SAR TEST REPORT

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

Equipment Under Test	Notebook Computer
Brand Name	HP
Model No.	HSN-I04C
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,KDB941225D01v03r01, KDB941225D05v02r05,KDB447498D01v06, KDB248227D01v02r02
FCC ID	B94HNI04CAMWP
Date of Receipt	Mar. 17, 2017
Date of Test(s)	Mar. 28, 2017 ~ Apr. 04, 2017
Date of Issue	Apr. 10, 2017

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

Engineer	**Supervisor**
Bond Tsai	**John Yeh**
Date: Apr. 10, 2017	**Date: Apr. 10, 2017**

Revision History

Report Number	Revision	Description	Issue Date
EN/2017/30006	Rev.00	Initial creation of document	Apr. 10, 2017

Contents

1. General Information

1.1 Testing Laboratory

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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	Notebook Computer	
Brand Name	HP	
Model No.	HSN-I04C	
Integrated Module	WWAN	Brand Name : FOXCONN Model Name : T77W595
	WLAN/BT	Brand Name : Intel Model Name : 8265D2W
Antenna type	PIFA	
Antenna Gain	-8.98dBi (for LTE B12/LTE B17) -5.56dBi (for LTE B13) -6.53dBi (for GPRS850/EDGE850/WCDMA B5/CDMA BC0/LTE B5) -6.11dBi (for WCDMA B4/LTE B4) -5.42dBi (for GPRS1900/EDGE1900/WCDMA B2/CDMA BC1/LTE B2) -4.69dBi (for LTE B7)	
FCC ID	B94HNI04CAMWP	
Mode of Operation	☒GPRS ☒EDGE ☒WCDMA ☒HSDPA ☒HSUPA ☒CDMA 1xRTT ☒CDMA 1x EVDO Rev.0/ Rev.A ☒LTE	
Duty Cycle	GPRS (support multi class 12 max)	1/2 (1Dn4UP) 1/2.76 (1Dn3UP) 1/4.1 (1Dn2UP) 1/8.3 (1Dn1UP)
	EDGE (support multi class 12 max)	1/2 (1Dn4UP) 1/2.76 (1Dn3UP) 1/4.1 (1Dn2UP) 1/8.3 (1Dn1UP)
	WCDMA	1
	CDMA 1xRTT/ EVDO Rev.0/ Rev. A	1
	LTE	1

TX Frequency Range (MHz)	GPRS850	824	–	849
	GPRS1900	1850	–	1910
	WCDMA Band II	1850	–	1910
	WCDMA Band IV	1710	–	1755
	WCDMA Band V	824	–	849
	CDMA (BC0)	824	–	849
	CDMA (BC1)	1850	–	1910
	LTE FDD Band 2	1850	–	1910
	LTE FDD Band 4	1710	–	1755
	LTE FDD Band 5	824	–	849
	LTE FDD Band 7	2500	–	2570
	LTE FDD Band 12	699	–	716
	LTE FDD Band 13	777	–	787
	LTE FDD Band 17	704	–	716
Channel Number (ARFCN)	GPRS850	128	–	251
	GPRS1900	512	–	810
	WCDMA Band II	9262	–	9538
	WCDMA Band IV	1312	–	1513
	WCDMA Band V	4132	–	4233
	CDMA (BC0)	1013	–	777
	CDMA (BC1)	25	–	1175
	LTE FDD Band 2	18607	–	19193
	LTE FDD Band 4	19957	–	20393
	LTE FDD Band 5	20407	–	20643
	LTE FDD Band 7	20775	–	21425
	LTE FDD Band 12	23017	–	23173
	LTE FDD Band 13	23205	–	23255
	LTE FDD Band 17	23755	–	23825

Max. SAR (1 g) (Unit: W/Kg)				
Band	Measured	Reported	Channel	Position
GPRS 850	1.150	1.17	128	Left side
GRPS 1900	0.927	0.94	810	Left side
WCDMA Band II	0.957	0.96	9538	Left side
WCDMA Band IV	1.030	1.10	1312	Left side
WCDMA Band V	1.120	1.13	4132	Left side
CDMA (BC0)	0.948	1.14	777	Left side
CDMA (BC1)	0.962	0.97	1175	Left side
LTE FDD Band 2	1.050	1.14	19100	Left side
LTE FDD Band 4	0.955	0.99	20050	Left side
LTE FDD Band 5	0.784	1.02	20525	Left side
LTE FDD Band 7	1.010	1.06	21350	Left side
LTE FDD Band 12	0.634	0.83	23095	Top side
LTE FDD Band 13	0.872	1.19	23230	Top side
LTE FDD Band 17	0.565	0.76	23800	Top side

GPRS/EDGE conducted power table (Full power):

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			33.5	33	31	29
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	32.78	32.74	29.56	27.50
	836.6	190	32.83	32.74	29.62	27.71
	848.8	251	32.85	32.76	29.69	28.03
Source-based time average power						
GPRS 850	824.2	128	23.75	26.72	25.30	24.49
	836.6	190	23.80	26.72	25.36	24.70
	848.8	251	23.82	26.74	25.43	25.02
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			27.5	26.5	26.5	24.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS5)	824.2	128	26.88	26.24	26.22	23.97
	836.6	190	26.86	26.48	26.13	23.93
	848.8	251	27.23	26.50	26.32	24.26
Source-based time average power						
EDGE 850 (MCS5)	824.2	128	17.85	20.22	21.96	20.96
	836.6	190	17.83	20.46	21.87	20.92
	848.8	251	18.20	20.48	22.06	21.25
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			31	30	28	26
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 1900	1850.2	512	29.79	29.28	27.21	25.13
	1880	661	29.97	29.63	27.00	24.92
	1909.8	810	30.11	29.56	27.16	25.06
Source-based time average power						
GPRS 1900	1850.2	512	20.76	23.26	22.95	22.12
	1880	661	20.94	23.61	22.74	21.91
	1909.8	810	21.08	23.54	22.90	22.05
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			26.5	25.5	25.5	23.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS5)	1850.2	512	25.57	25.48	25.41	23.38
	1880	661	25.44	25.41	25.20	23.17
	1909.8	810	25.55	25.38	25.29	23.35
Source-based time average power						
EDGE 1900 (MCS5)	1850.2	512	16.54	19.46	21.15	20.37
	1880	661	16.41	19.39	20.94	20.16
	1909.8	810	16.52	19.36	21.03	20.34
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

GPRS/EDGE conducted power table (Reduced power):

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			31	30.5	28.5	26.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	30.88	30.41	27.81	25.45
	836.6	190	30.75	30.24	27.78	25.83
	848.8	251	30.98	30.47	28.07	26.22
Source-based time average power						
GPRS 850	824.2	128	21.85	24.39	23.55	22.44
	836.6	190	21.72	24.22	23.52	22.82
	848.8	251	21.95	24.45	23.81	23.21
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			26.5	25.5	23.5	21.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 1900	1850.2	512	25.98	25.45	22.89	20.78
	1880	661	25.91	25.46	22.80	20.75
	1909.8	810	26.00	25.42	22.82	20.71
Source-based time average power						
GPRS 1900	1850.2	512	16.95	19.43	18.63	17.77
	1880	661	16.88	19.44	18.54	17.74
	1909.8	810	16.97	19.40	18.56	17.70
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			23	22	22	20
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS5)	1850.2	512	22.98	21.97	21.96	19.93
	1880	661	22.89	21.92	21.85	19.84
	1909.8	810	22.94	21.94	21.82	19.85
Source-based time average power						
EDGE 1900 (MCS5)	1850.2	512	13.95	15.95	17.70	16.92
	1880	661	13.86	15.90	17.59	16.83
	1909.8	810	13.91	15.92	17.56	16.84
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	23.58	23.86	23.82
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.50		
3GPP Rel 5	HSDPA Subtest-1	22.96	23.14	23.14
	HSDPA Subtest-2	22.89	23.11	23.13
	HSDPA Subtest-3	22.84	23.10	23.10
	HSDPA Subtest-4	22.80	23.06	23.07
3GPP Rel 6	HSUPA Subtest-1	22.13	22.38	22.36
	HSUPA Subtest-2	21.61	21.74	21.81
	HSUPA Subtest-3	22.03	22.33	22.35
	HSUPA Subtest-4	21.99	22.29	22.31
	HSUPA Subtest-5	21.97	22.21	22.29

Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	23.73	23.87	23.75
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.50		
3GPP Rel 5	HSDPA Subtest-1	23.06	23.26	23.10
	HSDPA Subtest-2	23.03	23.20	23.06
	HSDPA Subtest-3	23.01	23.19	23.06
	HSDPA Subtest-4	22.98	23.15	23.05
3GPP Rel 6	HSUPA Subtest-1	22.45	22.64	22.28
	HSUPA Subtest-2	21.94	22.11	21.71
	HSUPA Subtest-3	22.43	22.62	22.22
	HSUPA Subtest-4	22.35	22.61	22.21
	HSUPA Subtest-5	22.24	22.45	22.13

Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	24.47	24.17	24.50
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.50		
3GPP Rel 5	HSDPA Subtest-1	23.50	23.26	23.62
	HSDPA Subtest-2	23.45	23.24	23.61
	HSDPA Subtest-3	23.44	23.23	23.56
	HSDPA Subtest-4	23.41	23.19	23.52
3GPP Rel 6	HSUPA Subtest-1	22.69	22.60	22.84
	HSUPA Subtest-2	22.23	21.91	22.23
	HSUPA Subtest-3	22.66	22.56	22.77
	HSUPA Subtest-4	22.63	22.53	22.75
	HSUPA Subtest-5	22.59	22.42	22.73

WCDMA Band II / Band IV - HSDPA / HSUPA conducted power table (Reduced power):
Unit: dBm

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		19.50		
3GPP Rel 99	RMC 12.2Kbps	19.21	19.50	19.49
Max. Rated Avg. Power+Max. Tolerance (dBm)		18.50		
3GPP Rel 5	HSDPA Subtest-1	17.75	18.13	18.12
	HSDPA Subtest-2	17.41	17.61	17.58
	HSDPA Subtest-3	17.23	17.54	17.61
	HSDPA Subtest-4	17.24	17.56	17.53
3GPP Rel 6	HSUPA Subtest-1	17.61	18.12	17.90
	HSUPA Subtest-2	16.76	16.82	17.16
	HSUPA Subtest-3	17.45	16.75	16.78
	HSUPA Subtest-4	16.75	17.30	17.33
	HSUPA Subtest-5	17.90	18.10	18.20

Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		19.50		
3GPP Rel 99	RMC 12.2Kbps	19.22	19.40	19.30
Max. Rated Avg. Power+Max. Tolerance (dBm)		18.50		
3GPP Rel 5	HSDPA Subtest-1	17.72	18.04	17.81
	HSDPA Subtest-2	17.07	17.44	17.24
	HSDPA Subtest-3	17.21	17.45	17.29
	HSDPA Subtest-4	17.18	17.43	17.27
3GPP Rel 6	HSUPA Subtest-1	17.56	17.32	17.70
	HSUPA Subtest-2	16.52	16.58	16.36
	HSUPA Subtest-3	16.61	16.66	16.43
	HSUPA Subtest-4	16.77	16.75	16.79
	HSUPA Subtest-5	17.70	18.10	17.80

Sub-Test for HSDPA

SUB-TEST	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15	15/15	64	12/15	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

Sub-Test for HSUPA

SUB-TEST	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15	15/15	64	11/15	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	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 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	15/15	64	15/15	30/15	24/15	134/15	4	1	1.0	0.0	21	81

CDMA conducted power table (Full power):

Band	Channel	Frequency (MHz)	Target Power + Max. Tolerance (dBm)	1xRTT				EVDO	
				SO55	SO55	TDSO/SO32	TDSO/SO32	1x EvDO Rev. 0, FTAP/RTAP	1x EvDO Rev. A, FETAP/RETAP
				RC1	RC3	FCH+SCH	FCH	Subtype 0/1	Subtype 2
Cellular (BC0)	1013	824.7	25.00	24.01	23.98	24.11	24.15	24.18	24.12
	384	836.52	25.00	24.02	23.94	24.02	24.14	24.15	24.08
	777	848.31	25.00	24.08	23.99	24.01	24.19	24.21	24.09
PCS (BC1)	25	1851.25	25.00	23.85	23.81	23.94	23.95	23.98	23.91
	600	1880	25.00	23.81	23.80	23.90	23.91	23.92	23.85
	1175	1908.75	25.00	23.89	23.75	23.88	23.90	23.89	23.81

CDMA conducted power table (Reduced power):

Band	Channel	Frequency (MHz)	Target Power + Max. Tolerance (dBm)	1xRTT				EVDO	
				SO55	SO55	TDSO/SO32	TDSO/SO32	1x EvDO Rev. 0, FTAP/RTAP	1x EvDO Rev. A, FETAP/RETAP
				RC1	RC3	FCH+SCH	FCH	Subtype 0/1	Subtype 2
CDMA (BC1)	25	1851.25	19.50	19.24	19.18	19.15	19.20	19.24	19.21
	600	1880	19.50	19.35	19.25	19.35	19.33	19.41	19.40
	1175	1908.75	19.50	19.44	19.36	19.41	19.42	19.45	19.39

LTE FDD Band 2 / Band 4 / Band 5 / Band 7 / Band 12 / Band 13 / Band 17 power table:

FDD Band 2 (Full Power)								
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	22.82	24	0
				1880	18900	23.20	24	0
				1900	19100	23.04	24	0
			50	1860	18700	22.85	24	0
				1880	18900	23.08	24	0
				1900	19100	23.11	24	0
			99	1860	18700	22.88	24	0
				1880	18900	23.08	24	0
				1900	19100	23.19	24	0
		50 RB	0	1860	18700	21.92	23	0-1
				1880	18900	22.17	23	0-1
				1900	19100	22.12	23	0-1
			25	1860	18700	21.82	23	0-1
				1880	18900	21.98	23	0-1
				1900	19100	22.13	23	0-1
			50	1860	18700	21.89	23	0-1
				1880	18900	22.17	23	0-1
				1900	19100	21.96	23	0-1
		100RB		1860	18700	21.86	23	0-1
				1880	18900	22.09	23	0-1
				1900	19100	22.08	23	0-1
	16-QAM	1 RB	0	1860	18700	21.83	23	0-1
				1880	18900	21.84	23	0-1
				1900	19100	21.39	23	0-1
			50	1860	18700	21.56	23	0-1
				1880	18900	22.06	23	0-1
				1900	19100	21.83	23	0-1
			99	1860	18700	21.86	23	0-1
				1880	18900	21.47	23	0-1
				1900	19100	22.18	23	0-1
		50 RB	0	1860	18700	20.82	22	0-2
				1880	18900	20.89	22	0-2
				1900	19100	20.98	22	0-2
			25	1860	18700	20.74	22	0-2
				1880	18900	21.12	22	0-2
				1900	19100	21.04	22	0-2
			50	1860	18700	20.86	22	0-2
				1880	18900	21.01	22	0-2
				1900	19100	20.95	22	0-2
		100RB		1860	18700	20.78	22	0-2
				1880	18900	21.05	22	0-2
				1900	19100	21.05	22	0-2

FDD Band 2 (Full Power)								
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	22.94	24	0
				1880	18900	23.19	24	0
				1902.5	19125	23.00	24	0
			36	1857.5	18675	22.73	24	0
				1880	18900	23.05	24	0
				1902.5	19125	23.00	24	0
			74	1857.5	18675	22.88	24	0
				1880	18900	23.09	24	0
				1902.5	19125	23.09	24	0
		36 RB	0	1857.5	18675	21.82	23	0-1
				1880	18900	22.03	23	0-1
				1902.5	19125	21.99	23	0-1
			18	1857.5	18675	21.78	23	0-1
				1880	18900	22.03	23	0-1
				1902.5	19125	22.07	23	0-1
			37	1857.5	18675	21.82	23	0-1
				1880	18900	22.11	23	0-1
				1902.5	19125	22.06	23	0-1
		75RB		1857.5	18675	21.81	23	0-1
				1880	18900	22.13	23	0-1
				1902.5	19125	22.04	23	0-1
	16-QAM	1 RB	0	1857.5	18675	21.79	23	0-1
				1880	18900	22.03	23	0-1
				1902.5	19125	21.84	23	0-1
			36	1857.5	18675	21.64	23	0-1
				1880	18900	22.36	23	0-1
				1902.5	19125	22.20	23	0-1
			74	1857.5	18675	21.85	23	0-1
				1880	18900	22.20	23	0-1
				1902.5	19125	22.32	23	0-1
		36 RB	0	1857.5	18675	20.67	22	0-2
				1880	18900	20.92	22	0-2
				1902.5	19125	21.00	22	0-2
			18	1857.5	18675	20.60	22	0-2
				1880	18900	20.91	22	0-2
				1902.5	19125	20.89	22	0-2
			37	1857.5	18675	20.63	22	0-2
				1880	18900	21.01	22	0-2
				1902.5	19125	20.95	22	0-2
		75RB		1857.5	18675	20.74	22	0-2
				1880	18900	21.02	22	0-2
				1902.5	19125	20.97	22	0-2

