56	25	0
			12	790.5	23305	24.50	25	0
				793	23330	24.60	25	0
				795.5	23355	24.57	25	0
			24	790.5	23305	24.54	25	0
				793	23330	24.61	25	0
				795.5	23355	24.49	25	0
		12 RB	0	790.5	23305	23.58	24	0-1
				793	23330	23.52	24	0-1
				795.5	23355	23.40	24	0-1
			6	790.5	23305	23.54	24	0-1
				793	23330	23.59	24	0-1
				795.5	23355	23.63	24	0-1
			13	790.5	23305	23.51	24	0-1
				793	23330	23.45	24	0-1
				795.5	23355	23.57	24	0-1
		25RB		790.5	23305	23.54	24	0-1
				793	23330	23.66	24	0-1
				795.5	23355	23.62	24	0-1
	16-QAM	1 RB	0	790.5	23305	23.64	24	0-1
				793	23330	23.64	24	0-1
				795.5	23355	23.63	24	0-1
			12	790.5	23305	23.64	24	0-1
				793	23330	23.72	24	0-1
				795.5	23355	23.66	24	0-1
			24	790.5	23305	23.66	24	0-1
				793	23330	23.73	24	0-1
				795.5	23355	23.62	24	0-1
		12 RB	0	790.5	23305	22.52	23	0-2
				793	23330	22.41	23	0-2
				795.5	23355	22.31	23	0-2
			6	790.5	23305	22.49	23	0-2
				793	23330	22.47	23	0-2
				795.5	23355	22.50	23	0-2
			13	790.5	23305	22.43	23	0-2
				793	23330	22.39	23	0-2
				795.5	23355	22.44	23	0-2
		25RB		790.5	23305	22.51	23	0-2
				793	23330	22.57	23	0-2
				795.5	23355	22.51	23	0-2

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FDD Band 17								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	709	23780	23.68	25	0
				710	23790	23.61	25	0
				711	23800	23.65	25	0
			25	709	23780	23.67	25	0
				710	23790	23.73	25	0
				711	23800	23.80	25	0
			49	709	23780	23.87	25	0
				710	23790	23.85	25	0
				711	23800	23.89	25	0
		25 RB	0	709	23780	22.64	24	0-1
				710	23790	22.69	24	0-1
				711	23800	22.63	24	0-1
			12	709	23780	22.72	24	0-1
				710	23790	22.54	24	0-1
				711	23800	22.64	24	0-1
			25	709	23780	22.81	24	0-1
				710	23790	22.63	24	0-1
				711	23800	22.76	24	0-1
		50RB		709	23780	22.60	24	0-1
				710	23790	22.65	24	0-1
				711	23800	22.68	24	0-1
	16-QAM	1 RB	0	709	23780	22.81	24	0-1
				710	23790	22.93	24	0-1
				711	23800	23.24	24	0-1
			25	709	23780	22.98	24	0-1
				710	23790	23.01	24	0-1
				711	23800	23.48	24	0-1
			49	709	23780	23.03	24	0-1
				710	23790	22.61	24	0-1
				711	23800	23.08	24	0-1
		25 RB	0	709	23780	21.65	23	0-2
				710	23790	21.59	23	0-2
				711	23800	21.73	23	0-2
			12	709	23780	21.69	23	0-2
				710	23790	21.68	23	0-2
				711	23800	21.75	23	0-2
			25	709	23780	21.84	23	0-2
				710	23790	21.74	23	0-2
				711	23800	21.69	23	0-2
		50RB		709	23780	21.59	23	0-2
				710	23790	21.40	23	0-2
				711	23800	21.63	23	0-2

FDD Band 17

BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	706.5	23755	23.64	25	0
5	QPSK	1 RB	0	710	23790	23.63	25	0
5	QPSK	1 RB	0	713.5	23825	23.24	25	0
5	QPSK	1 RB	12	706.5	23755	23.62	25	0
5	QPSK	1 RB	12	710	23790	23.54	25	0
5	QPSK	1 RB	12	713.5	23825	23.77	25	0
5	QPSK	1 RB	24	706.5	23755	23.83	25	0
5	QPSK	1 RB	24	710	23790	23.79	25	0
5	QPSK	1 RB	24	713.5	23825	23.74	25	0
5	QPSK	12 RB	0	706.5	23755	22.82	24	0-1
5	QPSK	12 RB	0	710	23790	22.66	24	0-1
5	QPSK	12 RB	0	713.5	23825	22.72	24	0-1
5	QPSK	12 RB	6	706.5	23755	22.72	24	0-1
5	QPSK	12 RB	6	710	23790	22.51	24	0-1
5	QPSK	12 RB	6	713.5	23825	22.72	24	0-1
5	QPSK	12 RB	13	706.5	23755	22.76	24	0-1
5	QPSK	12 RB	13	710	23790	22.65	24	0-1
5	QPSK	12 RB	13	713.5	23825	22.80	24	0-1
5	QPSK	25RB		706.5	23755	22.75	24	0-1
5	QPSK	25RB		710	23790	22.60	24	0-1
5	QPSK	25RB		713.5	23825	22.71	24	0-1
5	16-QAM	1 RB	0	706.5	23755	22.69	24	0-1
5	16-QAM	1 RB	0	710	23790	23.16	24	0-1
5	16-QAM	1 RB	0	713.5	23825	23.06	24	0-1
5	16-QAM	1 RB	12	706.5	23755	22.67	24	0-1
5	16-QAM	1 RB	12	710	23790	22.70	24	0-1
5	16-QAM	1 RB	12	713.5	23825	22.77	24	0-1
5	16-QAM	1 RB	24	706.5	23755	23.01	24	0-1
5	16-QAM	1 RB	24	710	23790	22.68	24	0-1
5	16-QAM	1 RB	24	713.5	23825	22.95	24	0-1
5	16-QAM	12 RB	0	706.5	23755	21.72	23	0-2
5	16-QAM	12 RB	0	710	23790	21.64	23	0-2
5	16-QAM	12 RB	0	713.5	23825	21.67	23	0-2
5	16-QAM	12 RB	6	706.5	23755	21.76	23	0-2
5	16-QAM	12 RB	6	710	23790	21.61	23	0-2
5	16-QAM	12 RB	6	713.5	23825	21.74	23	0-2
5	16-QAM	12 RB	13	706.5	23755	21.83	23	0-2
5	16-QAM	12 RB	13	710	23790	21.31	23	0-2
5	16-QAM	12 RB	13	713.5	23825	21.76	23	0-2
5	16-QAM	25RB		706.5	23755	21.55	23	0-2
5	16-QAM	25RB		710	23790	21.29	23	0-2
5	16-QAM	25RB		713.5	23825	21.79	23	0-2

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FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
20	QPSK	1 RB	0	1860	26140	24.50	25	0
				1882.5	26365	24.76	25	0
				1905	26590	24.62	25	0
			50	1860	26140	24.36	25	0
				1882.5	26365	24.54	25	0
				1905	26590	24.29	25	0
			99	1860	26140	24.66	25	0
				1882.5	26365	24.48	25	0
				1905	26590	24.20	25	0
		50 RB	0	1860	26140	23.98	24	0-1
				1882.5	26365	23.93	24	0-1
				1905	26590	23.71	24	0-1
			25	1860	26140	23.87	24	0-1
				1882.5	26365	23.76	24	0-1
				1905	26590	23.68	24	0-1
			50	1860	26140	23.71	24	0-1
				1882.5	26365	23.69	24	0-1
				1905	26590	23.70	24	0-1
		100RB		1860	26140	23.84	24	0-1
				1882.5	26365	23.74	24	0-1
				1905	26590	23.81	24	0-1
	16-QAM	1 RB	0	1860	26140	23.95	24	0-1
				1882.5	26365	23.59	24	0-1
				1905	26590	23.91	24	0-1
			50	1860	26140	23.98	24	0-1
				1882.5	26365	23.54	24	0-1
				1905	26590	23.52	24	0-1
			99	1860	26140	23.98	24	0-1
				1882.5	26365	23.69	24	0-1
				1905	26590	23.47	24	0-1
		50 RB	0	1860	26140	22.99	23	0-2
				1882.5	26365	22.97	23	0-2
				1905	26590	22.79	23	0-2
			25	1860	26140	22.98	23	0-2
				1882.5	26365	22.91	23	0-2
				1905	26590	22.78	23	0-2
			50	1860	26140	22.88	23	0-2
				1882.5	26365	22.78	23	0-2
				1905	26590	22.71	23	0-2
		100RB		1860	26140	22.96	23	0-2
				1882.5	26365	22.85	23	0-2
				1905	26590	22.89	23	0-2

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FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1857.5	26115	24.40	25	0
				1882.5	26365	24.81	25	0
				1907.5	26615	24.65	25	0
			36	1857.5	26115	24.54	25	0
				1882.5	26365	24.44	25	0
				1907.5	26615	24.49	25	0
			74	1857.5	26115	24.48	25	0
				1882.5	26365	24.42	25	0
				1907.5	26615	24.25	25	0
		36 RB	0	1857.5	26115	23.98	24	0-1
				1882.5	26365	23.94	24	0-1
				1907.5	26615	23.68	24	0-1
			18	1857.5	26115	23.90	24	0-1
				1882.5	26365	23.78	24	0-1
				1907.5	26615	23.63	24	0-1
			37	1857.5	26115	23.88	24	0-1
				1882.5	26365	23.68	24	0-1
				1907.5	26615	23.69	24	0-1
		75RB		1857.5	26115	23.90	24	0-1
				1882.5	26365	23.72	24	0-1
				1907.5	26615	23.82	24	0-1
	16-QAM	1 RB	0	1857.5	26115	23.96	24	0-1
				1882.5	26365	23.95	24	0-1
				1907.5	26615	23.80	24	0-1
			36	1857.5	26115	23.77	24	0-1
				1882.5	26365	23.51	24	0-1
				1907.5	26615	23.49	24	0-1
			74	1857.5	26115	23.44	24	0-1
				1882.5	26365	23.49	24	0-1
				1907.5	26615	23.55	24	0-1
		36 RB	0	1857.5	26115	22.98	23	0-2
				1882.5	26365	22.96	23	0-2
				1907.5	26615	22.80	23	0-2
			18	1857.5	26115	22.97	23	0-2
				1882.5	26365	22.94	23	0-2
				1907.5	26615	22.91	23	0-2
			37	1857.5	26115	23.00	23	0-2
				1882.5	26365	22.81	23	0-2
				1907.5	26615	22.73	23	0-2
		75RB		1857.5	26115	22.93	23	0-2
				1882.5	26365	22.91	23	0-2
				1907.5	26615	22.76	23	0-2

FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1855	26090	24.54	25	0
				1882.5	26365	24.45	25	0
				1910	26640	24.45	25	0
			25	1855	26090	24.78	25	0
				1882.5	26365	24.60	25	0
				1910	26640	24.46	25	0
			49	1855	26090	24.36	25	0
				1882.5	26365	24.31	25	0
				1910	26640	24.29	25	0
		25 RB	0	1855	26090	23.98	24	0-1
				1882.5	26365	23.80	24	0-1
				1910	26640	23.63	24	0-1
			12	1855	26090	23.95	24	0-1
				1882.5	26365	23.81	24	0-1
				1910	26640	23.61	24	0-1
			25	1855	26090	23.91	24	0-1
				1882.5	26365	23.77	24	0-1
				1910	26640	23.77	24	0-1
		50RB		1855	26090	23.97	24	0-1
				1882.5	26365	23.75	24	0-1
				1910	26640	23.64	24	0-1
	16-QAM	1 RB	0	1855	26090	23.96	24	0-1
				1882.5	26365	23.85	24	0-1
				1910	26640	23.55	24	0-1
			25	1855	26090	23.76	24	0-1
				1882.5	26365	23.41	24	0-1
				1910	26640	23.85	24	0-1
			49	1855	26090	23.83	24	0-1
				1882.5	26365	23.55	24	0-1
				1910	26640	23.12	24	0-1
		25 RB	0	1855	26090	22.91	23	0-2
				1882.5	26365	22.95	23	0-2
				1910	26640	22.78	23	0-2
			12	1855	26090	22.96	23	0-2
				1882.5	26365	22.89	23	0-2
				1910	26640	22.76	23	0-2
			25	1855	26090	22.92	23	0-2
				1882.5	26365	22.85	23	0-2
				1910	26640	22.83	23	0-2
		50RB		1855	26090	22.91	23	0-2
				1882.5	26365	22.87	23	0-2
				1910	26640	22.72	23	0-2

FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1852.5	26065	24.63	25	0
				1882.5	26365	24.56	25	0
				1912.5	26665	24.35	25	0
			12	1852.5	26065	24.82	25	0
				1882.5	26365	24.60	25	0
				1912.5	26665	24.42	25	0
			24	1852.5	26065	24.57	25	0
				1882.5	26365	24.54	25	0
				1912.5	26665	24.31	25	0
		12 RB	0	1852.5	26065	23.85	24	0-1
				1882.5	26365	23.68	24	0-1
				1912.5	26665	23.56	24	0-1
			6	1852.5	26065	23.86	24	0-1
				1882.5	26365	23.67	24	0-1
				1912.5	26665	23.65	24	0-1
			13	1852.5	26065	23.84	24	0-1
				1882.5	26365	23.67	24	0-1
				1912.5	26665	23.60	24	0-1
		25RB		1852.5	26065	23.86	24	0-1
				1882.5	26365	23.62	24	0-1
				1912.5	26665	23.63	24	0-1
	16-QAM	1 RB	0	1852.5	26065	23.66	24	0-1
				1882.5	26365	23.77	24	0-1
				1912.5	26665	23.39	24	0-1
			12	1852.5	26065	23.96	24	0-1
				1882.5	26365	23.17	24	0-1
				1912.5	26665	23.44	24	0-1
			24	1852.5	26065	23.53	24	0-1
				1882.5	26365	23.98	24	0-1
				1912.5	26665	23.40	24	0-1
		12 RB	0	1852.5	26065	22.89	23	0-2
				1882.5	26365	22.75	23	0-2
				1912.5	26665	22.68	23	0-2
			6	1852.5	26065	22.91	23	0-2
				1882.5	26365	22.70	23	0-2
				1912.5	26665	22.57	23	0-2
			13	1852.5	26065	22.92	23	0-2
				1882.5	26365	22.69	23	0-2
				1912.5	26665	22.67	23	0-2
		25RB		1852.5	26065	22.97	23	0-2
				1882.5	26365	22.74	23	0-2
				1912.5	26665	22.56	23	0-2

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FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1851.5	26055	24.51	25	0
3	QPSK	1 RB	0	1882.5	26365	24.56	25	0
3	QPSK	1 RB	0	1913.5	26675	24.35	25	0
3	QPSK	1 RB	7	1851.5	26055	24.66	25	0
3	QPSK	1 RB	7	1882.5	26365	24.34	25	0
3	QPSK	1 RB	7	1913.5	26675	24.42	25	0
3	QPSK	1 RB	14	1851.5	26055	24.74	25	0
3	QPSK	1 RB	14	1882.5	26365	24.53	25	0
3	QPSK	1 RB	14	1913.5	26675	24.36	25	0
3	QPSK	8 RB	0	1851.5	26055	23.57	24	0-1
3	QPSK	8 RB	0	1882.5	26365	23.56	24	0-1
3	QPSK	8 RB	0	1913.5	26675	23.53	24	0-1
3	QPSK	8 RB	4	1851.5	26055	23.63	24	0-1
3	QPSK	8 RB	4	1882.5	26365	23.48	24	0-1
3	QPSK	8 RB	4	1913.5	26675	23.56	24	0-1
3	QPSK	8 RB	7	1851.5	26055	23.69	24	0-1
3	QPSK	8 RB	7	1882.5	26365	23.50	24	0-1
3	QPSK	8 RB	7	1913.5	26675	23.46	24	0-1
3	QPSK	15RB		1851.5	26055	23.67	24	0-1
3	QPSK	15RB		1882.5	26365	23.52	24	0-1
3	QPSK	15RB		1913.5	26675	23.53	24	0-1
3	16-QAM	1 RB	0	1851.5	26055	24.00	24	0-1
3	16-QAM	1 RB	0	1882.5	26365	23.57	24	0-1
3	16-QAM	1 RB	0	1913.5	26675	23.67	24	0-1
3	16-QAM	1 RB	7	1851.5	26055	23.89	24	0-1
3	16-QAM	1 RB	7	1882.5	26365	23.37	24	0-1
3	16-QAM	1 RB	7	1913.5	26675	23.85	24	0-1
3	16-QAM	1 RB	14	1851.5	26055	23.91	24	0-1
3	16-QAM	1 RB	14	1882.5	26365	23.74	24	0-1
3	16-QAM	1 RB	14	1913.5	26675	22.81	24	0-1
3	16-QAM	8 RB	0	1851.5	26055	22.59	23	0-2
3	16-QAM	8 RB	0	1882.5	26365	22.61	23	0-2
3	16-QAM	8 RB	0	1913.5	26675	22.51	23	0-2
3	16-QAM	8 RB	4	1851.5	26055	22.67	23	0-2
3	16-QAM	8 RB	4	1882.5	26365	22.48	23	0-2
3	16-QAM	8 RB	4	1913.5	26675	22.34	23	0-2
3	16-QAM	8 RB	7	1851.5	26055	22.78	23	0-2
3	16-QAM	8 RB	7	1882.5	26365	22.68	23	0-2
3	16-QAM	8 RB	7	1913.5	26675	22.54	23	0-2
3	16-QAM	15RB		1851.5	26055	22.80	23	0-2
3	16-QAM	15RB		1882.5	26365	22.52	23	0-2
3	16-QAM	15RB		1913.5	26675	22.52	23	0-2

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FDD Band 25								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1850.7	26047	24.60	25	0
				1882.5	26365	24.48	25	0
				1914.3	26683	24.33	25	0
			2	1850.7	26047	24.46	25	0
				1882.5	26365	24.61	25	0
				1914.3	26683	24.52	25	0
			5	1850.7	26047	24.69	25	0
				1882.5	26365	24.56	25	0
				1914.3	26683	24.22	25	0
		3 RB	0	1850.7	26047	24.58	25	0
				1882.5	26365	24.39	25	0
				1914.3	26683	24.16	25	0
			2	1850.7	26047	24.50	25	0
				1882.5	26365	24.50	25	0
				1914.3	26683	24.19	25	0
			3	1850.7	26047	24.51	25	0
				1882.5	26365	24.37	25	0
				1914.3	26683	23.97	25	0
		6RB		1850.7	26047	23.55	24	0-1
				1882.5	26365	23.49	24	0-1
				1914.3	26683	23.34	24	0-1
	16-QAM	1 RB	0	1850.7	26047	23.95	24	0-1
				1882.5	26365	23.70	24	0-1
				1914.3	26683	23.45	24	0-1
			2	1850.7	26047	23.93	24	0-1
				1882.5	26365	23.88	24	0-1
				1914.3	26683	23.57	24	0-1
			5	1850.7	26047	23.25	24	0-1
				1882.5	26365	23.49	24	0-1
				1914.3	26683	23.50	24	0-1
		3 RB	0	1850.7	26047	23.59	24	0-1
				1882.5	26365	23.70	24	0-1
				1914.3	26683	23.59	24	0-1
			2	1850.7	26047	23.59	24	0-1
				1882.5	26365	23.51	24	0-1
				1914.3	26683	23.23	24	0-1
			3	1850.7	26047	23.47	24	0-1
				1882.5	26365	23.45	24	0-1
				1914.3	26683	23.09	24	0-1
		6RB		1850.7	26047	22.77	23	0-2
				1882.5	26365	22.64	23	0-2
				1914.3	26683	22.41	23	0-2

FDD Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
15	QPSK	1 RB	0	822.5	26825	24.67	25	0
				831.5	26865	24.83	25	0
				841.5	26965	24.58	25	0
			36	822.5	26825	24.76	25	0
				831.5	26865	24.85	25	0
				841.5	26965	24.59	25	0
			74	822.5	26825	24.94	25	0
				831.5	26865	24.83	25	0
				841.5	26965	24.58	25	0
		36 RB	0	822.5	26825	23.78	24	0-1
				831.5	26865	23.63	24	0-1
				841.5	26965	23.75	24	0-1
			18	822.5	26825	23.74	24	0-1
				831.5	26865	23.69	24	0-1
				841.5	26965	23.56	24	0-1
			37	822.5	26825	23.67	24	0-1
				831.5	26865	23.68	24	0-1
				841.5	26965	23.55	24	0-1
		75RB		822.5	26825	23.69	24	0-1
				831.5	26865	23.58	24	0-1
				841.5	26965	23.60	24	0-1
	16-QAM	1 RB	0	822.5	26825	23.97	24	0-1
				831.5	26865	23.93	24	0-1
				841.5	26965	23.98	24	0-1
			36	822.5	26825	23.91	24	0-1
				831.5	26865	23.95	24	0-1
				841.5	26965	23.91	24	0-1
			74	822.5	26825	23.88	24	0-1
				831.5	26865	23.98	24	0-1
				841.5	26965	23.80	24	0-1
		36 RB	0	822.5	26825	22.66	23	0-2
				831.5	26865	22.75	23	0-2
				841.5	26965	22.69	23	0-2
			18	822.5	26825	22.49	23	0-2
				831.5	26865	22.76	23	0-2
				841.5	26965	22.59	23	0-2
			37	822.5	26825	22.72	23	0-2
				831.5	26865	22.92	23	0-2
				841.5	26965	22.71	23	0-2
		75RB		822.5	26825	22.71	23	0-2
				831.5	26865	22.78	23	0-2
				841.5	26965	22.54	23	0-2

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FDD Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	820	26800	24.58	25	0
				831.5	26865	24.77	25	0
				844	26990	24.54	25	0
			25	820	26800	24.74	25	0
				831.5	26865	24.76	25	0
				844	26990	24.58	25	0
			49	820	26800	24.88	25	0
				831.5	26865	24.76	25	0
				844	26990	24.51	25	0
		25 RB	0	820	26800	23.72	24	0-1
				831.5	26865	23.62	24	0-1
				844	26990	23.73	24	0-1
			12	820	26800	23.70	24	0-1
				831.5	26865	23.62	24	0-1
				844	26990	23.53	24	0-1
			25	820	26800	23.65	24	0-1
				831.5	26865	23.62	24	0-1
				844	26990	23.53	24	0-1
		50RB		820	26800	23.61	24	0-1
				831.5	26865	23.58	24	0-1
				844	26990	23.59	24	0-1
	16-QAM	1 RB	0	820	26800	23.94	24	0-1
				831.5	26865	23.97	24	0-1
				844	26990	23.96	24	0-1
			25	820	26800	23.88	24	0-1
				831.5	26865	23.90	24	0-1
				844	26990	23.85	24	0-1
			49	820	26800	24.00	24	0-1
				831.5	26865	23.92	24	0-1
				844	26990	23.78	24	0-1
		25 RB	0	820	26800	22.63	23	0-2
				831.5	26865	22.75	23	0-2
				844	26990	22.69	23	0-2
			12	820	26800	22.46	23	0-2
				831.5	26865	22.68	23	0-2
				844	26990	22.54	23	0-2
			25	820	26800	22.72	23	0-2
				831.5	26865	22.84	23	0-2
				844	26990	22.68	23	0-2
		50RB		820	26800	22.70	23	0-2
				831.5	26865	22.70	23	0-2
				844	26990	22.49	23	0-2

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FDD Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	816.5	26715	24.53	25	0
				831.5	26865	24.64	25	0
				846.5	27015	24.52	25	0
			12	816.5	26715	24.51	25	0
				831.5	26865	24.54	25	0
				846.5	27015	24.41	25	0
			24	816.5	26715	24.50	25	0
				831.5	26865	24.57	25	0
				846.5	27015	24.33	25	0
		12 RB	0	816.5	26715	23.65	24	0-1
				831.5	26865	23.66	24	0-1
				846.5	27015	23.63	24	0-1
			6	816.5	26715	23.65	24	0-1
				831.5	26865	23.63	24	0-1
				846.5	27015	23.62	24	0-1
			13	816.5	26715	23.65	24	0-1
				831.5	26865	23.68	24	0-1
				846.5	27015	23.57	24	0-1
		25RB		816.5	26715	23.61	24	0-1
				831.5	26865	23.61	24	0-1
				846.5	27015	23.61	24	0-1
	16-QAM	1 RB	0	816.5	26715	23.95	24	0-1
				831.5	26865	23.87	24	0-1
				846.5	27015	23.50	24	0-1
			12	816.5	26715	23.84	24	0-1
				831.5	26865	23.93	24	0-1
				846.5	27015	23.63	24	0-1
			24	816.5	26715	23.71	24	0-1
				831.5	26865	23.76	24	0-1
				846.5	27015	23.77	24	0-1
		12 RB	0	816.5	26715	22.86	23	0-2
				831.5	26865	22.77	23	0-2
				846.5	27015	22.66	23	0-2
			6	816.5	26715	22.72	23	0-2
				831.5	26865	22.72	23	0-2
				846.5	27015	22.56	23	0-2
			13	816.5	26715	22.73	23	0-2
				831.5	26865	22.77	23	0-2
				846.5	27015	22.56	23	0-2
		25RB		816.5	26715	22.68	23	0-2
				831.5	26865	22.81	23	0-2
				846.5	27015	22.59	23	0-2

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FDD Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
3	QPSK	1 RB	0	815.5	26705	24.41	25	0
				831.5	26865	24.46	25	0
				847.5	27025	24.49	25	0
			7	815.5	26705	24.65	25	0
				831.5	26865	24.52	25	0
				847.5	27025	24.45	25	0
			14	815.5	26705	24.53	25	0
				831.5	26865	24.58	25	0
				847.5	27025	24.32	25	0
		8 RB	0	815.5	26705	23.64	24	0-1
				831.5	26865	23.57	24	0-1
				847.5	27025	23.48	24	0-1
			4	815.5	26705	23.60	24	0-1
				831.5	26865	23.58	24	0-1
				847.5	27025	23.49	24	0-1
			7	815.5	26705	23.59	24	0-1
				831.5	26865	23.56	24	0-1
				847.5	27025	23.40	24	0-1
		15RB		815.5	26705	23.61	24	0-1
				831.5	26865	23.59	24	0-1
				847.5	27025	23.53	24	0-1
	16-QAM	1 RB	0	815.5	26705	23.77	24	0-1
				831.5	26865	23.72	24	0-1
				847.5	27025	23.96	24	0-1
			7	815.5	26705	23.98	24	0-1
				831.5	26865	23.77	24	0-1
				847.5	27025	23.67	24	0-1
			14	815.5	26705	23.89	24	0-1
				831.5	26865	23.54	24	0-1
				847.5	27025	23.63	24	0-1
		8 RB	0	815.5	26705	22.67	23	0-2
				831.5	26865	22.65	23	0-2
				847.5	27025	22.53	23	0-2
			4	815.5	26705	22.69	23	0-2
				831.5	26865	22.62	23	0-2
				847.5	27025	22.48	23	0-2
			7	815.5	26705	22.79	23	0-2
				831.5	26865	22.58	23	0-2
				847.5	27025	22.27	23	0-2
		15RB		815.5	26705	22.56	23	0-2
				831.5	26865	22.57	23	0-2
				847.5	27025	22.50	23	0-2

FDD Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
1.4	QPSK	1 RB	0	814.7	26697	24.55	25	0
				831.5	26865	24.48	25	0
				848.3	27033	24.54	25	0
			2	814.7	26697	24.56	25	0
				831.5	26865	24.45	25	0
				848.3	27033	24.30	25	0
			5	814.7	26697	24.58	25	0
				831.5	26865	24.60	25	0
				848.3	27033	24.23	25	0
		3 RB	0	814.7	26697	24.60	25	0
				831.5	26865	24.56	25	0
				848.3	27033	24.40	25	0
			2	814.7	26697	24.51	25	0
				831.5	26865	24.48	25	0
				848.3	27033	24.39	25	0
			3	814.7	26697	24.52	25	0
				831.5	26865	24.53	25	0
				848.3	27033	24.36	25	0
		6RB		814.7	26697	23.63	24	0-1
				831.5	26865	23.56	24	0-1
				848.3	27033	23.50	24	0-1
	16-QAM	1 RB	0	814.7	26697	23.70	24	0-1
				831.5	26865	23.96	24	0-1
				848.3	27033	23.89	24	0-1
			2	814.7	26697	23.78	24	0-1
				831.5	26865	23.95	24	0-1
				848.3	27033	23.52	24	0-1
			5	814.7	26697	23.85	24	0-1
				831.5	26865	23.97	24	0-1
				848.3	27033	23.58	24	0-1
		3 RB	0	814.7	26697	23.63	24	0-1
				831.5	26865	23.64	24	0-1
				848.3	27033	23.54	24	0-1
			2	814.7	26697	23.46	24	0-1
				831.5	26865	23.56	24	0-1
				848.3	27033	23.57	24	0-1
			3	814.7	26697	23.56	24	0-1
				831.5	26865	23.59	24	0-1
				848.3	27033	23.50	24	0-1
		6RB		814.7	26697	22.53	23	0-2
				831.5	26865	22.52	23	0-2
				848.3	27033	22.41	23	0-2

FDD Band 30								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	2310	27710	19.94	21.5	0
			25	2310	27710	19.85	21.5	0
			49	2310	27710	20.01	21.5	0
		25 RB	0	2310	27710	18.84	20.5	0-1
			12	2310	27710	18.91	20.5	0-1
			25	2310	27710	18.86	20.5	0-1
		50RB		2310	27710	18.98	20.5	0-1
	16-QAM	1 RB	0	2310	27710	19.19	20.5	0-1
			25	2310	27710	19.22	20.5	0-1
			49	2310	27710	19.46	20.5	0-1
		25 RB	0	2310	27710	17.92	19.5	0-2
			12	2310	27710	17.95	19.5	0-2
			25	2310	27710	17.93	19.5	0-2
		50RB		2310	27710	18.13	19.5	0-2

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FDD Band 30								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	2307.5	27685	20.05	21.5	0
				2310	27710	19.71	21.5	0
				2312.5	27735	19.82	21.5	0
			12	2307.5	27685	19.52	21.5	0
				2310	27710	19.71	21.5	0
				2312.5	27735	19.91	21.5	0
			24	2307.5	27685	19.65	21.5	0
				2310	27710	19.86	21.5	0
				2312.5	27735	19.86	21.5	0
		12 RB	0	2307.5	27685	18.78	20.5	0-1
				2310	27710	18.69	20.5	0-1
				2312.5	27735	18.73	20.5	0-1
			6	2307.5	27685	18.57	20.5	0-1
				2310	27710	18.74	20.5	0-1
				2312.5	27735	18.75	20.5	0-1
			13	2307.5	27685	18.60	20.5	0-1
				2310	27710	18.81	20.5	0-1
				2312.5	27735	18.71	20.5	0-1
		25RB		2307.5	27685	18.70	20.5	0-1
				2310	27710	18.81	20.5	0-1
				2312.5	27735	18.74	20.5	0-1
	16-QAM	1 RB	0	2307.5	27685	19.10	20.5	0-1
				2310	27710	19.25	20.5	0-1
				2312.5	27735	19.14	20.5	0-1
			12	2307.5	27685	19.35	20.5	0-1
				2310	27710	18.95	20.5	0-1
				2312.5	27735	19.34	20.5	0-1
			24	2307.5	27685	18.89	20.5	0-1
				2310	27710	19.46	20.5	0-1
				2312.5	27735	19.22	20.5	0-1
		12 RB	0	2307.5	27685	17.85	19.5	0-2
				2310	27710	17.77	19.5	0-2
				2312.5	27735	17.96	19.5	0-2
			6	2307.5	27685	17.59	19.5	0-2
				2310	27710	17.85	19.5	0-2
				2312.5	27735	17.69	19.5	0-2
			13	2307.5	27685	17.71	19.5	0-2
				2310	27710	17.88	19.5	0-2
				2312.5	27735	17.83	19.5	0-2
		25RB		2307.5	27685	17.66	19.5	0-2
				2310	27710	17.78	19.5	0-2
				2312.5	27735	17.70	19.5	0-2

FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
20	QPSK	1 RB	0	1720	132072	24.34	25	0
				1745	132322	24.33	25	0
				1770	132572	24.58	25	0
			50	1720	132072	24.31	25	0
				1745	132322	24.20	25	0
				1770	132572	24.48	25	0
			99	1720	132072	24.38	25	0
				1745	132322	24.24	25	0
				1770	132572	24.56	25	0
		50 RB	0	1720	132072	23.42	24	0-1
				1745	132322	23.37	24	0-1
				1770	132572	23.52	24	0-1
			25	1720	132072	23.28	24	0-1
				1745	132322	23.40	24	0-1
				1770	132572	23.56	24	0-1
			50	1720	132072	23.37	24	0-1
				1745	132322	23.32	24	0-1
				1770	132572	23.49	24	0-1
		100RB		1720	132072	23.32	24	0-1
				1745	132322	23.44	24	0-1
				1770	132572	23.56	24	0-1
	16-QAM	1 RB	0	1720	132072	23.58	24	0-1
				1745	132322	23.98	24	0-1
				1770	132572	23.90	24	0-1
			50	1720	132072	23.70	24	0-1
				1745	132322	23.48	24	0-1
				1770	132572	23.94	24	0-1
			99	1720	132072	23.76	24	0-1
				1745	132322	23.74	24	0-1
				1770	132572	23.75	24	0-1
		50 RB	0	1720	132072	22.42	23	0-2
				1745	132322	22.44	23	0-2
				1770	132572	22.50	23	0-2
			25	1720	132072	22.35	23	0-2
				1745	132322	22.38	23	0-2
				1770	132572	22.56	23	0-2
			50	1720	132072	22.41	23	0-2
				1745	132322	22.36	23	0-2
				1770	132572	22.56	23	0-2
		100RB		1720	132072	22.34	23	0-2
				1745	132322	22.45	23	0-2
				1770	132572	22.66	23	0-2

FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1717.5	132047	24.33	25	0
				1745	132322	24.37	25	0
				1772.5	132597	24.46	25	0
			36	1717.5	132047	24.32	25	0
				1745	132322	24.46	25	0
				1772.5	132597	24.49	25	0
			74	1717.5	132047	24.55	25	0
				1745	132322	24.35	25	0
				1772.5	132597	24.34	25	0
		36 RB	0	1717.5	132047	23.40	24	0-1
				1745	132322	23.38	24	0-1
				1772.5	132597	23.61	24	0-1
			18	1717.5	132047	23.29	24	0-1
				1745	132322	23.41	24	0-1
				1772.5	132597	23.52	24	0-1
			37	1717.5	132047	23.26	24	0-1
				1745	132322	23.29	24	0-1
				1772.5	132597	23.41	24	0-1
		75RB		1717.5	132047	23.37	24	0-1
				1745	132322	23.42	24	0-1
				1772.5	132597	23.55	24	0-1
	16-QAM	1 RB	0	1717.5	132047	23.90	24	0-1
				1745	132322	23.93	24	0-1
				1772.5	132597	23.53	24	0-1
			36	1717.5	132047	23.94	24	0-1
				1745	132322	23.77	24	0-1
				1772.5	132597	23.84	24	0-1
			74	1717.5	132047	23.18	24	0-1
				1745	132322	23.46	24	0-1
				1772.5	132597	23.48	24	0-1
		36 RB	0	1717.5	132047	22.44	23	0-2
				1745	132322	22.48	23	0-2
				1772.5	132597	22.55	23	0-2
			18	1717.5	132047	22.36	23	0-2
				1745	132322	22.48	23	0-2
				1772.5	132597	22.51	23	0-2
			37	1717.5	132047	22.30	23	0-2
				1745	132322	22.36	23	0-2
				1772.5	132597	22.41	23	0-2
		75RB		1717.5	132047	22.37	23	0-2
				1745	132322	22.46	23	0-2
				1772.5	132597	22.55	23	0-2

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FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1715	132022	24.31	25	0
				1745	132322	24.58	25	0
				1775	132622	24.66	25	0
			25	1715	132022	24.49	25	0
				1745	132322	24.40	25	0
				1775	132622	24.64	25	0
			49	1715	132022	24.57	25	0
				1745	132322	24.44	25	0
				1775	132622	24.47	25	0
		25 RB	0	1715	132022	23.43	24	0-1
				1745	132322	23.47	24	0-1
				1775	132622	23.58	24	0-1
			12	1715	132022	23.37	24	0-1
				1745	132322	23.40	24	0-1
				1775	132622	23.54	24	0-1
			25	1715	132022	23.37	24	0-1
				1745	132322	23.43	24	0-1
				1775	132622	23.50	24	0-1
		50RB		1715	132022	23.31	24	0-1
				1745	132322	23.41	24	0-1
				1775	132622	23.51	24	0-1
	16-QAM	1 RB	0	1715	132022	23.68	24	0-1
				1745	132322	23.65	24	0-1
				1775	132622	23.83	24	0-1
			25	1715	132022	23.66	24	0-1
				1745	132322	23.70	24	0-1
				1775	132622	23.96	24	0-1
			49	1715	132022	23.74	24	0-1
				1745	132322	23.63	24	0-1
				1775	132622	23.89	24	0-1
		25 RB	0	1715	132022	22.49	23	0-2
				1745	132322	22.58	23	0-2
				1775	132622	22.72	23	0-2
			12	1715	132022	22.46	23	0-2
				1745	132322	22.59	23	0-2
				1775	132622	22.62	23	0-2
			25	1715	132022	22.39	23	0-2
				1745	132322	22.57	23	0-2
				1775	132622	22.68	23	0-2
		50RB		1715	132022	22.44	23	0-2
				1745	132322	22.48	23	0-2
				1775	132622	22.47	23	0-2

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FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
5	QPSK	1 RB	0	1712.5	131997	24.31	25	0
				1745	132322	24.40	25	0
				1777.5	132647	24.46	25	0
			12	1712.5	131997	24.46	25	0
				1745	132322	24.56	25	0
				1777.5	132647	24.48	25	0
			24	1712.5	131997	24.31	25	0
				1745	132322	24.41	25	0
				1777.5	132647	24.34	25	0
		12 RB	0	1712.5	131997	23.44	24	0-1
				1745	132322	23.53	24	0-1
				1777.5	132647	23.56	24	0-1
			6	1712.5	131997	23.42	24	0-1
				1745	132322	23.59	24	0-1
				1777.5	132647	23.54	24	0-1
			13	1712.5	131997	23.38	24	0-1
				1745	132322	23.47	24	0-1
				1777.5	132647	23.52	24	0-1
		25RB		1712.5	131997	23.44	24	0-1
				1745	132322	23.50	24	0-1
				1777.5	132647	23.53	24	0-1
	16-QAM	1 RB	0	1712.5	131997	23.63	24	0-1
				1745	132322	23.61	24	0-1
				1777.5	132647	23.96	24	0-1
			12	1712.5	131997	23.39	24	0-1
				1745	132322	23.60	24	0-1
				1777.5	132647	23.83	24	0-1
			24	1712.5	131997	23.22	24	0-1
				1745	132322	23.74	24	0-1
				1777.5	132647	24.00	24	0-1
		12 RB	0	1712.5	131997	22.59	23	0-2
				1745	132322	22.55	23	0-2
				1777.5	132647	22.63	23	0-2
			6	1712.5	131997	22.50	23	0-2
				1745	132322	22.58	23	0-2
				1777.5	132647	22.73	23	0-2
			13	1712.5	131997	22.57	23	0-2
				1745	132322	22.73	23	0-2
				1777.5	132647	22.50	23	0-2
		25RB		1712.5	131997	22.65	23	0-2
				1745	132322	22.59	23	0-2
				1777.5	132647	22.68	23	0-2

FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
3	QPSK	1 RB	0	1711.5	131987	24.28	25	0
				1745	132322	24.31	25	0
				1778.5	132657	24.27	25	0
			7	1711.5	131987	24.41	25	0
				1745	132322	24.36	25	0
				1778.5	132657	24.37	25	0
			14	1711.5	131987	24.24	25	0
				1745	132322	24.37	25	0
				1778.5	132657	24.36	25	0
		8 RB	0	1711.5	131987	23.36	24	0-1
				1745	132322	23.49	24	0-1
				1778.5	132657	23.42	24	0-1
			4	1711.5	131987	23.43	24	0-1
				1745	132322	23.50	24	0-1
				1778.5	132657	23.42	24	0-1
			7	1711.5	131987	23.35	24	0-1
				1745	132322	23.40	24	0-1
				1778.5	132657	23.42	24	0-1
		15RB		1711.5	131987	23.36	24	0-1
				1745	132322	23.42	24	0-1
				1778.5	132657	23.43	24	0-1
	16-QAM	1 RB	0	1711.5	131987	23.80	24	0-1
				1745	132322	23.55	24	0-1
				1778.5	132657	23.58	24	0-1
			7	1711.5	131987	23.78	24	0-1
				1745	132322	23.46	24	0-1
				1778.5	132657	23.75	24	0-1
			14	1711.5	131987	23.34	24	0-1
				1745	132322	23.60	24	0-1
				1778.5	132657	23.86	24	0-1
		8 RB	0	1711.5	131987	22.48	23	0-2
				1745	132322	22.52	23	0-2
				1778.5	132657	22.49	23	0-2
			4	1711.5	131987	22.65	23	0-2
				1745	132322	22.63	23	0-2
				1778.5	132657	22.50	23	0-2
			7	1711.5	131987	22.41	23	0-2
				1745	132322	22.56	23	0-2
				1778.5	132657	22.47	23	0-2
		15RB		1711.5	131987	22.40	23	0-2
				1745	132322	22.37	23	0-2
				1778.5	132657	22.45	23	0-2

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FDD Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
1.4	QPSK	1 RB	0	1710.7	131979	24.31	25	0
				1745	132322	24.37	25	0
				1779.3	132665	24.39	25	0
			2	1710.7	131979	24.21	25	0
				1745	132322	24.37	25	0
				1779.3	132665	24.51	25	0
			5	1710.7	131979	24.23	25	0
				1745	132322	24.44	25	0
				1779.3	132665	24.43	25	0
		3 RB	0	1710.7	131979	24.30	25	0
				1745	132322	24.42	25	0
				1779.3	132665	24.33	25	0
			2	1710.7	131979	24.26	25	0
				1745	132322	24.35	25	0
				1779.3	132665	24.38	25	0
			3	1710.7	131979	24.34	25	0
				1745	132322	24.35	25	0
				1779.3	132665	24.34	25	0
		6RB		1710.7	131979	23.29	24	0-1
				1745	132322	23.48	24	0-1
				1779.3	132665	23.41	24	0-1
	16-QAM	1 RB	0	1710.7	131979	23.57	24	0-1
				1745	132322	23.83	24	0-1
				1779.3	132665	23.99	24	0-1
			2	1710.7	131979	23.95	24	0-1
				1745	132322	23.72	24	0-1
				1779.3	132665	23.41	24	0-1
			5	1710.7	131979	23.66	24	0-1
				1745	132322	23.72	24	0-1
				1779.3	132665	23.76	24	0-1
		3 RB	0	1710.7	131979	23.51	24	0-1
				1745	132322	23.71	24	0-1
				1779.3	132665	23.59	24	0-1
			2	1710.7	131979	23.48	24	0-1
				1745	132322	23.57	24	0-1
				1779.3	132665	23.64	24	0-1
			3	1710.7	131979	23.31	24	0-1
				1745	132322	23.47	24	0-1
				1779.3	132665	23.66	24	0-1
		6RB		1710.7	131979	22.53	23	0-2
				1745	132322	22.53	23	0-2
				1779.3	132665	22.43	23	0-2

LTE TDD Band 38 / Band 41 power table :

TDD Band 38								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
20	QPSK	1 RB	0	2580	37850	24.37	25	0
				2595	38000	24.13	25	0
				2610	38150	24.20	25	0
			50	2580	37850	24.21	25	0
				2595	38000	24.26	25	0
				2610	38150	24.43	25	0
			99	2580	37850	24.25	25	0
				2595	38000	24.53	25	0
				2610	38150	24.37	25	0
		50 RB	0	2580	37850	23.26	24	0-1
				2595	38000	23.20	24	0-1
				2610	38150	23.31	24	0-1
			25	2580	37850	23.23	24	0-1
				2595	38000	23.20	24	0-1
				2610	38150	23.35	24	0-1
			50	2580	37850	23.18	24	0-1
				2595	38000	23.23	24	0-1
				2610	38150	23.46	24	0-1
		100RB		2580	37850	23.27	24	0-1
				2595	38000	23.26	24	0-1
				2610	38150	23.36	24	0-1
	16-QAM	1 RB	0	2580	37850	23.43	24	0-1
				2595	38000	23.36	24	0-1
				2610	38150	23.76	24	0-1
			50	2580	37850	22.97	24	0-1
				2595	38000	23.41	24	0-1
				2610	38150	23.51	24	0-1
			99	2580	37850	23.43	24	0-1
				2595	38000	23.58	24	0-1
				2610	38150	23.42	24	0-1
		50 RB	0	2580	37850	22.31	23	0-2
				2595	38000	22.26	23	0-2
				2610	38150	22.33	23	0-2
			25	2580	37850	22.24	23	0-2
				2595	38000	22.23	23	0-2
				2610	38150	22.37	23	0-2
			50	2580	37850	22.21	23	0-2
				2595	38000	22.30	23	0-2
				2610	38150	22.50	23	0-2
		100RB		2580	37850	22.29	23	0-2
				2595	38000	22.23	23	0-2
				2610	38150	22.34	23	0-2

TDD Band 38								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	2577.5	37825	24.28	25	0
				2595	38000	24.09	25	0
				2612.5	38175	24.24	25	0
			36	2577.5	37825	24.34	25	0
				2595	38000	24.27	25	0
				2612.5	38175	24.23	25	0
			74	2577.5	37825	24.21	25	0
				2595	38000	24.20	25	0
				2612.5	38175	24.59	25	0
		36 RB	0	2577.5	37825	23.28	24	0-1
				2595	38000	23.19	24	0-1
				2612.5	38175	23.39	24	0-1
			18	2577.5	37825	23.28	24	0-1
				2595	38000	23.27	24	0-1
				2612.5	38175	23.39	24	0-1
			37	2577.5	37825	23.27	24	0-1
				2595	38000	23.24	24	0-1
				2612.5	38175	23.46	24	0-1
		75RB		2577.5	37825	23.26	24	0-1
				2595	38000	23.23	24	0-1
				2612.5	38175	23.36	24	0-1
	16-QAM	1 RB	0	2577.5	37825	23.78	24	0-1
				2595	38000	23.22	24	0-1
				2612.5	38175	23.34	24	0-1
			36	2577.5	37825	23.42	24	0-1
				2595	38000	22.96	24	0-1
				2612.5	38175	23.64	24	0-1
			74	2577.5	37825	23.16	24	0-1
				2595	38000	23.43	24	0-1
				2612.5	38175	23.63	24	0-1
		36 RB	0	2577.5	37825	22.32	23	0-2
				2595	38000	22.26	23	0-2
				2612.5	38175	22.46	23	0-2
			18	2577.5	37825	22.26	23	0-2
				2595	38000	22.29	23	0-2
				2612.5	38175	22.38	23	0-2
			37	2577.5	37825	22.30	23	0-2
				2595	38000	22.27	23	0-2
				2612.5	38175	22.48	23	0-2
		75RB		2577.5	37825	22.22	23	0-2
				2595	38000	22.24	23	0-2
				2612.5	38175	22.32	23	0-2

TDD Band 38								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	2575	37800	24.43	25	0
				2595	38000	24.16	25	0
				2615	38200	24.31	25	0
			25	2575	37800	24.20	25	0
				2595	38000	24.05	25	0
				2615	38200	24.25	25	0
			49	2575	37800	24.19	25	0
				2595	38000	24.17	25	0
				2615	38200	24.34	25	0
		25 RB	0	2575	37800	23.33	24	0-1
				2595	38000	23.29	24	0-1
				2615	38200	23.40	24	0-1
			12	2575	37800	23.31	24	0-1
				2595	38000	23.25	24	0-1
				2615	38200	23.49	24	0-1
			25	2575	37800	23.33	24	0-1
				2595	38000	23.28	24	0-1
				2615	38200	23.50	24	0-1
		50RB		2575	37800	23.27	24	0-1
				2595	38000	23.23	24	0-1
				2615	38200	23.44	24	0-1
	16-QAM	1 RB	0	2575	37800	23.30	24	0-1
				2595	38000	23.53	24	0-1
				2615	38200	23.46	24	0-1
			25	2575	37800	23.25	24	0-1
				2595	38000	23.30	24	0-1
				2615	38200	23.29	24	0-1
			49	2575	37800	23.07	24	0-1
				2595	38000	23.24	24	0-1
				2615	38200	23.66	24	0-1
		25 RB	0	2575	37800	22.31	23	0-2
				2595	38000	22.30	23	0-2
				2615	38200	22.45	23	0-2
			12	2575	37800	22.45	23	0-2
				2595	38000	22.37	23	0-2
				2615	38200	22.53	23	0-2
			25	2575	37800	22.47	23	0-2
				2595	38000	22.25	23	0-2
				2615	38200	22.61	23	0-2
		50RB		2575	37800	22.23	23	0-2
				2595	38000	22.28	23	0-2
				2615	38200	22.51	23	0-2

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TDD Band 38								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	2572.5	37775	24.17	25	0
				2595	38000	24.24	25	0
				2617.5	38225	24.30	25	0
			12	2572.5	37775	24.33	25	0
				2595	38000	24.11	25	0
				2617.5	38225	24.32	25	0
			24	2572.5	37775	24.13	25	0
				2595	38000	24.05	25	0
				2617.5	38225	24.42	25	0
		12 RB	0	2572.5	37775	23.27	24	0-1
				2595	38000	23.22	24	0-1
				2617.5	38225	23.40	24	0-1
			6	2572.5	37775	23.25	24	0-1
				2595	38000	23.24	24	0-1
				2617.5	38225	23.43	24	0-1
			13	2572.5	37775	23.24	24	0-1
				2595	38000	23.23	24	0-1
				2617.5	38225	23.49	24	0-1
		25RB		2572.5	37775	23.30	24	0-1
				2595	38000	23.23	24	0-1
				2617.5	38225	23.42	24	0-1
	16-QAM	1 RB	0	2572.5	37775	23.50	24	0-1
				2595	38000	23.19	24	0-1
				2617.5	38225	23.55	24	0-1
			12	2572.5	37775	23.02	24	0-1
				2595	38000	23.16	24	0-1
				2617.5	38225	23.44	24	0-1
			24	2572.5	37775	23.42	24	0-1
				2595	38000	23.21	24	0-1
				2617.5	38225	23.61	24	0-1
		12 RB	0	2572.5	37775	22.32	23	0-2
				2595	38000	22.33	23	0-2
				2617.5	38225	22.43	23	0-2
			6	2572.5	37775	22.22	23	0-2
				2595	38000	22.29	23	0-2
				2617.5	38225	22.47	23	0-2
			13	2572.5	37775	22.22	23	0-2
				2595	38000	22.25	23	0-2
				2617.5	38225	22.46	23	0-2
		25RB		2572.5	37775	22.34	23	0-2
				2595	38000	22.23	23	0-2
				2617.5	38225	22.50	23	0-2

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	2506	39750	24.97	25	0
				2549.5	40185	24.74	25	0
				2593	40620	24.26	25	0
				2636.5	41055	24.71	25	0
				2680	41490	24.68	25	0
			50	2506	39750	24.70	25	0
				2549.5	40185	24.69	25	0
				2593	40620	24.23	25	0
				2636.5	41055	24.78	25	0
				2680	41490	24.68	25	0
			99	2506	39750	24.66	25	0
				2549.5	40185	24.57	25	0
				2593	40620	24.41	25	0
				2636.5	41055	24.66	25	0
				2680	41490	24.77	25	0
		50 RB	0	2506	39750	23.89	24	0-1
				2549.5	40185	23.72	24	0-1
				2593	40620	23.22	24	0-1
				2636.5	41055	23.67	24	0-1
				2680	41490	23.76	24	0-1
			25	2506	39750	23.79	24	0-1
				2549.5	40185	23.71	24	0-1
				2593	40620	23.27	24	0-1
				2636.5	41055	23.78	24	0-1
				2680	41490	23.78	24	0-1
			50	2506	39750	23.68	24	0-1
				2549.5	40185	23.69	24	0-1
				2593	40620	23.29	24	0-1
				2636.5	41055	23.81	24	0-1
				2680	41490	23.83	24	0-1
		100RB		2506	39750	23.84	24	0-1
				2549.5	40185	23.75	24	0-1
				2593	40620	23.30	24	0-1
				2636.5	41055	23.76	24	0-1
				2680	41490	23.83	24	0-1

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	16-QAM	1 RB	0	2506	39750	23.77	24	0-1
				2549.5	40185	23.62	24	0-1
				2593	40620	23.20	24	0-1
				2636.5	41055	23.72	24	0-1
				2680	41490	23.57	24	0-1
			50	2506	39750	23.21	24	0-1
				2549.5	40185	23.84	24	0-1
				2593	40620	23.08	24	0-1
				2636.5	41055	23.60	24	0-1
				2680	41490	23.79	24	0-1
			99	2506	39750	23.35	24	0-1
				2549.5	40185	23.68	24	0-1
				2593	40620	23.37	24	0-1
				2636.5	41055	23.63	24	0-1
				2680	41490	23.81	24	0-1
		50 RB	0	2506	39750	22.96	23	0-2
				2549.5	40185	22.71	23	0-2
				2593	40620	22.23	23	0-2
				2636.5	41055	22.72	23	0-2
				2680	41490	22.80	23	0-2
			25	2506	39750	22.80	23	0-2
				2549.5	40185	22.72	23	0-2
				2593	40620	22.29	23	0-2
				2636.5	41055	22.80	23	0-2
				2680	41490	22.86	23	0-2
			50	2506	39750	22.76	23	0-2
				2549.5	40185	22.71	23	0-2
				2593	40620	22.27	23	0-2
				2636.5	41055	22.81	23	0-2
				2680	41490	22.89	23	0-2
		100RB		2506	39750	22.85	23	0-2
				2549.5	40185	22.73	23	0-2
				2593	40620	22.30	23	0-2
				2636.5	41055	22.76	23	0-2
				2680	41490	22.87	23	0-2

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	2503.5	39725	24.20	25	0
				2548.3	40173	24.56	25	0
				2593	40620	24.11	25	0
				2637.8	41068	24.54	25	0
				2682.5	41515	24.74	25	0
			36	2503.5	39725	24.27	25	0
				2548.3	40173	24.68	25	0
				2593	40620	24.04	25	0
				2637.8	41068	24.50	25	0
				2682.5	41515	24.88	25	0
			74	2503.5	39725	24.25	25	0
				2548.3	40173	24.46	25	0
				2593	40620	24.26	25	0
				2637.8	41068	24.65	25	0
				2682.5	41515	25.00	25	0
		36 RB	0	2503.5	39725	23.18	24	0-1
				2548.3	40173	23.63	24	0-1
				2593	40620	23.19	24	0-1
				2637.8	41068	23.63	24	0-1
				2682.5	41515	23.75	24	0-1
			18	2503.5	39725	23.24	24	0-1
				2548.3	40173	23.65	24	0-1
				2593	40620	23.26	24	0-1
				2637.8	41068	23.72	24	0-1
				2682.5	41515	23.81	24	0-1
			37	2503.5	39725	23.27	24	0-1
				2548.3	40173	23.66	24	0-1
				2593	40620	23.28	24	0-1
				2637.8	41068	23.72	24	0-1
				2682.5	41515	23.85	24	0-1
		75RB		2503.5	39725	23.25	24	0-1
				2548.3	40173	23.63	24	0-1
				2593	40620	23.23	24	0-1
				2637.8	41068	23.72	24	0-1
				2682.5	41515	23.80	24	0-1

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	16-QAM	1 RB	0	2503.5	39725	23.40	24	0-1
				2548.3	40173	23.81	24	0-1
				2593	40620	23.06	24	0-1
				2637.8	41068	23.70	24	0-1
				2682.5	41515	23.71	24	0-1
			36	2503.5	39725	22.89	24	0-1
				2548.3	40173	23.80	24	0-1
				2593	40620	23.41	24	0-1
				2637.8	41068	23.60	24	0-1
				2682.5	41515	23.94	24	0-1
			74	2503.5	39725	23.37	24	0-1
				2548.3	40173	23.52	24	0-1
				2593	40620	23.02	24	0-1
				2637.8	41068	23.77	24	0-1
				2682.5	41515	23.98	24	0-1
		36 RB	0	2503.5	39725	22.23	23	0-2
				2548.3	40173	22.69	23	0-2
				2593	40620	22.28	23	0-2
				2637.8	41068	22.64	23	0-2
				2682.5	41515	22.85	23	0-2
			18	2503.5	39725	22.26	23	0-2
				2548.3	40173	22.72	23	0-2
				2593	40620	22.28	23	0-2
				2637.8	41068	22.84	23	0-2
				2682.5	41515	22.88	23	0-2
			37	2503.5	39725	22.31	23	0-2
				2548.3	40173	22.72	23	0-2
				2593	40620	22.33	23	0-2
				2637.8	41068	22.80	23	0-2
				2682.5	41515	22.93	23	0-2
		75RB		2503.5	39725	22.28	23	0-2
				2548.3	40173	22.67	23	0-2
				2593	40620	22.23	23	0-2
				2637.8	41068	22.80	23	0-2
				2682.5	41515	22.81	23	0-2

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted pow er (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allow ed per 3GPP(dB)
10	QPSK	1 RB	0	2501	39700	24.84	25	0
				2547	40160	24.75	25	0
				2593	40620	24.30	25	0
				2639	41080	24.67	25	0
				2685	41540	24.83	25	0
			25	2501	39700	24.74	25	0
				2547	40160	24.60	25	0
				2593	40620	24.32	25	0
				2639	41080	24.89	25	0
				2685	41540	24.82	25	0
			49	2501	39700	24.83	25	0
				2547	40160	24.79	25	0
				2593	40620	24.32	25	0
				2639	41080	24.86	25	0
				2685	41540	24.98	25	0
		25 RB	0	2501	39700	24.00	24	0-1
				2547	40160	23.79	24	0-1
				2593	40620	23.35	24	0-1
				2639	41080	23.89	24	0-1
				2685	41540	23.95	24	0-1
			12	2501	39700	23.94	24	0-1
				2547	40160	23.79	24	0-1
				2593	40620	23.37	24	0-1
				2639	41080	23.84	24	0-1
				2685	41540	23.96	24	0-1
			25	2501	39700	23.88	24	0-1
				2547	40160	23.80	24	0-1
				2593	40620	23.38	24	0-1
				2639	41080	23.92	24	0-1
				2685	41540	23.97	24	0-1
		50RB		2501	39700	23.91	24	0-1
				2547	40160	23.73	24	0-1
				2593	40620	23.34	24	0-1
				2639	41080	23.84	24	0-1
				2685	41540	23.93	24	0-1

TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	16-QAM	1 RB	0	2501	39700	24.00	24	0-1
				2547	40160	23.99	24	0-1
				2593	40620	22.83	24	0-1
				2639	41080	23.57	24	0-1
				2685	41540	23.88	24	0-1
			25	2501	39700	23.79	24	0-1
				2547	40160	23.79	24	0-1
				2593	40620	23.24	24	0-1
				2639	41080	23.82	24	0-1
				2685	41540	23.81	24	0-1
			49	2501	39700	23.77	24	0-1
				2547	40160	23.97	24	0-1
				2593	40620	22.92	24	0-1
				2639	41080	23.82	24	0-1
				2685	41540	23.22	24	0-1
		25 RB	0	2501	39700	22.83	23	0-2
				2547	40160	22.79	23	0-2
				2593	40620	22.36	23	0-2
				2639	41080	22.98	23	0-2
				2685	41540	22.96	23	0-2
			12	2501	39700	23.00	23	0-2
				2547	40160	22.85	23	0-2
				2593	40620	22.43	23	0-2
				2639	41080	22.92	23	0-2
				2685	41540	22.83	23	0-2
			25	2501	39700	22.92	23	0-2
				2547	40160	22.84	23	0-2
				2593	40620	22.40	23	0-2
				2639	41080	22.96	23	0-2
				2685	41540	22.95	23	0-2
		50RB		2501	39700	22.98	23	0-2
				2547	40160	22.77	23	0-2
				2593	40620	22.38	23	0-2
				2639	41080	22.90	23	0-2
				2685	41540	22.98	23	0-2

TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	2498.5	39675	24.89	25	0
				2547.8	40148	24.70	25	0
				2593	40620	24.26	25	0
				2640.3	41093	24.68	25	0
				2687.5	41565	24.88	25	0
			12	2498.5	39675	24.79	25	0
				2547.8	40148	24.73	25	0
				2593	40620	24.08	25	0
				2640.3	41093	24.61	25	0
				2687.5	41565	24.88	25	0
			24	2498.5	39675	24.74	25	0
				2547.8	40148	24.81	25	0
				2593	40620	24.15	25	0
				2640.3	41093	24.58	25	0
				2687.5	41565	24.96	25	0
		12 RB	0	2498.5	39675	23.94	24	0-1
				2547.8	40148	23.74	24	0-1
				2593	40620	23.29	24	0-1
				2640.3	41093	23.81	24	0-1
				2687.5	41565	23.90	24	0-1
			6	2498.5	39675	23.90	24	0-1
				2547.8	40148	23.74	24	0-1
				2593	40620	23.36	24	0-1
				2640.3	41093	23.81	24	0-1
				2687.5	41565	23.88	24	0-1
			13	2498.5	39675	23.87	24	0-1
				2547.8	40148	23.77	24	0-1
				2593	40620	23.34	24	0-1
				2640.3	41093	23.84	24	0-1
				2687.5	41565	23.90	24	0-1
		25RB		2498.5	39675	23.95	24	0-1
				2547.8	40148	23.77	24	0-1
				2593	40620	23.36	24	0-1
				2640.3	41093	23.84	24	0-1
				2687.5	41565	23.91	24	0-1

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TDD Band 41								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	16-QAM	1 RB	0	2498.5	39675	23.83	24	0-1
				2547.8	40148	23.87	24	0-1
				2593	40620	23.27	24	0-1
				2640.3	41093	23.99	24	0-1
				2687.5	41565	23.83	24	0-1
			12	2498.5	39675	23.79	24	0-1
				2547.8	40148	23.71	24	0-1
				2593	40620	22.94	24	0-1
				2640.3	41093	23.70	24	0-1
				2687.5	41565	23.68	24	0-1
			24	2498.5	39675	23.83	24	0-1
				2547.8	40148	23.53	24	0-1
				2593	40620	22.95	24	0-1
				2640.3	41093	23.96	24	0-1
				2687.5	41565	23.88	24	0-1
		12 RB	0	2498.5	39675	22.97	23	0-2
				2547.8	40148	22.68	23	0-2
				2593	40620	22.29	23	0-2
				2640.3	41093	22.76	23	0-2
				2687.5	41565	22.86	23	0-2
			6	2498.5	39675	22.95	23	0-2
				2547.8	40148	22.85	23	0-2
				2593	40620	22.38	23	0-2
				2640.3	41093	22.92	23	0-2
				2687.5	41565	22.96	23	0-2
			13	2498.5	39675	22.87	23	0-2
				2547.8	40148	22.77	23	0-2
				2593	40620	22.28	23	0-2
				2640.3	41093	22.81	23	0-2
				2687.5	41565	22.91	23	0-2
		25RB		2498.5	39675	23.00	23	0-2
				2547.8	40148	22.80	23	0-2
				2593	40620	22.34	23	0-2
				2640.3	41093	22.87	23	0-2
				2687.5	41565	22.94	23	0-2

WLAN802.11 a/b/g/n(20M/40M)/ac(20M/40M/80M) conducted power table:

Antenna / Band	SISO		MIMO
	Chain 0	Chain 1	Chain0+1
WLAN802.11b	V	V	-
WLAN802.11g	V	V	-
WLAN802.11n(20M)	V	V	V
WLAN802.11n(40M)	V	V	V
WLAN802.11a	V	V	-
WLAN802.11n(20M) 5G	V	V	V
WLAN802.11n(40M) 5G	V	V	V
WLAN802.11ac(20M) 5G	V	V	V
WLAN802.11ac(40M) 5G	V	V	V
WLAN802.11ac(80M) 5G	V	V	V

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Tablet mode(SISO)

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11b	1	2412	1Mbps	18.00	18.00
		2	2417		20.00	19.66
		6	2437		20.00	19.62
		10	2457		20.00	19.72
		11	2462		18.50	18.43
		12	2467		16.00	15.92
		13	2472		8.50	8.48
	802.11g	1	2412	6Mbps	18.00	17.98
		2	2417		20.00	19.58
		6	2437		20.00	19.57
		10	2457		17.50	17.49
		11	2462		17.00	16.98
		12	2467		10.50	10.49
		13	2472		-2.50	-2.48
	802.11n20-HT0	1	2412	MCS0	18.00	17.99
		2	2417		20.00	19.48
		6	2437		20.00	19.42
		10	2457		17.50	17.45
		11	2462		17.00	16.95
		12	2467		10.50	10.46
		13	2472		-2.50	-2.41
	802.11n40-HT0	3	2422	MCS0	17.00	16.91
		4	2427		17.50	17.41
		6	2437		19.00	18.91
		8	2447		16.50	16.44
		9	2452		16.00	15.92

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	15.00	14.92
		40	5200		15.00	14.91
		44	5220		15.00	14.96
		48	5240		15.00	14.97
	802.11n20-HT0	36	5180	MCS0	15.00	14.97
		40	5200		15.00	14.93
		44	5220		15.00	14.90
		48	5240		15.00	14.94
	802.11ac20-VHT0	36	5180	MCS0	15.00	14.98
		40	5200		15.00	14.90
		44	5220		15.00	14.95
		48	5240		15.00	14.97
	802.11n40-HT0	38	5190	MCS0	15.00	14.98
		46	5230		15.00	14.91
	802.11ac40-VHT0	38	5190	MCS0	15.00	14.97
		46	5230		15.00	14.91
	802.11ac80-VHT0	42	5210	MCS0	14.00	13.97

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	15.00	14.99
		56	5280		15.00	14.95
		60	5300		15.00	14.96
		64	5320		15.00	14.92
	802.11n20-HT0	52	5260	MCS0	15.00	14.99
		56	5280		15.00	14.92
		60	5300		15.00	14.95
		64	5320		15.00	14.91
	802.11ac20-VHT0	52	5260	MCS0	15.00	14.99
		56	5280		15.00	14.92
		60	5300		15.00	14.96
		64	5320		15.00	14.93
	802.11n40-HT0	54	5270	MCS0	15.00	14.94
		62	5310		15.00	14.95
	802.11ac40-VHT0	54	5270	MCS0	15.00	14.92
		62	5310		15.00	14.97
	802.11ac80-VHT0	58	5290	MCS0	12.00	12.00

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11a	100	5500	6Mbps	13.50	13.48
		116	5580		13.50	13.49
		120	5600		13.50	13.42
		140	5700		13.50	13.47
		144	5720		13.50	13.43
	802.11n20-HT0	100	5500	MCS0	13.50	13.44
		116	5580		13.50	13.46
		120	5600		13.50	13.41
		140	5700		13.50	13.48
		144	5720		13.50	13.43
	802.11ac20-VHT0	100	5500	MCS0	13.50	13.47
		116	5580		13.50	13.50
		120	5600		13.50	13.43
		140	5700		13.50	13.48
		144	5720		13.50	13.43
	802.11n40-HT0	102	5510	MCS0	13.50	13.47
		110	5550		13.50	13.50
		118	5590		13.50	13.46
		134	5670		13.50	13.45
		142	5710		13.50	13.44
	802.11ac40-VHT0	102	5510	MCS0	13.50	13.49
		110	5550		13.50	13.50
		118	5590		13.50	13.41
		134	5670		13.50	13.45
		142	5710		13.50	13.43
	802.11ac80-VHT0	106	5530	MCS0	13.50	13.48
		122	5610		13.50	13.46
		138	5690		13.50	13.50

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Main Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11a	149	5745	6Mbps	13.00	12.99
		157	5785		13.00	12.91
		165	5825		13.00	12.94
	802.11n20-HT0	149	5745	MCS0	13.00	12.98
		157	5785		13.00	12.91
		165	5825		13.00	12.94
	802.11ac20-VHT0	149	5745	MCS0	13.00	12.98
		157	5785		13.00	12.90
		165	5825		13.00	12.94
	802.11n40-HT0	151	5755	MCS0	13.00	12.93
		159	5795		13.00	12.95
	802.11ac40-VHT0	151	5755	MCS0	13.00	13.00
		159	5795		13.00	12.95
	802.11ac80-VHT0	155	5775	MCS0	13.00	13.00

Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11b	1	2412	1Mbps	18.00	17.92
		2	2417		18.00	17.94
		6	2437		18.00	17.99
		10	2457		18.00	17.97
		11	2462		18.00	17.93
		12	2467		16.50	16.47
		13	2472		8.50	8.42
	802.11g	1	2412	6Mbps	18.00	17.99
		2	2417		18.00	17.91
		6	2437		18.00	17.98
		10	2457		17.50	17.42
		11	2462		17.50	17.41
		12	2467		11.50	11.45
		13	2472		-2.50	-2.49
	802.11n20-HT0	1	2412	MCS0	18.00	17.92
		2	2417		18.00	17.91
		6	2437		18.00	17.97
		10	2457		17.50	17.48
		11	2462		17.50	17.43
		12	2467		11.50	11.42
		13	2472		-2.50	-2.47
	802.11n40-HT0	3	2422	MCS0	18.00	17.98
		4	2427		18.00	17.92
		6	2437		18.00	17.94
		8	2447		17.00	16.92
		9	2452		16.00	15.91

Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	14.00	13.94
		40	5200		14.00	13.97
		44	5220		14.00	13.99
		48	5240		14.00	13.93
	802.11n20-HT0	36	5180	MCS0	14.00	13.96
		40	5200		14.00	13.91
		44	5220		14.00	13.95
		48	5240		14.00	13.98
	802.11ac20-VHT0	36	5180	MCS0	14.00	13.98
		40	5200		14.00	13.90
		44	5220		14.00	13.92
		48	5240		14.00	13.99
	802.11n40-HT0	38	5190	MCS0	14.00	13.95
		46	5230		14.00	13.96
	802.11ac40-VHT0	38	5190	MCS0	14.00	13.96
		46	5230		14.00	13.98
	802.11ac80-VHT0	42	5210	MCS0	14.00	13.93

Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	13.50	13.47
		56	5280		13.50	13.43
		60	5300		13.50	13.41
		64	5320		13.50	13.49
	802.11n20-HT0	52	5260	MCS0	13.50	13.46
		56	5280		13.50	13.42
		60	5300		13.50	13.40
		64	5320		13.50	13.47
	802.11ac20-VHT0	52	5260	MCS0	13.50	13.48
		56	5280		13.50	13.44
		60	5300		13.50	13.42
		64	5320		13.50	13.45
	802.11n40-HT0	54	5270	MCS0	13.50	13.48
		62	5310		13.50	13.41
	802.11ac40-VHT0	54	5270	MCS0	13.50	13.46
		62	5310		13.50	13.43
	802.11ac80-VHT0	58	5290	MCS0	12.00	11.92

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11a	100	5500	6Mbps	13.50	13.49
		116	5580		13.50	13.48
		120	5600		13.50	13.42
		140	5700		13.50	13.45
		144	5720		13.50	13.45
	802.11n20-HT0	100	5500	MCS0	13.50	13.45
		116	5580		13.50	13.49
		120	5600		13.50	13.46
		140	5700		13.50	13.41
		144	5720		13.50	13.42
	802.11ac20-VHT0	100	5500	MCS0	13.50	13.44
		116	5580		13.50	13.48
		120	5600		13.50	13.45
		140	5700		13.50	13.42
		144	5720		13.50	13.43
	802.11n40-HT0	102	5510	MCS0	13.50	13.45
		110	5550		13.50	13.47
		118	5590		13.50	13.48
		134	5670		13.50	13.41
		142	5710		13.50	13.49
	802.11ac40-VHT0	102	5510	MCS0	13.50	13.42
		110	5550		13.50	13.45
		118	5590		13.50	13.46
		134	5670		13.50	13.44
		142	5710		13.50	13.48
	802.11ac80-VHT0	106	5530	MCS0	13.50	13.43
		122	5610		13.50	13.45
		138	5690		13.50	13.46

Aux Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11a	149	5745	6Mbps	15.50	15.45
		157	5785		15.50	15.48
		165	5825		15.50	15.41
	802.11n20-HT0	149	5745	MCS0	15.50	15.42
		157	5785		15.50	15.46
		165	5825		15.50	15.41
	802.11n40-VHT0	149	5745	MCS0	15.50	15.44
		157	5785		15.50	15.47
		165	5825		15.50	15.43
	802.11n40-HT0	151	5755	MCS0	15.50	15.42
		159	5795		15.50	14.48
	802.11ac40-VHT0	151	5755	MCS0	15.50	15.45
		159	5795		15.50	15.47
	802.11ac80-VHT0	155	5775	MCS0	15.50	15.42

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Tablet mode(MIMO)

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11n20-HT0	1	2412	MCS0	14.00	13.97
		2	2417		15.00	14.98
		6	2437		15.00	14.97
		10	2457		14.50	14.45
		11	2462		13.00	13.00
		12	2467		7.00	6.96
		13	2472		-9.00	-8.96
	802.11n40-HT0	3	2422	MCS0	12.00	11.92
		4	2427		12.50	12.48
		6	2437		14.00	13.99
		8	2447		13.00	12.96
		9	2452		12.00	11.92

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11n20-HT0	36	5180	MCS0	11.00	10.92
		40	5200		11.00	10.91
		44	5220		11.00	10.97
		48	5240		11.00	10.96
	802.11ac20-VHT0	36	5180	MCS0	11.00	10.99
		40	5200		11.00	10.95
		44	5220		11.00	10.98
		48	5240		11.00	10.92
	802.11n40-HT0	38	5190	MCS0	10.50	10.42
		46	5230		11.00	11.00
	802.11ac40-VHT0	38	5190	MCS0	10.50	10.46
		46	5230		11.00	10.96
	802.11ac80-VHT0	42	5210	MCS0	9.00	8.92

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11n20-HT0	52	5260	MCS0	10.50	10.48
		56	5280		10.50	10.49
		60	5300		10.50	10.41
		64	5320		10.50	10.42
	802.11ac20-VHT0	52	5260	MCS0	10.50	10.46
		56	5280		10.50	10.44
		60	5300		10.50	10.43
		64	5320		10.50	10.45
	802.11n40-HT0	54	5270	MCS0	10.50	10.44
		62	5310		9.00	9.00
	802.11ac40-VHT0	54	5270	MCS0	10.50	10.48
		62	5310		9.00	8.95
	802.11ac80-VHT0	58	5290	MCS0	7.50	7.45

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11n20-HT0	100	5500	MCS0	10.50	10.46
		104	5520		10.50	10.50
		116	5580		10.50	10.47
		120	5600		10.50	10.43
		136	5700		10.50	10.48
		140	5700		10.50	10.44
		144	5720		10.50	10.45
	802.11ac20-VHT0	100	5500	MCS0	10.50	10.43
		104	5520		10.50	10.49
		116	5580		10.50	10.47
		120	5600		10.50	10.44
		136	5700		10.50	10.46
		140	5700		10.50	10.50
		144	5720		10.50	10.43
	802.11n40-HT0	102	5510	MCS0	9.00	9.00
		110	5550		10.50	10.49
		118	5590		10.50	10.48
		134	5670		10.50	10.43
		142	5710		10.50	10.50
	802.11ac40-VHT0	102	5510	MCS0	9.00	8.99
		110	5550		10.50	10.49
		118	5590		10.50	10.48
		134	5670		10.50	10.45
		142	5710		10.50	10.50
	802.11ac80-VHT0	106	5530	MCS0	7.50	7.45
		122	5610		10.50	10.44
		138	5690		10.50	10.42

Main Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11n20-HT0	149	5745	MCS0	10.00	9.93
		157	5785		10.00	9.97
		165	5825		10.00	9.92
	802.11ac20-VHT0	149	5745	MCS0	10.00	9.93
		157	5785		10.00	9.91
		165	5825		10.00	9.97
	802.11n40-HT0	151	5755	MCS0	10.00	9.97
		159	5795		10.00	9.95
	802.11ac40-VHT0	151	5755	MCS0	10.00	9.94
		159	5795		10.00	9.96
	802.11ac80-VHT0	155	5775	MCS0	10.00	10.00

Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11n20-HT0	1	2412	MCS0	14.00	13.98
		2	2417		15.00	14.92
		6	2437		15.00	14.94
		10	2457		14.50	14.41
		11	2462		13.00	12.92
		12	2467		7.00	6.98
		13	2472		-9.00	-8.88
	802.11n40-HT0	3	2422	MCS0	12.00	11.95
		4	2427		12.50	12.42
		6	2437		14.00	13.95
		8	2447		13.00	12.97
		9	2452		12.00	11.97

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11n20-HT0	36	5180	MCS0	11.00	10.93
		40	5200		11.00	10.91
		44	5220		11.00	10.96
		48	5240		11.00	10.98
	802.11ac20-VHT0	36	5180	MCS0	11.00	10.96
		40	5200		11.00	10.91
		44	5220		11.00	10.97
		48	5240		11.00	10.99
	802.11n40-HT0	38	5190	MCS0	10.50	10.49
		46	5230		11.00	10.98
	802.11ac40-VHT0	38	5190	MCS0	10.50	10.45
		46	5230		11.00	10.97
	802.11ac80-VHT0	42	5210	MCS0	9.00	8.97

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11n20-HT0	52	5260	MCS0	10.50	10.48
		56	5280		10.50	10.42
		60	5300		10.50	10.41
		64	5320		10.50	10.46
	802.11ac20-VHT0	52	5260	MCS0	10.50	10.49
		56	5280		10.50	10.44
		60	5300		10.50	10.46
		64	5320		10.50	10.47
	802.11n40-HT0	54	5270	MCS0	10.50	10.45
		62	5310		9.00	8.99
	802.11ac40-VHT0	54	5270	MCS0	10.50	10.44
		62	5310		9.00	8.94
	802.11ac80-VHT0	58	5290	MCS0	7.50	7.46

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11n20-HT0	100	5500	MCS0	10.50	10.44
		104	5520		10.50	10.49
		116	5580		10.50	10.48
		120	5600		10.50	10.46
		136	5700		10.50	10.45
		140	5700		10.50	10.43
		144	5720		10.50	10.47
	802.11ac20-VHT0	100	5500	MCS0	10.50	10.42
		104	5520		10.50	10.48
		116	5580		10.50	10.46
		120	5600		10.50	10.44
		136	5700		10.50	10.41
		140	5700		10.50	10.44
		144	5720		10.50	10.45
	802.11n40-HT0	102	5510	MCS0	9.00	8.94
		110	5550		10.50	10.44
		118	5590		10.50	10.45
		134	5670		10.50	10.47
		142	5710		10.50	10.46
	802.11ac40-VHT0	102	5510	MCS0	9.00	8.97
		110	5550		10.50	10.46
		118	5590		10.50	10.44
		134	5670		10.50	10.49
		142	5710		10.50	10.48
	802.11ac80-VHT0	106	5530	MCS0	7.50	7.41
		122	5610		10.50	10.41
		138	5690		10.50	10.43

Aux Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11n20-HT0	149	5745	MCS0	10.00	9.94
		157	5785		10.00	9.98
		165	5825		10.00	9.97
	802.11ac20-VHT0	149	5745	MCS0	10.00	9.95
		157	5785		10.00	9.98
		165	5825		10.00	9.96
	802.11n40-HT0	151	5755	MCS0	10.00	9.95
		159	5795		10.00	9.98
	802.11ac40-VHT0	151	5755	MCS0	10.00	9.92
		159	5795		10.00	9.96
	802.11ac80-VHT0	155	5775	MCS0	10.00	9.93

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Notebook mode(SISO)

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11b	1	2412	1Mbps	18.00	18.00
		2	2417		20.00	19.66
		6	2437		20.00	19.72
		10	2457		20.00	19.62
		11	2462		18.50	18.43
		12	2467		16.00	15.92
		13	2472		8.50	8.47
	802.11g	1	2412	6Mbps	18.00	17.98
		2	2417		20.00	19.58
		6	2437		20.00	19.57
		10	2457		17.50	17.49
		11	2462		17.00	16.98
		12	2467		10.50	10.49
		13	2472		-2.50	-2.47
	802.11n20-HT0	1	2412	MCS0	18.00	17.99
		2	2417		20.00	19.48
		6	2437		20.00	19.42
		10	2457		17.50	17.45
		11	2462		17.00	16.95
		12	2467		10.50	10.46
		13	2472		-2.50	-2.42
	802.11n40-HT0	3	2422	MCS0	17.00	16.91
		4	2427		17.50	17.41
		6	2437		19.00	18.91
		8	2447		16.50	16.44
		9	2452		16.00	15.92

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	17.50	17.45
		40	5200		19.00	18.97
		44	5220		19.00	18.99
		48	5240		19.00	18.98
	802.11n20-HT0	36	5180	MCS0	17.50	17.47
		40	5200		19.00	18.97
		44	5220		19.00	18.96
		48	5240		19.00	18.99
	802.11ac20-VHT0	36	5180	MCS0	17.50	17.49
		40	5200		19.00	18.99
		44	5220		19.00	18.95
		48	5240		19.00	18.98
	802.11n40-HT0	38	5190	MCS0	18.00	17.99
		46	5230		19.00	18.93
	802.11ac40-VHT0	38	5190	MCS0	18.00	17.98
		46	5230		19.00	18.99
	802.11ac80-VHT0	42	5210	MCS0	14.00	13.99

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	19.00	18.94
		56	5280		19.00	18.98
		60	5300		19.00	18.93
		64	5320		16.50	16.47
	802.11n20-HT0	52	5260	MCS0	19.00	19.00
		56	5280		19.00	18.96
		60	5300		19.00	18.93
		64	5320		16.50	16.48
	802.11ac20-VHT0	52	5260	MCS0	19.00	18.99
		56	5280		19.00	18.97
		60	5300		19.00	18.98
		64	5320		16.50	16.45
	802.11n40-HT0	54	5270	MCS0	19.00	18.99
		62	5310		15.00	14.96
	802.11ac40-VHT0	54	5270	MCS0	19.00	18.94
		62	5310		15.00	14.96
	802.11ac80-VHT0	58	5290	MCS0	12.00	11.99

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11a	100	5500	6Mbps	17.00	16.91
		104	5520		17.00	16.99
		116	5580		17.00	16.94
		120	5600		17.00	16.98
		136	5700		17.00	16.95
		140	5700		16.00	16.00
		144	5720		17.00	16.96
	802.11n20-HT0	100	5500	MCS0	17.00	16.92
		104	5520		17.00	16.98
		116	5580		17.00	16.95
		120	5600		17.00	16.97
		136	5680		17.00	16.94
		140	5700		16.00	15.98
		144	5720		17.00	16.91
	802.11ac20-VHT0	100	5500	MCS0	17.00	16.92
		104	5520		17.00	16.98
		116	5580		17.00	16.95
		120	5600		17.00	16.99
		136	5680		17.00	16.92
		140	5700		16.00	15.96
		144	5720		17.00	16.96
	802.11n40-HT0	102	5510	MCS0	16.50	16.49
		110	5550		17.00	16.99
		118	5590		17.00	16.91
		134	5670		17.00	16.93
		142	5710		17.00	16.96
	802.11ac40-VHT0	102	5510	MCS0	16.50	16.48
		110	5550		17.00	16.92
		118	5590		17.00	16.94
		134	5670		17.00	16.96
		142	5710		17.00	16.99
	802.11ac80-VHT0	106	5530	MCS0	14.00	13.94
		122	5610		17.00	16.96
		138	5690		17.00	16.95

Main Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11a	149	5745	6Mbps	16.50	16.48
		157	5785		16.50	16.41
		165	5825		16.50	16.47
	802.11n20-HT0	149	5745	MCS0	16.50	16.40
		157	5785		16.50	16.43
		165	5825		16.50	16.48
	802.11ac20-VHT0	149	5745	MCS0	16.50	16.41
		157	5785		16.50	16.45
		165	5825		16.50	16.47
	802.11n40-HT0	151	5755	MCS0	16.50	16.45
		159	5795		16.50	16.43
	802.11ac40-VHT0	151	5755	MCS0	16.50	16.47
		159	5795		16.50	16.45
	802.11ac80-VHT0	155	5775	MCS0	16.50	16.48

Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11b	1	2412	1Mbps	19.00	18.97
		2	2417		19.00	18.90
		6	2437		19.00	18.96
		10	2457		19.00	18.95
		11	2462		19.00	18.91
		12	2467		16.50	16.41
		13	2472		8.50	8.45
	802.11g	1	2412	6Mbps	18.00	17.99
		2	2417		19.00	18.99
		6	2437		19.00	18.92
		10	2457		17.50	17.49
		11	2462		17.50	17.48
		12	2467		11.50	11.50
		13	2472		-2.50	-2.50
	802.11n20-HT0	1	2412	MCS0	18.00	17.97
		2	2417		19.00	18.94
		6	2437		19.00	18.97
		10	2457		17.50	17.48
		11	2462		17.50	17.44
		12	2467		11.50	11.49
		13	2472		-2.50	-2.50
	802.11n40-HT0	3	2422	MCS0	18.00	17.99
		4	2427		18.50	18.46
		6	2437		19.00	18.98
		8	2447		17.00	16.98
		9	2452		16.00	15.97