FDD Band 2 (Full Power)								
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	22.71	24	0
				1880	18900	22.95	24	0
				1905	19150	22.93	24	0
			25	1855	18650	22.62	24	0
				1880	18900	22.99	24	0
				1905	19150	22.96	24	0
			49	1855	18650	22.92	24	0
				1880	18900	22.88	24	0
				1905	19150	23.03	24	0
		25 RB	0	1855	18650	21.88	23	0-1
				1880	18900	22.01	23	0-1
				1905	19150	22.08	23	0-1
			12	1855	18650	21.66	23	0-1
				1880	18900	22.02	23	0-1
				1905	19150	22.04	23	0-1
			25	1855	18650	21.68	23	0-1
				1880	18900	22.10	23	0-1
				1905	19150	21.94	23	0-1
		50RB		1855	18650	21.80	23	0-1
				1880	18900	22.07	23	0-1
				1905	19150	22.05	23	0-1
	16-QAM	1 RB	0	1855	18650	21.61	23	0-1
				1880	18900	21.85	23	0-1
				1905	19150	22.15	23	0-1
			25	1855	18650	21.80	23	0-1
				1880	18900	21.77	23	0-1
				1905	19150	21.89	23	0-1
			49	1855	18650	21.87	23	0-1
				1880	18900	22.11	23	0-1
				1905	19150	22.01	23	0-1
		25 RB	0	1855	18650	20.78	22	0-2
				1880	18900	21.10	22	0-2
				1905	19150	21.02	22	0-2
			12	1855	18650	20.56	22	0-2
				1880	18900	21.10	22	0-2
				1905	19150	21.02	22	0-2
			25	1855	18650	20.61	22	0-2
				1880	18900	21.06	22	0-2
				1905	19150	20.99	22	0-2
		50RB		1855	18650	20.65	22	0-2
				1880	18900	20.95	22	0-2
				1905	19150	21.01	22	0-2

FDD Band 2 (Full Power)								
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	22.80	24	0
				1880	18900	23.10	24	0
				1907.5	19175	23.06	24	0
			12	1852.5	18625	23.10	24	0
				1880	18900	23.04	24	0
				1907.5	19175	23.01	24	0
			24	1852.5	18625	22.68	24	0
				1880	18900	22.98	24	0
				1907.5	19175	23.02	24	0
		12 RB	0	1852.5	18625	21.91	23	0-1
				1880	18900	22.03	23	0-1
				1907.5	19175	22.03	23	0-1
			6	1852.5	18625	21.89	23	0-1
				1880	18900	22.02	23	0-1
				1907.5	19175	22.03	23	0-1
			13	1852.5	18625	21.79	23	0-1
				1880	18900	22.09	23	0-1
				1907.5	19175	21.96	23	0-1
		25RB		1852.5	18625	21.89	23	0-1
				1880	18900	22.06	23	0-1
				1907.5	19175	22.03	23	0-1
	16-QAM	1 RB	0	1852.5	18625	21.70	23	0-1
				1880	18900	21.70	23	0-1
				1907.5	19175	22.08	23	0-1
			12	1852.5	18625	22.08	23	0-1
				1880	18900	22.11	23	0-1
				1907.5	19175	21.89	23	0-1
			24	1852.5	18625	21.91	23	0-1
				1880	18900	22.31	23	0-1
				1907.5	19175	21.82	23	0-1
		12 RB	0	1852.5	18625	20.80	22	0-2
				1880	18900	21.07	22	0-2
				1907.5	19175	20.98	22	0-2
			6	1852.5	18625	20.75	22	0-2
				1880	18900	20.91	22	0-2
				1907.5	19175	21.02	22	0-2
			13	1852.5	18625	20.75	22	0-2
				1880	18900	21.04	22	0-2
				1907.5	19175	21.04	22	0-2
		25RB		1852.5	18625	20.85	22	0-2
				1880	18900	21.02	22	0-2
				1907.5	19175	21.14	22	0-2

FDD Band 2 (Full Power)								
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	22.90	24	0
				1880	18900	23.12	24	0
				1908.5	19185	22.92	24	0
			7	1851.5	18615	23.01	24	0
				1880	18900	23.08	24	0
				1908.5	19185	23.03	24	0
			14	1851.5	18615	22.60	24	0
				1880	18900	23.03	24	0
				1908.5	19185	23.27	24	0
		8 RB	0	1851.5	18615	21.89	23	0-1
				1880	18900	22.06	23	0-1
				1908.5	19185	22.03	23	0-1
			4	1851.5	18615	21.86	23	0-1
				1880	18900	22.05	23	0-1
				1908.5	19185	22.04	23	0-1
			7	1851.5	18615	21.93	23	0-1
				1880	18900	22.12	23	0-1
				1908.5	19185	21.97	23	0-1
		15RB		1851.5	18615	21.91	23	0-1
				1880	18900	22.09	23	0-1
				1908.5	19185	22.03	23	0-1
	16-QAM	1 RB	0	1851.5	18615	21.86	23	0-1
				1880	18900	22.01	23	0-1
				1908.5	19185	22.16	23	0-1
			7	1851.5	18615	22.07	23	0-1
				1880	18900	22.15	23	0-1
				1908.5	19185	21.77	23	0-1
			14	1851.5	18615	21.79	23	0-1
				1880	18900	21.64	23	0-1
				1908.5	19185	22.09	23	0-1
		8 RB	0	1851.5	18615	20.78	22	0-2
				1880	18900	21.10	22	0-2
				1908.5	19185	20.92	22	0-2
			4	1851.5	18615	20.87	22	0-2
				1880	18900	21.09	22	0-2
				1908.5	19185	21.10	22	0-2
			7	1851.5	18615	20.87	22	0-2
				1880	18900	21.06	22	0-2
				1908.5	19185	20.99	22	0-2
		15RB		1851.5	18615	20.68	22	0-2
				1880	18900	20.86	22	0-2
				1908.5	19185	21.04	22	0-2

FDD Band 2 (Full Power)								
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	22.91	24	0
				1880	18900	23.04	24	0
				1909.3	19193	23.07	24	0
			2	1850.7	18607	22.81	24	0
				1880	18900	22.98	24	0
				1909.3	19193	23.05	24	0
			5	1850.7	18607	22.95	24	0
				1880	18900	23.05	24	0
				1909.3	19193	23.01	24	0
		3 RB	0	1850.7	18607	23.00	24	0
				1880	18900	23.02	24	0
				1909.3	19193	23.07	24	0
			2	1850.7	18607	22.98	24	0
				1880	18900	23.11	24	0
				1909.3	19193	23.07	24	0
			3	1850.7	18607	22.93	24	0
				1880	18900	23.03	24	0
				1909.3	19193	23.02	24	0
		6RB		1850.7	18607	21.96	23	0-1
				1880	18900	22.11	23	0-1
				1909.3	19193	22.23	23	0-1
	16-QAM	1 RB	0	1850.7	18607	22.00	23	0-1
				1880	18900	22.11	23	0-1
				1909.3	19193	22.19	23	0-1
			2	1850.7	18607	21.95	23	0-1
				1880	18900	22.13	23	0-1
				1909.3	19193	22.04	23	0-1
			5	1850.7	18607	21.81	23	0-1
				1880	18900	21.52	23	0-1
				1909.3	19193	21.84	23	0-1
		3 RB	0	1850.7	18607	21.86	23	0-1
				1880	18900	22.05	23	0-1
				1909.3	19193	22.04	23	0-1
			2	1850.7	18607	21.97	23	0-1
				1880	18900	22.11	23	0-1
				1909.3	19193	22.01	23	0-1
			3	1850.7	18607	21.92	23	0-1
				1880	18900	21.98	23	0-1
				1909.3	19193	22.02	23	0-1
		6RB		1850.7	18607	20.66	22	0-2
				1880	18900	21.02	22	0-2
				1909.3	19193	20.83	22	0-2

FDD Band 2 (Reduced Power)								
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	18.93	19.5	0
				1880	18900	19.24	19.5	0
				1900	19100	19.16	19.5	0
			50	1860	18700	18.79	19.5	0
				1880	18900	19.17	19.5	0
				1900	19100	19.13	19.5	0
			99	1860	18700	18.89	19.5	0
				1880	18900	19.19	19.5	0
				1900	19100	19.06	19.5	0
		50 RB	0	1860	18700	18.88	19.5	0-1
				1880	18900	19.25	19.5	0-1
				1900	19100	19.24	19.5	0-1
			25	1860	18700	18.77	19.5	0-1
				1880	18900	19.15	19.5	0-1
				1900	19100	19.21	19.5	0-1
			50	1860	18700	18.87	19.5	0-1
				1880	18900	19.23	19.5	0-1
				1900	19100	19.15	19.5	0-1
		100RB		1860	18700	18.81	19.5	0-1
				1880	18900	19.19	19.5	0-1
				1900	19100	19.15	19.5	0-1
	16-QAM	1 RB	0	1860	18700	18.95	19.5	0-1
				1880	18900	18.97	19.5	0-1
				1900	19100	19.11	19.5	0-1
			50	1860	18700	18.65	19.5	0-1
				1880	18900	19.03	19.5	0-1
				1900	19100	19.05	19.5	0-1
			99	1860	18700	18.87	19.5	0-1
				1880	18900	19.10	19.5	0-1
				1900	19100	19.03	19.5	0-1
		50 RB	0	1860	18700	18.84	19.5	0-2
				1880	18900	19.11	19.5	0-2
				1900	19100	19.21	19.5	0-2
			25	1860	18700	18.76	19.5	0-2
				1880	18900	19.19	19.5	0-2
				1900	19100	19.17	19.5	0-2
			50	1860	18700	18.84	19.5	0-2
				1880	18900	19.20	19.5	0-2
				1900	19100	19.19	19.5	0-2
		100RB		1860	18700	18.83	19.5	0-2
				1880	18900	19.17	19.5	0-2
				1900	19100	19.20	19.5	0-2

FDD Band 2 (Reduced Power)								
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	18.93	19.5	0
				1880	18900	19.08	19.5	0
				1902.5	19125	19.25	19.5	0
			36	1857.5	18675	18.69	19.5	0
				1880	18900	19.13	19.5	0
				1902.5	19125	19.07	19.5	0
			74	1857.5	18675	18.83	19.5	0
				1880	18900	19.15	19.5	0
				1902.5	19125	19.08	19.5	0
		36 RB	0	1857.5	18675	18.81	19.5	0-1
				1880	18900	19.13	19.5	0-1
				1902.5	19125	19.17	19.5	0-1
			18	1857.5	18675	18.72	19.5	0-1
				1880	18900	19.12	19.5	0-1
				1902.5	19125	19.16	19.5	0-1
			37	1857.5	18675	18.76	19.5	0-1
				1880	18900	19.17	19.5	0-1
				1902.5	19125	19.15	19.5	0-1
		75RB		1857.5	18675	18.77	19.5	0-1
				1880	18900	19.19	19.5	0-1
				1902.5	19125	19.19	19.5	0-1
	16-QAM	1 RB	0	1857.5	18675	18.90	19.5	0-1
				1880	18900	18.97	19.5	0-1
				1902.5	19125	19.15	19.5	0-1
			36	1857.5	18675	18.55	19.5	0-1
				1880	18900	19.02	19.5	0-1
				1902.5	19125	19.00	19.5	0-1
			74	1857.5	18675	18.72	19.5	0-1
				1880	18900	19.02	19.5	0-1
				1902.5	19125	19.00	19.5	0-1
		36 RB	0	1857.5	18675	18.83	19.5	0-2
				1880	18900	19.14	19.5	0-2
				1902.5	19125	19.17	19.5	0-2
			18	1857.5	18675	18.73	19.5	0-2
				1880	18900	19.17	19.5	0-2
				1902.5	19125	19.17	19.5	0-2
			37	1857.5	18675	18.75	19.5	0-2
				1880	18900	19.18	19.5	0-2
				1902.5	19125	19.10	19.5	0-2
		75RB		1857.5	18675	18.79	19.5	0-2
				1880	18900	19.17	19.5	0-2
				1902.5	19125	19.14	19.5	0-2

FDD Band 2 (Reduced Power)								
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	18.91	19.5	0
				1880	18900	19.09	19.5	0
				1905	19150	19.17	19.5	0
			25	1855	18650	18.76	19.5	0
				1880	18900	19.10	19.5	0
				1905	19150	19.09	19.5	0
			49	1855	18650	18.73	19.5	0
				1880	18900	19.13	19.5	0
				1905	19150	19.09	19.5	0
		25 RB	0	1855	18650	18.90	19.5	0-1
				1880	18900	19.14	19.5	0-1
				1905	19150	19.18	19.5	0-1
			12	1855	18650	18.63	19.5	0-1
				1880	18900	19.12	19.5	0-1
				1905	19150	19.10	19.5	0-1
			25	1855	18650	18.70	19.5	0-1
				1880	18900	19.14	19.5	0-1
				1905	19150	19.10	19.5	0-1
		50RB		1855	18650	18.84	19.5	0-1
				1880	18900	19.21	19.5	0-1
				1905	19150	19.08	19.5	0-1
	16-QAM	1 RB	0	1855	18650	18.91	19.5	0-1
				1880	18900	19.04	19.5	0-1
				1905	19150	19.14	19.5	0-1
			25	1855	18650	18.55	19.5	0-1
				1880	18900	18.99	19.5	0-1
				1905	19150	18.98	19.5	0-1
			49	1855	18650	18.66	19.5	0-1
				1880	18900	19.09	19.5	0-1
				1905	19150	18.99	19.5	0-1
		25 RB	0	1855	18650	18.88	19.5	0-2
				1880	18900	19.21	19.5	0-2
				1905	19150	19.14	19.5	0-2
			12	1855	18650	18.73	19.5	0-2
				1880	18900	19.21	19.5	0-2
				1905	19150	19.16	19.5	0-2
			25	1855	18650	18.76	19.5	0-2
				1880	18900	19.23	19.5	0-2
				1905	19150	19.15	19.5	0-2
		50RB		1855	18650	18.79	19.5	0-2
				1880	18900	19.15	19.5	0-2
				1905	19150	19.14	19.5	0-2

FDD Band 2 (Reduced Power)								
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	18.85	19.5	0
				1880	18900	19.11	19.5	0
				1907.5	19175	19.06	19.5	0
			12	1852.5	18625	18.82	19.5	0
				1880	18900	19.12	19.5	0
				1907.5	19175	19.03	19.5	0
			24	1852.5	18625	18.73	19.5	0
				1880	18900	19.24	19.5	0
				1907.5	19175	19.07	19.5	0
		12 RB	0	1852.5	18625	18.83	19.5	0-1
				1880	18900	19.15	19.5	0-1
				1907.5	19175	19.08	19.5	0-1
			6	1852.5	18625	18.86	19.5	0-1
				1880	18900	19.16	19.5	0-1
				1907.5	19175	19.07	19.5	0-1
			13	1852.5	18625	18.74	19.5	0-1
				1880	18900	19.18	19.5	0-1
				1907.5	19175	19.10	19.5	0-1
		25RB		1852.5	18625	18.89	19.5	0-1
				1880	18900	19.13	19.5	0-1
				1907.5	19175	19.11	19.5	0-1
	16-QAM	1 RB	0	1852.5	18625	18.71	19.5	0-1
				1880	18900	18.96	19.5	0-1
				1907.5	19175	19.02	19.5	0-1
			12	1852.5	18625	18.71	19.5	0-1
				1880	18900	19.04	19.5	0-1
				1907.5	19175	18.87	19.5	0-1
			24	1852.5	18625	18.67	19.5	0-1
				1880	18900	19.03	19.5	0-1
				1907.5	19175	18.92	19.5	0-1
		12 RB	0	1852.5	18625	18.89	19.5	0-2
				1880	18900	19.19	19.5	0-2
				1907.5	19175	19.11	19.5	0-2
			6	1852.5	18625	18.88	19.5	0-2
				1880	18900	19.22	19.5	0-2
				1907.5	19175	19.10	19.5	0-2
			13	1852.5	18625	18.80	19.5	0-2
				1880	18900	19.19	19.5	0-2
				1907.5	19175	19.09	19.5	0-2
		25RB		1852.5	18625	18.94	19.5	0-2
				1880	18900	19.20	19.5	0-2
				1907.5	19175	19.10	19.5	0-2

FDD Band 2 (Reduced Power)								
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	18.82	19.5	0
				1880	18900	19.11	19.5	0
				1908.5	19185	19.10	19.5	0
			7	1851.5	18615	18.79	19.5	0
				1880	18900	19.10	19.5	0
				1908.5	19185	19.04	19.5	0
			14	1851.5	18615	18.82	19.5	0
				1880	18900	19.16	19.5	0
				1908.5	19185	19.07	19.5	0
		8 RB	0	1851.5	18615	18.84	19.5	0-1
				1880	18900	19.12	19.5	0-1
				1908.5	19185	19.10	19.5	0-1
			4	1851.5	18615	18.85	19.5	0-1
				1880	18900	19.15	19.5	0-1
				1908.5	19185	19.06	19.5	0-1
			7	1851.5	18615	18.84	19.5	0-1
				1880	18900	19.15	19.5	0-1
				1908.5	19185	19.08	19.5	0-1
		15RB		1851.5	18615	18.89	19.5	0-1
				1880	18900	19.16	19.5	0-1
				1908.5	19185	19.08	19.5	0-1
	16-QAM	1 RB	0	1851.5	18615	18.74	19.5	0-1
				1880	18900	18.96	19.5	0-1
				1908.5	19185	18.97	19.5	0-1
			7	1851.5	18615	18.76	19.5	0-1
				1880	18900	19.02	19.5	0-1
				1908.5	19185	19.04	19.5	0-1
			14	1851.5	18615	18.77	19.5	0-1
				1880	18900	19.04	19.5	0-1
				1908.5	19185	18.99	19.5	0-1
		8 RB	0	1851.5	18615	18.92	19.5	0-2
				1880	18900	19.16	19.5	0-2
				1908.5	19185	19.09	19.5	0-2
			4	1851.5	18615	18.88	19.5	0-2
				1880	18900	19.14	19.5	0-2
				1908.5	19185	19.07	19.5	0-2
			7	1851.5	18615	18.90	19.5	0-2
				1880	18900	19.17	19.5	0-2
				1908.5	19185	19.11	19.5	0-2
		15RB		1851.5	18615	18.82	19.5	0-2
				1880	18900	19.09	19.5	0-2
				1908.5	19185	19.06	19.5	0-2

FDD Band 2 (Reduced Power)								
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	18.84	19.5	0
				1880	18900	19.17	19.5	0
				1909.3	19193	19.07	19.5	0
			2	1850.7	18607	18.84	19.5	0
				1880	18900	19.14	19.5	0
				1909.3	19193	19.07	19.5	0
			5	1850.7	18607	18.84	19.5	0
				1880	18900	19.18	19.5	0
				1909.3	19193	19.09	19.5	0
		3 RB	0	1850.7	18607	18.85	19.5	0
				1880	18900	19.17	19.5	0
				1909.3	19193	19.12	19.5	0
			2	1850.7	18607	18.84	19.5	0
				1880	18900	19.12	19.5	0
				1909.3	19193	19.09	19.5	0
			3	1850.7	18607	18.82	19.5	0
				1880	18900	19.19	19.5	0
				1909.3	19193	19.08	19.5	0
		6RB		1850.7	18607	18.87	19.5	0-1
				1880	18900	19.18	19.5	0-1
				1909.3	19193	19.08	19.5	0-1
	16-QAM	1 RB	0	1850.7	18607	18.82	19.5	0-1
				1880	18900	19.09	19.5	0-1
				1909.3	19193	18.99	19.5	0-1
			2	1850.7	18607	18.76	19.5	0-1
				1880	18900	19.03	19.5	0-1
				1909.3	19193	18.99	19.5	0-1
			5	1850.7	18607	18.80	19.5	0-1
				1880	18900	19.07	19.5	0-1
				1909.3	19193	18.94	19.5	0-1
		3 RB	0	1850.7	18607	18.77	19.5	0-1
				1880	18900	19.10	19.5	0-1
				1909.3	19193	19.01	19.5	0-1
			2	1850.7	18607	18.77	19.5	0-1
				1880	18900	19.06	19.5	0-1
				1909.3	19193	18.99	19.5	0-1
			3	1850.7	18607	18.80	19.5	0-1
				1880	18900	19.10	19.5	0-1
				1909.3	19193	19.00	19.5	0-1
		6RB		1850.7	18607	18.79	19.5	0-2
				1880	18900	19.06	19.5	0-2
				1909.3	19193	19.00	19.5	0-2

FDD Band 4 (Full Power)								
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	1720	20050	23.19	24	0
				1732.5	20175	23.25	24	0
				1745	20300	23.05	24	0
			50	1720	20050	22.64	24	0
				1732.5	20175	22.73	24	0
				1745	20300	23.05	24	0
			99	1720	20050	22.94	24	0
				1732.5	20175	23.24	24	0
				1745	20300	22.90	24	0
		50 RB	0	1720	20050	22.00	23	0-1
				1732.5	20175	22.14	23	0-1
				1745	20300	22.02	23	0-1
			25	1720	20050	22.05	23	0-1
				1732.5	20175	21.94	23	0-1
				1745	20300	22.02	23	0-1
			50	1720	20050	21.93	23	0-1
				1732.5	20175	21.99	23	0-1
				1745	20300	21.99	23	0-1
		100RB		1720	20050	22.01	23	0-1
				1732.5	20175	22.04	23	0-1
				1745	20300	21.93	23	0-1
	16-QAM	1 RB	0	1720	20050	21.82	23	0-1
				1732.5	20175	21.84	23	0-1
				1745	20300	22.38	23	0-1
			50	1720	20050	21.70	23	0-1
				1732.5	20175	21.60	23	0-1
				1745	20300	22.47	23	0-1
			99	1720	20050	21.70	23	0-1
				1732.5	20175	21.73	23	0-1
				1745	20300	21.70	23	0-1
		50 RB	0	1720	20050	20.91	22	0-2
				1732.5	20175	20.95	22	0-2
				1745	20300	21.07	22	0-2
			25	1720	20050	20.92	22	0-2
				1732.5	20175	20.87	22	0-2
				1745	20300	21.08	22	0-2
			50	1720	20050	20.97	22	0-2
				1732.5	20175	20.93	22	0-2
				1745	20300	20.98	22	0-2
		100RB		1720	20050	21.04	22	0-2
				1732.5	20175	20.86	22	0-2
				1745	20300	21.04	22	0-2

FDD Band 4 (Full Power)								
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	22.62	24	0
				1732.5	20175	22.99	24	0
				1747.5	20325	23.20	24	0
			36	1717.5	20025	23.00	24	0
				1732.5	20175	22.87	24	0
				1747.5	20325	22.78	24	0
			74	1717.5	20025	22.87	24	0
				1732.5	20175	22.81	24	0
				1747.5	20325	22.95	24	0
		36 RB	0	1717.5	20025	21.75	23	0-1
				1732.5	20175	21.98	23	0-1
				1747.5	20325	21.99	23	0-1
			18	1717.5	20025	22.05	23	0-1
				1732.5	20175	21.96	23	0-1
				1747.5	20325	21.95	23	0-1
			37	1717.5	20025	21.82	23	0-1
				1732.5	20175	21.98	23	0-1
				1747.5	20325	21.80	23	0-1
		75RB		1717.5	20025	22.00	23	0-1
				1732.5	20175	22.03	23	0-1
				1747.5	20325	21.87	23	0-1
	16-QAM	1 RB	0	1717.5	20025	21.79	23	0-1
				1732.5	20175	21.37	23	0-1
				1747.5	20325	21.56	23	0-1
			36	1717.5	20025	22.48	23	0-1
				1732.5	20175	21.68	23	0-1
				1747.5	20325	21.73	23	0-1
			74	1717.5	20025	22.21	23	0-1
				1732.5	20175	21.34	23	0-1
				1747.5	20325	21.63	23	0-1
		36 RB	0	1717.5	20025	20.79	22	0-2
				1732.5	20175	20.92	22	0-2
				1747.5	20325	20.97	22	0-2
			18	1717.5	20025	20.89	22	0-2
				1732.5	20175	20.92	22	0-2
				1747.5	20325	20.86	22	0-2
			37	1717.5	20025	20.75	22	0-2
				1732.5	20175	20.85	22	0-2
				1747.5	20325	20.86	22	0-2
		75RB		1717.5	20025	20.98	22	0-2
				1732.5	20175	20.98	22	0-2
				1747.5	20325	21.39	22	0-2

FDD Band 4 (Full Power)								
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	22.92	24	0
				1732.5	20175	22.86	24	0
				1750	20350	22.90	24	0
			25	1715	20000	22.83	24	0
				1732.5	20175	22.81	24	0
				1750	20350	22.70	24	0
			49	1715	20000	22.85	24	0
				1732.5	20175	22.82	24	0
				1750	20350	22.84	24	0
		25 RB	0	1715	20000	21.89	23	0-1
				1732.5	20175	21.83	23	0-1
				1750	20350	22.10	23	0-1
			12	1715	20000	22.31	23	0-1
				1732.5	20175	21.80	23	0-1
				1750	20350	21.83	23	0-1
			25	1715	20000	22.00	23	0-1
				1732.5	20175	21.91	23	0-1
				1750	20350	22.11	23	0-1
		50RB		1715	20000	22.20	23	0-1
				1732.5	20175	21.99	23	0-1
				1750	20350	22.11	23	0-1
	16-QAM	1 RB	0	1715	20000	22.19	23	0-1
				1732.5	20175	21.71	23	0-1
				1750	20350	22.11	23	0-1
			25	1715	20000	21.84	23	0-1
				1732.5	20175	21.62	23	0-1
				1750	20350	22.19	23	0-1
			49	1715	20000	21.55	23	0-1
				1732.5	20175	22.08	23	0-1
				1750	20350	21.74	23	0-1
		25 RB	0	1715	20000	20.97	22	0-2
				1732.5	20175	20.91	22	0-2
				1750	20350	21.14	22	0-2
			12	1715	20000	20.84	22	0-2
				1732.5	20175	20.88	22	0-2
				1750	20350	21.29	22	0-2
			25	1715	20000	20.96	22	0-2
				1732.5	20175	20.86	22	0-2
				1750	20350	21.14	22	0-2
		50RB		1715	20000	21.26	22	0-2
				1732.5	20175	20.97	22	0-2
				1750	20350	21.14	22	0-2

FDD Band 4 (Full Power)								
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	1712.5	19975	23.20	24	0
				1732.5	20175	22.94	24	0
				1752.5	20375	22.93	24	0
			12	1712.5	19975	22.85	24	0
				1732.5	20175	22.98	24	0
				1752.5	20375	23.12	24	0
			24	1712.5	19975	22.91	24	0
				1732.5	20175	22.85	24	0
				1752.5	20375	22.94	24	0
		12 RB	0	1712.5	19975	21.93	23	0-1
				1732.5	20175	22.01	23	0-1
				1752.5	20375	22.24	23	0-1
			6	1712.5	19975	21.90	23	0-1
				1732.5	20175	21.82	23	0-1
				1752.5	20375	21.88	23	0-1
			13	1712.5	19975	21.98	23	0-1
				1732.5	20175	21.86	23	0-1
				1752.5	20375	22.24	23	0-1
		25RB		1712.5	19975	21.95	23	0-1
				1732.5	20175	21.90	23	0-1
				1752.5	20375	22.24	23	0-1
	16-QAM	1 RB	0	1712.5	19975	21.58	23	0-1
				1732.5	20175	21.77	23	0-1
				1752.5	20375	22.05	23	0-1
			12	1712.5	19975	22.32	23	0-1
				1732.5	20175	21.54	23	0-1
				1752.5	20375	22.16	23	0-1
			24	1712.5	19975	21.58	23	0-1
				1732.5	20175	22.00	23	0-1
				1752.5	20375	21.90	23	0-1
		12 RB	0	1712.5	19975	20.94	22	0-2
				1732.5	20175	20.83	22	0-2
				1752.5	20375	20.81	22	0-2
			6	1712.5	19975	20.93	22	0-2
				1732.5	20175	20.99	22	0-2
				1752.5	20375	20.97	22	0-2
			13	1712.5	19975	21.04	22	0-2
				1732.5	20175	21.05	22	0-2
				1752.5	20375	20.91	22	0-2
		25RB		1712.5	19975	20.94	22	0-2
				1732.5	20175	20.97	22	0-2
				1752.5	20375	20.80	22	0-2

FDD Band 4 (Full Power)								
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	22.79	24	0
				1732.5	20175	22.82	24	0
				1753.5	20385	23.20	24	0
			7	1711.5	19965	22.80	24	0
				1732.5	20175	22.70	24	0
				1753.5	20385	23.10	24	0
			14	1711.5	19965	22.75	24	0
				1732.5	20175	22.78	24	0
				1753.5	20385	22.96	24	0
		8 RB	0	1711.5	19965	21.90	23	0-1
				1732.5	20175	21.96	23	0-1
				1753.5	20385	21.80	23	0-1
			4	1711.5	19965	21.90	23	0-1
				1732.5	20175	21.99	23	0-1
				1753.5	20385	21.87	23	0-1
			7	1711.5	19965	21.93	23	0-1
				1732.5	20175	21.96	23	0-1
				1753.5	20385	22.26	23	0-1
		15RB		1711.5	19965	21.96	23	0-1
				1732.5	20175	21.94	23	0-1
				1753.5	20385	21.80	23	0-1
	16-QAM	1 RB	0	1711.5	19965	22.10	23	0-1
				1732.5	20175	22.18	23	0-1
				1753.5	20385	21.71	23	0-1
			7	1711.5	19965	22.16	23	0-1
				1732.5	20175	21.59	23	0-1
				1753.5	20385	22.16	23	0-1
			14	1711.5	19965	22.01	23	0-1
				1732.5	20175	21.90	23	0-1
				1753.5	20385	21.76	23	0-1
		8 RB	0	1711.5	19965	20.91	22	0-2
				1732.5	20175	20.80	22	0-2
				1753.5	20385	20.92	22	0-2
			4	1711.5	19965	20.95	22	0-2
				1732.5	20175	20.98	22	0-2
				1753.5	20385	20.99	22	0-2
			7	1711.5	19965	20.99	22	0-2
				1732.5	20175	21.10	22	0-2
				1753.5	20385	20.91	22	0-2
		15RB		1711.5	19965	20.90	22	0-2
				1732.5	20175	20.97	22	0-2
				1753.5	20385	20.81	22	0-2

FDD Band 4 (Full Power)								
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	22.83	24	0
				1732.5	20175	22.91	24	0
				1754.3	20393	23.09	24	0
			2	1710.7	19957	22.91	24	0
				1732.5	20175	22.61	24	0
				1754.3	20393	23.12	24	0
			5	1710.7	19957	22.91	24	0
				1732.5	20175	22.98	24	0
				1754.3	20393	22.99	24	0
		3 RB	0	1710.7	19957	22.84	24	0
				1732.5	20175	22.90	24	0
				1754.3	20393	23.03	24	0
			2	1710.7	19957	22.95	24	0
				1732.5	20175	22.95	24	0
				1754.3	20393	23.06	24	0
			3	1710.7	19957	22.86	24	0
				1732.5	20175	22.85	24	0
				1754.3	20393	23.02	24	0
		6RB		1710.7	19957	21.92	23	0-1
				1732.5	20175	22.04	23	0-1
				1754.3	20393	22.23	23	0-1
	16-QAM	1 RB	0	1710.7	19957	22.09	23	0-1
				1732.5	20175	21.52	23	0-1
				1754.3	20393	21.71	23	0-1
			2	1710.7	19957	21.32	23	0-1
				1732.5	20175	22.16	23	0-1
				1754.3	20393	21.84	23	0-1
			5	1710.7	19957	21.63	23	0-1
				1732.5	20175	21.57	23	0-1
				1754.3	20393	22.05	23	0-1
		3 RB	0	1710.7	19957	21.94	23	0-1
				1732.5	20175	21.69	23	0-1
				1754.3	20393	21.51	23	0-1
			2	1710.7	19957	21.89	23	0-1
				1732.5	20175	22.12	23	0-1
				1754.3	20393	22.24	23	0-1
			3	1710.7	19957	21.99	23	0-1
				1732.5	20175	22.07	23	0-1
				1754.3	20393	22.17	23	0-1
		6RB		1710.7	19957	20.90	22	0-2
				1732.5	20175	20.69	22	0-2
				1754.3	20393	20.90	22	0-2