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	18.00	17.99
		40	5200		18.50	18.49
		44	5220		18.50	18.48
		48	5240		18.50	18.47
	802.11n20-HT0	36	5180	MCS0	18.00	17.99
		40	5200		18.50	18.49
		44	5220		18.50	18.48
		48	5240		18.50	18.47
	802.11ac20-VHT0	36	5180	MCS0	18.00	17.99
		40	5200		18.50	18.49
		44	5220		18.50	18.45
		48	5240		18.50	18.47
	802.11n40-HT0	38	5190	MCS0	18.00	17.99
		46	5230		18.50	18.49
	802.11ac40-VHT0	38	5190	MCS0	18.00	17.98
		46	5230		18.50	18.46
	802.11ac80-VHT0	42	5210	MCS0	14.00	14.00

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	18.00	17.99
		56	5280		18.00	17.97
		60	5300		18.00	18.00
		64	5320		16.00	15.99
	802.11n20-HT0	52	5260	MCS0	18.00	17.99
		56	5280		18.00	17.94
		60	5300		18.00	17.97
		64	5320		16.00	15.99
	802.11ac20-VHT0	52	5260	MCS0	18.00	17.99
		56	5280		18.00	17.94
		60	5300		18.00	17.98
		64	5320		16.00	15.96
	802.11n40-HT0	54	5270	MCS0	18.00	17.97
		62	5310		14.50	14.49
	802.11ac40-VHT0	54	5270	MCS0	18.00	17.99
		62	5310		14.50	14.49
	802.11ac80-VHT0	58	5290	MCS0	12.00	11.99

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11a	100	5500	6Mbps	16.50	16.44
		104	5520		17.00	16.92
		116	5580		17.00	16.95
		120	5600		17.00	16.91
		136	5680		17.00	16.98
		140	5700		16.00	15.97
		144	5720		17.00	16.99
	802.11n20-HT0	100	5500	MCS0	16.50	16.41
		104	5520		17.00	16.96
		116	5580		17.00	16.98
		120	5600		17.00	16.92
		136	5680		17.00	16.98
		140	5700		16.00	15.94
		144	5720		17.00	16.99
	802.11ac20-VHT0	100	5500	MCS0	16.50	16.49
		104	5520		17.00	16.96
		116	5580		17.00	16.86
		120	5600		17.00	16.94
		136	5680		17.00	16.97
		140	5700		16.00	15.95
		144	5720		17.00	16.99
	802.11n40-HT0	102	5510	MCS0	16.50	16.47
		110	5550		17.00	16.93
		118	5590		17.00	16.94
		134	5670		17.00	16.99
		142	5710		17.00	16.98
	802.11ac40-VHT0	102	5510	MCS0	16.50	16.46
		110	5550		17.00	16.95
		118	5590		17.00	16.94
		134	5670		17.00	16.98
		142	5710		17.00	16.99
	802.11ac80-VHT0	106	5530	MCS0	13.50	13.44
		122	5610		17.00	16.98
		138	5690		17.00	16.99

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Aux Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11a	149	5745	6Mbps	17.00	16.96
		157	5785		17.00	16.98
		165	5825		17.00	16.99
	802.11n20-HT0	149	5745	MCS0	17.00	16.99
		157	5785		17.00	16.97
		165	5825		17.00	16.98
	802.11n40-VHT0	149	5745	MCS0	17.00	16.97
		157	5785		17.00	16.96
		165	5825		17.00	16.98
	802.11n40-HT0	151	5755	MCS0	17.00	16.96
		159	5795		17.00	16.98
	802.11ac40-VHT0	151	5755	MCS0	17.00	16.95
		159	5795		17.00	16.97
	802.11ac80-VHT0	155	5775	MCS0	17.00	16.93

Notebook mode(MIMO)

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11n20-HT0	1	2412	MCS0	14.00	13.99
		2	2417		15.00	14.91
		6	2437		15.00	15.00
		10	2457		14.50	14.48
		11	2462		13.00	12.96
		12	2467		7.00	7.00
		13	2472		-9.00	-8.88
	802.11n40-HT0	3	2422	MCS0	12.00	11.95
		4	2427		12.50	12.46
		6	2437		14.00	13.97
		8	2447		13.00	12.94
		9	2452		12.00	11.91

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11n20-HT0	36	5180	MCS0	13.00	12.96
		40	5200		15.00	14.92
		44	5220		15.00	14.93
		48	5240		15.00	14.97
	802.11ac20-VHT0	36	5180	MCS0	13.00	12.97
		40	5200		15.00	14.95
		44	5220		15.00	14.92
		48	5240		15.00	14.98
	802.11n40-HT0	38	5190	MCS0	10.00	9.92
		46	5230		15.00	14.99
	802.11ac40-VHT0	38	5190	MCS0	10.00	9.95
		46	5230		15.00	14.97
	802.11ac80-VHT0	42	5210	MCS0	9.00	8.96

Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11n20-HT0	52	5260	MCS0	15.00	14.95
		56	5280		15.00	14.96
		60	5300		15.00	14.98
		64	5320		12.50	12.50
	802.11ac20-VHT0	52	5260	MCS0	15.00	14.92
		56	5280		15.00	14.95
		60	5300		15.00	14.96
		64	5320		12.50	12.49
	802.11n40-HT0	54	5270	MCS0	15.00	14.98
		62	5310		9.00	8.97
	802.11ac40-VHT0	54	5270	MCS0	15.00	14.97
		62	5310		9.00	8.92
	802.11ac80-VHT0	58	5290	MCS0	7.50	7.47

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Main Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11n20-HT0	100	5500	MCS0	13.00	12.98
		104	5520		14.00	13.98
		116	5580		14.00	13.96
		120	5600		14.00	13.92
		136	5680		14.00	13.93
		140	5700		11.00	10.96
		144	5720		14.00	13.99
	802.11ac20-VHT0	100	5500	MCS0	13.00	12.95
		104	5520		14.00	13.99
		116	5580		14.00	13.92
		120	5600		14.00	13.94
		136	5680		14.00	13.96
		140	5700		11.00	10.97
		144	5720		14.00	14.00
	802.11n40-HT0	102	5510	MCS0	9.00	8.95
		110	5550		14.00	13.95
		118	5590		14.00	13.96
		134	5670		13.50	13.49
		142	5710		14.00	13.92
	802.11ac40-VHT0	102	5510	MCS0	9.00	8.98
		110	5550		14.00	13.96
		118	5590		14.00	13.99
		134	5670		13.50	13.47
		142	5710		14.00	13.93
	802.11ac80-VHT0	106	5530	MCS0	7.50	7.41
		122	5610		14.00	13.95
		138	5690		14.00	13.98

Main Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11n20-HT0	149	5745	MCS0	13.50	13.44
		157	5785		13.50	13.46
		165	5825		13.50	13.45
	802.11ac20-VHT0	149	5745	MCS0	13.50	13.46
		157	5785		13.50	13.48
		165	5825		13.50	13.42
	802.11n40-HT0	151	5755	MCS0	13.50	13.48
		159	5795		13.50	13.50
	802.11ac40-VHT0	151	5755	MCS0	13.50	13.47
		159	5795		13.50	13.49
	802.11ac80-VHT0	155	5775	MCS0	13.50	13.43

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Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2450 MHz	802.11n20-HT0	1	2412	MCS0	14.00	13.98
		2	2417		15.00	14.97
		6	2437		15.00	14.91
		10	2457		14.50	14.49
		11	2462		13.00	12.99
		12	2467		7.00	6.98
		13	2472		-9.00	-8.88
	802.11n40-HT0	3	2422	MCS0	12.00	11.98
		4	2427		12.50	12.43
		6	2437		14.00	13.98
		8	2447		13.00	12.98
		9	2452		12.00	11.98

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11n20-HT0	36	5180	MCS0	13.00	12.96
		40	5200		15.00	14.93
		44	5220		15.00	14.98
		48	5240		15.00	14.92
	802.11ac20-VHT0	36	5180	MCS0	13.00	12.91
		40	5200		15.00	14.91
		44	5220		15.00	14.96
		48	5240		15.00	14.94
	802.11n40-HT0	38	5190	MCS0	10.00	9.98
		46	5230		15.00	14.94
	802.11ac40-VHT0	38	5190	MCS0	10.00	9.95
		46	5230		15.00	14.98
	802.11ac80-VHT0	42	5210	MCS0	9.00	8.97

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11n20-HT0	52	5260	MCS0	15.00	14.97
		56	5280		15.00	14.92
		60	5300		15.00	14.99
		64	5320		12.50	12.41
	802.11ac20-VHT0	52	5260	MCS0	15.00	14.98
		56	5280		15.00	14.94
		60	5300		15.00	14.99
		64	5320		12.50	12.43
	802.11n40-HT0	54	5270	MCS0	15.00	14.92
		62	5310		9.00	8.99
	802.11ac40-VHT0	54	5270	MCS0	15.00	14.96
		62	5310		9.00	8.96
	802.11ac80-VHT0	58	5290	MCS0	7.50	7.42

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Aux Antenna						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5600 MHz	802.11n20-HT0	100	5500	MCS0	13.00	12.92
		104	5520		14.00	13.98
		116	5580		14.00	13.99
		120	5600		14.00	13.93
		136	5700		14.00	13.96
		140	5700		11.00	10.98
		144	5720		14.00	13.91
	802.11ac20-VHT0	100	5500	MCS0	13.00	12.94
		104	5520		14.00	13.97
		116	5580		14.00	13.98
		120	5600		14.00	13.92
		136	5700		14.00	13.95
		140	5700		11.00	10.95
		144	5720		14.00	13.93
	802.11n40-HT0	102	5510	MCS0	9.00	8.94
		110	5550		14.00	13.97
		118	5590		14.00	13.96
		134	5670		13.50	13.41
		142	5710		14.00	13.98
	802.11ac40-VHT0	102	5510	MCS0	9.00	8.95
		110	5550		14.00	13.95
		118	5590		14.00	13.97
		134	5670		13.50	13.44
		142	5710		14.00	13.99
	802.11ac80-VHT0	106	5530	MCS0	7.50	7.42
		122	5610		14.00	13.92
		138	5690		14.00	13.95

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Aux Antenna						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5800 MHz	802.11n20-HT0	149	5745	MCS0	13.50	13.44
		157	5785		13.50	13.46
		165	5825		13.50	13.49
	802.11ac20-VHT0	149	5745	MCS0	13.50	13.43
		157	5785		13.50	13.47
		165	5825		13.50	13.48
	802.11n40-HT0	151	5755	MCS0	13.50	13.44
		159	5795		13.50	13.41
	802.11ac40-VHT0	151	5755	MCS0	13.50	13.45
		159	5795		13.50	13.43
	802.11ac80-VHT0	155	5775	MCS0	13.50	13.41

Bluetooth conducted power table:

Mode	Channel	Frequency (MHz)	1Mbps		2Mbps		3Mbps	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
BR/EDR	CH 00	2402	11.50	9.21	8.00	6.86	7.00	5.91
	CH 39	2441	11.50	10.48	8.00	7.54	7.00	6.60
	CH 78	2480	11.50	10.47	8.00	6.44	7.00	6.59

Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
LE	CH 00	2402	7	4.93
	CH 19	2440		4.92
	CH 39	2480		4.91

1.3.1 LTE Downlink CA specification

LTE Downlink 2CA conducted power table

Two Component Carrier Maximum Conducted Power															
PCC									SCC				Power		
PCC Band	PCC Bandwidth [MHz]	Modulation	PCC (UL) RB	PCC (UL) RB Offset	PCC (UL) Channel	PCC (UL) Frequency [MHz]	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA active (dBm)	LTE Tx.Power with DL CA inactive (dBm)	Configurations
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B17	10	5790	740	24.70	24.88	CA_2A-17A
LTE B17	10	QPSK	1	49	23800	711	5800	741	LTE B2	20	900	1960	23.79	23.89	CA_2A-17A
LTE B4	20	QPSK	1	0	20175	1732.5	2175	2132.5	LTE B17	10	5790	740	24.48	24.63	CA_4A-17A
LTE B17	10	QPSK	1	49	23800	711	5800	741	LTE B4	20	2175	2132.5	23.76	23.89	CA_4A-17A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	LTE B66	20	66786	2145	24.50	24.62	CA_5A-66A
LTE B25	20	QPSK	1	0	26365	1882.5	8365	1962.5	LTE B66	20	66786	2145	24.68	24.76	CA_25A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B25	20	8365	1962.5	24.43	24.58	CA_25A-66A
LTE B25	20	QPSK	1	0	26365	1882.5	8365	1962.5	LTE B41	20	40620	2593	24.56	24.76	CA_25A-41A
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B25	20	8365	1962.5	24.85	24.97	CA_25A-41A
LTE B25	20	QPSK	1	99	26140	1860	8140	1940	LTE B25	20	8590	1985	24.52	24.66	CA_25A-25A
LTE B26	15	QPSK	1	74	26825	822.5	8865	876.5	LTE B41	20	40620	2593	24.81	24.94	CA_26A-41A
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B26	15	8865	876.5	24.87	24.97	CA_26A-41A
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B41	20	41490	2680	24.83	24.97	CA_41A-41A

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LTE Downlink 3CA conducted power table

Three Component Carrier Maximum Conducted Power																				
PCC									SCC 1				SCC 2				Power		
PCC Band	PCC Bandwidth [MHz]	Modulation	PCC (UL) RB	PCC (UL) RB Offset	PCC (UL) Channel	PCC (UL) Frequency [MHz]	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA active (dBm)	LTE Tx.Power with DL CA inactive (dBm)	Configurations
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	24.77	24.88	CA_2A-4A-13A
LTE B4	20	QPSK	1	0	20175	1732.5	2175	2132.5	LTE B2	20	900	1960	LTE B13	10	5230	751	24.50	24.63	CA_2A-4A-13A
LTE B13	10	QPSK	1	49	23230	782	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.81	24.95	CA_2A-4A-13A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	24.79	24.88	CA_2A-29A-30A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	19.91	20.01	CA_2A-29A-30A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	24.75	24.88	CA_2A-5A-66A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.50	24.62	CA_2A-5A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.41	24.58	CA_2A-5A-66A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B13	10	5230	751	LTE B66	20	66786	2145	24.76	24.88	CA_2A-13A-66A
LTE B13	10	QPSK	1	49	23230	782	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.30	24.95	CA_2A-13A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B2	20	900	1960	LTE B13	10	5230	751	24.40	24.58	CA_2A-13A-66A
LTE B2	20	QPSK	1	0	18700	1860	700	1940	LTE B2	20	898	1959.8	LTE B29	10	9715	722.5	24.72	24.84	CA_2C-29A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B66	20	66536	2120	LTE B66	20	66734	2139.8	24.75	24.88	CA_2A-66B
LTE B66	10	QPSK	1	49	132622	1775	67086	2175	LTE B66	10	66987	2165.1	LTE B2	20	900	1960	24.37	24.47	CA_2A-66B
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B66	20	66536	2120	LTE B66	20	66734	2139.8	24.79	24.88	CA_2A-66C
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B66	20	66734	2139.8	LTE B2	20	900	1960	24.40	24.58	CA_2A-66C
LTE B2	20	QPSK	1	0	18700	1860	700	1940	LTE B2	20	1100	1980	LTE B5	10	2525	881.5	24.74	24.84	CA_2A-2A-5A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	LTE B2	20	700	1940	LTE B2	20	1100	1980	24.81	24.62	CA_2A-2A-5A
LTE B2	20	QPSK	1	0	18700	1860	700	1940	LTE B2	20	1100	1980	LTE B13	10	5230	751	24.73	24.84	CA_2A-2A-13A
LTE B13	10	QPSK	1	49	23230	782	5230	751	LTE B2	20	700	1940	LTE B2	20	1100	1980	24.85	24.95	CA_2A-2A-13A
LTE B2	20	QPSK	1	0	18700	1860	700	1940	LTE B2	20	1100	1980	LTE B66	20	66734	2139.8	24.73	24.84	CA_2A-2A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B2	20	700	1940	LTE B2	20	1100	1980	24.48	24.58	CA_2A-2A-66A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B66	20	66536	2120	LTE B66	20	67036	2170	24.71	24.88	CA_2A-66A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	24.70	24.58	CA_2A-66A-66A
LTE B4	20	QPSK	1	0	20175	1732.5	2175	2132.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	24.53	24.63	CA_4A-29A-30A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	19.91	20.01	CA_4A-29A-30A
LTE B4	20	QPSK	1	0	20050	1720	2050	2120	LTE B4	20	2300	2145	LTE B5	10	2525	881.5	24.50	24.62	CA_4A-4A-5A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	LTE B4	20	2050	2120	LTE B4	20	2300	2145	24.51	24.62	CA_4A-4A-5A
LTE B4	20	QPSK	1	0	20050	1720	2050	2120	LTE B4	20	2300	2145	LTE B13	10	5230	751	24.52	24.62	CA_4A-4A-13A
LTE B13	10	QPSK	1	49	23230	782	5230	751	LTE B4	20	2050	2120	LTE B4	20	2300	2145	24.81	24.95	CA_4A-4A-13A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	LTE B66	20	66536	2120	LTE B66	20	67036	2170	24.50	24.62	CA_5A-66A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	24.47	24.58	CA_5A-66A-66A
LTE B13	10	QPSK	1	49	23230	782	5230	751	LTE B66	20	66536	2120	LTE B66	20	67036	2170	24.76	24.95	CA_13A-66A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B66	20	66536	2120	LTE B13	10	5230	751	24.40	24.58	CA_13A-66A-66A
LTE B41	20	QPSK	1	99	41490	2680	41490	2680	LTE B41	20	39750	2506	LTE B41	20	39948	2525.8	24.87	24.97	CA_41A-41C
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B41	20	39948	2525.8	LTE B41	20	41490	2680	24.87	24.97	CA_41A-41C
LTE B66	20	QPSK	1	99	132072	1720	66536	2120	LTE B66	15	67213	2187.7	LTE B66	5	67306	2197	24.42	24.58	CA_66A-66B
LTE B66	20	QPSK	1	99	132072	1720	66536	2120	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	24.46	24.58	CA_66A-66C
LTE B66	20	QPSK	1	99	132072	1720	66536	2120	LTE B66	20	66734	2139.8	LTE B66	20	66932	2159.6	24.24	24.34	CA_66D

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LTE Downlink 4CA conducted power table

Four Component Carrier Maximum Conducted Power									
PCC									Configurations
PCC Band	PCC Bandwidth [MHz]	Modulation	PCC (UL) RB	PCC (UL) RB Offset	PCC (UL) Channel	PCC (UL) Frequency [MHz]	PCC (DL) Channel	PCC (DL) Frequency [MHz]	
LTE B2	20	QPSK	1	0	18900	1880	900	1960	CA_2A-4A-5A-30A
LTE B4	20	QPSK	1	0	20175	1732.5	2175	2132.5	CA_2A-4A-5A-30A
LTE B5	10	QPSK	1	49	20525	836.5	2525	881.5	CA_2A-4A-5A-30A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	CA_2A-4A-5A-30A
LTE B2	20	QPSK	1	0	18900	1880	900	1960	CA_2A-4A-12A-30A
LTE B4	20	QPSK	1	0	20175	1732.5	2175	2132.5	CA_2A-4A-12A-30A
LTE B12	10	QPSK	1	49	23130	711	5130	741	CA_2A-4A-12A-30A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	CA_2A-4A-12A-30A
LTE B2	20	QPSK	1	0	18700	1860	700	1940	CA_2A-2A-12A-30A
LTE B12	10	QPSK	1	49	23130	711	5130	741	CA_2A-2A-12A-30A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	CA_2A-2A-12A-30A
LTE B5	10	QPSK	1	49	20450	829	2450	874	CA_5A-5A-66B
LTE B66	10	QPSK	1	49	132622	1775	67086	2175	CA_5A-5A-66B
LTE B5	10	QPSK	1	49	20450	829	2450	874	CA_5A-5A-66C
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	CA_5A-5A-66C
LTE B5	10	QPSK	1	49	20450	829	2450	874	CA 5B-66A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	CA 5B-66A-66A
LTE B25	20	QPSK	1	0	26365	1882.5	8365	1962.5	CA 25A-41D
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	CA 25A-41D
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	CA 41A-41D
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	CA 41C-41C

Four Component Carrier Maximum Conducted Power														
SCC 1				SCC 2				SCC 3				Power		Configurations
SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA active (dBm)	LTE Tx.Power with DL CA inactive (dBm)	
LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.78	24.88	CA_2A-4A-5A-30A
LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.50	24.63	CA_2A-4A-5A-30A
LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	24.50	24.62	CA_2A-4A-5A-30A
LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	19.90	20.01	CA_2A-4A-5A-30A
LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.75	24.88	CA_2A-4A-12A-30A
LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.51	24.63	CA_2A-4A-12A-30A
LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	24.19	24.29	CA_2A-4A-12A-30A
LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	19.94	20.01	CA_2A-4A-12A-30A
LTE B2	20	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	23.71	24.84	CA_2A-2A-12A-30A
LTE B2	20	700	1940	LTE B2	20	1100	1980	LTE B30	10	9820	2355	23.19	24.29	CA_2A-2A-12A-30A
LTE B2	20	700	1940	LTE B2	20	1100	1980	LTE B12	10	5095	737.5	19.87	20.01	CA_2A-2A-12A-30A
LTE B5	10	2600	889	LTE B66	15	67213	2187.7	LTE B66	5	67306	2197	24.45	24.60	CA_5A-5A-66B
LTE B66	10	66987	2165.1	LTE B5	10	2450	874	LTE B5	10	2600	889	23.33	24.47	CA_5A-5A-66B
LTE B5	10	2600	889	LTE B66	20	66536	2120	LTE B66	20	66734	2139.8	24.49	24.60	CA_5A-5A-66C
LTE B66	20	66734	2139.8	LTE B5	10	2450	874	LTE B5	10	2600	889	24.45	24.58	CA_5A-5A-66C
LTE B5	10	2549	883.9	LTE B66	20	66536	2120	LTE B66	20	67036	2170	24.51	24.60	CA 5B-66A-66A
LTE B66	20	66536	2120	LTE B5	10	2450	874	LTE B5	10	2549	883.9	24.44	24.58	CA 5B-66A-66A
LTE B41	20	39750	2506	LTE B41	20	39948	2525.8	LTE B41	20	40146	2545.6	24.66	24.76	CA 25A-41D
LTE B41	20	39948	2525.8	LTE B41	20	40146	2545.6	LTE B25	20	8365	1962.5	24.83	24.97	CA 25A-41D
LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	24.86	24.97	CA 41A-41D
LTE B41	20	39948	2525.8	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	24.86	24.97	CA 41C-41C

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LTE Downlink 5CA conducted power table

Five Component Carrier Maximum Conducted Power															
PCC									SCC 1				Power		
PCC Band	PCC Bandwidth [MHz]	Modulation	PCC (UL) RB	PCC (UL) RB Offset	PCC (UL) Channel	PCC (UL) Frequency [MHz]	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA active (dBm)	LTE Tx.Power with DL CA inactive (dBm)	Configurations
LTE B2	20	QPSK	1	0	18900	1880	900	1960	LTE B5	10	2450	874	24.75	24.88	CA 2A-5B-30A-66A
LTE B5	10	QPSK	1	49	20450	829	2450	874	LTE B5	10	2549	883.9	24.51	24.60	CA 2A-5B-30A-66A
LTE B30	10	QPSK	1	49	27710	2310	9820	2355	LTE B2	20	900	1960	19.86	20.01	CA 2A-5B-30A-66A
LTE B66	20	QPSK	1	0	132572	1770	67036	2170	LTE B2	20	900	1960	23.48	24.58	CA 2A-5B-30A-66A
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B41	20	39948	2525.8	24.83	24.97	CA 41C-41D
LTE B41	20	QPSK	1	0	39750	2506	39750	2506	LTE B41	20	39948	2525.8	24.81	24.97	CA 41C-41D

Five Component Carrier Maximum Conducted Power														
SCC 2				SCC 4				SCC 3				Power		
SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA active (dBm)	LTE Tx.Power with DL CA inactive (dBm)	Configurations
LTE B5	10	2549	883.9	LTE B30	10	9820	2355	LTE B66	20	66734	2139.8	24.75	24.88	CA 2A-5B-30A-66A
LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66734	2139.8	24.51	24.60	CA 2A-5B-30A-66A
LTE B5	10	2450	874	LTE B5	10	2549	883.9	LTE B66	20	66734	2139.8	19.86	20.01	CA 2A-5B-30A-66A
LTE B5	10	2450	874	LTE B5	10	2549	883.9	LTE B30	10	9820	2355	23.48	24.58	CA 2A-5B-30A-66A
LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	24.83	24.97	CA 41C-41D
LTE B41	20	40146	2545.6	LTE B41	20	39750	2506	LTE B41	20	39948	2525.8	24.81	24.97	CA 41C-41D

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LTE CA information

A)

The device supports downlink LTE Carrier Aggregation (CA) only. It supports a maximum of 5 carriers in the downlink. Other Release 10 features or higher features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.521-1 V14.3.0. The conducted power measurement results of downlink LTE CA are provided as above per 3GPP TS 36.521-1 V14.3.0. According to KDB 941225 D05A and RF exposure procedures in TCB workshop April 2018, the downlink LTE CA SAR test is not required.

B)

CA combination table

Index	2CC	Restriction	Completely Covered by Measurement Superset	Index	3CC	Restriction	Completely Covered by Measurement Superset
2CC #1	CA 2A-4A		3CC #1	3CC #1	CA 2A-4A-5A		4CC #1
2CC #2	CA 2A-5A		3CC #3	3CC #2	CA 2A-4A-13A		No
2CC #3	CA 2A-12A		3CC #4	3CC #3	CA 2A-5A-30A		4CC #1
2CC #4	CA 2A-13A		3CC #7	3CC #4	CA 2A-12A-30A		4CC #2
2CC #5	CA 2A-17A		No	3CC #5	CA 2A-29A-30A	B29 SCC only	No
2CC #6	CA 2A-29A	B29 SCC only	3CC #5	3CC #6	CA 2A-5A-66A		No
2CC #7	CA 2A-30A		3CC #4	3CC #7	CA 2A-13A-66A		No
2CC #8	CA 2A-66A		3CC #6	3CC #8	CA 2A-30A-66A		5CC #1
2CC #9	CA 2C		3CC #9	3CC #9	CA 2C-29A	B29 SCC only	No
2CC #10	CA 2A-2A		3CC #13	3CC #10	CA 2A-5B		4CC #4
2CC #11	CA 4A-5A		3CC #19	3CC #11	CA 2A-66B		No
2CC #12	CA 4A-12A		3CC #20	3CC #12	CA 2A-66C		No
2CC #13	CA 4A-13A		3CC #23	3CC #13	CA 2A-2A-5A		No
2CC #14	CA 4A-17A		No	3CC #14	CA 2A-2A-12A		4CC #3
2CC #15	CA 4A-29A		3CC #21	3CC #15	CA 2A-2A-13A		No
2CC #16	CA 4A-30A		3CC #19	3CC #16	CA 2A-2A-30A		4CC #3
2CC #17	CA 4A-4A		3CC #22	3CC #17	CA 2A-2A-66A		No
2CC #18	CA 5A-30A		4CC #1	3CC #18	CA 2A-66A-66A		No
2CC #19	CA 5A-66A		No	3CC #19	CA 4A-5A-30A		4CC #1
2CC #20	CA 5A-5A		4CC #7	3CC #20	CA 4A-12A-30A		4CC #2
2CC #21	CA 5B		3CC #25	3CC #21	CA 4A-29A-30A	B29 SCC only	No
2CC #22	CA 12A-30A		3CC #4	3CC #22	CA 4A-4A-5A		No
2CC #23	CA 13A-66A		3CC #7	3CC #23	CA 4A-4A-13A		No
2CC #24	CA 25A-26A		No	3CC #24	CA 5A-66A-66A		No
2CC #25	CA 25A-41A		No	3CC #25	CA 5B-30A		4CC #4
2CC #26	CA 25A-25A		No	3CC #26	CA 5B-66A		4CC #5
2CC #27	CA 26A-41A		No	3CC #27	CA 5A-66B		4CC #7
2CC #28	CA 29A-30A	B29 SCC only	3CC #5	3CC #28	CA 5A-66C		4CC #8
2CC #29	CA 30A-66A		3CC #8	3CC #29	CA 13A-66A-66A		No
2CC #30	CA 41C		3CC #30	3CC #30	CA 41A-41C		No
2CC #31	CA 41A-41A		No	3CC #31	CA 41D		4CC #10
2CC #32	CA 66A-66A		3CC #18	3CC #32	CA 66A-66B		No
2CC #32	CA 66B		3CC #27	3CC #33	CA 66A-66C		No
2CC #33	CA 66C		3CC #28	3CC #34	CA 66D		No

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Index	4CC	Restriction	Completely Covered by Measurement Superset	Index	5CC	Restriction	Completely Covered by Measurement Superset
4CC #1	CA 2A-4A-5A-30A		No	5CC #1	CA 2A-5B-30A-66A		No
4CC #2	CA 2A-4A-12A-30A		No	5CC #1	CA 41C-41D		No
4CC #3	CA 2A-2A-12A-30A		No				
4CC #4	CA 2A-5B-30A		5CC #1				
4CC #5	CA 2A-5B-66A		5CC #1				
4CC #6	CA 5B-30A-66A		5CC #1				
4CC #7	CA 5A-5A-66B		No				
4CC #8	CA 5A-5A-66C	B29 SCC only	No				
4CC #9	CA 5B-66A-66A		No				
4CC #10	CA 25A-41D		No				
4CC #11	CA 41A-41D		No				
4CC #12	CA 41C-41C		No				

Note:

1）For the inter-band CA combinations, except B29 can’t be PCC, all the listed bands above can be used as PCC or SCC.

2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.521-1 V14.3.0.

3) The reference test frequencies for CA refers to 3GPP TS 36.508 V14.2.0

4) Testing is not required in bands or modes not intended/allowed for US operation
5) Based on TCB workshop April 2018, only indicate “No” in CA combination table need power measurement

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1.4 Test Environment

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

1.5 Operation Description

For WWAN, the EUT is controlled by using a Radio Communication Tester, and the communication between the EUT and the tester is established by air link.
For WLAN, using chipset specific software to control the EUT, and makes it transmit in maximum power. The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.

The device was tested based on KDB inquiry as below,

WWAN

Notebook mode
SAR measurement for Notebook SAR is not required since the distance between antenna and user is > 20cm

Tablet mode
Back/top/bottom/right/left sides_0mm

WLAN

Notebook mode (corresponding Notebook mode power)

WLAN SAR measurement for notebook mode is performed with the keyboard bottom touch against the flat phantom.

Tablet mode (corresponding Tablet mode power)

Back/top/bottom/right/left sides_0mm

Whatever notebook mode or tablet mode, SISO and MIMO SAR are measured for Main and Aux antennas separately and individually (standalone SAR measurements).

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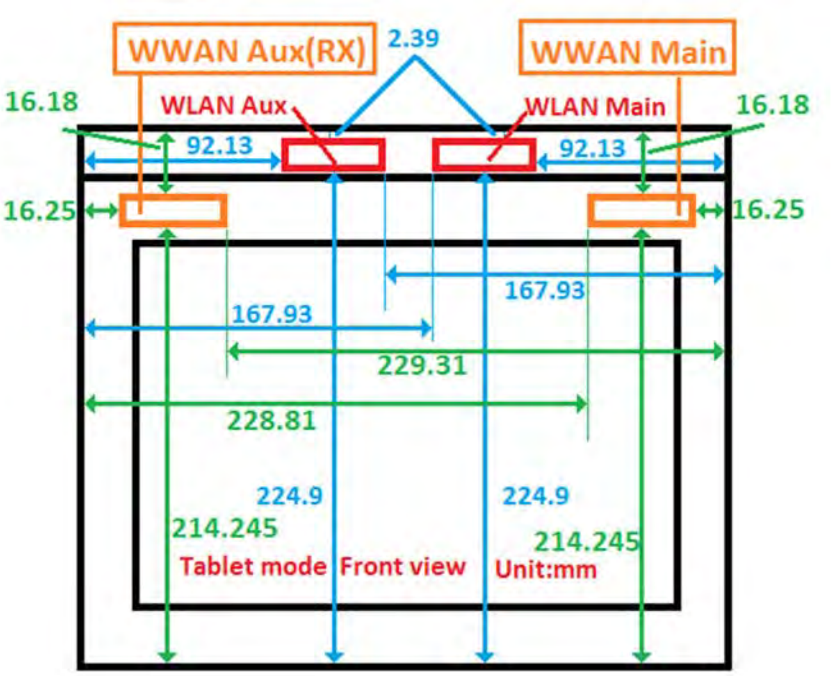

Antenna location
(front view of tablet mode)

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Note:

1. During the SAR testing, the DASY 5 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.

2. The 3G SAR test reduction procedure is applied to HSDPA with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSDPA). The following 4 sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS 34.121. A summary of these setting are illustrated below:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (1)(2)	CM (3) (dB)	MPR (3) (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (4)	15/15 (4)	64	12/15 (4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{HS} = 30/15 * β_c.
Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{HS} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{HS} = 24/15 * β_c.
Note 3: CM = 1 for β_c/β_d = 12/15, β_{HS}/β_c = 24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

3. The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSPA). The following 5 sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS 34.121. A summary of these setting are illustrated below:

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Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{HS} (1)	β_{ec}	β_{ed} (4)(5)	β_{ed} (SF)	β_{ed} (Codes)	CM (2) (dB)	MPR (2)(6) (dB)	AG (5) Index	E-TFCI
1	11/15 (3)	15/15 (3)	64	11/15 (3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{HS} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{HS} = 5/15 * β_c.
Note 2: CM = 1 for β_c/β_d = 12/15, β_{HS}/β_c = 24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

4. The 3G SAR test reduction procedure is applied to HSPA+ with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSPA+) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSPA+). The following 1 sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

5. The 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable. Since the maximum output power in a secondary mode (DC-HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (DC-HSDPA). The

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following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these setting are illustrated below:

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

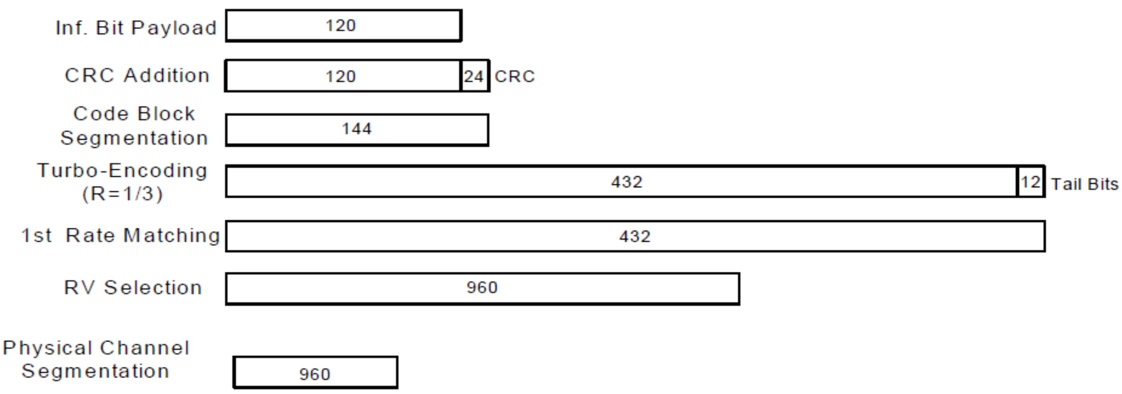

Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

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Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (1)(2)	CM (3) (dB)	MPR (3) (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (4)	15/15 (4)	64	12/15 (4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{HS} = 30/15 * β_c.
Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{HS} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{HS} = 24/15 * β_c.
Note 3: CM = 1 for β_c/β_d = 12/15, β_{HS}/β_c = 24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

6. LTE modes test according to **KDB 941225D05v02r05.**

a. Per Section 5.2.1, the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation.

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

b. Per Section 5.2.2, the largest channel bandwidth and measure SAR for QPSK with 50% RB allocation

- The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

c. Per Section 5.2.3, the largest channel bandwidth and measure SAR for QPSK with 100% RB allocation

- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg.
- Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

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d. Per Section 5.2.4, Higher order modulations

- For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

e. Per Section 5.3, other channel bandwidth standalone SAR test requirements

- For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 5.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth.
- TDD LTE was tested at highest duty factor using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 7. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633. According to KDB 941225 D05, SAR testing for TDD LTE must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be tabulated as below.

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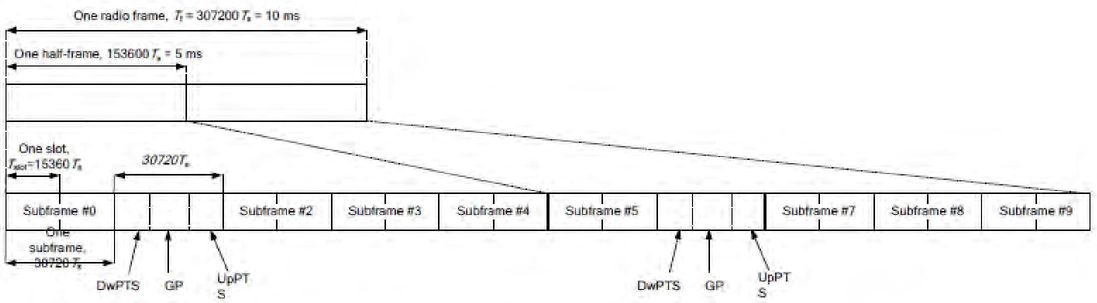

3GPP TS 36.211 Figure 4.2-1: Frame Structure Type 2

Special Subframe Configuration	Normal Cyclic Prefix in Downlink			Extended Cyclic Prefix in Downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink
0	6592 · Ts	2192 · Ts	2560 · Ts	7680 · Ts	2192 · Ts	2560 · Ts
1	19760 · Ts			20480 · Ts		
2	21952 · Ts			23040 · Ts		
3	24144 · Ts			25600 · Ts		
4	26336 · Ts			7680 · Ts	4384 · Ts	5120 · Ts
5	6592 · Ts	4384 · Ts	5120 · Ts	20480 · Ts		
6	19760 · Ts			23040 · Ts		
7	21952 · Ts			12800 · Ts		
8	24144 · Ts			-	-	-
9	13168 · Ts			-	-	-

3GPP TS 36.211 Table 4.2-1: Configuration of Special Subframe

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-Point Periodicity	Subframe Number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

3GPP TS 36.211 Table 4.2-2: Uplink-Downlink Configurations

The uplink duty cycle of these seven configurations can be computed as below.

UL-DL Configuration	0	1	2	3	4	5	6
Highest Duty-Cycle	63.33%	43.33%	23.33%	31.67%	21.67%	11.67%	53.33%

Considering the highest transmission duty cycle, TDD LTE was tested using Uplink-Downlink configuration 0 with 6 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 7 using extended cyclic prefix uplink. Therefore, SAR testing for TDD LTE was measured at the maximum output power with highest transmission duty cycle of 63.33%.

LTE downlink CA (KDB942225 D05A)

7. The device supports a maximum of 5 carriers in the downlink. All uplink communications are identical to the Release 8 specifications. Uplink maximum output power is measured with downlink carrier aggregation active, only for the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

8. The downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements. The nominal channel spacing is determined by [BW1 + BW2 – 0.1*|BW1 – BW2|]/2 MHz, where BW1 and BW2 are the channel bandwidths of the CC in a 2-CC aggregation configuration.

9. The downlink PCC channel should be paired with the uplink channel according to normal configurations, as if there is no carrier aggregation. The downlink SCC should be adjacent to the PCC and remain within the downlink transmission band for contiguous intra-band CA. For non-contiguous intra-band CA, the SCC should be selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For inter-band CA, the SCC should be near the middle of its transmission band.

10. When downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive, so SAR evaluation is not required for downlink carrier aggregation.
11. 802.11b DSSS SAR Test Requirements:
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 ≤ 0.8 W/kg, no further SAR testing is required for 802.11b

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DSSS in that exposure configuration.

12. 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:

13. SAR is not required for 802.11g/n 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.

Initial Test Configuration:

14. An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band.

15. SAR is measured using the highest measured maximum output power channel. When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

16. When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for subsequent test configuration.

17. BT and WLAN Main use the same antenna path, but they can’t transmit at the same time.

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

19. 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 ≥ 1.45 W/kg (~10% from the 1-g SAR limit)

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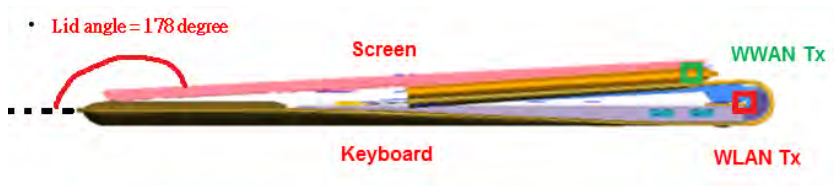
20. SAR test exclusion evaluation (based on KDB447498D01v06) for surfaces /edges of tablet mode is not required since SAR measurements for all the surfaces/edges were performed.

1.6 Triggering verification for power reduction

The device is a convertible laptop computer with WWAN/WLAN/BT feature.
Based on KDB inquiry, there are the hall sensors in the device, and the sensors can detect the operation mode transformation and then adjust the maximum power accordingly.
There are three hall sensors and corresponding hall sensor magnets in this device, and hall sensors on/off state will be decided based on the magnetic field change. When the hall sensor state change, there will be a sensor event notification/command happened then cause the corresponding WLAN TX power setting.
For the verification testing of power reduction mechanisms, the measured conducted output power is monitored qualitatively to identify the triggering characteristics and recorded quantitatively.
When the device is operated in the notebook mode / media mode, the power reduction will not be triggered, but when it is operating in the tablet mode, the power reduction will be triggered. Besides, the power reduction is a single fixed level of power reduction. (The power reduction is for WLAN only.)

Notebook mode

Media mode
(Lid angle is 127°)

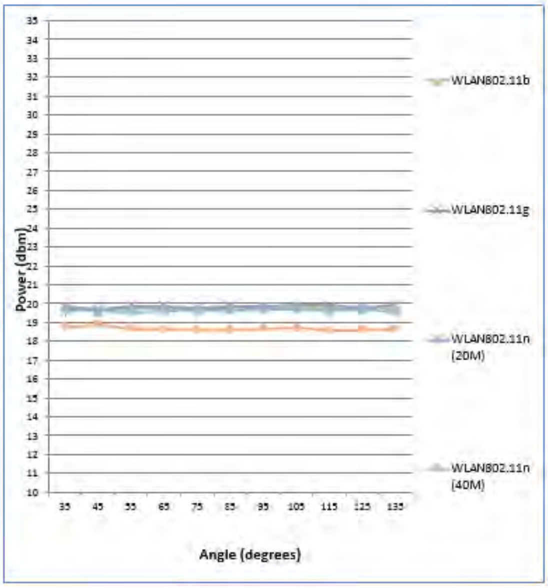


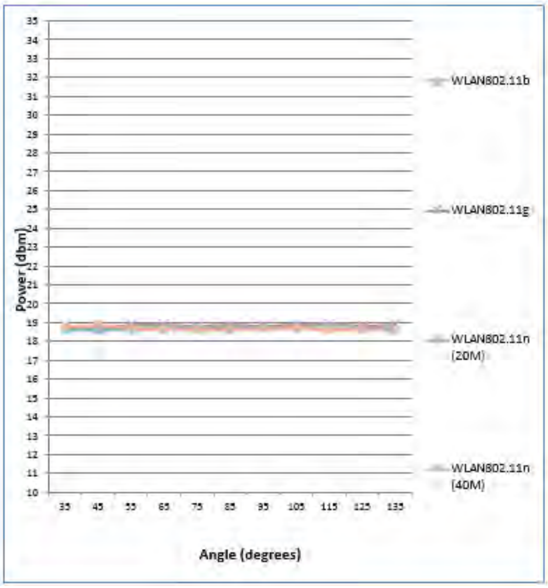
Tablet mode
(Lid angle is 178°)

1.6.1 Results and conclusion

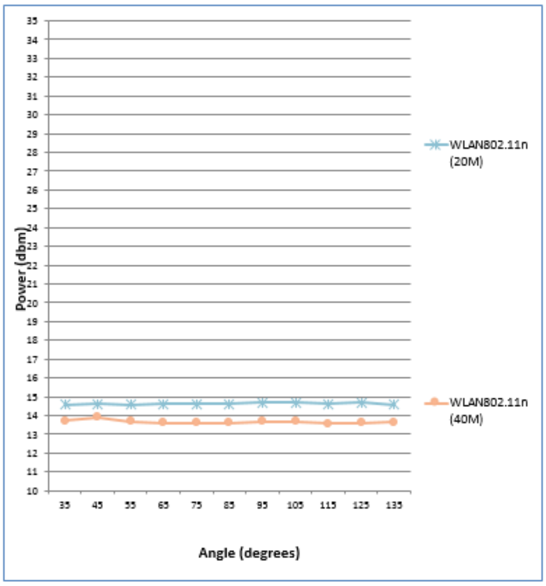
The measured output power versus lid angle is tabulated in the following table, and the triggering verification complies with the device mode / power level declared by the manufacturer.

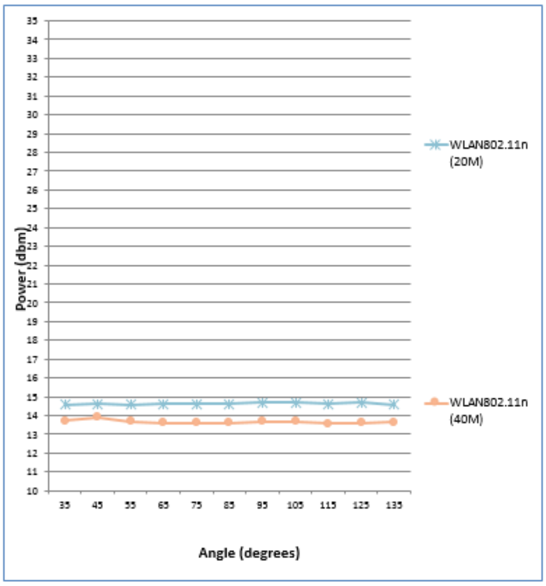
Verification Testing of Power for Notebook mode





2.4GHz Main(SISO) 2.4GHz Aux(SISO)





2.4GHz Main(MIMO) 2.4GHz Aux(MIMO)

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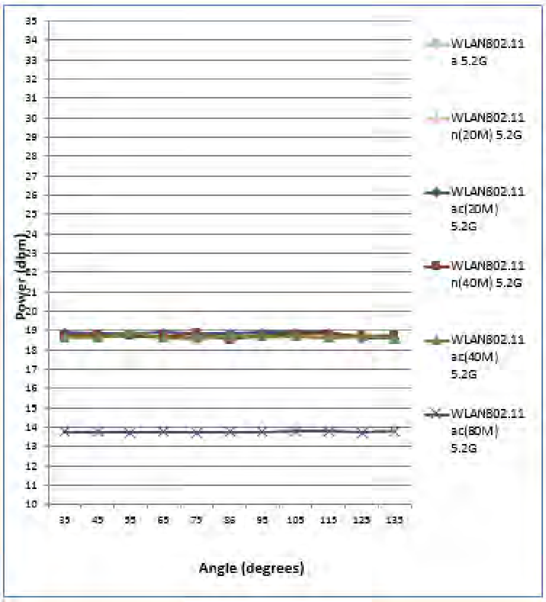
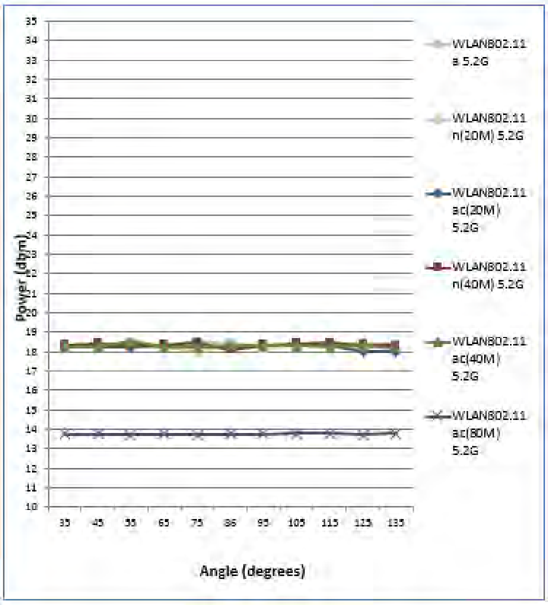
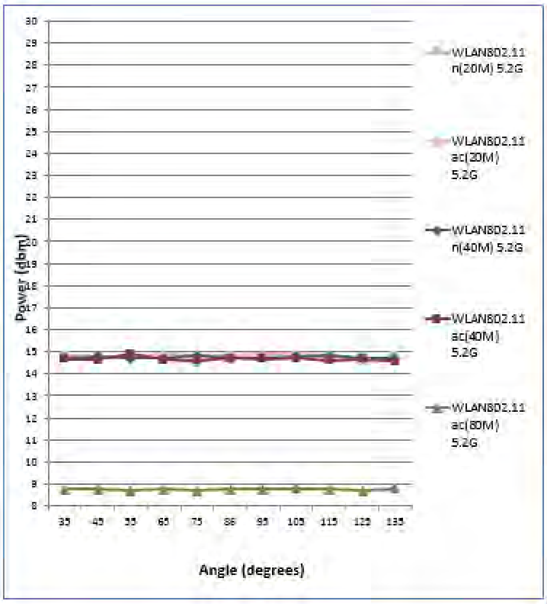
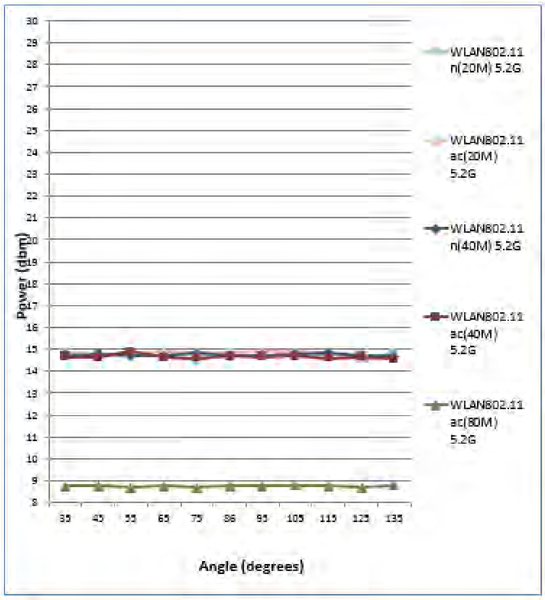




5.2GHz Main(SISO)

5.2GHz Aux(SISO)





5.2GHz Main(MIMO)

5.2GHz Aux(MIMO)

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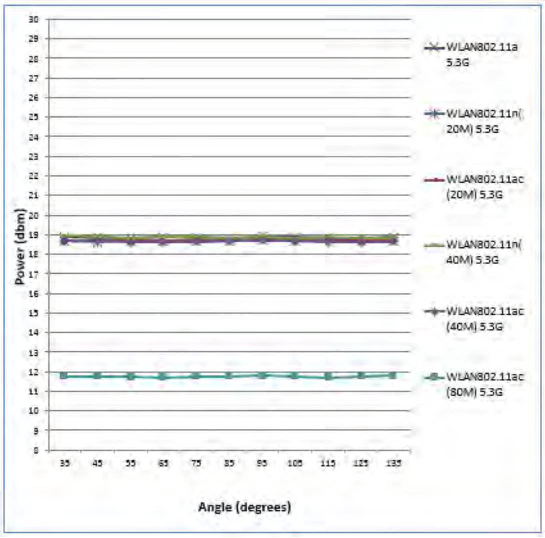
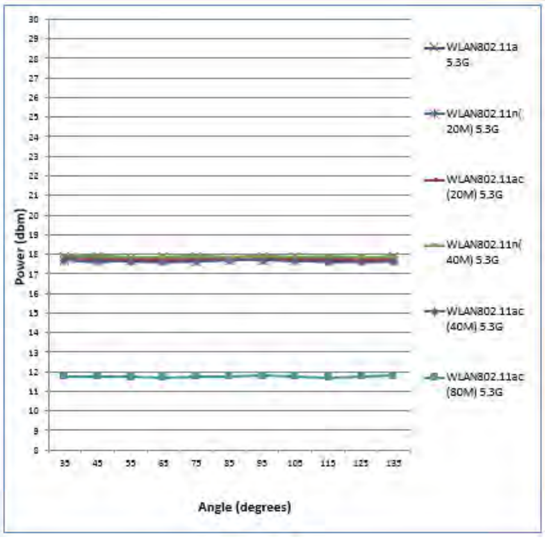
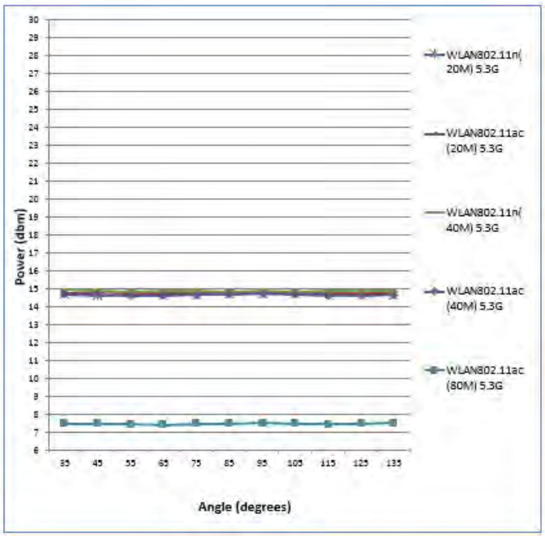


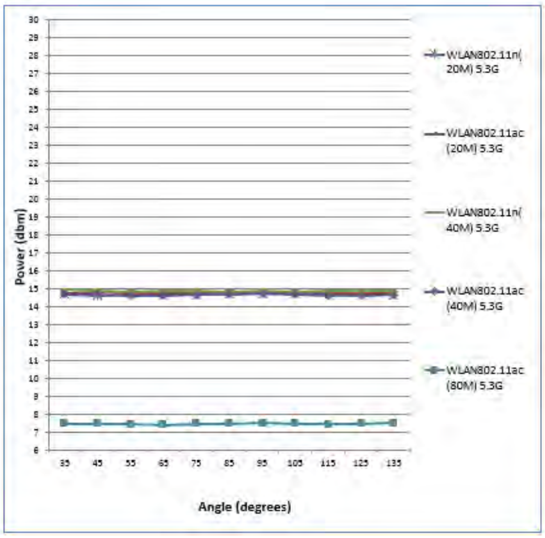
5.3GHz Main(SISO)



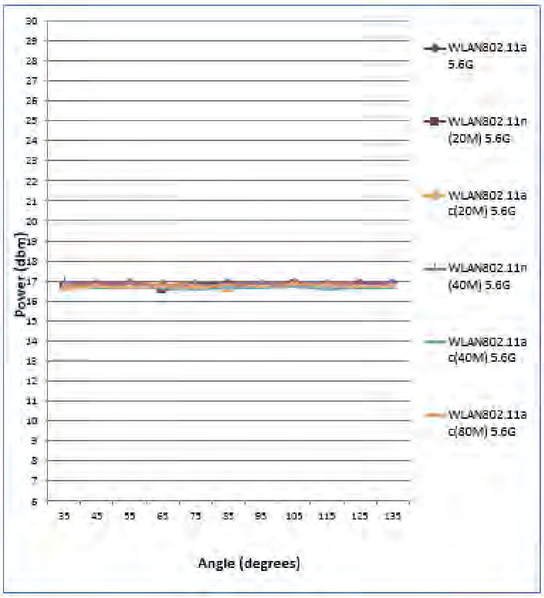
5.3GHz Aux(SISO)



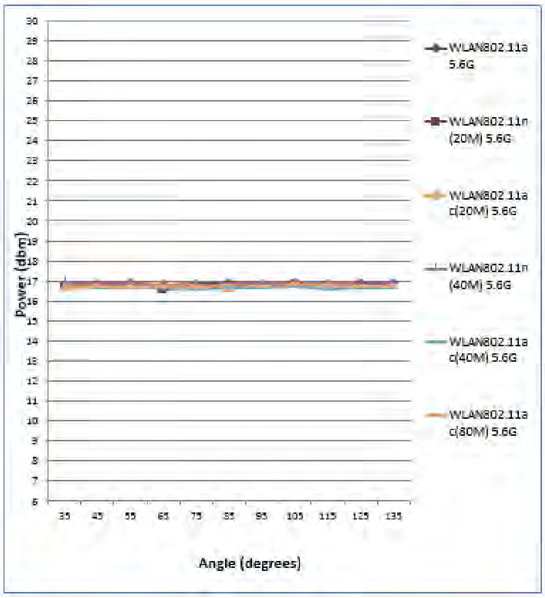
5.3GHz Main(MIMO)



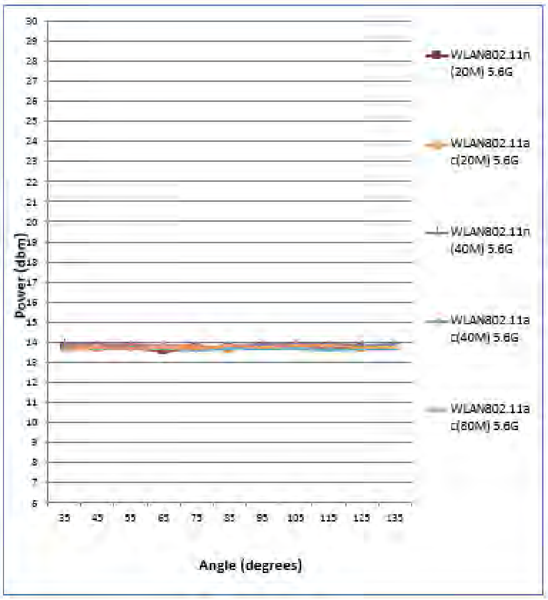
5.3GHz Aux(MIMO)



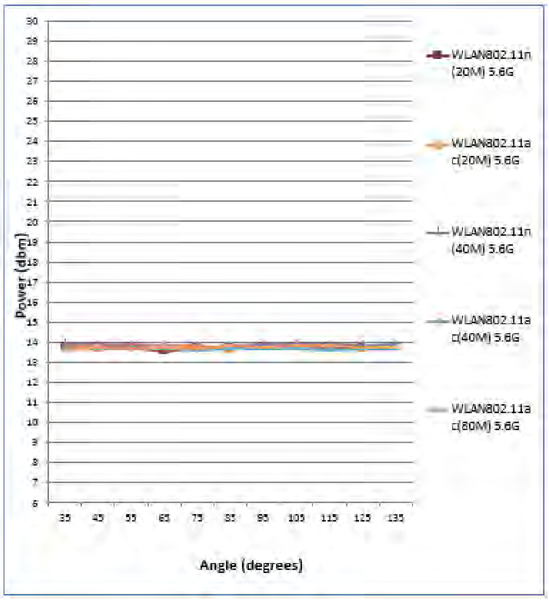
5.6GHz Main(SISO)



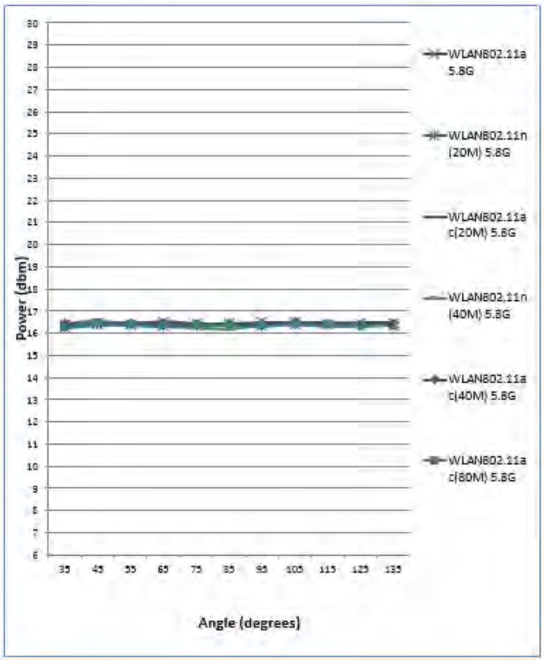
5.6GHz Aux(SISO)



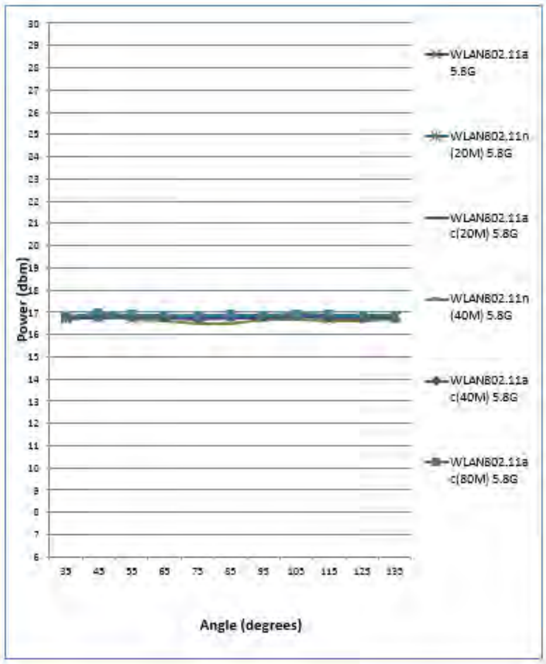
5.6GHz Main(MIMO)



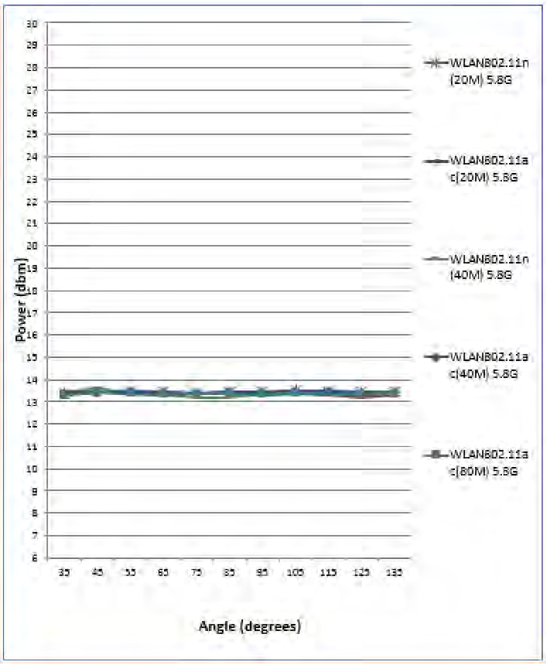
5.6GHz Aux(MIMO)



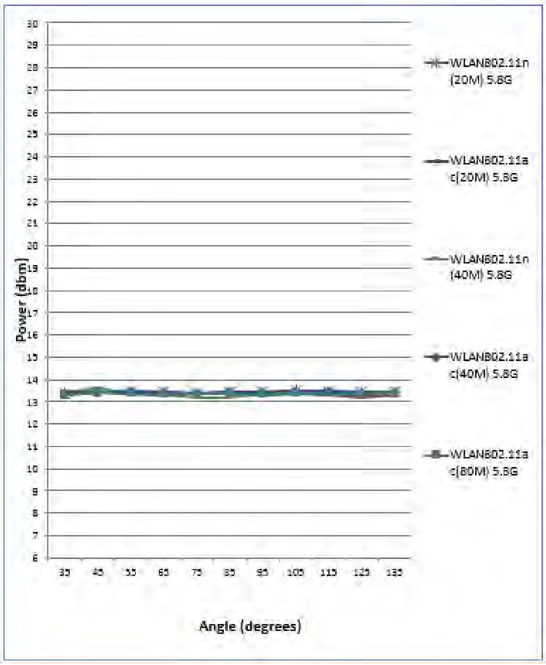
5.8GHz Main(SISO)



5.8GHz Aux(SISO)



5.8GHz Main(MIMO)



5.8GHz Aux(MIMO)

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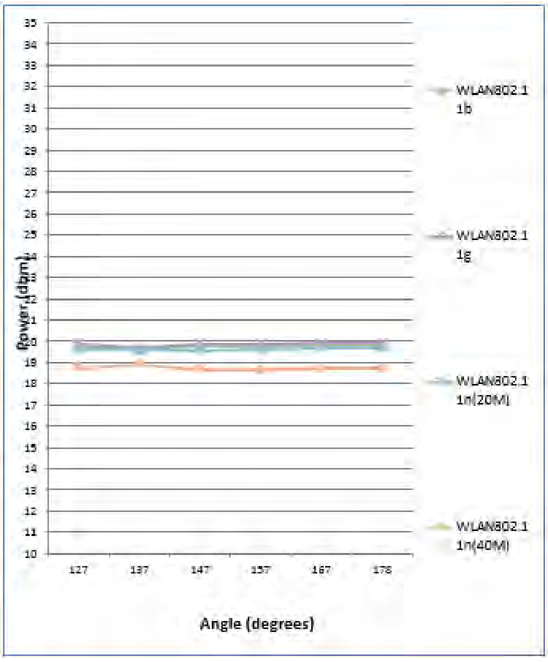
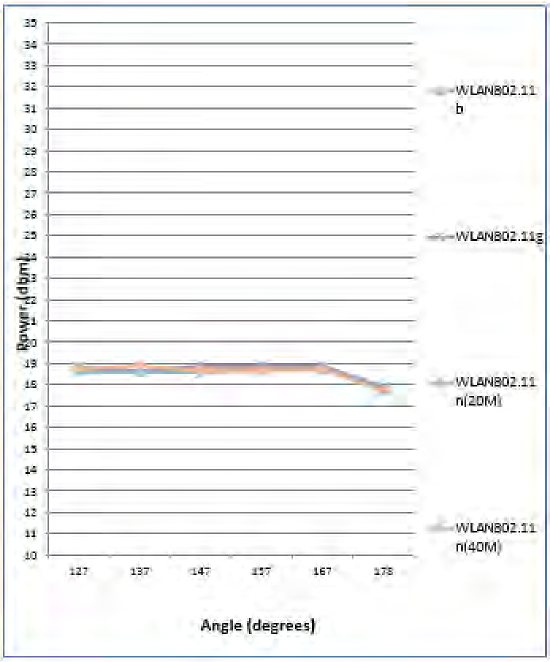
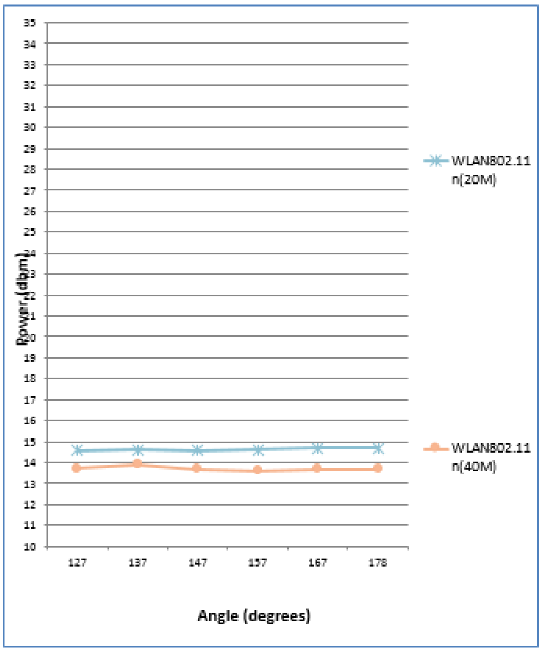
Verification Testing of Power for Media mode and Tablet mode



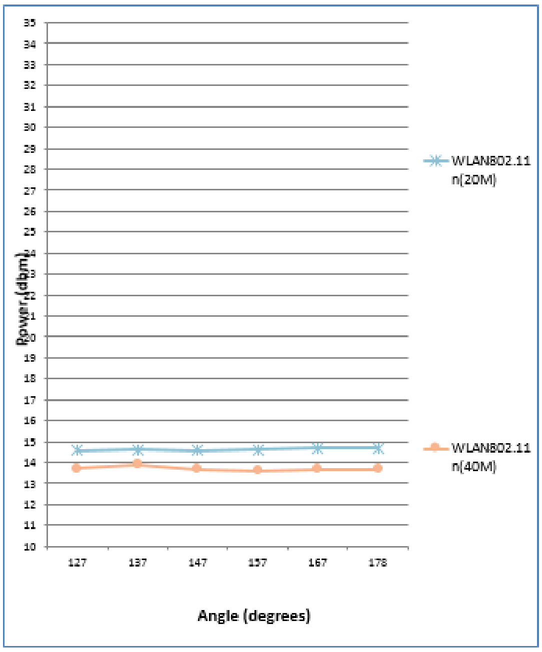
2.4GHz Main(SISO)



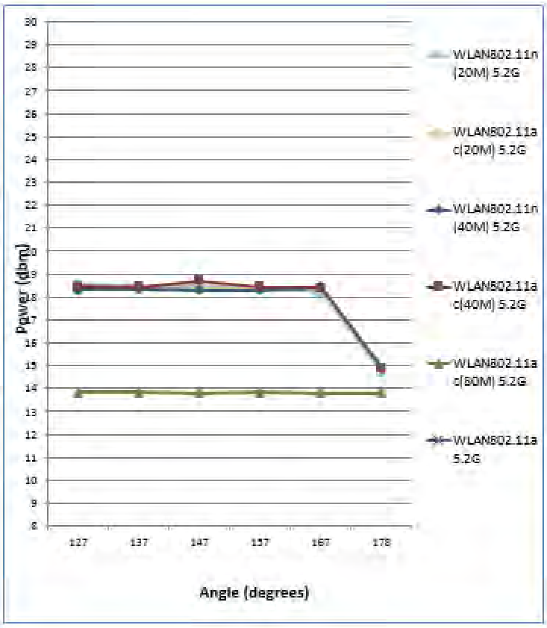
2.4GHz Aux(SISO)



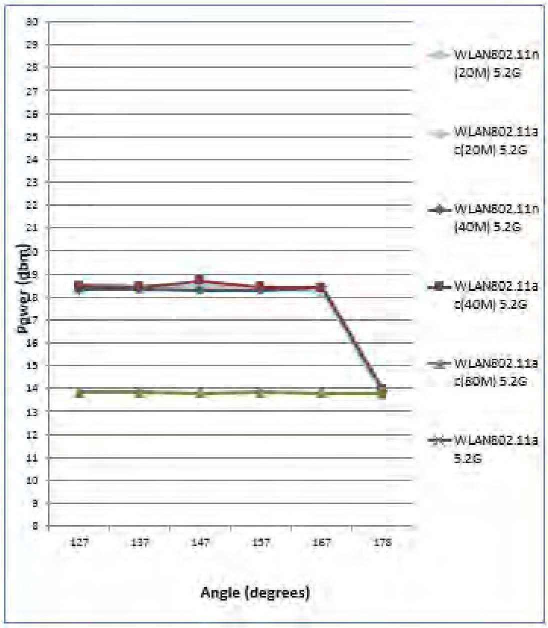
2.4GHz Main(MIMO)



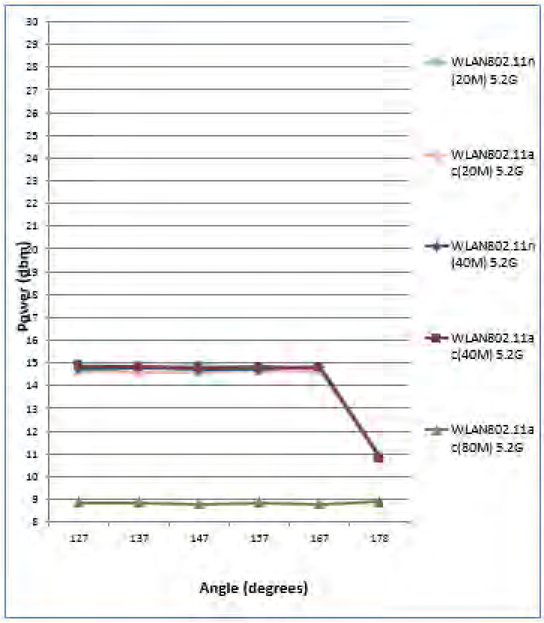
2.4GHz Aux(MIMO)



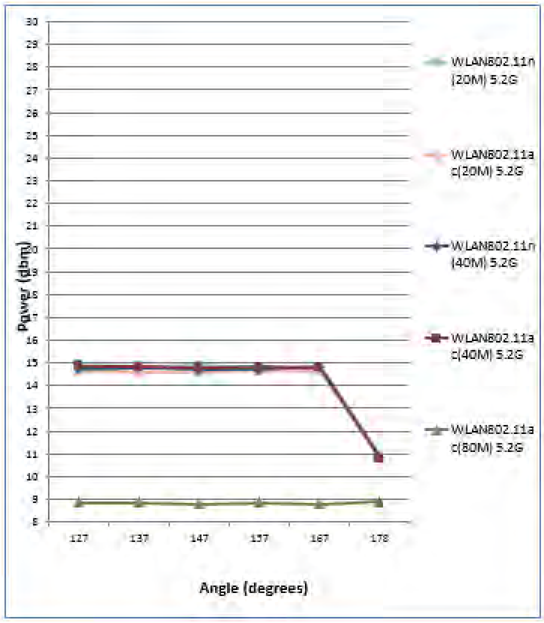
5.2GHz Main(SISO)



5.2GHz Aux(SISO)



5.2GHz Main(MIMO)



5.2GHz Aux(MIMO)

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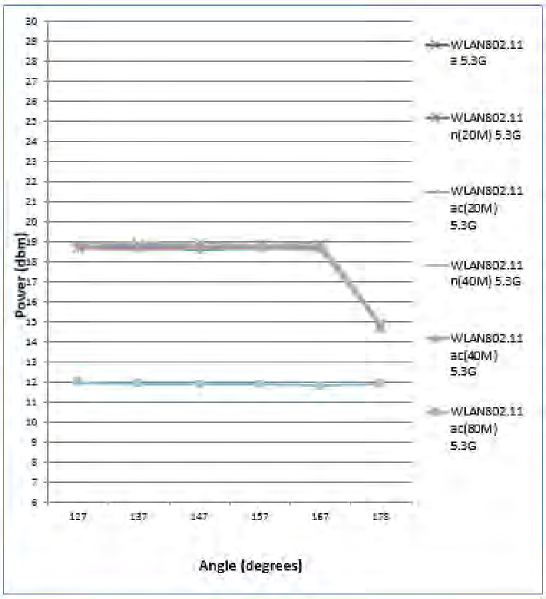
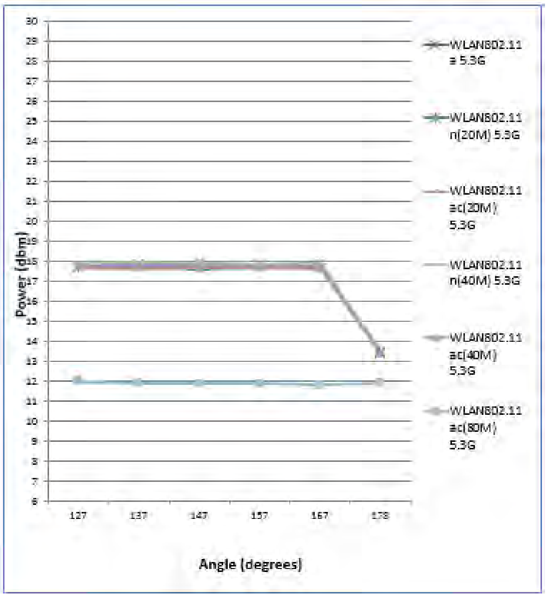
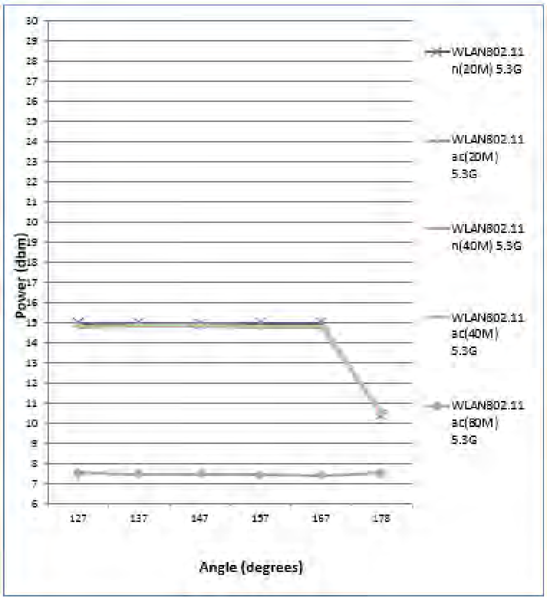


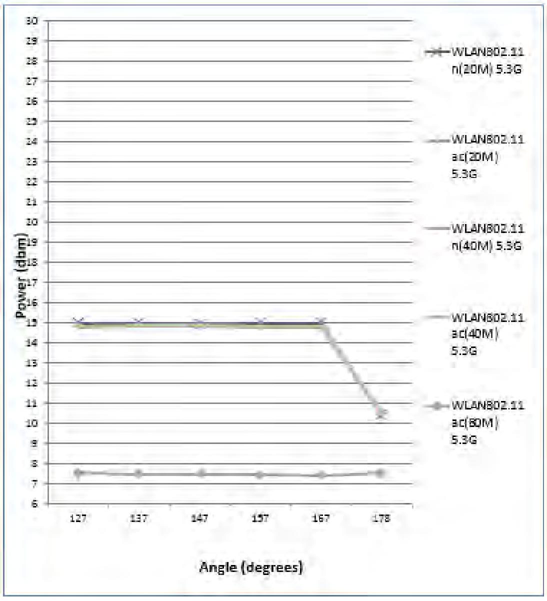
5.3GHz Main(SISO)



5.3GHz Aux(SISO)



5.3GHz Main(MIMO)



5.3GHz Aux(MIMO)

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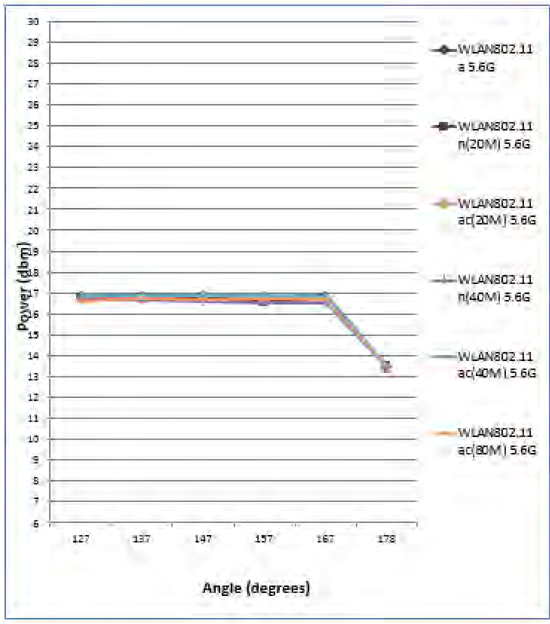
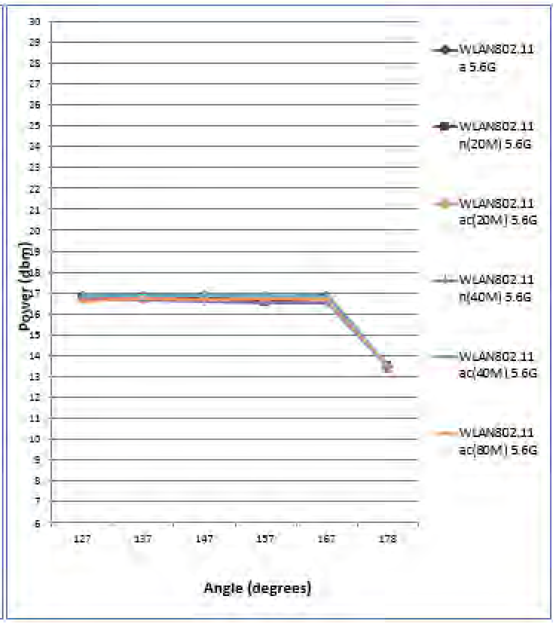
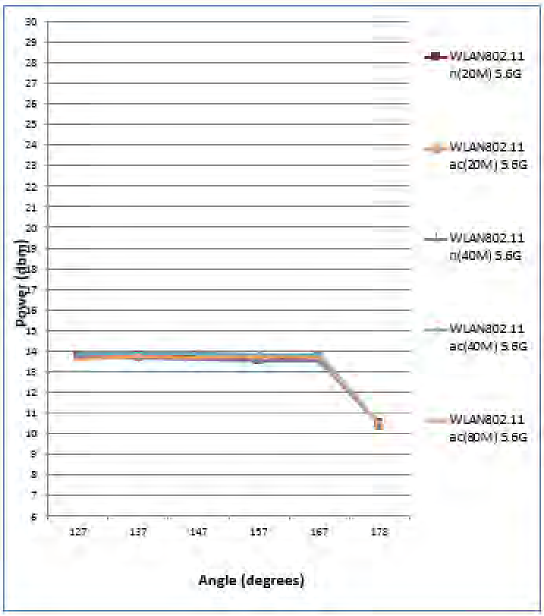


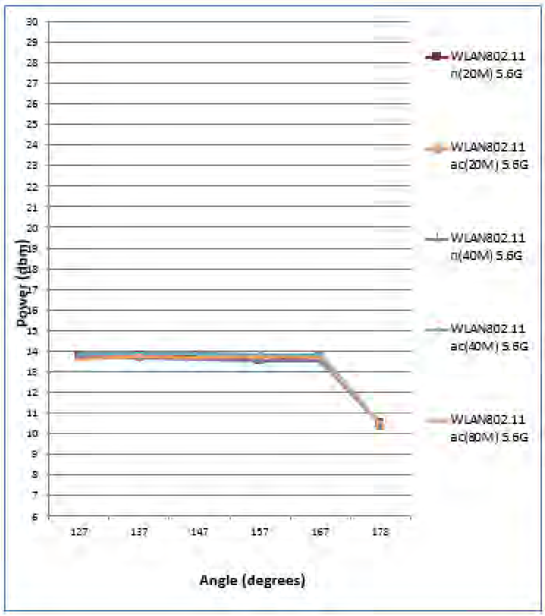
5.6GHz Main(SISO)



5.6GHz Aux(SISO)



5.6GHz Main(MIMO)



5.6GHz Aux(MIMO)

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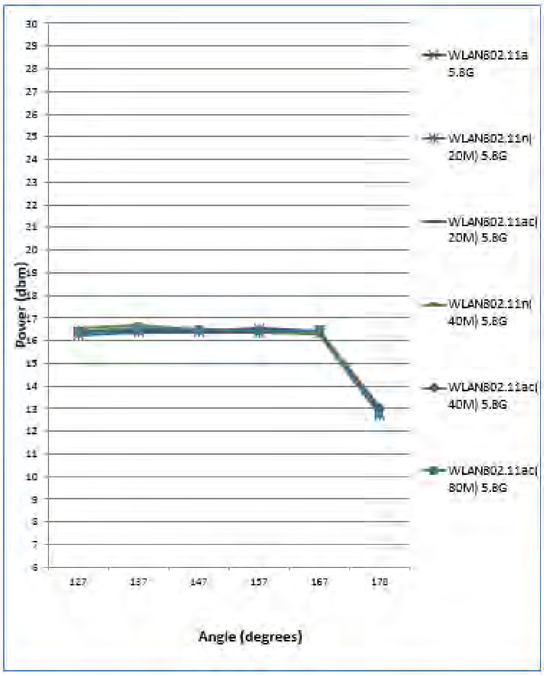
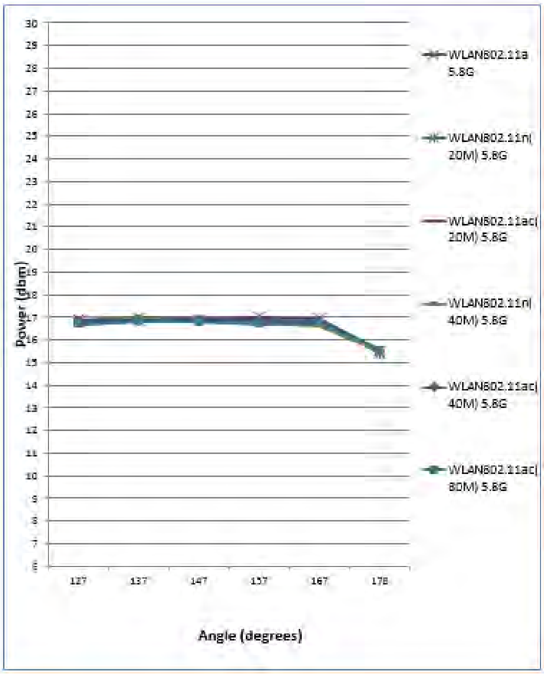
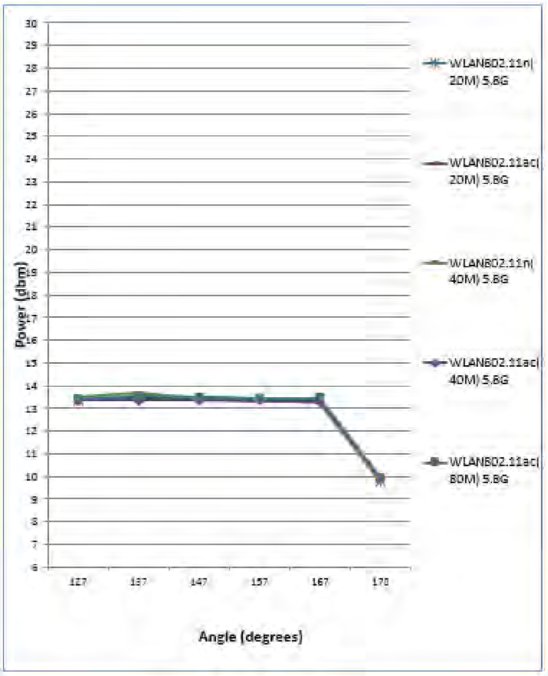
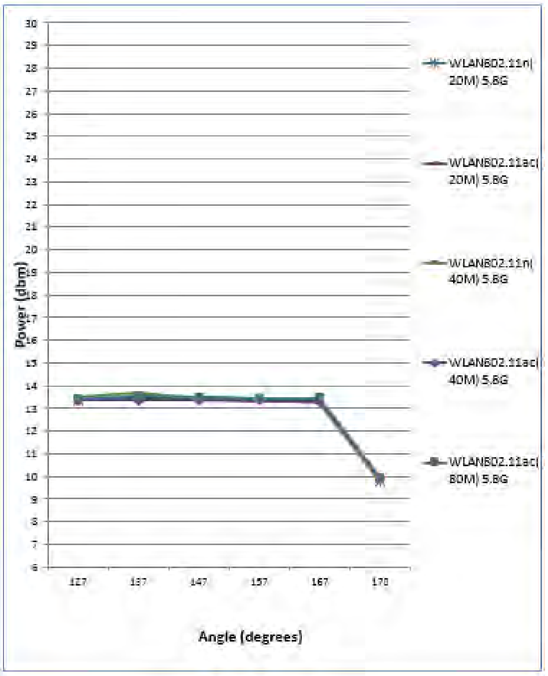




5.8GHz Main(SISO)

5.8GHz Aux(SISO)





5.8GHz Main(MIMO)

5.8GHz Aux(MIMO)

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.