FDD Band 4 (Reduced Power)								
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	1720	20050	19.37	19.5	0
				1732.5	20175	19.49	19.5	0
				1745	20300	19.43	19.5	0
			50	1720	20050	19.29	19.5	0
				1732.5	20175	19.23	19.5	0
				1745	20300	19.30	19.5	0
			99	1720	20050	19.27	19.5	0
				1732.5	20175	19.35	19.5	0
				1745	20300	19.42	19.5	0
		50 RB	0	1720	20050	19.37	19.5	0-1
				1732.5	20175	19.49	19.5	0-1
				1745	20300	19.44	19.5	0-1
			25	1720	20050	19.27	19.5	0-1
				1732.5	20175	19.33	19.5	0-1
				1745	20300	19.42	19.5	0-1
			50	1720	20050	19.22	19.5	0-1
				1732.5	20175	19.30	19.5	0-1
				1745	20300	19.36	19.5	0-1
		100RB		1720	20050	19.34	19.5	0-1
				1732.5	20175	19.40	19.5	0-1
				1745	20300	19.33	19.5	0-1
	16-QAM	1 RB	0	1720	20050	19.37	19.5	0-1
				1732.5	20175	19.44	19.5	0-1
				1745	20300	19.40	19.5	0-1
			50	1720	20050	19.27	19.5	0-1
				1732.5	20175	19.28	19.5	0-1
				1745	20300	19.31	19.5	0-1
			99	1720	20050	19.24	19.5	0-1
				1732.5	20175	19.34	19.5	0-1
				1745	20300	19.35	19.5	0-1
		50 RB	0	1720	20050	19.39	19.5	0-2
				1732.5	20175	19.36	19.5	0-2
				1745	20300	19.42	19.5	0-2
			25	1720	20050	19.35	19.5	0-2
				1732.5	20175	19.35	19.5	0-2
				1745	20300	19.47	19.5	0-2
			50	1720	20050	19.29	19.5	0-2
				1732.5	20175	19.34	19.5	0-2
				1745	20300	19.49	19.5	0-2
		100RB		1720	20050	19.41	19.5	0-2
				1732.5	20175	19.36	19.5	0-2
				1745	20300	19.47	19.5	0-2

FDD Band 4 (Reduced Power)								
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	19.40	19.5	0
				1732.5	20175	19.45	19.5	0
				1747.5	20325	19.45	19.5	0
			36	1717.5	20025	19.36	19.5	0
				1732.5	20175	19.30	19.5	0
				1747.5	20325	19.36	19.5	0
			74	1717.5	20025	19.35	19.5	0
				1732.5	20175	19.39	19.5	0
				1747.5	20325	19.38	19.5	0
		36 RB	0	1717.5	20025	19.30	19.5	0-1
				1732.5	20175	19.33	19.5	0-1
				1747.5	20325	19.42	19.5	0-1
			18	1717.5	20025	19.37	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1747.5	20325	19.35	19.5	0-1
			37	1717.5	20025	19.17	19.5	0-1
				1732.5	20175	19.27	19.5	0-1
				1747.5	20325	19.44	19.5	0-1
		75RB		1717.5	20025	19.31	19.5	0-1
				1732.5	20175	19.35	19.5	0-1
				1747.5	20325	19.44	19.5	0-1
	16-QAM	1 RB	0	1717.5	20025	19.36	19.5	0-1
				1732.5	20175	19.41	19.5	0-1
				1747.5	20325	19.47	19.5	0-1
			36	1717.5	20025	19.34	19.5	0-1
				1732.5	20175	19.28	19.5	0-1
				1747.5	20325	19.30	19.5	0-1
			74	1717.5	20025	19.33	19.5	0-1
				1732.5	20175	19.35	19.5	0-1
				1747.5	20325	19.37	19.5	0-1
		36 RB	0	1717.5	20025	19.35	19.5	0-2
				1732.5	20175	19.31	19.5	0-2
				1747.5	20325	19.40	19.5	0-2
			18	1717.5	20025	19.37	19.5	0-2
				1732.5	20175	19.32	19.5	0-2
				1747.5	20325	19.34	19.5	0-2
			37	1717.5	20025	19.20	19.5	0-2
				1732.5	20175	19.28	19.5	0-2
				1747.5	20325	19.45	19.5	0-2
		75RB		1717.5	20025	19.32	19.5	0-2
				1732.5	20175	19.35	19.5	0-2
				1747.5	20325	19.43	19.5	0-2

FDD Band 4 (Reduced Power)								
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	19.32	19.5	0
				1732.5	20175	19.31	19.5	0
				1750	20350	19.40	19.5	0
			25	1715	20000	19.28	19.5	0
				1732.5	20175	19.30	19.5	0
				1750	20350	19.44	19.5	0
			49	1715	20000	19.27	19.5	0
				1732.5	20175	19.41	19.5	0
				1750	20350	19.37	19.5	0
		25 RB	0	1715	20000	19.29	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1750	20350	19.45	19.5	0-1
			12	1715	20000	19.27	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1750	20350	19.41	19.5	0-1
			25	1715	20000	19.31	19.5	0-1
				1732.5	20175	19.29	19.5	0-1
				1750	20350	19.37	19.5	0-1
		50RB		1715	20000	19.33	19.5	0-1
				1732.5	20175	19.34	19.5	0-1
				1750	20350	19.48	19.5	0-1
	16-QAM	1 RB	0	1715	20000	19.31	19.5	0-1
				1732.5	20175	19.30	19.5	0-1
				1750	20350	19.44	19.5	0-1
			25	1715	20000	19.25	19.5	0-1
				1732.5	20175	19.27	19.5	0-1
				1750	20350	19.40	19.5	0-1
			49	1715	20000	19.24	19.5	0-1
				1732.5	20175	19.34	19.5	0-1
				1750	20350	19.37	19.5	0-1
		25 RB	0	1715	20000	19.35	19.5	0-2
				1732.5	20175	19.33	19.5	0-2
				1750	20350	19.43	19.5	0-2
			12	1715	20000	19.37	19.5	0-2
				1732.5	20175	19.35	19.5	0-2
				1750	20350	19.48	19.5	0-2
			25	1715	20000	19.44	19.5	0-2
				1732.5	20175	19.30	19.5	0-2
				1750	20350	19.45	19.5	0-2
		50RB		1715	20000	19.38	19.5	0-2
				1732.5	20175	19.32	19.5	0-2
				1750	20350	19.50	19.5	0-2

FDD Band 4 (Reduced Power)								
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	1712.5	19975	19.27	19.5	0
				1732.5	20175	19.26	19.5	0
				1752.5	20375	19.43	19.5	0
			12	1712.5	19975	19.17	19.5	0
				1732.5	20175	19.25	19.5	0
				1752.5	20375	19.42	19.5	0
			24	1712.5	19975	19.30	19.5	0
				1732.5	20175	19.25	19.5	0
				1752.5	20375	19.36	19.5	0
		12 RB	0	1712.5	19975	19.32	19.5	0-1
				1732.5	20175	19.31	19.5	0-1
				1752.5	20375	19.39	19.5	0-1
			6	1712.5	19975	19.20	19.5	0-1
				1732.5	20175	19.29	19.5	0-1
				1752.5	20375	19.38	19.5	0-1
			13	1712.5	19975	19.22	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1752.5	20375	19.45	19.5	0-1
		25RB		1712.5	19975	19.33	19.5	0-1
				1732.5	20175	19.30	19.5	0-1
				1752.5	20375	19.47	19.5	0-1
	16-QAM	1 RB	0	1712.5	19975	19.19	19.5	0-1
				1732.5	20175	19.24	19.5	0-1
				1752.5	20375	19.38	19.5	0-1
			12	1712.5	19975	19.13	19.5	0-1
				1732.5	20175	19.22	19.5	0-1
				1752.5	20375	19.33	19.5	0-1
			24	1712.5	19975	19.14	19.5	0-1
				1732.5	20175	19.23	19.5	0-1
				1752.5	20375	19.30	19.5	0-1
		12 RB	0	1712.5	19975	19.38	19.5	0-2
				1732.5	20175	19.34	19.5	0-2
				1752.5	20375	19.48	19.5	0-2
			6	1712.5	19975	19.32	19.5	0-2
				1732.5	20175	19.32	19.5	0-2
				1752.5	20375	19.48	19.5	0-2
			13	1712.5	19975	19.34	19.5	0-2
				1732.5	20175	19.32	19.5	0-2
				1752.5	20375	19.43	19.5	0-2
		25RB		1712.5	19975	19.38	19.5	0-2
				1732.5	20175	19.31	19.5	0-2
				1752.5	20375	19.44	19.5	0-2

FDD Band 4 (Reduced Power)								
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	19.34	19.5	0
				1732.5	20175	19.26	19.5	0
				1753.5	20385	19.46	19.5	0
			7	1711.5	19965	19.15	19.5	0
				1732.5	20175	19.24	19.5	0
				1753.5	20385	19.34	19.5	0
			14	1711.5	19965	19.29	19.5	0
				1732.5	20175	19.30	19.5	0
				1753.5	20385	19.40	19.5	0
		8 RB	0	1711.5	19965	19.28	19.5	0-1
				1732.5	20175	19.31	19.5	0-1
				1753.5	20385	19.42	19.5	0-1
			4	1711.5	19965	19.36	19.5	0-1
				1732.5	20175	19.27	19.5	0-1
				1753.5	20385	19.39	19.5	0-1
			7	1711.5	19965	19.22	19.5	0-1
				1732.5	20175	19.30	19.5	0-1
				1753.5	20385	19.38	19.5	0-1
		15RB		1711.5	19965	19.31	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1753.5	20385	19.40	19.5	0-1
	16-QAM	1 RB	0	1711.5	19965	19.28	19.5	0-1
				1732.5	20175	19.28	19.5	0-1
				1753.5	20385	19.43	19.5	0-1
			7	1711.5	19965	19.19	19.5	0-1
				1732.5	20175	19.27	19.5	0-1
				1753.5	20385	19.36	19.5	0-1
			14	1711.5	19965	19.20	19.5	0-1
				1732.5	20175	19.25	19.5	0-1
				1753.5	20385	19.34	19.5	0-1
		8 RB	0	1711.5	19965	19.37	19.5	0-2
				1732.5	20175	19.35	19.5	0-2
				1753.5	20385	19.46	19.5	0-2
			4	1711.5	19965	19.37	19.5	0-2
				1732.5	20175	19.33	19.5	0-2
				1753.5	20385	19.50	19.5	0-2
			7	1711.5	19965	19.33	19.5	0-2
				1732.5	20175	19.33	19.5	0-2
				1753.5	20385	19.43	19.5	0-2
		15RB		1711.5	19965	19.35	19.5	0-2
				1732.5	20175	19.31	19.5	0-2
				1753.5	20385	19.42	19.5	0-2

FDD Band 4 (Reduced Power)								
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	19.31	19.5	0
				1732.5	20175	19.31	19.5	0
				1754.3	20393	19.42	19.5	0
			2	1710.7	19957	19.32	19.5	0
				1732.5	20175	19.32	19.5	0
				1754.3	20393	19.44	19.5	0
			5	1710.7	19957	19.35	19.5	0
				1732.5	20175	19.32	19.5	0
				1754.3	20393	19.46	19.5	0
		3 RB	0	1710.7	19957	19.30	19.5	0
				1732.5	20175	19.34	19.5	0
				1754.3	20393	19.47	19.5	0
			2	1710.7	19957	19.36	19.5	0
				1732.5	20175	19.30	19.5	0
				1754.3	20393	19.42	19.5	0
			3	1710.7	19957	19.34	19.5	0
				1732.5	20175	19.30	19.5	0
				1754.3	20393	19.38	19.5	0
		6RB		1710.7	19957	19.31	19.5	0-1
				1732.5	20175	19.34	19.5	0-1
				1754.3	20393	19.43	19.5	0-1
	16-QAM	1 RB	0	1710.7	19957	19.30	19.5	0-1
				1732.5	20175	19.31	19.5	0-1
				1754.3	20393	19.37	19.5	0-1
			2	1710.7	19957	19.25	19.5	0-1
				1732.5	20175	19.24	19.5	0-1
				1754.3	20393	19.36	19.5	0-1
			5	1710.7	19957	19.24	19.5	0-1
				1732.5	20175	19.22	19.5	0-1
				1754.3	20393	19.34	19.5	0-1
		3 RB	0	1710.7	19957	19.29	19.5	0-1
				1732.5	20175	19.26	19.5	0-1
				1754.3	20393	19.36	19.5	0-1
			2	1710.7	19957	19.26	19.5	0-1
				1732.5	20175	19.25	19.5	0-1
				1754.3	20393	19.34	19.5	0-1
			3	1710.7	19957	19.33	19.5	0-1
				1732.5	20175	19.29	19.5	0-1
				1754.3	20393	19.37	19.5	0-1
		6RB		1710.7	19957	19.23	19.5	0-2
				1732.5	20175	19.18	19.5	0-2
				1754.3	20393	19.37	19.5	0-2

FDD Band 5 (Full Power)								
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	829	20450	22.87	24	0
				836.5	20525	22.84	24	0
				844	20600	22.86	24	0
			25	829	20450	22.78	24	0
				836.5	20525	22.33	24	0
				844	20600	22.81	24	0
			49	829	20450	22.67	24	0
				836.5	20525	22.61	24	0
				844	20600	22.38	24	0
		25 RB	0	829	20450	21.71	23	0-1
				836.5	20525	21.76	23	0-1
				844	20600	21.78	23	0-1
			12	829	20450	21.87	23	0-1
				836.5	20525	21.62	23	0-1
				844	20600	21.86	23	0-1
			25	829	20450	21.85	23	0-1
				836.5	20525	21.43	23	0-1
				844	20600	21.80	23	0-1
		50RB		829	20450	21.75	23	0-1
				836.5	20525	21.65	23	0-1
				844	20600	21.79	23	0-1
	16-QAM	1 RB	0	829	20450	21.39	23	0-1
				836.5	20525	21.87	23	0-1
				844	20600	21.37	23	0-1
			25	829	20450	21.67	23	0-1
				836.5	20525	21.28	23	0-1
				844	20600	21.37	23	0-1
			49	829	20450	21.75	23	0-1
				836.5	20525	21.60	23	0-1
				844	20600	21.47	23	0-1
		25 RB	0	829	20450	20.89	22	0-2
				836.5	20525	20.65	22	0-2
				844	20600	20.80	22	0-2
			12	829	20450	20.78	22	0-2
				836.5	20525	20.63	22	0-2
				844	20600	20.89	22	0-2
			25	829	20450	20.68	22	0-2
				836.5	20525	20.41	22	0-2
				844	20600	20.88	22	0-2
		50RB		829	20450	20.97	22	0-2
				836.5	20525	20.63	22	0-2
				844	20600	20.78	22	0-2

FDD Band 5 (Full Power)								
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	22.72	24	0
				836.5	20525	22.59	24	0
				846.5	20625	22.71	24	0
			12	826.5	20425	22.72	24	0
				836.5	20525	22.48	24	0
				846.5	20625	22.76	24	0
			24	826.5	20425	22.76	24	0
				836.5	20525	22.32	24	0
				846.5	20625	22.79	24	0
		12 RB	0	826.5	20425	21.72	23	0-1
				836.5	20525	21.73	23	0-1
				846.5	20625	21.87	23	0-1
			6	826.5	20425	21.76	23	0-1
				836.5	20525	21.55	23	0-1
				846.5	20625	21.86	23	0-1
			13	826.5	20425	21.84	23	0-1
				836.5	20525	21.46	23	0-1
				846.5	20625	21.82	23	0-1
		25RB		826.5	20425	21.71	23	0-1
				836.5	20525	21.63	23	0-1
				846.5	20625	21.83	23	0-1
	16-QAM	1 RB	0	826.5	20425	21.54	23	0-1
				836.5	20525	21.36	23	0-1
				846.5	20625	21.90	23	0-1
			12	826.5	20425	21.77	23	0-1
				836.5	20525	21.27	23	0-1
				846.5	20625	21.85	23	0-1
			24	826.5	20425	21.39	23	0-1
				836.5	20525	21.06	23	0-1
				846.5	20625	21.21	23	0-1
		12 RB	0	826.5	20425	20.87	22	0-2
				836.5	20525	20.76	22	0-2
				846.5	20625	20.85	22	0-2
			6	826.5	20425	20.82	22	0-2
				836.5	20525	20.63	22	0-2
				846.5	20625	20.75	22	0-2
			13	826.5	20425	20.82	22	0-2
				836.5	20525	20.48	22	0-2
				846.5	20625	20.93	22	0-2
		25RB		826.5	20425	20.74	22	0-2
				836.5	20525	20.58	22	0-2
				846.5	20625	20.86	22	0-2

FDD Band 5 (Full Power)								
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	22.81	24	0
				836.5	20525	22.66	24	0
				847.5	20635	22.84	24	0
			7	825.5	20415	22.55	24	0
				836.5	20525	22.48	24	0
				847.5	20635	22.79	24	0
			14	825.5	20415	22.71	24	0
				836.5	20525	22.36	24	0
				847.5	20635	22.88	24	0
		8 RB	0	825.5	20415	21.72	23	0-1
				836.5	20525	21.66	23	0-1
				847.5	20635	21.82	23	0-1
			4	825.5	20415	21.72	23	0-1
				836.5	20525	21.51	23	0-1
				847.5	20635	21.80	23	0-1
			7	825.5	20415	21.77	23	0-1
				836.5	20525	21.59	23	0-1
				847.5	20635	21.88	23	0-1
		15RB		825.5	20415	21.80	23	0-1
				836.5	20525	21.66	23	0-1
				847.5	20635	21.84	23	0-1
	16-QAM	1 RB	0	825.5	20415	21.32	23	0-1
				836.5	20525	21.69	23	0-1
				847.5	20635	21.68	23	0-1
			7	825.5	20415	21.74	23	0-1
				836.5	20525	21.49	23	0-1
				847.5	20635	21.51	23	0-1
			14	825.5	20415	21.79	23	0-1
				836.5	20525	21.34	23	0-1
				847.5	20635	21.84	23	0-1
		8 RB	0	825.5	20415	20.74	22	0-2
				836.5	20525	20.74	22	0-2
				847.5	20635	20.96	22	0-2
			4	825.5	20415	20.66	22	0-2
				836.5	20525	20.66	22	0-2
				847.5	20635	20.83	22	0-2
			7	825.5	20415	20.85	22	0-2
				836.5	20525	20.66	22	0-2
				847.5	20635	20.86	22	0-2
		15RB		825.5	20415	20.73	22	0-2
				836.5	20525	20.53	22	0-2
				847.5	20635	20.87	22	0-2