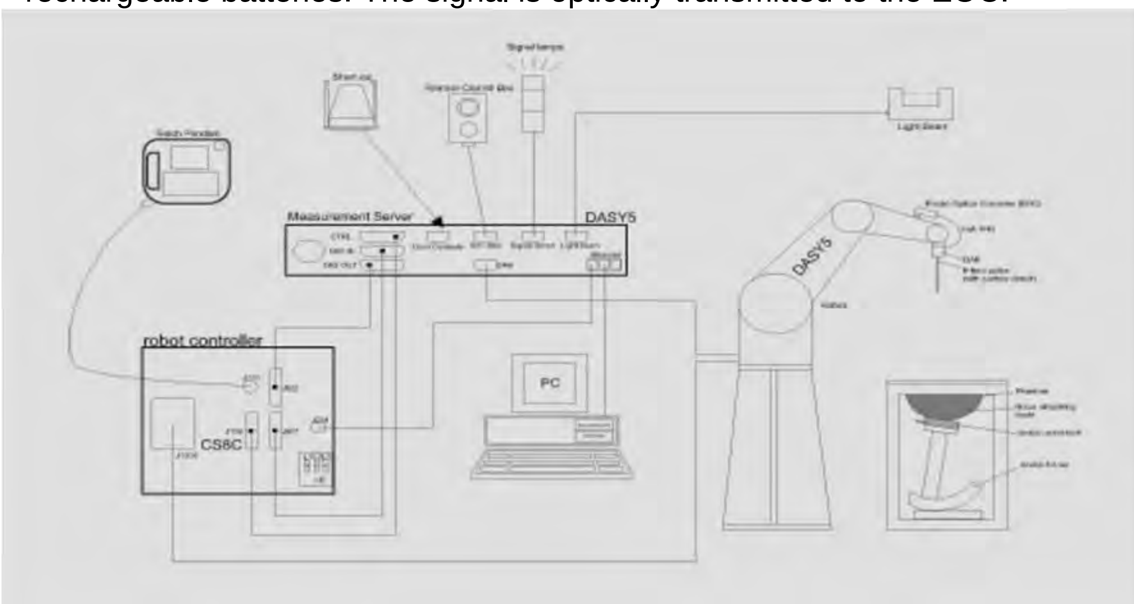


Fig. a The block diagram of SAR system

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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.
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.
10. Tissue simulating liquid mixed according to the given recipes.
11. Validation dipole kits allowing to validate the proper functioning of the system.

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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 750/835/1750/1900/2300/2450/2600/5200/5300/5600/5800 MHz Additional CF for other liquids and frequencies upon request	
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 Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/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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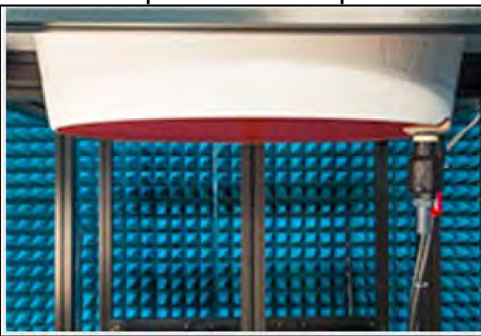
PHANTOM

Model	ELI	
Construction	The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Shell Thickness	2 ± 0.2 mm	
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 750/835/1750/1900/2300/2450/2600/5200/5300/5600/5800 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 ≥ 15 cm ± 5 mm (frequency ≤ 3 GHz) or ≥ 10 cm ± 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.

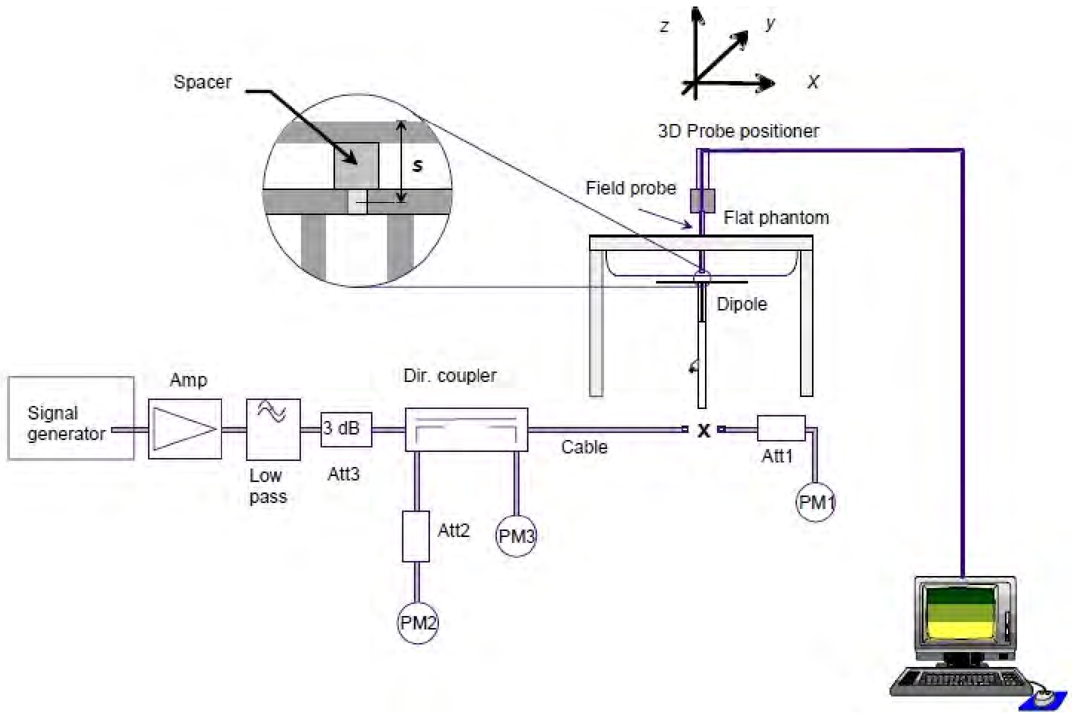

Fig. b The block diagram of system verification

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Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D750V3	1015	750	Body	8.76	2.10	8.40	-4.11%	Aug. 10, 2018
D835V2	4d063	835	Body	9.57	2.42	9.68	1.15%	Aug. 13, 2018
D1750V2	1008	1750	Body	36.7	9.35	37.40	1.91%	Aug. 14, 2018
D1900V2	5d173	1900	Body	40.9	10.10	40.40	-1.22%	Aug. 15, 2018
D2300V2	1023	2300	Body	46.4	12.20	48.80	5.17%	Aug. 15, 2018
D2450V2	727	2450	Body	50.8	13.40	53.60	5.51%	Aug. 13, 2018
D2600V2	1005	2600	Body	54.4	14.00	56.00	2.94%	Aug. 17, 2018
D5GHzV2	1023	5200	Body	72.8	7.64	76.40	4.95%	Aug. 14, 2018
		5300	Body	76.1	7.76	77.60	1.97%	Aug. 15, 2018
		5600	Body	79.6	8.11	81.10	1.88%	Aug. 16, 2018
		5800	Body	75.9	7.74	77.40	1.98%	Aug. 17, 2018

Table 1. Results of system validation

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1.10 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this body-simulant fluid were measured by using the Agilent Dielectric 85070E Probe Kit in conjunction with Network Analyzer. 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 ≤3G) or ≥ 10 cm ± 5 mm (Frequency >3G) during all tests. (Fig. 2)

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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 εr	% dev σ
Body	Aug, 13. 2018	2402	52.764	1.904	53.793	1.916	-1.95%	-0.62%
		2412	52.751	1.914	53.779	1.928	-1.95%	-0.75%
		2417	52.744	1.918	53.781	1.941	-1.97%	-1.17%
		2427	52.731	1.928	53.768	1.948	-1.97%	-1.04%
		2437	52.717	1.938	53.741	1.964	-1.94%	-1.36%
		2441	52.712	1.941	53.690	1.969	-1.86%	-1.42%
		2447	52.704	1.947	53.685	1.979	-1.86%	-1.64%
		2450	52.700	1.950	53.722	1.986	-1.94%	-1.85%
		2457	52.691	1.960	53.681	1.988	-1.88%	-1.43%
		2462	52.685	1.967	53.636	1.993	-1.81%	-1.32%
		2480	52.662	1.993	53.588	2.018	-1.76%	-1.28%
	Aug, 14. 2018	5180	49.041	5.276	49.515	5.151	-0.97%	2.37%
		5190	49.028	5.288	49.483	5.153	-0.93%	2.55%
		5200	49.014	5.299	49.432	5.167	-0.85%	2.50%
		5210	49.001	5.311	49.331	5.180	-0.67%	2.47%
		5220	48.987	5.323	49.353	5.200	-0.75%	2.31%
		5230	48.974	5.334	49.292	5.220	-0.65%	2.14%
		5240	48.960	5.346	49.273	5.219	-0.64%	2.38%
		5260	48.933	5.369	49.163	5.276	-0.47%	1.73%
		5270	48.919	5.381	49.154	5.292	-0.48%	1.65%
		5280	48.906	5.393	49.141	5.299	-0.48%	1.74%
		5300	48.879	5.416	49.102	5.331	-0.46%	1.57%
		5310	48.865	5.428	49.021	5.340	-0.32%	1.62%
		5320	48.851	5.439	48.999	5.361	-0.30%	1.43%
	Aug, 15. 2018	5500	48.607	5.650	48.463	5.659	0.30%	-0.16%
		5510	48.594	5.661	48.382	5.668	0.44%	-0.12%
		5520	48.580	5.673	48.364	5.696	0.44%	-0.41%
		5530	48.566	5.685	48.352	5.699	0.44%	-0.25%
		5550	48.539	5.708	48.261	5.729	0.57%	-0.37%
		5580	48.499	5.743	48.178	5.805	0.66%	-1.08%
		5590	48.485	5.755	48.142	5.819	0.71%	-1.12%
		5600	48.471	5.766	48.134	5.824	0.70%	-1.00%
		5610	48.458	5.778	48.113	5.831	0.71%	-0.92%
		5670	48.376	5.848	47.881	5.937	1.02%	-1.52%
		5680	48.363	5.860	47.851	5.965	1.06%	-1.79%
		5690	48.349	5.872	47.804	5.985	1.13%	-1.93%
		5710	48.322	5.895	47.771	6.005	1.14%	-1.87%
		5720	48.309	5.907	47.753	6.012	1.15%	-1.78%
	Aug, 16. 2018	5775	48.234	5.971	47.563	6.106	1.39%	-2.26%
		5800	48.200	6.000	47.483	6.155	1.49%	-2.58%

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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 εr	% dev σ
Body	Aug, 10. 2018	704.00	55.710	0.960	57.596	0.924	-3.39%	3.73%
		707.50	55.697	0.960	57.591	0.925	-3.40%	3.65%
		709.00	55.691	0.960	57.587	0.926	-3.40%	3.56%
		710.00	55.687	0.960	57.581	0.928	-3.40%	3.36%
		711.00	55.683	0.960	57.576	0.930	-3.40%	3.16%
		750.00	55.531	0.963	57.159	0.970	-2.93%	-0.69%
		782.00	55.406	0.966	56.912	1.003	-2.72%	-3.84%
		793.00	55.364	0.967	56.738	1.008	-2.48%	-4.24%
	Aug, 13. 2018	822.50	55.249	0.969	57.351	0.982	-3.81%	-1.34%
		826.40	55.226	0.959	57.311	0.986	-3.77%	-2.77%
		829.00	55.218	0.963	57.298	0.988	-3.77%	-2.64%
		831.50	55.214	0.970	57.294	0.991	-3.77%	-2.19%
		835.00	55.200	0.970	57.283	0.997	-3.77%	-2.78%
		836.50	55.195	0.972	57.281	0.998	-3.78%	-2.69%
		836.60	55.194	0.970	57.204	0.999	-3.64%	-2.98%
		841.50	55.180	0.978	57.169	1.001	-3.60%	-2.35%
		844.00	55.172	0.981	57.165	1.004	-3.61%	-2.34%
		846.60	55.164	0.984	57.151	1.005	-3.60%	-2.11%
	Aug, 14. 2018	1712.40	53.531	1.465	51.578	1.431	3.65%	2.30%
		1720.00	53.511	1.469	51.562	1.448	3.64%	1.46%
		1732.40	53.478	1.477	51.528	1.451	3.65%	1.78%
		1732.50	53.478	1.477	51.522	1.454	3.66%	1.58%
		1745.00	53.445	1.485	51.507	1.473	3.63%	0.83%
		1750.00	53.432	1.488	51.480	1.476	3.65%	0.83%
		1752.60	53.425	1.490	51.483	1.480	3.63%	0.68%
		1770.00	53.379	1.501	51.404	1.495	3.70%	0.40%
	Aug, 15. 2018	1852.40	53.162	1.553	51.111	1.588	3.86%	-2.25%
		1860.00	53.142	1.558	51.061	1.594	3.92%	-2.32%
		1880.00	53.089	1.571	51.017	1.616	3.90%	-2.90%
		1900.00	53.037	1.583	50.968	1.641	3.90%	-3.65%
		1905.00	53.024	1.586	50.950	1.647	3.91%	-3.83%
		1907.60	53.017	1.588	50.958	1.649	3.88%	-3.84%
	Aug, 15. 2018	2300.00	52.900	1.807	54.063	1.851	-2.20%	-2.45%
		2310.00	52.887	1.816	54.070	1.863	-2.24%	-2.58%
	Aug, 17. 2018	2506.00	52.629	2.029	50.541	1.994	3.97%	1.75%
		2510.00	52.624	2.035	50.532	2.003	3.97%	1.58%
		2535.00	52.592	2.071	50.285	2.034	4.39%	1.77%
		2549.50	52.573	2.091	50.271	2.056	4.38%	1.68%
		2560.00	52.560	2.106	50.262	2.069	4.37%	1.76%
		2580.00	52.535	2.134	50.251	2.095	4.35%	1.84%
		2593.00	52.518	2.153	50.248	2.109	4.32%	2.03%
		2595.00	52.515	2.156	50.222	2.112	4.37%	2.02%
		2600.00	52.509	2.163	50.190	2.117	4.42%	2.11%
		2610.00	52.496	2.177	50.168	2.131	4.44%	2.11%
		2636.50	52.463	2.214	50.073	2.172	4.55%	1.92%
		2680.00	52.407	2.276	49.928	2.227	4.73%	2.16%

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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The composition of the body tissue simulating liquid:

Frequency (MHz)	Mode	Ingredient						Total amount
		DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	
750	Body	–	631.68 g	11.72 g	1.2 g	–	600 g	1.0L(Kg)
850	Body	–	631.68 g	11.72 g	1.2 g	–	600 g	1.0L(Kg)
1750	Body	300.67 g	716.56 g	4.0 g	–	–	–	1.0L(Kg)
1900	Body	300.67 g	716.56 g	4.0 g	–	–	–	1.0L(Kg)
2300	Body	301.7ml	698.3ml	–	–	–	–	1.0L(Kg)
2450	Body	301.7ml	698.3ml	–	–	–	–	1.0L(Kg)
2600	Body	301.7ml	698.3ml	–	–	–	–	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 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 ±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 ±5% (RSS) when the same liquid is used for the calibration and for actual measurements and ±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

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

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3. K. Jokela, P. Hyysalo, and L. Puranen, \Calibration of specific absorption rate (SAR) probes in waveguide at 900 MHz", *IEEE Transactions on Instrumentation and Measurements*, vol. 47, no. 2, pp. 432{438, Apr. 1998.

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.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the 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).

(2) Occupational/Controlled limits apply when persons are exposed as a 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.

(3) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as 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 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

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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

WCDMA Band II

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
WCDMA Band II	Back side	0	9400	1880	25.00	23.86	30.02%	0.022	0.029	-
	Top side	0	9400	1880	25.00	23.86	30.02%	0.147	0.191	-
	Bottom side	0	9400	1880	25.00	23.86	30.02%	0.010	0.013	-
	Right side	0	9262	1852.4	25.00	23.76	33.05%	0.419	0.557	256
	Right side	0	9400	1880	25.00	23.86	30.02%	0.174	0.226	-
	Right side	0	9538	1907.6	25.00	23.79	32.13%	0.146	0.193	-
	Left side	0	9400	1880	25.00	23.86	30.02%	0.033	0.043	-

WCDMA Band IV

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
WCDMA Band IV	Back side	0	1412	1732.4	25	24.0	25.89%	0.034	0.042	-
	Top side	0	1412	1732.4	25	24.0	25.89%	0.149	0.188	-
	Bottom side	0	1412	1732.4	25	24.0	25.89%	0.010	0.012	-
	Right side	0	1312	1712.4	25	23.9	28.82%	0.531	0.684	-
	Right side	0	1412	1732.4	25	24.0	25.89%	0.560	0.705	-
	Right side	0	1513	1752.6	25	23.9	29.12%	0.590	0.762	257
	Left side	0	1412	1732.4	25	24.0	25.89%	0.073	0.091	-

WCDMA Band V

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
WCDMA Band V	Back side	0	4132	826.4	25	24.14	21.90%	0.005	0.006	-
	Top side	0	4132	826.4	25	24.14	21.90%	0.071	0.086	-
	Top side	0	4183	836.6	25	23.98	26.47%	0.069	0.088	-
	Top side	0	4233	846.6	25	23.89	29.12%	0.073	0.095	258
	Bottom side	0	4132	826.4	25	24.14	21.90%	0.005	0.006	-
	Right side	0	4132	826.4	25	24.14	21.90%	0.053	0.065	-
	Left side	0	4132	826.4	25	24.14	21.90%	0.015	0.019	-

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LTE FDD Band 2

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 2	20MHz	QPSK	1 RB	0	Back side	0	18900	1880	25	24.88	2.80%	0.022	0.023	-
					Top side	0	18900	1880	25	24.88	2.80%	0.191	0.196	-
					Bottom side	0	18900	1880	25	24.88	2.80%	0.011	0.011	-
					Right side	0	18700	1860	25	24.84	3.75%	0.468	0.486	259
					Right side	0	18900	1880	25	24.88	2.80%	0.248	0.255	-
					Left side	0	18900	1880	25	24.88	2.80%	0.040	0.041	-
				50	Right side	0	19100	1900	25	24.55	10.92%	0.134	0.149	-
			50 RB	50	Back side	0	18700	1860	24	23.79	4.95%	0.017	0.018	-
					Top side	0	18700	1860	24	23.79	4.95%	0.152	0.160	-
					Bottom side	0	18700	1860	24	23.79	4.95%	0.010	0.010	-
					Right side	0	18700	1860	24	23.79	4.95%	0.247	0.259	-
					Left side	0	18700	1860	24	23.79	4.95%	0.031	0.033	-
			100 RB		Back side	0	18700	1860	24	23.80	4.71%	0.017	0.017	-
					Top side	0	18700	1860	24	23.80	4.71%	0.147	0.154	-
					Bottom side	0	18700	1860	24	23.80	4.71%	0.010	0.010	-
					Right side	0	18700	1860	24	23.80	4.71%	0.242	0.253	-
					Left side	0	18700	1860	24	23.80	4.71%	0.030	0.032	-

LTE FDD Band 4

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 4	20MHz	QPSK	1 RB	0	Back side	0	20175	1732.5	25	24.63	8.89%	0.029	0.032	-
					Top side	0	20175	1732.5	25	24.63	8.89%	0.178	0.194	-
					Bottom side	0	20175	1732.5	25	24.63	8.89%	0.005	0.005	-
					Right side	0	20050	1720	25	24.62	9.14%	0.455	0.497	-
					Right side	0	20175	1732.5	25	24.63	8.89%	0.538	0.586	-
					Right side	0	20300	1745	25	24.61	9.40%	0.609	0.666	260
					Left side	0	20175	1732.5	25	24.63	8.89%	0.055	0.060	-
			50 RB	25	Back side	0	20300	1745	24	23.56	10.66%	0.025	0.028	-
					Top side	0	20300	1745	24	23.56	10.66%	0.156	0.173	-
					Bottom side	0	20300	1745	24	23.56	10.66%	0.004	0.005	-
					Right side	0	20300	1745	24	23.56	10.66%	0.428	0.474	-
					Left side	0	20300	1745	24	23.56	10.66%	0.048	0.053	-
			100 RB		Back side	0	20300	1745	24	23.60	9.65%	0.024	0.027	-
					Top side	0	20300	1745	24	23.60	9.65%	0.152	0.167	-
					Bottom side	0	20300	1745	24	23.60	9.65%	0.004	0.005	-
					Right side	0	20300	1745	24	23.60	9.65%	0.413	0.453	-
					Left side	0	20300	1745	24	23.60	9.65%	0.047	0.052	-

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LTE FDD Band 5

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 5	10MHz	QPSK	1 RB	0	Top side	0	20600	844	25	24.56	10.66%	0.082	0.090	261
				49	Back side	0	20525	836.5	25	24.62	9.14%	0.006	0.006	-
					Top side	0	20450	829	25	24.60	9.65%	0.060	0.065	-
					Top side	0	20525	836.5	25	24.62	9.14%	0.079	0.087	-
					Bottom side	0	20525	836.5	25	24.62	9.14%	0.005	0.006	-
					Right side	0	20525	836.5	25	24.62	9.14%	0.049	0.054	-
					Left side	0	20525	836.5	25	24.62	9.14%	0.025	0.028	-
			25 RB	0	Back side	0	20525	836.5	24	23.61	9.40%	0.005	0.006	-
					Top side	0	20525	836.5	24	23.61	9.40%	0.055	0.061	-
					Bottom side	0	20525	836.5	24	23.61	9.40%	0.004	0.004	-
					Right side	0	20525	836.5	24	23.61	9.40%	0.045	0.049	-
					Left side	0	20525	836.5	24	23.61	9.40%	0.022	0.024	-
			50 RB		Back side	0	20525	836.5	24	23.59	9.90%	0.005	0.006	-
					Top side	0	20525	836.5	24	23.59	9.90%	0.061	0.067	-
					Bottom side	0	20525	836.5	24	23.59	9.90%	0.004	0.005	-
					Right side	0	20525	836.5	24	23.59	9.90%	0.043	0.048	-
					Left side	0	20525	836.5	24	23.59	9.90%	0.021	0.023	-

LTE FDD Band 12

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 12	10MHz	QPSK	1 RB	49	Back side	0	23130	711	25	24.29	17.76%	0.008	0.010	-
					Top side	0	23130	711	25	24.29	17.76%	0.066	0.078	-
					Bottom side	0	23130	711	25	24.29	17.76%	0.004	0.004	-
					Right side	0	23060	704	25	24.24	19.12%	0.067	0.080	-
					Right side	0	23095	707.5	25	24.26	18.58%	0.069	0.081	-
					Right side	0	23130	711	25	24.29	17.76%	0.070	0.082	262
					Left side	0	23130	711	25	24.29	17.76%	0.039	0.046	-
			25 RB	25	Back side	0	23130	711	24	23.25	18.85%	0.004	0.005	-
					Top side	0	23130	711	24	23.25	18.85%	0.054	0.064	-
					Bottom side	0	23130	711	24	23.25	18.85%	0.002	0.003	-
					Right side	0	23130	711	24	23.25	18.85%	0.054	0.065	-
					Left side	0	23130	711	24	23.25	18.85%	0.031	0.037	-
			50 RB		Back side	0	23130	711	24	23.17	21.06%	0.004	0.005	-
					Top side	0	23130	711	24	23.17	21.06%	0.054	0.066	-
					Bottom side	0	23130	711	24	23.17	21.06%	0.002	0.003	-
					Right side	0	23130	711	24	23.17	21.06%	0.055	0.067	
					Left side	0	23130	711	24	23.17	21.06%	0.030	0.036	-

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LTE FDD Band 13

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 13	10MHz	QPSK	1 RB	0	Right side	0	23230	782	25	24.52	11.69%	0.110	0.123	-
				25	Right side	0	23230	782	25	24.74	6.17%	0.121	0.128	-
				49	Back side	0	23230	782	25	24.95	1.16%	0.009	0.009	-
					Top side	0	23230	782	25	24.95	1.16%	0.044	0.044	-
					Bottom side	0	23230	782	25	24.95	1.16%	0.007	0.007	-
					Right side	0	23230	782	25	24.95	1.16%	0.128	0.129	263
					Left side	0	23230	782	25	24.95	1.16%	0.052	0.053	-
			25 RB	25	Back side	0	23230	782	24	23.87	3.04%	0.008	0.008	-
					Top side	0	23230	782	24	23.87	3.04%	0.034	0.035	-
					Bottom side	0	23230	782	24	23.87	3.04%	0.006	0.006	-
					Right side	0	23230	782	24	23.87	3.04%	0.099	0.102	-
					Left side	0	23230	782	24	23.87	3.04%	0.041	0.042	-
			50 RB		Back side	0	23230	782	24	23.81	4.47%	0.008	0.008	-
					Top side	0	23230	782	24	23.81	4.47%	0.035	0.036	-
					Bottom side	0	23230	782	24	23.81	4.47%	0.006	0.006	-
					Right side	0	23230	782	24	23.81	4.47%	0.097	0.102	
					Left side	0	23230	782	24	23.81	4.47%	0.040	0.042	-

LTE FDD Band 14

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 14	10MHz	QPSK	1 RB	0	Right side	0	23330	793	25	24.62	9.14%	0.107	0.117	-
				25	Back side	0	23330	793	25	24.67	7.89%	0.007	0.007	-
					Top side	0	23330	793	25	24.67	7.89%	0.050	0.054	-
					Bottom side	0	23330	793	25	24.67	7.89%	0.008	0.008	-
					Right side	0	23330	793	25	24.67	7.89%	0.129	0.139	264
					Left side	0	23330	793	25	24.67	7.89%	0.055	0.059	-
				49	Right side	0	23330	793	25	24.63	8.89%	0.114	0.124	-
					Left side	0	23330	793	25	24.63	8.89%	0.029	0.031	-
			25 RB	25	Back side	0	23330	793	24	23.81	4.47%	0.006	0.007	-
					Top side	0	23330	793	24	23.81	4.47%	0.043	0.044	-
					Bottom side	0	23330	793	24	23.81	4.47%	0.007	0.007	-
					Right side	0	23330	793	24	23.81	4.47%	0.100	0.104	-
					Left side	0	23330	793	24	23.81	4.47%	0.043	0.045	-
			50 RB		Back side	0	23330	793	24	23.80	4.71%	0.006	0.006	-
					Top side	0	23330	793	24	23.80	4.71%	0.041	0.043	-
					Bottom side	0	23330	793	24	23.80	4.71%	0.007	0.007	-
					Right side	0	23330	793	24	23.80	4.71%	0.098	0.103	
					Left side	0	23330	793	24	23.80	4.71%	0.043	0.045	-

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LTE FDD Band 17

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 17	10MHz	QPSK	1 RB	49	Back side	0	23800	711	25	23.89	29.12%	0.003	0.004	-
					Top side	0	23780	709	25	23.87	29.72%	0.054	0.069	-
					Top side	0	23790	710	25	23.85	30.32%	0.055	0.071	-
					Top side	0	23800	711	25	23.89	29.12%	0.067	0.086	265
					Bottom side	0	23800	711	25	23.89	29.12%	0.003	0.004	-
					Right side	0	23800	711	25	23.89	29.12%	0.062	0.081	-
					Left side	0	23800	711	25	23.89	29.12%	0.039	0.050	-
			25 RB	25	Back side	0	23780	709	24	22.81	31.52%	0.002	0.003	-
					Top side	0	23780	709	24	22.81	31.52%	0.055	0.072	-
					Bottom side	0	23780	709	24	22.81	31.52%	0.002	0.003	-
					Right side	0	23780	709	24	22.81	31.52%	0.049	0.065	-
					Left side	0	23780	709	24	22.81	31.52%	0.031	0.041	-
			50 RB		Back side	0	23800	711	24	22.68	35.52%	0.002	0.003	-
					Top side	0	23800	711	24	22.68	35.52%	0.055	0.075	-
					Bottom side	0	23800	711	24	22.68	35.52%	0.002	0.003	-
					Right side	0	23800	711	24	22.68	35.52%	0.049	0.067	-
					Left side	0	23800	711	24	22.68	35.52%	0.031	0.042	-

LTE FDD Band 25

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 25	20MHz	QPSK	1 RB	0	Back side	0	26365	1882.5	25	24.76	5.68%	0.030	0.032	-
					Top side	0	26365	1882.5	25	24.76	5.68%	0.164	0.173	-
					Bottom side	0	26365	1882.5	25	24.76	5.68%	0.008	0.009	-
					Right side	0	26365	1882.5	25	24.76	5.68%	0.312	0.330	-
					Right side	0	26590	1905	25	24.62	9.14%	0.158	0.172	-
					Left side	0	26365	1882.5	25	24.76	5.68%	0.045	0.047	-
				99	Right side	0	26140	1860	25	24.66	8.14%	0.401	0.434	266
			50 RB	0	Back side	0	26140	1860	24	23.98	0.46%	0.019	0.019	-
					Top side	0	26140	1860	24	23.98	0.46%	0.152	0.153	-
					Bottom side	0	26140	1860	24	23.98	0.46%	0.007	0.007	-
					Right side	0	26140	1860	24	23.98	0.46%	0.263	0.264	-
					Left side	0	26140	1860	24	23.98	0.46%	0.034	0.034	-
			100 RB		Back side	0	26140	1860	24	23.84	3.75%	0.019	0.019	-
					Top side	0	26140	1860	24	23.84	3.75%	0.149	0.155	-
					Bottom side	0	26140	1860	24	23.84	3.75%	0.007	0.007	-
					Right side	0	26140	1860	24	23.84	3.75%	0.250	0.259	-
					Left side	0	26140	1860	24	23.84	3.75%	0.033	0.034	-

LTE FDD Band 26

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 26	15MHz	QPSK	1 RB	36	Top side	0	26865	831.5	25	24.85	3.51%	0.075	0.077	-
					Top side	0	26965	841.5	25	24.59	9.90%	0.082	0.090	267
				74	Back side	0	26825	822.5	25	24.94	1.39%	0.006	0.006	-
					Top side	0	26825	822.5	25	24.94	1.39%	0.066	0.067	-
					Bottom side	0	26825	822.5	25	24.94	1.39%	0.004	0.005	-
					Right side	0	26825	822.5	25	24.94	1.39%	0.057	0.058	-
					Left side	0	26825	822.5	25	24.94	1.39%	0.027	0.027	-
			36 RB	0	Back side	0	26825	822.5	24	23.78	5.20%	0.005	0.005	-
					Top side	0	26825	822.5	24	23.78	5.20%	0.045	0.048	-
					Bottom side	0	26825	822.5	24	23.78	5.20%	0.003	0.004	-
					Right side	0	26825	822.5	24	23.78	5.20%	0.042	0.045	-
					Left side	0	26825	822.5	24	23.78	5.20%	0.021	0.022	-
			75 RB		Back side	0	26825	822.5	24	23.69	7.40%	0.005	0.006	-
					Top side	0	26825	822.5	24	23.69	7.40%	0.047	0.051	-
					Bottom side	0	26825	822.5	24	23.69	7.40%	0.003	0.004	-
					Right side	0	26825	822.5	24	23.69	7.40%	0.044	0.047	-
					Left side	0	26825	822.5	24	23.69	7.40%	0.022	0.024	-

LTE FDD Band 30

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg) Measured	Averaged SAR over 1g (W/kg) Reported	Plot page
LTE Band 30	10MHz	QPSK	1 RB	0	Top side	0	27710	2310	21.5	19.94	43.22%	0.068	0.098	-
				25	Top side	0	27710	2310	21.5	19.85	46.22%	0.077	0.113	-
				49	Back side	0	27710	2310	21.5	20.01	40.93%	0.017	0.024	-
					Top side	0	27710	2310	21.5	20.01	40.93%	0.085	0.120	268
					Bottom side	0	27710	2310	21.5	20.01	40.93%	0.006	0.009	-
					Right side	0	27710	2310	21.5	20.01	40.93%	0.021	0.029	-
					Left side	0	27710	2310	21.5	20.01	40.93%	0.008	0.011	-
			25 RB	12	Back side	0	27710	2310	20.5	18.91	44.21%	0.014	0.021	-
					Top side	0	27710	2310	20.5	18.91	44.21%	0.068	0.098	-
					Bottom side	0	27710	2310	20.5	18.91	44.21%	0.005	0.008	-
					Right side	0	27710	2310	20.5	18.91	44.21%	0.012	0.017	-
					Left side	0	27710	2310	20.5	18.91	44.21%	0.007	0.010	-
			50 RB		Back side	0	27710	2310	20.5	18.98	41.91%	0.018	0.026	-
					Top side	0	27710	2310	20.5	18.98	41.91%	0.066	0.094	-
					Bottom side	0	27710	2310	20.5	18.98	41.91%	0.005	0.007	-
					Right side	0	27710	2310	20.5	18.98	41.91%	0.012	0.016	-
					Left side	0	27710	2310	20.5	18.98	41.91%	0.007	0.009	-

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LTE TDD Band 38

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 38	20MHz	QPSK	1 RB	0	Top side	0	37850	2580	25	24.37	15.61%	0.050	0.058	-
				50	Top side	0	38150	2610	25	24.43	14.02%	0.070	0.080	269
				99	Back side	0	38000	2595	25	24.53	11.43%	0.021	0.024	-
					Top side	0	38000	2595	25	24.53	11.43%	0.060	0.067	-
					Bottom side	0	38000	2595	25	24.53	11.43%	0.014	0.015	-
					Right side	0	38000	2595	25	24.53	11.43%	0.048	0.053	-
					Left side	0	38000	2595	25	24.53	11.43%	0.018	0.020	-
			50 RB	50	Back side	0	38150	2610	24	23.46	13.24%	0.016	0.018	-
					Top side	0	38150	2610	24	23.46	13.24%	0.048	0.055	-
					Bottom side	0	38150	2610	24	23.46	13.24%	0.012	0.013	-
					Right side	0	38150	2610	24	23.46	13.24%	0.037	0.042	-
					Left side	0	38150	2610	24	23.46	13.24%	0.016	0.018	-
			100 RB		Back side	0	38150	2610	24	23.36	15.88%	0.017	0.019	-
					Top side	0	38150	2610	24	23.36	15.88%	0.046	0.054	-
					Bottom side	0	38150	2610	24	23.36	15.88%	0.009	0.011	-
					Right side	0	38150	2610	24	23.36	15.88%	0.038	0.044	-
					Left side	0	38150	2610	24	23.36	15.88%	0.016	0.019	-

LTE TDD Band 41

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 41	20MHz	QPSK	1 RB	0	Back side	0	39750	2506	23.97	24.97	-20.57%	0.022	0.018	-
					Top side	0	39750	2506	23.97	24.97	-20.57%	0.056	0.044	-
					Top side	0	40185	2549.5	25.00	24.74	6.17%	0.075	0.079	-
					Bottom side	0	39750	2506	23.97	24.97	-20.57%	0.003	0.002	-
					Right side	0	39750	2506	23.97	24.97	-20.57%	0.015	0.012	-
					Left side	0	39750	2506	23.97	24.97	-20.57%	0.010	0.008	-
				50	Top side	0	41055	2636.5	25	24.78	5.20%	0.119	0.125	270
				99	Top side	0	40620	2593	25	24.41	14.55%	0.107	0.123	-
					Top side	0	41490	2680	25	24.77	5.44%	0.116	0.122	-
			50 RB	0	Back side	0	39750	2506	24	23.89	2.57%	0.017	0.017	-
					Top side	0	39750	2506	24	23.89	2.57%	0.049	0.050	-
					Bottom side	0	39750	2506	24	23.89	2.57%	0.002	0.002	-
					Right side	0	39750	2506	24	23.89	2.57%	0.013	0.013	-
					Left side	0	39750	2506	24	23.89	2.57%	0.009	0.010	-
			100 RB		Back side	0	39750	2506	24	23.84	3.75%	0.016	0.017	-
					Top side	0	39750	2506	24	23.84	3.75%	0.047	0.049	-
					Bottom side	0	39750	2506	24	23.84	3.75%	0.002	0.002	-
					Right side	0	39750	2506	24	23.84	3.75%	0.013	0.014	-
					Left side	0	39750	2506	24	23.84	3.75%	0.011	0.012	-

LTE FDD Band 66

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
												Measured	Reported	
LTE Band 66	20MHz	QPSK	1 RB	0	Back side	0	132572	1770	25	24.58	10.15%	0.050	0.055	-
					Top side	0	132572	1770	25	24.58	10.15%	0.217	0.239	-
					Bottom side	0	132572	1770	25	24.58	10.15%	0.005	0.005	-
					Right side	0	132322	1745	25	24.33	16.68%	0.636	0.742	-
					Right side	0	132572	1770	25	24.58	10.15%	0.843	0.929	271
					Right side*	0	132572	1770	25	24.58	10.15%	0.837	0.922	-
					Left side	0	132572	1770	25	24.58	10.15%	0.042	0.046	-
				99	Right side	0	132072	1720	25	24.38	15.35%	0.583	0.672	-
			50 RB	25	Back side	0	132572	1770	24	23.56	10.66%	0.043	0.048	-
					Top side	0	132572	1770	24	23.56	10.66%	0.168	0.186	-
					Bottom side	0	132572	1770	24	23.56	10.66%	0.004	0.004	-
					Right side	0	132572	1770	24	23.56	10.66%	0.711	0.787	-
					Left side	0	132572	1770	24	23.56	10.66%	0.033	0.036	-
			100 RB		Back side	0	132572	1770	24	23.56	10.66%	0.043	0.048	-
					Top side	0	132572	1770	24	23.56	10.66%	0.166	0.184	-
					Bottom side	0	132572	1770	24	23.56	10.66%	0.004	0.004	-
					Right side	0	132572	1770	24	23.56	10.66%	0.719	0.796	-
					Left side	0	132572	1770	24	23.56	10.66%	0.033	0.037	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Tablet mode (SISO)

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11b	Back side	0	2	2417	20.0	19.66	108.14%	0.753	0.814	-
		Top side	0	2	2417	20.0	19.66	108.14%	1.390	1.503	-
		Top side	0	6	2437	20.0	19.62	109.14%	1.370	1.495	-
		Top side	0	10	2457	20.0	19.72	106.66%	1.440	1.536	272
		Top side*	0	10	2457	20.0	19.72	106.66%	1.410	1.504	-
		Bottom side	0	2	2417	20.0	19.66	108.14%	0.003	0.004	-
		Right side	0	2	2417	20.0	19.66	108.14%	0.023	0.025	-
		Leftt side	0	2	2417	20.0	19.66	108.14%	0.026	0.028	-
	WLAN 802.11g	Back side	0	2	2417	20.0	19.58	110.15%	0.723	0.796	-
		Top side	0	2	2417	20.0	19.58	110.15%	1.290	1.421	-
		Top side	0	6	2437	20.0	19.57	110.41%	1.310	1.446	273
		Top side*	0	6	2437	20.0	19.57	110.41%	1.270	1.402	-
		Top side	0	10	2457	17.5	17.49	100.23%	1.190	1.193	-
		Bottom side	0	2	2417	20.0	19.58	110.15%	0.003	0.004	-
		Right side	0	2	2417	20.0	19.58	110.15%	0.022	0.024	-
		Leftt side	0	2	2417	20.0	19.58	110.15%	0.025	0.027	-
	WLAN 802.11n(20M)	Back side	0	2	2417	20.0	19.48	112.72%	0.749	0.844	-
		Top side	0	2	2417	20.0	19.48	112.72%	1.270	1.432	-
		Top side	0	6	2437	20.0	19.42	114.29%	1.300	1.486	274
		Top side*	0	6	2437	20.0	19.42	114.29%	1.280	1.463	-
		Top side	0	10	2457	17.5	17.45	101.16%	1.090	1.103	-
		Bottom side	0	2	2417	20.0	19.48	112.72%	0.003	0.004	-
		Right side	0	2	2417	20.0	19.48	112.72%	0.022	0.024	-
		Leftt side	0	2	2417	20.0	19.48	112.72%	0.022	0.025	-
	WLAN 802.11n(40M)	Back side	0	6	2437	19.0	18.91	102.09%	0.671	0.685	-
		Top side	0	4	2427	17.5	17.41	102.09%	0.898	0.917	-
		Top side	0	6	2437	19.0	18.91	102.09%	0.903	0.922	275
		Top side*	0	6	2437	19.0	18.91	102.09%	0.891	0.910	-
		Bottom side	0	6	2437	19.0	18.91	102.09%	0.003	0.003	-
		Right side	0	6	2437	19.0	18.91	102.09%	0.021	0.022	-
		Leftt side	0	6	2437	19.0	18.91	102.09%	0.024	0.024	-
	Bluetooth (GFSK)	Back side	0	39	2441	11.5	11.50	100.00%	0.051	0.051	-
		Top side	0	39	2441	11.5	11.50	100.00%	0.149	0.149	276
		Bottom side	0	39	2441	11.5	11.50	100.00%	0.001	0.001	-
		Right side	0	39	2441	11.5	11.50	100.00%	0.004	0.004	-
		Leftt side	0	39	2441	11.5	11.50	100.00%	0.001	0.001	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

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Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11a 5.2G	Back side	0	48	5240	15.0	14.97	100.69%	0.312	0.314	-
		Top side	0	36	5180	15.0	14.92	101.86%	1.300	1.324	-
		Top side	0	40	5200	15.0	14.91	102.09%	1.370	1.399	277
		Top side*	0	40	5200	15.0	14.91	102.09%	1.340	1.368	-
		Top side	0	44	5220	15.0	14.96	100.93%	1.330	1.342	-
		Top side	0	48	5240	15.0	14.97	100.69%	1.350	1.359	-
		Bottom side	0	48	5240	15.0	14.97	100.69%	0.037	0.038	-
		Right side	0	48	5240	15.0	14.97	100.69%	0.081	0.082	-
		Leftt side	0	48	5240	15.0	14.97	100.69%	0.012	0.012	-
	WLAN 802.11n(20M) 5.2G	Back side	0	36	5180	15.0	14.97	100.69%	0.299	0.301	-
		Top side	0	36	5180	15.0	14.97	100.69%	1.350	1.359	-
		Top side	0	40	5200	15.0	14.93	101.62%	1.370	1.392	278
		Top side*	0	40	5200	15.0	14.93	101.62%	1.340	1.362	-
		Top side	0	44	5220	15.0	14.90	102.33%	1.320	1.351	-
		Top side	0	48	5240	15.0	14.94	101.39%	1.340	1.359	-
		Bottom side	0	36	5180	15.0	14.97	100.69%	0.038	0.039	-
		Right side	0	36	5180	15.0	14.97	100.69%	0.080	0.081	-
		Leftt side	0	36	5180	15.0	14.97	100.69%	0.014	0.014	-
	WLAN 802.11ac(20M) 5.2G	Back side	0	36	5180	15.0	14.98	100.46%	0.378	0.380	-
		Top side	0	36	5180	15.0	14.98	100.46%	1.390	1.396	-
		Top side	0	40	5200	15.0	14.90	102.33%	1.350	1.381	-
		Top side	0	44	5220	15.0	14.95	101.16%	1.410	1.426	279
		Top side*	0	44	5220	15.0	14.95	101.16%	1.370	1.386	-
		Top side	0	48	5240	15.0	14.97	100.69%	1.370	1.379	-
		Bottom side	0	36	5180	15.0	14.98	100.46%	0.037	0.037	-
		Right side	0	36	5180	15.0	14.98	100.46%	0.085	0.085	-
		Leftt side	0	36	5180	15.0	14.98	100.46%	0.015	0.015	-
	WLAN 802.11n(40M) 5.2G	Back side	0	38	5190	15.0	14.98	100.46%	0.360	0.362	-
		Top side	0	38	5190	15.0	14.98	100.46%	1.280	1.286	-
		Top side	0	46	5230	15.0	14.91	102.09%	1.360	1.388	280
		Top side*	0	46	5230	15.0	14.91	102.09%	1.310	1.337	-
		Bottom side	0	38	5190	15.0	14.98	100.46%	0.037	0.037	-
		Right side	0	38	5190	15.0	14.98	100.46%	0.082	0.083	-
		Leftt side	0	38	5190	15.0	14.98	100.46%	0.013	0.013	-
	WLAN 802.11ac(40M) 5.2G	Back side	0	38	5190	15.0	14.97	100.69%	0.361	0.364	-
		Top side	0	38	5190	15.0	14.97	100.69%	1.290	1.299	-
		Top side	0	46	5230	14.9	14.91	100.00%	1.340	1.340	281
		Top side*	0	46	5230	14.9	14.91	100.00%	1.300	1.300	-
		Bottom side	0	38	5190	15.0	14.97	100.69%	0.036	0.037	-
		Right side	0	38	5190	15.0	14.97	100.69%	0.083	0.084	-
		Leftt side	0	38	5190	15.0	14.97	100.69%	0.015	0.015	-
	WLAN 802.11a 5.3G	Back side	0	52	5260	15.0	14.99	100.23%	0.321	0.322	-
		Top side	0	52	5260	15.0	14.99	100.23%	1.470	1.473	282
		Top side*	0	52	5260	15.0	14.99	100.23%	1.450	1.453	-
		Top side	0	56	5280	15.0	14.95	101.16%	1.400	1.416	-
		Top side	0	60	5300	15.0	14.96	100.93%	1.430	1.443	-
		Top side	0	64	5320	15.0	14.92	101.86%	1.370	1.395	-
		Bottom side	0	52	5260	15.0	14.99	100.23%	0.035	0.035	-
		Right side	0	52	5260	15.0	14.99	100.23%	0.084	0.084	-
		Leftt side	0	52	5260	15.0	14.99	100.23%	0.013	0.013	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11n(20M) 5.3G	Back side	0	52	5260	15.0	14.99	100.23%	0.326	0.327	-
		Top side	0	52	5260	15.0	14.99	100.23%	1.460	1.463	-
		Top side	0	56	5280	15.0	14.92	101.86%	1.520	1.548	-
		Top side	0	60	5300	15.0	14.95	101.16%	1.550	1.568	283
		Top side*	0	60	5300	15.0	14.95	101.16%	1.530	1.548	-
		Top side	0	64	5320	15.0	14.91	102.09%	1.500	1.531	-
		Bottom side	0	52	5260	15.0	14.99	100.23%	0.037	0.037	-
		Right side	0	52	5260	15.0	14.99	100.23%	0.080	0.080	-
		Leftt side	0	52	5260	15.0	14.99	100.23%	0.015	0.015	-
	WLAN 802.11ac(20M) 5.3G	Back side	0	52	5260	15.0	14.99	100.23%	0.321	0.322	-
		Top side	0	52	5260	15.0	14.99	100.23%	1.490	1.493	284
		Top side*	0	52	5260	15.0	14.99	100.23%	1.460	1.463	-
		Top side	0	56	5280	15.0	14.92	101.86%	1.340	1.365	-
		Top side	0	60	5300	15.0	14.96	100.93%	1.430	1.443	-
		Top side	0	64	5320	15.0	14.93	101.62%	1.400	1.423	-
		Bottom side	0	52	5260	15.0	14.99	100.23%	0.035	0.035	-
		Right side	0	52	5260	15.0	14.99	100.23%	0.087	0.087	-
		Leftt side	0	52	5260	15.0	14.99	100.23%	0.015	0.015	-
	WLAN 802.11n(40M) 5.3G	Back side	0	62	5310	15.0	14.95	101.16%	0.349	0.353	-
		Top side	0	54	5270	15.0	14.94	101.39%	1.460	1.480	-
		Top side	0	62	5310	15.0	14.95	101.16%	1.510	1.527	285
		Top side*	0	62	5310	15.0	14.95	101.16%	1.470	1.487	-
		Bottom side	0	62	5310	15.0	14.95	101.16%	0.039	0.040	-
		Right side	0	62	5310	15.0	14.95	101.16%	0.092	0.093	-
		Leftt side	0	62	5310	15.0	14.95	101.16%	0.019	0.019	-
	WLAN 802.11ac(40M) 5.3G	Back side	0	62	5310	15.0	14.97	100.69%	0.339	0.341	-
		Top side	0	54	5270	15.0	14.92	101.86%	1.450	1.477	-
		Top side	0	62	5310	15.0	14.97	100.69%	1.500	1.510	286
		Top side*	0	62	5310	15.0	14.97	100.69%	1.460	1.470	-
		Bottom side	0	62	5310	15.0	14.97	100.69%	0.038	0.038	-
		Right side	0	62	5310	15.0	14.97	100.69%	0.089	0.090	-
		Leftt side	0	62	5310	15.0	14.97	100.69%	0.017	0.017	-
	WLAN 802.11ac(80M) 5.6G	Back side	0	138	5690	13.5	13.50	100.00%	0.309	0.309	-
		Top side	0	106	5530	13.5	13.48	100.46%	0.965	0.969	-
		Top side	0	138	5690	13.5	13.50	100.00%	1.040	1.040	287
		Top side*	0	138	5690	13.5	13.50	100.00%	1.020	1.020	-
		Bottom side	0	138	5690	13.5	13.50	100.00%	0.020	0.020	-
		Right side	0	138	5690	13.5	13.50	100.00%	0.067	0.067	-
		Leftt side	0	138	5690	13.5	13.50	100.00%	0.008	0.008	-
	WLAN 802.11ac(80M) 5.8G	Back side	0	155	5775	13.0	13.00	100.00%	0.320	0.320	-
		Top side	0	155	5775	13.0	13.00	100.00%	1.170	1.170	288
		Top side*	0	155	5775	13.0	13.00	100.00%	1.150	1.150	-
		Bottom side	0	155	5775	13.0	13.00	100.00%	0.022	0.022	-
		Right side	0	155	5775	13.0	13.00	100.00%	0.070	0.070	-
		Leftt side	0	155	5775	13.0	13.00	100.00%	0.006	0.006	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Aux	WLAN 802.11b	Back side	0	6	2437	18.0	17.99	100.23%	0.703	0.705	-
		Top side	0	1	2412	18.0	17.92	101.86%	1.190	1.212	-
		Top side	0	6	2437	18.0	17.99	100.23%	1.230	1.233	289
		Top side*	0	6	2437	18.0	17.99	100.23%	1.180	1.183	-
		Bottom side	0	6	2437	18.0	17.99	100.23%	0.010	0.010	-
		Right side	0	6	2437	18.0	17.99	100.23%	0.044	0.044	-
		Leftt side	0	6	2437	18.0	17.99	100.23%	0.056	0.056	-
	WLAN 802.11ac(80M) 5.2G	Back side	0	42	5210	14.0	13.93	101.62%	0.306	0.311	-
		Top side	0	42	5210	14.0	13.93	101.62%	1.120	1.138	290
		Top side*	0	42	5210	14.0	13.93	101.62%	1.090	1.108	-
		Bottom side	0	42	5210	14.0	13.93	101.62%	0.029	0.029	-
		Right side	0	42	5210	14.0	13.93	101.62%	0.026	0.026	-
		Leftt side	0	42	5210	14.0	13.93	101.62%	0.025	0.025	-
	WLAN 802.11a 5.3G	Back side	0	64	5320	13.5	13.49	100.23%	0.321	0.322	-
		Top side	0	52	5260	13.5	13.47	100.69%	1.130	1.138	-
		Top side	0	64	5320	13.5	13.49	100.23%	1.180	1.183	291
		Top side*	0	64	5320	13.5	13.49	100.23%	1.120	1.123	-
		Bottom side	0	64	5320	13.5	13.49	100.23%	0.027	0.027	-
		Right side	0	64	5320	13.5	13.49	100.23%	0.024	0.024	-
		Leftt side	0	64	5320	13.5	13.49	100.23%	0.026	0.026	-
	WLAN 802.11n(20M) 5.3G	Back side	0	64	5320	13.5	13.47	100.69%	0.319	0.321	-
		Top side	0	60	5300	13.5	13.40	102.33%	1.170	1.197	292
		Top side*	0	60	5300	13.5	13.40	102.33%	1.130	1.156	-
		Top side	0	64	5320	13.5	13.47	100.69%	1.150	1.158	-
		Bottom side	0	64	5320	13.5	13.47	100.69%	0.027	0.027	-
		Right side	0	64	5320	13.5	13.47	100.69%	0.022	0.022	-
		Leftt side	0	64	5320	13.5	13.47	100.69%	0.024	0.024	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Aux	WLAN 802.11n(40M) 5.3G	Back side	0	54	5270	13.5	13.48	100.46%	0.329	0.331	-
		Top side	0	54	5270	13.5	13.48	100.46%	1.090	1.095	-
		Top side	0	62	5310	13.5	13.41	102.09%	1.170	1.194	293
		Top side*	0	62	5310	13.5	13.41	102.09%	1.130	1.154	-
		Bottom side	0	54	5270	13.5	13.48	100.46%	0.003	0.003	-
		Right side	0	54	5270	13.5	13.48	100.46%	0.023	0.023	-
		Leftt side	0	54	5270	13.5	13.48	100.46%	0.024	0.025	-
	WLAN 802.11ac(40M) 5.3G	Back side	0	54	5270	13.5	13.46	100.93%	0.326	0.329	-
		Top side	0	54	5270	13.5	13.46	100.93%	1.140	1.151	-
		Top side	0	62	5310	13.5	13.43	101.62%	1.180	1.199	294
		Top side*	0	62	5310	13.5	13.43	101.62%	1.140	1.159	-
		Bottom side	0	54	5270	13.5	13.46	100.93%	0.028	0.028	-
		Right side	0	54	5270	13.5	13.46	100.93%	0.023	0.024	-
		Leftt side	0	54	5270	13.5	13.46	100.93%	0.023	0.024	-
	WLAN 802.11n(40M) 5.6G	Back side	0	142	5710	13.5	13.49	100.23%	0.234	0.235	-
		Top side	0	102	5510	13.5	13.45	101.16%	1.440	1.457	295
		Top side*	0	102	5510	13.5	13.45	101.16%	1.400	1.416	-
		Top side	0	110	5550	13.5	13.47	100.69%	1.325	1.334	-
		Top side	0	118	5590	13.5	13.48	100.46%	1.350	1.356	-
		Top side	0	134	5670	13.5	13.41	102.09%	1.180	1.205	-
		Top side	0	142	5710	13.5	13.49	100.23%	1.380	1.383	-
		Bottom side	0	142	5710	13.5	13.49	100.23%	0.038	0.038	-
		Right side	0	142	5710	13.5	13.49	100.23%	0.028	0.028	-
		Leftt side	0	142	5710	13.5	13.49	100.23%	0.034	0.034	-
	WLAN 802.11ac(80M) 5.6G	Back side	0	138	5690	13.5	13.46	100.93%	0.231	0.233	-
		Top side	0	106	5530	13.5	13.43	101.62%	1.440	1.463	296
		Top side*	0	106	5530	13.5	13.43	101.62%	1.430	1.453	-
		Top side	0	122	5610	13.5	13.45	101.16%	1.380	1.396	-
		Top side	0	138	5690	13.5	13.46	100.93%	1.350	1.362	-
		Bottom side	0	138	5690	13.5	13.46	100.93%	0.034	0.034	-
		Right side	0	138	5690	13.5	13.46	100.93%	0.026	0.026	-
		Leftt side	0	138	5690	13.5	13.46	100.93%	0.034	0.034	-
	WLAN 802.11ac(80M) 5.8G	Back side	0	155	5775	15.5	15.42	101.86%	0.203	0.207	-
		Top side	0	155	5775	15.5	15.42	101.86%	1.040	1.059	297
		Top side*	0	155	5775	15.5	15.42	101.86%	1.020	1.039	-
		Bottom side	0	155	5775	15.5	15.42	101.86%	0.026	0.026	-
		Right side	0	155	5775	15.5	15.42	101.86%	0.023	0.023	-
		Leftt side	0	155	5775	15.5	15.42	101.86%	0.029	0.029	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Notebook mode (SISO)

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11b	Bottom side	0	6	2437	20.0	19.72	106.66%	0.526	0.561	298
	Bluetooth (GFSK)	Bottom side	0	39	2441	11.5	11.50	100.00%	0.104	0.104	299
	WLAN 802.11a 5.2G	Bottom side	0	36	5180	17.5	17.45	101.16%	1.190	1.204	-
		Bottom side	0	40	5200	19.0	18.97	100.69%	1.260	1.269	-
		Bottom side	0	44	5220	19.0	18.99	100.23%	1.400	1.403	300
		Bottom side*	0	44	5220	19.0	18.99	100.23%	1.380	1.383	-
		Bottom side	0	48	5240	19.0	18.98	100.46%	1.350	1.356	-
	WLAN 802.11n(40M) 5.2G	Bottom side	0	38	5190	18.0	17.99	100.23%	1.190	1.193	-
		Bottom side	0	46	5230	19.0	18.93	101.62%	1.390	1.413	301
		Bottom side*	0	46	5230	19.0	18.93	101.62%	1.370	1.392	-
	WLAN 802.11a 5.3G	Bottom side	0	52	5260	19.0	18.98	100.46%	1.390	1.396	302
		Bottom side*	0	52	5260	19.0	18.98	100.46%	1.360	1.366	-
		Bottom side	0	56	5280	19.0	18.94	101.39%	1.320	1.338	-
		Bottom side	0	60	5300	19.0	18.93	101.62%	1.270	1.291	-
		Bottom side	0	64	5320	16.5	16.47	100.69%	1.120	1.128	-
	WLAN 802.11a 5.6G	Bottom side	0	136	5680	17.0	16.95	101.16%	0.623	0.630	303
	WLAN 802.11ac(80M) 5.6G	Bottom side	0	138	5690	17.0	16.95	101.16%	0.691	0.699	304
	WLAN 802.11ac(80M) 5.8G	Bottom side	0	155	5775	16.5	16.48	100.46%	0.685	0.688	305

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Aux	WLAN 802.11b	Bottom side	0	6	2437	19.0	18.96	100.93%	0.673	0.679	306
	WLAN 802.11a 5.2G	Bottom side	0	44	5220	18.5	18.48	100.46%	0.745	0.748	307
	WLAN 802.11n(40M) 5.2G	Bottom side	0	46	5230	18.5	18.49	100.23%	0.760	0.762	308
	WLAN 802.11a 5.3G	Bottom side	0	52	5260	18.0	17.99	100.23%	0.715	0.717	309
	WLAN 802.11n(40M) 5.6G	Bottom side	0	134	5670	17.0	16.99	100.23%	1.070	1.072	310
		Bottom side*	0	134	5670	17.0	16.99	100.23%	1.040	1.042	-
		Bottom side	0	142	5710	17.0	16.98	100.46%	1.010	1.015	-
	WLAN 802.11ac(80M) 5.6G	Bottom side	0	122	5610	17.0	16.98	100.46%	0.897	0.901	-
		Bottom side	0	138	5690	17.0	16.99	100.23%	0.950	0.952	311
		Bottom side*	0	138	5690	17.0	16.99	100.23%	0.947	0.949	-
	WLAN 802.11ac(80M) 5.8G	Bottom side	0	155	5775	17.0	16.93	101.62%	0.918	0.933	312
		Bottom side*	0	155	5775	17.0	16.93	101.62%	0.908	0.923	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

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Tablet mode (MIMO)

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11n(20M)	Back side	0	2	2417	15.0	14.98	100.46%	0.241	0.242	-
		Top side	0	2	2417	15.0	14.98	100.46%	0.456	0.458	313
		Bottom side	0	2	2417	15.0	14.98	100.46%	0.001	0.001	-
		Right side	0	2	2417	15.0	14.98	100.46%	0.004	0.004	-
		Leftt side	0	2	2417	15.0	14.98	100.46%	0.009	0.009	-
	WLAN 802.11n(20M) 5.2G	Back side	0	40	5200	11.0	10.91	102.09%	0.106	0.108	-
		Top side	0	40	5200	11.0	10.91	102.09%	0.550	0.562	314
		Bottom side	0	40	5200	11.0	10.91	102.09%	0.001	0.001	-
		Right side	0	40	5200	11.0	10.91	102.09%	0.019	0.019	-
		Leftt side	0	40	5200	11.0	10.91	102.09%	0.011	0.012	-
	WLAN 802.11n(40M) 5.2G	Back side	0	46	5230	11.0	11.00	100.00%	0.131	0.131	-
		Top side	0	46	5230	11.0	11.00	100.00%	0.576	0.576	315
		Bottom side	0	46	5230	11.0	11.00	100.00%	0.001	0.001	-
		Right side	0	46	5230	11.0	11.00	100.00%	0.023	0.023	-
		Leftt side	0	46	5230	11.0	11.00	100.00%	0.014	0.014	-
	WLAN 802.11n(20M) 5.3G	Back side	0	56	5280	10.5	10.49	100.23%	0.127	0.127	-
		Top side	0	56	5280	10.5	10.49	100.23%	0.532	0.533	316
		Bottom side	0	56	5280	10.5	10.49	100.23%	0.001	0.001	-
		Right side	0	56	5280	10.5	10.49	100.23%	0.020	0.020	-
		Leftt side	0	56	5280	10.5	10.49	100.23%	0.010	0.010	-
	WLAN 802.11n(40M) 5.3G	Back side	0	54	5270	10.5	10.44	101.39%	0.122	0.124	-
		Top side	0	54	5270	10.5	10.44	101.39%	0.526	0.533	317
		Bottom side	0	54	5270	10.5	10.44	101.39%	0.001	0.001	-
		Right side	0	54	5270	10.5	10.44	101.39%	0.019	0.019	-
		Leftt side	0	54	5270	10.5	10.44	101.39%	0.013	0.014	-
	WLAN 802.11n(20M) 5.6G	Back side	0	100	5500	10.5	10.46	100.93%	0.132	0.133	-
		Top side	0	100	5500	10.5	10.46	100.93%	0.488	0.493	318
		Bottom side	0	100	5500	10.5	10.46	100.93%	0.001	0.001	-
		Right side	0	100	5500	10.5	10.46	100.93%	0.021	0.021	-
		Leftt side	0	100	5500	10.5	10.46	100.93%	0.013	0.013	-
	WLAN 802.11n(40M) 5.6G	Back side	0	110	5550	10.5	10.49	100.23%	0.187	0.187	-
		Top side	0	110	5550	10.5	10.49	100.23%	0.648	0.649	319
		Bottom side	0	110	5550	10.5	10.49	100.23%	0.002	0.002	-
		Right side	0	110	5550	10.5	10.49	100.23%	0.027	0.027	-
		Leftt side	0	110	5550	10.5	10.49	100.23%	0.021	0.021	-
	WLAN 802.11ac(80M) 5.8G	Back side	0	155	5775	10.0	10.00	100.00%	0.128	0.128	-
		Top side	0	155	5775	10.0	10.00	100.00%	0.517	0.517	320
		Bottom side	0	155	5775	10.0	10.00	100.00%	0.001	0.001	-
		Right side	0	155	5775	10.0	10.00	100.00%	0.020	0.020	-
		Leftt side	0	155	5775	10.0	10.00	100.00%	0.013	0.013	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

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Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Aux	WLAN 802.11n(20M)	Back side	0	2	2417	15.0	14.92	101.86%	0.309	0.315	-
		Top side	0	2	2417	15.0	14.92	101.86%	0.578	0.589	321
		Bottom side	0	2	2417	15.0	14.92	101.86%	0.001	0.001	-
		Right side	0	2	2417	15.0	14.92	101.86%	0.018	0.018	-
		Leftt side	0	2	2417	15.0	14.92	101.86%	0.024	0.024	-
	WLAN 802.11n(20M) 5.2G	Back side	0	40	5200	11.0	10.91	102.09%	0.164	0.167	-
		Top side	0	40	5200	11.0	10.91	102.09%	0.646	0.660	322
		Bottom side	0	40	5200	11.0	10.91	102.09%	0.004	0.004	-
		Right side	0	40	5200	11.0	10.91	102.09%	0.024	0.025	-
		Leftt side	0	40	5200	11.0	10.91	102.09%	0.017	0.017	-
	WLAN 802.11n(40M) 5.2G	Back side	0	46	5230	11.0	10.98	100.46%	0.155	0.156	-
		Top side	0	46	5230	11.0	10.98	100.46%	0.648	0.651	323
		Bottom side	0	46	5230	11.0	10.98	100.46%	0.004	0.004	-
		Right side	0	46	5230	11.0	10.98	100.46%	0.019	0.019	-
		Leftt side	0	46	5230	11.0	10.98	100.46%	0.016	0.016	-
	WLAN 802.11n(20M) 5.3G	Back side	0	60	5300	10.5	10.41	102.09%	0.119	0.121	-
		Top side	0	60	5300	10.5	10.41	102.09%	0.579	0.591	324
		Bottom side	0	60	5300	10.5	10.41	102.09%	0.003	0.003	-
		Right side	0	60	5300	10.5	10.41	102.09%	0.019	0.020	-
		Leftt side	0	60	5300	10.5	10.41	102.09%	0.014	0.014	-
	WLAN 802.11n(40M) 5.3G	Back side	0	54	5270	10.5	10.45	101.16%	0.127	0.128	-
		Top side	0	54	5270	10.5	10.45	101.16%	0.605	0.612	325
		Bottom side	0	54	5270	10.5	10.45	101.16%	0.005	0.005	-
		Right side	0	54	5270	10.5	10.45	101.16%	0.019	0.020	-
		Leftt side	0	54	5270	10.5	10.45	101.16%	0.016	0.016	-
	WLAN 802.11n(20M) 5.6G	Back side	0	100	5500	10.5	10.44	101.39%	0.187	0.190	-
		Top side	0	100	5500	10.5	10.44	101.39%	0.675	0.684	326
		Bottom side	0	100	5500	10.5	10.44	101.39%	0.005	0.005	-
		Right side	0	100	5500	10.5	10.44	101.39%	0.024	0.025	-
		Leftt side	0	100	5500	10.5	10.44	101.39%	0.018	0.018	-
	WLAN 802.11n(40M) 5.6G	Back side	0	134	5670	10.5	10.47	100.69%	0.189	0.190	-
		Top side	0	134	5670	10.5	10.47	100.69%	0.707	0.712	327
		Bottom side	0	134	5670	10.5	10.47	100.69%	0.004	0.004	-
		Right side	0	134	5670	10.5	10.47	100.69%	0.027	0.027	-
		Leftt side	0	134	5670	10.5	10.47	100.69%	0.016	0.016	-
	WLAN 802.11ac(80M) 5.8G	Back side	0	155	5775	10.0	9.93	101.62%	0.213	0.216	-
		Top side	0	155	5775	10.0	9.93	101.62%	0.517	0.525	328
		Bottom side	0	155	5775	10.0	9.93	101.62%	0.006	0.006	-
		Right side	0	155	5775	10.0	9.93	101.62%	0.024	0.025	-
		Leftt side	0	155	5775	10.0	9.93	101.62%	0.011	0.011	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

Notebook mode (MIMO)

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Main	WLAN 802.11n(20M)	Bottom side	0	6	2437	15.0	15.00	100.00%	0.296	0.296	329
	WLAN 802.11n(20M) 5.2G	Bottom side	0	44	5220	15.0	14.93	101.62%	0.606	0.616	330
	WLAN 802.11n(40M) 5.2G	Bottom side	0	46	5230	15.0	14.99	100.23%	0.598	0.599	331
	WLAN 802.11n(20M) 5.3G	Bottom side	0	52	5260	15.0	14.95	101.16%	0.621	0.628	332
	WLAN 802.11n(40M) 5.3G	Bottom side	0	54	5270	15.0	14.98	100.46%	0.625	0.628	333
	WLAN 802.11n(20M) 5.6G	Bottom side	0	104	5520	14.0	13.98	100.46%	0.387	0.389	334
	WLAN 802.11n(40M) 5.6G	Bottom side	0	142	5710	14.0	13.92	101.86%	0.353	0.360	335
	WLAN 802.11ac(80M) 5.8G	Bottom side	0	155	5775	13.5	13.43	101.62%	0.337	0.342	336

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
									Measured	Reported	
Aux	WLAN 802.11n(20M)	Bottom side	0	2	2417	15.0	14.97	100.69%	0.256	0.258	337
	WLAN 802.11n(20M) 5.2G	Bottom side	0	44	5220	15.0	14.98	100.46%	0.346	0.348	338
	WLAN 802.11n(40M) 5.2G	Bottom side	0	46	5230	15.0	14.94	101.39%	0.338	0.343	339
	WLAN 802.11n(20M) 5.3G	Bottom side	0	52	5260	15.0	14.97	100.69%	0.375	0.378	340
	WLAN 802.11n(40M) 5.3G	Bottom side	0	54	5270	15.0	14.92	101.86%	0.344	0.350	341
	WLAN 802.11n(20M) 5.6G	Bottom side	0	104	5520	14.0	13.97	100.69%	0.493	0.496	342
	WLAN 802.11n(40M) 5.6G	Bottom side	0	110	5550	14.0	13.97	100.69%	0.472	0.475	343
	WLAN 802.11ac(80M) 5.8G	Bottom side	0	155	5775	13.5	13.41	102.09%	0.420	0.429	344

Note:

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

Reported SAR = measured SAR * (scaling)

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

3. Simultaneous Transmission Analysis

Simultaneous Transmission Scenarios:

NO.	Simultaneous Transmit Configurations	Body
1	UMTS + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
2	UMTS + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
3	UMTS + BT	YES
4	UMTS + 2.4/5GHz WLAN Maiin + BT	YES
5	LTE + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
6	LTE + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
7	LTE + BT	YES
8	LTE + 2.4/5GHz WLAN Main + BT	YES

Note :
1) WWAN and WLAN may transmit simultaneously.
2) Bluetooth and WLAN Aux share the same antenna path.
3) Bluetooth can transmit with WLAN Main simultaneously.

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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:

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

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 **≤ 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

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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.

Tablet mode

SISO

Back side WWAN + 2.4GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
1	Back side	WCDMA Band Ⅱ	0	0.029	0.844	0.873	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.844	0.887	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.844	0.851	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.844	0.867	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.844	0.876	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.844	0.851	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.844	0.854	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.844	0.854	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.844	0.852	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.844	0.848	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.844	0.876	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.844	0.850	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.844	0.870	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.844	0.868	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.844	0.862	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.844	0.899	ΣSAR<1.6, Not required

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Back side WWAN + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
2	Back side	WCDMA Band Ⅱ	0	0.029	0.705	0.734	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.705	0.747	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.705	0.711	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.705	0.727	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.705	0.737	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.705	0.711	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.705	0.715	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.705	0.714	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.705	0.712	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.705	0.709	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.705	0.736	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.705	0.711	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.705	0.731	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.705	0.728	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.705	0.722	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.705	0.759	ΣSAR<1.6, Not required

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Back side WWAN + 5 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
3	Back side	WCDMA Band Ⅱ	0	0.029	0.380	0.409	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.380	0.422	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.380	0.386	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.380	0.402	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.380	0.412	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.380	0.386	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.380	0.390	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.380	0.389	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.380	0.387	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.380	0.384	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.380	0.411	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.380	0.386	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.380	0.406	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.380	0.403	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.380	0.397	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.380	0.434	ΣSAR<1.6, Not required

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Back side WWAN + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
4	Back side	WCDMA Band Ⅱ	0	0.029	0.331	0.360	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.331	0.373	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.331	0.337	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.331	0.353	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.331	0.362	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.331	0.337	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.331	0.340	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.331	0.340	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.331	0.338	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.331	0.334	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.331	0.362	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.331	0.337	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.331	0.356	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.331	0.354	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.331	0.348	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.331	0.385	ΣSAR<1.6, Not required

Back side WWAN + Bluetooth + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
5	Back side	WCDMA Band Ⅱ	0	0.029	0.051	0.705	0.785	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.051	0.705	0.798	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.051	0.705	0.762	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.051	0.705	0.779	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.051	0.705	0.788	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.051	0.705	0.762	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.051	0.705	0.766	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.051	0.705	0.765	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.051	0.705	0.763	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.051	0.705	0.760	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.051	0.705	0.788	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.051	0.705	0.762	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.051	0.705	0.782	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.051	0.705	0.780	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.051	0.705	0.774	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.051	0.705	0.811	ΣSAR<1.6, Not required

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Back side WWAN + Bluetooth + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
6	Back side	WCDMA Band Ⅱ	0	0.029	0.051	0.331	0.411	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.042	0.051	0.331	0.424	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.051	0.331	0.388	ΣSAR<1.6, Not required
		LTE Band 2	0	0.023	0.051	0.331	0.405	ΣSAR<1.6, Not required
		LTE Band 4	0	0.032	0.051	0.331	0.414	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.051	0.331	0.388	ΣSAR<1.6, Not required
		LTE Band 12	0	0.010	0.051	0.331	0.392	ΣSAR<1.6, Not required
		LTE Band 13	0	0.009	0.051	0.331	0.391	ΣSAR<1.6, Not required
		LTE Band 14	0	0.007	0.051	0.331	0.389	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.051	0.331	0.386	ΣSAR<1.6, Not required
		LTE Band 25	0	0.032	0.051	0.331	0.414	ΣSAR<1.6, Not required
		LTE Band 26	0	0.006	0.051	0.331	0.388	ΣSAR<1.6, Not required
		LTE Band 30	0	0.026	0.051	0.331	0.408	ΣSAR<1.6, Not required
		LTE Band 38	0	0.024	0.051	0.331	0.406	ΣSAR<1.6, Not required
		LTE Band 41	0	0.018	0.051	0.331	0.400	ΣSAR<1.6, Not required
		LTE Band 66	0	0.055	0.051	0.331	0.437	ΣSAR<1.6, Not required

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Top side WWAN + 2.4 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
7	Top side	WCDMA Band Ⅱ	0	0.191	1.536	**1.727**	Analyzed as below
		WCDMA Band Ⅳ	0	0.188	1.536	**1.724**	Analyzed as below
		WCDMA Band V	0	0.095	1.536	**1.631**	Analyzed as below
		LTE Band 2	0	0.196	1.536	**1.732**	Analyzed as below
		LTE Band 4	0	0.194	1.536	**1.730**	Analyzed as below
		LTE Band 5	0	0.090	1.536	**1.626**	Analyzed as below
		LTE Band 12	0	0.078	1.536	**1.614**	Analyzed as below
		LTE Band 13	0	0.044	1.536	1.580	ΣSAR<1.6, Not required
		LTE Band 14	0	0.054	1.536	1.590	ΣSAR<1.6, Not required
		LTE Band 17	0	0.086	1.536	**1.622**	Analyzed as below
		LTE Band 25	0	0.173	1.536	**1.709**	Analyzed as below
		LTE Band 26	0	0.090	1.536	**1.626**	Analyzed as below
		LTE Band 30	0	0.120	1.536	**1.656**	Analyzed as below
		LTE Band 38	0	0.080	1.536	**1.616**	Analyzed as below
		LTE Band 41	0	0.125	1.536	**1.661**	Analyzed as below
		LTE Band 66	0	0.239	1.536	**1.775**	Analyzed as below

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Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Main	1.536	-1.00	4.36	-0.25	-	-	-	-
	WCDMA Band Ⅱ	0.191	1.13	11.23	-0.27	1.727	71.93	0.032	SPLSR ≤ 0.04, Not required
	WCDMA Band Ⅳ	0.188	1.14	13.61	-0.28	1.723	94.94	0.024	SPLSR ≤ 0.04, Not required
	WCDMA Band V	0.095	0.82	11.20	-0.13	1.630	70.79	0.029	SPLSR ≤ 0.04, Not required
	LTE Band 2	0.196	0.38	11.61	-0.18	1.732	73.80	0.031	SPLSR ≤ 0.04, Not required
	LTE Band 4	0.194	0.30	13.45	-0.19	1.729	91.83	0.025	SPLSR ≤ 0.04, Not required
	LTE Band 5	0.090	2.03	11.23	0.04	1.626	75.14	0.028	SPLSR ≤ 0.04, Not required
	LTE Band 12	0.078	1.75	11.79	0.10	1.613	79.30	0.026	SPLSR ≤ 0.04, Not required
	LTE Band 17	0.086	1.75	11.79	0.07	1.621	79.29	0.026	SPLSR ≤ 0.04, Not required
	LTE Band 25	0.173	0.45	11.81	-0.11	1.709	75.91	0.029	SPLSR ≤ 0.04, Not required
	LTE Band 26	0.090	0.82	11.20	-0.12	1.626	70.79	0.029	SPLSR ≤ 0.04, Not required
	LTE Band 30	0.120	0.78	10.22	-0.17	1.656	61.25	0.035	SPLSR ≤ 0.04, Not required
	LTE Band 38	0.080	0.90	11.20	-0.43	1.615	71.01	0.029	SPLSR ≤ 0.04, Not required
	LTE Band 41	0.125	0.80	11.32	-0.42	1.661	71.91	0.030	SPLSR ≤ 0.04, Not required
	LTE Band 66	0.239	0.30	13.30	-0.12	1.775	90.35	0.026	SPLSR ≤ 0.04, Not required

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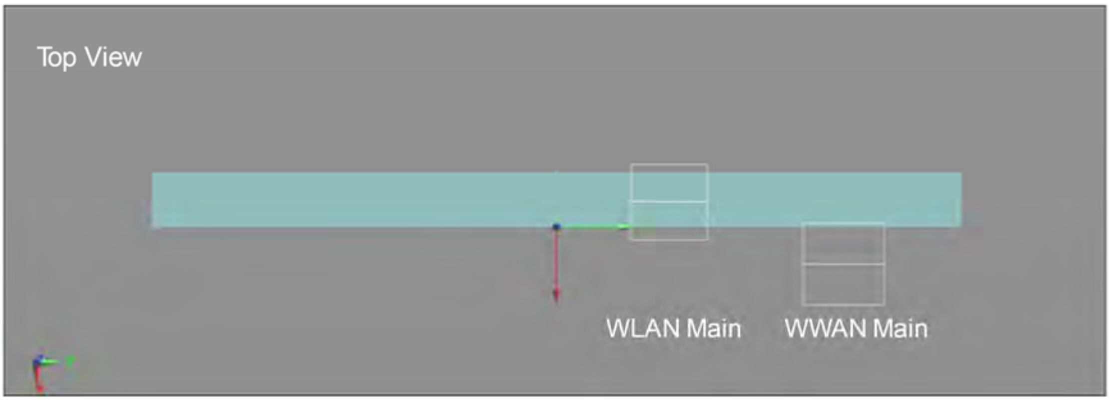
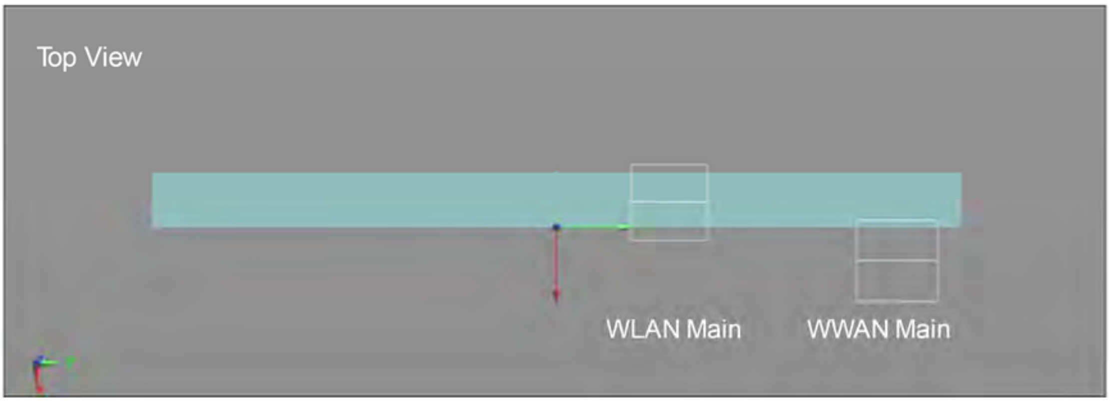
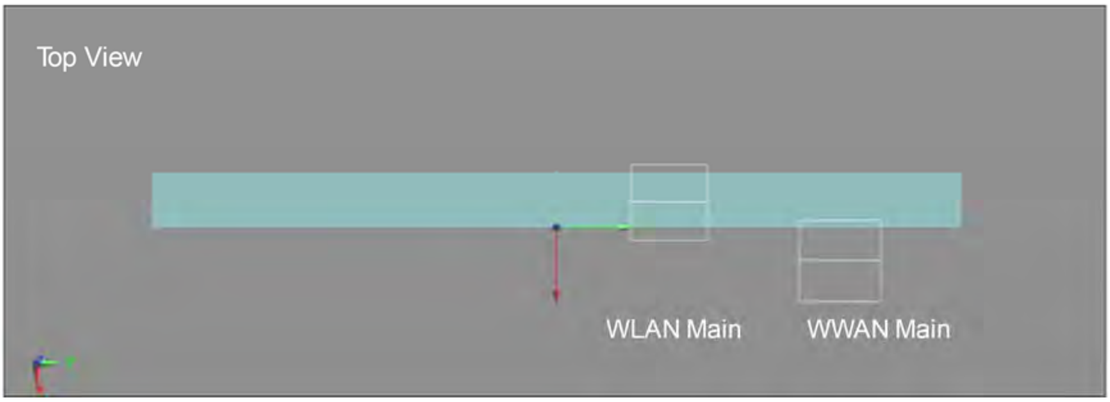
WCDMA Band II



WCDMA Band IV



WCDMA Band V



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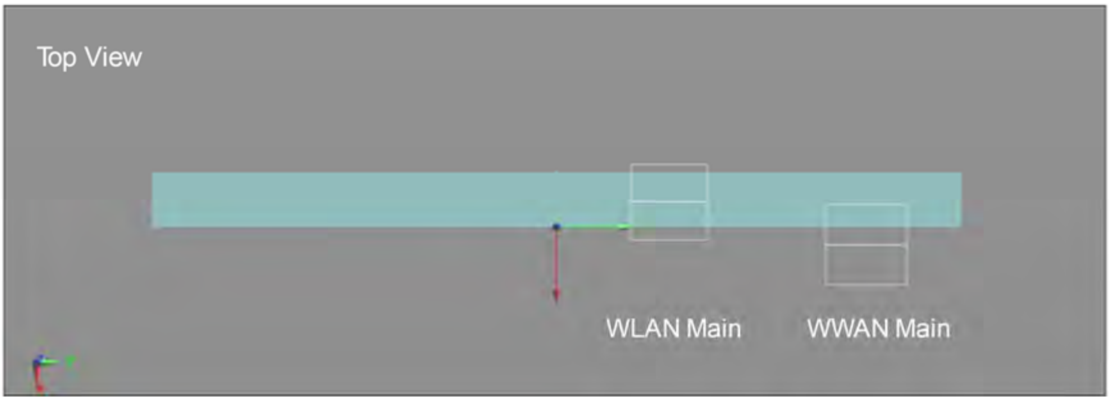
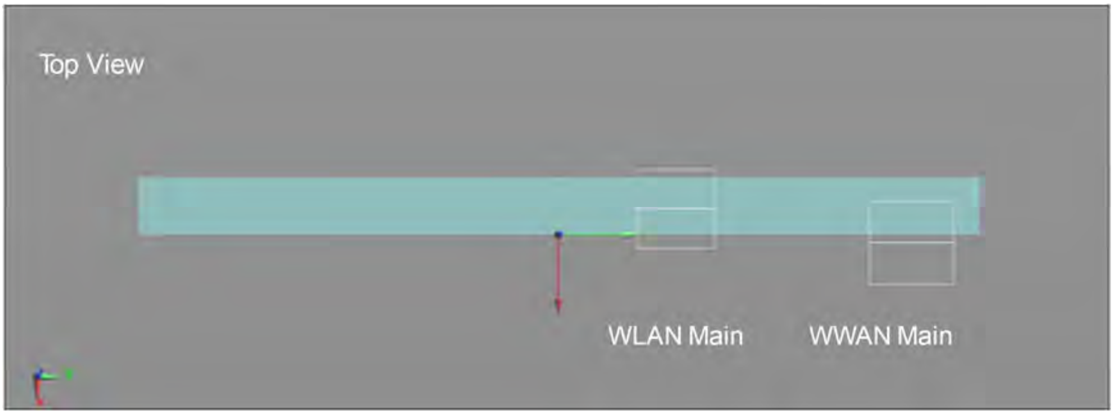
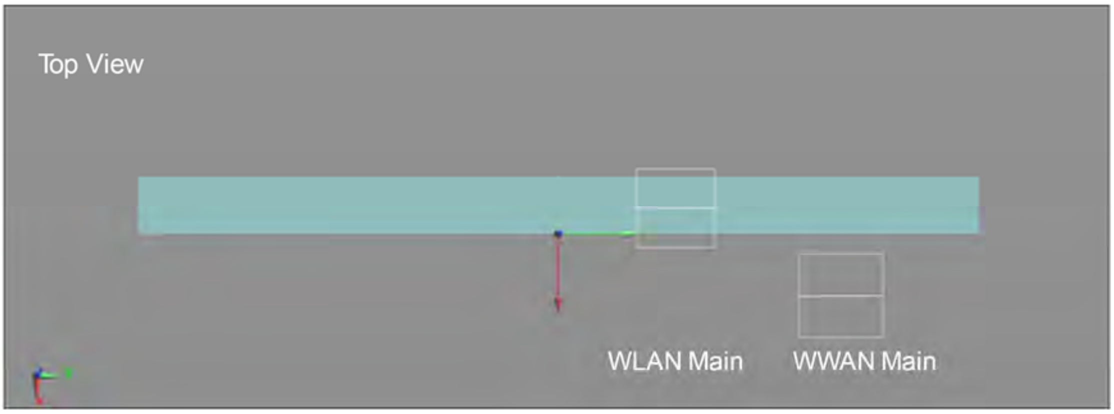
LTE Band 2