FDD Band 5 (Full Power)								
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	22.74	24	0
				836.5	20525	22.54	24	0
				848.3	20643	22.84	24	0
			2	824.7	20407	22.80	24	0
				836.5	20525	22.53	24	0
				848.3	20643	22.82	24	0
			5	824.7	20407	22.72	24	0
				836.5	20525	22.49	24	0
				848.3	20643	22.91	24	0
		3 RB	0	824.7	20407	22.83	24	0
				836.5	20525	22.57	24	0
				848.3	20643	22.77	24	0
			2	824.7	20407	22.78	24	0
				836.5	20525	22.52	24	0
				848.3	20643	22.73	24	0
			3	824.7	20407	22.77	24	0
				836.5	20525	22.48	24	0
				848.3	20643	22.67	24	0
		6RB		824.7	20407	21.77	23	0-1
				836.5	20525	21.60	23	0-1
				848.3	20643	21.89	23	0-1
	16-QAM	1 RB	0	824.7	20407	21.93	23	0-1
				836.5	20525	21.80	23	0-1
				848.3	20643	22.06	23	0-1
			2	824.7	20407	21.68	23	0-1
				836.5	20525	21.18	23	0-1
				848.3	20643	21.48	23	0-1
			5	824.7	20407	21.51	23	0-1
				836.5	20525	21.89	23	0-1
				848.3	20643	21.99	23	0-1
		3 RB	0	824.7	20407	21.80	23	0-1
				836.5	20525	21.58	23	0-1
				848.3	20643	21.85	23	0-1
			2	824.7	20407	21.84	23	0-1
				836.5	20525	21.51	23	0-1
				848.3	20643	21.86	23	0-1
			3	824.7	20407	21.71	23	0-1
				836.5	20525	21.61	23	0-1
				848.3	20643	22.06	23	0-1
		6RB		824.7	20407	20.73	22	0-2
				836.5	20525	20.37	22	0-2
				848.3	20643	20.83	22	0-2

FDD Band 7 (Full Power)								
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	2510	20850	22.70	24	0
				2535	21100	22.88	24	0
				2560	21350	23.39	24	0
			50	2510	20850	22.61	24	0
				2535	21100	22.90	24	0
				2560	21350	22.91	24	0
			99	2510	20850	22.67	24	0
				2535	21100	23.30	24	0
				2560	21350	22.96	24	0
		50 RB	0	2510	20850	21.66	23	0-1
				2535	21100	22.22	23	0-1
				2560	21350	22.14	23	0-1
			25	2510	20850	21.78	23	0-1
				2535	21100	22.25	23	0-1
				2560	21350	22.51	23	0-1
			50	2510	20850	21.88	23	0-1
				2535	21100	22.27	23	0-1
				2560	21350	22.04	23	0-1
		100RB		2510	20850	21.55	23	0-1
				2535	21100	22.13	23	0-1
				2560	21350	22.29	23	0-1
	16-QAM	1 RB	0	2510	20850	21.83	23	0-1
				2535	21100	21.65	23	0-1
				2560	21350	22.19	23	0-1
			50	2510	20850	21.63	23	0-1
				2535	21100	22.36	23	0-1
				2560	21350	21.84	23	0-1
			99	2510	20850	21.57	23	0-1
				2535	21100	21.63	23	0-1
				2560	21350	21.90	23	0-1
		50 RB	0	2510	20850	20.71	22	0-2
				2535	21100	20.89	22	0-2
				2560	21350	21.16	22	0-2
			25	2510	20850	20.79	22	0-2
				2535	21100	21.03	22	0-2
				2560	21350	21.12	22	0-2
			50	2510	20850	20.90	22	0-2
				2535	21100	21.19	22	0-2
				2560	21350	21.09	22	0-2
		100RB		2510	20850	20.62	22	0-2
				2535	21100	21.06	22	0-2
				2560	21350	20.93	22	0-2

FDD Band 7 (Full Power)								
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	2507.5	20825	22.62	24	0
				2535	21100	23.03	24	0
				2562.5	21375	22.98	24	0
			36	2507.5	20825	22.34	24	0
				2535	21100	23.17	24	0
				2562.5	21375	22.94	24	0
			74	2507.5	20825	22.62	24	0
				2535	21100	23.27	24	0
				2562.5	21375	22.93	24	0
		36 RB	0	2507.5	20825	21.70	23	0-1
				2535	21100	22.11	23	0-1
				2562.5	21375	22.14	23	0-1
			18	2507.5	20825	21.79	23	0-1
				2535	21100	22.11	23	0-1
				2562.5	21375	22.04	23	0-1
			37	2507.5	20825	21.62	23	0-1
				2535	21100	22.14	23	0-1
				2562.5	21375	22.01	23	0-1
		75RB		2507.5	20825	21.77	23	0-1
				2535	21100	22.11	23	0-1
				2562.5	21375	21.92	23	0-1
	16-QAM	1 RB	0	2507.5	20825	21.14	23	0-1
				2535	21100	22.06	23	0-1
				2562.5	21375	21.64	23	0-1
			36	2507.5	20825	21.62	23	0-1
				2535	21100	22.17	23	0-1
				2562.5	21375	21.49	23	0-1
			74	2507.5	20825	21.93	23	0-1
				2535	21100	22.35	23	0-1
				2562.5	21375	21.55	23	0-1
		36 RB	0	2507.5	20825	20.72	22	0-2
				2535	21100	21.30	22	0-2
				2562.5	21375	21.28	22	0-2
			18	2507.5	20825	20.82	22	0-2
				2535	21100	21.28	22	0-2
				2562.5	21375	21.07	22	0-2
			37	2507.5	20825	20.69	22	0-2
				2535	21100	21.10	22	0-2
				2562.5	21375	21.00	22	0-2
		75RB		2507.5	20825	20.77	22	0-2
				2535	21100	21.10	22	0-2
				2562.5	21375	21.05	22	0-2

FDD Band 7 (Full Power)								
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	2505	20800	22.57	24	0
				2535	21100	22.95	24	0
				2565	21400	23.04	24	0
			25	2505	20800	22.76	24	0
				2535	21100	23.11	24	0
				2565	21400	23.03	24	0
			49	2505	20800	22.76	24	0
				2535	21100	23.30	24	0
				2565	21400	22.96	24	0
		25 RB	0	2505	20800	21.53	23	0-1
				2535	21100	22.07	23	0-1
				2565	21400	21.99	23	0-1
			12	2505	20800	21.72	23	0-1
				2535	21100	22.13	23	0-1
				2565	21400	21.96	23	0-1
			25	2505	20800	21.78	23	0-1
				2535	21100	22.13	23	0-1
				2565	21400	21.99	23	0-1
		50RB		2505	20800	21.81	23	0-1
				2535	21100	22.17	23	0-1
				2565	21400	21.96	23	0-1
	16-QAM	1 RB	0	2505	20800	22.03	23	0-1
				2535	21100	21.38	23	0-1
				2565	21400	22.02	23	0-1
			25	2505	20800	21.68	23	0-1
				2535	21100	21.82	23	0-1
				2565	21400	22.03	23	0-1
			49	2505	20800	21.58	23	0-1
				2535	21100	22.09	23	0-1
				2565	21400	21.44	23	0-1
		25 RB	0	2505	20800	20.73	22	0-2
				2535	21100	21.20	22	0-2
				2565	21400	21.09	22	0-2
			12	2505	20800	20.76	22	0-2
				2535	21100	21.26	22	0-2
				2565	21400	21.00	22	0-2
			25	2505	20800	20.83	22	0-2
				2535	21100	21.20	22	0-2
				2565	21400	21.01	22	0-2
		50RB		2505	20800	20.73	22	0-2
				2535	21100	21.09	22	0-2
				2565	21400	20.97	22	0-2

FDD Band 7 (Full Power)								
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	2502.5	20775	22.42	24	0
				2535	21100	23.15	24	0
				2567.5	21425	23.02	24	0
			12	2502.5	20775	22.68	24	0
				2535	21100	23.25	24	0
				2567.5	21425	23.15	24	0
			24	2502.5	20775	22.78	24	0
				2535	21100	23.00	24	0
				2567.5	21425	23.08	24	0
		12 RB	0	2502.5	20775	22.19	23	0-1
				2535	21100	22.12	23	0-1
				2567.5	21425	21.98	23	0-1
			6	2502.5	20775	21.70	23	0-1
				2535	21100	22.15	23	0-1
				2567.5	21425	21.75	23	0-1
			13	2502.5	20775	21.81	23	0-1
				2535	21100	22.16	23	0-1
				2567.5	21425	21.94	23	0-1
		25RB		2502.5	20775	21.73	23	0-1
				2535	21100	22.13	23	0-1
				2567.5	21425	22.06	23	0-1
	16-QAM	1 RB	0	2502.5	20775	21.57	23	0-1
				2535	21100	21.80	23	0-1
				2567.5	21425	21.84	23	0-1
			12	2502.5	20775	21.68	23	0-1
				2535	21100	21.90	23	0-1
				2567.5	21425	22.04	23	0-1
			24	2502.5	20775	21.51	23	0-1
				2535	21100	21.90	23	0-1
				2567.5	21425	21.52	23	0-1
		12 RB	0	2502.5	20775	20.86	22	0-2
				2535	21100	21.29	22	0-2
				2567.5	21425	21.01	22	0-2
			6	2502.5	20775	20.72	22	0-2
				2535	21100	21.31	22	0-2
				2567.5	21425	20.83	22	0-2
			13	2502.5	20775	20.87	22	0-2
				2535	21100	21.22	22	0-2
				2567.5	21425	20.93	22	0-2
		25RB		2502.5	20775	20.75	22	0-2
				2535	21100	21.23	22	0-2
				2567.5	21425	21.23	22	0-2

FDD Band 7 (Reduced Power)								
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	2510	20850	17.64	18	0
				2535	21100	17.90	18	0
				2560	21350	18.00	18	0
			50	2510	20850	17.63	18	0
				2535	21100	17.75	18	0
				2560	21350	17.74	18	0
			99	2510	20850	17.43	18	0
				2535	21100	17.60	18	0
				2560	21350	17.78	18	0
		50 RB	0	2510	20850	17.65	18	0-1
				2535	21100	17.78	18	0-1
				2560	21350	17.82	18	0-1
			25	2510	20850	17.75	18	0-1
				2535	21100	17.82	18	0-1
				2560	21350	17.84	18	0-1
			50	2510	20850	17.64	18	0-1
				2535	21100	17.76	18	0-1
				2560	21350	17.79	18	0-1
		100RB		2510	20850	17.61	18	0-1
				2535	21100	17.79	18	0-1
				2560	21350	17.80	18	0-1
	16-QAM	1 RB	0	2510	20850	17.29	18	0-1
				2535	21100	17.64	18	0-1
				2560	21350	18.00	18	0-1
			50	2510	20850	17.52	18	0-1
				2535	21100	17.67	18	0-1
				2560	21350	17.75	18	0-1
			99	2510	20850	17.56	18	0-1
				2535	21100	17.92	18	0-1
				2560	21350	17.76	18	0-1
		50 RB	0	2510	20850	17.72	18	0-2
				2535	21100	17.84	18	0-2
				2560	21350	17.99	18	0-2
			25	2510	20850	17.70	18	0-2
				2535	21100	17.77	18	0-2
				2560	21350	17.77	18	0-2
			50	2510	20850	17.62	18	0-2
				2535	21100	17.90	18	0-2
				2560	21350	17.76	18	0-2
		100RB		2510	20850	17.60	18	0-2
				2535	21100	17.82	18	0-2
				2560	21350	17.94	18	0-2

FDD Band 7 (Reduced Power)								
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	2507.5	20825	17.58	18	0
				2535	21100	17.76	18	0
				2562.5	21375	17.79	18	0
			36	2507.5	20825	17.58	18	0
				2535	21100	17.77	18	0
				2562.5	21375	17.75	18	0
			74	2507.5	20825	17.66	18	0
				2535	21100	17.84	18	0
				2562.5	21375	17.76	18	0
		36 RB	0	2507.5	20825	17.61	18	0-1
				2535	21100	17.85	18	0-1
				2562.5	21375	17.74	18	0-1
			18	2507.5	20825	17.59	18	0-1
				2535	21100	17.78	18	0-1
				2562.5	21375	17.75	18	0-1
			37	2507.5	20825	17.57	18	0-1
				2535	21100	17.74	18	0-1
				2562.5	21375	17.76	18	0-1
		75RB		2507.5	20825	17.59	18	0-1
				2535	21100	17.78	18	0-1
				2562.5	21375	17.73	18	0-1
	16-QAM	1 RB	0	2507.5	20825	17.37	18	0-1
				2535	21100	17.64	18	0-1
				2562.5	21375	17.90	18	0-1
			36	2507.5	20825	17.58	18	0-1
				2535	21100	17.63	18	0-1
				2562.5	21375	17.68	18	0-1
			74	2507.5	20825	17.58	18	0-1
				2535	21100	17.74	18	0-1
				2562.5	21375	17.72	18	0-1
		36 RB	0	2507.5	20825	17.46	18	0-2
				2535	21100	17.81	18	0-2
				2562.5	21375	17.89	18	0-2
			18	2507.5	20825	17.61	18	0-2
				2535	21100	17.74	18	0-2
				2562.5	21375	17.75	18	0-2
			37	2507.5	20825	17.65	18	0-2
				2535	21100	17.76	18	0-2
				2562.5	21375	17.76	18	0-2
		75RB		2507.5	20825	17.60	18	0-2
				2535	21100	17.77	18	0-2
				2562.5	21375	17.73	18	0-2

FDD Band 7 (Reduced Power)								
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	2505	20800	17.59	18	0
				2535	21100	17.77	18	0
				2565	21400	17.77	18	0
			25	2505	20800	17.58	18	0
				2535	21100	17.72	18	0
				2565	21400	17.73	18	0
			49	2505	20800	17.63	18	0
				2535	21100	17.83	18	0
				2565	21400	17.78	18	0
		25 RB	0	2505	20800	17.57	18	0-1
				2535	21100	17.76	18	0-1
				2565	21400	17.72	18	0-1
			12	2505	20800	17.59	18	0-1
				2535	21100	17.74	18	0-1
				2565	21400	17.77	18	0-1
			25	2505	20800	17.57	18	0-1
				2535	21100	17.76	18	0-1
				2565	21400	17.76	18	0-1
		50RB		2505	20800	17.58	18	0-1
				2535	21100	17.74	18	0-1
				2565	21400	17.77	18	0-1
	16-QAM	1 RB	0	2505	20800	17.33	18	0-1
				2535	21100	17.72	18	0-1
				2565	21400	17.82	18	0-1
			25	2505	20800	17.51	18	0-1
				2535	21100	17.64	18	0-1
				2565	21400	17.69	18	0-1
			49	2505	20800	17.56	18	0-1
				2535	21100	17.77	18	0-1
				2565	21400	17.71	18	0-1
		25 RB	0	2505	20800	17.46	18	0-2
				2535	21100	17.81	18	0-2
				2565	21400	17.80	18	0-2
			12	2505	20800	17.67	18	0-2
				2535	21100	17.80	18	0-2
				2565	21400	17.79	18	0-2
			25	2505	20800	17.68	18	0-2
				2535	21100	17.77	18	0-2
				2565	21400	17.77	18	0-2
		50RB		2505	20800	17.58	18	0-2
				2535	21100	17.78	18	0-2
				2565	21400	17.76	18	0-2