LTE Band 4



LTE Band 5



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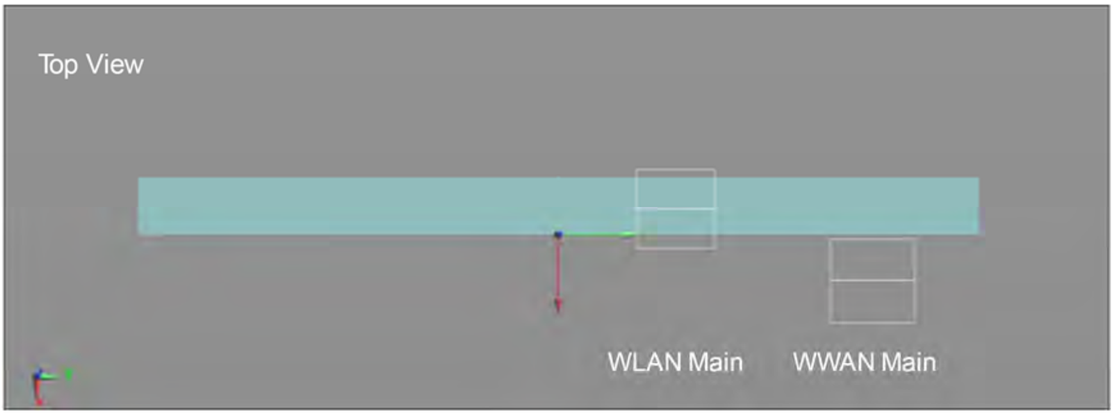
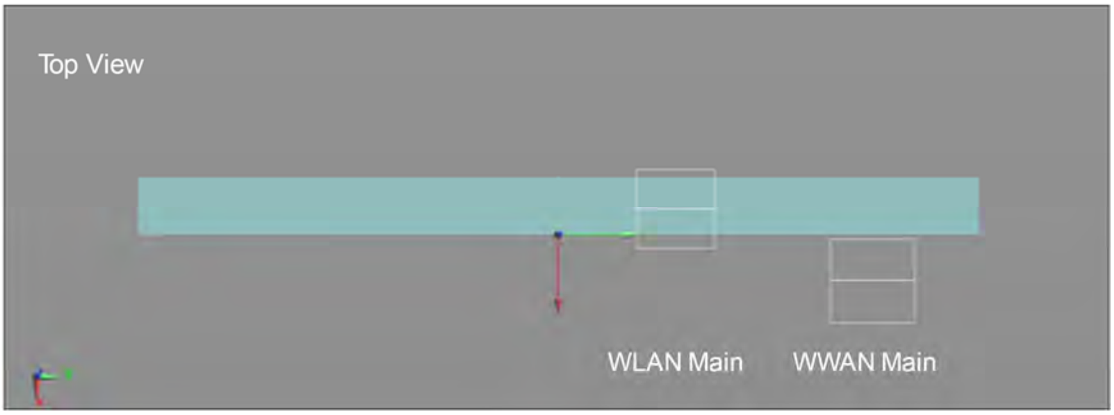
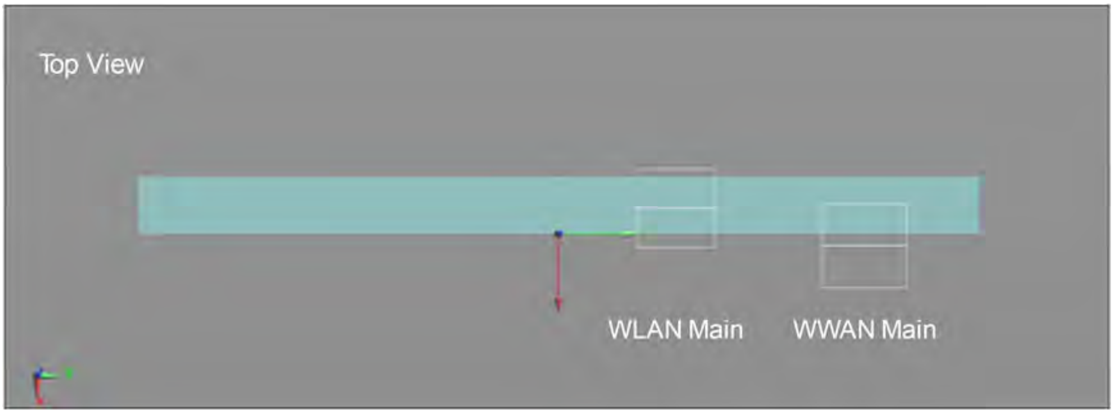
LTE Band 12



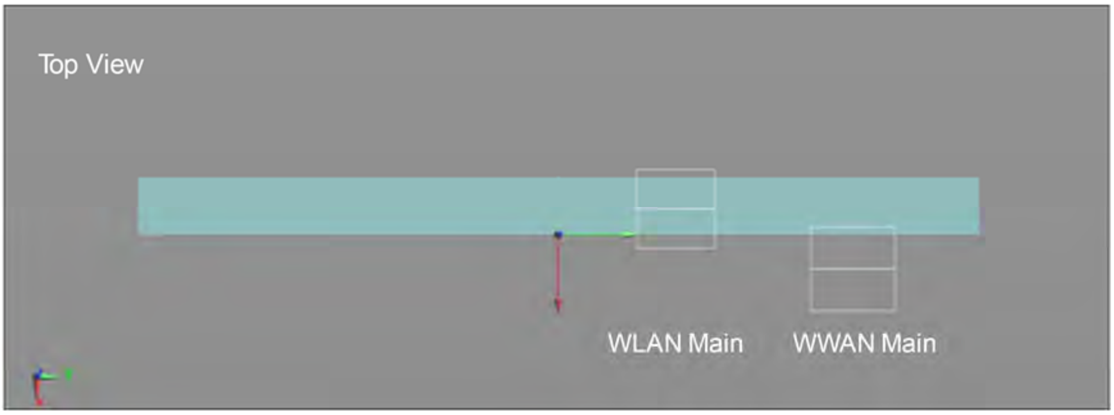
LTE Band 17



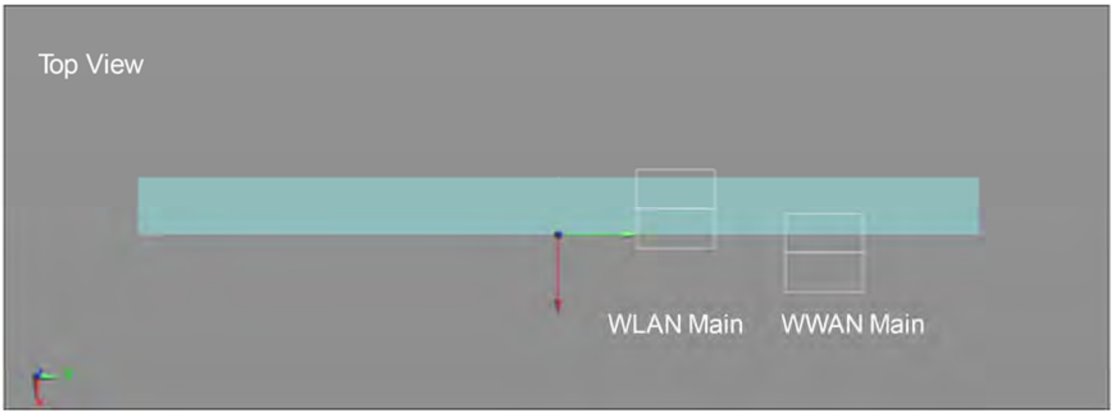
LTE Band 25



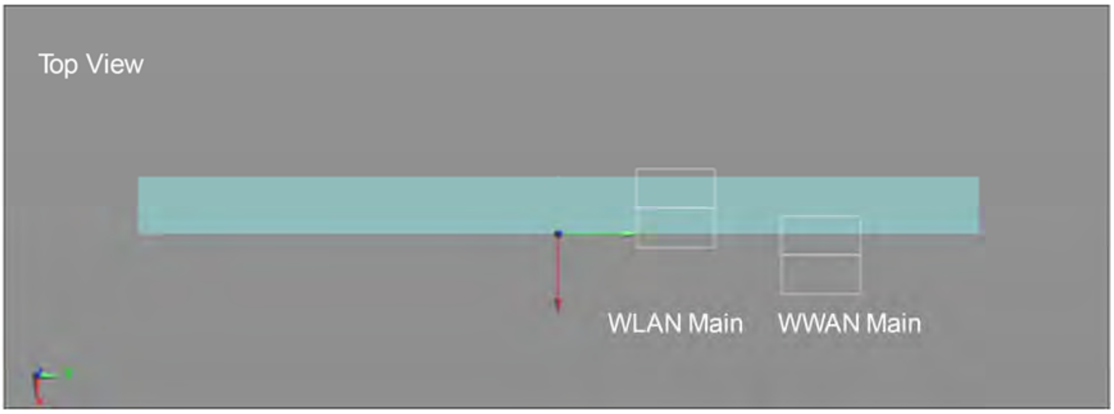
LTE Band 26



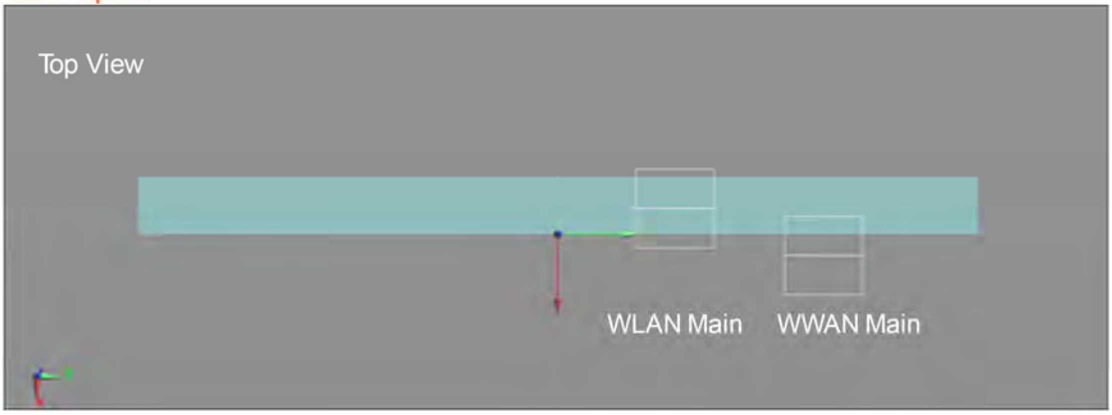
LTE Band 30



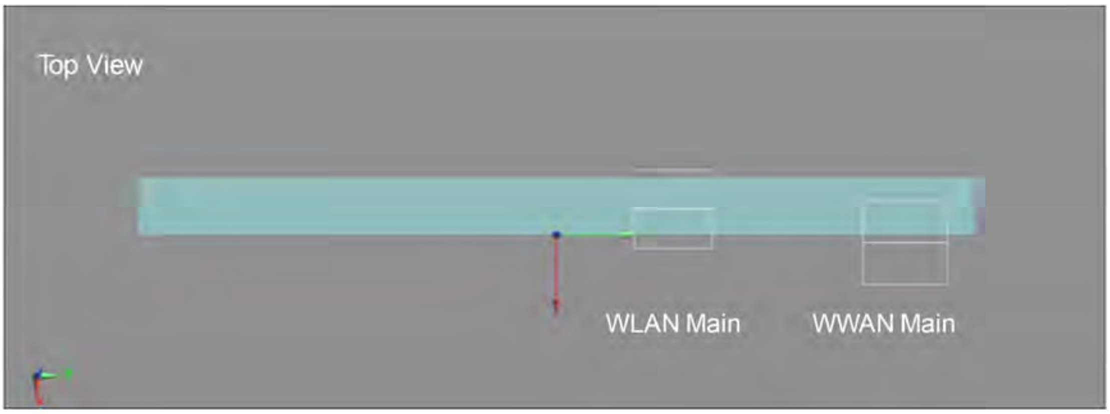
LTE Band 38



LTE Band 41



LTE Band 66



Top side WWAN + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
8	Top side	WCDMA Band II	0	0.191	1.233	1.424	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.188	1.233	1.421	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.095	1.233	1.328	ΣSAR<1.6, Not required
		LTE Band 2	0	0.196	1.233	1.429	ΣSAR<1.6, Not required
		LTE Band 4	0	0.194	1.233	1.427	ΣSAR<1.6, Not required
		LTE Band 5	0	0.090	1.233	1.323	ΣSAR<1.6, Not required
		LTE Band 12	0	0.078	1.233	1.311	ΣSAR<1.6, Not required
		LTE Band 13	0	0.044	1.233	1.277	ΣSAR<1.6, Not required
		LTE Band 14	0	0.054	1.233	1.287	ΣSAR<1.6, Not required
		LTE Band 17	0	0.086	1.233	1.319	ΣSAR<1.6, Not required
		LTE Band 25	0	0.173	1.233	1.406	ΣSAR<1.6, Not required
		LTE Band 26	0	0.090	1.233	1.323	ΣSAR<1.6, Not required
		LTE Band 30	0	0.120	1.233	1.353	ΣSAR<1.6, Not required
		LTE Band 38	0	0.080	1.233	1.313	ΣSAR<1.6, Not required
		LTE Band 41	0	0.125	1.233	1.358	ΣSAR<1.6, Not required
		LTE Band 66	0	0.239	1.233	1.472	ΣSAR<1.6, Not required

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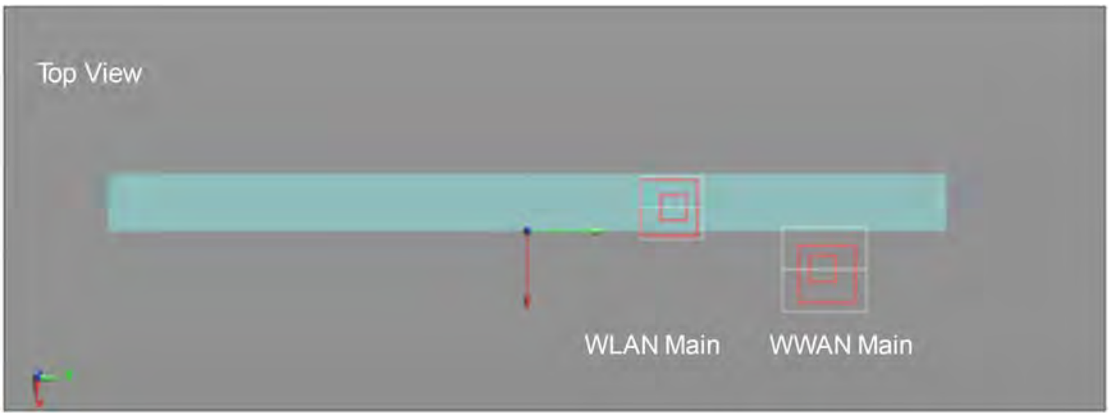
Top side WWAN + 5 GHz WLAN Main

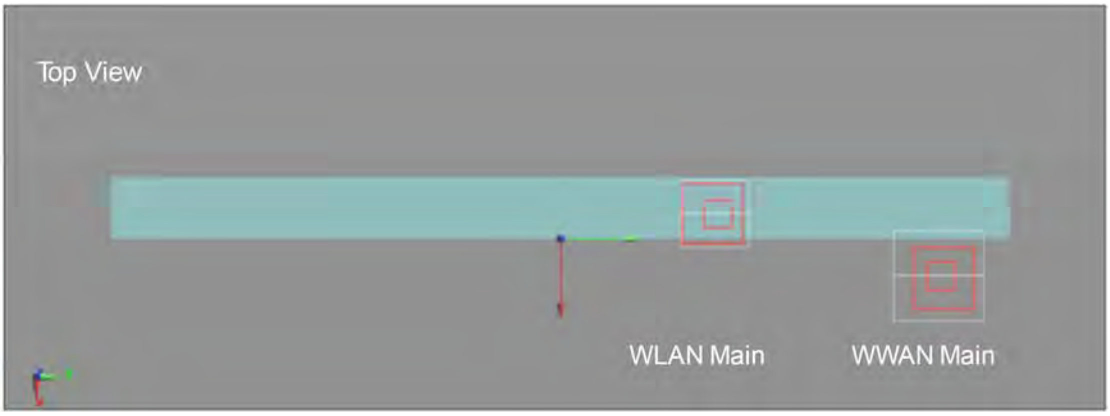
No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
9	Top side	WCDMA Band Ⅱ	0	0.191	1.568	**1.759**	Analyzed as below
		WCDMA Band Ⅳ	0	0.188	1.568	**1.756**	Analyzed as below
		WCDMA Band V	0	0.095	1.568	**1.662**	Analyzed as below
		LTE Band 2	0	0.196	1.568	**1.764**	Analyzed as below
		LTE Band 4	0	0.194	1.568	**1.762**	Analyzed as below
		LTE Band 5	0	0.090	1.568	**1.658**	Analyzed as below
		LTE Band 12	0	0.078	1.568	**1.646**	Analyzed as below
		LTE Band 13	0	0.044	1.568	**1.612**	Analyzed as below
		LTE Band 14	0	0.054	1.568	**1.622**	Analyzed as below
		LTE Band 17	0	0.086	1.568	**1.654**	Analyzed as below
		LTE Band 25	0	0.173	1.568	**1.741**	Analyzed as below
		LTE Band 26	0	0.090	1.568	**1.658**	Analyzed as below
		LTE Band 30	0	0.120	1.568	**1.688**	Analyzed as below
		LTE Band 38	0	0.080	1.568	**1.648**	Analyzed as below
		LTE Band 41	0	0.125	1.568	**1.693**	Analyzed as below
		LTE Band 66	0	0.239	1.568	**1.807**	Analyzed as below

Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Main	1.568	-0.82	5.42	-0.24	-	-	-	-
	WCDMA Band Ⅱ	0.191	1.13	11.23	-0.27	1.759	61.29	0.038	SPLSR ≤ 0.04, Not required
	WCDMA Band Ⅳ	0.188	1.14	13.61	0.28	1.723	84.37	0.028	SPLSR ≤ 0.04, Not required
	WCDMA Band V	0.095	0.82	11.20	-0.13	1.630	60.09	0.036	SPLSR ≤ 0.04, Not required
	LTE Band 2	0.196	0.38	11.61	-0.18	1.764	63.05	0.037	SPLSR ≤ 0.04, Not required
	LTE Band 4	0.194	0.30	13.45	-0.19	1.729	81.08	0.029	SPLSR ≤ 0.04, Not required
	LTE Band 5	0.090	2.03	11.23	0.04	1.658	64.77	0.033	SPLSR ≤ 0.04, Not required
	LTE Band 12	0.078	1.75	11.79	0.10	1.613	68.77	0.031	SPLSR ≤ 0.04, Not required
	LTE Band 13	0.044	2.04	11.53	0.08	1.621	67.54	0.030	SPLSR ≤ 0.04, Not required
	LTE Band 14	0.054	2.03	11.37	0.07	1.622	66.05	0.031	SPLSR ≤ 0.04, Not required
	LTE Band 17	0.086	1.75	11.79	0.07	1.654	68.76	0.031	SPLSR ≤ 0.04, Not required
	LTE Band 25	0.17	0.45	11.81	-0.11	1.741	65.16	0.035	SPLSR ≤ 0.04, Not required
	LTE Band 26	0.09	0.82	11.20	-0.12	1.615	60.09	0.036	SPLSR ≤ 0.04, Not required
	LTE Band 30	0.12	0.78	11.22	-0.17	1.688	60.17	0.036	SPLSR ≤ 0.04, Not required
	LTE Band 38	0.08	0.90	11.20	-0.43	1.648	60.33	0.035	SPLSR ≤ 0.04, Not required
	LTE Band 41	0.13	0.80	11.32	-0.42	1.693	61.21	0.036	SPLSR ≤ 0.04, Not required
	LTE Band 66	0.24	0.30	13.30	-0.12	1.807	79.60	0.031	SPLSR ≤ 0.04, Not required

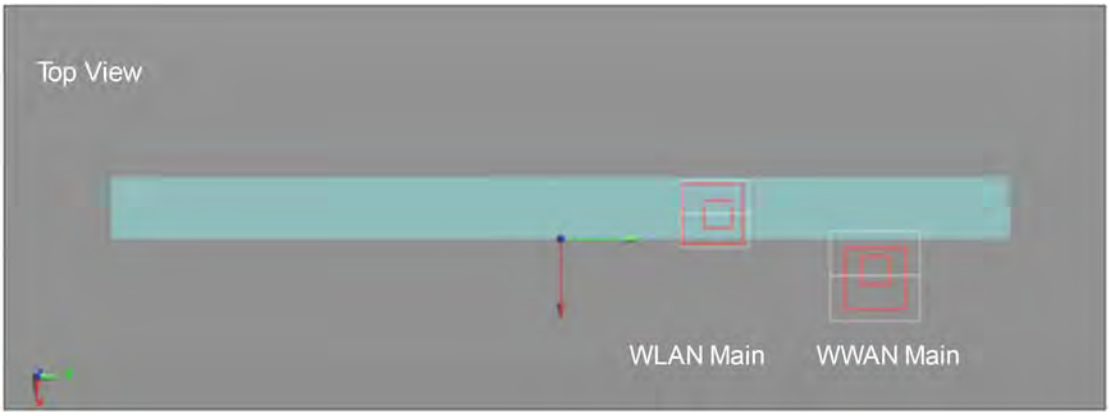
WCDMA Band II



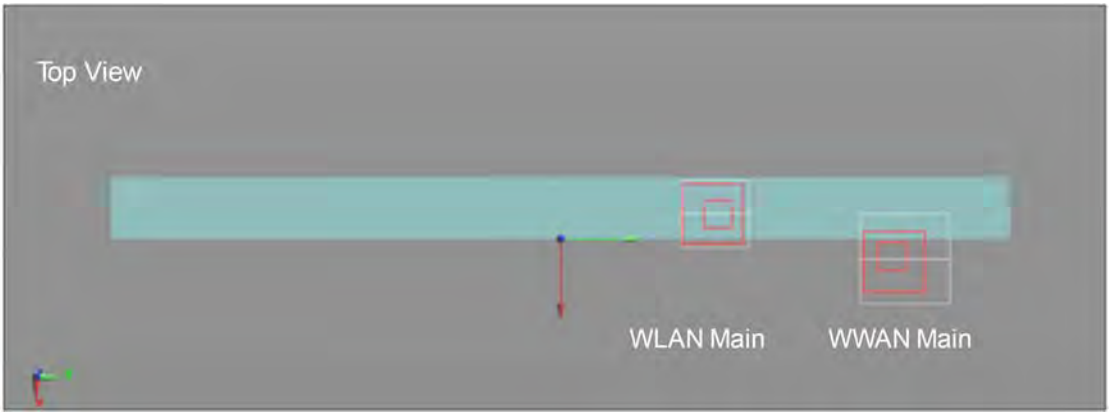
WCDMA Band IV



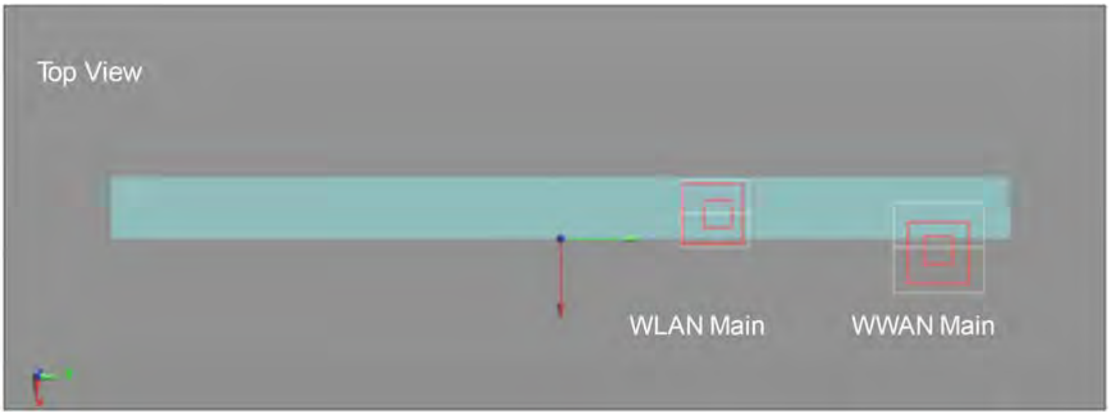
WCDMA Band V



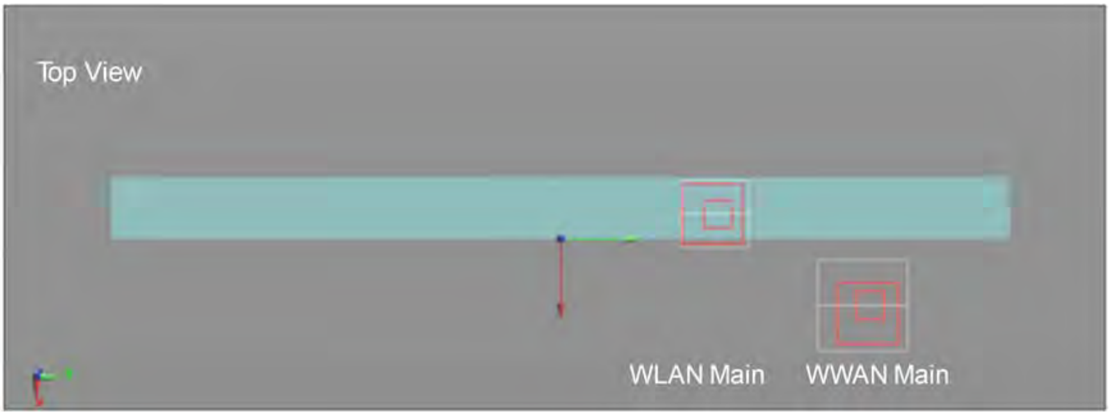
LTE Band 2



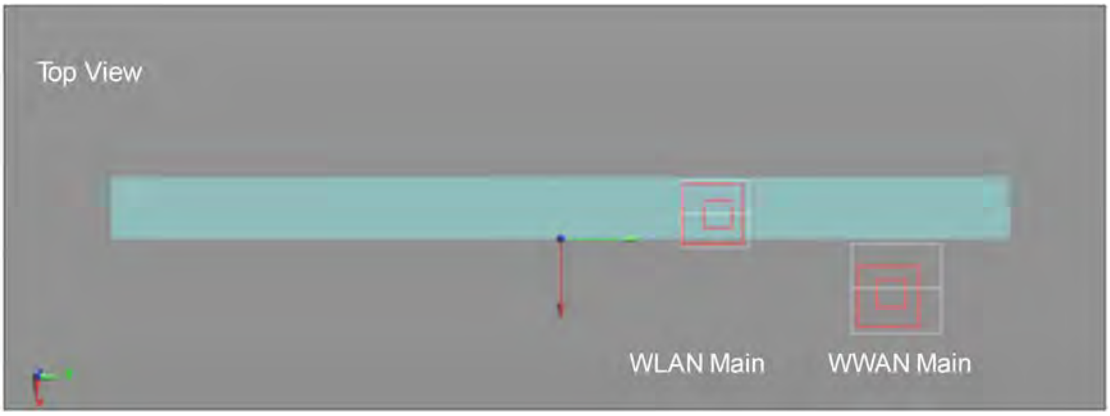
LTE Band 4



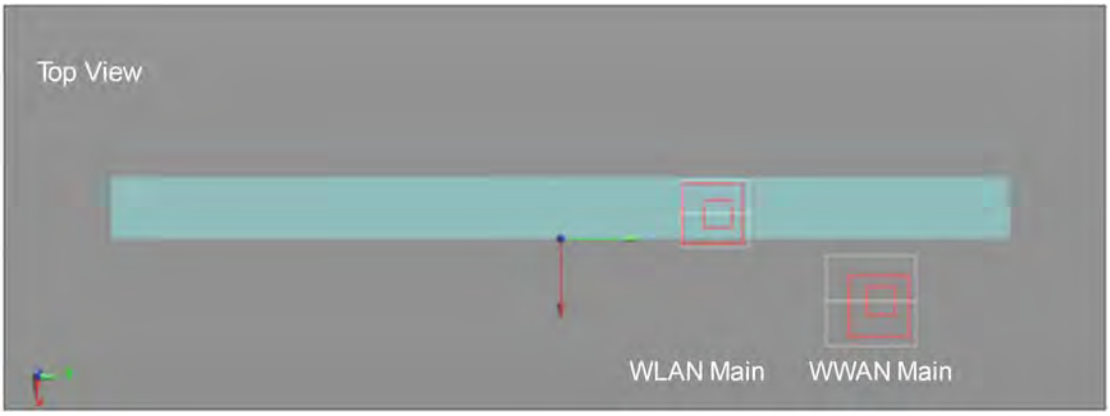
LTE Band 5



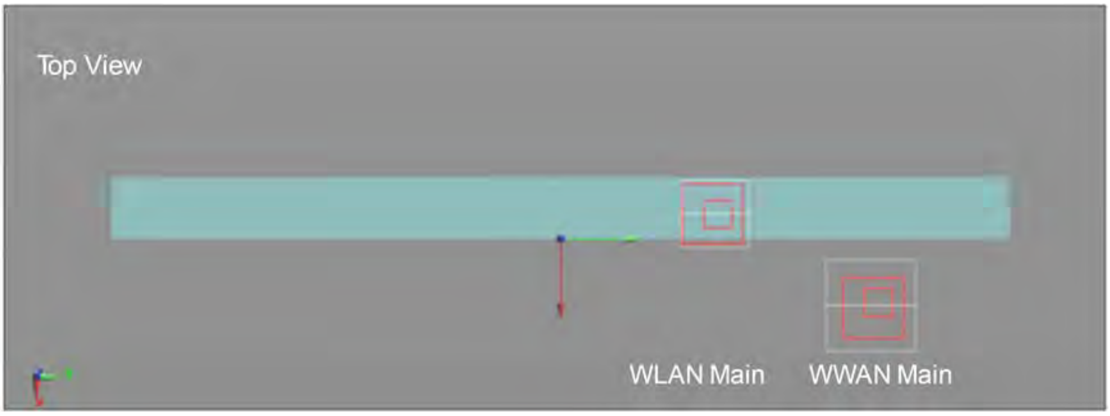
LTE Band 12



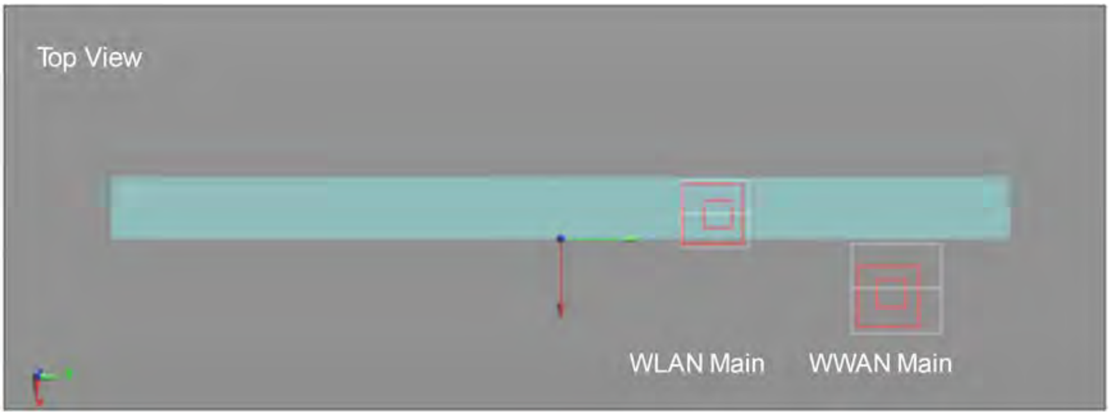
LTE Band 13



LTE Band 14



LTE Band 17



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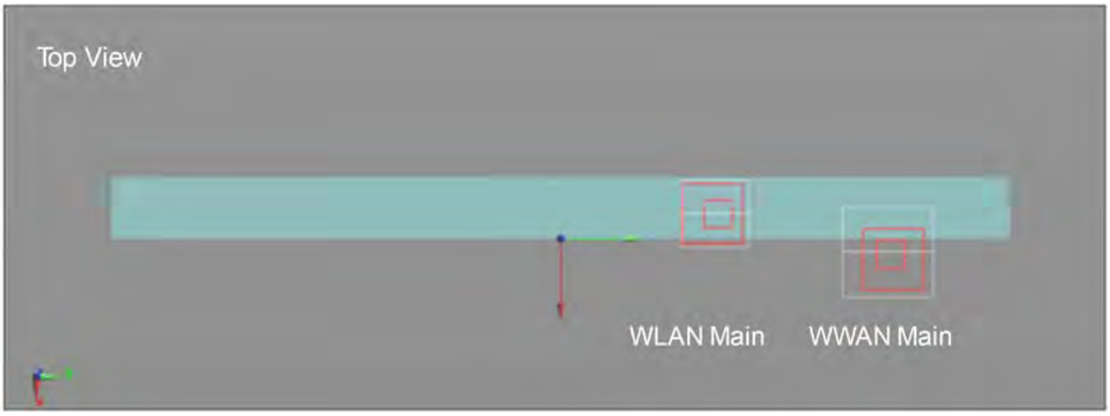
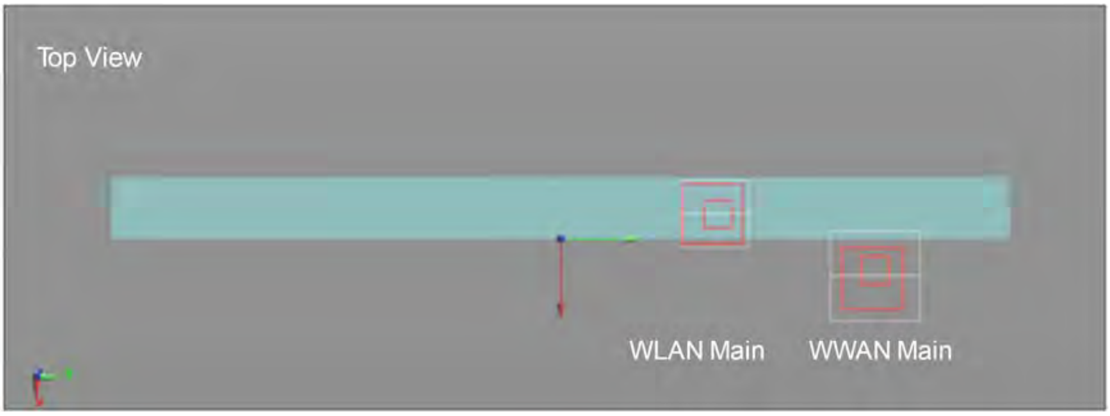
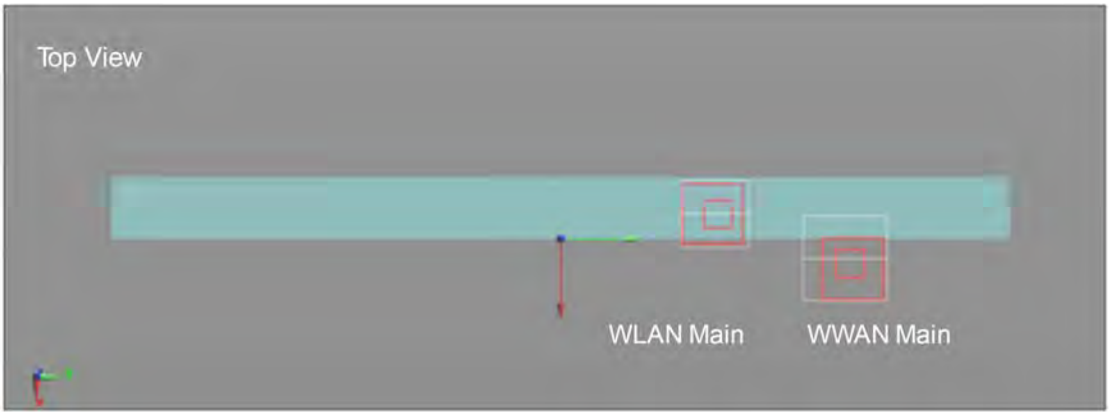
LTE Band 25



LTE Band 26



LTE Band 30



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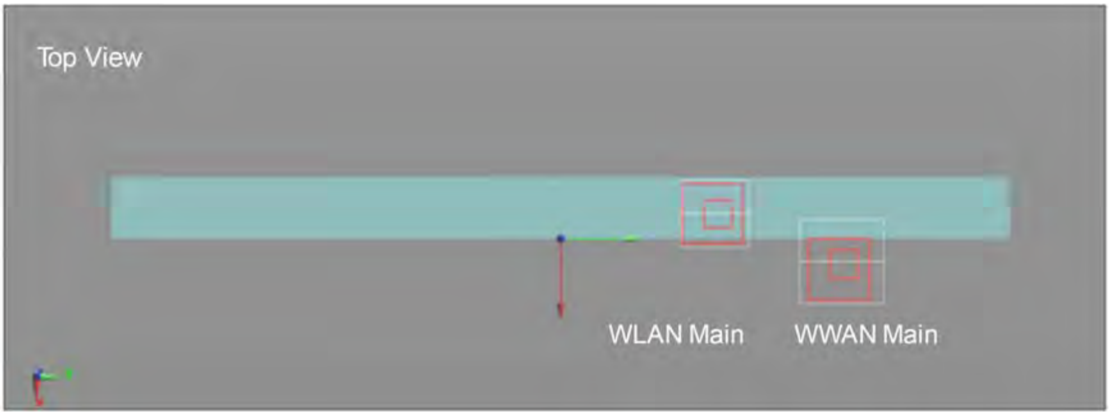
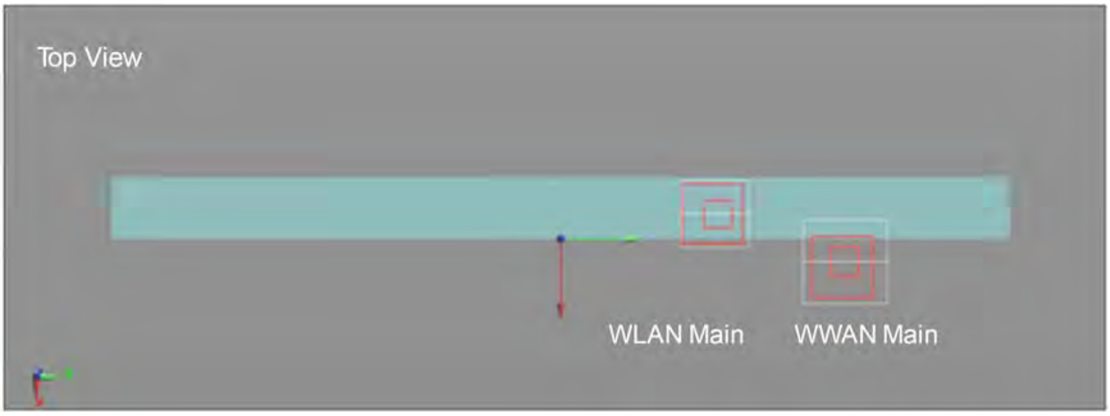
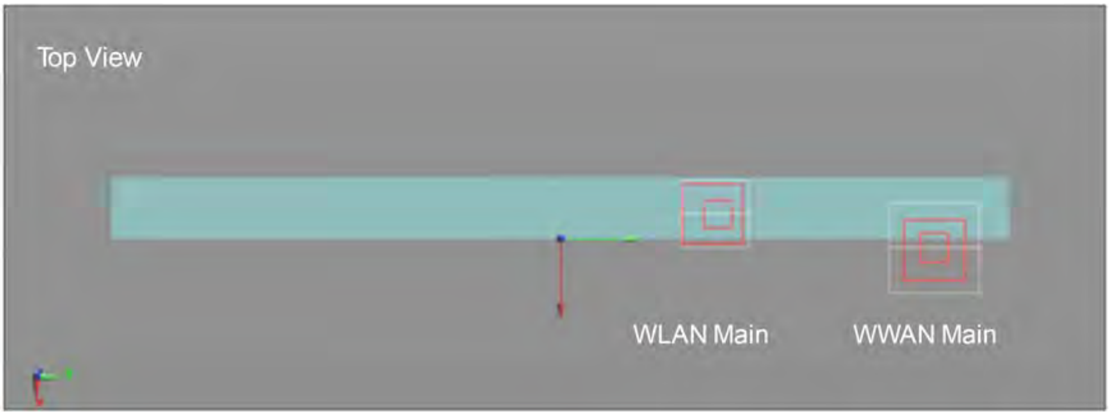
LTE Band 38



LTE Band 41



LTE Band 66

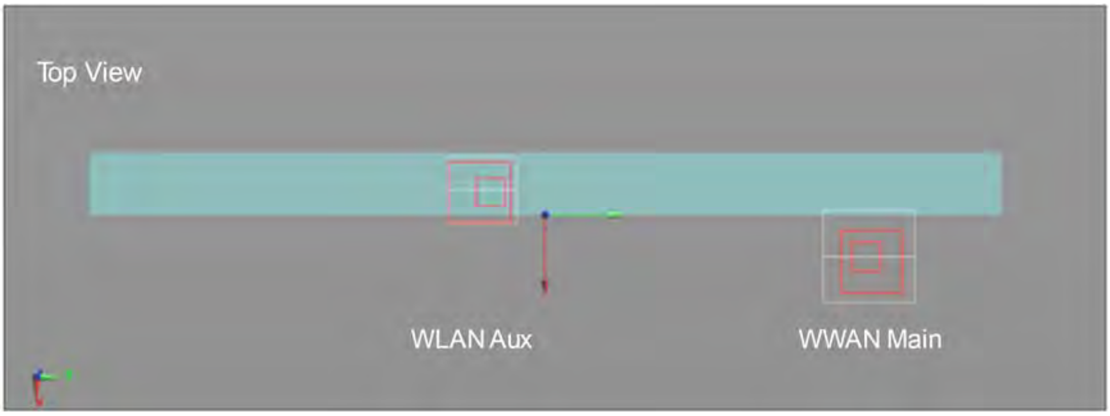


Top side WWAN + 5 GHz WLAN Aux

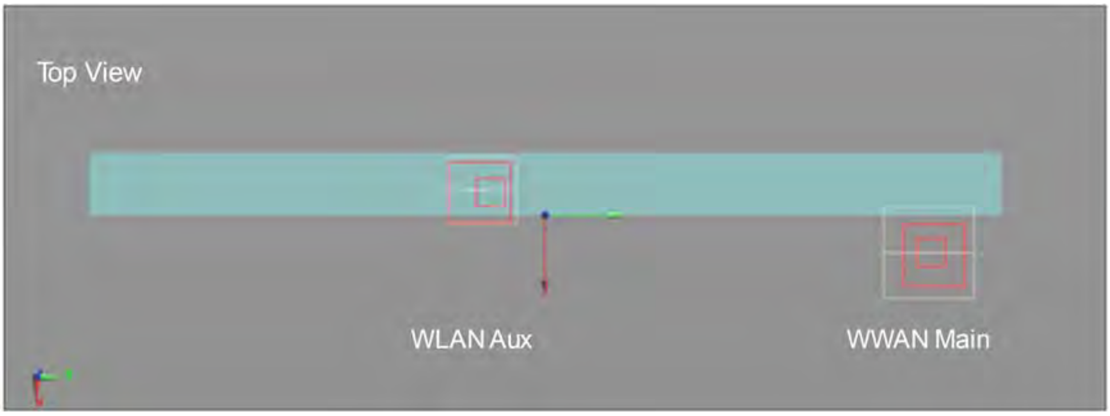
No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
10	Top side	WCDMA Band Ⅱ	0	0.191	1.463	**1.655**	Analyzed as below
		WCDMA Band Ⅳ	0	0.188	1.463	**1.651**	Analyzed as below
		WCDMA Band V	0	0.095	1.463	1.558	ΣSAR<1.6, Not required
		LTE Band 2	0	0.196	1.463	**1.660**	Analyzed as below
		LTE Band 4	0	0.194	1.463	**1.657**	Analyzed as below
		LTE Band 5	0	0.090	1.463	1.554	ΣSAR<1.6, Not required
		LTE Band 12	0	0.078	1.463	1.541	ΣSAR<1.6, Not required
		LTE Band 13	0	0.044	1.463	1.508	ΣSAR<1.6, Not required
		LTE Band 14	0	0.054	1.463	1.517	ΣSAR<1.6, Not required
		LTE Band 17	0	0.086	1.463	1.549	ΣSAR<1.6, Not required
		LTE Band 25	0	0.173	1.463	**1.637**	Analyzed as below
		LTE Band 26	0	0.090	1.463	1.554	ΣSAR<1.6, Not required
		LTE Band 30	0	0.120	1.463	1.584	ΣSAR<1.6, Not required
		LTE Band 38	0	0.080	1.463	1.543	ΣSAR<1.6, Not required
		LTE Band 41	0	0.125	1.463	1.589	ΣSAR<1.6, Not required
		LTE Band 66	0	0.239	1.463	**1.702**	Analyzed as below

Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Aux	1.463	-0.74	-1.80	-0.17	-	-	-	-
	WCDMA Band II	0.191	1.13	11.23	-0.27	1.654	131.64	0.016	SPLSR ≤ 0.04, Not required
	WCDMA Band IV	0.188	1.14	13.61	-0.28	1.723	155.25	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 2	0.196	0.38	11.61	-0.18	1.659	134.57	0.016	SPLSR ≤ 0.04, Not required
	LTE Band 4	0.194	0.30	13.45	-0.19	1.729	152.85	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 25	0.173	0.45	11.81	-0.11	1.636	136.62	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 66	0.239	0.30	13.33	-0.12	1.702	151.66	0.015	SPLSR ≤ 0.04, Not required

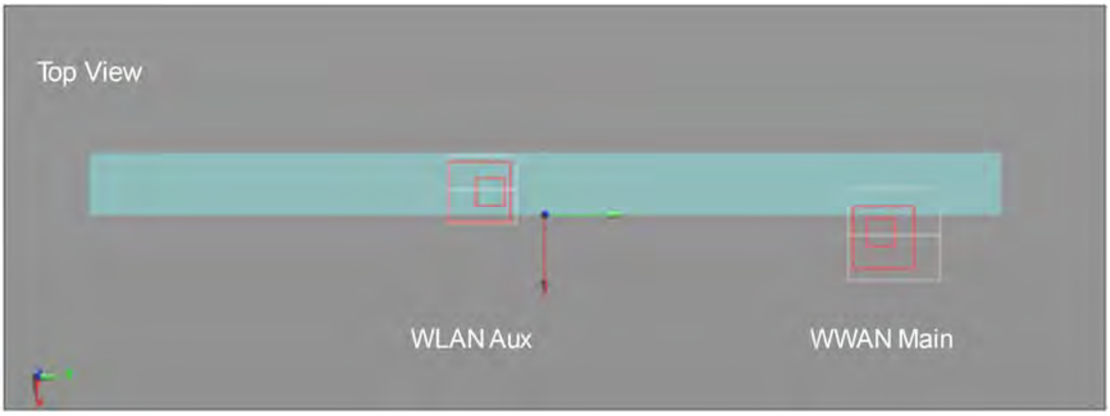
WCDMA Band II



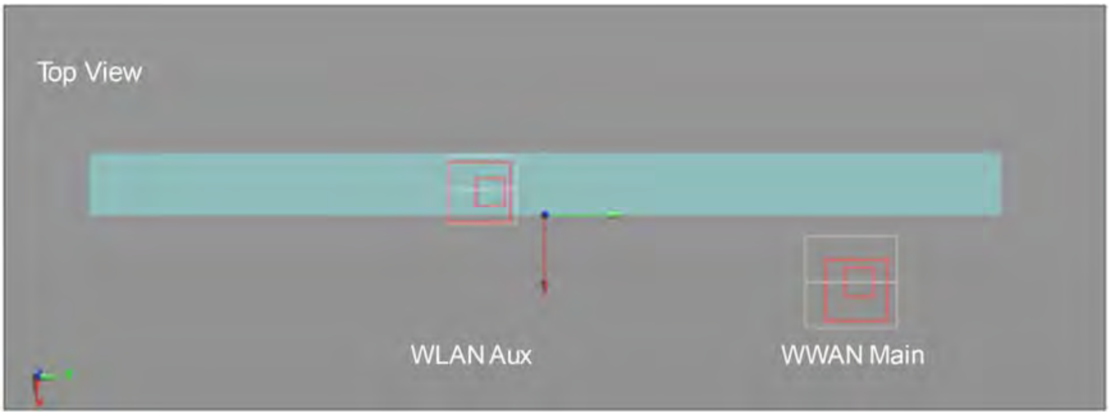
WCDMA Band IV



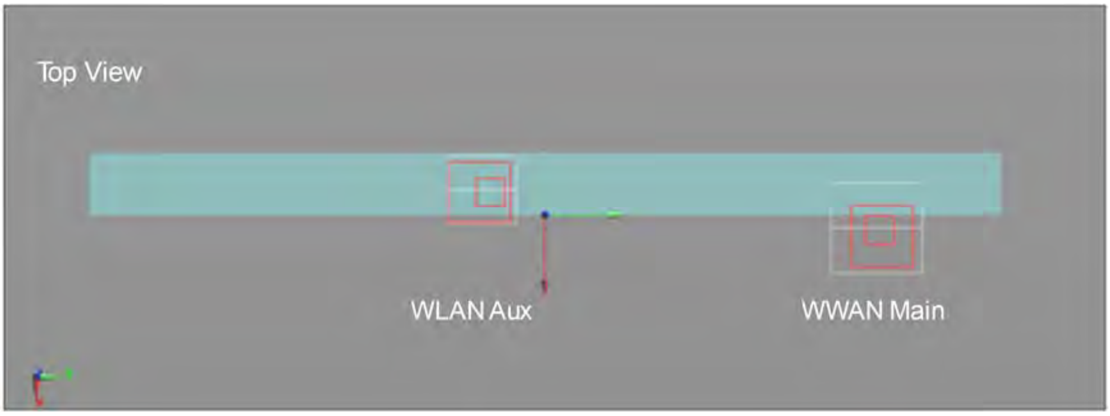
LTE Band 2



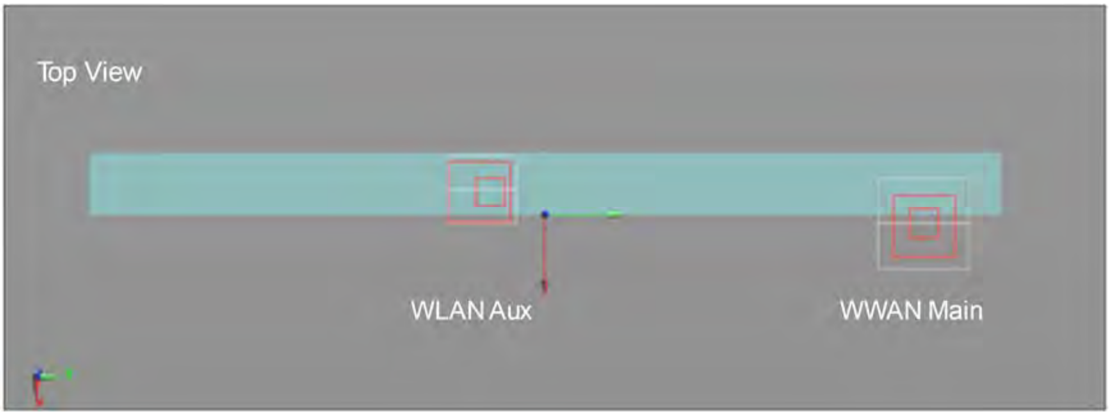
LTE Band 4



LTE Band 25



LTE Band 66



Top side WWAN + Bluetooth + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
11	Top side	WCDMA Band II	0	0.191	0.149	1.233	1.573	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.188	0.149	1.233	1.569	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.095	0.149	1.233	1.476	ΣSAR<1.6, Not required
		LTE Band 2	0	0.196	0.149	1.233	1.578	ΣSAR<1.6, Not required
		LTE Band 4	0	0.194	0.149	1.233	1.576	ΣSAR<1.6, Not required
		LTE Band 5	0	0.090	0.149	1.233	1.472	ΣSAR<1.6, Not required
		LTE Band 12	0	0.078	0.149	1.233	1.460	ΣSAR<1.6, Not required
		LTE Band 13	0	0.044	0.149	1.233	1.426	ΣSAR<1.6, Not required
		LTE Band 14	0	0.054	0.149	1.233	1.436	ΣSAR<1.6, Not required
		LTE Band 17	0	0.086	0.149	1.233	1.468	ΣSAR<1.6, Not required
		LTE Band 25	0	0.173	0.149	1.233	1.555	ΣSAR<1.6, Not required
		LTE Band 26	0	0.090	0.149	1.233	1.472	ΣSAR<1.6, Not required
		LTE Band 30	0	0.120	0.149	1.233	1.502	ΣSAR<1.6, Not required
		LTE Band 38	0	0.080	0.149	1.233	1.461	ΣSAR<1.6, Not required
		LTE Band 41	0	0.125	0.149	1.233	1.507	ΣSAR<1.6, Not required
		LTE Band 66	0	0.239	0.149	1.233	**1.621**	Analyzed as below

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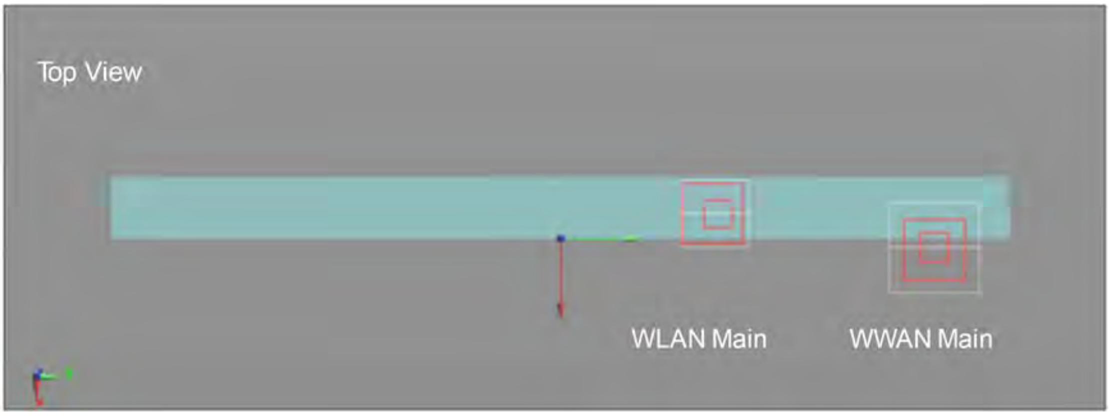
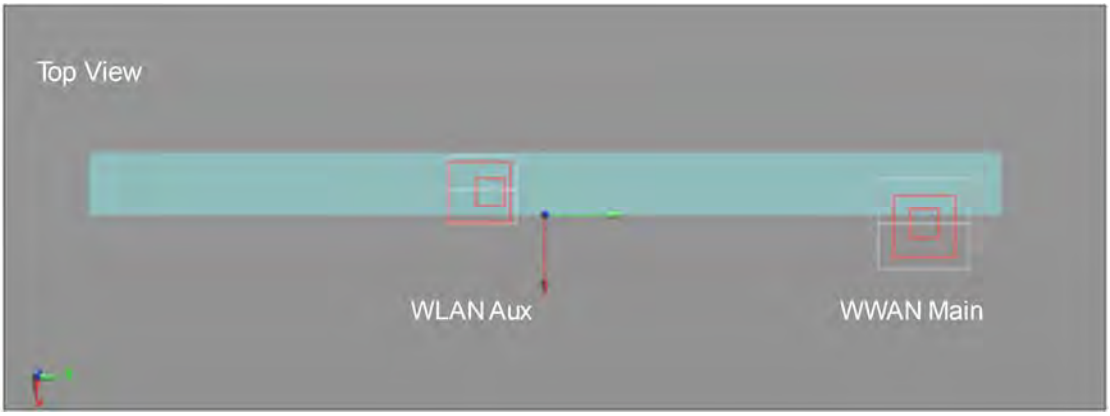
Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Aux	1.233	-0.88	-4.02	-0.24	-	-	-	-
	BT	0.149	-1.12	4.66	-0.23	1.382	86.83	0.019	SPLSR ≦ 0.04, Not required
	LTE Band 66	0.239	0.30	13.33	-0.12	1.472	173.90	0.010	SPLSR ≦ 0.04, Not required

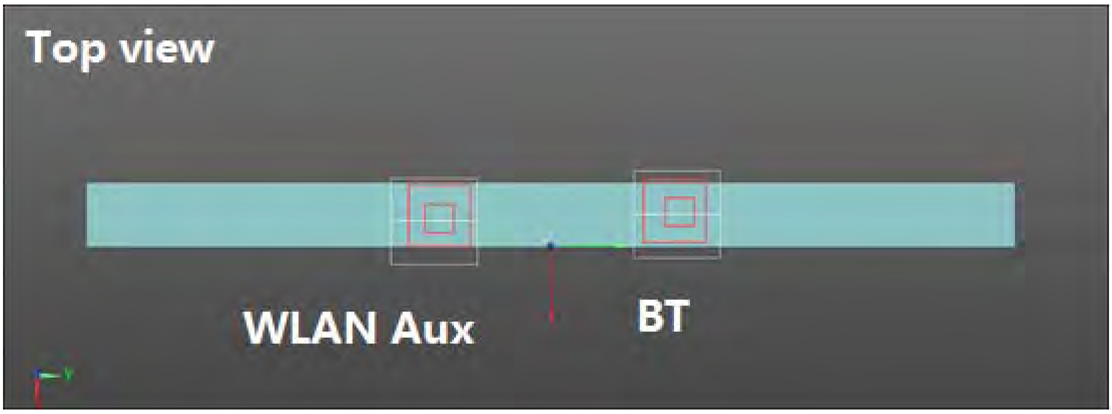
LTE Band 66 to BT



LTE Band 66 to WLAN Aux



WLAN Aux to BT



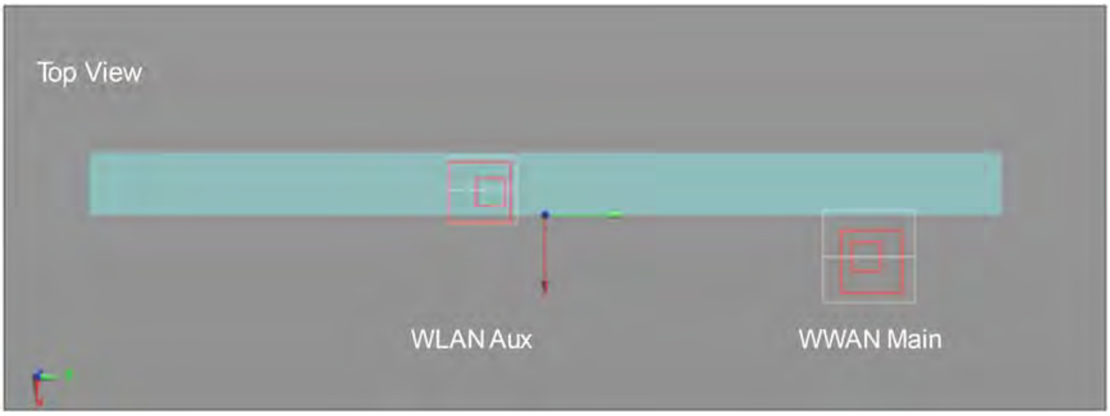
Top side WWAN + Bluetooth + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
12	Top side	WCDMA Band Ⅱ	0	0.191	0.149	1.463	**1.804**	Analyzed as below
		WCDMA Band Ⅳ	0	0.188	0.149	1.463	**1.800**	Analyzed as below
		WCDMA Band V	0	0.095	0.149	1.463	**1.707**	Analyzed as below
		LTE Band 2	0	0.196	0.149	1.463	**1.809**	Analyzed as below
		LTE Band 4	0	0.194	0.149	1.463	**1.806**	Analyzed as below
		LTE Band 5	0	0.090	0.149	1.463	**1.703**	Analyzed as below
		LTE Band 12	0	0.078	0.149	1.463	**1.690**	Analyzed as below
		LTE Band 13	0	0.044	0.149	1.463	**1.657**	Analyzed as below
		LTE Band 14	0	0.054	0.149	1.463	**1.666**	Analyzed as below
		LTE Band 17	0	0.086	0.149	1.463	**1.698**	Analyzed as below
		LTE Band 25	0	0.173	0.149	1.463	**1.786**	Analyzed as below
		LTE Band 26	0	0.090	0.149	1.463	**1.703**	Analyzed as below
		LTE Band 30	0	0.120	0.149	1.463	**1.733**	Analyzed as below
		LTE Band 38	0	0.080	0.149	1.463	**1.692**	Analyzed as below
		LTE Band 41	0	0.125	0.149	1.463	**1.738**	Analyzed as below
		LTE Band 66	0	0.239	0.149	1.463	**1.851**	Analyzed as below

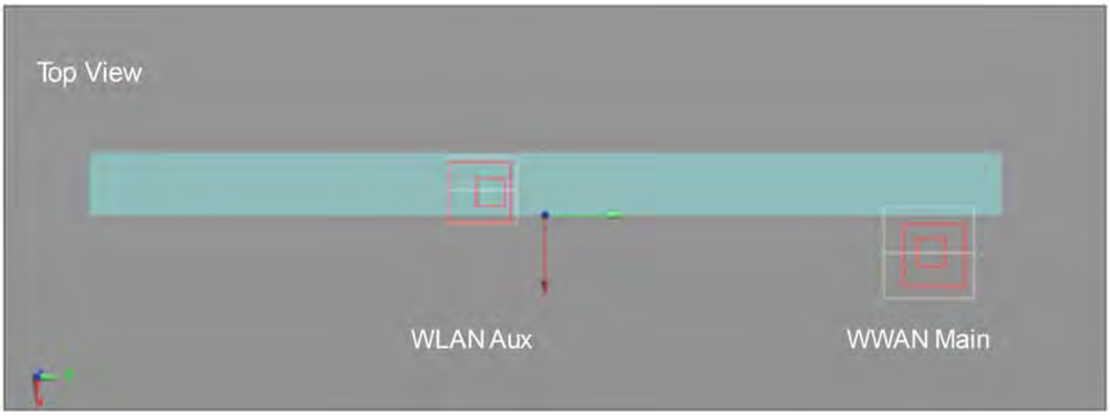
Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Aux	1.463	-0.74	-1.80	-0.17	-	-	-	-
	BT	0.149	-1.12	4.66	-0.23	1.612	64.71	0.032	SPLSR ≤ 0.04, Not required
	WCDMA Band Ⅱ	0.191	1.13	11.23	-0.27	1.654	131.64	0.016	SPLSR ≤ 0.04, Not required
	WCDMA Band Ⅳ	0.188	1.14	13.61	-0.28	1.723	155.25	0.014	SPLSR ≤ 0.04, Not required
	WCDMA Band V	0.095	0.82	11.20	-0.13	1.630	130.93	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 2	0.196	0.38	11.61	-0.18	1.659	134.57	0.016	SPLSR ≤ 0.04, Not required
	LTE Band 4	0.194	0.30	13.45	-0.19	1.729	152.85	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 5	0.090	2.03	11.23	0.04	1.553	133.23	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 12	0.078	1.75	11.79	0.10	1.613	138.19	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 13	0.044	2.04	11.53	0.08	1.621	136.19	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 14	0.054	2.03	11.37	0.07	1.517	134.60	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 17	0.086	1.75	11.79	0.07	1.549	138.18	0.014	SPLSR ≤ 0.04, Not required
	LTE Band 25	0.17	0.45	11.81	-0.11	1.636	136.62	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 26	0.09	0.82	11.20	-0.12	1.615	130.93	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 30	0.12	0.78	11.22	-0.17	1.583	131.08	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 38	0.08	0.90	11.20	-0.43	1.543	131.06	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 41	0.13	0.80	11.32	-0.42	1.588	132.12	0.015	SPLSR ≤ 0.04, Not required
	LTE Band 66	0.24	0.30	13.33	-0.12	1.702	151.66	0.015	SPLSR ≤ 0.04, Not required

WLAN Aux to BT

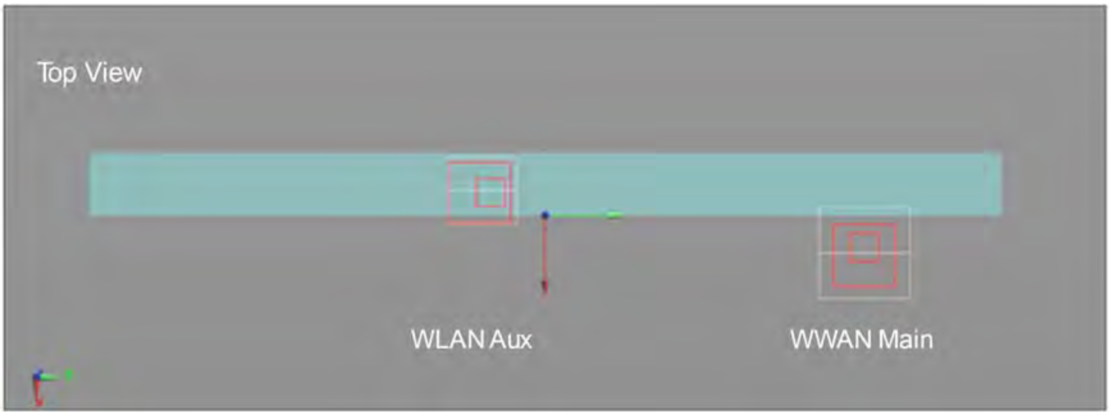
WCDMA Band II to WLAN Aux



WCDMA Band IV to WLAN Aux



WCDMA Band V to WLAN Aux



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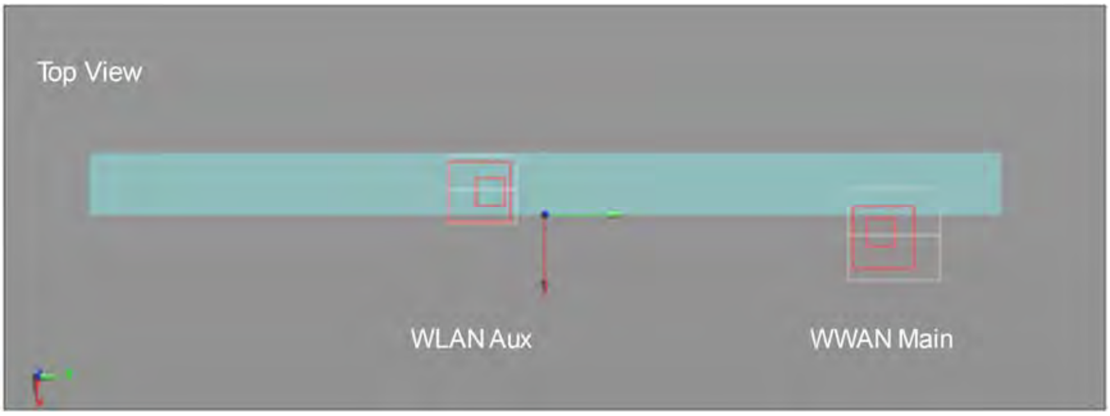
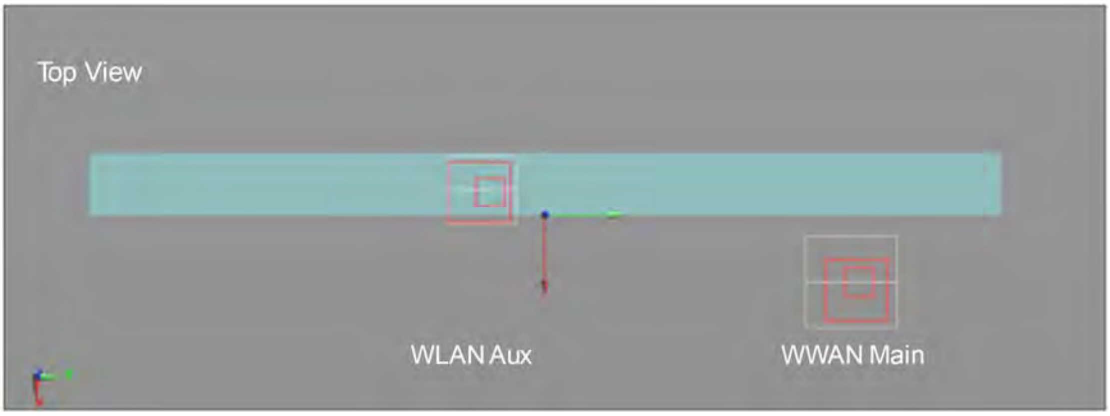
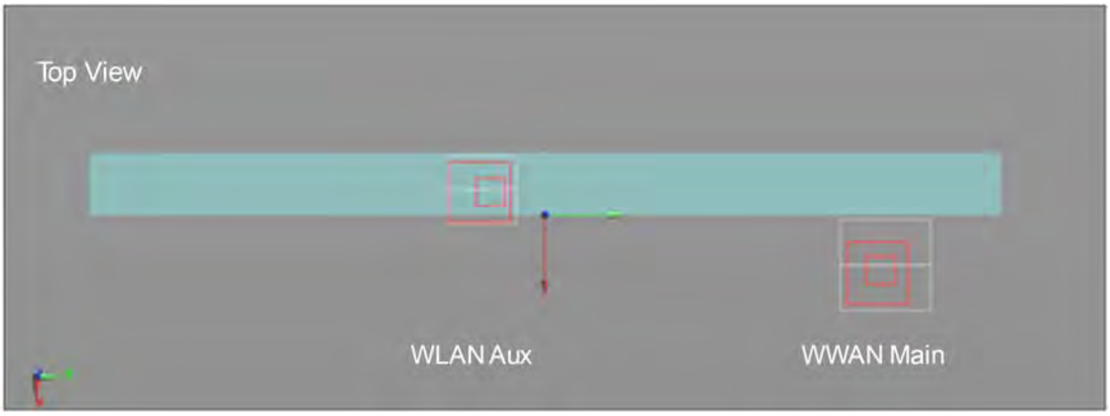
LTE Band 2 to WLAN Aux



LTE Band 4 to WLAN Aux



LTE Band 5 to WLAN Aux



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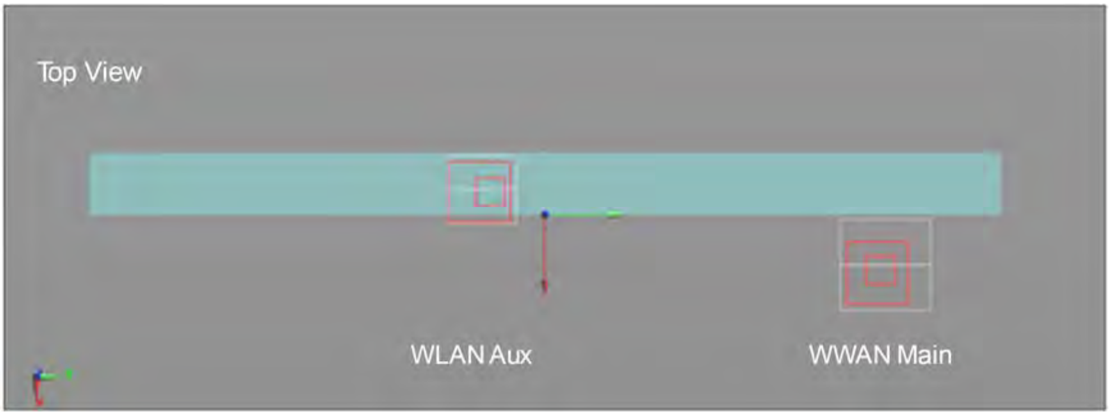
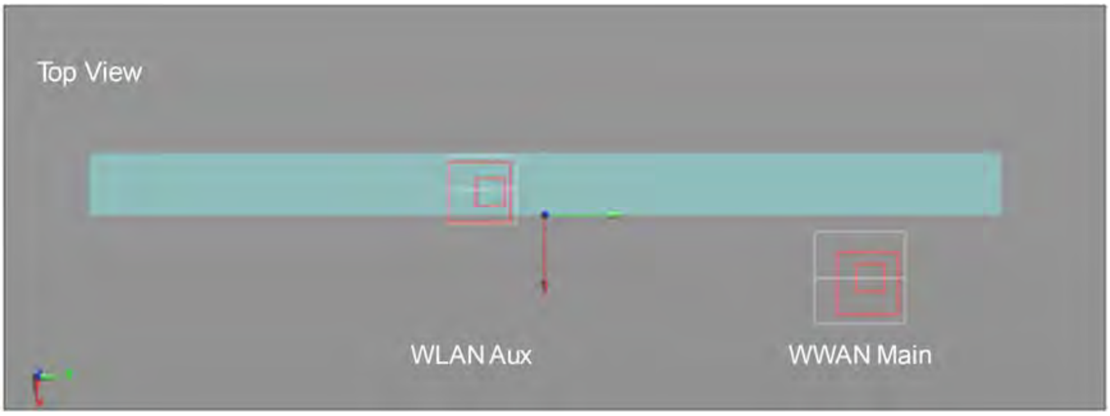
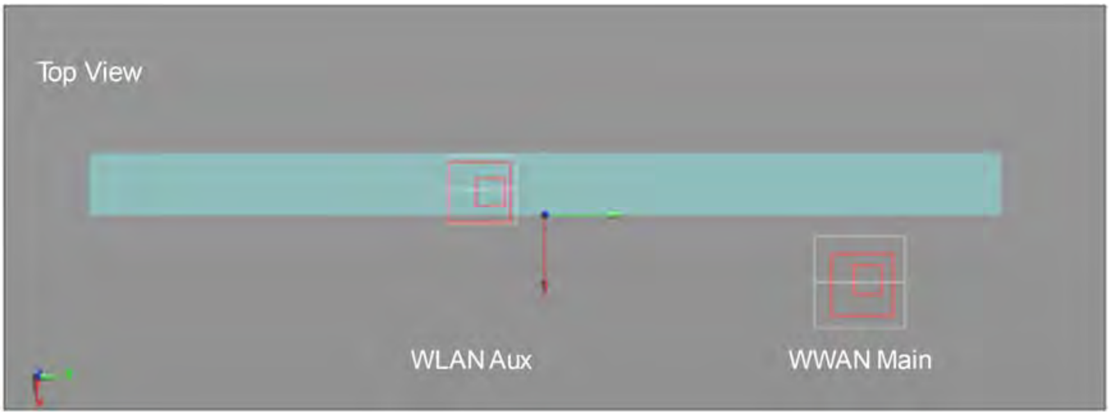
LTE Band 12 to WLAN Aux



LTE Band 13 to WLAN Aux



LTE Band 14 to WLAN Aux



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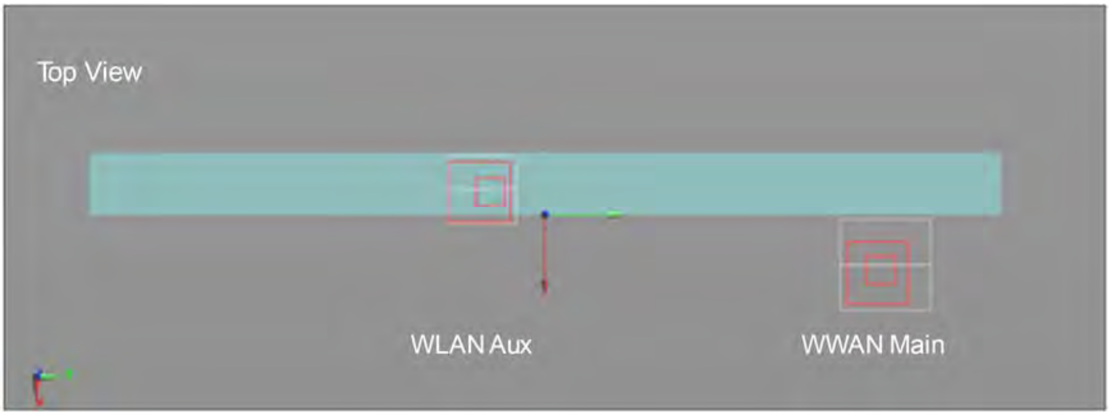
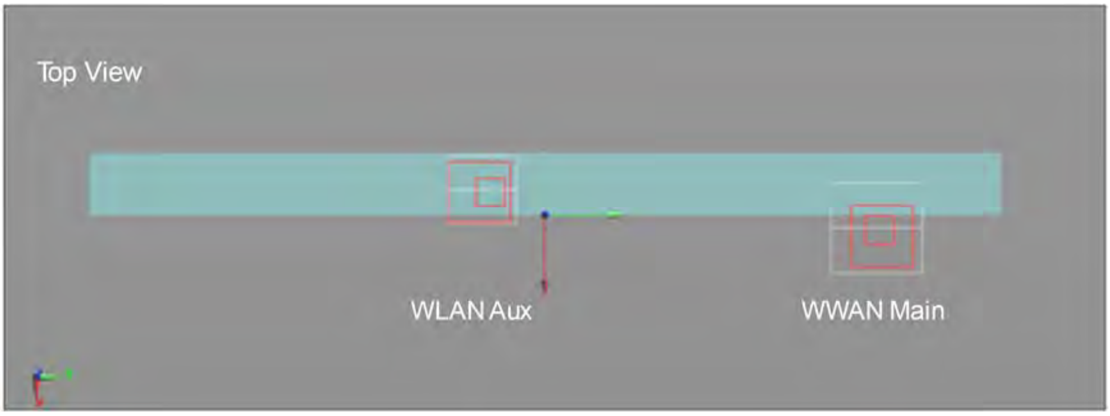
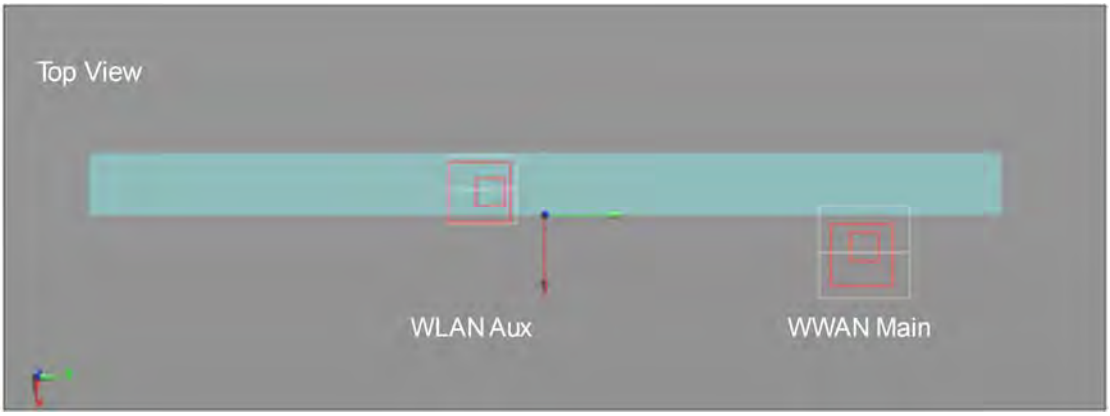
LTE Band 17 to WLAN Aux



LTE Band 25 to WLAN Aux



LTE Band 26 to WLAN Aux



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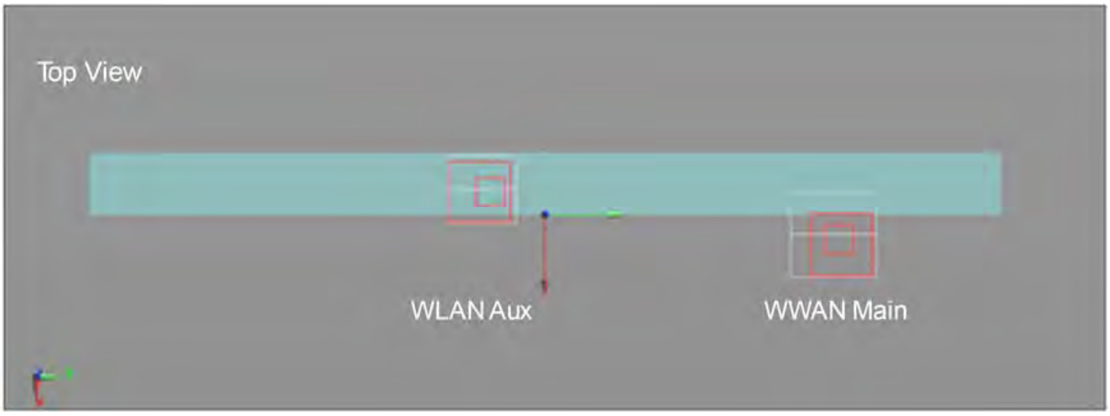
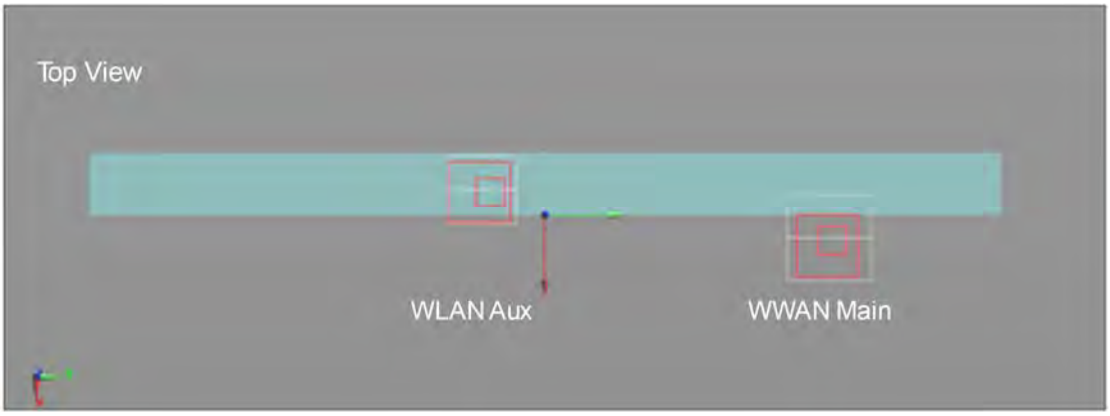
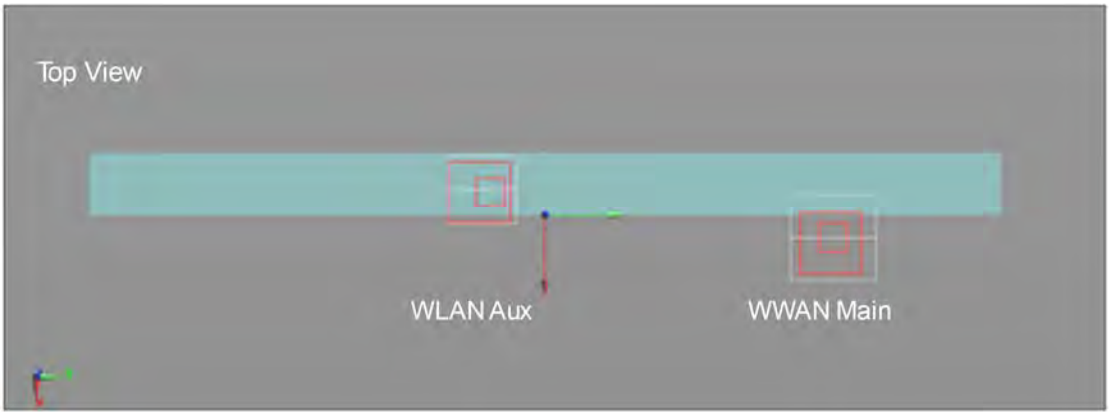
LTE Band 30 to WLAN Aux



LTE Band 38 to WLAN Aux



LTE Band 41 to WLAN Aux



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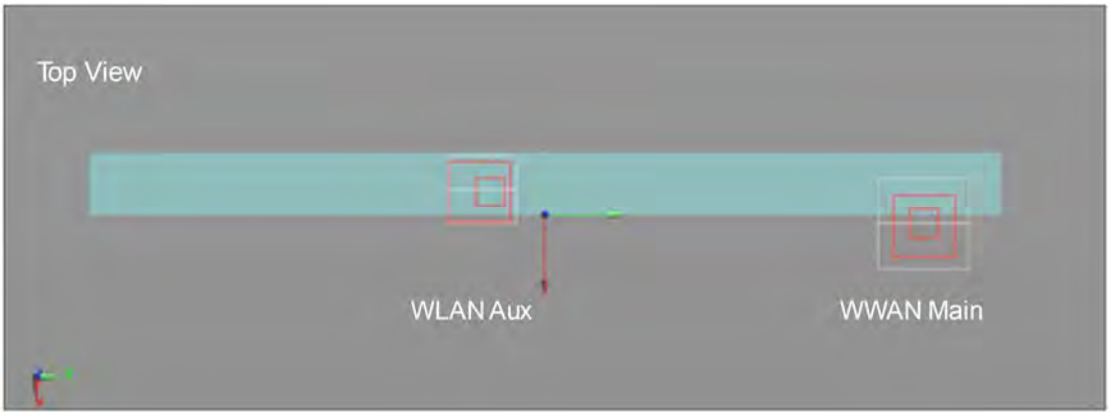
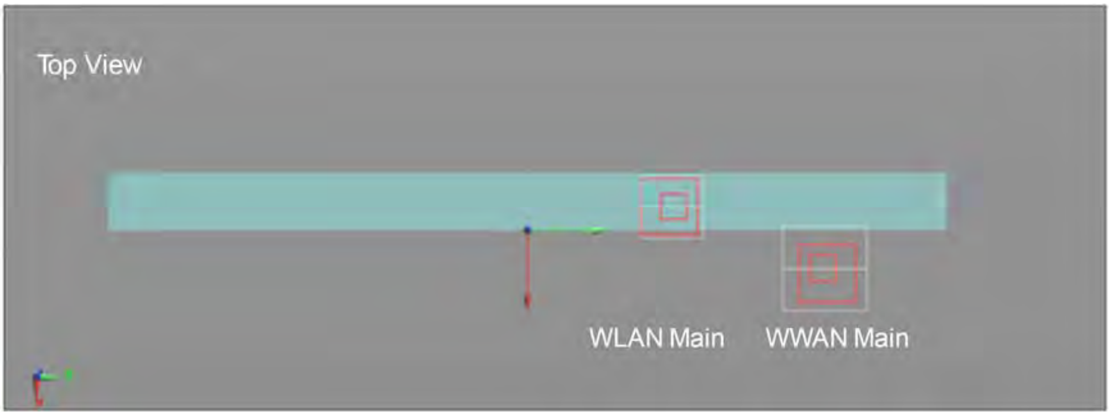
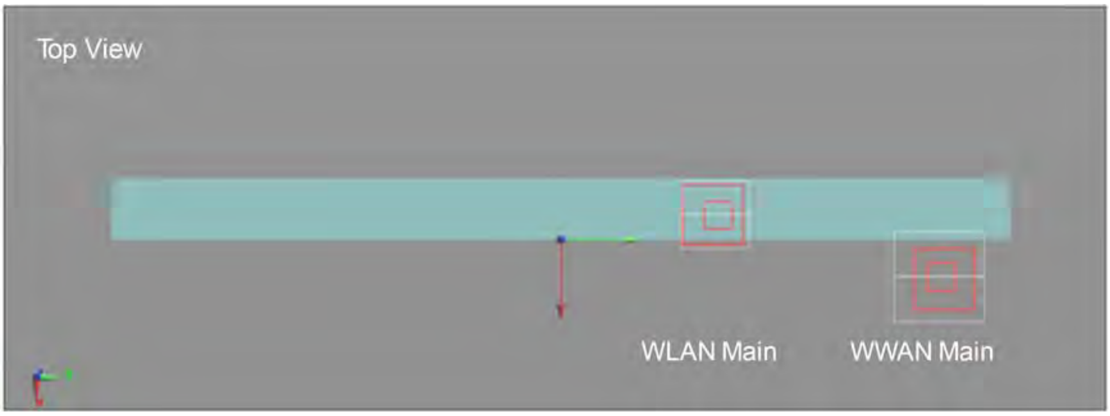
LTE Band 66 to WLAN Aux



WCDMA Band II to BT



WCDMA Band IV to BT



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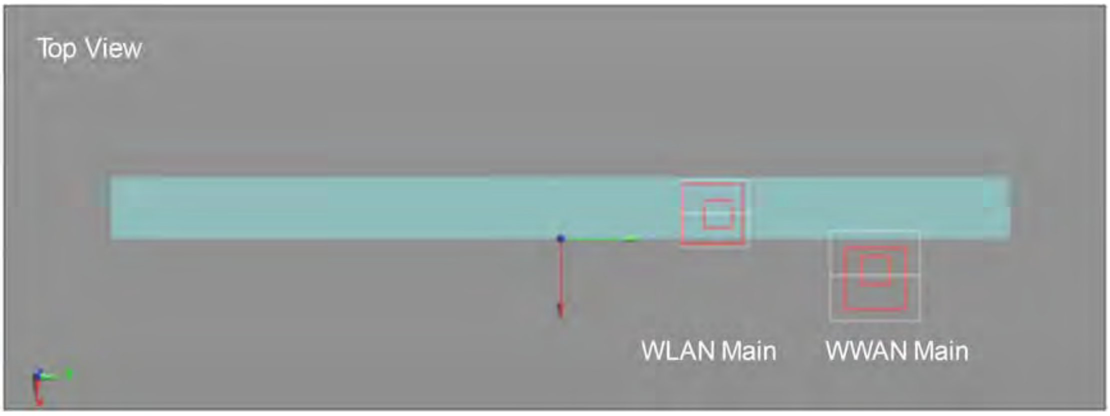
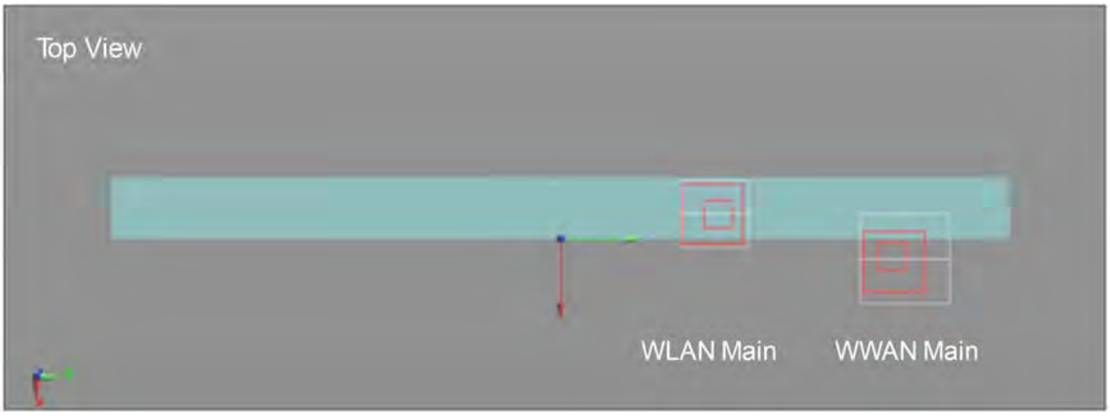
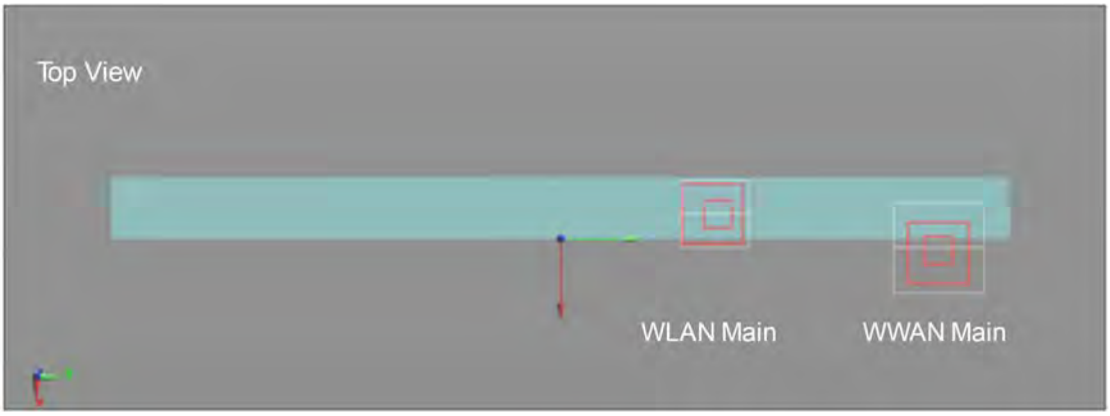
WCDMA Band V to BT



LTE Band 2 to BT



LTE Band 4 to BT



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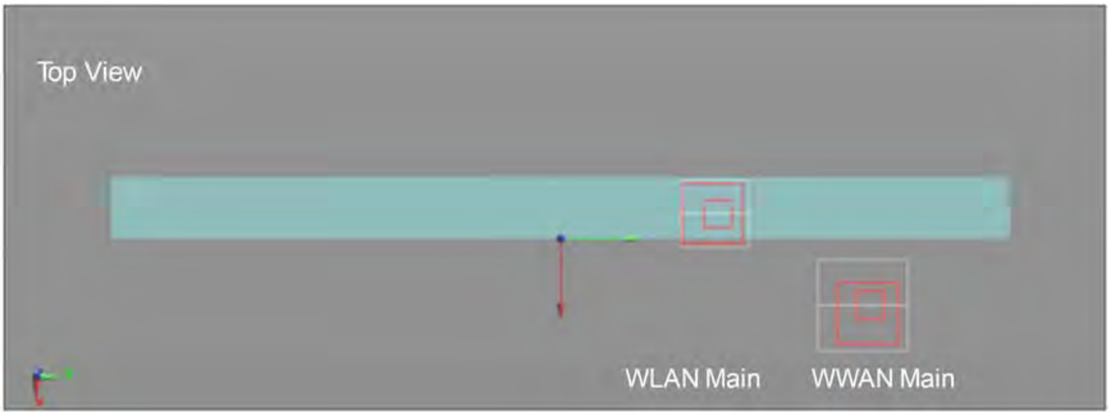
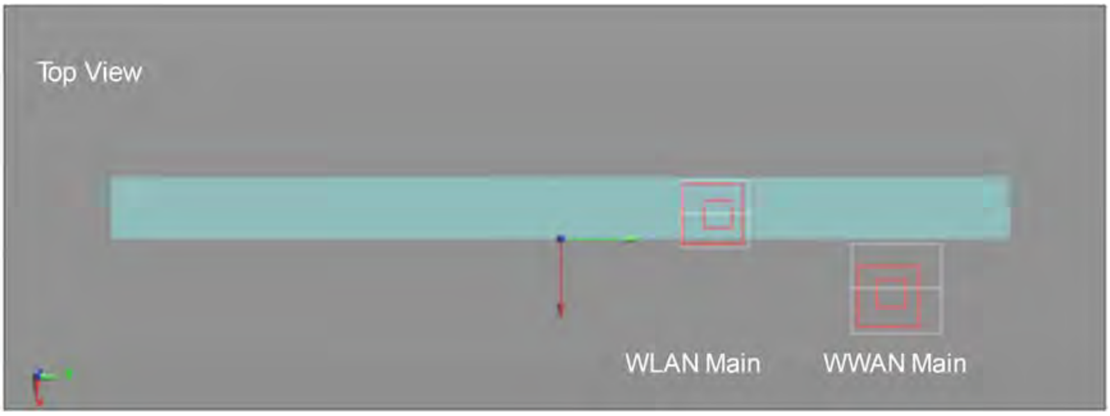
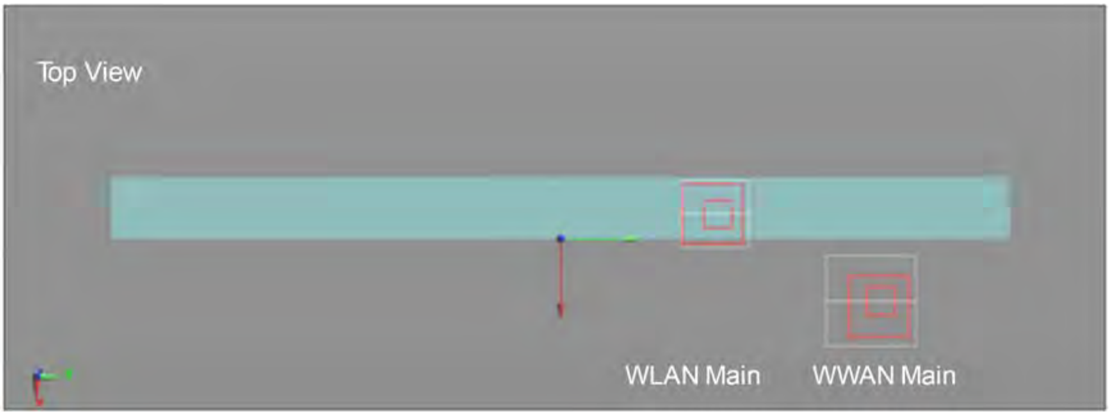
LTE Band 5 to BT



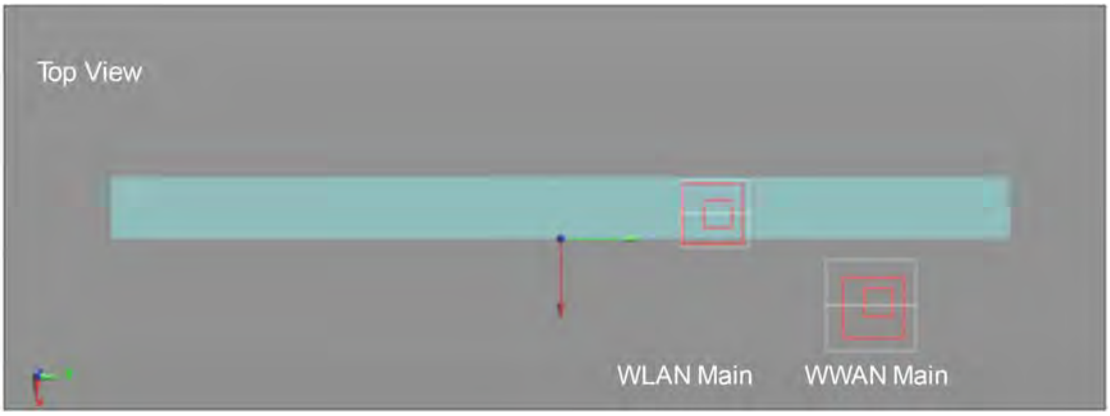
LTE Band 12 to BT



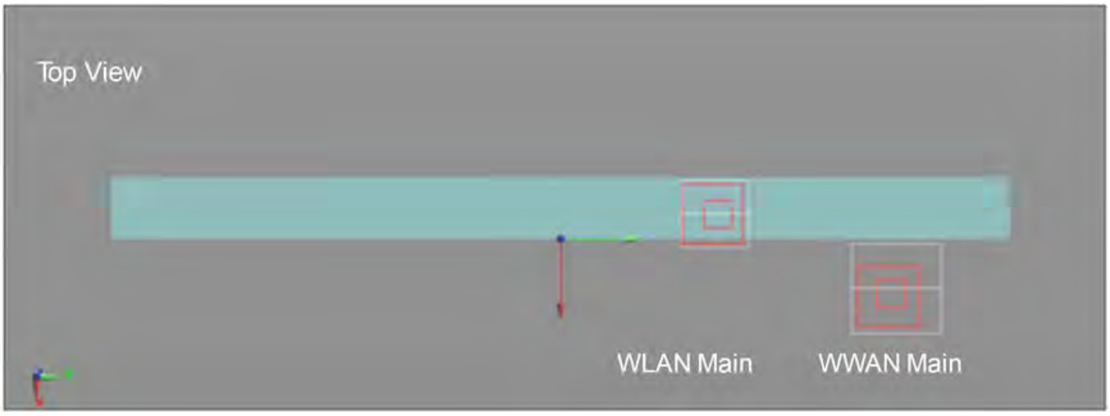
LTE Band 13 to BT



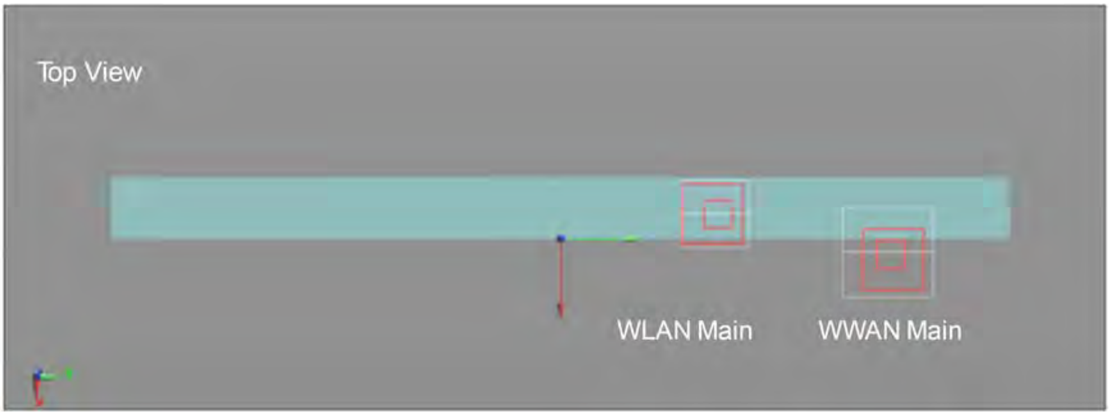
LTE Band 14 to BT



LTE Band 17 to BT



LTE Band 25 to BT



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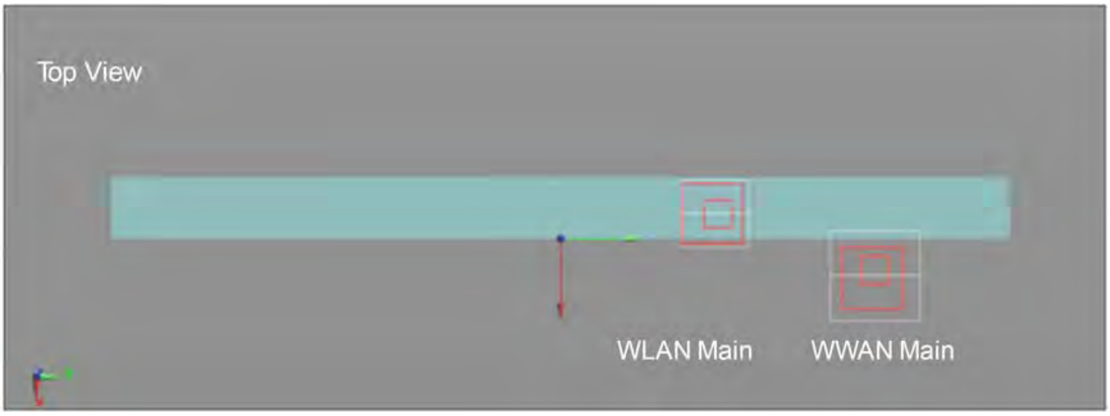
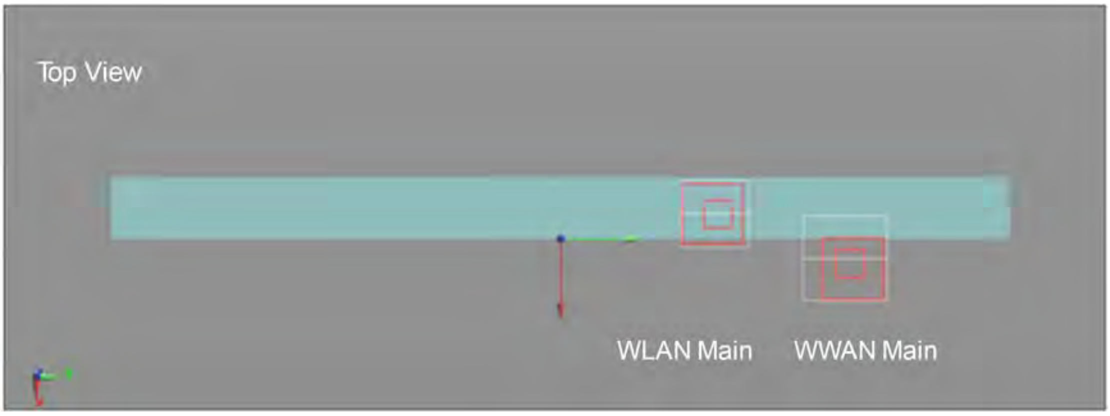
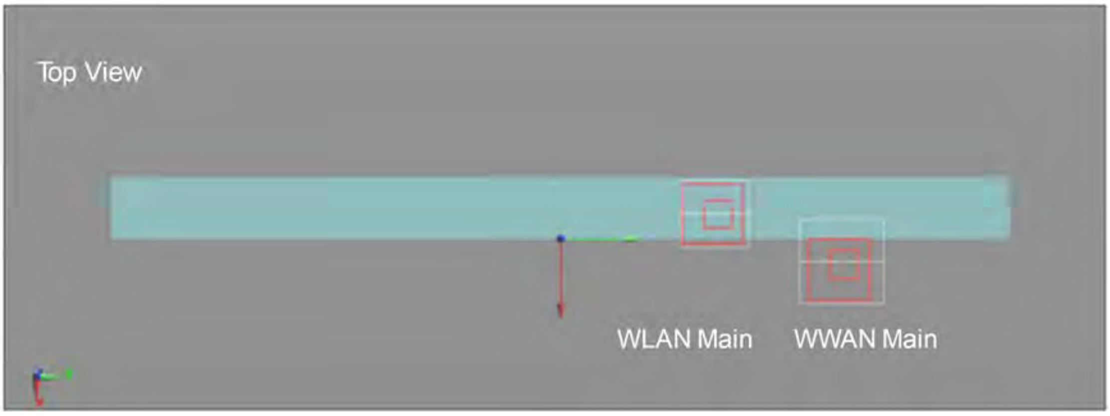
LTE Band 26 to BT



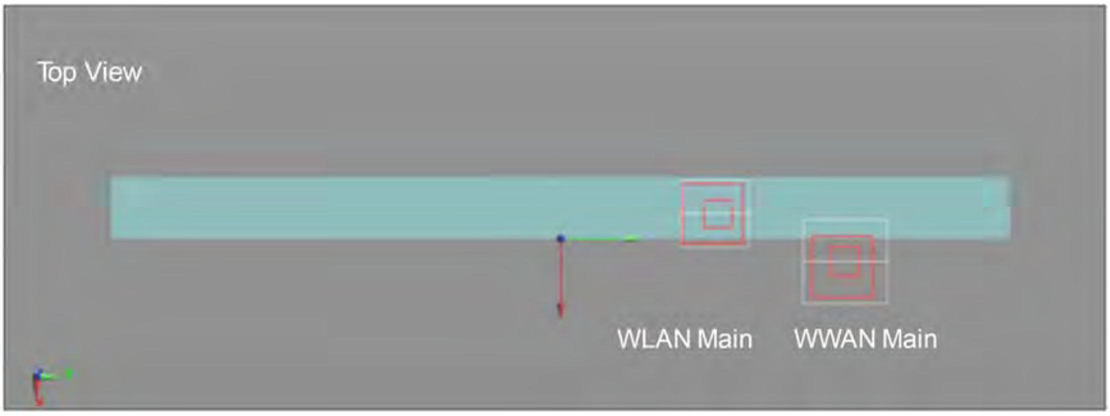
LTE Band 30 to BT



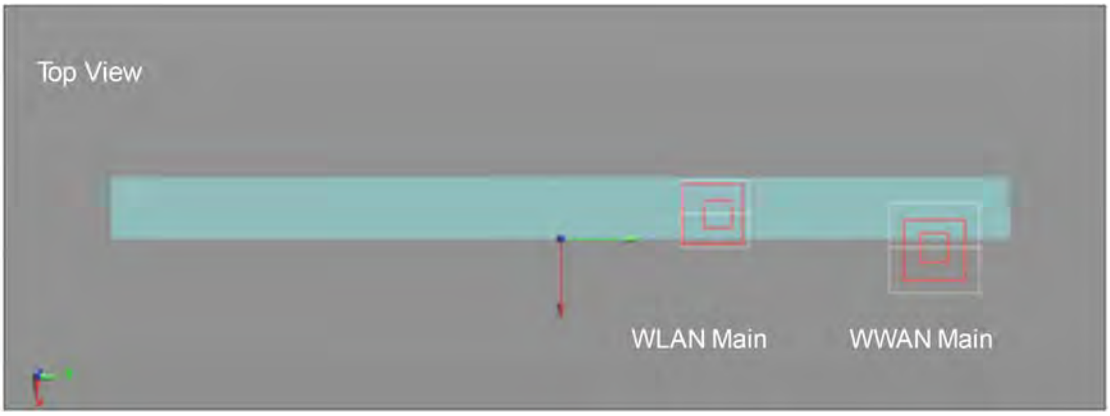
LTE Band 38 to BT



LTE Band 41 to BT



LTE Band 66 to BT



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Bottom side WWAN + 2.4 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
13	Bottom side	WCDMA Band Ⅱ	0	0.013	0.004	0.016	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.004	0.016	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.004	0.010	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.004	0.015	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.004	0.009	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.004	0.009	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.004	0.008	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.004	0.011	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.004	0.012	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.004	0.008	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.004	0.012	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.004	0.008	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.004	0.013	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.004	0.019	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.004	0.006	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.004	0.009	ΣSAR<1.6, Not required

Bottom side WWAN + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
14	Bottom side	WCDMA Band Ⅱ	0	0.013	0.010	0.022	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.010	0.022	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.010	0.016	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.010	0.021	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.010	0.015	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.010	0.015	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.010	0.014	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.010	0.017	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.010	0.018	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.010	0.014	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.010	0.018	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.010	0.014	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.010	0.019	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.010	0.025	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.010	0.012	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.010	0.015	ΣSAR<1.6, Not required

Bottom side WWAN + 5 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
15	Bottom side	WCDMA Band Ⅱ	0	0.013	0.040	0.052	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.040	0.052	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.040	0.046	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.040	0.051	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.040	0.045	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.040	0.045	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.040	0.044	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.040	0.047	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.040	0.048	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.040	0.043	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.040	0.048	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.040	0.044	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.040	0.049	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.040	0.055	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.040	0.042	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.040	0.045	ΣSAR<1.6, Not required

Bottom side WWAN + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
16	Bottom side	WCDMA Band Ⅱ	0	0.013	0.038	0.051	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.038	0.050	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.038	0.045	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.038	0.049	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.038	0.043	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.038	0.044	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.038	0.042	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.038	0.046	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.038	0.046	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.038	0.042	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.038	0.047	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.038	0.043	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.038	0.047	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.038	0.053	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.038	0.040	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.038	0.043	ΣSAR<1.6, Not required

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Bottom side WWAN + Bluetooth + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
17	Bottom side	WCDMA Band Ⅱ	0	0.013	0.001	0.010	0.024	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.001	0.010	0.023	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.001	0.010	0.017	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.001	0.010	0.022	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.001	0.010	0.016	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.001	0.010	0.017	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.001	0.010	0.015	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.001	0.010	0.018	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.001	0.010	0.019	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.001	0.010	0.015	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.001	0.010	0.020	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.001	0.010	0.016	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.001	0.010	0.020	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.001	0.010	0.026	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.001	0.010	0.013	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.001	0.010	0.016	ΣSAR<1.6, Not required

Bottom side WWAN + Bluetooth + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
18	Bottom side	WCDMA Band Ⅱ	0	0.013	0.001	0.038	0.052	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.012	0.001	0.038	0.051	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.006	0.001	0.038	0.045	ΣSAR<1.6, Not required
		LTE Band 2	0	0.011	0.001	0.038	0.050	ΣSAR<1.6, Not required
		LTE Band 4	0	0.005	0.001	0.038	0.044	ΣSAR<1.6, Not required
		LTE Band 5	0	0.006	0.001	0.038	0.045	ΣSAR<1.6, Not required
		LTE Band 12	0	0.004	0.001	0.038	0.043	ΣSAR<1.6, Not required
		LTE Band 13	0	0.007	0.001	0.038	0.046	ΣSAR<1.6, Not required
		LTE Band 14	0	0.008	0.001	0.038	0.047	ΣSAR<1.6, Not required
		LTE Band 17	0	0.004	0.001	0.038	0.043	ΣSAR<1.6, Not required
		LTE Band 25	0	0.009	0.001	0.038	0.048	ΣSAR<1.6, Not required
		LTE Band 26	0	0.005	0.001	0.038	0.044	ΣSAR<1.6, Not required
		LTE Band 30	0	0.009	0.001	0.038	0.048	ΣSAR<1.6, Not required
		LTE Band 38	0	0.015	0.001	0.038	0.054	ΣSAR<1.6, Not required
		LTE Band 41	0	0.002	0.001	0.038	0.041	ΣSAR<1.6, Not required
		LTE Band 66	0	0.005	0.001	0.038	0.044	ΣSAR<1.6, Not required

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Right side WWAN + 2.4 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
19	Right side	WCDMA Band II	0	0.557	0.025	0.582	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.762	0.025	0.787	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.025	0.090	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.025	0.511	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.025	0.691	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.025	0.079	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.025	0.107	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.025	0.154	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.025	0.164	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.025	0.106	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.025	0.459	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.025	0.083	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.025	0.054	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.025	0.078	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.025	0.039	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.025	0.954	ΣSAR<1.6, Not required

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Right side WWAN + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
20	Right side	WCDMA Band Ⅱ	0	0.557	0.044	0.601	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.762	0.044	0.806	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.044	0.109	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.044	0.530	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.044	0.710	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.044	0.098	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.044	0.126	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.044	0.173	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.044	0.183	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.044	0.125	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.044	0.478	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.044	0.102	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.044	0.073	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.044	0.097	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.044	0.058	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.044	0.973	ΣSAR<1.6, Not required

Right side WWAN + 5 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
21	Right side	WCDMA Band Ⅱ	0	0.557	0.093	0.650	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.762	0.093	0.855	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.093	0.158	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.093	0.578	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.093	0.759	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.093	0.146	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.093	0.175	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.093	0.222	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.093	0.232	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.093	0.173	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.093	0.526	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.093	0.151	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.093	0.122	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.093	0.146	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.093	0.107	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.093	1.021	ΣSAR<1.6, Not required

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Right side WWAN + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
22	Right side	WCDMA Band Ⅱ	0	0.557	0.028	0.585	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.762	0.028	0.790	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.028	0.093	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.028	0.514	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.028	0.694	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.028	0.082	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.028	0.110	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.028	0.157	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.028	0.167	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.028	0.109	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.028	0.462	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.028	0.086	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.028	0.057	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.028	0.081	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.028	0.042	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.028	0.957	ΣSAR<1.6, Not required

Right side WWAN + Bluetooth + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
23	Right side	WCDMA Band Ⅱ	0	0.557	0.004	0.044	0.605	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.762	0.004	0.044	0.810	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.004	0.044	0.113	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.004	0.044	0.534	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.004	0.044	0.714	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.004	0.044	0.102	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.004	0.044	0.130	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.004	0.044	0.177	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.004	0.044	0.187	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.004	0.044	0.129	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.004	0.044	0.482	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.004	0.044	0.106	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.004	0.044	0.077	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.004	0.044	0.101	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.004	0.044	0.062	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.004	0.044	0.977	ΣSAR<1.6, Not required

Right side WWAN + Bluetooth + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
24	Right side	WCDMA Band II	0	0.557	0.004	0.028	0.589	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.762	0.004	0.028	0.794	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.065	0.004	0.028	0.097	ΣSAR<1.6, Not required
		LTE Band 2	0	0.486	0.004	0.028	0.518	ΣSAR<1.6, Not required
		LTE Band 4	0	0.666	0.004	0.028	0.698	ΣSAR<1.6, Not required
		LTE Band 5	0	0.054	0.004	0.028	0.086	ΣSAR<1.6, Not required
		LTE Band 12	0	0.082	0.004	0.028	0.114	ΣSAR<1.6, Not required
		LTE Band 13	0	0.129	0.004	0.028	0.161	ΣSAR<1.6, Not required
		LTE Band 14	0	0.139	0.004	0.028	0.171	ΣSAR<1.6, Not required
		LTE Band 17	0	0.081	0.004	0.028	0.113	ΣSAR<1.6, Not required
		LTE Band 25	0	0.434	0.004	0.028	0.466	ΣSAR<1.6, Not required
		LTE Band 26	0	0.058	0.004	0.028	0.090	ΣSAR<1.6, Not required
		LTE Band 30	0	0.029	0.004	0.028	0.061	ΣSAR<1.6, Not required
		LTE Band 38	0	0.053	0.004	0.028	0.085	ΣSAR<1.6, Not required
		LTE Band 41	0	0.014	0.004	0.028	0.046	ΣSAR<1.6, Not required
		LTE Band 66	0	0.929	0.004	0.028	0.961	ΣSAR<1.6, Not required

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Left side WWAN + 2.4 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
25	Left side	WCDMA Band II	0	0.043	0.028	0.071	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.091	0.028	0.119	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.028	0.047	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.028	0.069	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.028	0.088	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.028	0.056	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.028	0.074	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.028	0.081	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.028	0.087	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.028	0.078	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.028	0.075	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.028	0.055	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.028	0.039	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.028	0.048	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.028	0.040	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.028	0.074	ΣSAR<1.6, Not required

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Left side WWAN + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
26	Left side	WCDMA Band II	0	0.043	0.056	0.099	ΣSAR<1.6, Not required
		WCDMA Band IV	0	0.091	0.056	0.147	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.056	0.075	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.056	0.097	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.056	0.116	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.056	0.084	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.056	0.102	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.056	0.109	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.056	0.115	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.056	0.106	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.056	0.103	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.056	0.083	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.056	0.067	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.056	0.076	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.056	0.068	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.056	0.102	ΣSAR<1.6, Not required

Left side WWAN + 5 GHz WLAN Main

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Main	SAR Sum	SPLSR
27	Left side	WCDMA Band Ⅱ	0	0.043	0.019	0.062	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.091	0.019	0.110	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.019	0.038	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.019	0.060	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.019	0.079	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.019	0.047	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.019	0.065	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.019	0.072	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.019	0.078	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.019	0.069	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.019	0.066	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.019	0.046	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.019	0.030	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.019	0.039	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.019	0.031	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.019	0.065	ΣSAR<1.6, Not required

Left side WWAN + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Max. WLAN Aux	SAR Sum	SPLSR
28	Left side	WCDMA Band Ⅱ	0	0.043	0.034	0.077	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.091	0.034	0.125	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.034	0.053	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.034	0.075	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.034	0.094	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.034	0.062	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.034	0.080	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.034	0.087	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.034	0.093	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.034	0.084	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.034	0.081	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.034	0.061	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.034	0.045	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.034	0.054	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.034	0.046	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.034	0.080	ΣSAR<1.6, Not required

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Left side WWAN + Bluetooth + 2.4 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
29	Left side	WCDMA Band Ⅱ	0	0.043	0.001	0.056	0.100	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.091	0.001	0.056	0.148	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.001	0.056	0.076	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.001	0.056	0.098	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.001	0.056	0.117	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.001	0.056	0.085	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.001	0.056	0.103	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.001	0.056	0.110	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.001	0.056	0.116	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.001	0.056	0.107	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.001	0.056	0.104	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.001	0.056	0.084	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.001	0.056	0.068	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.001	0.056	0.077	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.001	0.056	0.069	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.001	0.056	0.103	ΣSAR<1.6, Not required

Left side WWAN + Bluetooth + 5 GHz WLAN Aux

No.	Position	Conditions	Distance (mm)	Max. WWAN	Bluetooth	Max. WLAN Aux	SAR Sum	SPLSR
30	Left side	WCDMA Band Ⅱ	0	0.043	0.001	0.034	0.078	ΣSAR<1.6, Not required
		WCDMA Band Ⅳ	0	0.091	0.001	0.034	0.126	ΣSAR<1.6, Not required
		WCDMA Band V	0	0.019	0.001	0.034	0.054	ΣSAR<1.6, Not required
		LTE Band 2	0	0.041	0.001	0.034	0.076	ΣSAR<1.6, Not required
		LTE Band 4	0	0.060	0.001	0.034	0.095	ΣSAR<1.6, Not required
		LTE Band 5	0	0.028	0.001	0.034	0.063	ΣSAR<1.6, Not required
		LTE Band 12	0	0.046	0.001	0.034	0.081	ΣSAR<1.6, Not required
		LTE Band 13	0	0.053	0.001	0.034	0.088	ΣSAR<1.6, Not required
		LTE Band 14	0	0.059	0.001	0.034	0.094	ΣSAR<1.6, Not required
		LTE Band 17	0	0.050	0.001	0.034	0.085	ΣSAR<1.6, Not required
		LTE Band 25	0	0.047	0.001	0.034	0.082	ΣSAR<1.6, Not required
		LTE Band 26	0	0.027	0.001	0.034	0.062	ΣSAR<1.6, Not required
		LTE Band 30	0	0.011	0.001	0.034	0.046	ΣSAR<1.6, Not required
		LTE Band 38	0	0.020	0.001	0.034	0.055	ΣSAR<1.6, Not required
		LTE Band 41	0	0.012	0.001	0.034	0.047	ΣSAR<1.6, Not required
		LTE Band 66	0	0.046	0.001	0.034	0.081	ΣSAR<1.6, Not required

WWAN + 2.4 GHz WLAN MIMO

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
31	WCDMA Band Ⅱ + 2.4GHz WLAN MIMO	Back side	0.029	0.242	0.315	0.586	ΣSAR<1.6, Not required
		Top side	0.191	0.458	0.589	1.238	ΣSAR<1.6, Not required
		Bottom side	0.013	0.001	0.001	0.015	ΣSAR<1.6, Not required
		Right side	0.557	0.004	0.018	0.579	ΣSAR<1.6, Not required
		Left side	0.043	0.009	0.024	0.076	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
32	WCDMA Band Ⅳ + 2.4GHz WLAN MIMO	Back side	0.042	0.242	0.315	0.599	ΣSAR<1.6, Not required
		Top side	0.188	0.458	0.589	1.235	ΣSAR<1.6, Not required
		Bottom side	0.012	0.001	0.001	0.014	ΣSAR<1.6, Not required
		Right side	0.762	0.004	0.018	0.784	ΣSAR<1.6, Not required
		Left side	0.091	0.009	0.024	0.124	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
33	WCDMA Band V + 2.4GHz WLAN MIMO	Back side	0.006	0.242	0.315	0.563	ΣSAR<1.6, Not required
		Top side	0.095	0.458	0.589	1.142	ΣSAR<1.6, Not required
		Bottom side	0.006	0.001	0.001	0.008	ΣSAR<1.6, Not required
		Right side	0.065	0.004	0.018	0.087	ΣSAR<1.6, Not required
		Left side	0.019	0.009	0.024	0.052	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
34	LTE Band 2 + 2.4GHz WLAN MIMO	Back side	0.023	0.242	0.315	0.580	ΣSAR<1.6, Not required
		Top side	0.196	0.458	0.589	1.243	ΣSAR<1.6, Not required
		Bottom side	0.011	0.001	0.001	0.013	ΣSAR<1.6, Not required
		Right side	0.486	0.004	0.018	0.508	ΣSAR<1.6, Not required
		Left side	0.041	0.009	0.024	0.074	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
35	LTE Band 4 + 2.4GHz WLAN MIMO	Back side	0.032	0.242	0.315	0.589	ΣSAR<1.6, Not required
		Top side	0.194	0.458	0.589	1.241	ΣSAR<1.6, Not required
		Bottom side	0.005	0.001	0.001	0.007	ΣSAR<1.6, Not required
		Right side	0.666	0.004	0.018	0.688	ΣSAR<1.6, Not required
		Left side	0.060	0.009	0.024	0.093	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
36	LTE Band 5 + 2.4GHz WLAN MIMO	Back side	0.006	0.242	0.315	0.563	ΣSAR<1.6, Not required
		Top side	0.090	0.458	0.589	1.137	ΣSAR<1.6, Not required
		Bottom side	0.006	0.001	0.001	0.008	ΣSAR<1.6, Not required
		Right side	0.054	0.004	0.018	0.076	ΣSAR<1.6, Not required
		Left side	0.028	0.009	0.024	0.061	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
37	LTE Band 12 + 2.4GHz WLAN MIMO	Back side	0.010	0.242	0.315	0.567	ΣSAR<1.6, Not required
		Top side	0.078	0.458	0.589	1.125	ΣSAR<1.6, Not required
		Bottom side	0.004	0.001	0.001	0.006	ΣSAR<1.6, Not required
		Right side	0.082	0.004	0.018	0.104	ΣSAR<1.6, Not required
		Left side	0.046	0.009	0.024	0.079	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
38	LTE Band 13 + 2.4GHz WLAN MIMO	Back side	0.009	0.242	0.315	0.566	ΣSAR<1.6, Not required
		Top side	0.044	0.458	0.589	1.091	ΣSAR<1.6, Not required
		Bottom side	0.007	0.001	0.001	0.009	ΣSAR<1.6, Not required
		Right side	0.129	0.004	0.018	0.151	ΣSAR<1.6, Not required
		Left side	0.053	0.009	0.024	0.086	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
39	LTE Band 14 + 2.4GHz WLAN MIMO	Back side	0.007	0.242	0.315	0.564	ΣSAR<1.6, Not required
		Top side	0.054	0.458	0.589	1.101	ΣSAR<1.6, Not required
		Bottom side	0.008	0.001	0.001	0.010	ΣSAR<1.6, Not required
		Right side	0.139	0.004	0.018	0.161	ΣSAR<1.6, Not required
		Left side	0.059	0.009	0.024	0.092	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
40	LTE Band 17 + 2.4GHz WLAN MIMO	Back side	0.004	0.242	0.315	0.561	ΣSAR<1.6, Not required
		Top side	0.086	0.458	0.589	1.133	ΣSAR<1.6, Not required
		Bottom side	0.004	0.001	0.001	0.006	ΣSAR<1.6, Not required
		Right side	0.081	0.004	0.018	0.103	ΣSAR<1.6, Not required
		Left side	0.050	0.009	0.024	0.083	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
41	LTE Band 25 + 2.4GHz WLAN MIMO	Back side	0.032	0.242	0.315	0.589	ΣSAR<1.6, Not required
		Top side	0.173	0.458	0.589	1.220	ΣSAR<1.6, Not required
		Bottom side	0.009	0.001	0.001	0.011	ΣSAR<1.6, Not required
		Right side	0.434	0.004	0.018	0.456	ΣSAR<1.6, Not required
		Left side	0.047	0.009	0.024	0.080	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
42	LTE Band 26 + 2.4GHz WLAN MIMO	Back side	0.006	0.242	0.315	0.563	ΣSAR<1.6, Not required
		Top side	0.090	0.458	0.589	1.137	ΣSAR<1.6, Not required
		Bottom side	0.005	0.001	0.001	0.007	ΣSAR<1.6, Not required
		Right side	0.058	0.004	0.018	0.080	ΣSAR<1.6, Not required
		Left side	0.027	0.009	0.024	0.060	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
43	LTE Band 30 + 2.4GHz WLAN MIMO	Back side	0.026	0.242	0.315	0.583	ΣSAR<1.6, Not required
		Top side	0.120	0.458	0.589	1.167	ΣSAR<1.6, Not required
		Bottom side	0.009	0.001	0.001	0.011	ΣSAR<1.6, Not required
		Right side	0.029	0.004	0.018	0.051	ΣSAR<1.6, Not required
		Left side	0.011	0.009	0.024	0.044	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
44	LTE Band 38 + 2.4GHz WLAN MIMO	Back side	0.024	0.242	0.315	0.581	ΣSAR<1.6, Not required
		Top side	0.080	0.458	0.589	1.127	ΣSAR<1.6, Not required
		Bottom side	0.015	0.001	0.001	0.017	ΣSAR<1.6, Not required
		Right side	0.053	0.004	0.018	0.075	ΣSAR<1.6, Not required
		Left side	0.020	0.009	0.024	0.053	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
45	LTE Band 41 + 2.4GHz WLAN MIMO	Back side	0.018	0.242	0.315	0.575	ΣSAR<1.6, Not required
		Top side	0.125	0.458	0.589	1.172	ΣSAR<1.6, Not required
		Bottom side	0.002	0.001	0.001	0.004	ΣSAR<1.6, Not required
		Right side	0.014	0.004	0.018	0.036	ΣSAR<1.6, Not required
		Left side	0.012	0.009	0.024	0.045	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
46	LTE Band 66 + 2.4GHz WLAN MIMO	Back side	0.055	0.242	0.315	0.612	ΣSAR<1.6, Not required
		Top side	0.239	0.458	0.589	1.286	ΣSAR<1.6, Not required
		Bottom side	0.005	0.001	0.001	0.007	ΣSAR<1.6, Not required
		Right side	0.929	0.004	0.018	0.951	ΣSAR<1.6, Not required
		Left side	0.046	0.009	0.024	0.079	ΣSAR<1.6, Not required

WWAN + 5 GHz WLAN MIMO

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
47	WCDMA Band Ⅱ + 5GHz WLAN MIMO	Back side	0.029	0.187	0.216	0.432	ΣSAR<1.6, Not required
		Top side	0.191	0.649	0.712	1.552	ΣSAR<1.6, Not required
		Bottom side	0.013	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.557	0.027	0.027	0.611	ΣSAR<1.6, Not required
		Left side	0.043	0.021	0.018	0.082	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
48	WCDMA Band Ⅳ + 5GHz WLAN MIMO	Back side	0.042	0.187	0.216	0.445	ΣSAR<1.6, Not required
		Top side	0.188	0.649	0.712	1.549	ΣSAR<1.6, Not required
		Bottom side	0.012	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.762	0.027	0.027	0.816	ΣSAR<1.6, Not required
		Left side	0.091	0.021	0.018	0.130	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
49	WCDMA Band V + 5GHz WLAN MIMO	Back side	0.006	0.187	0.216	0.409	ΣSAR<1.6, Not required
		Top side	0.095	0.649	0.712	1.456	ΣSAR<1.6, Not required
		Bottom side	0.006	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.065	0.027	0.027	0.119	ΣSAR<1.6, Not required
		Left side	0.019	0.021	0.018	0.058	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
50	LTE Band 2 + 5GHz WLAN MIMO	Back side	0.023	0.187	0.216	0.426	ΣSAR<1.6, Not required
		Top side	0.196	0.649	0.712	1.557	ΣSAR<1.6, Not required
		Bottom side	0.011	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.486	0.027	0.027	0.540	ΣSAR<1.6, Not required
		Left side	0.041	0.021	0.018	0.080	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
51	LTE Band 4 + 5GHz WLAN MIMO	Back side	0.032	0.187	0.216	0.435	ΣSAR<1.6, Not required
		Top side	0.194	0.649	0.712	1.555	ΣSAR<1.6, Not required
		Bottom side	0.005	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.666	0.027	0.027	0.720	ΣSAR<1.6, Not required
		Left side	0.060	0.021	0.018	0.099	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
52	LTE Band 5 + 5GHz WLAN MIMO	Back side	0.006	0.187	0.216	0.409	ΣSAR<1.6, Not required
		Top side	0.090	0.649	0.712	1.451	ΣSAR<1.6, Not required
		Bottom side	0.006	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.054	0.027	0.027	0.108	ΣSAR<1.6, Not required
		Left side	0.028	0.021	0.018	0.067	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
53	LTE Band 12 + 5GHz WLAN MIMO	Back side	0.010	0.187	0.216	0.413	ΣSAR<1.6, Not required
		Top side	0.078	0.649	0.712	1.439	ΣSAR<1.6, Not required
		Bottom side	0.004	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.082	0.027	0.027	0.136	ΣSAR<1.6, Not required
		Left side	0.046	0.021	0.018	0.085	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
54	LTE Band 13 + 5GHz WLAN MIMO	Back side	0.009	0.187	0.216	0.412	ΣSAR<1.6, Not required
		Top side	0.044	0.649	0.712	1.405	ΣSAR<1.6, Not required
		Bottom side	0.007	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.129	0.027	0.027	0.183	ΣSAR<1.6, Not required
		Left side	0.053	0.021	0.018	0.092	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
55	LTE Band 14 + 5GHz WLAN MIMO	Back side	0.007	0.187	0.216	0.410	ΣSAR<1.6, Not required
		Top side	0.054	0.649	0.712	1.415	ΣSAR<1.6, Not required
		Bottom side	0.008	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.139	0.027	0.027	0.193	ΣSAR<1.6, Not required
		Left side	0.059	0.021	0.018	0.098	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
56	LTE Band 17 + 5GHz WLAN MIMO	Back side	0.004	0.187	0.216	0.407	ΣSAR<1.6, Not required
		Top side	0.086	0.649	0.712	1.447	ΣSAR<1.6, Not required
		Bottom side	0.004	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.081	0.027	0.027	0.135	ΣSAR<1.6, Not required
		Left side	0.050	0.021	0.018	0.089	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
57	LTE Band 25 + 5GHz WLAN MIMO	Back side	0.032	0.187	0.216	0.435	ΣSAR<1.6, Not required
		Top side	0.173	0.649	0.712	1.534	ΣSAR<1.6, Not required
		Bottom side	0.009	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.434	0.027	0.027	0.488	ΣSAR<1.6, Not required
		Left side	0.047	0.021	0.018	0.086	ΣSAR<1.6, Not required

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
58	LTE Band 26 + 5GHz WLAN MIMO	Back side	0.006	0.187	0.216	0.409	ΣSAR<1.6, Not required
		Top side	0.090	0.649	0.712	1.451	ΣSAR<1.6, Not required
		Bottom side	0.005	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.058	0.027	0.027	0.112	ΣSAR<1.6, Not required
		Left side	0.027	0.021	0.018	0.066	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
59	LTE Band 30 + 5GHz WLAN MIMO	Back side	0.026	0.187	0.216	0.429	ΣSAR<1.6, Not required
		Top side	0.120	0.649	0.712	1.481	ΣSAR<1.6, Not required
		Bottom side	0.009	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.029	0.027	0.027	0.083	ΣSAR<1.6, Not required
		Left side	0.011	0.021	0.018	0.050	ΣSAR<1.6, Not required
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
60	LTE Band 38 + 5GHz WLAN MIMO	Back side	0.024	0.187	0.216	0.427	ΣSAR<1.6, Not required
		Top side	0.080	0.649	0.712	1.441	ΣSAR<1.6, Not required
		Bottom side	0.015	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.053	0.027	0.027	0.107	ΣSAR<1.6, Not required
		Left side	0.020	0.021	0.018	0.059	ΣSAR<1.6, Not required

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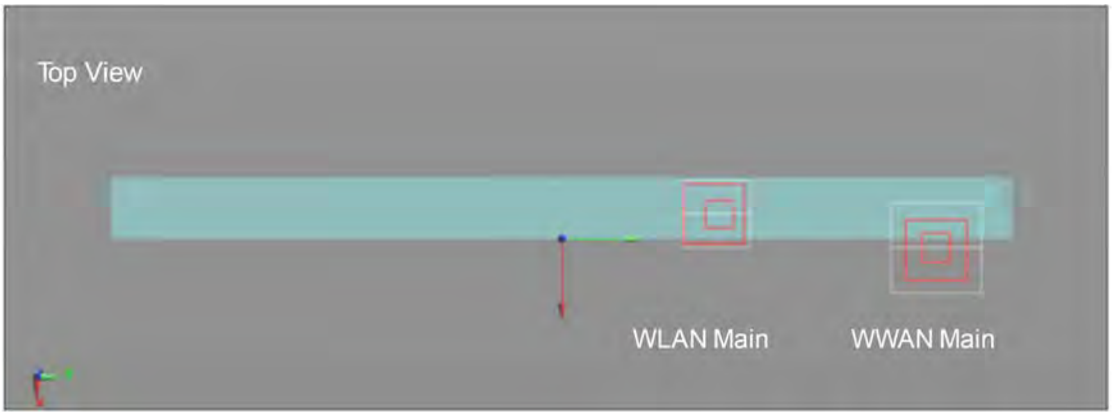
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
61	LTE Band 41 + 5GHz WLAN MIMO	Back side	0.018	0.187	0.216	0.421	ΣSAR<1.6, Not required
		Top side	0.125	0.649	0.712	1.486	ΣSAR<1.6, Not required
		Bottom side	0.002	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.014	0.027	0.027	0.068	ΣSAR<1.6, Not required
		Left side	0.012	0.021	0.018	0.051	ΣSAR<1.6, Not required

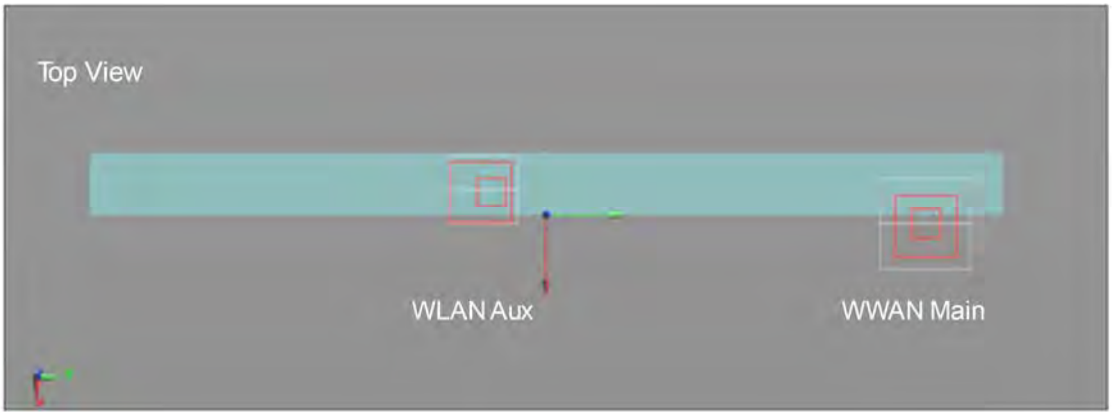
No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
62	LTE Band 66 + 5GHz WLAN MIMO	Back side	0.055	0.187	0.216	0.458	ΣSAR<1.6, Not required
		Top side	0.239	0.649	0.712	**1.600**	Analyed as below
		Bottom side	0.005	0..002	0.006	-	ΣSAR<1.6, Not required
		Right side	0.929	0.027	0.027	0.983	ΣSAR<1.6, Not required
		Left side	0.046	0.021	0.018	0.085	ΣSAR<1.6, Not required

Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top side	WLAN Main	0.649	-0.81	5.43	-0.23	-	-	-	-
	WLAN Aux	0.712	-0.73	-1.81	-0.16	1.361	72.41	0.022	SPLSR≦0.04, Not required
	LTE Band 66	0.239	0.30	13.33	-0.12	0.888	79.78	0.010	SPLSR≦0.04, Not required

LTE Band 66 to WLAN Main



LTE Band 66 to WLAN Aux



WLAN MIMO

Notebook mode

WWAN + 2.4 GHz WLAN MIMO

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
63	WCDMA Band II + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
64	WCDMA Band IV + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
65	WCDMA Band V + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
66	LTE Band 2 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
67	LTE Band 4 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
68	LTE Band 5 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
69	LTE Band 12 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
70	LTE Band 13 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required

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No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum	SPLSR
71	LTE Band 14 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
72	LTE Band 17 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
73	LTE Band 25 + 2.4 GHz WLAN MIMOx	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
74	LTE Band 26 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
75	LTE Band 30 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
76	LTE Band 38 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
77	LTE Band 41 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required
78	LTE Band 66 + 2.4 GHz WLAN MIMO	Bottom side	-	0.296	0.258	0.554	ΣSAR<1.6, Not required

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WWAN + 5 GHz WLAN MIMO

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum
79	WCDMA Band II + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
80	WCDMA Band IV + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
81	WCDMA Band V + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
82	LTE Band 2 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
83	LTE Band 4 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
84	LTE Band 5 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
85	LTE Band 12 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
86	LTE Band 13 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124

No.	Conditions	Position	WWAN	Max. WLAN Main	Max. WLAN Aux	SAR Sum
87	LTE Band 14 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
88	LTE Band 17 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
89	LTE Band 25 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
90	LTE Band 26 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
91	LTE Band 30 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
92	LTE Band 38 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
93	LTE Band 41 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124
94	LTE Band 66 + 5 GHz WLAN MIMO	Bottom side	-	0.628	0.496	1.124

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WWAN + 2.4GHz WLAN Aux + BT

No.	Conditions	Position	WWAN	Max. WLAN Aux	BT	SAR Sum
95	WCDMA Band II + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
96	WCDMA Band IV + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
97	WCDMA Band V + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
98	LTE Band 2 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
99	LTE Band 4 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
100	LTE Band 5 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
101	LTE Band 12 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
102	LTE Band 13 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362

No.	Conditions	Position	WWAN	Max. WLAN Aux	BT	SAR Sum
103	LTE Band 14 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
104	LTE Band 17 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
105	LTE Band 25 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
106	LTE Band 26 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
107	LTE Band 30 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
108	LTE Band 38 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
109	LTE Band 41 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362
110	LTE Band 66 + 2.4 GHz WLAN Aux + BT	Bottom side	-	0.258	0.104	0.362

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WWAN + 5GHz WLAN Aux + BT

No.	Conditions	Position	WWAN	Max. WLAN Aux	BT	SAR Sum
111	WCDMA Band II + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
112	WCDMA Band IV + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
113	WCDMA Band V + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
114	LTE Band 2 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
115	LTE Band 4 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
116	LTE Band 5 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
117	LTE Band 12 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
118	LTE Band 13 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600

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No.	Conditions	Position	WWAN	Max. WLAN Aux	BT	SAR Sum
119	LTE Band 14 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
120	LTE Band 17 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
121	LTE Band 25 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
122	LTE Band 26 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
123	LTE Band 30 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
124	LTE Band 38 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
125	LTE Band 41 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600
126	LTE Band 66 + 5 GHz WLAN Aux + BT	Bottom side	-	0.496	0.104	0.600

4. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
SPEAG	Dosimetric E-Field Probe	EX3DV4	3938	Sep.29,2017	Sep.28,2018
			3770	Apr.25,2018	Apr.24,2019
SPEAG	System Validation Dipole	D2450V2	727	Apr.24,2018	Apr.23,2019
		D750V3	1015	Aug.21,2017	Aug.20,2018
		D835V2	4d063	Aug.21,2017	Aug.20,2018
		D1750V2	1008	Aug.21,2017	Aug.20,2018
		D1900V2	5d173	Apr.25,2018	Apr.24,2019
		D2300V2	1023	Aug.17,2017	Aug.16,2018
		D2600V2	1005	Jan.17,2018	Jan.16,2019
		D5GHzV2	1023	Jan.25,2018	Jan.24,2019
SPEAG	Data acquisition Electronics	DAE4	1260	Sep.28,2017	Sep.27,2018
			856	Apr.21,2018	Apr.20,2019
SPEAG	Software	DASY 52 V52.8.8	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
Agilent	Network Analyzer	E5071C	MY46315263	Sep.08,2017	Sep.07,2018
Agilent	Dielectric Probe Kit	85070E	MY44300677	Calibration not required	Calibration not required
Agilent	Dual-directional coupler	772D	MY46151242	Aug.28,2017	Aug.27,2018
		778D	MY48220468	Aug.28,2017	Aug.27,2018

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Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
Agilent	RF Signal Generator	N5181A	MY50144143	Mar.15,2018	Mar.14,2019
Agilent	Power Meter	E4417A	MY52240003	Dec.21,2017	Dec.20,2018
Agilent	Power Sensor	E9301H	MY52200003	Dec.21,2017	Dec.20,2018
			MY52200004	Dec.21,2017	Dec.20,2018
TECPEL	Digital thermometer	DTM-303A	TP130074	Mar.09,2018	Mar.08,2019

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5. Measurements

Date: 2018/8/15

WCDMA Band II_Body_Right side_CH 9262

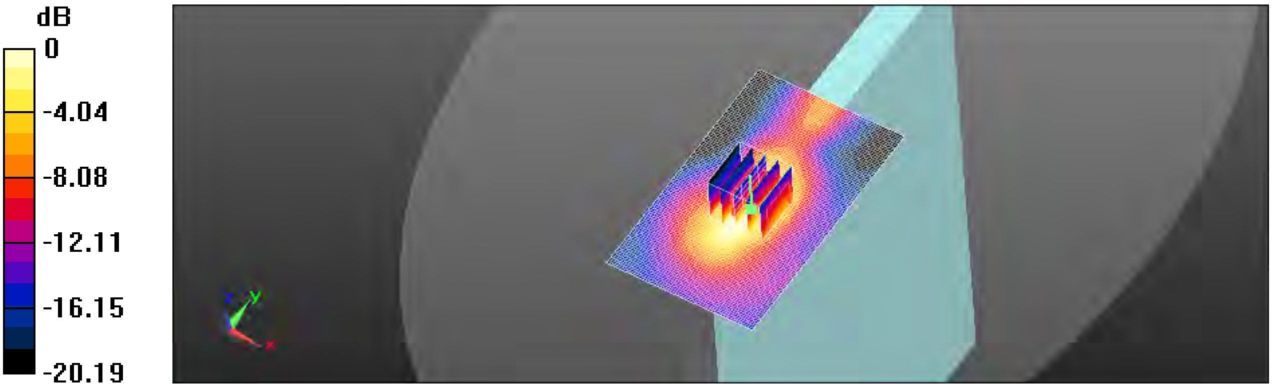
Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1852.4 MHz; σ = 1.588 S/m; ε_r = 51.111; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8, 8, 8); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.561 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.763 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.897 W/kg
SAR(1 g) = 0.419 W/kg; SAR(10 g) = 0.197 W/kg
Maximum value of SAR (measured) = 0.621 W/kg



0 dB = 0.621 W/kg = -2.07 dBW/kg

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Date: 2018/8/14

WCDMA Band IV_Body_Right side_CH 1513

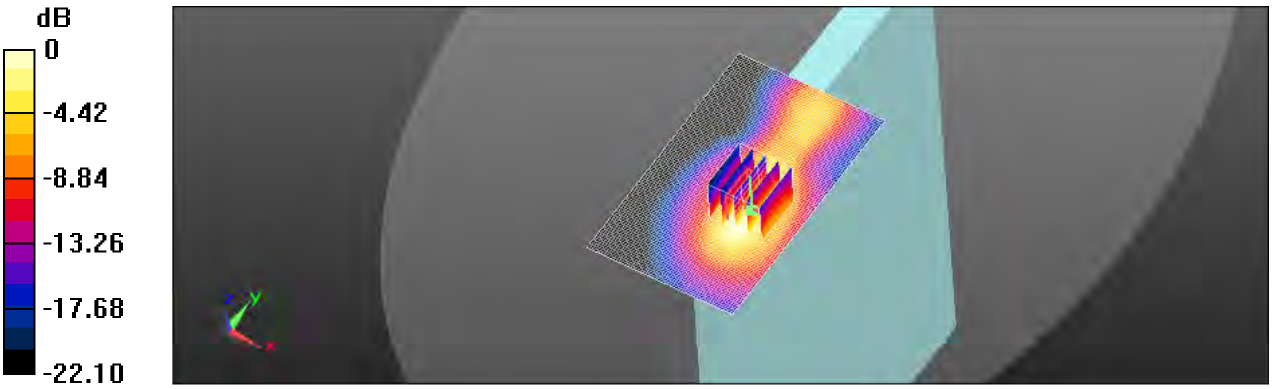
Communication System: WCDMA; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1753 MHz; σ = 1.48 S/m; ε_r = 51.483; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.8°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8.26, 8.26, 8.26); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.870 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.01 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.590 W/kg; SAR(10 g) = 0.290 W/kg
Maximum value of SAR (measured) = 0.911 W/kg



0 dB = 0.911 W/kg = -0.40 dBW/kg

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Date: 2018/8/13

WCDMA Band V_Body_Top side_CH 4233

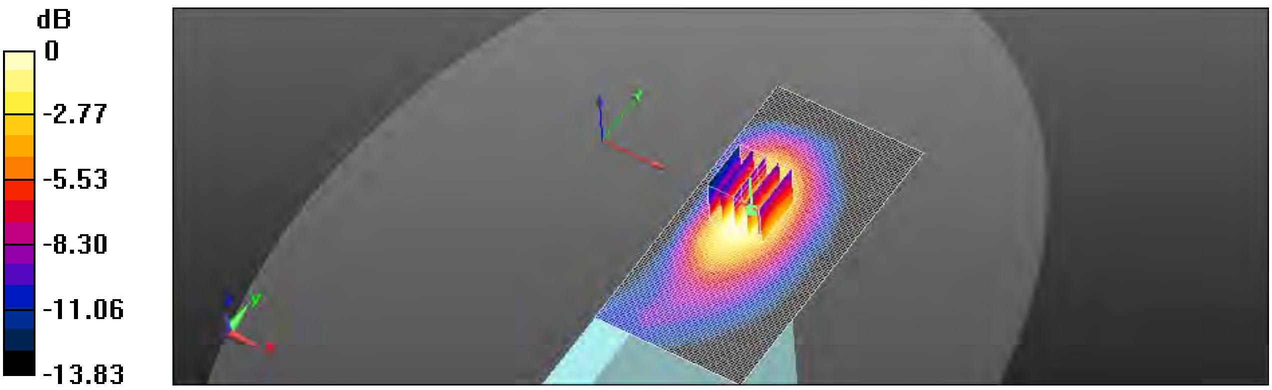
Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 1.005 S/m; ε_r = 57.151; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.72, 9.72, 9.72); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.0952 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.928 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.111 W/kg
SAR(1 g) = 0.0732 W/kg; SAR(10 g) = 0.0468 W/kg
Maximum value of SAR (measured) = 0.0899 W/kg



0 dB = 0.0899 W/kg = -10.46 dBW/kg

Date: 2018/8/15

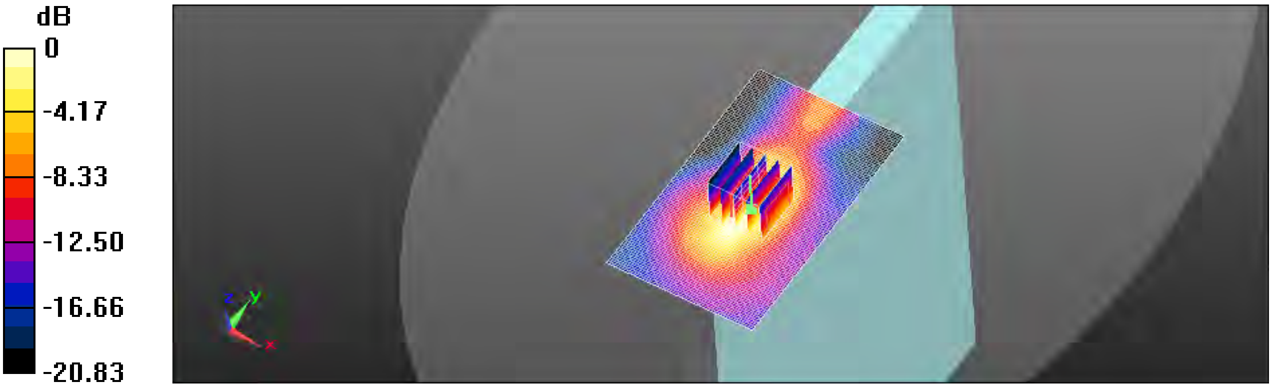
LTE Band 2 (20MHz)_Body_Right side_CH 18700_QPSK_1-0
Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1860 MHz; σ = 1.594 S/m; ε_r = 51.061; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8, 8, 8); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.633 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.111 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.468 W/kg; SAR(10 g) = 0.221 W/kg
Maximum value of SAR (measured) = 0.704 W/kg



0 dB = 0.704 W/kg = -1.52 dBW/kg

Date: 2018/8/14

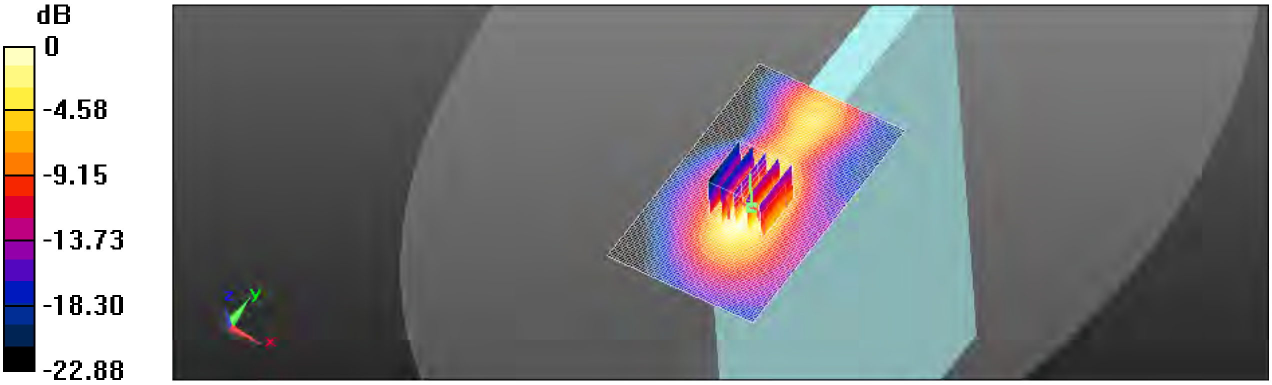
LTE Band 4 (20MHz)_Body_Right side_CH 20300_QPSK_1-0
Communication System: LTE; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.473 S/m; ε_r = 51.507; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.8°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8.26, 8.26, 8.26); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.798 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.827 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.609 W/kg; SAR(10 g) = 0.291 W/kg
Maximum value of SAR (measured) = 0.926 W/kg



0 dB = 0.926 W/kg = -0.33 dBW/kg

Date: 2018/8/13

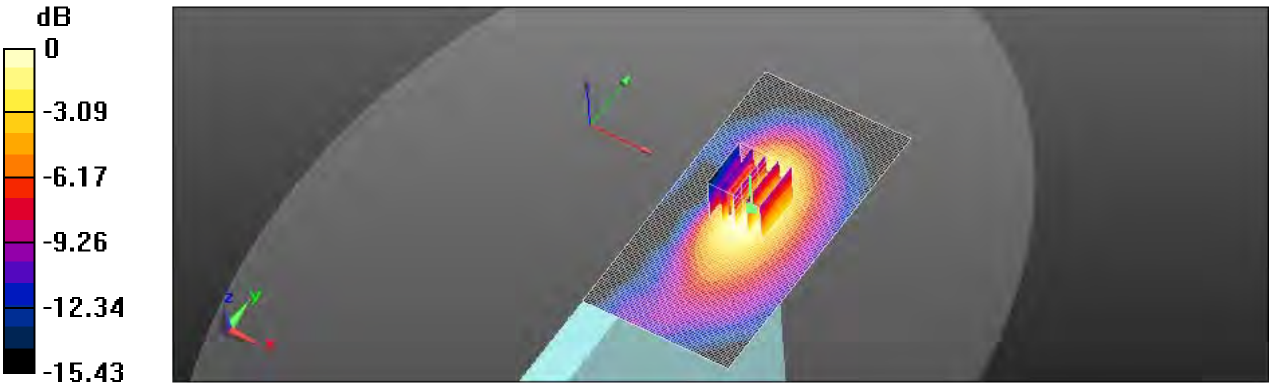
LTE Band 5 (10MHz)_Body_Top side_CH 20600_QPSK_1-0
Communication System: LTE; Frequency: 844 MHz; Duty Cycle: 1:1
Medium parameters used: f = 844 MHz; σ = 1.004 S/m; ε_r = 57.165; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.72, 9.72, 9.72); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.105 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.101 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.122 W/kg
SAR(1 g) = 0.0815 W/kg; SAR(10 g) = 0.0525 W/kg
Maximum value of SAR (measured) = 0.101 W/kg



0 dB = 0.101 W/kg = -9.96 dBW/kg

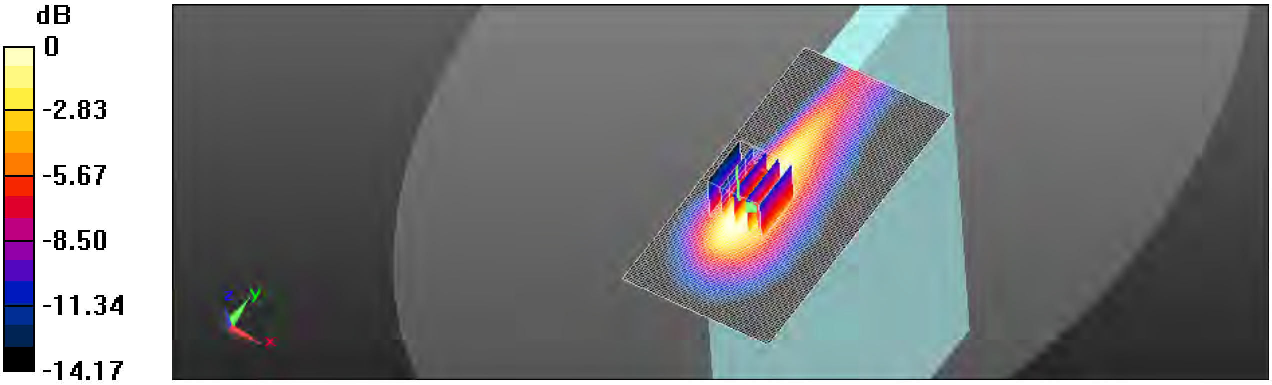
Date: 2018/8/10

LTE Band 12 (10MHz)_Body_Right side_CH 23130_QPSK_1-49
Communication System: LTE; Frequency: 711 MHz; Duty Cycle: 1:1
Medium parameters used: f = 711 MHz; σ = 0.93 S/m; ε_r = 57.576; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3770; ConvF(9.97, 9.97, 9.97); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.103 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.334 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.150 W/kg
SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.0394 W/kg
Maximum value of SAR (measured) = 0.0902 W/kg



0 dB = 0.0902 W/kg = -10.45 dBW/kg

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Date: 2018/8/10

LTE Band 13 (10MHz)_Body_Right side_CH 23230_QPSK_1-49

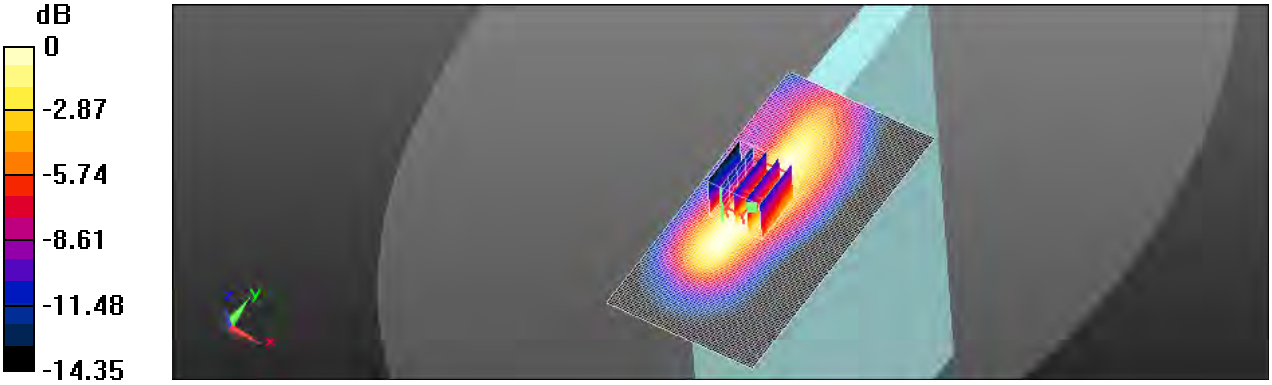
Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 1.003 S/m; ε_r = 56.912; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.97, 9.97, 9.97); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.177 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.01 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.0736 W/kg
Maximum value of SAR (measured) = 0.176 W/kg



0 dB = 0.176 W/kg = -7.54 dBW/kg

Date: 2018/8/10

LTE Band 14 (10MHz)_Body_Right side_CH 23230_QPSK_1-25
Communication System: LTE; Frequency: 793 MHz; Duty Cycle: 1:1
Medium parameters used: f = 793 MHz; σ = 1.008 S/m; ε_r = 56.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1°C; Liquid temperature: 21.6°C

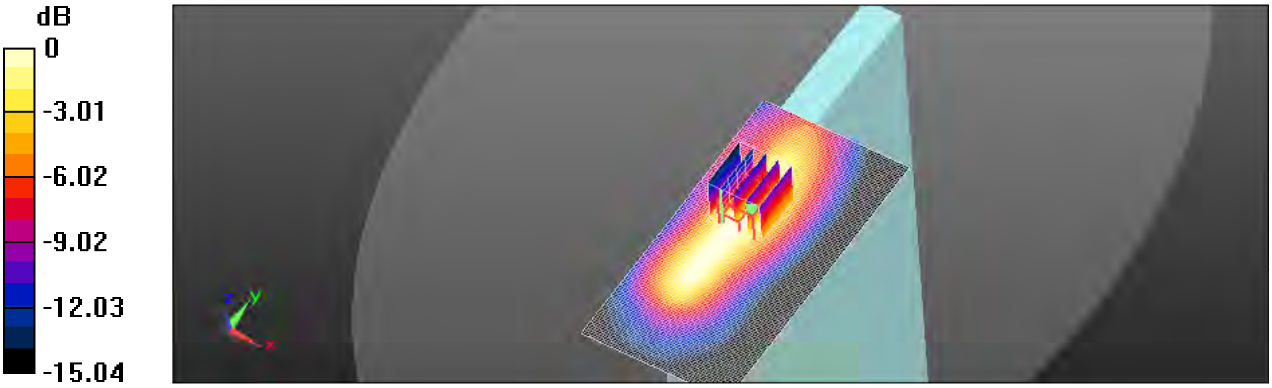
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.97, 9.97, 9.97); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.181 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.81 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.280 W/kg
SAR(1 g) = 0.129 W/kg; SAR(10 g) = 0.077 W/kg

Maximum value of SAR (measured) = 0.180 W/kg



0 dB = 0.180 W/kg = -7.45 dBW/kg

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Date: 2018/8/10

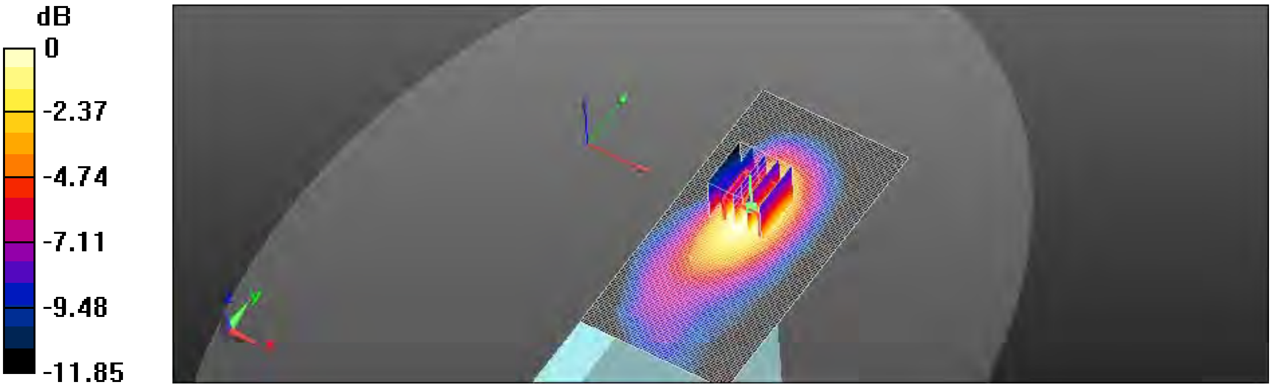
LTE Band 17 (10MHz)_Body_Top side_CH 23800_QPSK_1-49
Communication System: LTE; Frequency: 711 MHz; Duty Cycle: 1:1
Medium parameters used: f = 711 MHz; σ = 0.93 S/m; ε_r = 57.576; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.97, 9.97, 9.97); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.0876 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.777 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.0970 W/kg
SAR(1 g) = 0.0665 W/kg; SAR(10 g) = 0.0427 W/kg
Maximum value of SAR (measured) = 0.0833 W/kg



0 dB = 0.0833 W/kg = -10.79 dBW/kg

Date: 2018/8/15

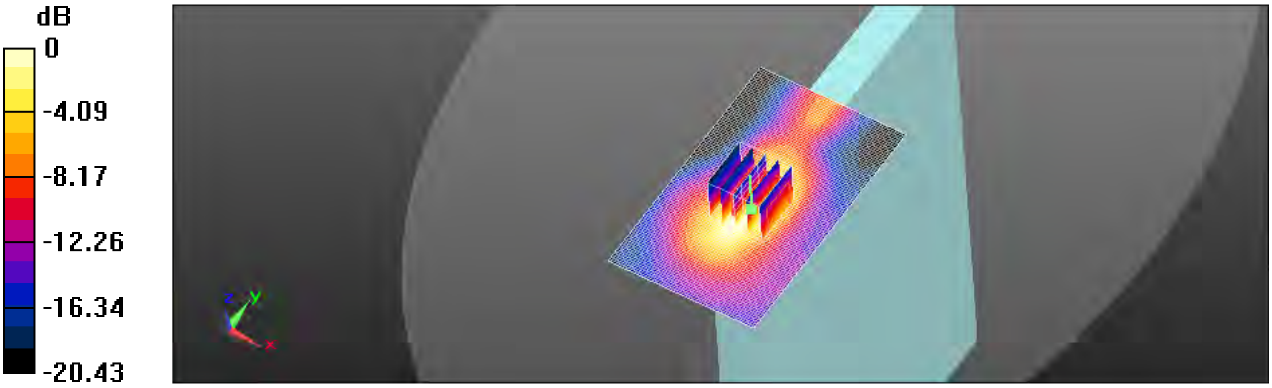
LTE Band 25 (20MHz)_Body_Right side_CH 26140_QPSK_1-99
Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1860 MHz; σ = 1.594 S/m; ε_r = 51.061; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8, 8, 8); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.534 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.291 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.859 W/kg
SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.190 W/kg
Maximum value of SAR (measured) = 0.599 W/kg



0 dB = 0.599 W/kg = -2.23 dBW/kg

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Date: 2018/8/13

LTE Band 26 (15MHz)_Body_Top side_CH 26965_QPSK_1-36

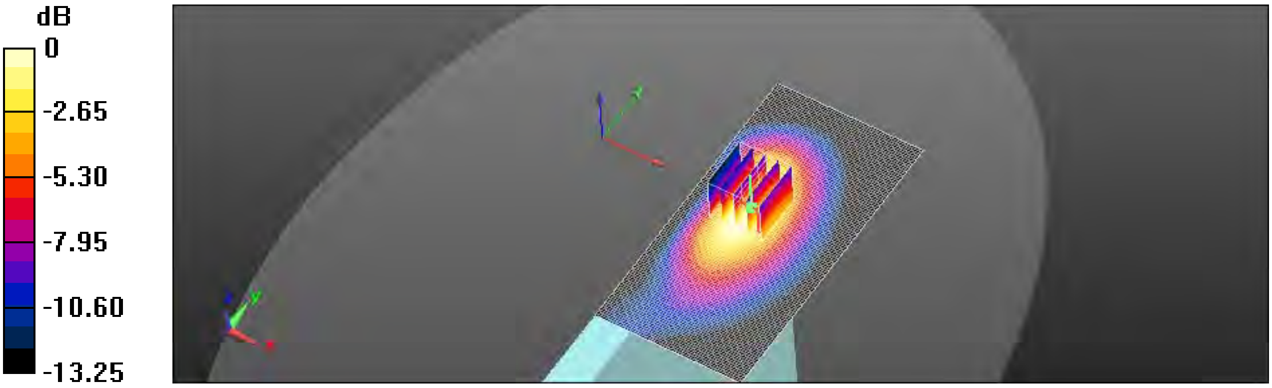
Communication System: LTE; Frequency: 841.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 841.5 MHz; σ = 1.001 S/m; ε_r = 57.169; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.72, 9.72, 9.72); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.107 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.724 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.124 W/kg
SAR(1 g) = 0.0823 W/kg; SAR(10 g) = 0.053 W/kg
Maximum value of SAR (measured) = 0.101 W/kg



0 dB = 0.101 W/kg = -9.96 dBW/kg

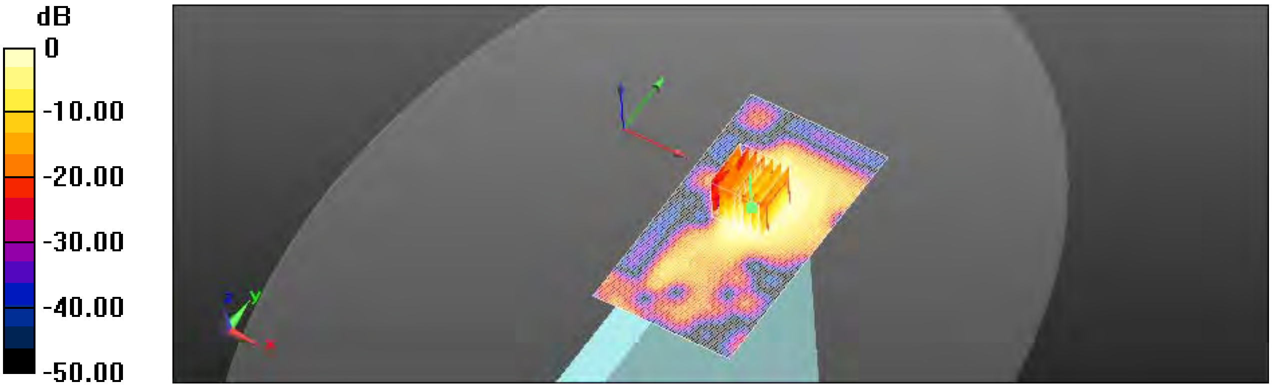
Date: 2018/8/15

LTE Band 30 (10MHz)_Body_Top side_CH 27710_QPSK_1-49
Communication System: LTE; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2310 MHz; σ = 1.863 S/m; ε_r = 54.07; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3770; ConvF(7.68, 7.68, 7.68); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (71x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.172 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.015 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.0853 W/kg; SAR(10 g) = 0.041 W/kg
Maximum value of SAR (measured) = 0.122 W/kg