FDD Band 7 (Reduced Power)								
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	2502.5	20775	17.56	18	0
				2535	21100	17.79	18	0
				2567.5	21425	17.71	18	0
			12	2502.5	20775	17.56	18	0
				2535	21100	17.72	18	0
				2567.5	21425	17.68	18	0
			24	2502.5	20775	17.60	18	0
				2535	21100	17.74	18	0
				2567.5	21425	17.73	18	0
		12 RB	0	2502.5	20775	17.62	18	0-1
				2535	21100	17.79	18	0-1
				2567.5	21425	17.69	18	0-1
			6	2502.5	20775	17.60	18	0-1
				2535	21100	17.78	18	0-1
				2567.5	21425	17.72	18	0-1
			13	2502.5	20775	17.59	18	0-1
				2535	21100	17.80	18	0-1
				2567.5	21425	17.72	18	0-1
		25RB		2502.5	20775	17.60	18	0-1
				2535	21100	17.79	18	0-1
				2567.5	21425	17.71	18	0-1
	16-QAM	1 RB	0	2502.5	20775	17.47	18	0-1
				2535	21100	17.71	18	0-1
				2567.5	21425	17.65	18	0-1
			12	2502.5	20775	17.54	18	0-1
				2535	21100	17.64	18	0-1
				2567.5	21425	17.63	18	0-1
			24	2502.5	20775	17.56	18	0-1
				2535	21100	17.67	18	0-1
				2567.5	21425	17.65	18	0-1
		12 RB	0	2502.5	20775	17.56	18	0-2
				2535	21100	17.80	18	0-2
				2567.5	21425	17.78	18	0-2
			6	2502.5	20775	17.63	18	0-2
				2535	21100	17.78	18	0-2
				2567.5	21425	17.77	18	0-2
			13	2502.5	20775	17.68	18	0-2
				2535	21100	17.78	18	0-2
				2567.5	21425	17.78	18	0-2
		25RB		2502.5	20775	17.61	18	0-2
				2535	21100	17.76	18	0-2
				2567.5	21425	17.80	18	0-2

FDD Band 12 (Full Power)								
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	22.73	24	0
				707.5	23095	22.83	24	0
				711	23130	22.69	24	0
			25	704	23060	22.66	24	0
				707.5	23095	22.63	24	0
				711	23130	22.57	24	0
			49	704	23060	22.48	24	0
				707.5	23095	22.61	24	0
				711	23130	22.53	24	0
		25 RB	0	704	23060	21.66	23	0-1
				707.5	23095	21.75	23	0-1
				711	23130	21.68	23	0-1
			12	704	23060	21.78	23	0-1
				707.5	23095	21.79	23	0-1
				711	23130	21.81	23	0-1
			25	704	23060	21.71	23	0-1
				707.5	23095	21.75	23	0-1
				711	23130	21.67	23	0-1
		50RB		704	23060	21.71	23	0-1
				707.5	23095	21.74	23	0-1
				711	23130	21.69	23	0-1
	16-QAM	1 RB	0	704	23060	21.65	23	0-1
				707.5	23095	21.25	23	0-1
				711	23130	21.61	23	0-1
			25	704	23060	21.52	23	0-1
				707.5	23095	22.06	23	0-1
				711	23130	21.65	23	0-1
			49	704	23060	21.48	23	0-1
				707.5	23095	21.83	23	0-1
				711	23130	21.55	23	0-1
		25 RB	0	704	23060	20.71	22	0-2
				707.5	23095	20.73	22	0-2
				711	23130	20.78	22	0-2
			12	704	23060	20.80	22	0-2
				707.5	23095	20.64	22	0-2
				711	23130	20.70	22	0-2
			25	704	23060	20.76	22	0-2
				707.5	23095	20.80	22	0-2
				711	23130	20.70	22	0-2
		50RB		704	23060	20.61	22	0-2
				707.5	23095	20.68	22	0-2
				711	23130	20.63	22	0-2

FDD Band 12 (Full Power)								
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	22.44	24	0
				707.5	23095	22.35	24	0
				713.5	23155	22.67	24	0
			12	701.5	23035	22.48	24	0
				707.5	23095	22.55	24	0
				713.5	23155	22.60	24	0
			24	701.5	23035	22.65	24	0
				707.5	23095	22.48	24	0
				713.5	23155	22.67	24	0
		12 RB	0	701.5	23035	21.59	23	0-1
				707.5	23095	21.67	23	0-1
				713.5	23155	21.70	23	0-1
			6	701.5	23035	21.72	23	0-1
				707.5	23095	21.68	23	0-1
				713.5	23155	21.61	23	0-1
			13	701.5	23035	21.64	23	0-1
				707.5	23095	21.67	23	0-1
				713.5	23155	21.90	23	0-1
		25RB		701.5	23035	21.72	23	0-1
				707.5	23095	21.71	23	0-1
				713.5	23155	21.70	23	0-1
	16-QAM	1 RB	0	701.5	23035	21.28	23	0-1
				707.5	23095	21.87	23	0-1
				713.5	23155	21.42	23	0-1
			12	701.5	23035	21.09	23	0-1
				707.5	23095	21.47	23	0-1
				713.5	23155	21.26	23	0-1
			24	701.5	23035	21.45	23	0-1
				707.5	23095	21.64	23	0-1
				713.5	23155	21.50	23	0-1
		12 RB	0	701.5	23035	20.69	22	0-2
				707.5	23095	20.77	22	0-2
				713.5	23155	20.70	22	0-2
			6	701.5	23035	20.65	22	0-2
				707.5	23095	20.61	22	0-2
				713.5	23155	20.58	22	0-2
			13	701.5	23035	20.78	22	0-2
				707.5	23095	20.72	22	0-2
				713.5	23155	21.02	22	0-2
		25RB		701.5	23035	20.75	22	0-2
				707.5	23095	20.76	22	0-2
				713.5	23155	20.71	22	0-2

FDD Band 12 (Full Power)								
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	22.49	24	0
				707.5	23095	23.07	24	0
				714.5	23165	22.66	24	0
			7	700.5	23025	22.81	24	0
				707.5	23095	22.66	24	0
				714.5	23165	22.57	24	0
			14	700.5	23025	22.54	24	0
				707.5	23095	22.63	24	0
				714.5	23165	22.36	24	0
		8 RB	0	700.5	23025	21.58	23	0-1
				707.5	23095	21.71	23	0-1
				714.5	23165	21.62	23	0-1
			4	700.5	23025	21.60	23	0-1
				707.5	23095	21.63	23	0-1
				714.5	23165	21.79	23	0-1
			7	700.5	23025	21.65	23	0-1
				707.5	23095	21.54	23	0-1
				714.5	23165	21.70	23	0-1
		15RB		700.5	23025	21.67	23	0-1
				707.5	23095	21.67	23	0-1
				714.5	23165	21.82	23	0-1
	16-QAM	1 RB	0	700.5	23025	21.64	23	0-1
				707.5	23095	21.75	23	0-1
				714.5	23165	21.20	23	0-1
			7	700.5	23025	21.46	23	0-1
				707.5	23095	21.41	23	0-1
				714.5	23165	21.45	23	0-1
			14	700.5	23025	21.85	23	0-1
				707.5	23095	21.57	23	0-1
				714.5	23165	21.69	23	0-1
		8 RB	0	700.5	23025	20.54	22	0-2
				707.5	23095	20.67	22	0-2
				714.5	23165	20.66	22	0-2
			4	700.5	23025	20.57	22	0-2
				707.5	23095	20.56	22	0-2
				714.5	23165	20.48	22	0-2
			7	700.5	23025	20.64	22	0-2
				707.5	23095	20.49	22	0-2
				714.5	23165	20.64	22	0-2
		15RB		700.5	23025	20.55	22	0-2
				707.5	23095	20.53	22	0-2
				714.5	23165	20.56	22	0-2

FDD Band 12 (Full Power)								
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	699.7	23017	22.39	24	0
				707.5	23095	22.46	24	0
				715.3	23173	22.44	24	0
			2	699.7	23017	22.42	24	0
				707.5	23095	22.54	24	0
				715.3	23173	22.43	24	0
			5	699.7	23017	22.77	24	0
				707.5	23095	22.45	24	0
				715.3	23173	22.99	24	0
		3 RB	0	699.7	23017	22.38	24	0
				707.5	23095	23.00	24	0
				715.3	23173	22.48	24	0
			2	699.7	23017	22.77	24	0
				707.5	23095	22.55	24	0
				715.3	23173	22.50	24	0
			3	699.7	23017	22.77	24	0
				707.5	23095	22.49	24	0
				715.3	23173	22.97	24	0
		6RB		699.7	23017	21.67	23	0-1
				707.5	23095	21.53	23	0-1
				715.3	23173	21.73	23	0-1
	16-QAM	1 RB	0	699.7	23017	21.65	23	0-1
				707.5	23095	21.46	23	0-1
				715.3	23173	21.82	23	0-1
			2	699.7	23017	21.50	23	0-1
				707.5	23095	21.44	23	0-1
				715.3	23173	21.63	23	0-1
			5	699.7	23017	21.87	23	0-1
				707.5	23095	21.49	23	0-1
				715.3	23173	21.70	23	0-1
		3 RB	0	699.7	23017	21.34	23	0-1
				707.5	23095	21.63	23	0-1
				715.3	23173	21.44	23	0-1
			2	699.7	23017	21.98	23	0-1
				707.5	23095	21.63	23	0-1
				715.3	23173	21.45	23	0-1
			3	699.7	23017	21.51	23	0-1
				707.5	23095	21.54	23	0-1
				715.3	23173	21.46	23	0-1
		6RB		699.7	23017	20.54	22	0-2
				707.5	23095	20.39	22	0-2
				715.3	23173	20.49	22	0-2

FDD Band 13 (Full Power)								
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	22.65	24	0
			25	782	23230	22.48	24	0
			49	782	23230	22.60	24	0
		25 RB	0	782	23230	21.72	23	0-1
			12	782	23230	21.80	23	0-1
			25	782	23230	21.72	23	0-1
		50RB		782	23230	21.75	23	0-1
	16-QAM	1 RB	0	782	23230	22.11	23	0-1
			25	782	23230	21.54	23	0-1
			49	782	23230	21.67	23	0-1
		25 RB	0	782	23230	20.65	22	0-2
			12	782	23230	20.72	22	0-2
			25	782	23230	20.69	22	0-2
		50RB		782	23230	20.66	22	0-2

FDD Band 13 (Full Power)								
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	22.40	24	0
				782	23230	22.46	24	0
				784.5	23255	22.62	24	0
			12	779.5	23205	22.82	24	0
				782	23230	22.52	24	0
				784.5	23255	22.62	24	0
			24	779.5	23205	22.65	24	0
				782	23230	22.61	24	0
				784.5	23255	22.58	24	0
		12 RB	0	779.5	23205	21.63	23	0-1
				782	23230	21.64	23	0-1
				784.5	23255	21.72	23	0-1
			6	779.5	23205	22.00	23	0-1
				782	23230	21.71	23	0-1
				784.5	23255	21.61	23	0-1
			13	779.5	23205	21.69	23	0-1
				782	23230	21.67	23	0-1
				784.5	23255	21.55	23	0-1
		25RB		779.5	23205	21.40	23	0-1
				782	23230	21.69	23	0-1
				784.5	23255	21.74	23	0-1
	16-QAM	1 RB	0	779.5	23205	21.74	23	0-1
				782	23230	21.41	23	0-1
				784.5	23255	21.59	23	0-1
			12	779.5	23205	21.58	23	0-1
				782	23230	21.31	23	0-1
				784.5	23255	21.25	23	0-1
			24	779.5	23205	21.11	23	0-1
				782	23230	22.00	23	0-1
				784.5	23255	21.49	23	0-1
		12 RB	0	779.5	23205	20.66	22	0-2
				782	23230	20.69	22	0-2
				784.5	23255	20.69	22	0-2
			6	779.5	23205	20.48	22	0-2
				782	23230	20.72	22	0-2
				784.5	23255	20.56	22	0-2
			13	779.5	23205	20.63	22	0-2
				782	23230	20.71	22	0-2
				784.5	23255	20.67	22	0-2
		25RB		779.5	23205	20.48	22	0-2
				782	23230	20.70	22	0-2
				784.5	23255	20.70	22	0-2

FDD Band 17 (Full Power)								
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	22.45	24	0
				710	23790	22.65	24	0
				711	23800	22.49	24	0
			25	709	23780	22.72	24	0
				710	23790	22.91	24	0
				711	23800	22.69	24	0
			49	709	23780	22.57	24	0
				710	23790	22.71	24	0
				711	23800	22.32	24	0
		25 RB	0	709	23780	21.61	23	0-1
				710	23790	21.67	23	0-1
				711	23800	21.62	23	0-1
			12	709	23780	21.66	23	0-1
				710	23790	21.60	23	0-1
				711	23800	21.66	23	0-1
			25	709	23780	21.67	23	0-1
				710	23790	21.71	23	0-1
				711	23800	21.72	23	0-1
		50RB		709	23780	21.73	23	0-1
				710	23790	21.69	23	0-1
				711	23800	21.63	23	0-1
	16-QAM	1 RB	0	709	23780	21.80	23	0-1
				710	23790	21.81	23	0-1
				711	23800	21.76	23	0-1
			25	709	23780	21.46	23	0-1
				710	23790	21.84	23	0-1
				711	23800	21.81	23	0-1
			49	709	23780	21.21	23	0-1
				710	23790	21.91	23	0-1
				711	23800	21.81	23	0-1
		25 RB	0	709	23780	20.64	22	0-2
				710	23790	20.64	22	0-2
				711	23800	20.70	22	0-2
			12	709	23780	20.78	22	0-2
				710	23790	20.61	22	0-2
				711	23800	20.56	22	0-2
			25	709	23780	20.65	22	0-2
				710	23790	20.76	22	0-2
				711	23800	20.66	22	0-2
		50RB		709	23780	20.77	22	0-2
				710	23790	20.50	22	0-2
				711	23800	20.44	22	0-2

FDD Band 17 (Full Power)								
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	22.46	24	0
				710	23790	22.74	24	0
				713.5	23825	22.77	24	0
			12	706.5	23755	23.24	24	0
				710	23790	22.52	24	0
				713.5	23825	22.61	24	0
			24	706.5	23755	22.51	24	0
				710	23790	22.66	24	0
				713.5	23825	22.62	24	0
		12 RB	0	706.5	23755	21.54	23	0-1
				710	23790	21.62	23	0-1
				713.5	23825	21.67	23	0-1
			6	706.5	23755	21.63	23	0-1
				710	23790	21.57	23	0-1
				713.5	23825	21.60	23	0-1
			13	706.5	23755	21.72	23	0-1
				710	23790	21.74	23	0-1
				713.5	23825	21.45	23	0-1
		25RB		706.5	23755	21.68	23	0-1
				710	23790	21.56	23	0-1
				713.5	23825	21.68	23	0-1
	16-QAM	1 RB	0	706.5	23755	21.59	23	0-1
				710	23790	21.66	23	0-1
				713.5	23825	21.80	23	0-1
			12	706.5	23755	21.79	23	0-1
				710	23790	21.77	23	0-1
				713.5	23825	21.67	23	0-1
			24	706.5	23755	21.56	23	0-1
				710	23790	21.88	23	0-1
				713.5	23825	21.72	23	0-1
		12 RB	0	706.5	23755	20.55	22	0-2
				710	23790	20.61	22	0-2
				713.5	23825	20.63	22	0-2
			6	706.5	23755	20.65	22	0-2
				710	23790	20.58	22	0-2
				713.5	23825	20.62	22	0-2
			13	706.5	23755	20.69	22	0-2
				710	23790	20.76	22	0-2
				713.5	23825	20.56	22	0-2
		25RB		706.5	23755	20.63	22	0-2
				710	23790	20.72	22	0-2
				713.5	23825	20.55	22	0-2

1.4 Test Environment

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

1.5 Operation Description

1. WWAN:

SAR is measured as below and confirmed by KDB inquiry.