0 dB = 0.122 W/kg = -9.14 dBW/kg

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Date: 2018/8/17

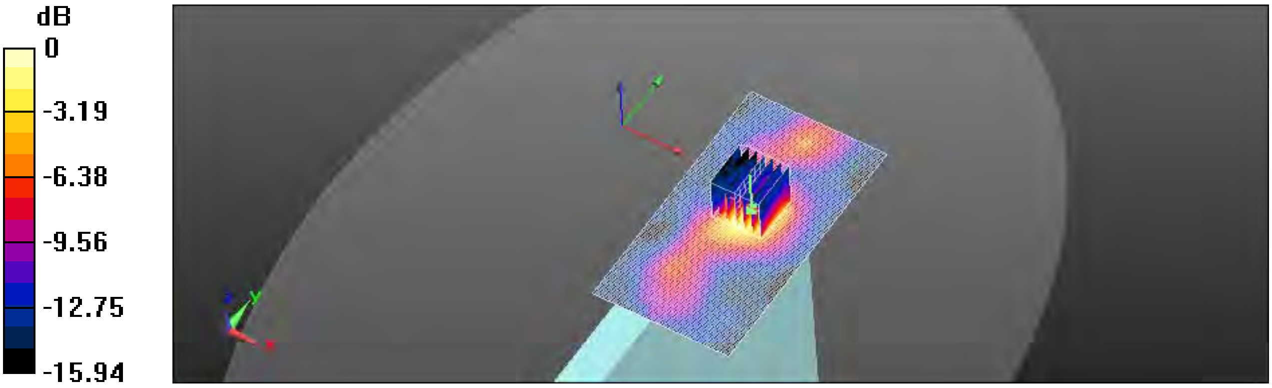
LTE Band 38 (20MHz)_Body_Top side_CH 38150_QPSK_1-50
Communication System: LTE; Frequency: 2610 MHz; Duty Cycle: 1:1.59956
Medium parameters used: f = 2610 MHz; σ = 2.131 S/m; ε_r = 51.168; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.6°C; Liquid temperature: 22.2°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (71x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.115 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.343 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.141 W/kg
SAR(1 g) = 0.0698 W/kg; SAR(10 g) = 0.0337 W/kg
Maximum value of SAR (measured) = 0.102 W/kg



0 dB = 0.102 W/kg = -9.91 dBW/kg

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Member of SGS Group

Date: 2018/8/17

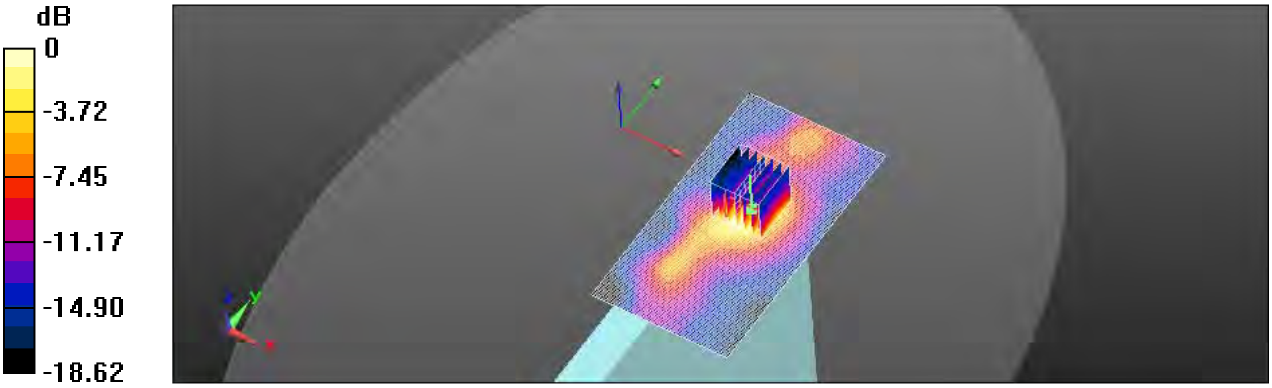
LTE Band 41 (20MHz)_Body_Top side_CH 41055_QPSK_1-50
Communication System: LTE; Frequency: 2636.5 MHz; Duty Cycle: 1:1.59956
Medium parameters used: f = 2636.5 MHz; σ = 2.172 S/m; ε_r = 50.073; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.6°C; Liquid temperature: 22.2°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (71x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.206 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.186 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.240 W/kg
SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.0571 W/kg
Maximum value of SAR (measured) = 0.177 W/kg



0 dB = 0.177 W/kg = -7.52 dBW/kg

Date: 2018/8/14

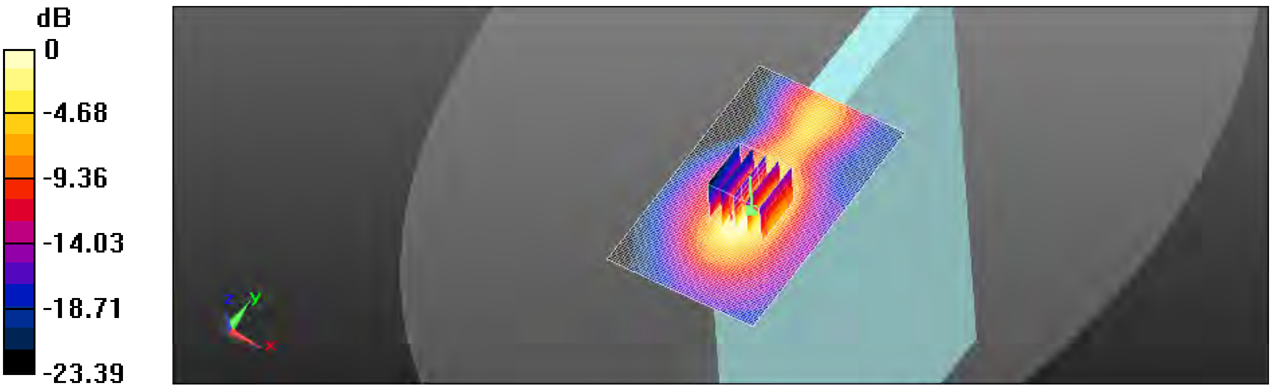
LTE Band 66 (20MHz)_Body_Right side_CH 132572_QPSK_1-0
Communication System: LTE; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1770 MHz; σ = 1.495 S/m; ε_r = 51.404; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.8°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8.26, 8.26, 8.26); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.10 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.42 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 0.843 W/kg; SAR(10 g) = 0.395 W/kg
Maximum value of SAR (measured) = 1.29 W/kg



0 dB = 1.29 W/kg = 1.11 dBW/kg

Date: 2018/8/13

WLAN 802.11b_Body_Top side_CH 10_Main

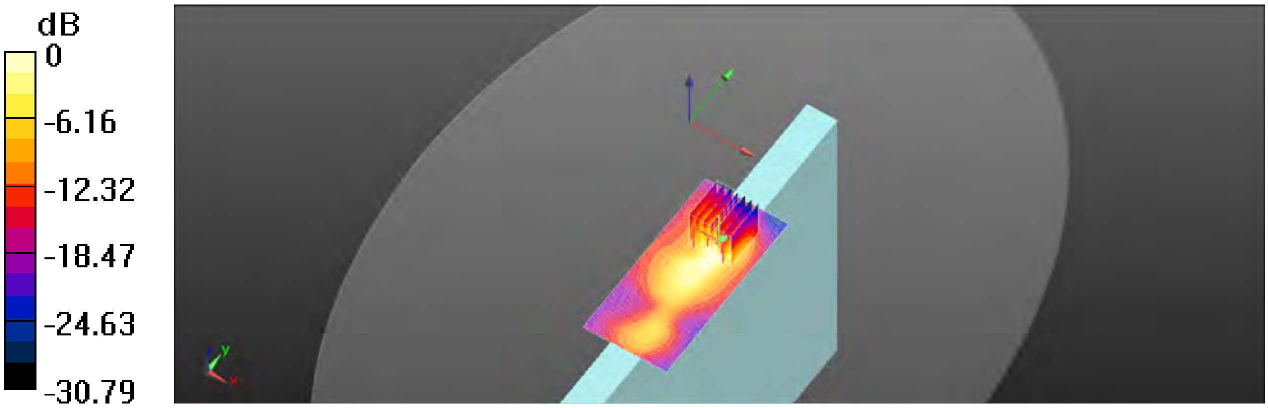
Communication System: WLAN 2.45G; Frequency: 2457 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2457 MHz; $\sigma = 1.988$ S/m; $\varepsilon_r = 53.681$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x111x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 2.57 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.67 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.13 W/kg
SAR(1 g) = 1.44 W/kg; SAR(10 g) = 0.655 W/kg
Maximum value of SAR (measured) = 2.24 W/kg



0 dB = 2.24 W/kg = 3.50 dBW/kg

Date: 2018/8/13

WLAN 802.11g_Body_Top side_CH 6_Main

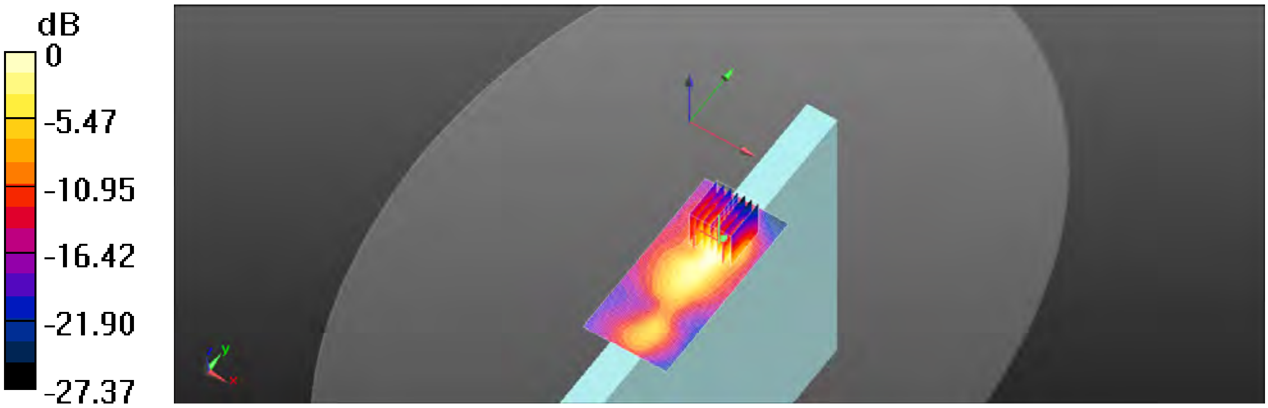
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x111x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 2.37 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.61 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.85 W/kg
SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.598 W/kg
Maximum value of SAR (measured) = 2.04 W/kg



0 dB = 2.04 W/kg = 3.10 dBW/kg

Date: 2018/8/13

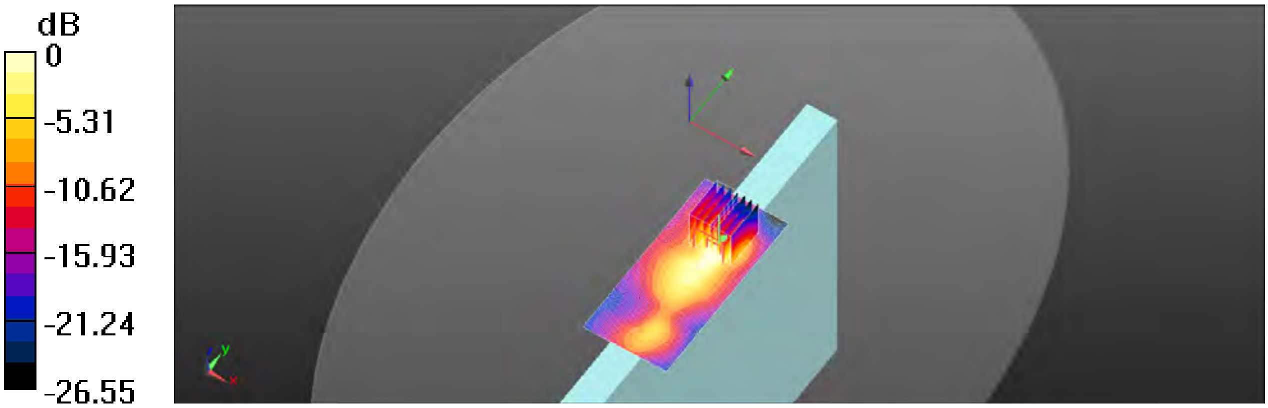
WLAN 802.11n(20M)_Body_Top side_CH 6_Main
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.3, 7.3, 7.3); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x111x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 2.24 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.30 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.86 W/kg
SAR(1 g) = 1.3 W/kg; SAR(10 g) = 0.605 W/kg
Maximum value of SAR (measured) = 2.01 W/kg



0 dB = 2.01 W/kg = 3.03 dBW/kg

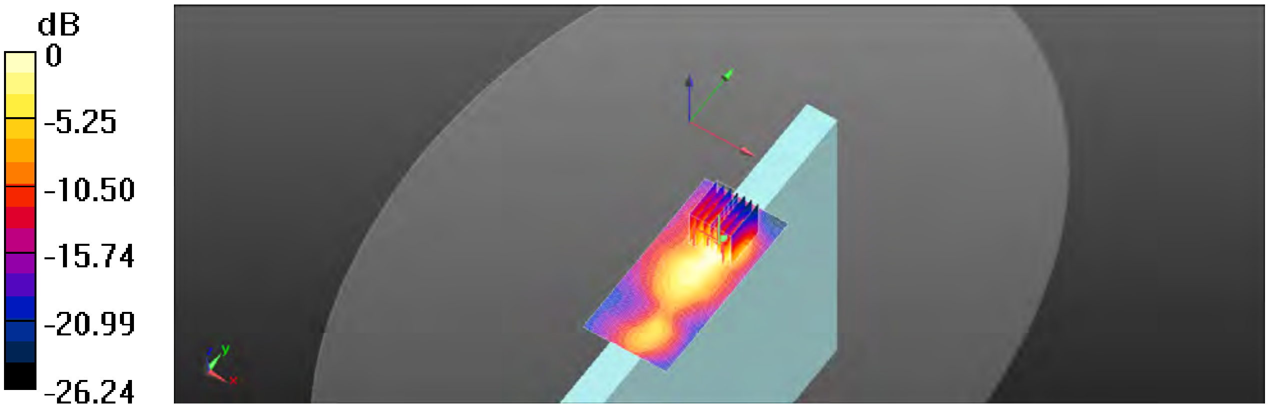
Date: 2018/8/13

WLAN 802.11n(40M)_Body_Top side_CH 6_Main
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3831; ConvF(7.3, 7.3, 7.3); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x111x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 1.58 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.61 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 0.903 W/kg; SAR(10 g) = 0.423 W/kg
Maximum value of SAR (measured) = 1.39 W/kg



0 dB = 1.39 W/kg = 1.43 dBW/kg

Date: 2018/8/13

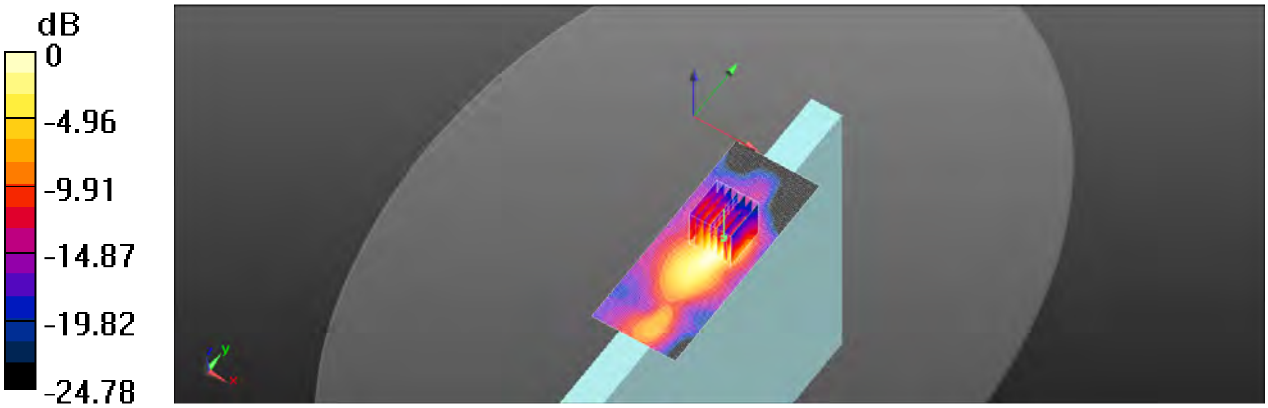
Bluetooth(GFSK)_Body_Top side_CH 39_Main
Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2441 MHz; σ = 1.969 S/m; ε_r = 53.692; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.235 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.746 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.324 W/kg
SAR(1 g) = 0.149 W/kg; SAR(10 g) = 0.068 W/kg
Maximum value of SAR (measured) = 0.233 W/kg



0 dB = 0.233 W/kg = -6.33 dBW/kg

Date: 2018/8/14

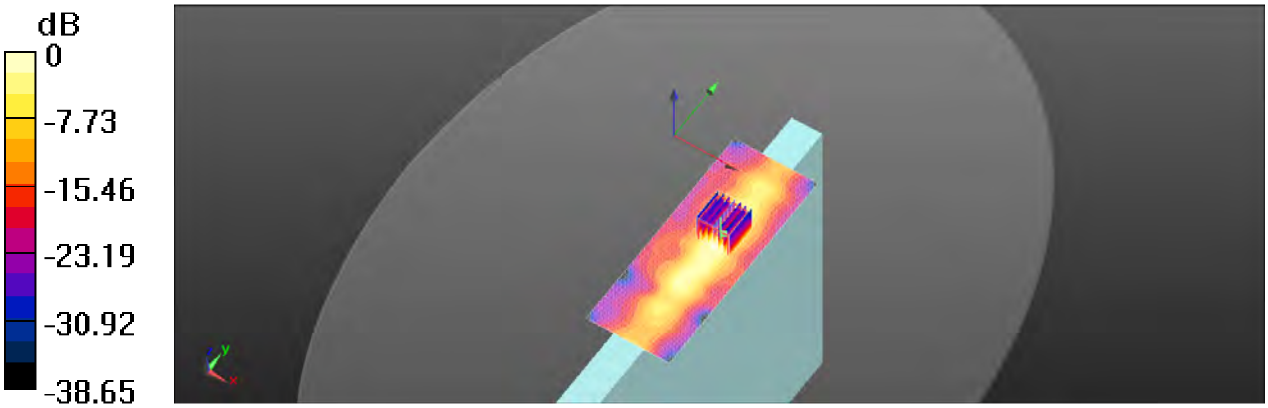
WLAN 802.11a 5.2G_Body_Top side_CH 40_Main
Communication System: WLAN 5G; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.167 S/m; ε_r = 49.425; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.48 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.165 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 7.09 W/kg
SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.410 W/kg
Maximum value of SAR (measured) = 2.89 W/kg



0 dB = 2.89 W/kg = 4.61 dBW/kg

Date: 2018/8/14

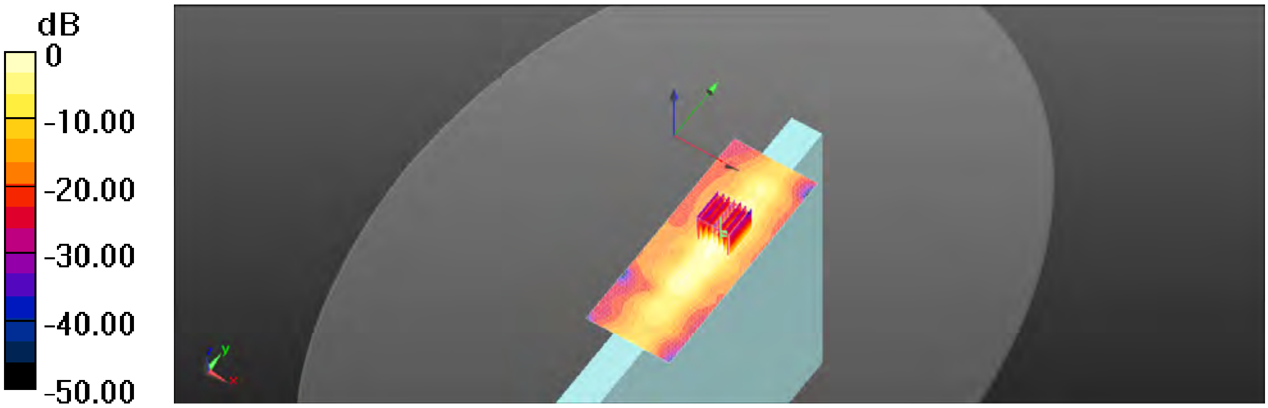
WLAN 802.11n(20M) 5.2G_Body_Top side_CH 40_Main
Communication System: WLAN 5G; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.167 S/m; ε_r = 49.425; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.51 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.318 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 6.88 W/kg
SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.411 W/kg
Maximum value of SAR (measured) = 2.88 W/kg



0 dB = 2.88 W/kg = 4.59 dBW/kg

Date: 2018/8/14

WLAN 802.11ac(20M) 5.2G_Body_Top side_CH 44_Main

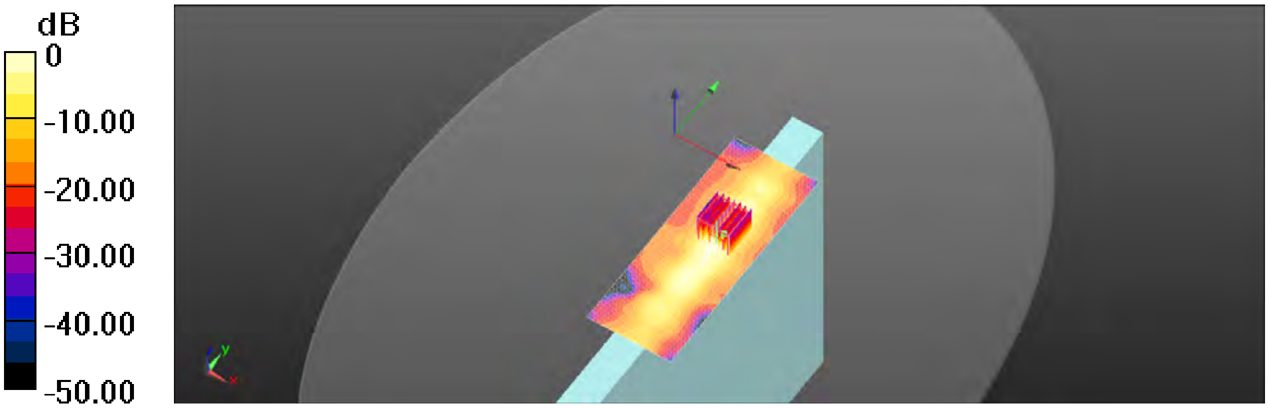
Communication System: WLAN 5G; Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.2 S/m; ε_r = 49.351; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.51 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.811 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 7.55 W/kg
SAR(1 g) = 1.41 W/kg; SAR(10 g) = 0.424 W/kg
Maximum value of SAR (measured) = 3.06 W/kg



0 dB = 3.06 W/kg = 4.86 dBW/kg

Date: 2018/8/14

WLAN 802.11n(40M) 5.2G_Body_Top side_CH 46_Main

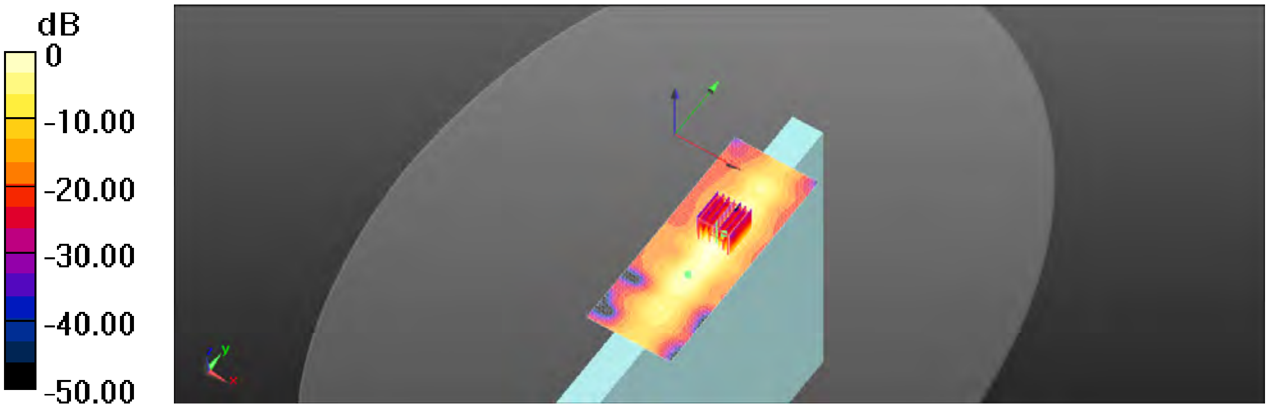
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.39 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.836 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 7.27 W/kg
SAR(1 g) = 1.36 W/kg; SAR(10 g) = 0.407 W/kg
Maximum value of SAR (measured) = 3.00 W/kg



0 dB = 3.00 W/kg = 4.77 dBW/kg

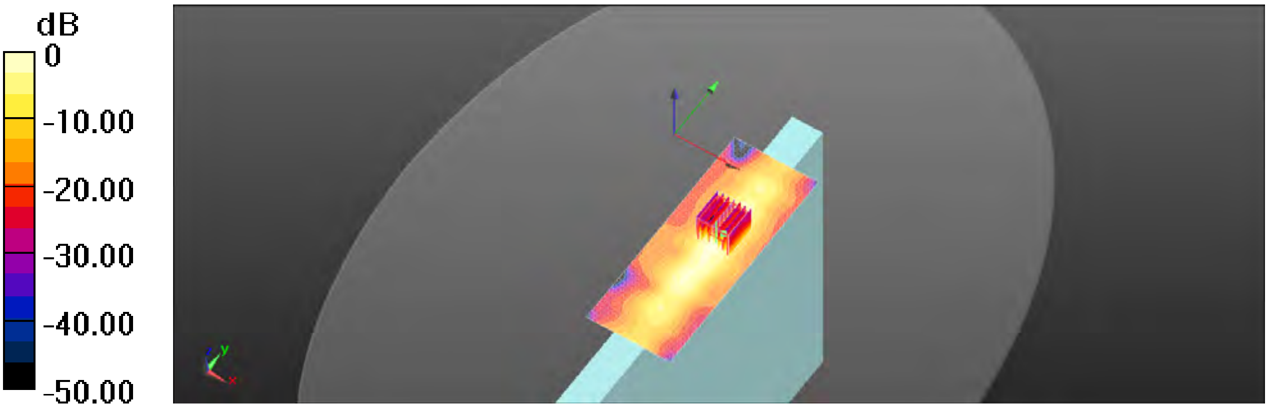
Date: 2018/8/14

WLAN 802.11ac(40M) 5.2G_Body_Top side_CH 46_Main
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.41 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.761 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 7.22 W/kg
SAR(1 g) = 1.34 W/kg; SAR(10 g) = 0.402 W/kg
Maximum value of SAR (measured) = 2.99 W/kg



0 dB = 2.99 W/kg = 4.76 dBW/kg

Date: 2018/8/15

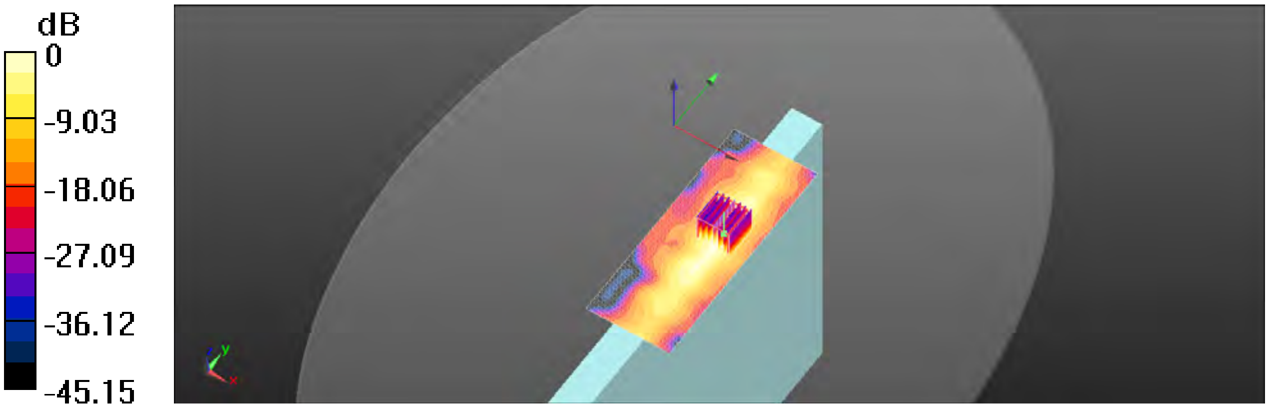
WLAN 802.11a 5.3G_Body_Top side_CH 52_Main
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 3.08 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.42 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 7.95 W/kg
SAR(1 g) = 1.47 W/kg; SAR(10 g) = 0.441 W/kg
Maximum value of SAR (measured) = 3.44 W/kg



0 dB = 3.44 W/kg = 5.37 dBW/kg

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Member of SGS Group

Date: 2018/8/15

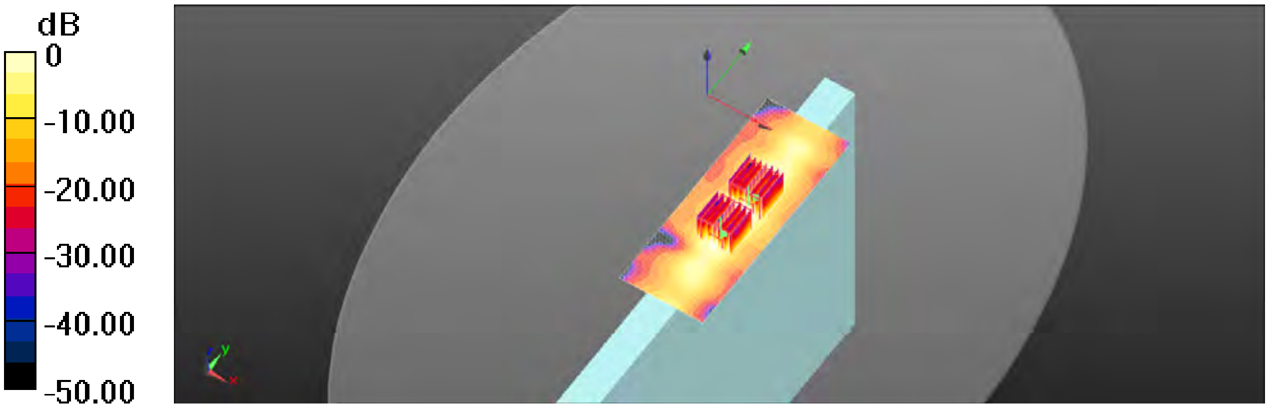
WLAN 802.11n(20M) 5.3G_Body_Top side_CH 60_Main
Communication System: WLAN 5G; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.331 S/m; ε_r = 49.102; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.62 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 10.68 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 8.48 W/kg
SAR(1 g) = 1.55 W/kg; SAR(10 g) = 0.453 W/kg
Maximum value of SAR (measured) = 3.58 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 10.68 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 5.53 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 2.45 W/kg



0 dB = 2.45 W/kg = 3.89 dBW/kg

Date: 2018/8/15

WLAN 802.11ac(20M) 5.3G_Body_Top side_CH 52_Main

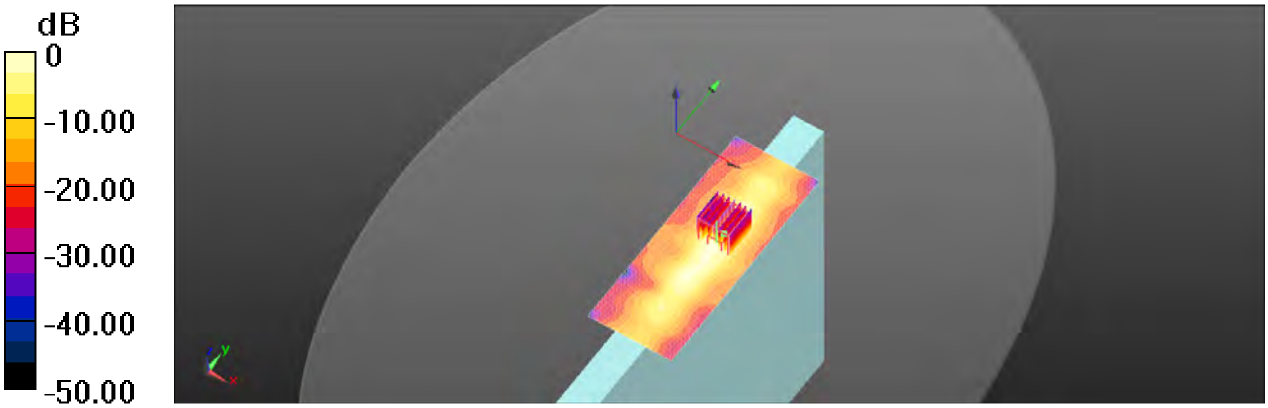
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.48 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 9.531 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 8.47 W/kg
SAR(1 g) = 1.49 W/kg; SAR(10 g) = 0.434 W/kg
Maximum value of SAR (measured) = 3.41 W/kg



0 dB = 3.41 W/kg = 5.33 dBW/kg

Date: 2018/8/15

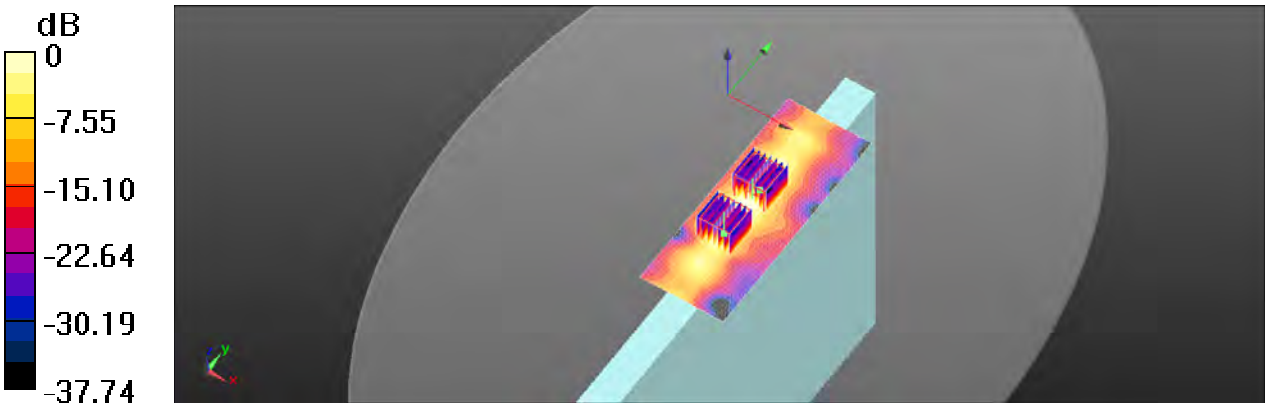
WLAN 802.11n(40M) 5.3G_Body_Top side_CH 62_Main
Communication System: WLAN 5G; Frequency: 5310 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5310 MHz; σ = 5.34 S/m; ε_r = 49.019; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.42 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.336 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 8.26 W/kg
SAR(1 g) = 1.51 W/kg; SAR(10 g) = 0.439 W/kg
Maximum value of SAR (measured) = 3.37 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.336 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 5.49 W/kg
SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.294 W/kg
Maximum value of SAR (measured) = 2.40 W/kg



0 dB = 2.40 W/kg = 3.80 dBW/kg

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Date: 2018/8/15

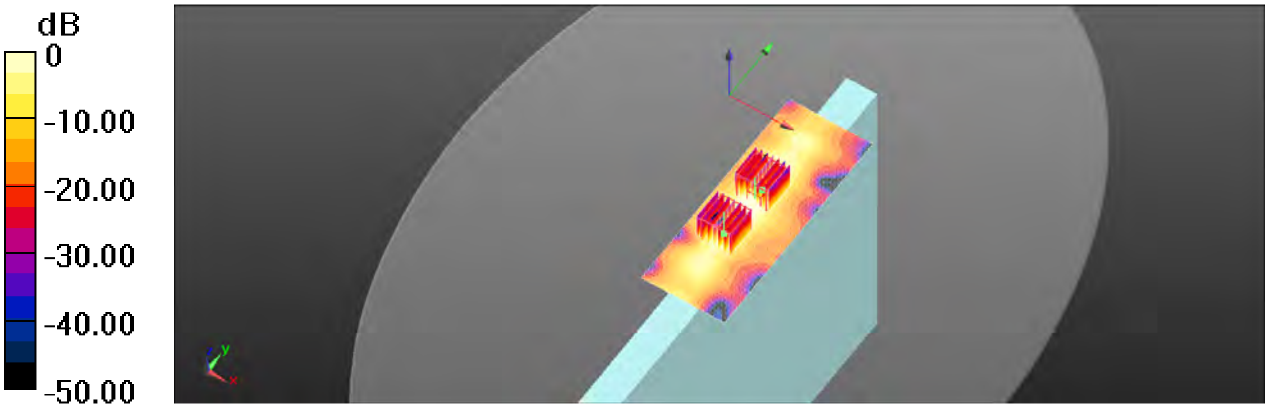
WLAN 802.11ac(40M) 5.3G_Body_Top side_CH 62_Main
Communication System: WLAN 5G; Frequency: 5310 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5310 MHz; σ = 5.34 S/m; ε_r = 49.019; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.43 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.315 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 8.22 W/kg
SAR(1 g) = 1.5 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 3.44 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.315 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 5.40 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.295 W/kg
Maximum value of SAR (measured) = 2.32 W/kg



0 dB = 2.32 W/kg = 3.65 dBW/kg

Date: 2018/8/16

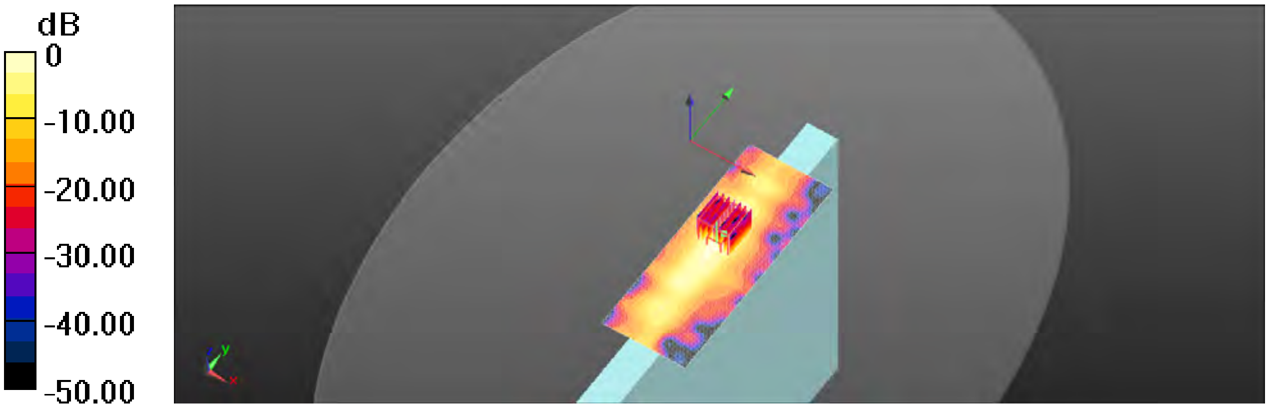
WLAN 802.11ac(80M) 5.6G_Body_Top side_CH 138_Main
Communication System: WLAN 5G; Frequency: 5690 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5690 MHz; σ = 5.985 S/m; ε_r = 47.796; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.86 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.382 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 6.40 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.298 W/kg
Maximum value of SAR (measured) = 2.48 W/kg



0 dB = 2.48 W/kg = 3.94 dBW/kg

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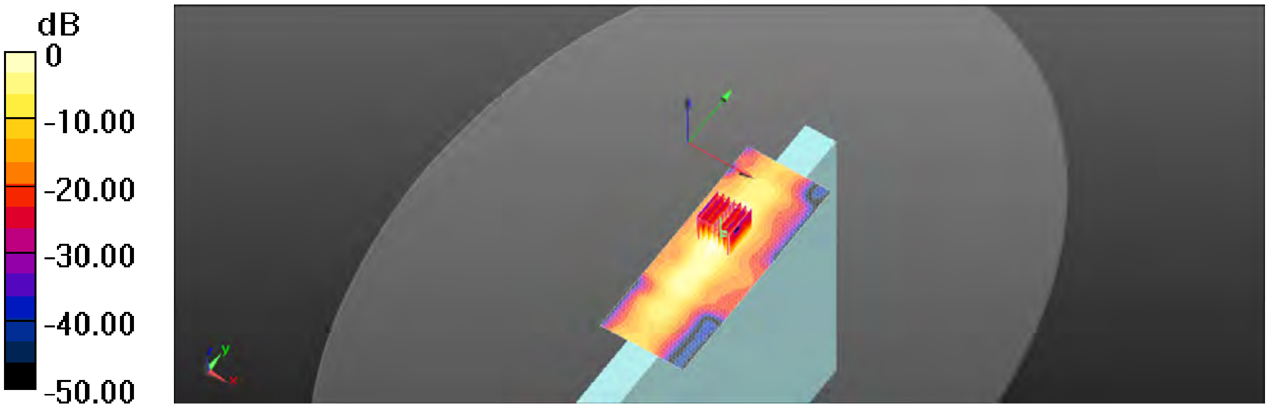
Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Top side_CH 155_Main
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.08 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.541 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 5.67 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.343 W/kg
Maximum value of SAR (measured) = 2.48 W/kg



0 dB = 2.48 W/kg = 3.94 dBW/kg

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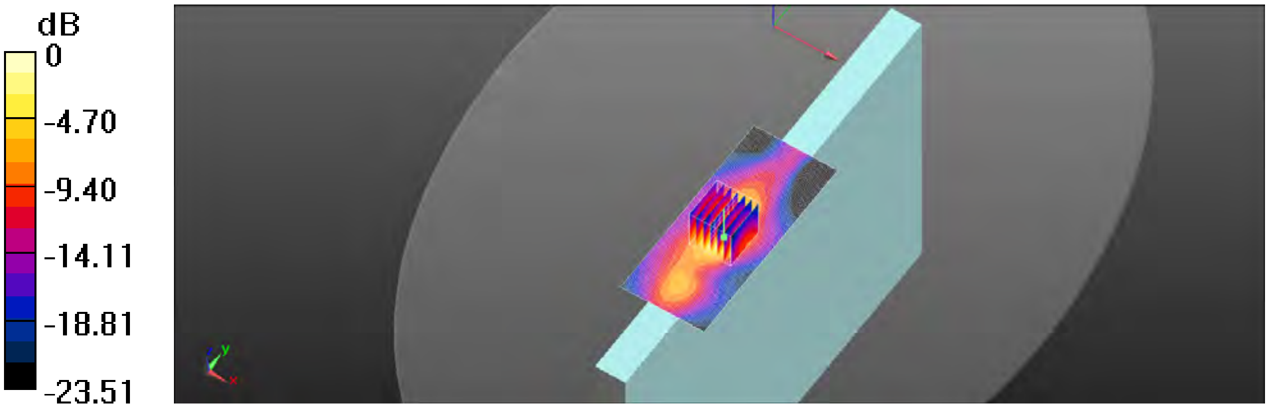
Date: 2018/8/13

WLAN 802.11b_Body_Top side_CH 6_Aux
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 1.94 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.353 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.88 W/kg
SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.568 W/kg
Maximum value of SAR (measured) = 2.03 W/kg



0 dB = 2.03 W/kg = 3.07 dBW/kg

Date: 2018/8/14

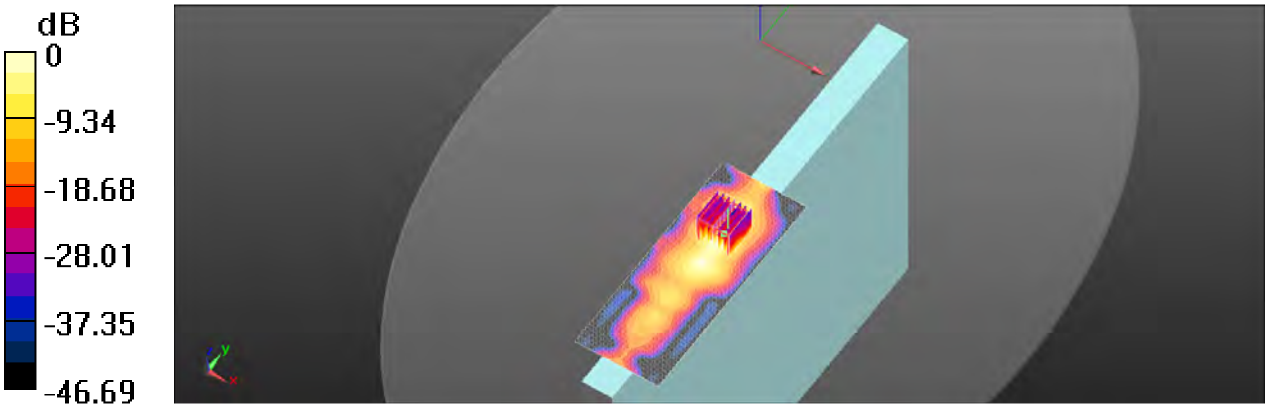
WLAN 802.11ac(80M) 5.2G_Body_Top side_CH 42_Aux
Communication System: WLAN 5G; Frequency: 5210 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5210 MHz; σ = 5.18 S/m; ε_r = 49.333; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.81 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.894 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 5.76 W/kg
SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 2.51 W/kg



0 dB = 2.51 W/kg = 4.00 dBW/kg

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Date: 2018/8/15

WLAN 802.11a 5.3G_Body_Top side_CH 64_Aux

Communication System: WLAN 5G; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5320 MHz; σ = 5.361 S/m; ε_r = 48.999; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

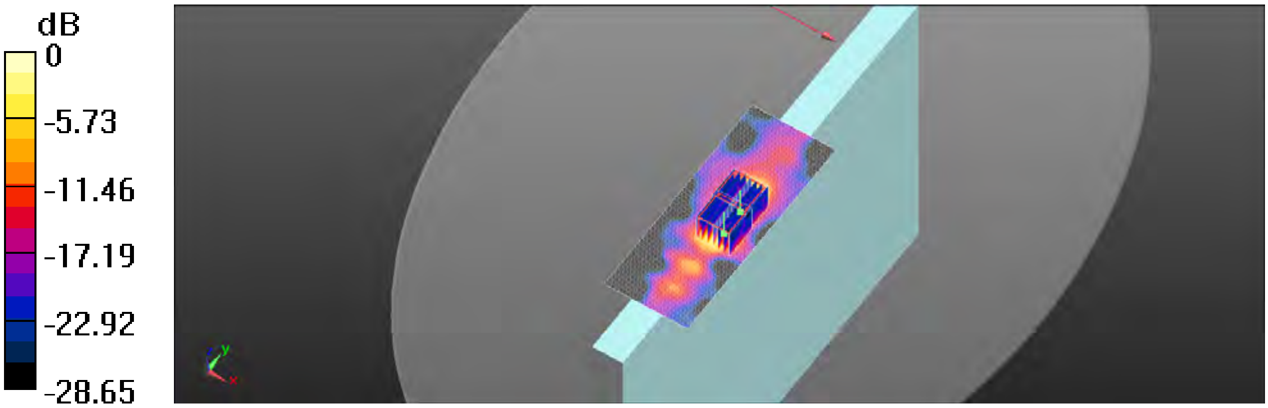
DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(4.21, 4.21, 4.21); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.36 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.633 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 6.27 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.298 W/kg
Maximum value of SAR (measured) = 2.76 W/kg

Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.633 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 4.47 W/kg
SAR(1 g) = 0.835 W/kg; SAR(10 g) = 0.205 W/kg
Maximum value of SAR (measured) = 1.84 W/kg



0 dB = 1.84 W/kg = 2.65 dBW/kg

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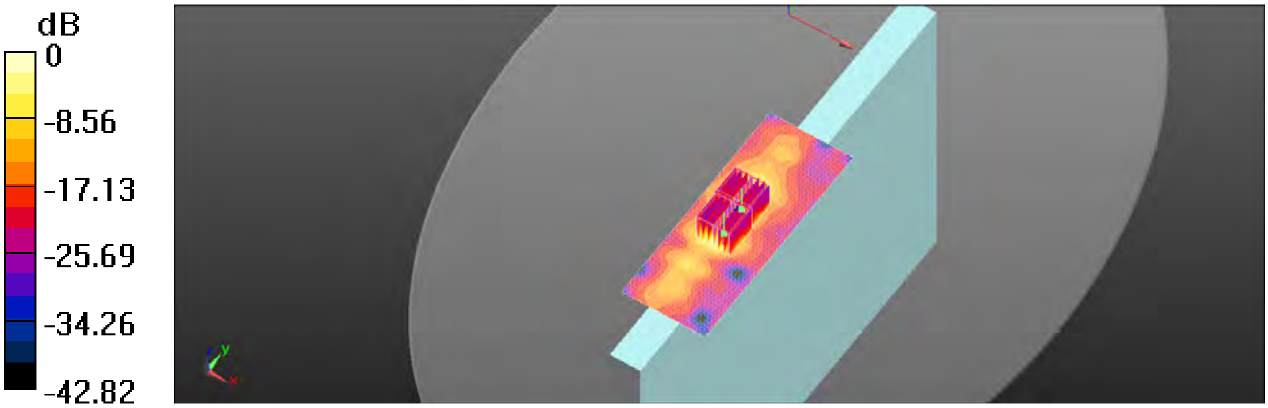
Date: 2018/8/15

WLAN 802.11n(20M) 5.3G_Body_Top side_CH 60_Aux
Communication System: WLAN 5G; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.331 S/m; ε_r = 49.102; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3831; ConvF(4.21, 4.21, 4.21); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.13 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.458 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 6.78 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.309 W/kg
Maximum value of SAR (measured) = 2.72 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.458 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 4.36 W/kg
SAR(1 g) = 0.831 W/kg; SAR(10 g) = 0.205 W/kg
Maximum value of SAR (measured) = 1.91 W/kg



0 dB = 1.91 W/kg = 2.81 dBW/kg

Date: 2018/8/15

WLAN 802.11n(40M) 5.3G_Body_Top side_CH 62_Aux

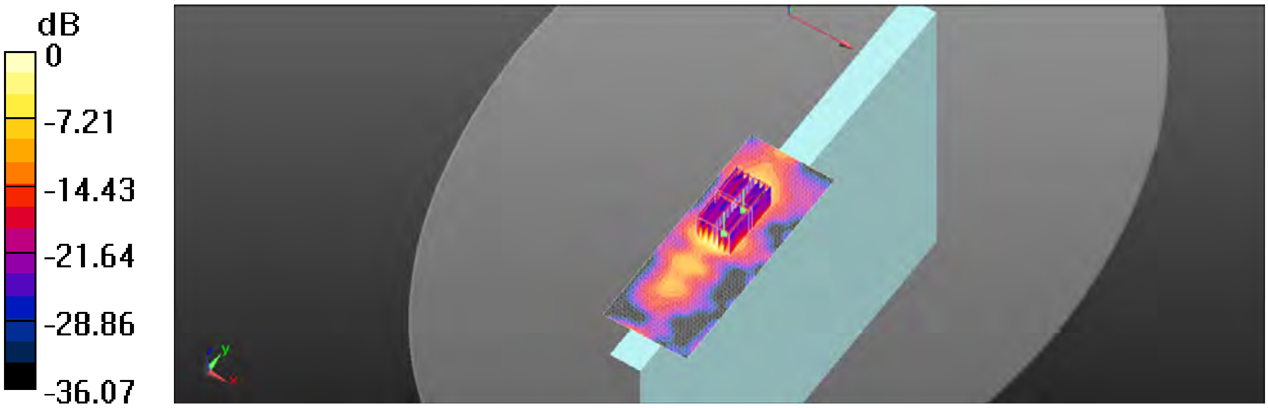
Communication System: WLAN 5G; Frequency: 5310 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5310 MHz; σ = 5.34 S/m; ε_r = 49.019; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(4.21, 4.21, 4.21); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.24 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.279 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 6.35 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 2.65 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.279 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.82 W/kg
SAR(1 g) = 0.785 W/kg; SAR(10 g) = 0.195 W/kg
Maximum value of SAR (measured) = 1.82 W/kg



0 dB = 1.82 W/kg = 2.60 dBW/kg

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Date: 2018/8/15

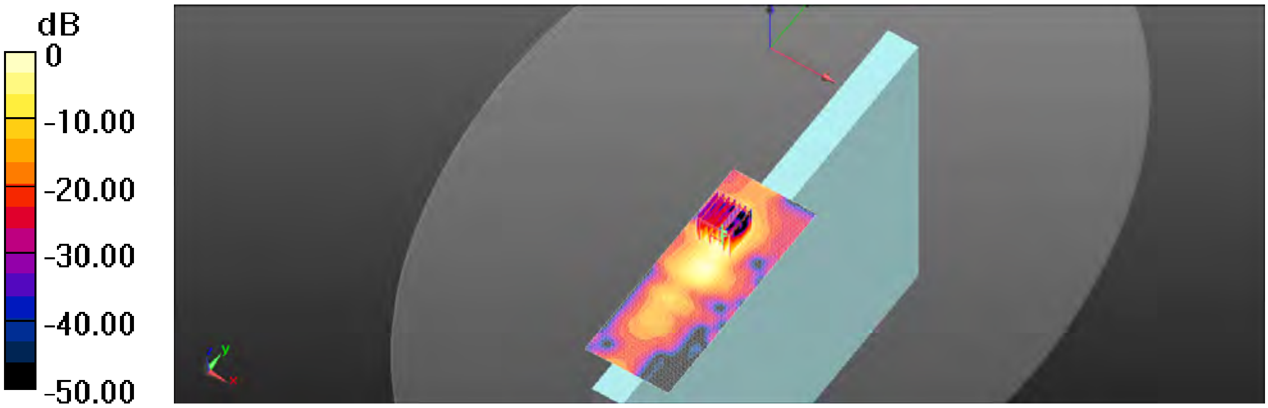
WLAN 802.11ac(40M) 5.3G_Body_Top side_CH 62_Aux
Communication System: WLAN 5G; Frequency: 5310 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5310 MHz; σ = 5.34 S/m; ε_r = 49.019; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.26 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.113 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 6.59 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.313 W/kg
Maximum value of SAR (measured) = 2.62 W/kg



0 dB = 2.62 W/kg = 4.18 dBW/kg

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Date: 2018/8/16

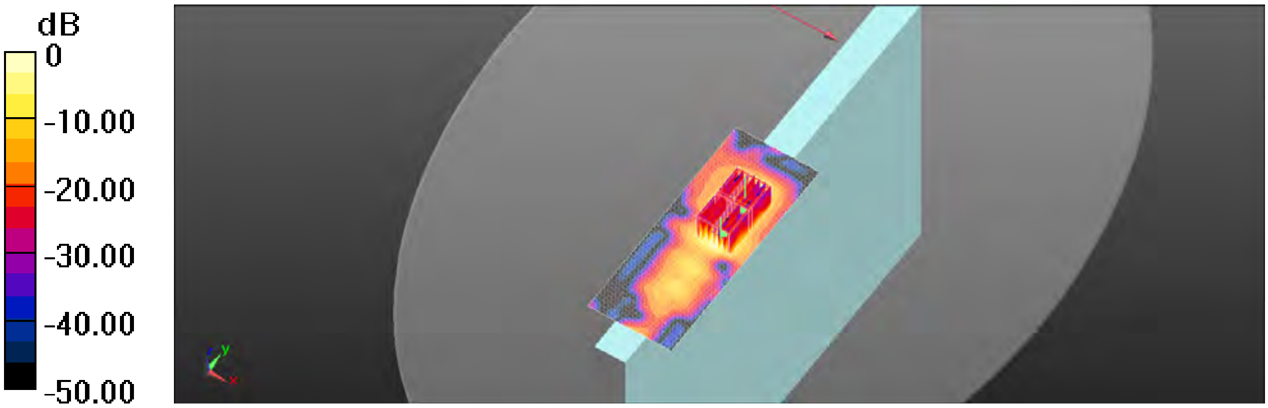
WLAN 802.11n(40M) 5.6G_Body_Top side_CH 102_Aux
Communication System: WLAN 5G; Frequency: 5510 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5510 MHz; $\sigma = 5.668$ S/m; $\varepsilon_r = 48.385$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.92 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.838 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 9.12 W/kg
SAR(1 g) = 1.44 W/kg; SAR(10 g) = 0.403 W/kg
Maximum value of SAR (measured) = 3.53 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.838 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 6.13 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.269 W/kg
Maximum value of SAR (measured) = 2.53 W/kg



0 dB = 2.53 W/kg = 4.03 dBW/kg

Date: 2018/8/16

WLAN 802.11ac(80M) 5.6G_Body_Top side_CH 106_Aux

Communication System: WLAN 5G; Frequency: 5530 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5530 MHz; σ = 5.699 S/m; ε_r = 48.35; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

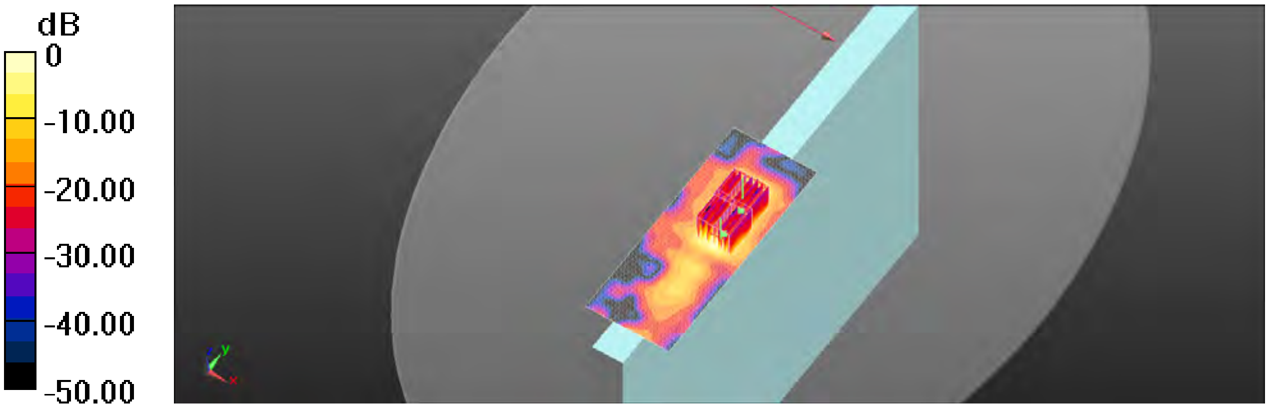
DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 3.14 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.514 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 9.21 W/kg
SAR(1 g) = 1.44 W/kg; SAR(10 g) = 0.408 W/kg
Maximum value of SAR (measured) = 3.41 W/kg

Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.514 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 6.30 W/kg
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.293 W/kg
Maximum value of SAR (measured) = 2.67 W/kg



0 dB = 2.67 W/kg = 4.27 dBW/kg

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Date: 2018/8/17

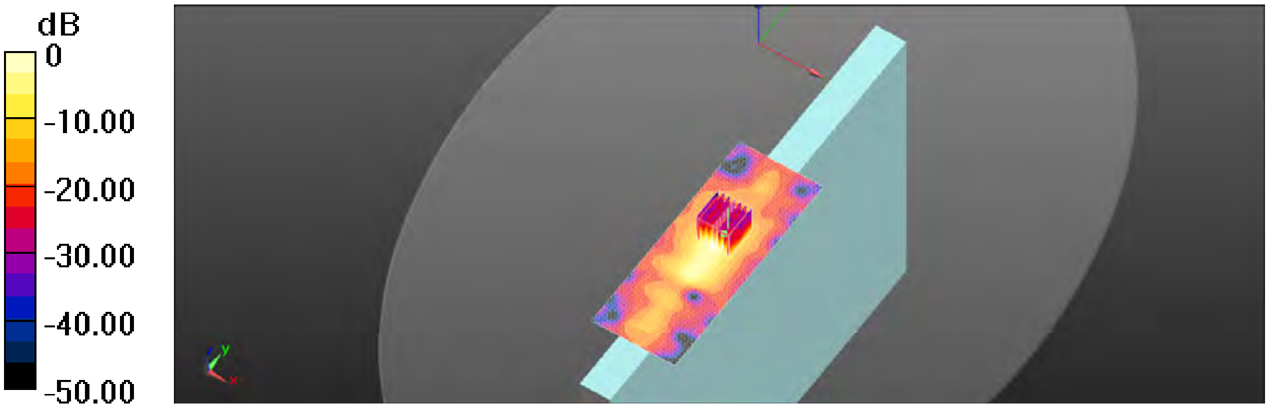
WLAN 802.11ac(80M) 5.8G_Body_Top side_CH 155_Aux
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.67 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.092 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 8.17 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.251 W/kg
Maximum value of SAR (measured) = 2.63 W/kg



0 dB = 2.63 W/kg = 4.20 dBW/kg

Date: 2018/8/13

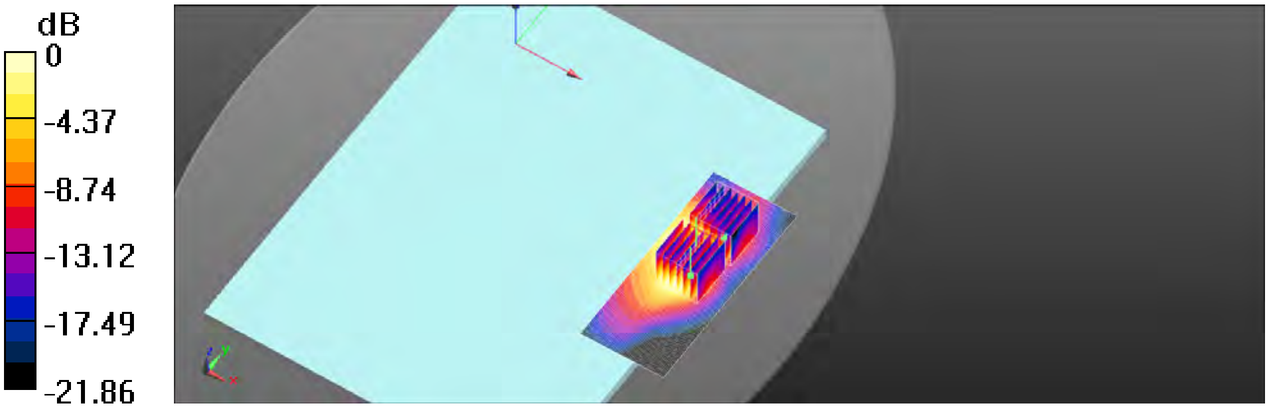
WLAN 802.11b_Body_Bottom side_CH 6_Main
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.803 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.491 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.526 W/kg; SAR(10 g) = 0.293 W/kg
Maximum value of SAR (measured) = 0.797 W/kg
Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.491 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.839 W/kg
SAR(1 g) = 0.450 W/kg; SAR(10 g) = 0.213 W/kg
Maximum value of SAR (measured) = 0.662 W/kg



0 dB = 0.662 W/kg = -1.79 dBW/kg

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Date: 2018/8/13

Bluetooth(GFSK)_Body_Bottom side_CH 39_Main

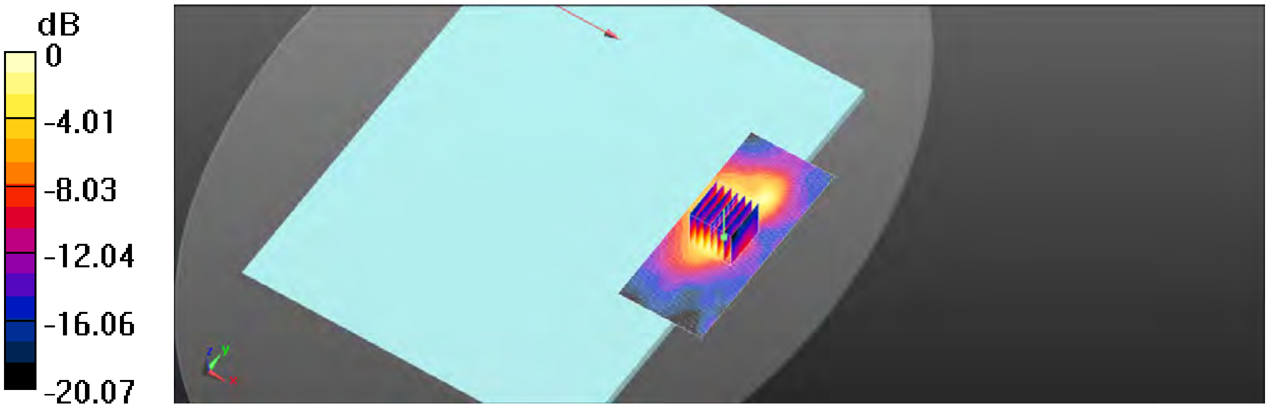
Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2441 MHz; σ = 1.969 S/m; ε_r = 53.692; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.161 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.633 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.229 W/kg
SAR(1 g) = 0.104 W/kg; SAR(10 g) = 0.056 W/kg
Maximum value of SAR (measured) = 0.160 W/kg



0 dB = 0.160 W/kg = -7.96 dBW/kg

Date: 2018/8/14

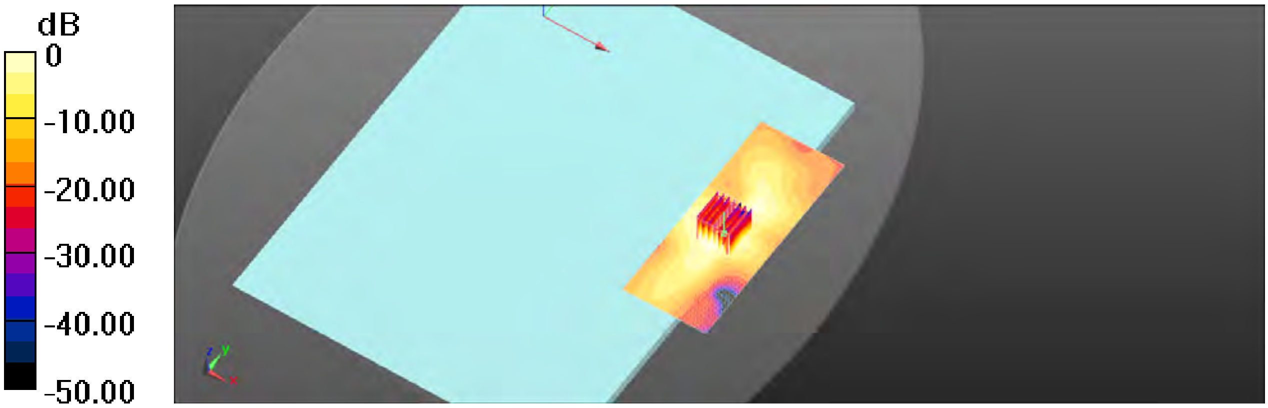
WLAN 802.11a 5.2G_Body_Bottom side_CH 44_Main
Communication System: WLAN 5G; Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; $\sigma = 5.2$ S/m; $\varepsilon_r = 49.351$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.64 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.479 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 5.54 W/kg
SAR(1 g) = 1.4 W/kg; SAR(10 g) = 0.487 W/kg
Maximum value of SAR (measured) = 2.62 W/kg



0 dB = 2.62 W/kg = 4.18 dBW/kg

Date: 2018/8/14

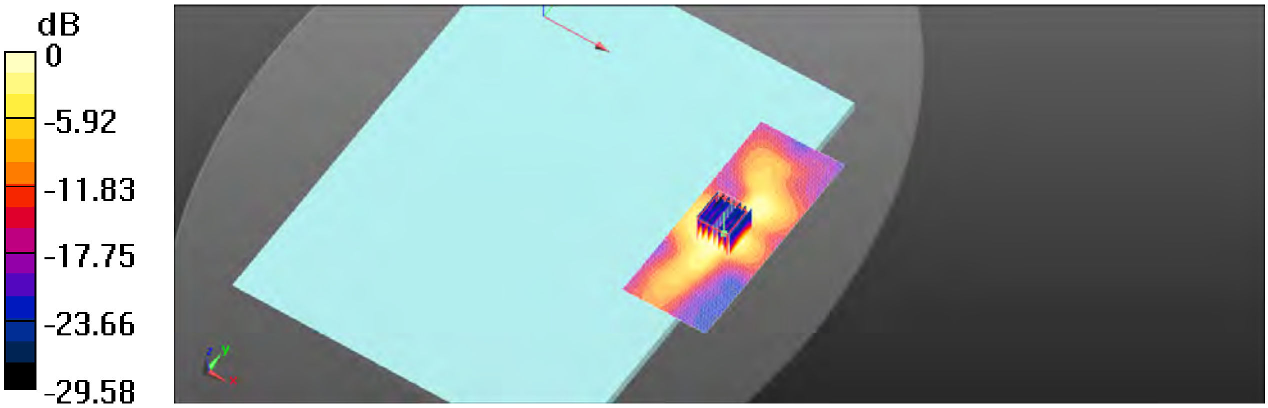
WLAN 802.11n(40M) 5.2G_Body_Bottom side_CH 46_Main
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.65 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.331 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 5.40 W/kg
SAR(1 g) = 1.39 W/kg; SAR(10 g) = 0.485 W/kg
Maximum value of SAR (measured) = 2.59 W/kg



0 dB = 2.59 W/kg = 4.13 dBW/kg

Date: 2018/8/15

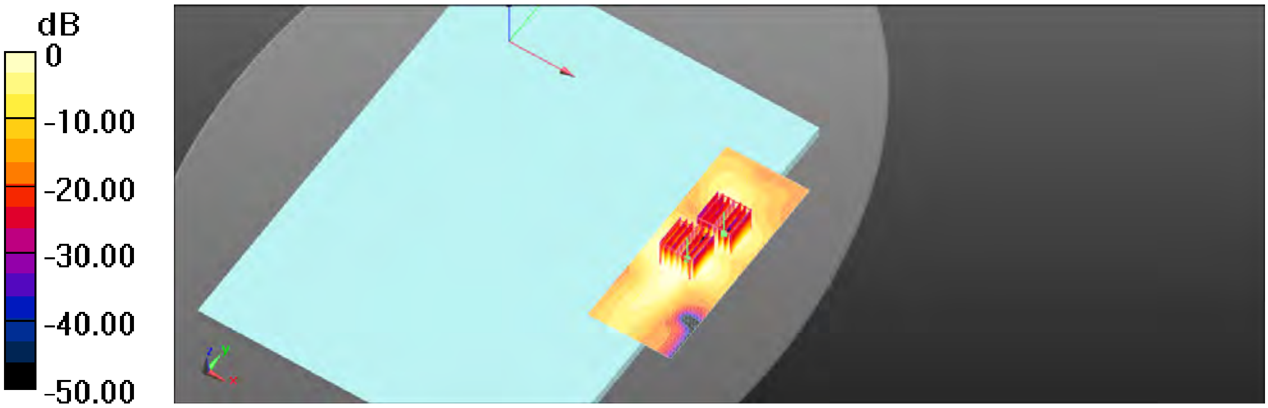
WLAN 802.11a 5.3G_Body_Bottom side_CH 52_Main
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.58 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.033 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 5.48 W/kg
SAR(1 g) = 1.39 W/kg; SAR(10 g) = 0.488 W/kg
Maximum value of SAR (measured) = 2.69 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.033 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.97 W/kg
SAR(1 g) = 0.895 W/kg; SAR(10 g) = 0.278 W/kg
Maximum value of SAR (measured) = 1.78 W/kg



0 dB = 1.78 W/kg = 2.50 dBW/kg

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Date: 2018/8/16

WLAN 802.11a 5.6G_Body_Bottom side_CH 136_Main

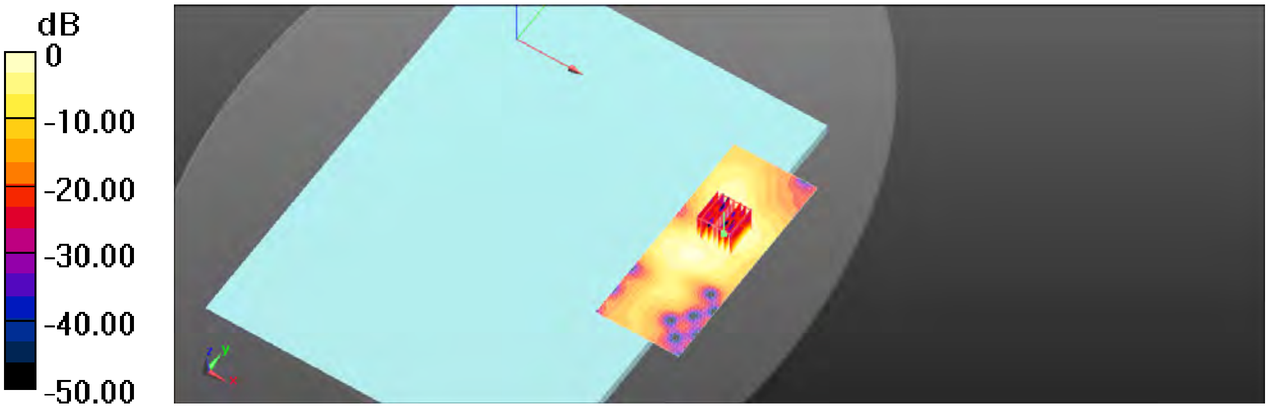
Communication System: WLAN 5G; Frequency: 5680 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5680 MHz; σ = 5.965 S/m; ε_r = 47.849; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.16 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.696 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 3.09 W/kg
SAR(1 g) = 0.623 W/kg; SAR(10 g) = 0.193 W/kg
Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1.26 W/kg = 1.00 dBW/kg

Date: 2018/8/16

WLAN 802.11ac(80M) 5.6G_Body_Bottom side_CH 138_Main

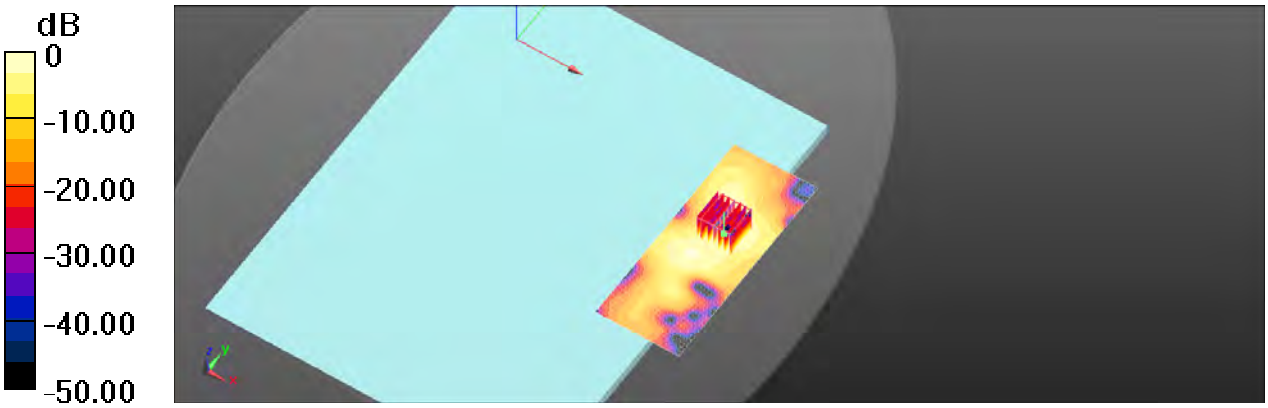
Communication System: WLAN 5G; Frequency: 5690 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5690 MHz; σ = 5.985 S/m; ε_r = 47.796; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.36 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.879 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 0.691 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg = 1.52 dBW/kg

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Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Bottom side_CH 155_Main

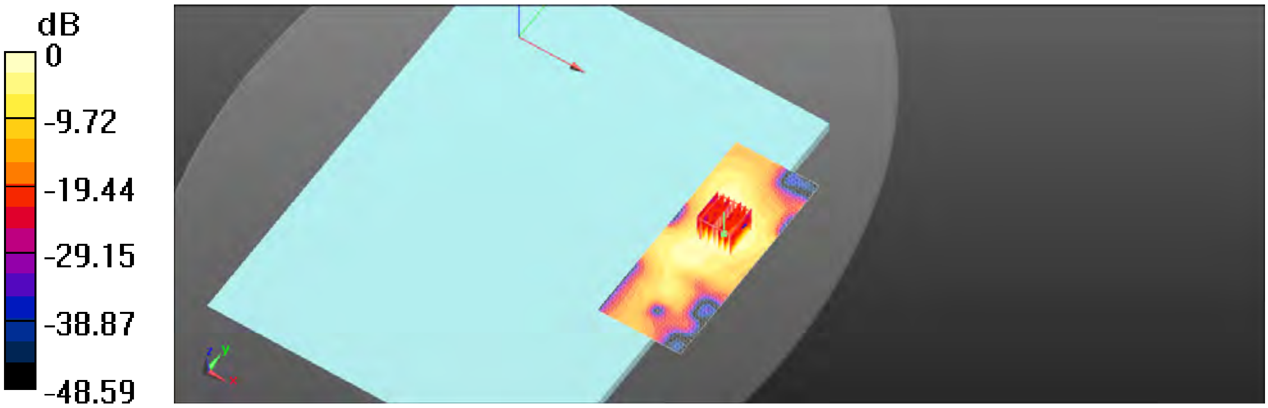
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.31 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.727 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 3.51 W/kg
SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 1.44 W/kg



0 dB = 1.44 W/kg = 1.58 dBW/kg

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Date: 2018/8/13

WLAN 802.11b_Body_Bottom side_CH 6_Aux

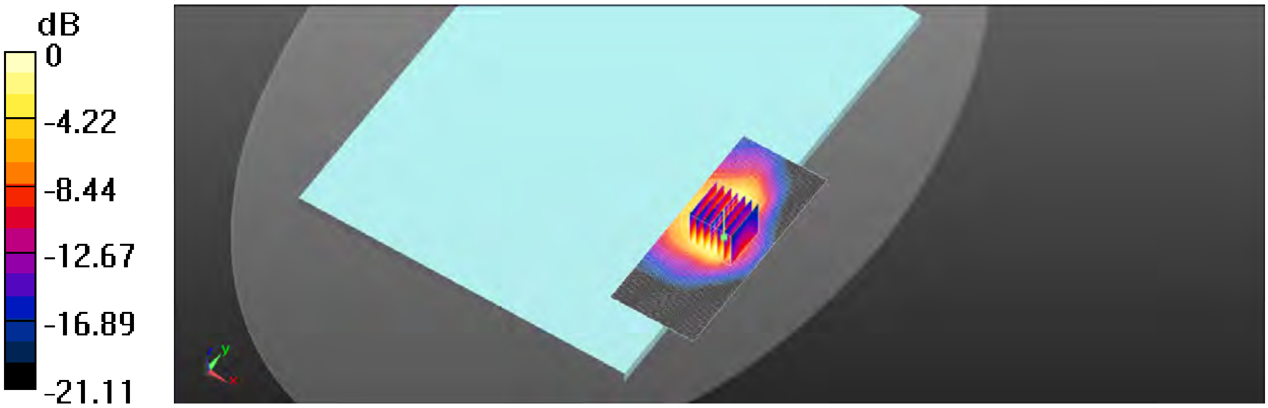
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.957 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.744 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.673 W/kg; SAR(10 g) = 0.370 W/kg
Maximum value of SAR (measured) = 0.967 W/kg



0 dB = 0.967 W/kg = -0.15 dBW/kg

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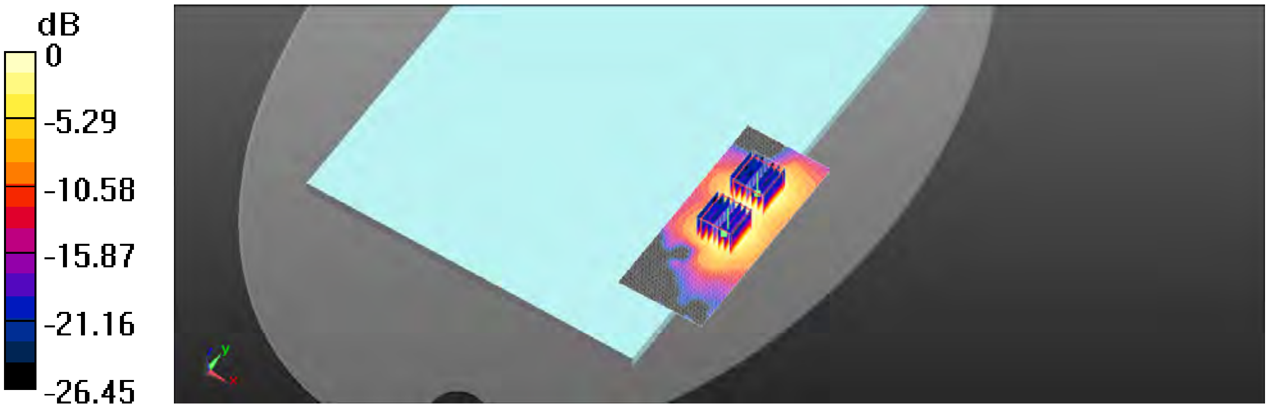
Date: 2018/8/14

WLAN 802.11a 5.2G_Body_Bottom side_CH 44_Aux
Communication System: WLAN 5G; Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.2 S/m; ε_r = 49.351; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.36 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.743 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 3.33 W/kg
SAR(1 g) = 0.745 W/kg; SAR(10 g) = 0.235 W/kg
Maximum value of SAR (measured) = 1.50 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.743 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 2.26 W/kg
SAR(1 g) = 0.564 W/kg; SAR(10 g) = 0.202 W/kg
Maximum value of SAR (measured) = 1.03 W/kg



0 dB = 1.03 W/kg = 0.13 dBW/kg

Date: 2018/8/14

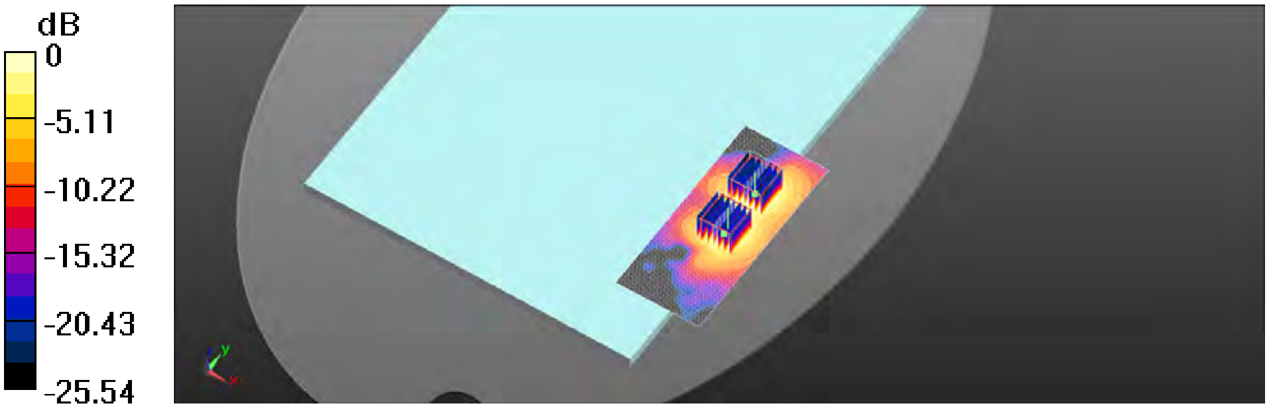
WLAN 802.11n(40M) 5.2G_Body_Bottom side_CH 46_Aux
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.45 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.662 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 3.46 W/kg
SAR(1 g) = 0.760 W/kg; SAR(10 g) = 0.240 W/kg
Maximum value of SAR (measured) = 1.53 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.662 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 0.565 W/kg; SAR(10 g) = 0.204 W/kg
Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 1.06 W/kg = 0.25 dBW/kg

Date: 2018/8/15

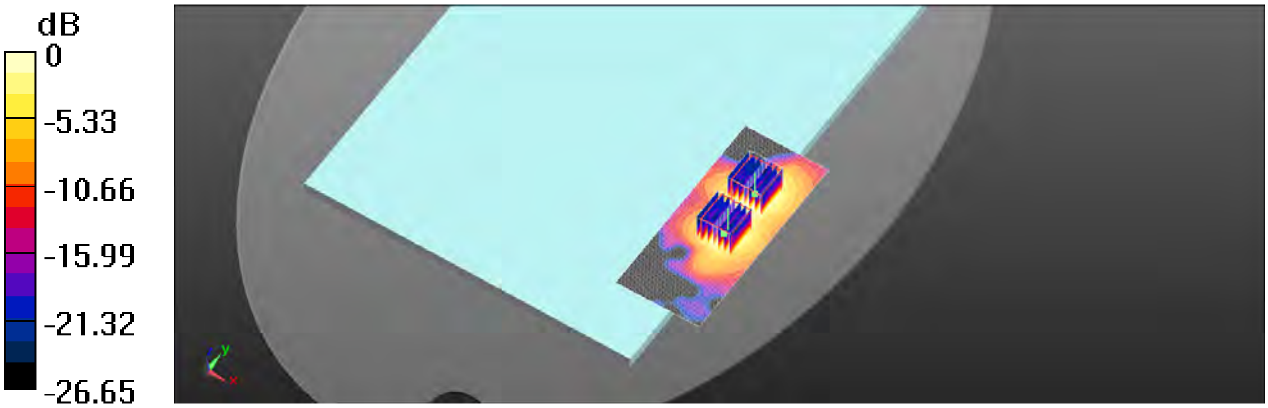
WLAN 802.11a 5.3G_Body_Bottom side_CH 52_Aux
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.36 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.491 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 3.23 W/kg
SAR(1 g) = 0.715 W/kg; SAR(10 g) = 0.223 W/kg
Maximum value of SAR (measured) = 1.44 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.491 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.06 W/kg
SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.177 W/kg
Maximum value of SAR (measured) = 0.925 W/kg



0 dB = 0.925 W/kg = -0.34 dBW/kg

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Date: 2018/8/16

WLAN 802.11n(40M) 5.6G_Body_Bottom side_CH 134_Aux

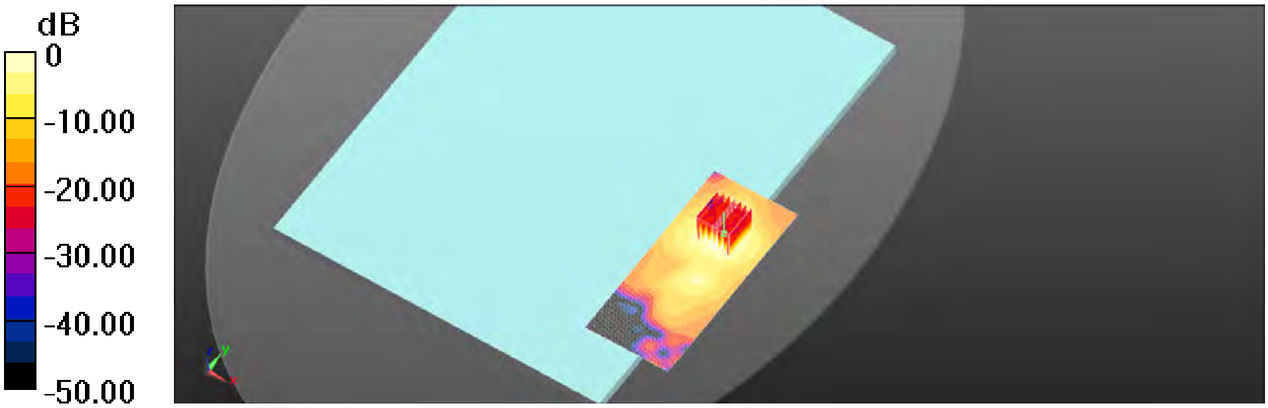
Communication System: WLAN 5G; Frequency: 5670 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5670 MHz; σ = 5.937 S/m; ε_r = 47.877; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 2.11 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.578 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 4.98 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.348 W/kg
Maximum value of SAR (measured) = 2.15 W/kg



0 dB = 2.15 W/kg = 3.32 dBW/kg

Date: 2018/8/16

WLAN 802.11ac(80M) 5.6G_Body_Bottom side_CH 138_Aux

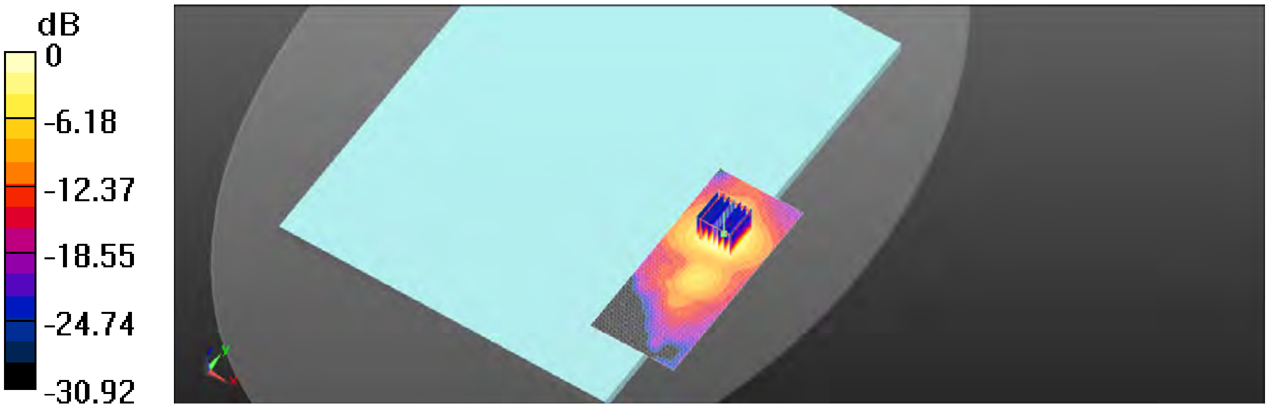
Communication System: WLAN 5G; Frequency: 5690 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5690 MHz; σ = 5.985 S/m; ε_r = 47.796; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.96 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.269 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 4.44 W/kg
SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.314 W/kg
Maximum value of SAR (measured) = 2.01 W/kg



0 dB = 2.01 W/kg = 3.03 dBW/kg

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Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Bottom side_CH 155_Aux

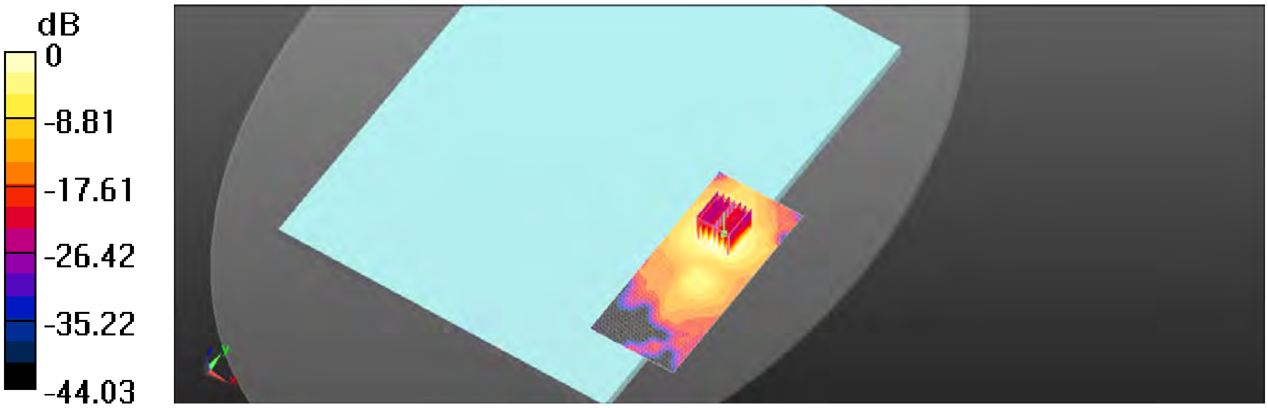
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.80 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.824 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 4.23 W/kg
SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.305 W/kg
Maximum value of SAR (measured) = 1.89 W/kg



0 dB = 1.89 W/kg = 2.76 dBW/kg

Date: 2018/8/13

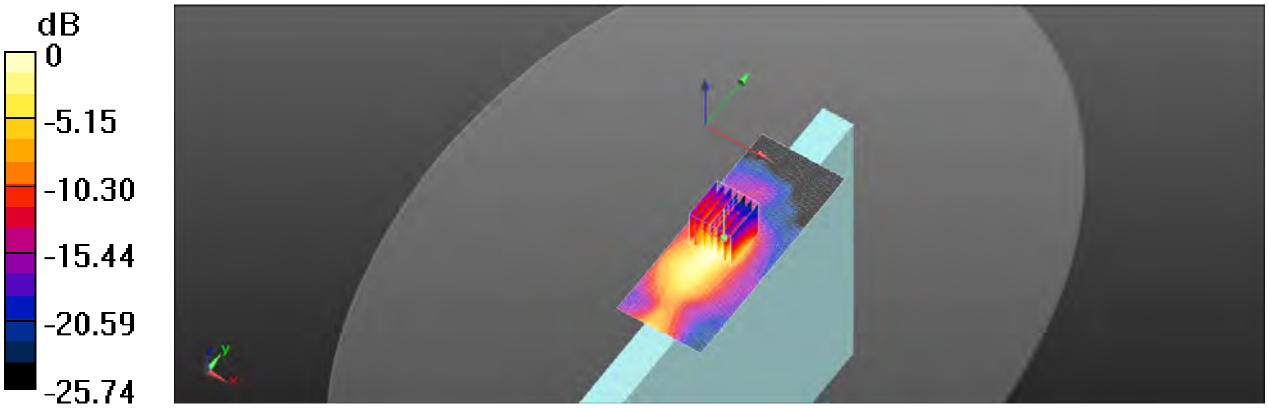
WLAN 802.11n(20M)_Body_Top side_CH 2_Main
Communication System: WLAN 2.45G; Frequency: 2417 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2417 MHz; σ = 1.941 S/m; ε_r = 53.779; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.739 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.589 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.961 W/kg
SAR(1 g) = 0.456 W/kg; SAR(10 g) = 0.210 W/kg
Maximum value of SAR (measured) = 0.698 W/kg



0 dB = 0.698 W/kg = -1.56 dBW/kg

Date: 2018/8/14

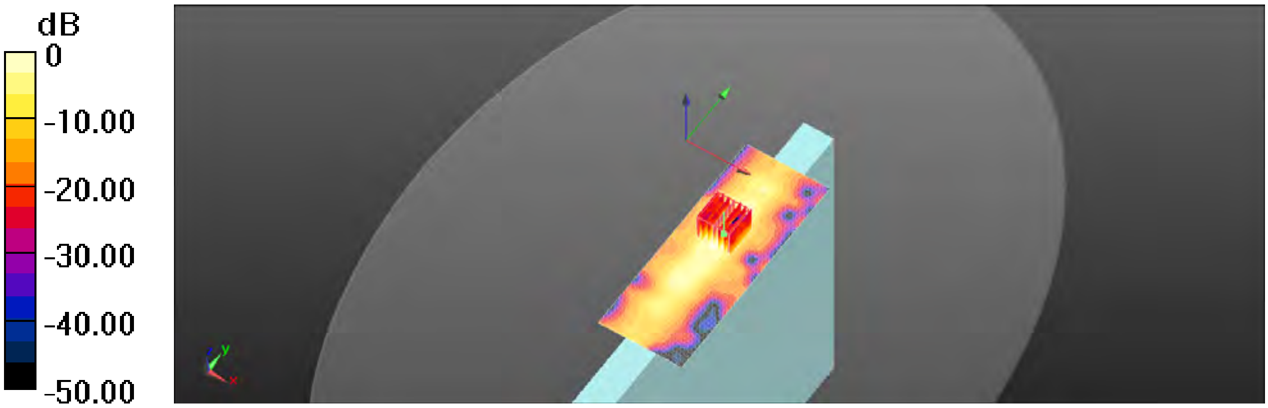
WLAN 802.11n(20M) 5.2G_Body_Top side_CH 40_Main
Communication System: WLAN 5G; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.167 S/m; ε_r = 49.425; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.764 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.78 W/kg
SAR(1 g) = 0.550 W/kg; SAR(10 g) = 0.160 W/kg
Maximum value of SAR (measured) = 1.17 W/kg



0 dB = 1.17 W/kg = 0.68 dBW/kg

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Date: 2018/8/14

WLAN 802.11n(40M) 5.2G_Body_Top side_CH 46_Main

Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

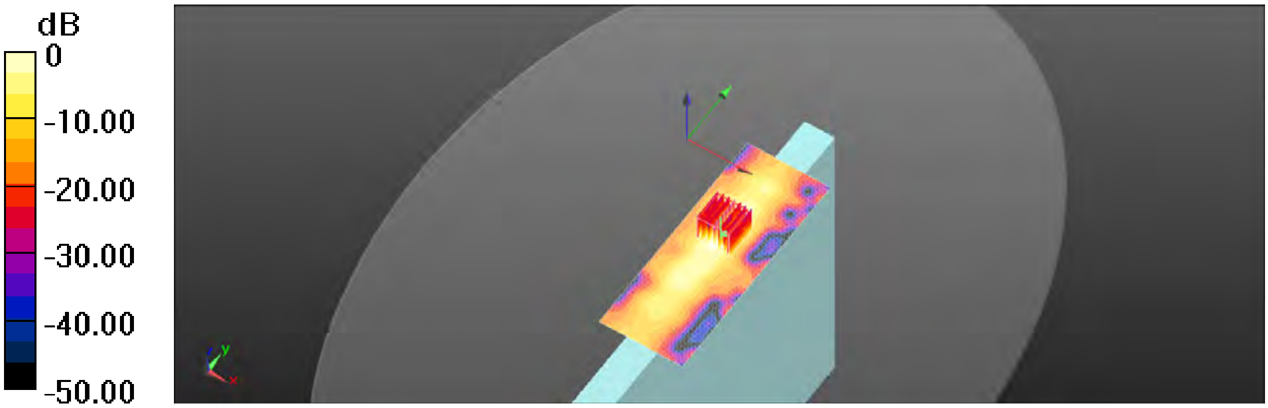
DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.07 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.116 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 3.07 W/kg
SAR(1 g) = 0.576 W/kg; SAR(10 g) = 0.171 W/kg

Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.28 W/kg = 1.07 dBW/kg

Date: 2018/8/15

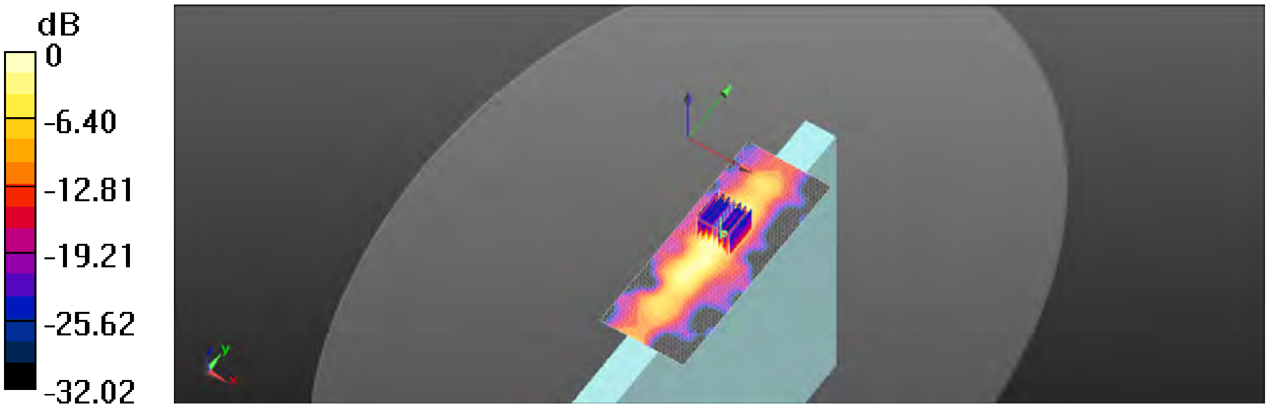
WLAN 802.11n(20M) 5.3G_Body_Top side_CH 56_Main
Communication System: WLAN 5G; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.299 S/m; ε_r = 49.137; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.941 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.185 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.97 W/kg
SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.156 W/kg
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg = 0.86 dBW/kg

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Date: 2018/8/15

WLAN 802.11n(40M) 5.3G_Body_Top side_CH 54_Main

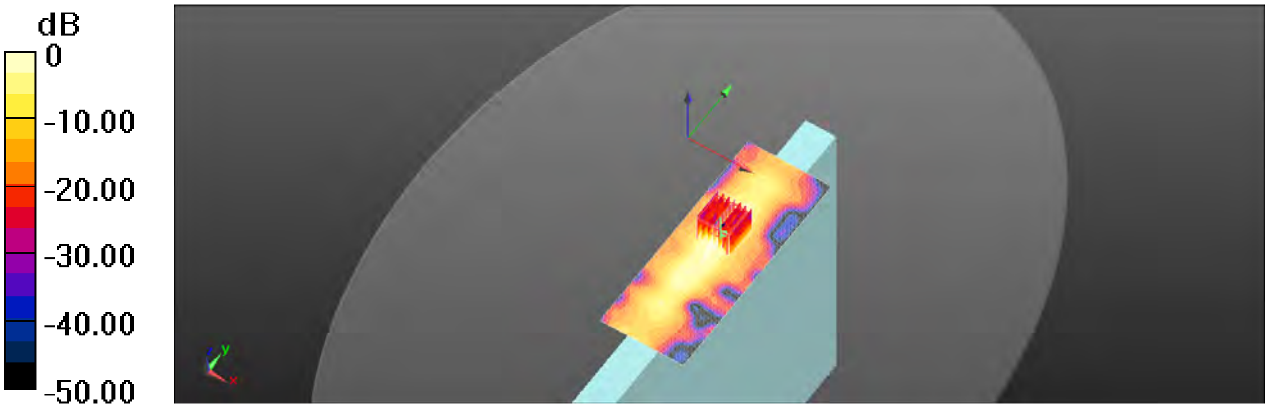
Communication System: WLAN 5G; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.292 S/m; ε_r = 49.154; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.925 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.065 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.94 W/kg
SAR(1 g) = 0.526 W/kg; SAR(10 g) = 0.155 W/kg
Maximum value of SAR (measured) = 1.21 W/kg



0 dB = 1.21 W/kg = 0.83 dBW/kg

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Date: 2018/8/16

WLAN 802.11n(20M) 5.6G_Body_Top side_CH 100_Main

Communication System: WLAN 5G; Frequency: 5500 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.659 S/m; ε_r = 48.464; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

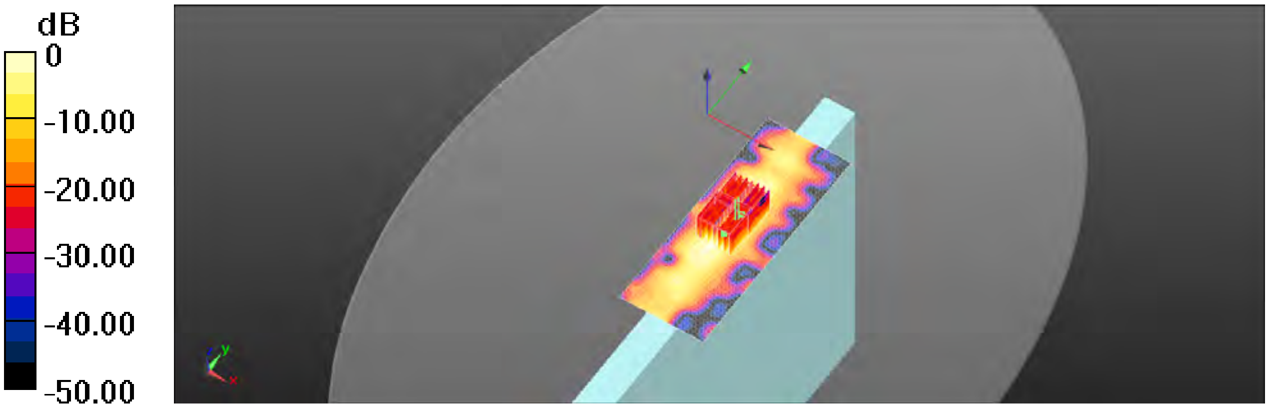
DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.858 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.027 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.91 W/kg
SAR(1 g) = 0.488 W/kg; SAR(10 g) = 0.144 W/kg
Maximum value of SAR (measured) = 1.16 W/kg

Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.027 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.77 W/kg
SAR(1 g) = 0.394 W/kg; SAR(10 g) = 0.113 W/kg
Maximum value of SAR (measured) = 1.11 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg

Date: 2018/8/16

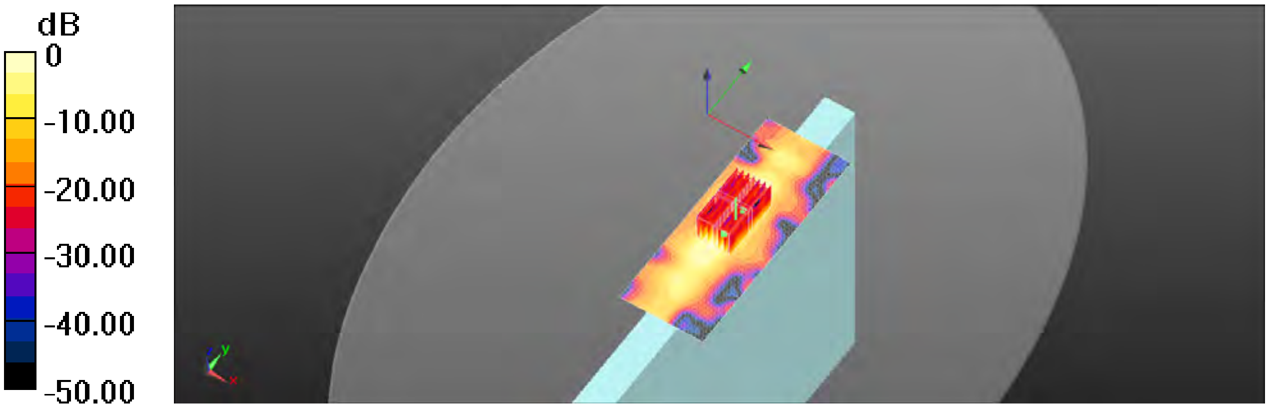
WLAN 802.11n(40M) 5.6G_Body_Top side_CH 110_Main
Communication System: WLAN 5G; Frequency: 5550 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5550 MHz; σ = 5.729 S/m; ε_r = 48.257; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.20 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.738 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.96 W/kg
SAR(1 g) = 0.648 W/kg; SAR(10 g) = 0.187 W/kg
Maximum value of SAR (measured) = 1.54 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.738 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 0.517 W/kg; SAR(10 g) = 0.148 W/kg
Maximum value of SAR (measured) = 1.48 W/kg



0 dB = 1.48 W/kg = 1.70 dBW/kg

Date: 2018/8/17

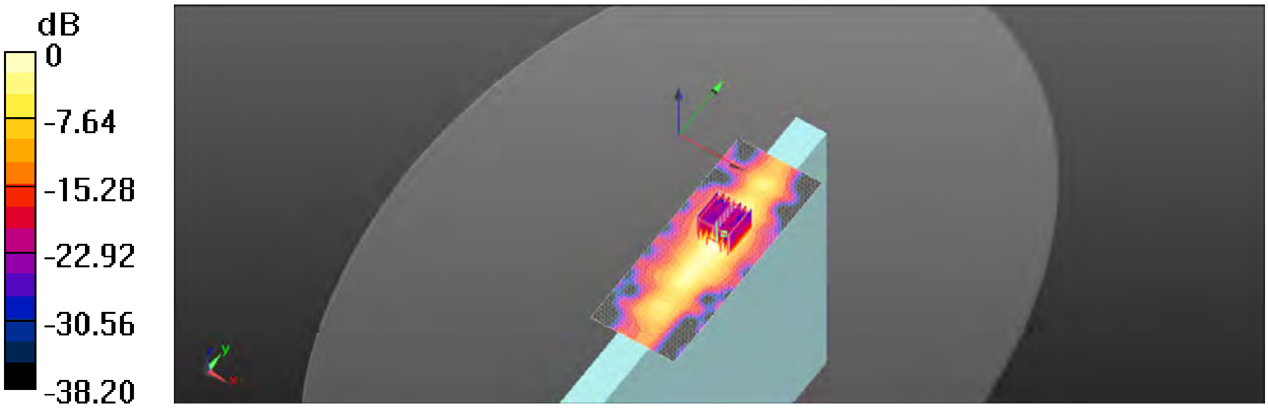
WLAN 802.11ac(80M) 5.8G_Body_Top side_CH 155_Main
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.876 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.27 W/kg
SAR(1 g) = 0.517 W/kg; SAR(10 g) = 0.148 W/kg
Maximum value of SAR (measured) = 1.25 W/kg



0 dB = 1.25 W/kg = 0.97 dBW/kg

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Date: 2018/8/13

WLAN 802.11n(20M)_Body_Top side_CH 2_Aux

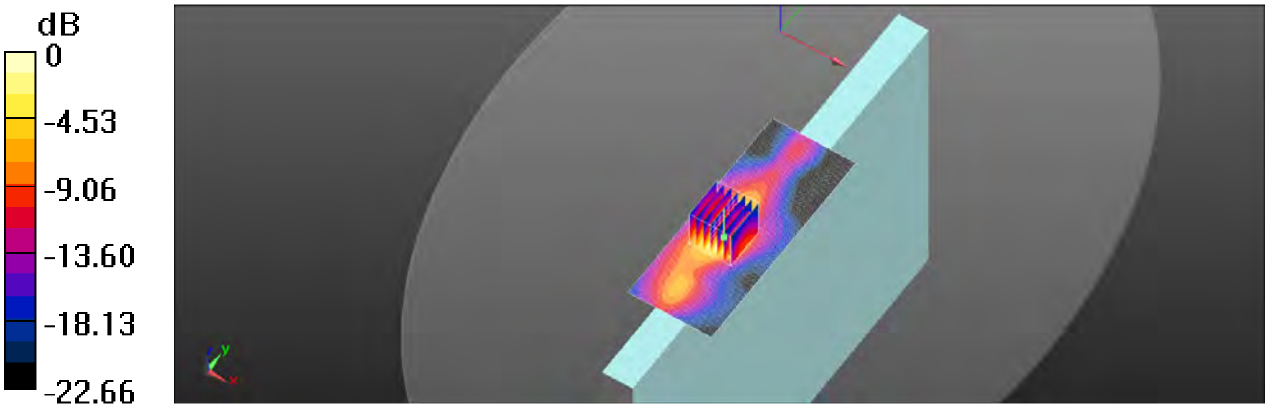
Communication System: WLAN 2.45G; Frequency: 2417 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2417 MHz; σ = 1.941 S/m; ε_r = 53.779; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.924 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.118 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.578 W/kg; SAR(10 g) = 0.266 W/kg
Maximum value of SAR (measured) = 0.932 W/kg



0 dB = 0.932 W/kg = -0.31 dBW/kg

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Date: 2018/8/14

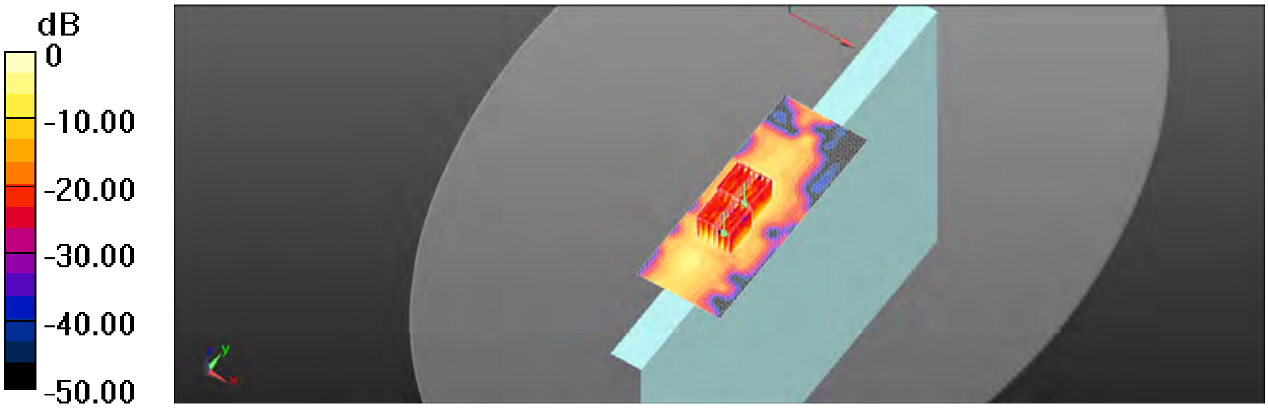
WLAN 802.11n(20M) 5.2G_Body_Top side_CH 40_Aux
Communication System: WLAN 5G; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.167 S/m; ε_r = 49.425; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.081 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 3.55 W/kg
SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.177 W/kg
Maximum value of SAR (measured) = 1.45 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.081 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.29 W/kg
SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.104 W/kg
Maximum value of SAR (measured) = 0.981 W/kg



0 dB = 0.981 W/kg = -0.08 dBW/kg

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Date: 2018/8/15

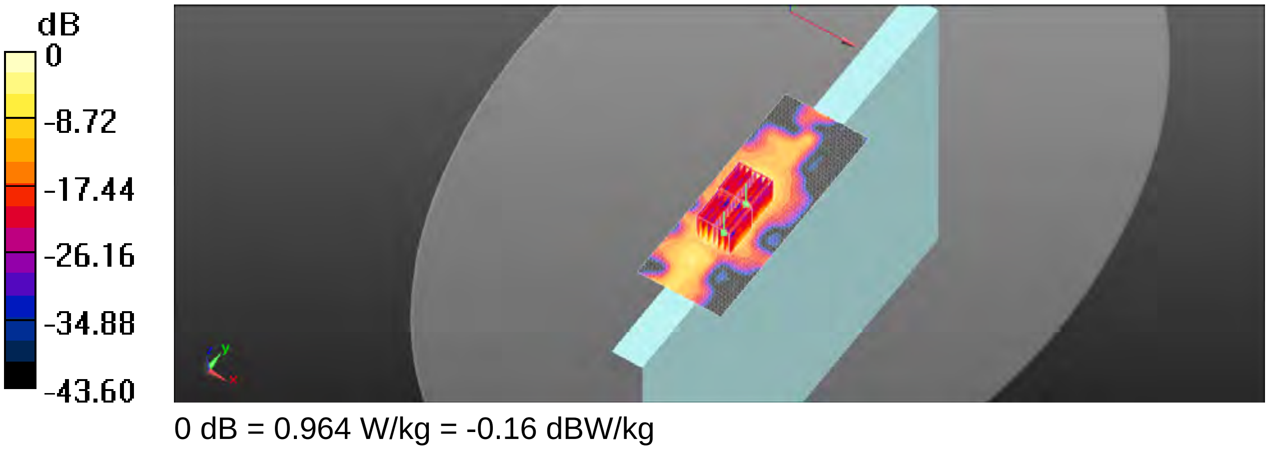
WLAN 802.11n(40M) 5.3G_Body_Top side_CH 46_Aux
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.07 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.816 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 3.45 W/kg
SAR(1 g) = 0.648 W/kg; SAR(10 g) = 0.176 W/kg
Maximum value of SAR (measured) = 1.46 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.816 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 2.30 W/kg
SAR(1 g) = 0.424 W/kg; SAR(10 g) = 0.103 W/kg
Maximum value of SAR (measured) = 0.964 W/kg



0 dB = 0.964 W/kg = -0.16 dBW/kg

Date: 2018/8/15

WLAN 802.11n(20M) 5.3G_Body_Top side_CH 60_Aux

Communication System: WLAN 5G; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.331 S/m; ε_r = 49.102; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

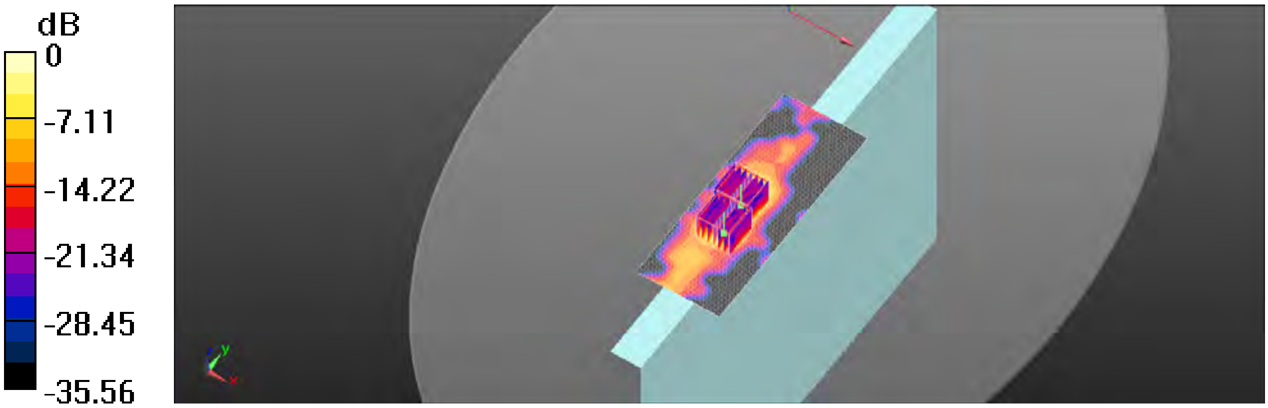
DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.951 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.482 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.30 W/kg
SAR(1 g) = 0.579 W/kg; SAR(10 g) = 0.153 W/kg
Maximum value of SAR (measured) = 1.33 W/kg

Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.482 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 2.21 W/kg
SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.093 W/kg
Maximum value of SAR (measured) = 0.872 W/kg



0 dB = 0.872 W/kg = -0.59 dBW/kg

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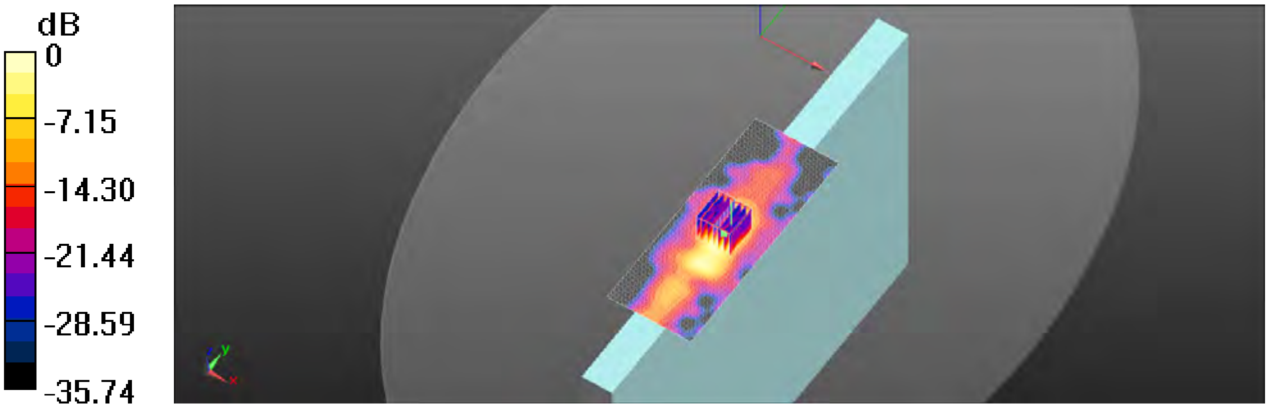
Date: 2018/8/15

WLAN 802.11n(40M) 5.3G_Body_Top side_CH 54_Aux
Communication System: WLAN 5G; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.292 S/m; ε_r = 49.154; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.062 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 3.38 W/kg
SAR(1 g) = 0.605 W/kg; SAR(10 g) = 0.161 W/kg
Maximum value of SAR (measured) = 1.30 W/kg



0 dB = 1.30 W/kg = 1.14 dBW/kg

Date: 2018/8/16

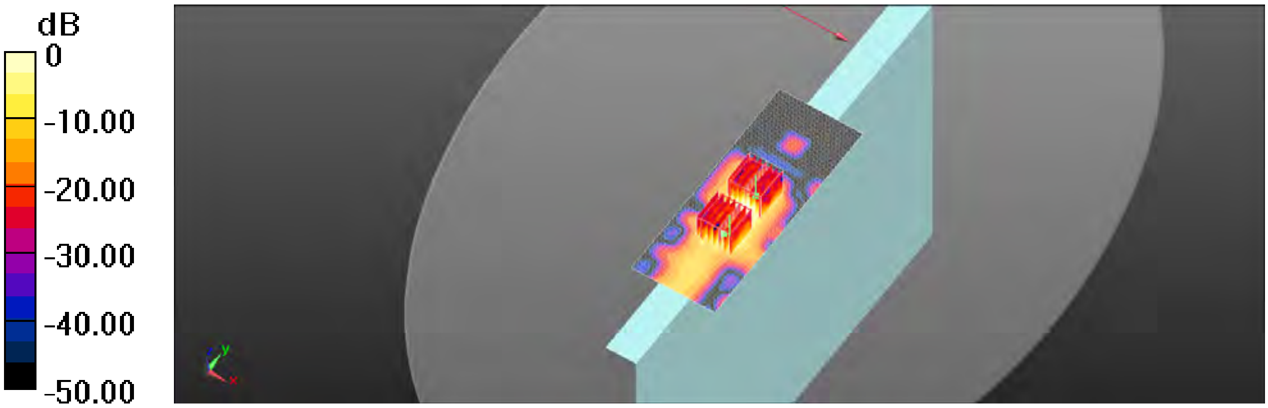
WLAN 802.11n(20M) 5.6G_Body_Top side_CH 100_Aux
Communication System: WLAN 5G; Frequency: 5500 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.659 S/m; ε_r = 48.464; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.39 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.724 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 4.63 W/kg
SAR(1 g) = 0.675 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 1.87 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.724 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 3.10 W/kg
SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.127 W/kg
Maximum value of SAR (measured) = 1.21 W/kg



0 dB = 1.21 W/kg = 0.83 dBW/kg

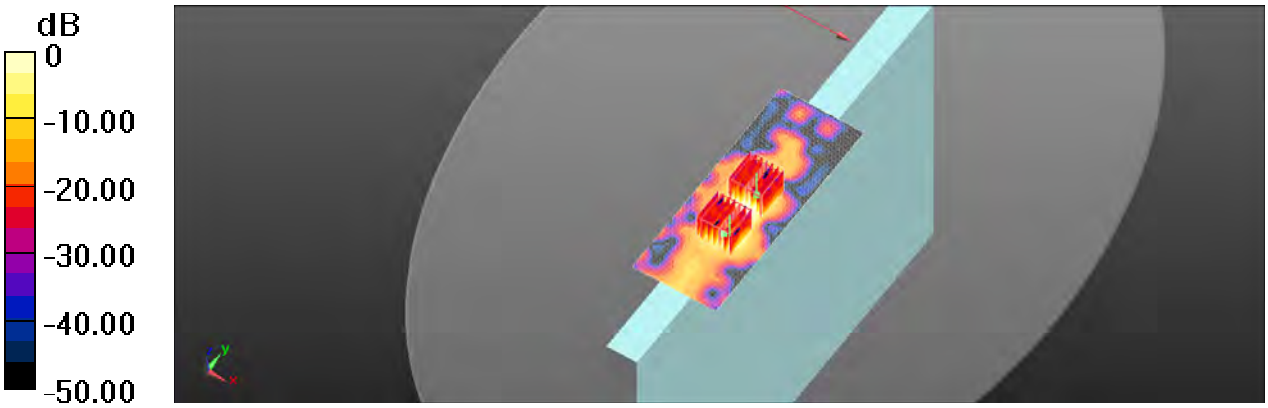
Date: 2018/8/16

WLAN 802.11n(40M) 5.6G_Body_Top side_CH 134_Aux
Communication System: WLAN 5G; Frequency: 5670 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5670 MHz; σ = 5.937 S/m; ε_r = 47.877; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.48 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.523 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 4.98 W/kg
SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.166 W/kg
Maximum value of SAR (measured) = 1.96 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.523 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 3.30 W/kg
SAR(1 g) = 0.547 W/kg; SAR(10 g) = 0.127 W/kg
Maximum value of SAR (measured) = 1.27 W/kg



0 dB = 1.27 W/kg = 1.04 dBW/kg

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Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Top side_CH 155_Aux

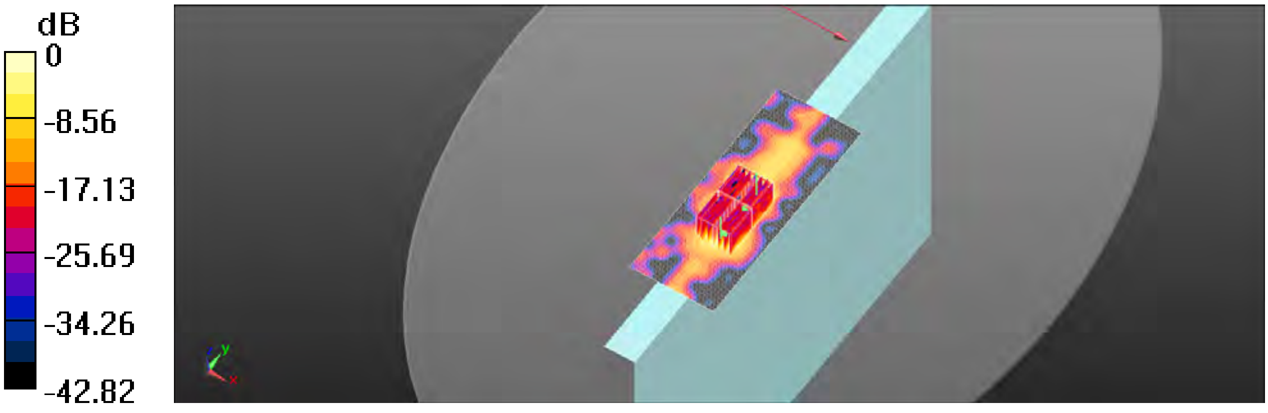
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x161x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.146 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 3.96 W/kg
SAR(1 g) = 0.517 W/kg; SAR(10 g) = 0.149 W/kg
Maximum value of SAR (measured) = 1.36 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.146 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 2.60 W/kg
SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.097 W/kg
Maximum value of SAR (measured) = 0.888 W/kg



0 dB = 0.888 W/kg = -0.52 dBW/kg

Date: 2018/8/13

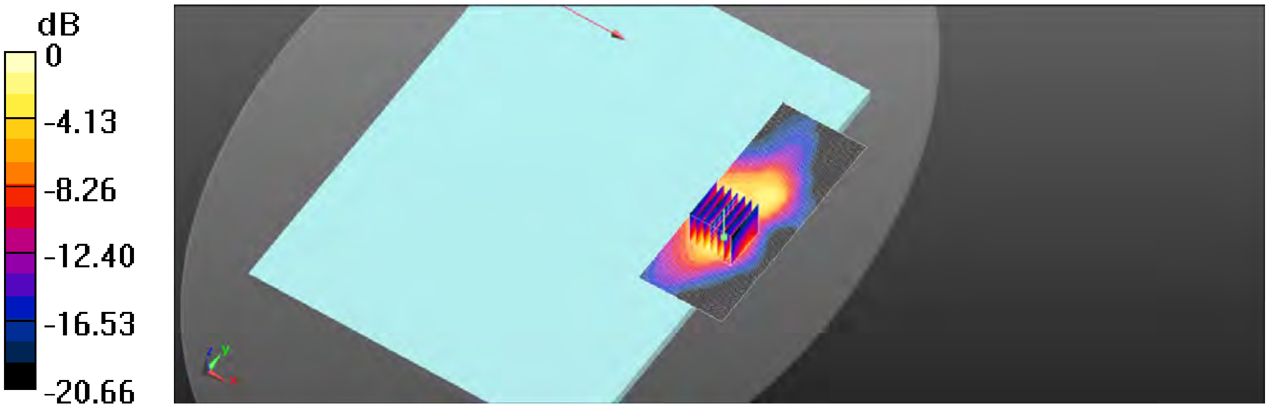
WLAN 802.11n_Body_Bottom side_CH 6_Main
Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.964 S/m; ε_r = 53.738; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.442 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.558 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.676 W/kg
SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.155 W/kg
Maximum value of SAR (measured) = 0.473 W/kg



0 dB = 0.473 W/kg = -3.25 dBW/kg

Date: 2018/8/14

WLAN 802.11n(20M) 5.2G_Body_Bottom side_CH 44_Main

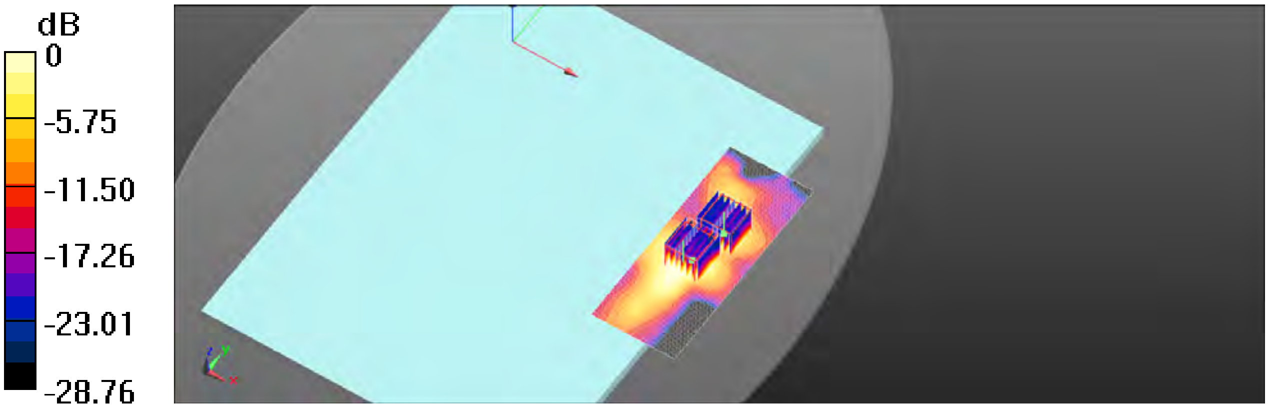
Communication System: WLAN 5G; Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.2 S/m; ε_r = 49.351; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.15 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.924 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 0.606 W/kg; SAR(10 g) = 0.204 W/kg
Maximum value of SAR (measured) = 1.15 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.924 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.143 W/kg
Maximum value of SAR (measured) = 0.925 W/kg



0 dB = 0.925 W/kg = -0.34 dBW/kg

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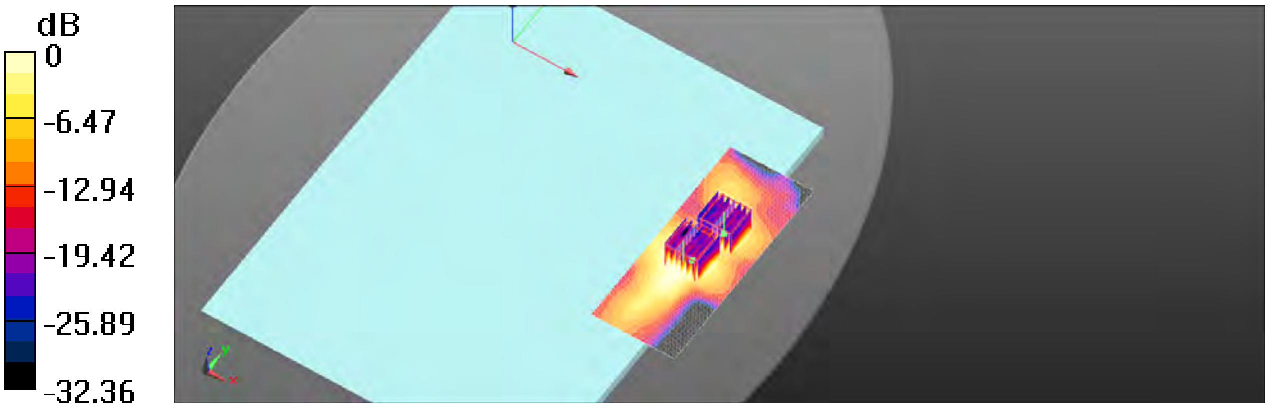
Date: 2018/8/14

WLAN 802.11n(40M) 5.2G_Body_Bottom side_CH 46_Main
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.12 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.948 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 2.31 W/kg
SAR(1 g) = 0.598 W/kg; SAR(10 g) = 0.201 W/kg
Maximum value of SAR (measured) = 1.14 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.948 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 0.461 W/kg; SAR(10 g) = 0.140 W/kg
Maximum value of SAR (measured) = 0.895 W/kg



0 dB = 0.895 W/kg = -0.48 dBW/kg

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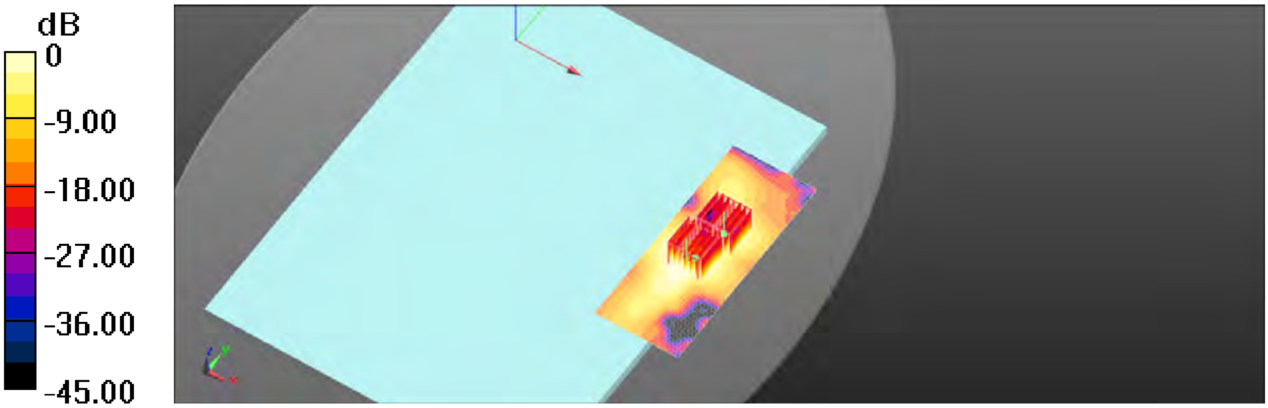
Date: 2018/8/15

WLAN 802.11n(20M) 5.3G_Body_Bottom side_CH 52_Main
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.10 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.894 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.44 W/kg
SAR(1 g) = 0.621 W/kg; SAR(10 g) = 0.207 W/kg
Maximum value of SAR (measured) = 1.18 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.894 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.19 W/kg
SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.145 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

Date: 2018/8/15

WLAN 802.11n(40M) 5.3G_Body_Bottom side_CH 54_Main

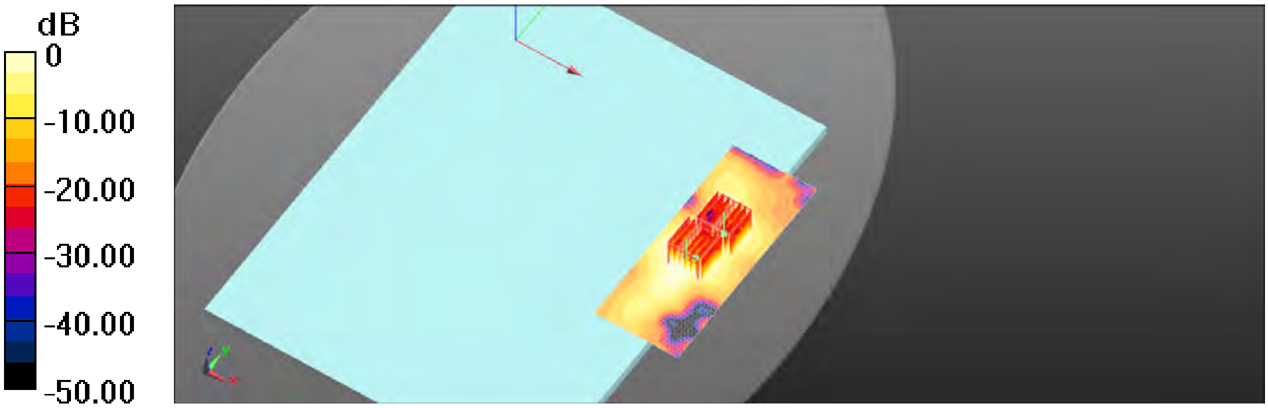
Communication System: WLAN 5G; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.292 S/m; ε_r = 49.154; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.10 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.895 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.45 W/kg
SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 1.19 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.895 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.21 W/kg
SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.146 W/kg
Maximum value of SAR (measured) = 1.02 W/kg



0 dB = 1.02 W/kg = 0.09 dBW/kg

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Date: 2018/8/16

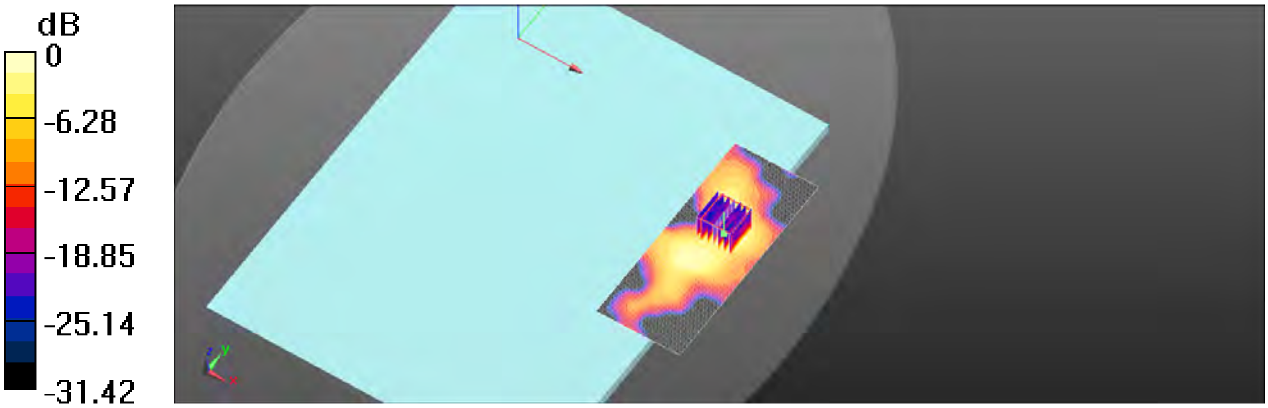
WLAN 802.11n(20M) 5.6G_Body_Bottom side_CH 104_Main
Communication System: WLAN 5G; Frequency: 5520 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5520 MHz; σ = 5.696 S/m; ε_r = 48.36; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.712 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.733 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 0.387 W/kg; SAR(10 g) = 0.114 W/kg
Maximum value of SAR (measured) = 0.806 W/kg



0 dB = 0.806 W/kg = -0.94 dBW/kg

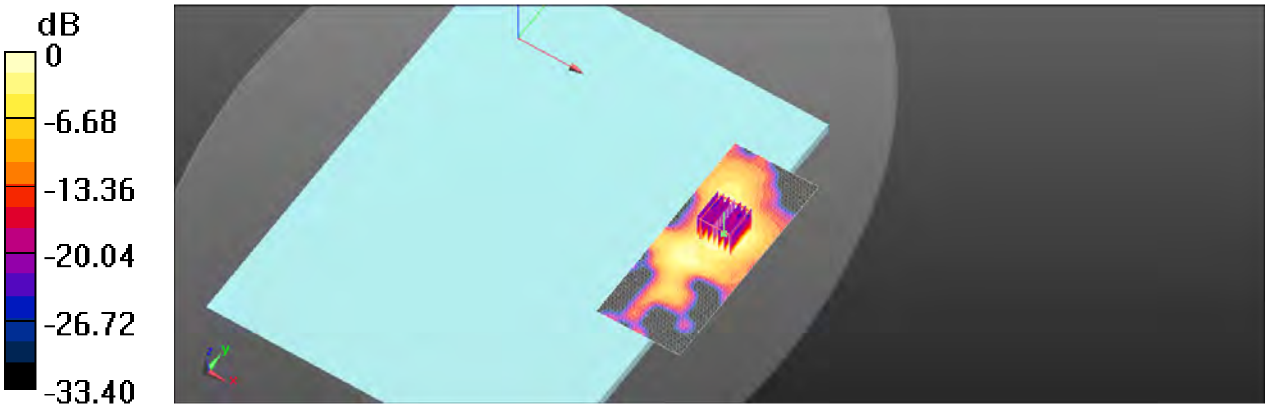
Date: 2018/8/16

WLAN 802.11n(40M) 5.6G_Body_Bottom side_CH 142_Main
Communication System: WLAN 5G; Frequency: 5710 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5710 MHz; σ = 6.005 S/m; ε_r = 47.775; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.689 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.524 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 0.353 W/kg; SAR(10 g) = 0.108 W/kg
Maximum value of SAR (measured) = 0.741 W/kg



0 dB = 0.741 W/kg = -1.30 dBW/kg

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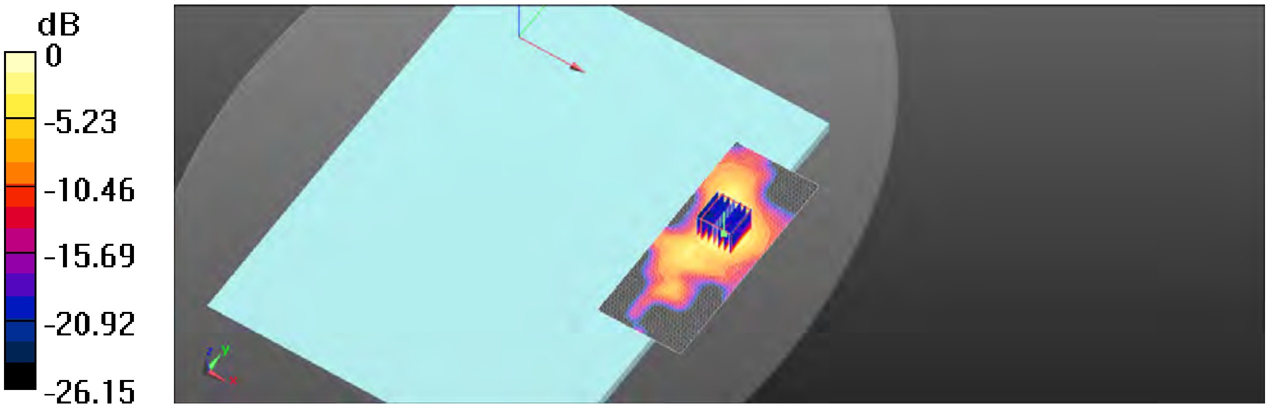
Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Bottom side_CH 155_Main
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.651 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.551 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 0.337 W/kg; SAR(10 g) = 0.103 W/kg
Maximum value of SAR (measured) = 0.741 W/kg



0 dB = 0.741 W/kg = -1.30 dBW/kg

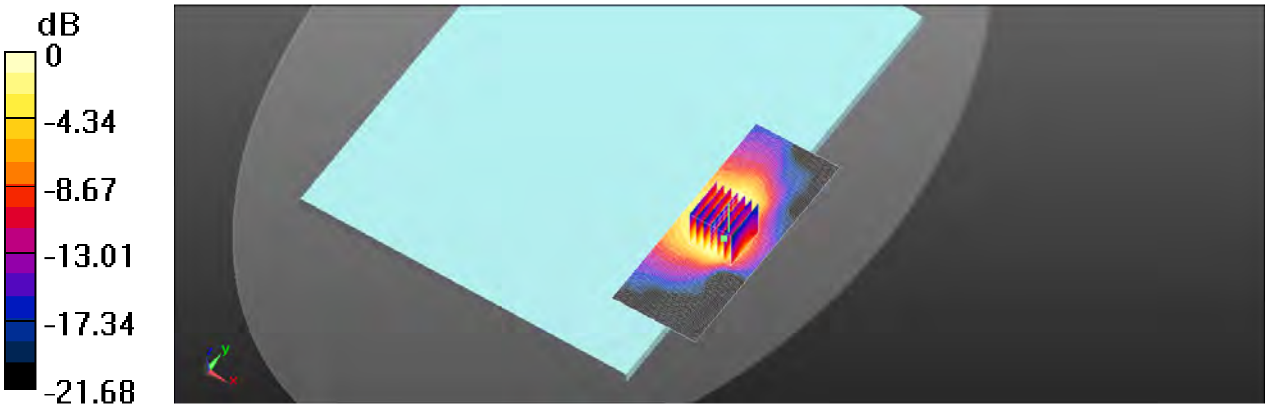
Date: 2018/8/13

WLAN 802.11n_Body_Bottom side_CH 2_Aux
Communication System: WLAN 2.45G; Frequency: 2417 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2417 MHz; σ = 1.941 S/m; ε_r = 53.779; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (51x131x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.365 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.447 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.256 W/kg; SAR(10 g) = 0.145 W/kg
Maximum value of SAR (measured) = 0.349 W/kg



0 dB = 0.349 W/kg = -4.57 dBW/kg

Date: 2018/8/14

WLAN 802.11n(20M) 5.2G_Body_Bottom side_CH 44_Aux

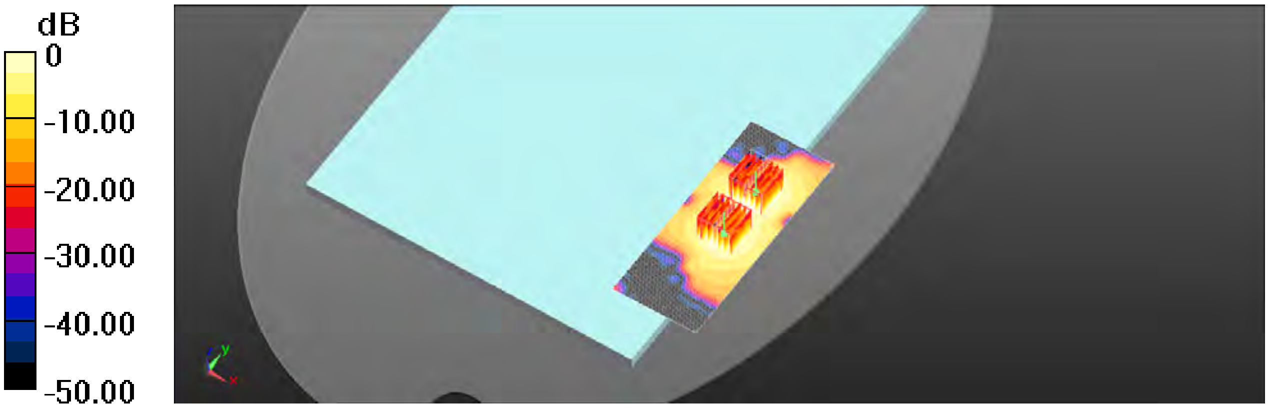
Communication System: WLAN 5G; Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.2 S/m; ε_r = 49.351; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.686 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.529 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 2.04 W/kg
SAR(1 g) = 0.346 W/kg; SAR(10 g) = 0.105 W/kg
Maximum value of SAR (measured) = 0.677 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.529 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.50 W/kg
SAR(1 g) = 0.272 W/kg; SAR(10 g) = 0.097 W/kg
Maximum value of SAR (measured) = 0.499 W/kg



0 dB = 0.499 W/kg = -3.02 dBW/kg

Date: 2018/8/14

WLAN 802.11n(40M) 5.2G_Body_Bottom side_CH 46_Aux

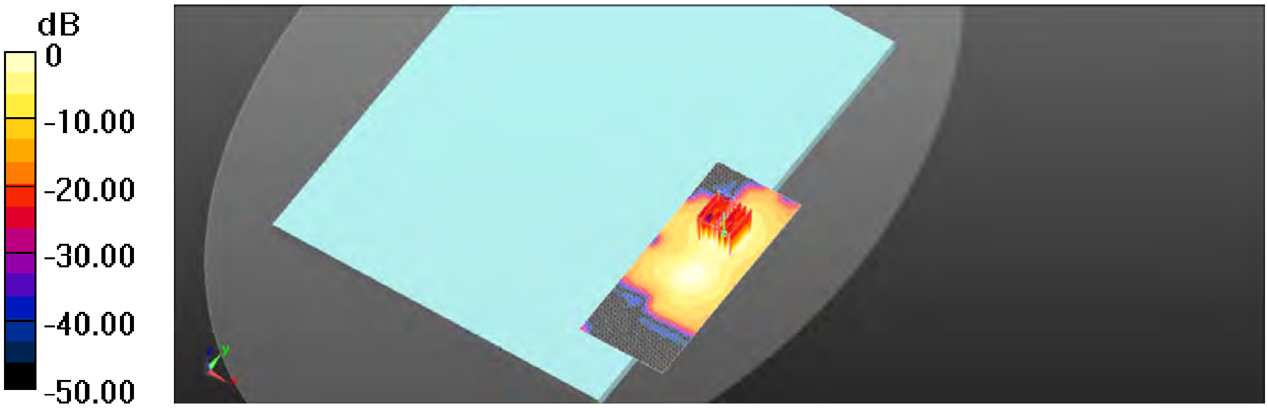
Communication System: WLAN 5G; Frequency: 5230 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.22 S/m; ε_r = 49.295; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.662 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.662 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.104 W/kg
Maximum value of SAR (measured) = 0.679 W/kg



0 dB = 0.679 W/kg = -1.68 dBW/kg

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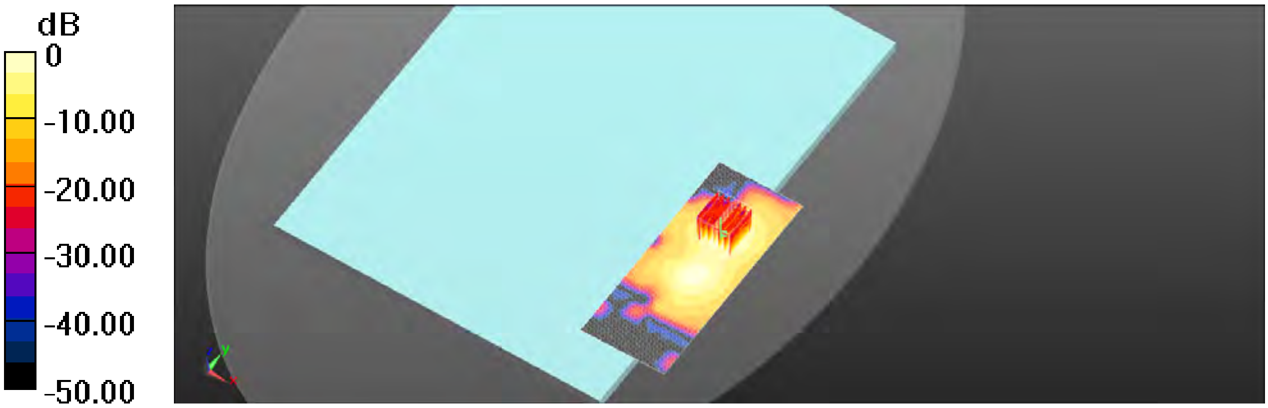
Date: 2018/8/15

WLAN 802.11n(20M) 5.3G_Body_Bottom side_CH 52_Aux
Communication System: WLAN 5G; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.276 S/m; ε_r = 49.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.741 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.482 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 0.375 W/kg; SAR(10 g) = 0.114 W/kg
Maximum value of SAR (measured) = 0.722 W/kg



0 dB = 0.722 W/kg = -1.41 dBW/kg

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Date: 2018/8/15

WLAN 802.11n(40M) 5.3G_Body_Bottom side_CH 54_Aux

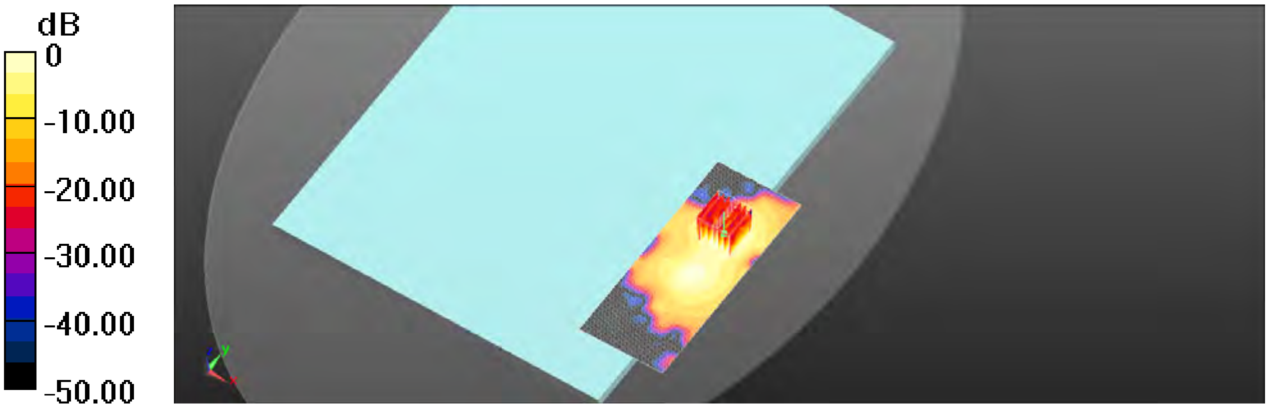
Communication System: WLAN 5G; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.292 S/m; ε_r = 49.154; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.743 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.808 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.344 W/kg; SAR(10 g) = 0.108 W/kg
Maximum value of SAR (measured) = 0.711 W/kg



0 dB = 0.711 W/kg = -1.48 dBW/kg

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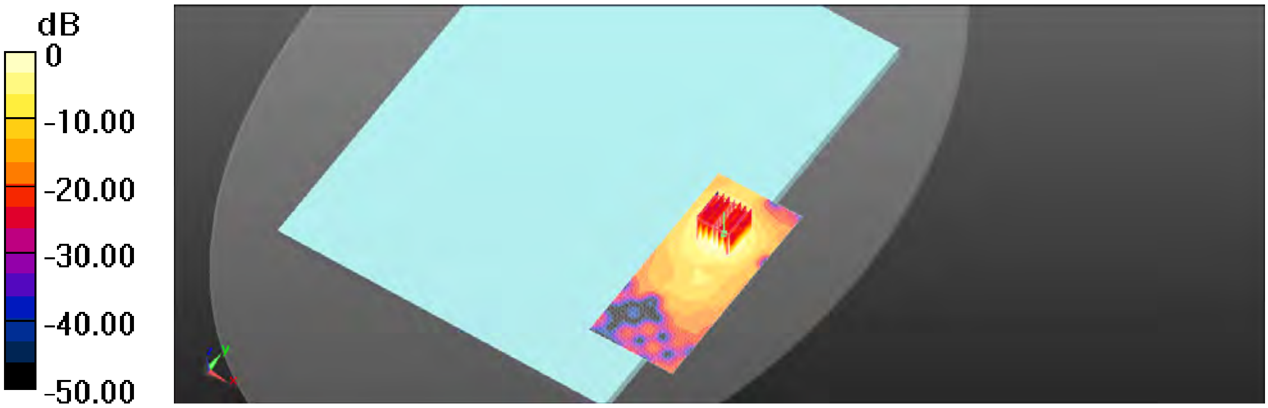
Date: 2018/8/16

WLAN 802.11n(20M) 5.6G_Body_Bottom side_CH 104_Aux
Communication System: WLAN 5G; Frequency: 5520 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5520 MHz; σ = 5.696 S/m; ε_r = 48.36; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:
- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.441 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.156 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

Date: 2018/8/16

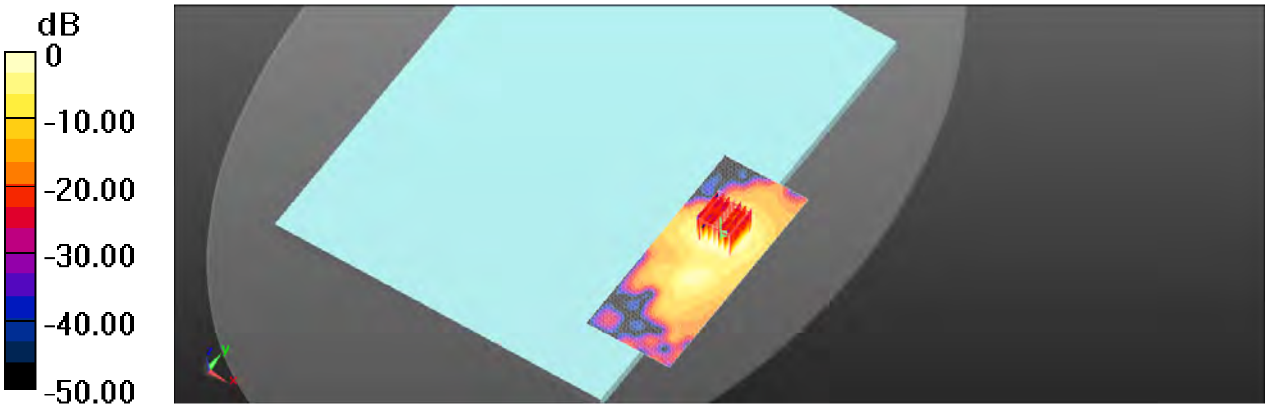
WLAN 802.11n(40M) 5.6G_Body_Bottom side_CH 110_Aux
Communication System: WLAN 5G; Frequency: 5550 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5550 MHz; σ = 5.729 S/m; ε_r = 48.257; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.989 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.506 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.83 W/kg
SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.158 W/kg
Maximum value of SAR (measured) = 0.938 W/kg



0 dB = 0.938 W/kg = -0.28 dBW/kg

Date: 2018/8/17

WLAN 802.11ac(80M) 5.8G_Body_Bottom side_CH 155_Aux

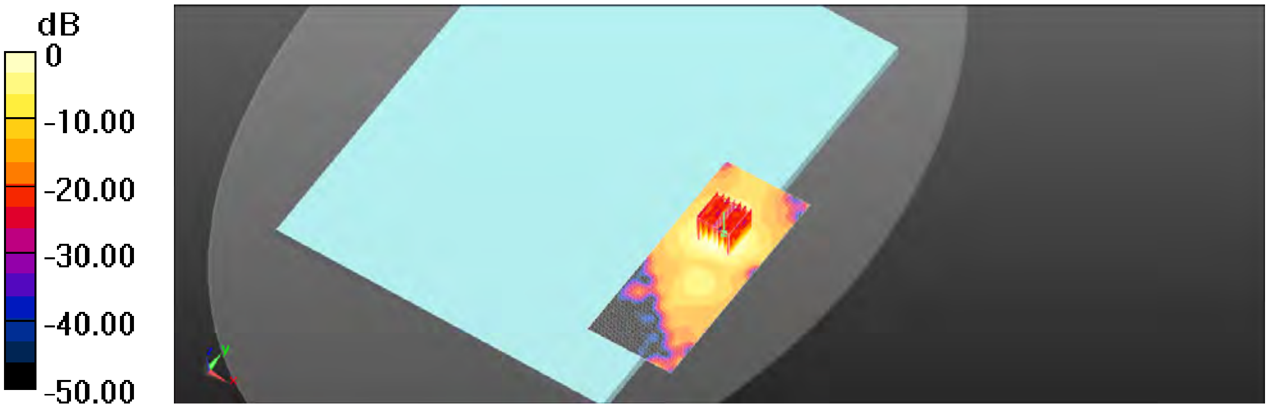
Communication System: WLAN 5G; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 6.106 S/m; ε_r = 47.563; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (61x151x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.855 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.509 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 0.420 W/kg; SAR(10 g) = 0.138 W/kg
Maximum value of SAR (measured) = 0.884 W/kg



0 dB = 0.884 W/kg = -0.54 dBW/kg

6. SAR System Performance Verification

Date: 2018/8/10

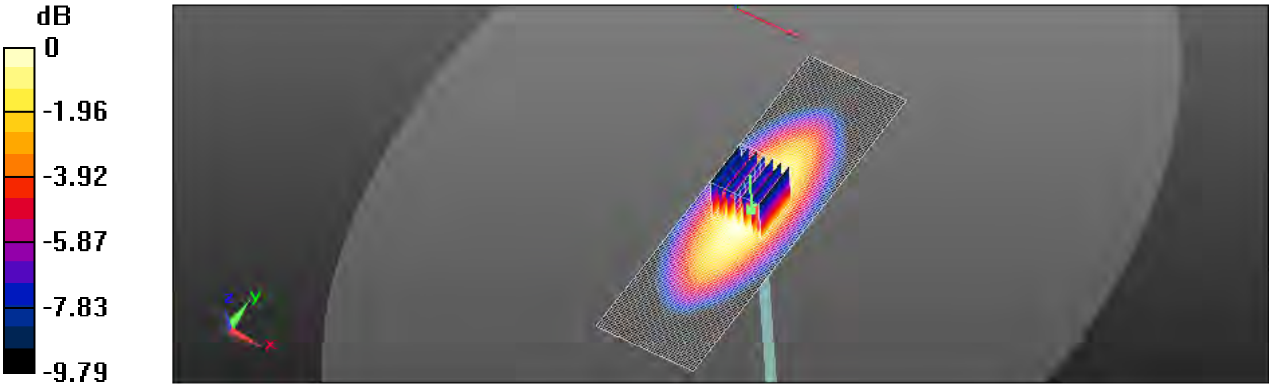
Dipole 750 MHz_SN:1015
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.97 S/m; ε_r = 57.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.97, 9.97, 9.97); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (41x141x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.64 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.30 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 2.1 W/kg; SAR(10 g) = 1.4 W/kg
Maximum value of SAR (measured) = 2.65 W/kg



0 dB = 2.65 W/kg = 4.23 dBW/kg

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Date: 2018/8/13

Dipole 835 MHz_SN:4d063

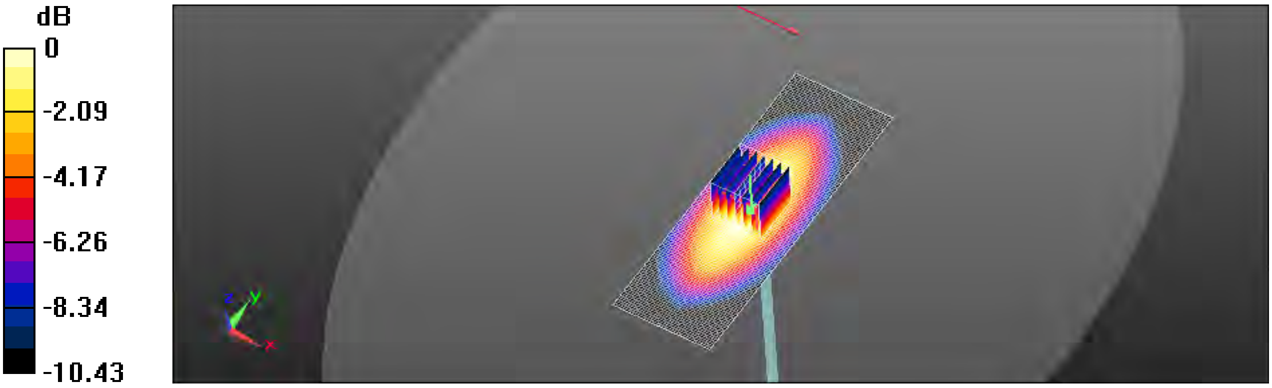
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.997 S/m; ε_r = 57.283; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.72, 9.72, 9.72); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (41x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 3.07 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.49 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.08 W/kg



0 dB = 3.08 W/kg = 4.89 dBW/kg

Date: 2018/8/14

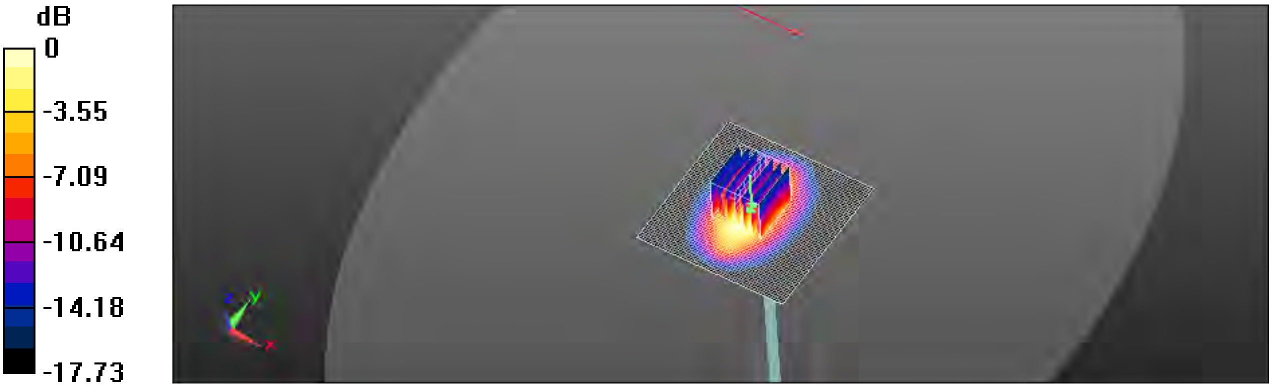
Dipole 1750 MHz_SN:1008
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.476 S/m; ε_r = 51.48; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.8°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8.26, 8.26, 8.26); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 13.4 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.89 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.35 W/kg; SAR(10 g) = 4.84 W/kg
Maximum value of SAR (measured) = 13.6 W/kg



0 dB = 13.6 W/kg = 11.34 dBW/kg

Date: 2018/8/15

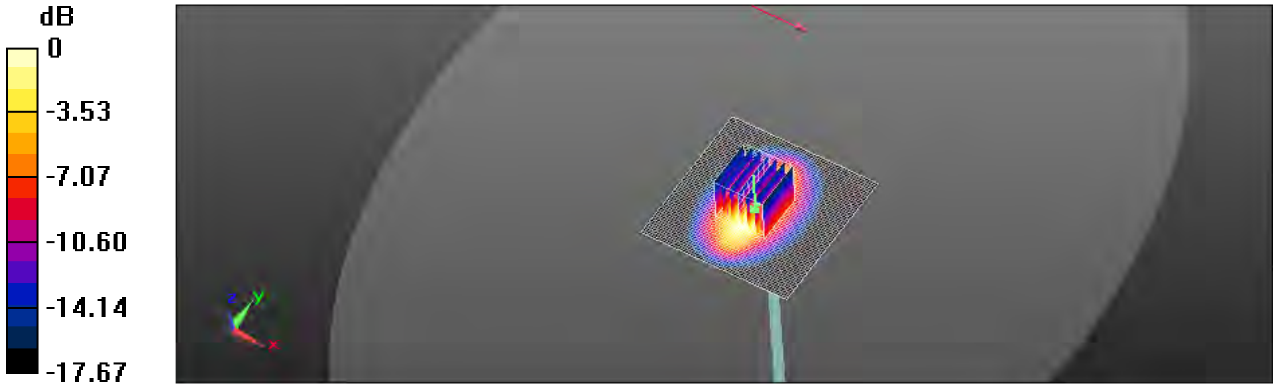
Dipole 1900 MHz_SN:5d173
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.641 S/m; ε_r = 50.968; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(8, 8, 8); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 14.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.85 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.6 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.2 W/kg
Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg = 11.61 dBW/kg

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Date: 2018/8/15

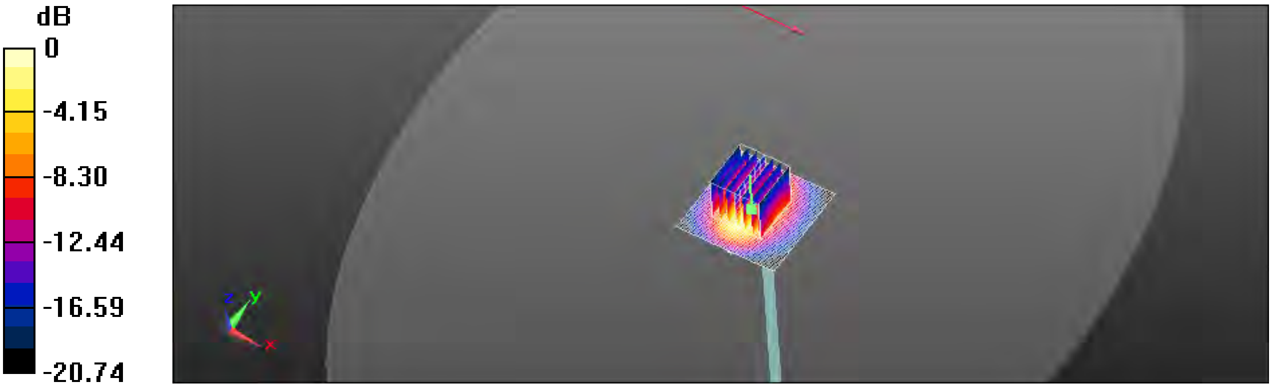
Dipole 2300 MHz_SN:1023
Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2300 MHz; σ = 1.851 S/m; ε_r = 54.063; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.68, 7.68, 7.68); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (51x51x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 19.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.86 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 24.3 W/kg
SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.77 W/kg
Maximum value of SAR (measured) = 18.4 W/kg



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

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Date: 2018/8/13

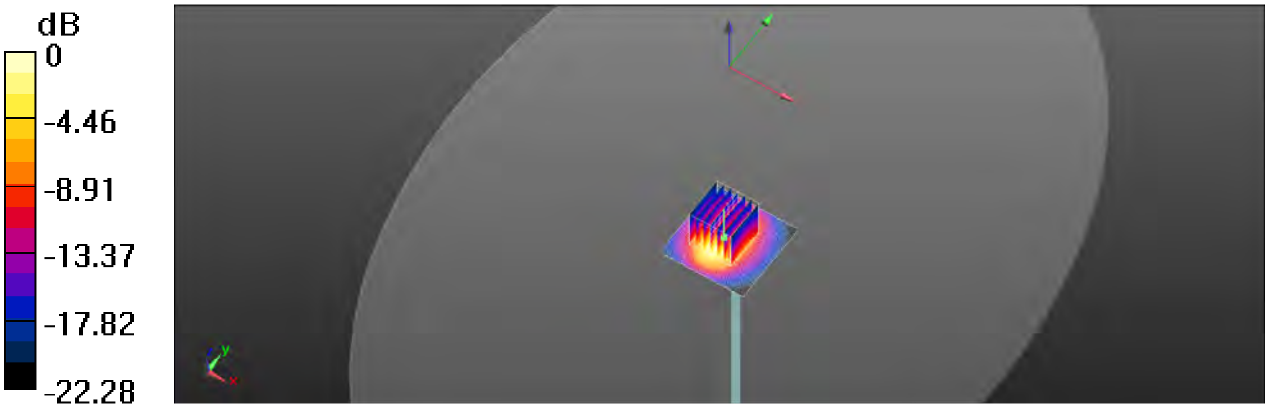
Dipole 2450 MHz_SN:727
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.986 S/m; ε_r = 53.722; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.0°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.42, 7.42, 7.42); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (51x51x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 21.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.96 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.1 W/kg
Maximum value of SAR (measured) = 20.8 W/kg