GPRS850/1900, WCDMA B2/4, CDMA BC1, LTE B2/4/7:

Laptop mode without power reduction

Stand mode without power reduction

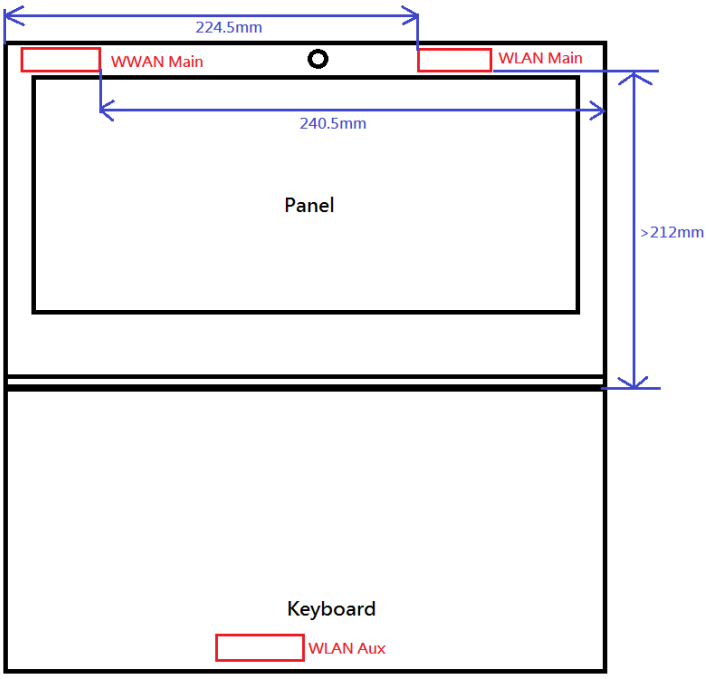
Tablet mode with power reduction

WCDMA B5, CDMA BC0, LTE B5/12/13/17:

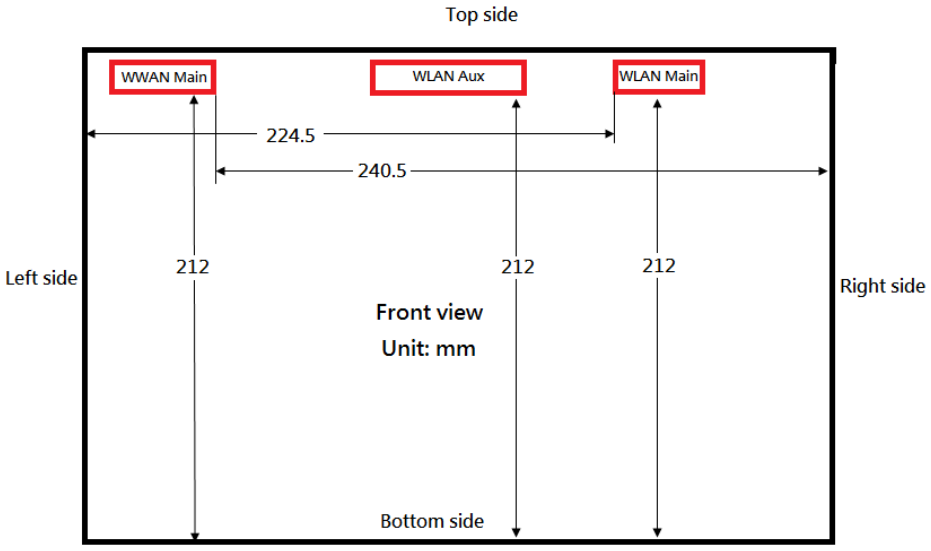
Laptop mode without power reduction

Stand mode without power reduction

Tablet mode without power reduction



Antenna location (Laptop Mode)



Antenna location (Tablet Mode)

2. WLAN

For WLAN, since the RF hardware/software of FCC ID: B94HNI04CAMWP is the same with that of FCC ID: PD98265D2, so the WLAN is refer to the WLAN SAR report of FCC ID: PD98265D2 after verifying the worst cases of the WLAN SAR report. Besides, for WLAN Main, we tested laptop mode and left side of tablet mode for the simultaneous transmission evaluation, and we tested stand mode based on KDB inquiry. For WLAN Aux, we tested left side of tablet mode for the simultaneous transmission evaluation, and we tested stand mode based on KDB inquiry.

Note:

1. The EUT is controlled by using a Radio Communication Tester (Anritsu MT8820C / CMU200), and the communication between the EUT and the tester is established by air link.

2. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.

3. 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.

4. SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power. The data mode with highest specified time-averaged output power should be tested for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode. Since the maximum output power in a secondary mode (8-PSK EDGE) is ≤ ¼ dB higher than the primary mode (GMSK GPRS/EDGE), SAR measurement is not required for the secondary mode (8-PSK EDGE).

5. 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).

6. 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).

7. Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. The 3G SAR test reduction procedure is applied to Rev. A, Subtype 2 Physical layer configuration, with Rev. 0 as the primary mode since the maximum output power in a secondary mode is ≤ ¼ dB higher than the primary mode. For Ev-Do data devices that also support 1x RTT voice and/or data operations, the 3G SAR test reduction procedure is applied to 1x RTT RC3 and RC1 with Ev-Do Rev. 0, Rev. A and Rev. B as the respective primary modes.

8. 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.

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.

9. According to **KDB447498D01v06**, 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.

10. According to **KDB865664D01v01r04,** 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)

1.6 Operation description

The device is a convertible laptop computer with a lid open up to x360 degree. Device modes are defined for different use scenarios.
For those device modes under RF exposure concern, the radio power reduction will be triggered. There are the sensors at the lid and the base of laptop, and the sensors can calculate the angle between the screen and the keyboard base, and then reduce the maximum power based on each device mode accordingly. When the device is operated at the laptop mode (hinge angle<160 degree), the power reduction will not be triggered, but when the hinge angle>160 degree, the power reduction will be triggered. Besides, the power reduction is a single fixed level of power reduction, and the power reduction level will be the same with the different hinge angle (different use scenarios, like flat, tent, tablet mode). Also, the power reduction will only be triggered on WWAN, not on WLAN, and the sensor can tell if the device is in stand or tent mode even though the two modes have the same hinge angles between the screen and keyboard base. Stand mode is defined only when the base is placed horizontally.

The reduced power for each technology/band is defined in Table1-1 and Table1-2.

Table1-1：The power reduction scenario table

Band	Power Reduction
GPRS850	YES
EDGE850	NO
GPRS1900	YES
EDGE1900	YES
WCDMA B2	YES
WCDMA B4	YES
WCDMA B5	NO
CDMA BC0	NO
CDMA BC1	YES
LTE B2	YES
LTE B4	YES
LTE B5	NO
LTE B7	YES
LTE B12	NO
LTE B13	NO
LTE B17	NO
WLAN	NO
BT	NO

Table1-2：The maximum reduced power

Technology / Band	Mode	Default Maximum Power (dBm)
GPRS 850	Class 8	31.0
	Class 10	30.5
	Class 11	28.5
	Class 12	26.5
GPRS 1900	Class 8	26.5
	Class 10	25.5
	Class 11	23.5
	Class 12	21.5
EDGE 1900	Class 8	23.0
	Class 10	22.0
	Class 11	22.0
	Class 12	20.0
UMTS B2	RMC 12.2K data	19.5
	HSDPA case 1	18.5
	HSDPA case 2	18.5
	HSDPA case 3	18.5
	HSDPA case 4	18.5
	HSUPA case 1	18.5
	HSUPA case 2	18.5
	HSUPA case 3	18.5
	HSUPA case 4	18.5
	HSUPA case 5	18.5

Technology / Band	Mode	Default Maximum Power (dBm)
UMTS B4	RMC 12.2K data	19.5
	HSDPA case 1	18.5
	HSDPA case 2	18.5
	HSDPA case 3	18.5
	HSDPA case 4	18.5
	HSUPA case 1	18.5
	HSUPA case 2	18.5
	HSUPA case 3	18.5
	HSUPA case 4	18.5
	HSUPA case 5	18.5
CDMA BC1	All	19.5
LTE B2	All	19.5
LTE B4	All	19.5
LTE B7	All	18.0

1.7 The SAR Measurement System

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

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

1. A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage intissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

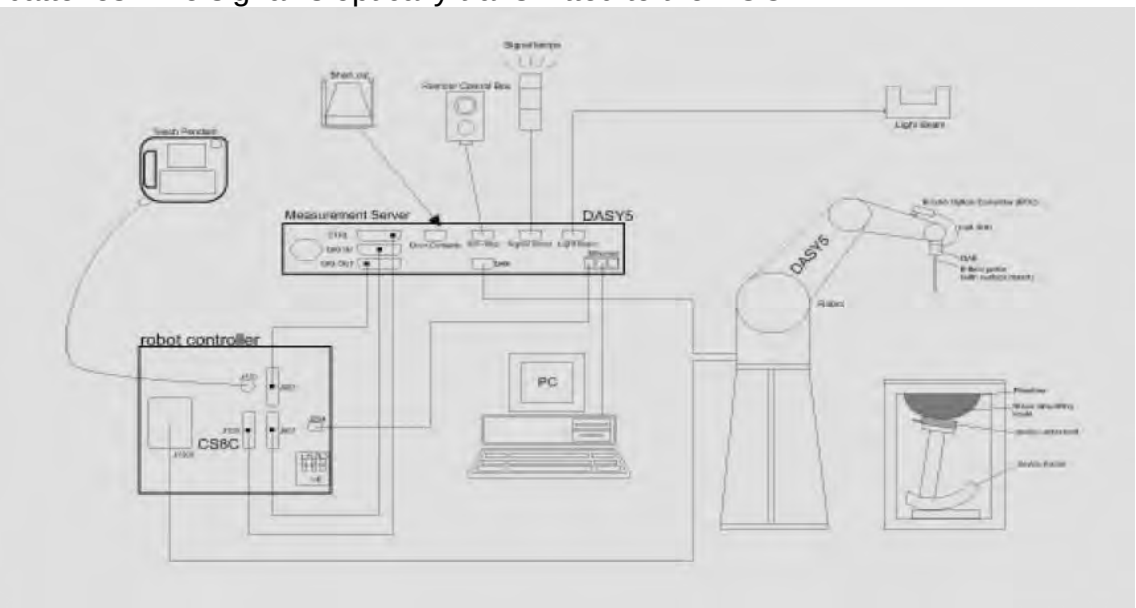


Fig. a The block diagram of SAR system

4. The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
5. The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
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. The SAM twin phantom enabling testing left-hand and right-hand usage.
11. The device holder for handheld mobile phones.
12. Tissue simulating liquid mixed according to the given recipes.
13. Validation dipole kits allowing to validate the proper functioning of the system.

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 750/835/1750/1900/2450/2600/5300/5600/5800MHz 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%.	

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

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 750/835/1750/1900/2450/2600/5300/5600/5800MHz. 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.

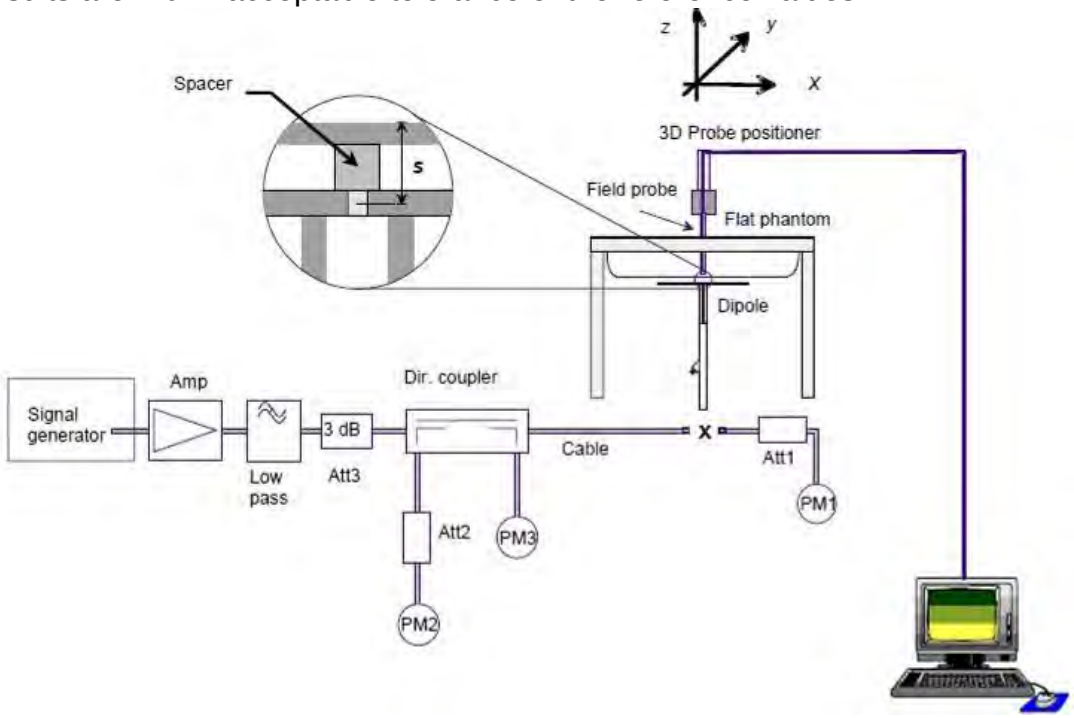


Fig. b The block diagram of system verification

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W	Deviation (%)	Measured Date
D750V3	1015	750	Body	8.77	2.24	8.96	2.17%	Mar. 28, 2017
				8.77	2.21	8.84	0.80%	Mar. 29, 2017
D835V2	4d063	835	Body	9.57	2.49	9.96	4.08%	Mar. 30, 2017
D1750V2	1008	1750	Body	37.3	9.29	37.16	-0.38%	Mar. 31, 2017
D1900V2	5d027	1900	Body	39.7	9.71	38.84	-2.17%	Apr. 01, 2017
D2450V2	727	2450	Body	49.6	12.7	50.8	2.42%	Apr. 03, 2017
D2600V2	1005	2600	Body	55.1	14.1	56.4	2.36%	Apr. 02, 2017
D5GHzV2	1023	5300	Body	76.1	7.55	75.5	-0.79%	Apr. 03, 2017
		5600	Body	79.6	8.05	80.5	1.13%	Apr. 04, 2017
		5800	Body	75.9	7.57	75.7	-0.26%	Apr. 04, 2017

Table 1. Results of system verification

1.10 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this body-simulant fluid were measured by using the Schmid & Partner Engineering AG Model DAKS-3.5 Dielectric 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.

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	Mar. 28, 2017	704	55.710	0.960	56.416	0.940	-1.27%	2.06%
		707.5	55.697	0.960	56.392	0.952	-1.25%	0.84%
		709	55.691	0.960	56.377	0.960	-1.23%	0.02%
		710	55.687	0.960	56.367	0.966	-1.22%	-0.60%
		711	55.683	0.960	56.359	0.969	-1.21%	-0.90%
		750	55.531	0.963	55.892	0.970	-0.65%	-0.69%
	Mar. 29, 2017	750	55.531	0.963	55.945	0.972	-0.75%	-0.90%
		782	55.406	0.966	55.902	0.974	-0.89%	-0.84%
	Mar. 30, 2017	824.2	55.242	0.969	56.167	0.961	-1.67%	0.84%
		824.7	55.240	0.969	56.146	0.963	-1.64%	0.64%
		826.4	55.234	0.969	55.977	0.965	-1.35%	0.45%
		829	55.223	0.970	55.973	0.970	-1.36%	-0.07%
		835	55.200	0.970	55.888	0.978	-1.25%	-0.82%
		836.5	55.195	0.972	55.872	0.979	-1.23%	-0.74%
		836.52	55.195	0.972	55.871	0.981	-1.22%	-0.94%
		836.6	55.195	0.972	55.870	0.985	-1.22%	-1.34%
		844	55.172	0.981	55.865	0.986	-1.26%	-0.52%
		846.6	55.164	0.984	55.861	0.990	-1.26%	-0.60%
		848.31	55.159	0.986	55.811	0.998	-1.18%	-1.18%
		848.8	55.158	0.987	55.790	0.999	-1.15%	-1.22%
	Mar. 31, 2017	1712.4	53.531	1.465	53.912	1.478	-0.71%	-0.91%
		1720	53.511	1.469	53.893	1.483	-0.71%	-0.92%
		1732.4	53.478	1.477	53.862	1.484	-0.72%	-0.45%
		1732.5	53.478	1.477	53.861	1.491	-0.72%	-0.92%
		1745	53.445	1.485	53.851	1.492	-0.76%	-0.45%
		1750	53.432	1.488	53.845	1.505	-0.77%	-1.11%
		1752.6	53.425	1.490	53.831	1.507	-0.76%	-1.12%

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	Apr. 1, 2017	1850.2	53.300	1.520	53.797	1.530	-0.93%	-0.66%
		1851.25	53.300	1.520	53.758	1.533	-0.86%	-0.86%
		1852.4	53.300	1.520	53.752	1.534	-0.85%	-0.92%
		1860	53.300	1.520	53.738	1.537	-0.82%	-1.12%
		1880	53.300	1.520	53.454	1.545	-0.29%	-1.64%
		1900	53.300	1.520	53.450	1.546	-0.28%	-1.73%
		1907.6	53.300	1.520	53.445	1.547	-0.27%	-1.76%
		1908.75	53.300	1.520	53.415	1.550	-0.22%	-1.96%
		1909.8	53.300	1.520	53.335	1.558	-0.07%	-2.49%
	Apr. 3, 2017	2412	52.751	1.914	53.456	1.931	-1.34%	-0.90%
		2437	52.717	1.938	53.355	1.956	-1.21%	-0.95%
		2441	52.712	1.941	53.339	1.960	-1.19%	-0.96%
		2450	52.700	1.950	53.298	1.969	-1.13%	-0.97%
		2462	52.685	1.967	53.250	1.981	-1.07%	-0.71%
	Apr. 2, 2017	2510	52.624	2.035	51.888	1.987	1.40%	2.36%
		2535	52.592	2.071	51.859	2.104	1.39%	-1.62%
		2560	52.560	2.106	51.834	2.129	1.38%	-1.09%
		2600	52.509	2.163	51.883	2.132	1.19%	1.42%
	Apr. 3, 2017	5280	48.906	5.393	48.799	5.347	0.22%	0.85%
		5300	48.879	5.416	48.703	5.407	0.36%	0.17%
	Apr. 4, 2017	5580	48.499	5.743	48.370	5.793	0.27%	-0.87%
		5600	48.471	5.766	48.006	5.815	0.96%	-0.84%
		5620	48.444	5.790	47.985	5.875	0.95%	-1.47%
		5785	48.220	5.982	47.757	6.069	0.96%	-1.45%
		5800	48.200	6.000	47.532	6.077	1.39%	-1.28%
		5825	48.166	6.029	47.510	6.095	1.36%	-1.09%

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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)
2450	Body	301.7ml	698.3ml	–	–	–	–	1.0L(Kg)
2600	Body	301.7ml	698.3ml	–	–	–	–	1.0L(Kg)

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

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.

$$SAR = \frac{\sigma}{\rho}|E|^2 = c\frac{\delta T}{\delta t}$$

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:

1. 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.
2. 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.
3. 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%.
4. 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:

1. The setup must enable accurate determination of the incident power.
2. The accuracy of the calculated field strength will depend on the assessment of the dielectric parameters of the liquid.