0 dB = 20.8 W/kg = 13.18 dBW/kg

Date: 2018/8/17

Dipole 2600 MHz_SN:1005

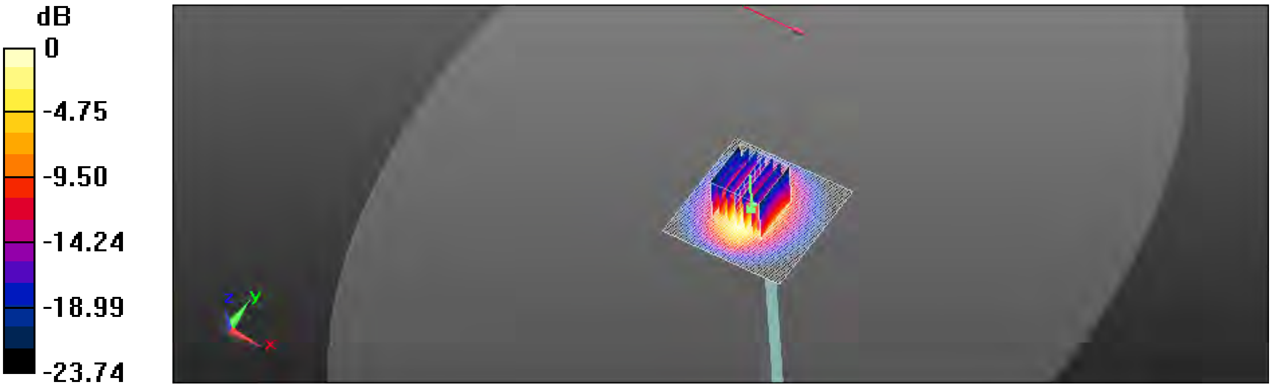
Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; $\sigma = 2.117$ S/m; $\varepsilon_r = 50.19$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.6°C; Liquid temperature: 22.2°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/4/25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2018/4/21
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 21.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.45 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 30.5 W/kg
SAR(1 g) = 14 W/kg; SAR(10 g) = 6.23 W/kg
Maximum value of SAR (measured) = 22.0 W/kg



0 dB = 22.0 W/kg = 13.42 dBW/kg

Date: 2018/8/14

Dipole 5200 MHz_SN:1023

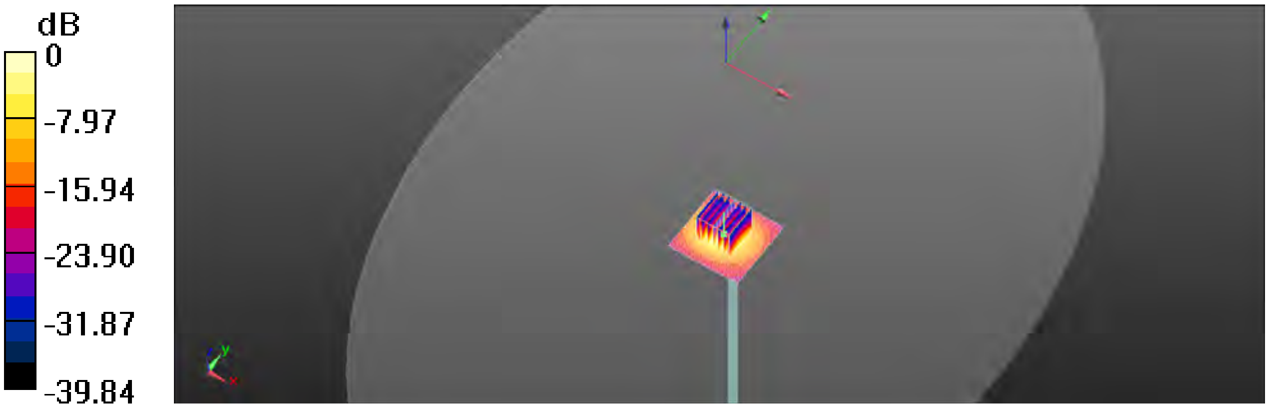
Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.167 S/m; ε_r = 49.425; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.7°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.41, 4.41, 4.41); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=100mW/Area Scan (51x51x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 15.9 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.68 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 33.0 W/kg
SAR(1 g) = 7.64 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 16.0 W/kg



0 dB = 16.0 W/kg = 12.04 dBW/kg

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Date: 2018/8/15

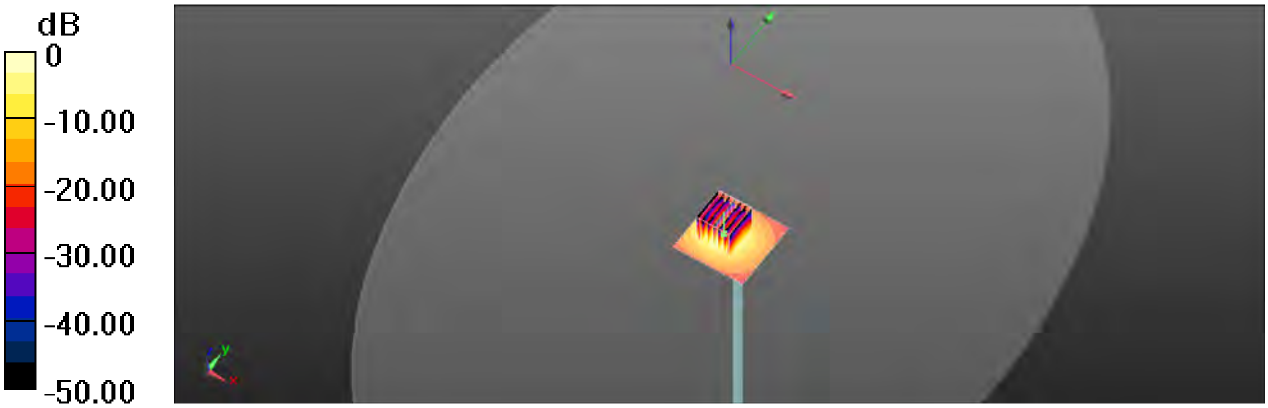
Dipole 5300 MHz_SN:1023
Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.331 S/m; ε_r = 49.102; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.9°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(4.21, 4.21, 4.21); Calibrated: 2017/1/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=100mW/Area Scan (51x51x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 16.4 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 51.15 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 33.4 W/kg
SAR(1 g) = 7.76 W/kg; SAR(10 g) = 2.14 W/kg
Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg = 12.17 dBW/kg

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Date: 2018/8/16

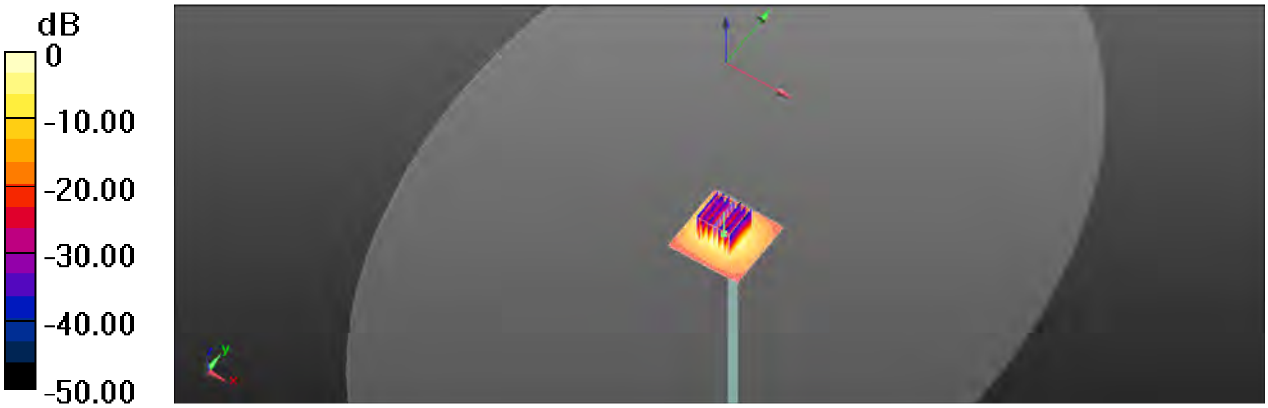
Dipole 5600 MHz_SN:1023
Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.824 S/m; ε_r = 48.134; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 21.5°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(3.9, 3.9, 3.9); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=100mW/Area Scan (51x51x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 17.7 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.22 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 40.5 W/kg
SAR(1 g) = 8.11 W/kg; SAR(10 g) = 2.19 W/kg
Maximum value of SAR (measured) = 17.7 W/kg



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

Date: 2018/8/17

Dipole 5800 MHz_SN:1023

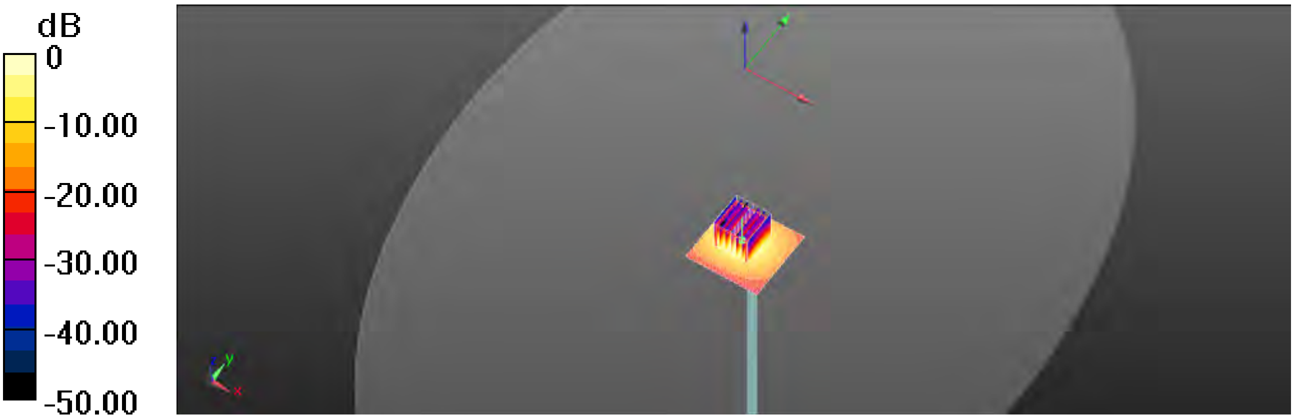
Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.155 S/m; ε_r = 47.476; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.09, 4.09, 4.09); Calibrated: 2017/9/29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2017/9/28
- Phantom: ELI
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Pin=100mW/Area Scan (51x51x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 16.7 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 49.99 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 38.7 W/kg
SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.12 W/kg
Maximum value of SAR (measured) = 16.9 W/kg



0 dB = 16.9 W/kg = 12.28 dBW/kg

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7. DAE & Probe Calibration Certificate

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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: DAE4-1260_Sep17

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BM - SN: 1260

Calibration procedure(s): QA CAL-06.v29
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: September 28, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	31-Aug-17 (No:21092)	Aug-18
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	05-Jan-17 (in house check)	In house check: Jan-18
Calibrator Box V2.1	SE UMS 006 AA 1002	05-Jan-17 (in house check)	In house check: Jan-18

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Laboratory Technician	
Approved by:	Sven Kühn	Deputy Manager	

Issued: September 28, 2017

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Certificate No: DAE4-1260_Sep17 Page 1 of 5

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Accreditation No.: **SCS 0108**

Glossary

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

Methods Applied and Interpretation of Parameters

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

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DC Voltage Measurement

A/D - Converter Resolution nominal
High Range: 1LSB = 6.1µV , full range = -100...+300 mV
Low Range: 1LSB = 61nV , full range = -1.......+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	405.082 ± 0.02% (k=2)	405.133 ± 0.02% (k=2)	404.970 ± 0.02% (k=2)
Low Range	3.98948 ± 1.50% (k=2)	3.95701 ± 1.50% (k=2)	3.98426 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	341.5 ° ± 1 °

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Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	200030.04	-3.23	-0.00
Channel X	+ Input	20005.05	0.72	0.00
Channel X	- Input	-20003.19	2.57	-0.01
Channel Y	+ Input	200031.04	-2.35	-0.00
Channel Y	+ Input	20004.17	-0.10	-0.00
Channel Y	- Input	-20006.05	-0.28	0.00
Channel Z	+ Input	200033.38	-0.04	-0.00
Channel Z	+ Input	20003.27	-0.97	-0.00
Channel Z	- Input	-20007.67	-1.85	0.01

Low Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	2000.34	-0.06	-0.00
Channel X	+ Input	201.28	0.95	0.47
Channel X	- Input	-198.35	1.25	-0.63
Channel Y	+ Input	2000.88	0.54	0.03
Channel Y	+ Input	199.53	-0.80	-0.40
Channel Y	- Input	-200.22	-0.64	0.32
Channel Z	+ Input	2000.27	0.04	0.00
Channel Z	+ Input	198.83	-1.41	-0.70
Channel Z	- Input	-200.94	-1.26	0.63

2. Common mode sensitivity

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

	Common mode Input Voltage (mV)	High Range Average Reading (µV)	Low Range Average Reading (µV)
Channel X	200	29.02	27.07
	- 200	-24.87	-27.14
Channel Y	200	-18.44	-18.59
	- 200	18.33	18.03
Channel Z	200	15.00	15.39
	- 200	-18.17	-18.23

3. Channel separation

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

	Input Voltage (mV)	Channel X (µV)	Channel Y (µV)	Channel Z (µV)
Channel X	200	-	-1.16	-4.49
Channel Y	200	7.88	-	1.01
Channel Z	200	10.65	4.72	-

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4. **AD-Converter Values with inputs shorted**
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16017	16757
Channel Y	15556	15598
Channel Z	15950	16735

5. **Input Offset Measurement**
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	0.90	-0.03	1.89	0.40
Channel Y	0.57	-0.29	1.84	0.37
Channel Z	-1.27	-2.75	0.35	0.59

6. **Input Offset Current**
Nominal Input circuitry offset current on all channels: <25fA

7. **Input Resistance** (Typical values for information)

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

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

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

9. **Power Consumption** (Typical values for information)

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

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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **DAE4-856_Apr18**

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BM - SN: 856
Calibration procedure(s)	QA CAL-06.v29 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	April 21, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	31-Aug-17 (No:21092)	Aug-18
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	04-Jan-18 (in house check)	In house check: Jan-19
Calibrator Box V2.1	SE UMS 006 AA 1002	04-Jan-18 (in house check)	In house check: Jan-19

	Name	Function	Signature
Calibrated by:	Adrian Gehring	Laboratory Technician	
Approved by:	Sven Kühn	Deputy Manager	

Issued: April 21, 2018

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Certificate No: DAE4-856_Apr18 Page 1 of 5

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Accreditation No.: **SCS 0108**

Glossary

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

Methods Applied and Interpretation of Parameters

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

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DC Voltage Measurement

A/D - Converter Resolution nominal
High Range: 1LSB = 6.1μV , full range = -100...+300 mV
Low Range: 1LSB = 61nV , full range = -1.......+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	403.380 ± 0.02% (k=2)	404.500 ± 0.02% (k=2)	403.824 ± 0.02% (k=2)
Low Range	3.97569 ± 1.50% (k=2)	3.98803 ± 1.50% (k=2)	3.94148 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	264.5 ° ± 1 °

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Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	199991.32	-3.93	-0.00
Channel X	+ Input	20000.89	-0.73	-0.00
Channel X	- Input	-19999.72	1.38	-0.01
Channel Y	+ Input	199995.30	0.19	0.00
Channel Y	+ Input	19999.58	-1.86	-0.01
Channel Y	- Input	-20002.18	-0.91	0.00
Channel Z	+ Input	199995.15	0.22	0.00
Channel Z	+ Input	19998.23	-3.34	-0.02
Channel Z	- Input	-20002.45	-1.22	0.01

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.18	-0.15	-0.01
Channel X	+ Input	202.02	0.40	0.20
Channel X	- Input	-197.78	0.37	-0.19
Channel Y	+ Input	1999.81	-1.28	-0.06
Channel Y	+ Input	201.37	-0.27	-0.13
Channel Y	- Input	-199.29	-0.94	0.47
Channel Z	+ Input	2000.80	-0.29	-0.01
Channel Z	+ Input	201.21	-0.19	-0.10
Channel Z	- Input	-199.51	-1.18	0.60

2. Common mode sensitivity

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

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-13.71	-15.90
	- 200	17.59	16.11
Channel Y	200	-2.20	-2.52
	- 200	0.55	-0.02
Channel Z	200	11.04	10.58
	- 200	-12.61	-12.99

3. Channel separation

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

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	2.30	-2.46
Channel Y	200	7.31	-	3.25
Channel Z	200	8.90	4.49	-

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4. AD-Converter Values with inputs shorted

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

	High Range (LSB)	Low Range (LSB)
Channel X	16218	15730
Channel Y	15957	16114
Channel Z	15879	16093

5. Input Offset Measurement

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

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	-0.35	-1.46	1.21	0.40
Channel Y	-0.34	-1.68	0.58	0.46
Channel Z	-0.03	-1.43	1.45	0.57

6. Input Offset Current

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

7. Input Resistance (Typical values for information)

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

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

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

9. Power Consumption (Typical values for information)

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

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Accreditation No.: **SCS 0108**

Client: SGS-TW (Auden)

Certificate No: EX3-3938_Sep17

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:3938

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

Calibration date: September 29, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

Issued: October 2, 2017

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

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Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle:* The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

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Probe EX3DV4

SN:3938

Manufactured: May 2, 2013
Calibrated: September 29, 2017

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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3938

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.51	0.57	0.33	± 10.1 %
DCP (mV)[B]	102.0	101.2	103.4	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB$\sqrt{\mu V}$	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	139.3	±2.5 %
		Y	0.0	0.0	1.0		146.0	
		Z	0.0	0.0	1.0		131.8	

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

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3938

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	10.26	10.26	10.26	0.53	0.80	± 12.0 %
835	41.5	0.90	9.69	9.69	9.69	0.50	0.83	± 12.0 %
900	41.5	0.97	9.50	9.50	9.50	0.51	0.80	± 12.0 %
1450	40.5	1.20	8.49	8.49	8.49	0.45	0.80	± 12.0 %
1750	40.1	1.37	8.35	8.35	8.35	0.33	0.85	± 12.0 %
1900	40.0	1.40	8.07	8.07	8.07	0.36	0.84	± 12.0 %
2000	40.0	1.40	8.04	8.04	8.04	0.30	0.86	± 12.0 %
2300	39.5	1.67	7.66	7.66	7.66	0.32	0.84	± 12.0 %
2450	39.2	1.80	7.30	7.30	7.30	0.37	0.80	± 12.0 %
2600	39.0	1.96	7.14	7.14	7.14	0.33	0.86	± 12.0 %
5250	35.9	4.71	5.04	5.04	5.04	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.70	4.70	4.70	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.85	4.85	4.85	0.40	1.80	± 13.1 %

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

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

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3938

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.62	9.62	9.62	0.51	0.80	± 12.0 %
835	55.2	0.97	9.48	9.48	9.48	0.50	0.83	± 12.0 %
900	55.0	1.05	9.35	9.35	9.35	0.55	0.80	± 12.0 %
1450	54.0	1.30	8.29	8.29	8.29	0.36	0.80	± 12.0 %
1750	53.4	1.49	7.96	7.96	7.96	0.45	0.80	± 12.0 %
1900	53.3	1.52	7.70	7.70	7.70	0.40	0.80	± 12.0 %
2000	53.3	1.52	7.87	7.87	7.87	0.38	0.86	± 12.0 %
2300	52.9	1.81	7.51	7.51	7.51	0.41	0.85	± 12.0 %
2450	52.7	1.95	7.42	7.42	7.42	0.38	0.80	± 12.0 %
2600	52.5	2.16	7.15	7.15	7.15	0.35	0.89	± 12.0 %
5250	48.9	5.36	4.41	4.41	4.41	0.40	1.90	± 13.1 %
5600	48.5	5.77	3.90	3.90	3.90	0.45	1.90	± 13.1 %
5750	48.3	5.94	4.09	4.09	4.09	0.45	1.90	± 13.1 %

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

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

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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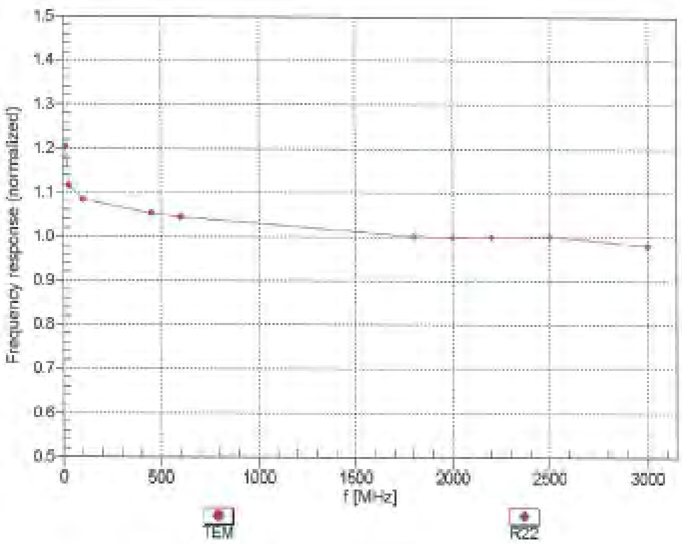
Frequency Response of E-Field

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



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

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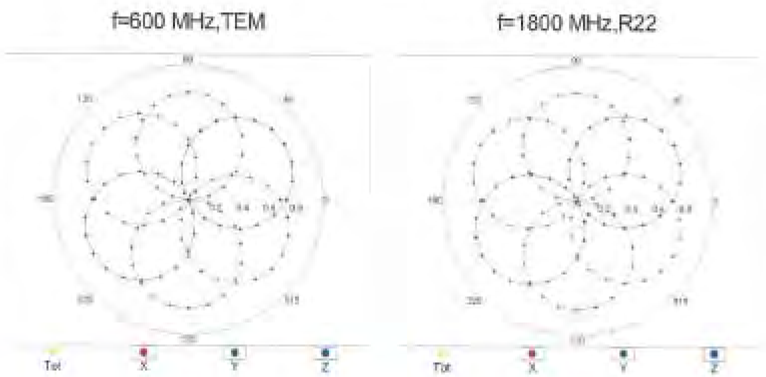
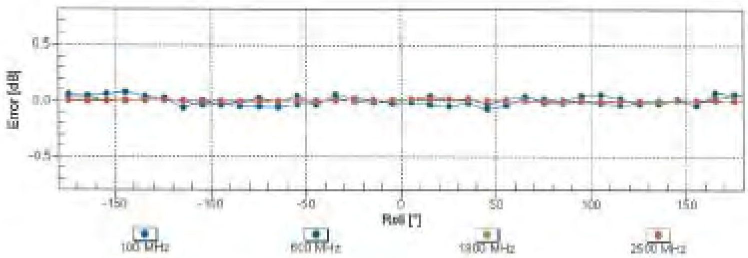
EX3DV4– SN:3938 September 29, 2017

Receiving Pattern (ϕ), ϑ = 0°





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

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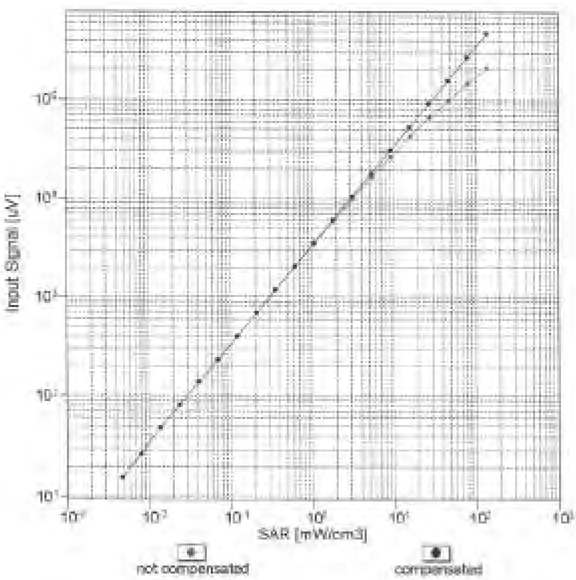
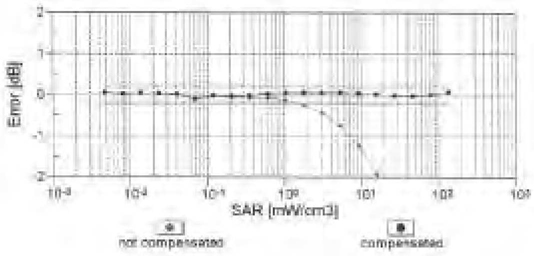
Dynamic Range f(SAR$_{head}$)
(TEM cell , f_{eval}= 1900 MHz)





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

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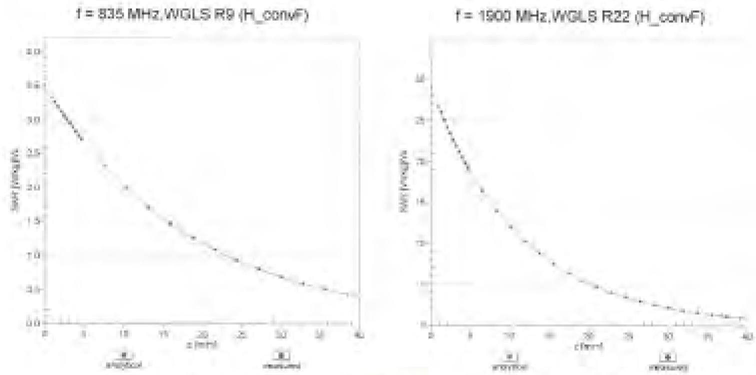
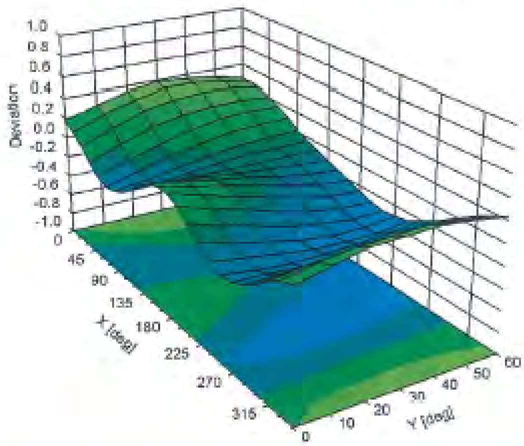
EX3DV4– SN:3938 September 29, 2017

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3938

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-24.6
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **EX3-3770_Apr18**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3770
Calibration procedure(s)	QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	April 25, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02682)	Apr-19
Reference Probe ES3DV2	SN: 3013	30-Dec-17 (No. ES3-3013_Dec17)	Dec-18
DAE4	SN: 660	21-Dec-17 (No. DAE4-660_Dec17)	Dec-18
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

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

Issued: April 26, 2018

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

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Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z*: Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency_response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z*: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR*: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z*: *A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Certificate No: EX3-3770_Apr18 Page 3 of 11

Probe EX3DV4

SN:3770

Manufactured: July 6, 2010
Calibrated: April 25, 2018

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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.30	0.60	0.38	± 10.1 %
DCP (mV)[B]	101.9	101.9	101.5	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB$\sqrt{\mu V}$	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	138.1	±3.5 %
		Y	0.0	0.0	1.0		134.7	
		Z	0.0	0.0	1.0		135.6	

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

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
450	43.5	0.87	11.20	11.20	11.20	0.13	1.25	± 13.3 %
750	41.9	0.89	10.05	10.05	10.05	0.43	0.80	± 12.0 %
835	41.5	0.90	9.55	9.55	9.55	0.35	0.97	± 12.0 %
900	41.5	0.97	9.36	9.36	9.36	0.27	1.10	± 12.0 %
1750	40.1	1.37	8.48	8.48	8.48	0.35	0.80	± 12.0 %
1900	40.0	1.40	8.22	8.22	8.22	0.32	0.80	± 12.0 %
2000	40.0	1.40	8.15	8.15	8.15	0.38	0.80	± 12.0 %
2300	39.5	1.67	7.78	7.78	7.78	0.33	0.84	± 12.0 %
2450	39.2	1.80	7.43	7.43	7.43	0.38	0.80	± 12.0 %
2600	39.0	1.96	7.20	7.20	7.20	0.36	0.84	± 12.0 %
5250	35.9	4.71	5.25	5.25	5.25	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.92	4.92	4.92	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.21	5.21	5.21	0.40	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
450	56.7	0.94	10.68	10.68	10.68	0.08	1.25	± 13.3 %
750	55.5	0.96	9.97	9.97	9.97	0.39	0.95	± 12.0 %
835	55.2	0.97	9.72	9.72	9.72	0.45	0.88	± 12.0 %
900	55.0	1.05	9.64	9.64	9.64	0.44	0.85	± 12.0 %
1750	53.4	1.49	8.26	8.26	8.26	0.43	0.80	± 12.0 %
1900	53.3	1.52	8.00	8.00	8.00	0.37	0.87	± 12.0 %
2000	53.3	1.52	7.97	7.97	7.97	0.29	1.00	± 12.0 %
2300	52.9	1.81	7.68	7.68	7.68	0.42	0.84	± 12.0 %
2450	52.7	1.95	7.59	7.59	7.59	0.41	0.84	± 12.0 %
2600	52.5	2.16	7.37	7.37	7.37	0.15	0.98	± 12.0 %
5250	48.9	5.36	4.65	4.65	4.65	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.06	4.06	4.06	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.38	4.38	4.38	0.50	1.90	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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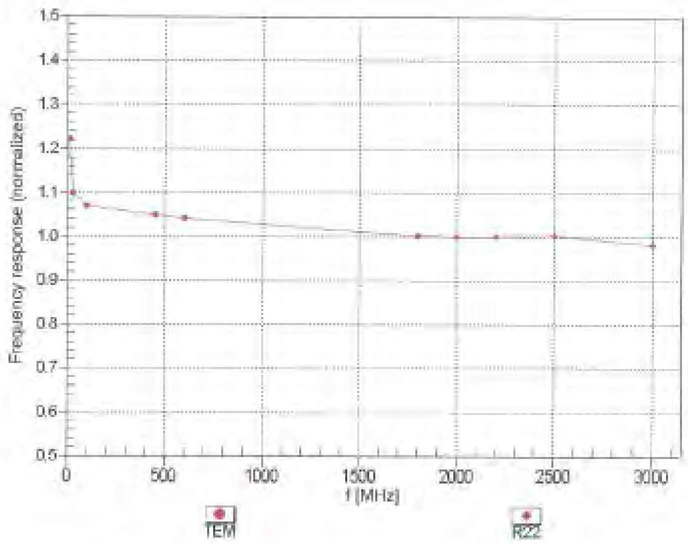
EX3DV4– SN:3770 April 25, 2018

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



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

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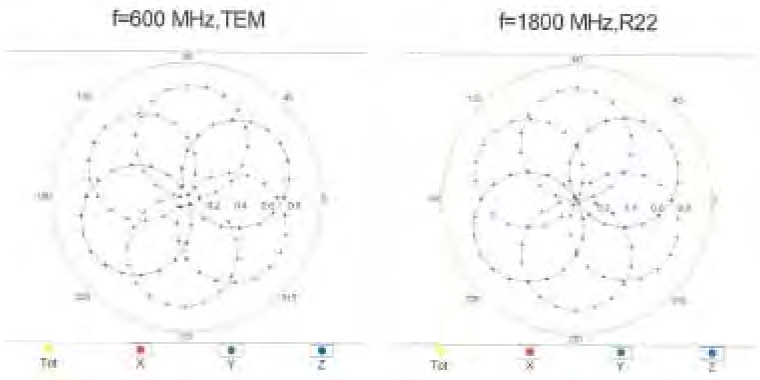
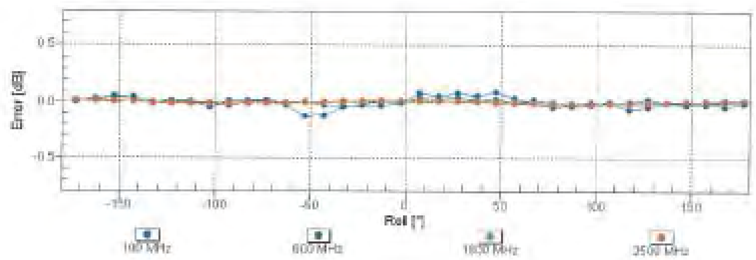
Receiving Pattern (ϕ), $\vartheta = 0°$





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

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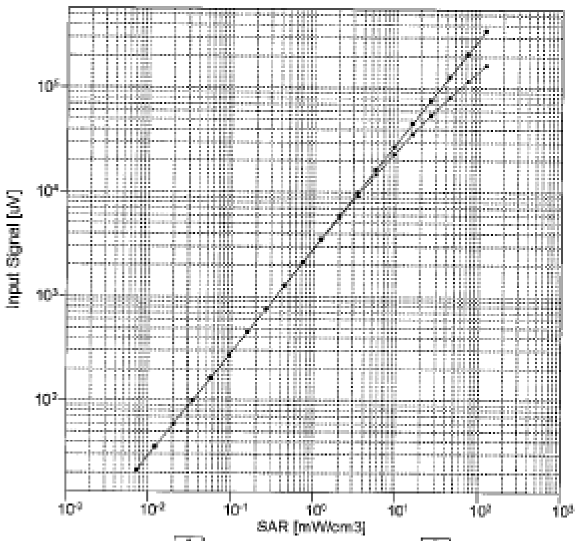
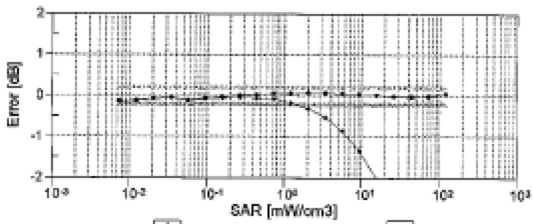
Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)





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

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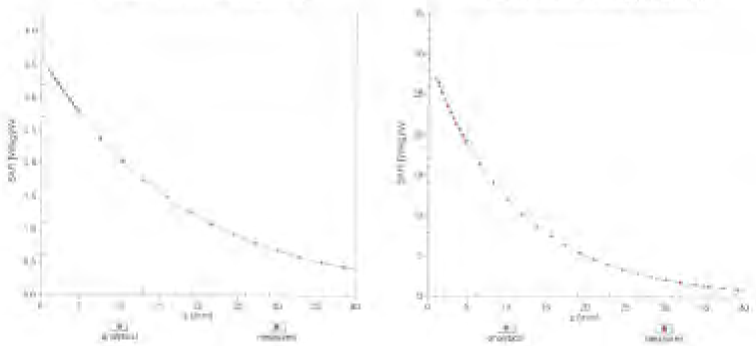
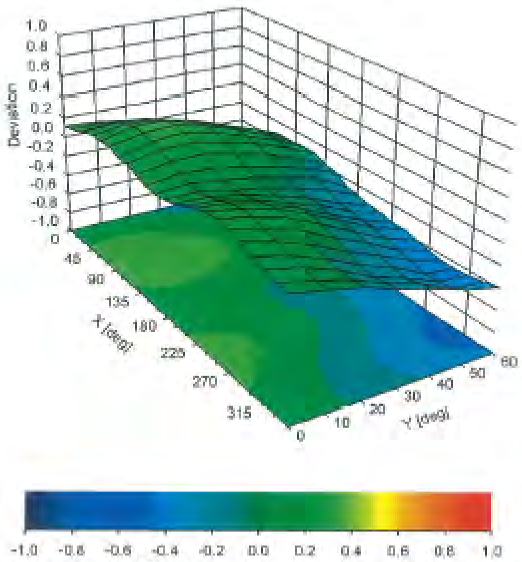
Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF) f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (φ, ϑ), f = 900 MHz



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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-32.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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8. Uncertainty Budget

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

A	c	D	e		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%	N	1	1	1	1	6.55%	6.55%	∞
Isotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
Isotropy, 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%	∞
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%	∞
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%	∞
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%	∞
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	1.49%	N	1	1	0.64	0.43	0.95%	0.64%	M
Liquid Conductivity (mea.)	2.58%	N	1	1	0.6	0.49	1.55%	1.26%	M
Combined standard uncertainty		RSS					11.86%	11.79%	
Expant uncertainty (95% confidence interval), K=2							23.71%	23.58%	

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

A	c	D	e		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	6.00%	N	1	1	1	1	6.00%	6.00%	∞
Isotropy , Axial	3.50%	R	$\sqrt{3}$	1.732	1	1	2.02%	2.02%	∞
Isotropy, Hemispherical	9.60%	R	$\sqrt{3}$	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	$\sqrt{3}$	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	$\sqrt{3}$	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	$\sqrt{3}$	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	$\sqrt{3}$	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	$\sqrt{3}$	1.732	1	1	1.50%	1.50%	∞
Measurement drift (class A evaluation)	1.75%	R	$\sqrt{3}$	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	$\sqrt{3}$	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	$\sqrt{3}$	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	$\sqrt{3}$	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	$\sqrt{3}$	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	$\sqrt{3}$	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	$\sqrt{3}$	1.732	1	1	2.89%	2.89%	∞
Phantom and Setup									
Phantom Uncertainty	4.00%	R	$\sqrt{3}$	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	4.73%	N	1	1	0.64	0.43	3.03%	2.03%	M
Liquid Conductivity (mea.)	4.24%	N	1	1	0.6	0.49	2.54%	2.08%	M
Combined standard uncertainty		RSS					12.08%	11.77%	
Expant uncertainty (95% confidence interval), K=2							24.17%	23.55%	

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9. Phantom Description

Schmid & Partner Engineering AG s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

Certificate of Conformity / First Article Inspection

Item	Oval Flat Phantom ELI 5.0
Type No	QD OVA 002 A
Series No	1108 and higher
Manufacturer	Untersee Composites Knebelstrasse 8, CH-8268 Mannenbach, Switzerland

Tests
Complete tests were made on the prototype units QD OVA 001 A, pre-series units QD OVA 001 B as well as on some series units QD OVA 001 B. Some tests are made on all series units QD OVA 002 A.

Test	Requirement	Details	Units tested
Shape	Internal dimensions, depth and sagging are compatible with standards	Bottom elliptical 600 x 400 mm, Depth 190 mm, dimension compliant with [1] for f > 375 MHz	Prototypes
Material thickness	Bottom: 2.0mm +/- 0.2mm	dimension compliant with [3] for f > 800 MHz	all
Material parameters	rel. permittivity 2 – 5, loss tangent ≤ 0.05, at f ≤ 6 GHz	rel. permittivity 3.5 +/- 0.5 loss tangent ≤ 0.05	Material samples
Material resistivity	Compatibility with tissue simulating liquids .	Compatible with SPEAG liquids. **	Phantoms, Material sample
Sagging	Sagging of the flat section in tolerance when filled with tissue simulating liquid.	within tolerance for filling height up to 155 mm	Prototypes, samples

** Note: Compatibility restrictions apply certain liquid components mentioned in the standard, containing e.g. DGBE, DGMHE or Triton X-100. Observe technical note on material compatibility.

Standards
[1] OET Bulletin 65, Supplement C, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 01-01
[2] IEEE 1528-2003, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques, December 2003
[3] IEC 62209–1 ed1.0, "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", 2005-02-18
[4] IEC 62209–2 ed1.0, "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", 2010-03-30

Conformity
Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of body-worn SAR measurements and system performance checks as specified in [1 – 4] and further standards.

Date 25.7.2011

Signature / Stamp

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Doc No 881 – QD OVA 002 A - A Page 1 (1)

10. System Validation from Original Equipment Supplier

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

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

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

Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D750V3-1015_Aug17**

CALIBRATION CERTIFICATE

Object	D750V3 - SN:1015
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 21, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: August 21, 2017

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

Certificate No: D750V3-1015_Aug17 Page 1 of 8

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.1 ± 6 %	0.90 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.25 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.35 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.36 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.5 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.19 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.76 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.44 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.76 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.9 Ω + 0.3 jΩ
Return Loss	- 28.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.6 Ω - 3.4 jΩ
Return Loss	- 28.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.037 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 22, 2010

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DASY5 Validation Report for Head TSL

Date: 18.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

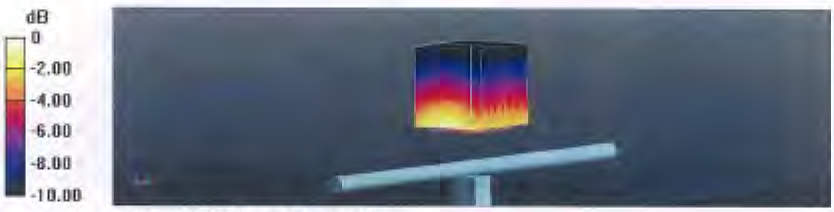
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; $\sigma = 0.9$ S/m; $\varepsilon_r = 41.1$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.49, 10.49, 10.49); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.52 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.21 W/kg
SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.35 W/kg
Maximum value of SAR (measured) = 2.82 W/kg



0 dB = 2.82 W/kg = 4.50 dBW/kg

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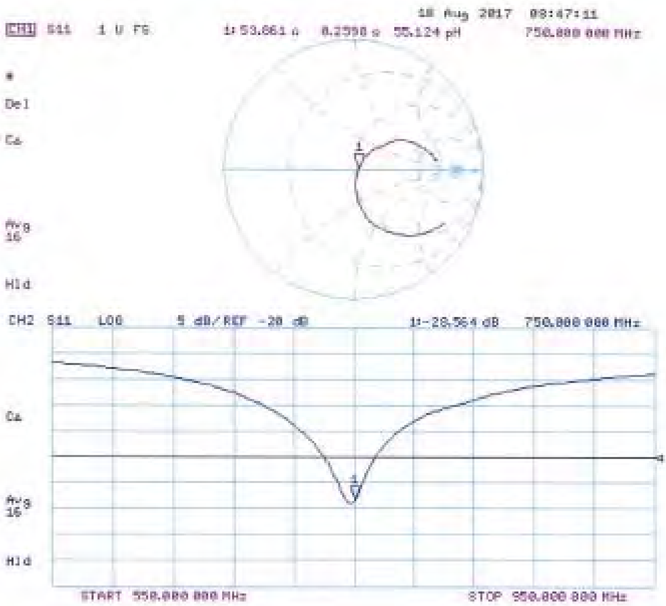
Impedance Measurement Plot for Head TSL



Certificate No: D750V3-1015_Aug17 Page 6 of 8

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DASY5 Validation Report for Body TSL

Date: 21.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

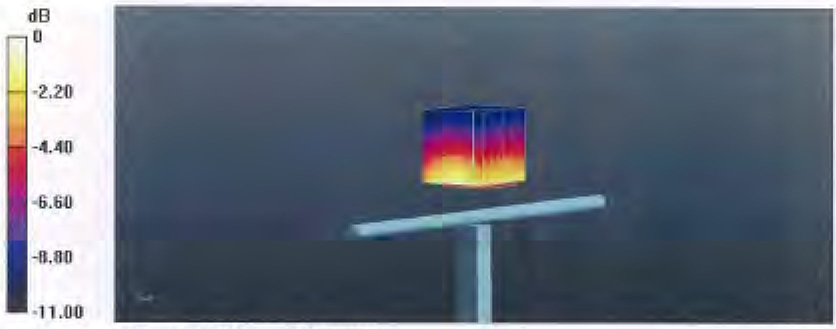
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.96 S/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.35, 10.35, 10.35); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.77 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 3.27 W/kg
SAR(1 g) = 2.19 W/kg; SAR(10 g) = 1.44 W/kg
Maximum value of SAR (measured) = 2.89 W/kg



0 dB = 2.89 W/kg = 4.61 dBW/kg

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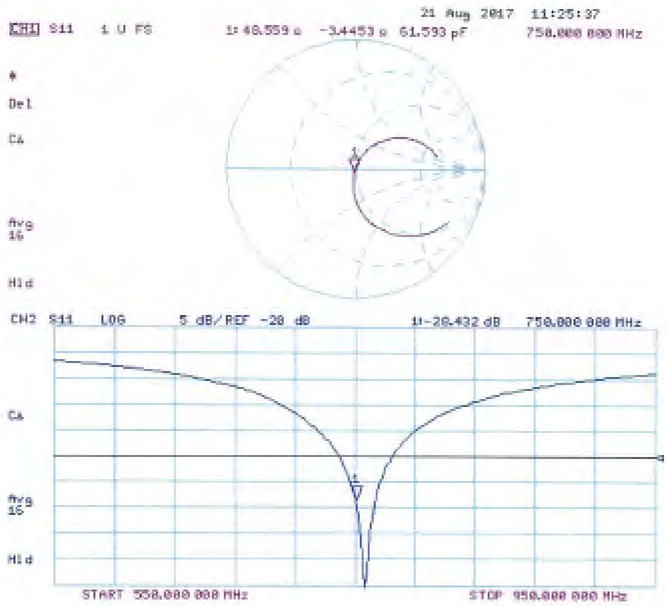
Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D835V2-4d063_Aug17**

CALIBRATION CERTIFICATE

Object	D835V2 - SN:4d063
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 21, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: August 21, 2017

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Certificate No: D835V2-4d063_Aug17 Page 1 of 8

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.9 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.34 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.07 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.3 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.41 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.57 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.58 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.28 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.1 Ω - 2.7 jΩ
Return Loss	- 30.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.2 Ω - 5.2 jΩ
Return Loss	- 24.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.387 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 27, 2006

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DASY5 Validation Report for Head TSL

Date: 18.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

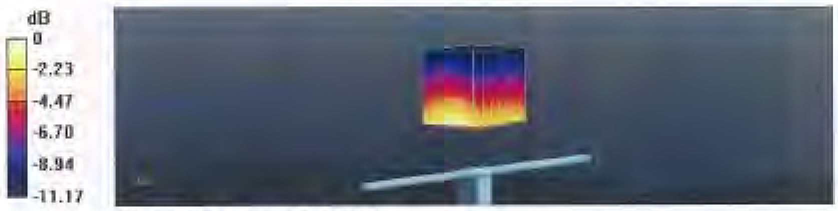
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.93 S/m; ε_r = 40.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.07, 10.07, 10.07); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

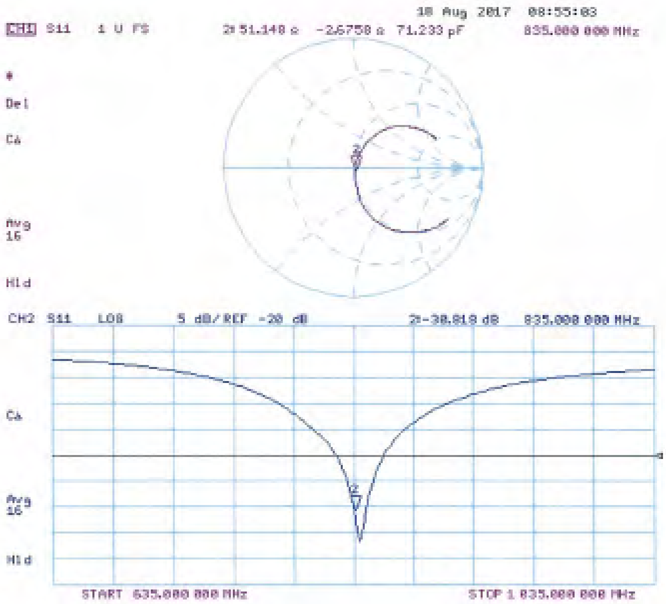
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 61.74 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.55 W/kg
Maximum value of SAR (measured) = 3.26 W/kg



0 dB = 3.26 W/kg = 5.13 dBW/kg

Certificate No: D835V2-4d063_Aug17 Page 5 of 8

Impedance Measurement Plot for Head TSL



Certificate No: D835V2-4d063_Aug17 Page 6 of 8

DASY5 Validation Report for Body TSL

Date: 21.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

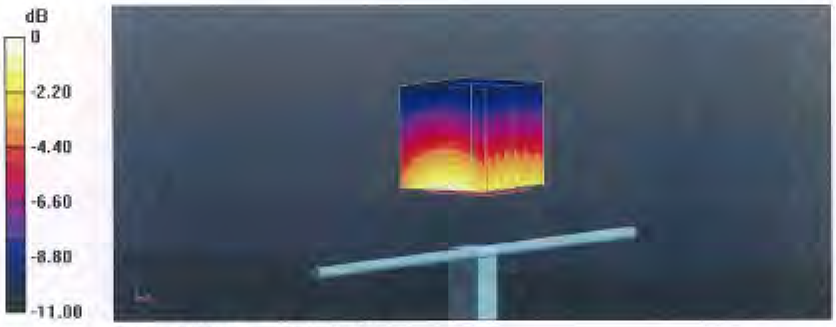
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.98 S/m; ε_r = 55.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.2, 10.2, 10.2); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.86 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.20 W/kg



0 dB = 3.20 W/kg = 5.05 dBW/kg

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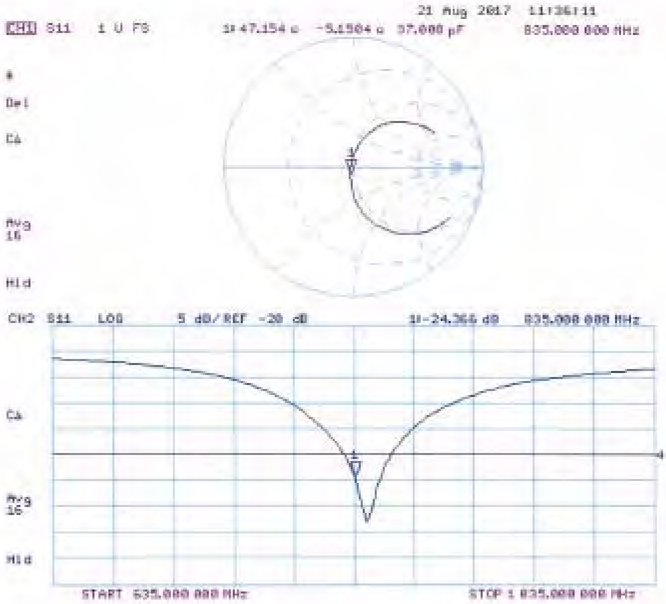
Impedance Measurement Plot for Body TSL



Certificate No: D835V2-4d063_Aug17 Page 8 of 8

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D1750V2-1008_Aug17**

CALIBRATION CERTIFICATE

Object	D1750V2 - SN:1008
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 21, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: August 21, 2017

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

Certificate No: D1750V2-1008_Aug17 Page 1 of 8

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Accreditation No.: SCS 0108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.1 ± 6 %	1.35 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.98 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**36.0 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.75 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**19.0 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.9 ± 6 %	1.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.09 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**36.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.87 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**19.6 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.9 Ω - 0.4 jΩ
Return Loss	- 46.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.3 Ω - 1.4 jΩ
Return Loss	- 27.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.221 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 11, 2009

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DASY5 Validation Report for Head TSL

Date: 21.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

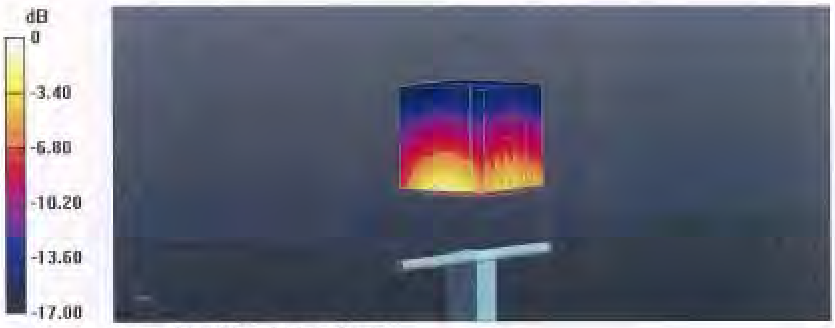
DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.35 S/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.73, 8.73, 8.73); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 104.0 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 8.98 W/kg; SAR(10 g) = 4.75 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



0 dB = 13.7 W/kg = 11.37 dBW/kg

Certificate No: D1750V2-1008_Aug17 Page 5 of 8

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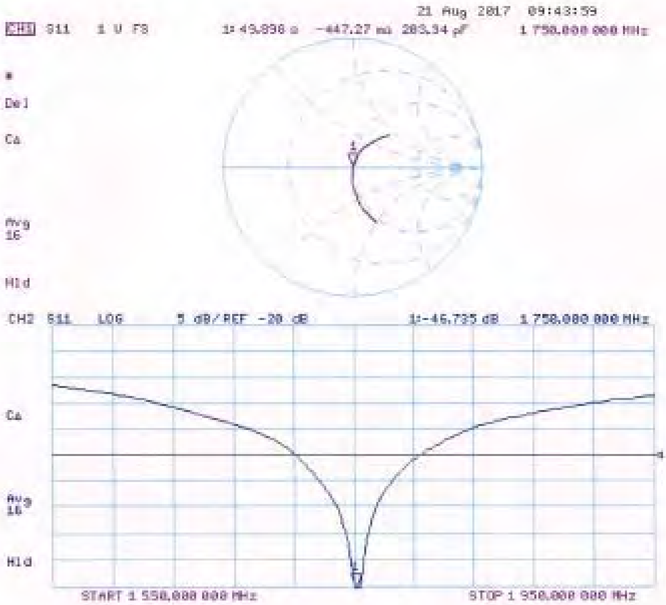
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 18.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

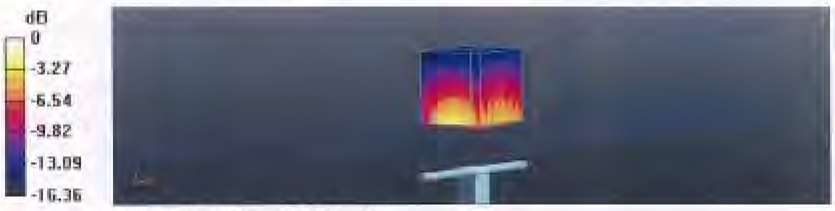
DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.47 S/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.46, 8.46, 8.46); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.85 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 15.8 W/kg
SAR(1 g) = 9.09 W/kg; SAR(10 g) = 4.87 W/kg
Maximum value of SAR (measured) = 13.3 W/kg



0 dB = 13.3 W/kg = 11.24 dBW/kg

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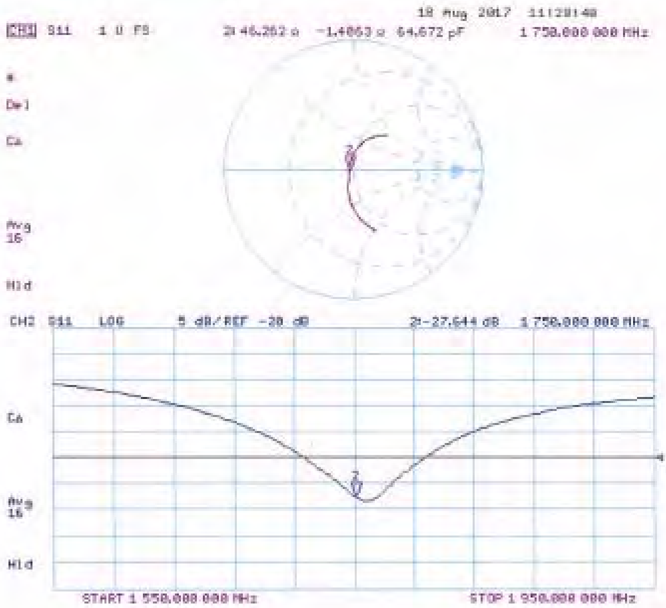
Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D1900V2-5d173_Apr18**

CALIBRATION CERTIFICATE

Object	D1900V2 - SN:5d173
Calibration procedure(s)	QA CAL-05.v10 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	April 25, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

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

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

Issued: April 25, 2018

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Certificate No: D1900V2-5d173_Apr18 Page 1 of 8

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Engineering AG
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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.1 ± 6 %	1.35 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.89 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**40.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.21 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**21.2 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.3 ± 6 %	1.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.93 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**40.9 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.30 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.6 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.4 Ω + 5.1 jΩ
Return Loss	- 25.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω + 7.2 jΩ
Return Loss	- 22.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	June 08, 2012

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DASY5 Validation Report for Head TSL

Date: 25.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d173

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; $\sigma = 1.35$ S/m; $\varepsilon_r = 41.1$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.18, 8.18, 8.18); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 110.9 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 9.89 W/kg; SAR(10 g) = 5.21 W/kg
Maximum value of SAR (measured) = 15.2 W/kg

0 dB = 15.2 W/kg = 11.82 dBW/kg

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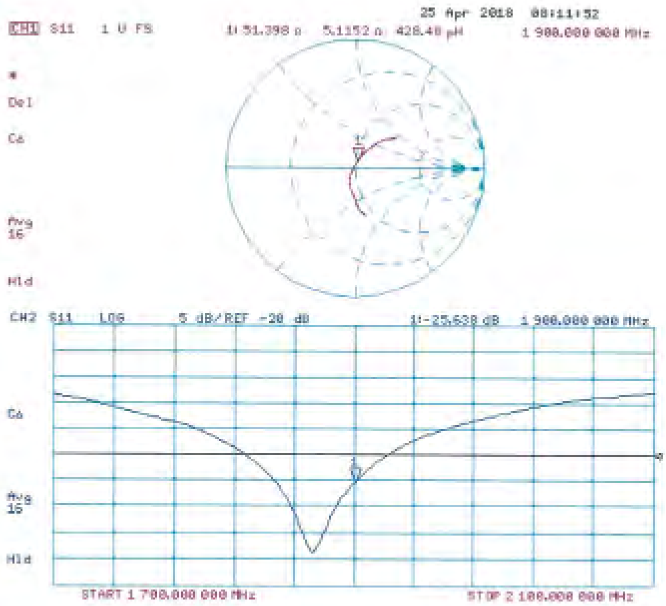
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 25.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

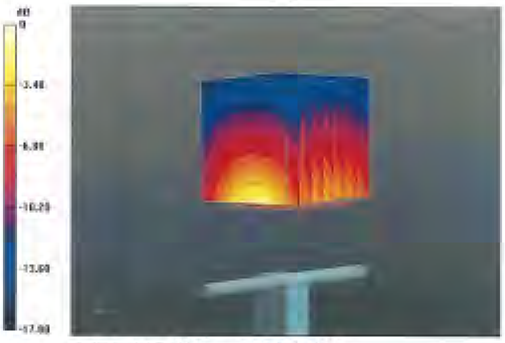
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d173

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.47 S/m; ε_r = 55.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.15, 8.15, 8.15); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 104.6 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 9.93 W/kg; SAR(10 g) = 5.3 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



0 dB = 14.7 W/kg = 11.67 dBW/kg

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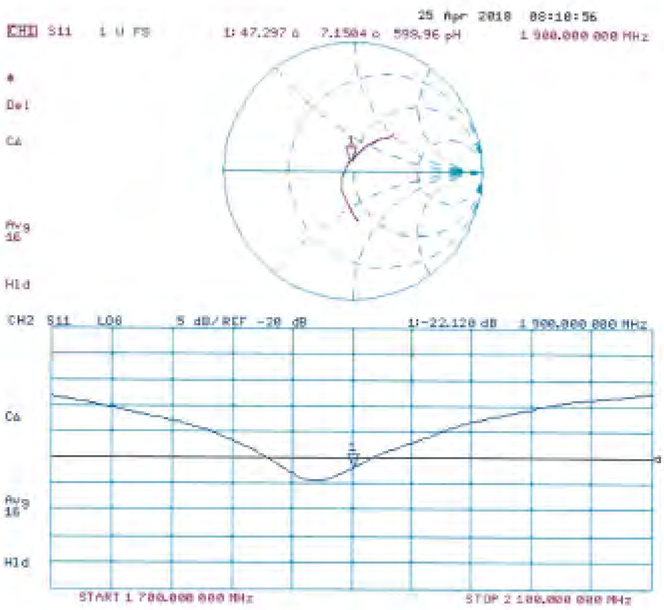
Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D2300V2-1023_Aug17**

CALIBRATION CERTIFICATE

Object	D2300V2 - SN:1023
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 17, 2017

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: August 17, 2017

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2300 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.5	1.67 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.3 ± 6 %	1.70 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**47.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.74 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.7 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.9	1.81 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.3 ± 6 %	1.86 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	11.8 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**46.4 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.68 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**22.5 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.4 Ω - 3.1 jΩ
Return Loss	- 29.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	44.9 Ω - 2.2 jΩ
Return Loss	- 24.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.171 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 30, 2009

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DASY5 Validation Report for Head TSL

Date: 17.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

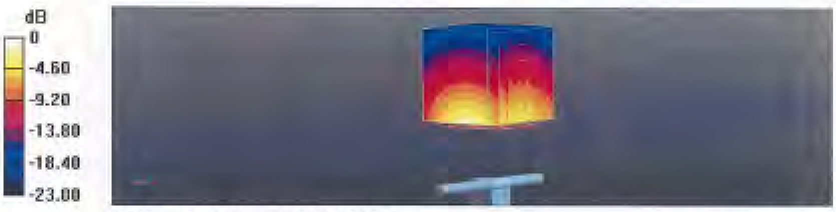
DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN: 1023

Communication System: UID 0 - CW; Frequency: 2300 MHz
Medium parameters used: f = 2300 MHz; σ = 1.7 S/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.31, 8.31, 8.31); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 109.5 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 23.6 W/kg
SAR(1 g) = 12 W/kg; SAR(10 g) = 5.74 W/kg
Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg = 12.67 dBW/kg

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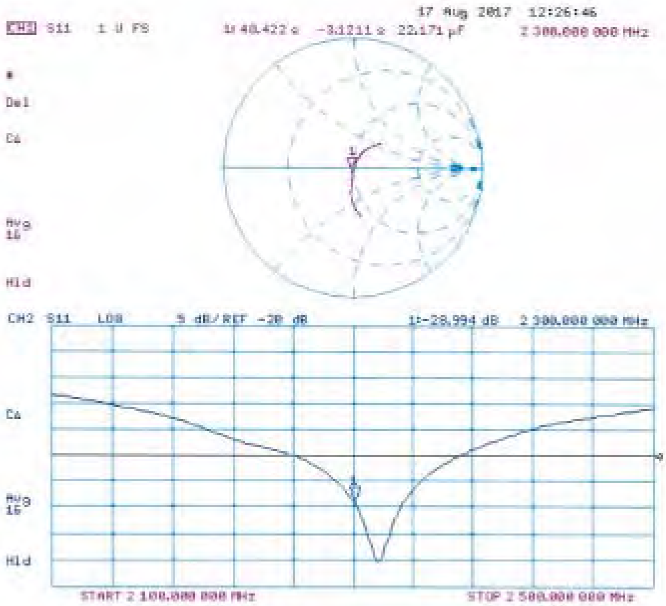
Impedance Measurement Plot for Head TSL



Certificate No: D2300V2-1023_Aug17 Page 6 of 8

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DASY5 Validation Report for Body TSL

Date: 17.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

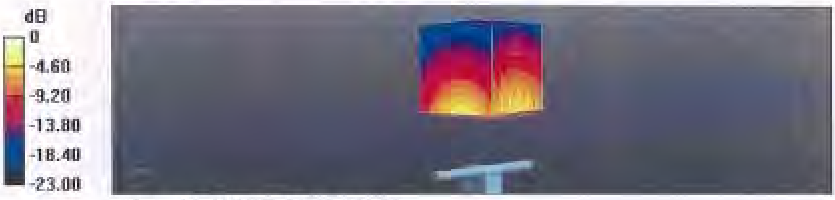
DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN: 1023

Communication System: UID 0 - CW; Frequency: 2300 MHz
Medium parameters used: f = 2300 MHz; σ = 1.86 S/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.22, 8.22, 8.22); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.2 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 22.3 W/kg
SAR(1 g) = 11.8 W/kg; SAR(10 g) = 5.68 W/kg
Maximum value of SAR (measured) = 17.6 W/kg



0 dB = 17.6 W/kg = 12.46 dBW/kg

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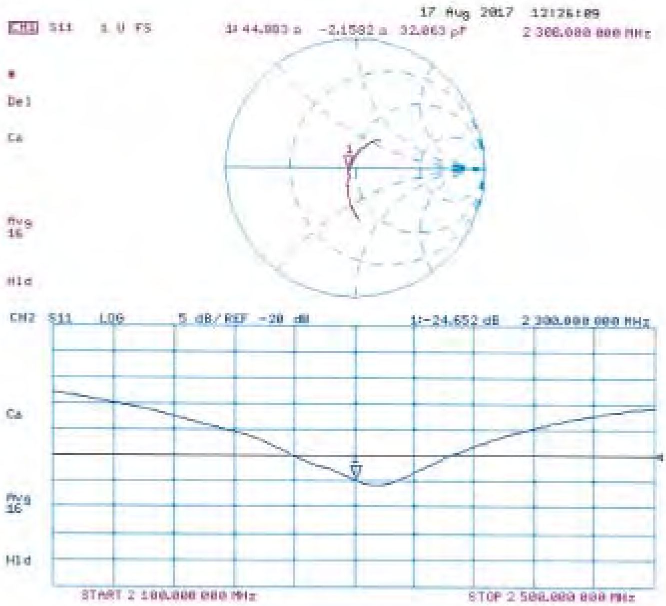
Impedance Measurement Plot for Body TSL



Certificate No: D2300V2-1023_Aug17 Page 8 of 8

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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)** Certificate No: **D2450V2-727_Apr18**

CALIBRATION CERTIFICATE

Object	D2450V2 - SN:727
Calibration procedure(s)	QA CAL-05.v10 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	April 24, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

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

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

Issued: April 25, 2018

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Accreditation No.: SCS 0108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

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

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.3 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.3 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**52.1 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.16 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.3 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.5 ± 6 %	2.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.9 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**50.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.00 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.8 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.2 Ω + 2.7 jΩ
Return Loss	- 25.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	51.2 Ω + 5.8 jΩ
Return Loss	- 25.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.149 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 09, 2003

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DASY5 Validation Report for Head TSL

Date: 24.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

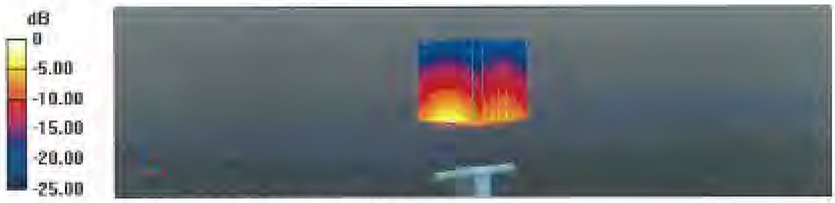
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.86 S/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.88, 7.88, 7.88); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 116.0 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 26.7 W/kg
SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.16 W/kg
Maximum value of SAR (measured) = 22.0 W/kg



0 dB = 22.0 W/kg = 13.42 dBW/kg

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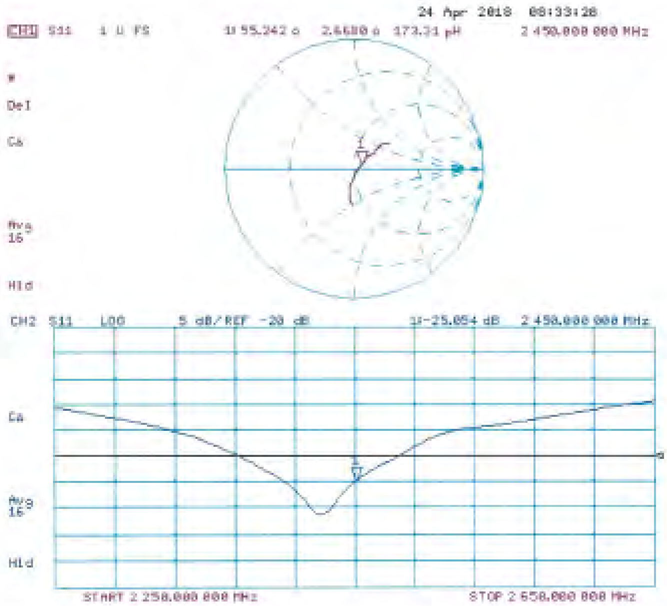
Impedance Measurement Plot for Head TSL



Certificate No: D2450V2-727_Apr18 Page 6 of 8

DASY5 Validation Report for Body TSL

Date: 24.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

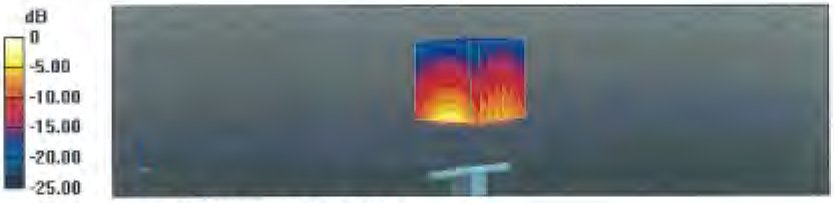
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; $\sigma = 2.01$ S/m; $\varepsilon_r = 52.5$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.01, 8.01, 8.01); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.4 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 25.5 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 6 W/kg
Maximum value of SAR (measured) = 21.1 W/kg



0 dB = 21.1 W/kg = 13.24 dBW/kg

Certificate No: D2450V2-727_Apr18 Page 7 of 8

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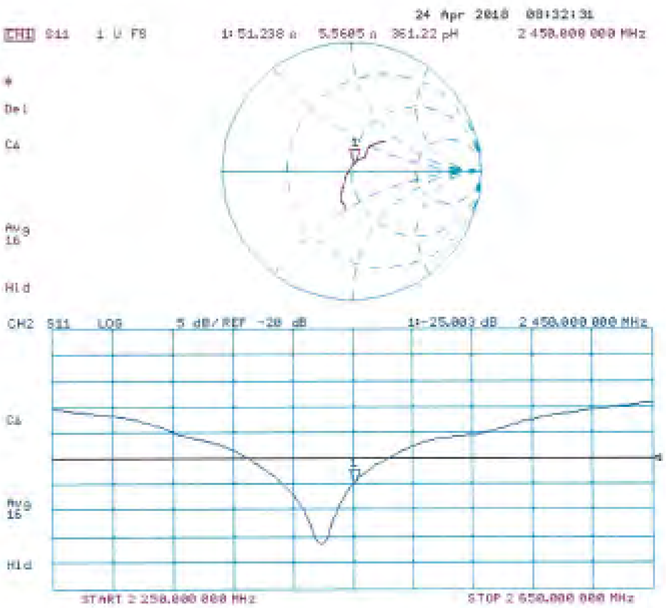
Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D2600V2-1005_Jan18**

CALIBRATION CERTIFICATE

Object	D2600V2 - SN:1005
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 17, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

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

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

Issued: January 17, 2018

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.2 ± 6 %	2.04 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.6 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**55.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.49 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**25.5 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.1 ± 6 %	2.20 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.8 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**54.4 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.13 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**24.3 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.4 Ω - 4.7 jΩ
Return Loss	- 26.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.2 Ω - 3.0 jΩ
Return Loss	- 25.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.155 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 23, 2006

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DASY5 Validation Report for Head TSL

Date: 17.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

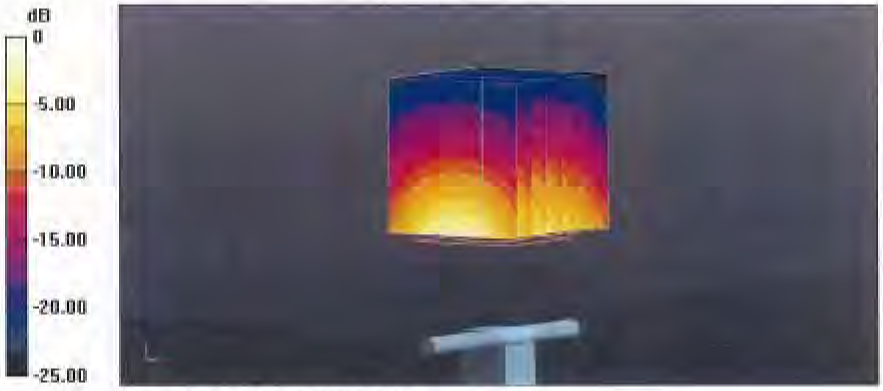
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1005

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.04 S/m; ε_r = 37.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.7, 7.7, 7.7); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 118.8 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 14.6 W/kg; SAR(10 g) = 6.49 W/kg
Maximum value of SAR (measured) = 24.1 W/kg



0 dB = 24.1 W/kg = 13.82 dBW/kg

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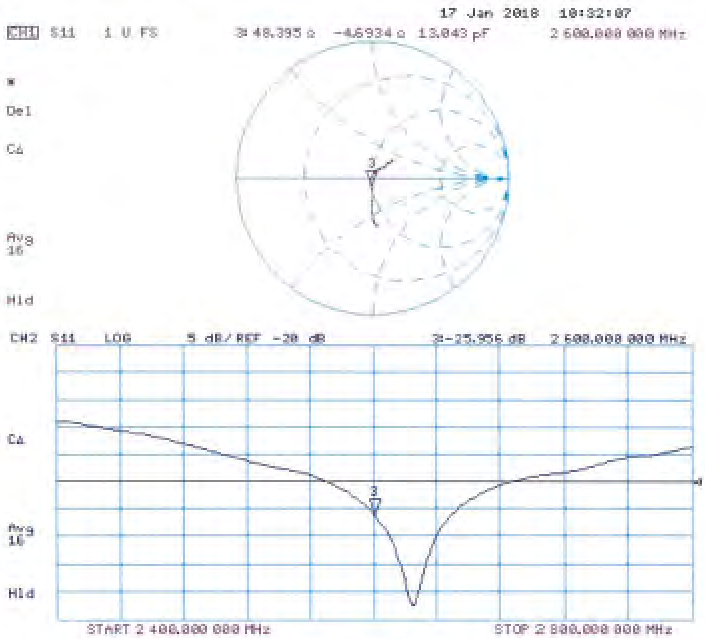
Impedance Measurement Plot for Head TSL



Certificate No: D2600V2-1005_Jan18 Page 6 of 8

DASY5 Validation Report for Body TSL

Date: 17.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

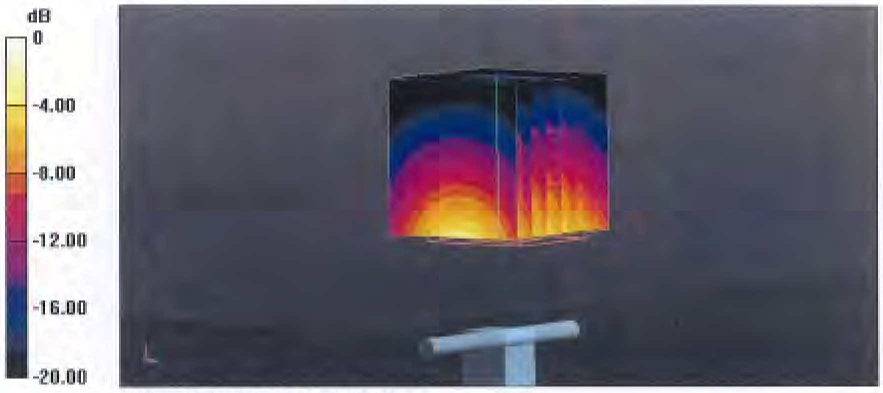
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1005

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.2 S/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.81, 7.81, 7.81); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.0 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 28.6 W/kg
SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.13 W/kg
Maximum value of SAR (measured) = 22.6 W/kg



0 dB = 22.6 W/kg = 13.54 dBW/kg

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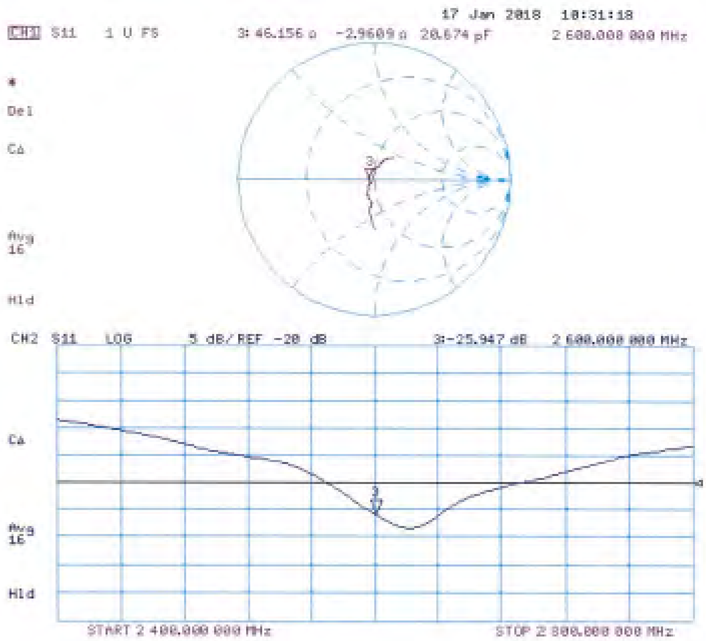
Impedance Measurement Plot for Body TSL



Certificate No: D2600V2-1005_Jan18 Page 8 of 8

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Accreditation No.: **SCS 0108**

Client **SGS-TW (Auden)**

Certificate No: **D5GHzV2-1023_Jan18**

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN:1023
Calibration procedure(s)	QA CAL-22.v2 Calibration procedure for dipole validation kits between 3-6 GHz
Calibration date:	January 25, 2018

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 3503	30-Dec-17 (No. EX3-3503_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

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

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

Issued: January 25, 2018

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

Certificate No: D5GHzV2-1023_Jan18 Page 1 of 15

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Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

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Measurement Conditions

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

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5300 MHz ± 1 MHz 5600 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.3 ± 6 %	4.50 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.72 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**77.3 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.22 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.2 W/kg ± 19.5 % (k=2)**

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Head TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.76 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.2 ± 6 %	4.60 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**80.9 W / kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.2 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.8 ± 6 %	4.90 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.19 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**81.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.34 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.4 W/kg ± 19.5 % (k=2)**

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Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.5 ± 6 %	5.11 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.90 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**79.0 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.25 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.5 W/kg ± 19.5 % (k=2)**

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Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.3 ± 6 %	5.41 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**70.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.00 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**19.8 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.42 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.1 ± 6 %	5.54 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.34 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**72.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.06 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.4 W/kg ± 19.5 % (k=2)**

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Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.6 ± 6 %	5.94 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.81 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**77.6 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.19 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.7 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.2 ± 6 %	6.22 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**74.1 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.07 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.5 W/kg ± 19.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	50.1 Ω - 8.1 jΩ
Return Loss	- 21.9 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	50.5 Ω - 2.3 jΩ
Return Loss	- 32.7 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	53.9 Ω - 0.7 jΩ
Return Loss	- 28.4 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	55.3 Ω + 2.6 jΩ
Return Loss	- 25.1 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	49.8 Ω - 6.9 jΩ
Return Loss	- 23.2 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	50.9 Ω - 0.9 jΩ
Return Loss	- 37.9 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	56.0 Ω + 0.5 jΩ
Return Loss	- 24.9 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	56.6 Ω + 2.3 jΩ
Return Loss	- 23.7 dB

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General Antenna Parameters and Design

Electrical Delay (one direction)	1.199 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 05, 2004

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DASY5 Validation Report for Head TSL

Date: 25.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1023

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 4.5 S/m; ε_r = 36.3; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5300 MHz; σ = 4.6 S/m; ε_r = 36.2; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 4.9 S/m; ε_r = 35.8; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5800 MHz; σ = 5.11 S/m; ε_r = 35.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.75, 5.75, 5.75); Calibrated: 30.12.2017, ConvF(5.5, 5.5, 5.5); Calibrated: 30.12.2017, ConvF(5.05, 5.05, 5.05); Calibrated: 30.12.2017, ConvF(4.96, 4.96, 4.96); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 70.47 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 27.5 W/kg
SAR(1 g) = 7.72 W/kg; SAR(10 g) = 2.22 W/kg
Maximum value of SAR (measured) = 17.7 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 74.63 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 29.6 W/kg
SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 18.6 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 70.79 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 31.5 W/kg
SAR(1 g) = 8.19 W/kg; SAR(10 g) = 2.34 W/kg
Maximum value of SAR (measured) = 19.6 W/kg

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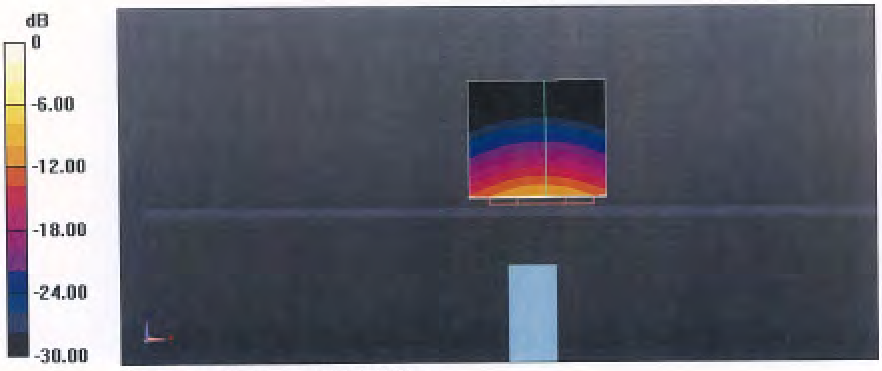
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.22 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 31.2 W/kg
SAR(1 g) = 7.9 W/kg; SAR(10 g) = 2.25 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



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

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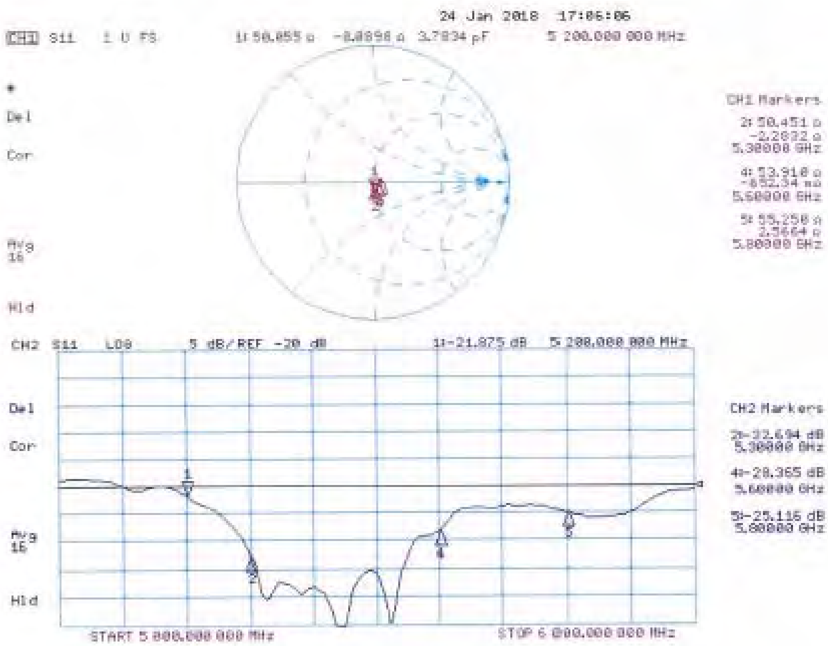
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 23.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1023

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 5.41 S/m; ε_r = 47.3; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5300 MHz; σ = 5.54 S/m; ε_r = 47.1; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 5.94 S/m; ε_r = 46.6; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5800 MHz; σ = 6.22 S/m; ε_r = 46.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.35, 5.35, 5.35); Calibrated: 30.12.2017, ConvF(5.15, 5.15, 5.15); Calibrated: 30.12.2017, ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2017, ConvF(4.53, 4.53, 4.53); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.00 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 26.4 W/kg
SAR(1 g) = 7.14 W/kg; SAR(10 g) = 2 W/kg
Maximum value of SAR (measured) = 16.8 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.19 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 28.4 W/kg
SAR(1 g) = 7.34 W/kg; SAR(10 g) = 2.06 W/kg
Maximum value of SAR (measured) = 17.6 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.21 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.8 W/kg
SAR(1 g) = 7.81 W/kg; SAR(10 g) = 2.19 W/kg
Maximum value of SAR (measured) = 19.1 W/kg

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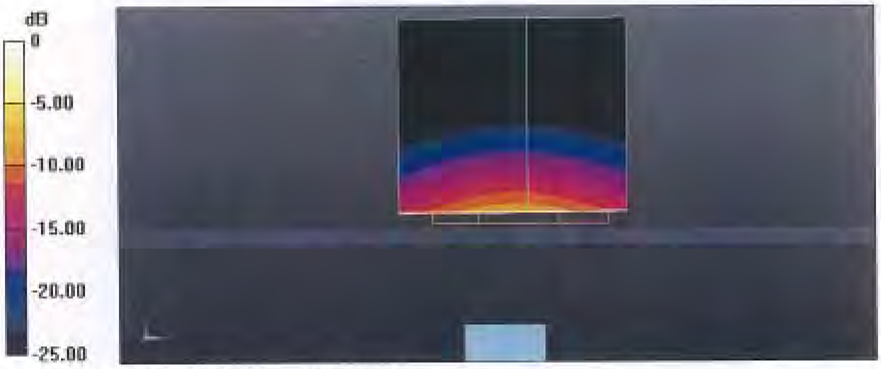
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.05 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.8 W/kg = 12.74 dBW/kg

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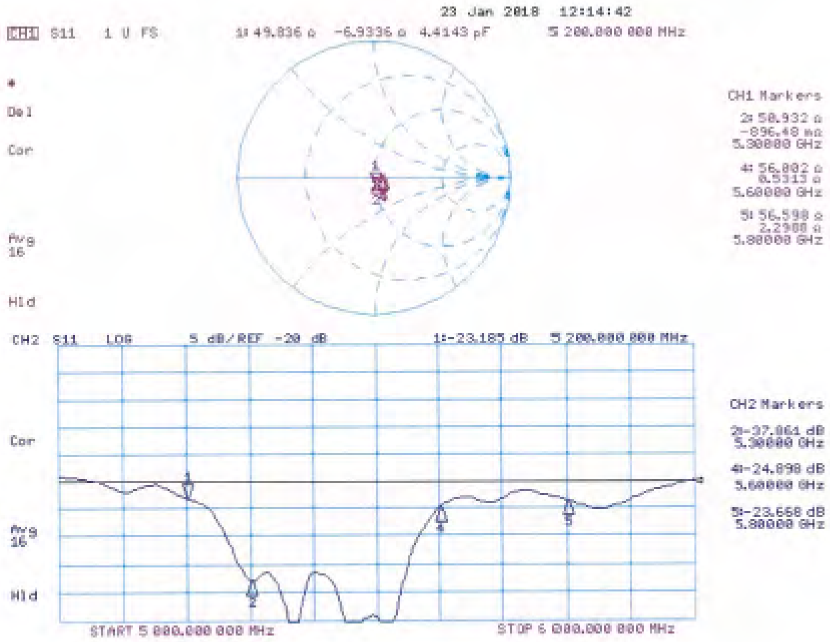
Impedance Measurement Plot for Body TSL



- End of report -

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