3. 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

1. N. Kuster, Q. Balzano, and J.C. Lin, Eds., *Mobile Communications Safety*, Chapman & Hall, London, 1997.
2. K. Meier, M. Burkhardt, T. Schmid, and N. Kuster, \Broadband calibration of E-field probes in lossy media", *IEEE Transactions on Microwave Theory and Techniques*, vol. 44, no. 10, pp. 1954{1962, Oct. 1996.
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

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.

2. Summary of Results

GPRS 850 MHz (without power reduction)

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	
GPRS 850 (1Dn2UP)	Laptop mode	0	251	848.8	33	32.76	5.68%	0.012	0.013	-
	Stand mode	0	251	848.8	33	32.76	5.68%	0.011	0.012	-

GPRS 850 MHz (with power reduction)

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	
GPRS 850 (1Dn2UP)	Top side	0	128	824.2	30.5	30.41	2.09%	0.948	0.968	-
	Top side	0	190	836.6	30.5	30.24	6.17%	0.838	0.890	-
	Top side	0	251	848.8	30.5	30.47	0.69%	0.596	0.600	-
	Back side	0	251	848.8	30.5	30.47	0.69%	0.154	0.155	-
	Left side	0	128	824.2	30.5	30.41	2.09%	1.150	1.174	130
	Left side*	0	128	824.2	30.5	30.41	2.09%	1.140	1.164	-
	Left side	0	190	836.6	30.5	30.24	6.17%	0.942	1.000	-
	Left side	0	251	848.8	30.5	30.47	0.69%	0.843	0.849	-

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

GPRS 1900 MHz (without power reduction)

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	
GPRS 1900 (1Dn2UP)	Laptop mode	0	661	1880	30	29.63	8.89%	0.015	0.016	-
	Stand mode	0	661	1880	30	29.63	8.89%	0.012	0.013	-

GPRS 1900 MHz (with power reduction)

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	
GPRS 1900 (1Dn2UP)	Top side	0	661	1880	25.5	25.46	0.93%	0.573	0.578	-
	Back side	0	661	1880	25.5	25.46	0.93%	0.044	0.044	-
	Left side	0	512	1850.2	25.5	25.45	1.16%	0.718	0.726	-
	Left side	0	661	1880	25.5	25.46	0.93%	0.856	0.864	-
	Left side	0	810	1909.8	25.5	25.42	1.86%	0.927	0.944	131
	Left side*	0	810	1909.8	25.5	25.42	1.86%	0.911	0.928	-

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

WCDMA Band II (without power reduction)

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	Laptop mode	0	9400	1880	24.5	23.86	15.88%	0.017	0.020	-
	Stand mode	0	9400	1880	24.5	23.86	15.88%	0.014	0.016	-

WCDMA Band II (with power reduction)

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	Top side	0	9400	1880	19.5	19.50	0.00%	0.662	0.662	-
	Back side	0	9400	1880	19.5	19.50	0.00%	0.051	0.051	-
	Left side	0	9262	1852.4	19.5	19.21	6.91%	0.671	0.717	-
	Left side	0	9400	1880	19.5	19.50	0.00%	0.935	0.935	-
	Left side	0	9538	1907.6	19.5	19.49	0.23%	0.957	0.959	132
	Left side*	0	9538	1907.6	19.5	19.49	0.23%	0.951	0.953	-

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

WCDMA Band IV (without power reduction)

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	Laptop mode	0	1412	1732.4	24.5	23.87	15.61%	0.017	0.020	-
	Stand mode	0	1412	1732.4	24.5	23.87	15.61%	0.016	0.018	-

WCDMA Band IV (with power reduction)

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	Top side	0	1412	1732.4	19.5	19.40	2.33%	0.666	0.682	-
	Back side	0	1412	1732.4	19.5	19.40	2.33%	0.057	0.058	-
	Left side	0	1312	1712.4	19.5	19.22	6.66%	1.030	1.099	133
	Left side*	0	1312	1712.4	19.5	19.22	6.66%	1.010	1.077	-
	Left side	0	1412	1732.4	19.5	19.40	2.33%	0.968	0.991	-
	Left side	0	1513	1752.6	19.5	19.30	4.71%	0.938	0.982	-

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

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	Laptop mode	0	4233	846.6	24.5	24.50	0.00%	0.017	0.017	-
	Stand mode	0	4233	846.4	24.5	24.50	0.00%	0.015	0.015	-
	Top side	0	4132	826.4	24.5	24.47	0.69%	0.923	0.929	-
	Top side	0	4183	836.4	24.5	24.17	7.89%	0.798	0.861	-
	Top side	0	4233	846.6	24.5	24.50	0.00%	0.800	0.800	-
	Back side	0	4233	846.6	24.5	24.50	0.00%	0.198	0.198	-
	Left side	0	4132	826.4	24.5	24.47	0.69%	1.120	1.128	134
	Left side*	0	4132	826.4	24.5	24.47	0.69%	1.000	1.007	-
	Left side	0	4183	836.4	24.5	24.17	7.89%	0.950	1.025	-
	Left side	0	4233	846.6	24.5	24.50	0.00%	0.913	0.913	-

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

CDMA / EVDO (BC0)

Mode		Service	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	
CDMA BC 0	EVDO	Rev. 0 Subtype 0/1	Laptop mode	0	777	848.31	25	24.21	19.95%	0.016	0.019	-
			Stand mode	0	777	848.31	25	24.21	19.95%	0.015	0.018	-
			Top side	0	1013	824.7	25	24.18	20.78%	0.819	0.989	-
			Top side	0	384	836.52	25	24.15	21.62%	0.811	0.986	-
			Top side	0	777	848.31	25	24.21	19.95%	0.824	0.988	-
			Back side	0	777	848.31	25	24.21	19.95%	0.204	0.245	-
			Left side	0	1013	824.7	25	24.18	20.78%	0.940	1.135	-
			Left side	0	384	836.52	25	24.15	21.62%	0.932	1.133	-
			Left side	0	777	848.31	25	24.21	19.95%	0.948	1.137	135
			Left side*	0	777	848.31	25	24.21	19.95%	0.939	1.126	-

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

CDMA / EVDO (BC1) (without power reduction)

Mode		Service	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	
CDMA BC 1	EVDO	Rev. 0 Subtype 0/1	Laptop mode	0	1175	1908.75	25	23.89	29.12%	0.014	0.018	-
			Stand mode	0	1175	1908.75	25	23.89	29.12%	0.013	0.017	-

CDMA / EVDO (BC1) (with power reduction)

Mode		Service	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	
CDMA BC 1	EVDO	Rev. 0 Subtype 0/1	Top side	0	1175	1908.75	19.5	19.45	1.16%	0.624	0.631	-
			Back side	0	1175	1908.75	19.5	19.45	1.16%	0.054	0.055	-
			Left side	0	25	1851.25	19.5	19.24	6.17%	0.702	0.745	-
			Left side	0	600	1800	19.5	19.41	2.09%	0.933	0.953	-
			Left side	0	1175	1908.75	19.5	19.45	1.16%	0.962	0.973	136
			Left side*	0	1175	1908.75	19.5	19.45	1.16%	0.961	0.972	-

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

LTE FDD Band 2 (without power reduction)

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 2	20MHz	QPSK	1 RB	0	Laptop mode	0	18900	1880	24	23.20	20.23%	0.019	0.023	-
					Stand mode	0	18900	1880	24	23.20	20.23%	0.019	0.023	-
			50 RB	0	Laptop mode	0	18900	1880	23	22.17	21.06%	0.017	0.021	-
					Stand mode	0	18900	1880	23	22.17	21.06%	0.013	0.016	-
			100 RB		Laptop mode	0	18900	1880	23	22.09	23.31%	0.016	0.020	-
					Stand mode	0	18900	1880	23	22.09	23.31%	0.014	0.017	-

LTE FDD Band 2 (with power reduction)

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 2	20MHz	QPSK	1 RB	0	Top side	0	18900	1880	19.5	19.24	6.17%	0.632	0.671	-
					Back side	0	18900	1880	19.5	19.24	6.17%	0.052	0.055	-
					Left side	0	18700	1860	19.5	18.93	14.02%	0.744	0.848	-
					Left side	0	18900	1880	19.5	19.24	6.17%	0.889	0.944	-
					Left side	0	19100	1900	19.5	19.16	8.14%	0.936	1.012	-
			50 RB	0	Top side	0	18900	1880	19.5	19.25	5.93%	0.613	0.649	-
					Back side	0	18900	1880	19.5	19.25	5.93%	0.052	0.055	-
					Left side	0	18700	1860	19.5	18.88	15.35%	0.755	0.871	-
					Left side	0	18900	1880	19.5	19.25	5.93%	0.901	0.954	-
					Left side	0	19100	1900	19.5	19.24	6.17%	0.942	1.000	-
			100 RB		Top side	0	18900	1880	19.5	19.19	7.40%	0.657	0.706	-
					Back side	0	18900	1880	19.5	19.19	7.40%	0.051	0.055	-
					Left side	0	18700	1860	19.5	18.81	17.22%	0.777	0.911	-
					Left side	0	18900	1880	19.5	19.19	7.40%	0.948	1.018	-
					Left side	0	19100	1900	19.5	19.15	8.39%	1.050	1.138	137
					Left side	0	19100	1900	19.5	19.15	8.39%	1.040	1.127	-

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

LTE FDD Band 4 (without power reduction)

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 4	20MHz	QPSK	1 RB	0	Laptop mode	0	20175	1732.5	24	23.25	18.85%	0.018	0.021	-
					Stand mode	0	20175	1732.5	24	23.25	18.85%	0.016	0.019	-
			50 RB	0	Laptop mode	0	20175	1732.5	23	22.14	21.90%	0.015	0.018	-
					Stand mode	0	20175	1732.5	23	22.14	21.90%	0.014	0.017	-
			100 RB		Laptop mode	0	20175	1732.5	23	22.04	24.74%	0.015	0.019	-
					Stand mode	0	20175	1732.5	23	22.04	24.74%	0.014	0.017	-

LTE FDD Band 4 (with power reduction)

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 4	20MHz	QPSK	1 RB	0	Top side	0	20175	1732.5	19.5	19.49	0.23%	0.667	0.669	-
					Back side	0	20175	1732.5	19.5	19.49	0.23%	0.052	0.052	-
					Left side	0	20050	1720	19.5	19.37	3.04%	0.880	0.907	-
					Left side	0	20175	1732.5	19.5	19.49	0.23%	0.872	0.874	-
					Left side	0	20300	1745	19.5	19.43	1.62%	0.850	0.864	-
			50 RB	0	Top side	0	20175	1732.5	19.5	19.49	0.23%	0.645	0.646	-
					Back side	0	20175	1732.5	19.5	19.49	0.23%	0.052	0.052	-
					Left side	0	20050	1720	19.5	19.37	3.04%	0.876	0.903	-
					Left side	0	20175	1732.5	19.5	19.49	0.23%	0.859	0.861	-
					Left side	0	20300	1745	19.5	19.44	1.39%	0.823	0.834	-
			100 RB		Top side	0	20175	1732.5	19.5	19.40	2.33%	0.635	0.650	-
					Back side	0	20175	1732.5	19.5	19.40	2.33%	0.054	0.055	-
					Left side	0	20050	1720	19.5	19.34	3.75%	0.955	0.991	-
					Left side	0	20175	1732.5	19.5	19.40	2.33%	0.967	0.990	138
					Left side*	0	20175	1732.5	19.5	19.40	2.33%	0.961	0.983	-
					Left side	0	20300	1745	19.5	19.33	3.99%	0.942	0.980	-

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

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	Laptop mode	0	20450	829	24	22.87	29.72%	0.011	0.014	-
					Stand mode	0	20450	829	24	22.87	29.72%	0.016	0.021	-
					Top side	0	20450	829	24	22.87	29.72%	0.652	0.846	-
					Top side	0	20525	836.5	24	22.84	30.62%	0.784	1.024	139
					Top side*	0	20525	836.5	24	22.84	30.62%	0.781	1.020	-
					Top side	0	20600	844	24	22.86	30.02%	0.634	0.824	-
					Back side	0	20450	829	24	22.87	29.72%	0.177	0.230	-
					Left side	0	20450	829	24	22.87	29.72%	0.504	0.654	-
			25 RB	12	Laptop mode	0	20450	829	23	21.87	29.72%	0.009	0.012	-
					Stand mode	0	20450	829	23	21.87	29.72%	0.014	0.018	-
					Top side	0	20450	829	23	21.87	29.72%	0.511	0.663	-
					Back side	0	20450	829	23	21.87	29.72%	0.134	0.174	-
					Left side	0	20450	829	23	21.87	29.72%	0.391	0.507	-
			50 RB		Laptop mode	0	20600	844	23	21.79	32.13%	0.010	0.013	-
					Stand mode	0	20600	844	23	21.79	32.13%	0.014	0.018	-
					Top side	0	20600	844	23	21.79	32.13%	0.476	0.629	-
					Back side	0	20600	844	23	21.79	32.13%	0.117	0.155	-
					Left side	0	20600	844	23	21.79	32.13%	0.345	0.456	-

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

LTE FDD Band 7 (without power reduction)

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 7	20MHz	QPSK	1 RB	0	Laptop mode	0	21350	2560	24	23.39	15.08%	0.012	0.014	-
					Stand mode	0	21350	2560	24	23.39	15.08%	0.017	0.020	-
			50 RB	25	Laptop mode	0	21350	2560	23	22.51	11.94%	0.009	0.010	-
					Stand mode	0	21350	2560	23	22.51	11.94%	0.015	0.017	-
			100 RB		Laptop mode	0	21350	2560	23	22.29	17.76%	0.009	0.011	-
					Stand mode	0	21350	2560	23	22.29	17.76%	0.015	0.018	-

LTE FDD Band 7 (with power reduction)

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 7	20MHz	QPSK	1 RB	0	Top side	0	20850	2510	18	17.64	8.64%	0.728	0.791	-
					Top side	0	21100	2535	18	17.90	2.33%	0.901	0.922	-
					Top side	0	21350	2560	18	18.00	0.00%	0.953	0.953	-
					Back side	0	21350	2560	18	18.00	0.00%	0.152	0.152	-
					Left side	0	20850	2510	18	17.64	8.64%	0.925	1.005	-
					Left side	0	21100	2535	18	17.90	2.33%	0.982	1.005	-
					Left side	0	21350	2560	18	18.00	0.00%	1.050	1.050	140
					Left side*	0	21350	2560	18	18.00	0.00%	1.040	1.040	-
			50 RB	25	Top side	0	20850	2510	18	17.75	5.93%	0.712	0.754	-
					Top side	0	21100	2535	18	17.82	4.23%	0.888	0.926	-
					Top side	0	21350	2560	18	17.84	3.75%	0.941	0.976	-
					Back side	0	21350	2560	18	17.84	3.75%	0.151	0.157	-
					Left side	0	20850	2510	18	17.75	5.93%	0.909	0.963	-
					Left side	0	21100	2535	18	17.82	4.23%	0.971	1.012	-
					Left side	0	21350	2560	18	17.84	3.75%	1.000	1.038	-
			100 RB		Top side	0	20850	2510	18	17.61	9.40%	0.731	0.800	-
					Top side	0	21100	2535	18	17.79	4.95%	0.872	0.915	-
					Top side	0	21350	2560	18	17.80	4.71%	0.942	0.986	-
					Back side	0	21350	2560	18	17.80	4.71%	0.159	0.166	-
					Left side	0	20850	2510	18	17.61	9.40%	0.911	0.997	-
					Left side	0	21100	2535	18	17.79	4.95%	0.965	1.013	-
					Left side	0	21350	2560	18	17.80	4.71%	1.010	1.058	-

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

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	0	Laptop mode	0	23095	707.5	24	22.83	30.92%	0.006	0.008	-
					Stand mode	0	23095	707.5	24	22.83	30.92%	0.008	0.010	-
					Top side	0	23060	704	24	22.73	33.97%	0.610	0.817	-
					Top side	0	23095	707.5	24	22.83	30.92%	0.634	0.830	141
					Top side*	0	23095	707.5	24	22.83	30.92%	0.622	0.814	-
					Top side	0	23130	711	24	22.69	35.21%	0.608	0.822	-
					Back side	0	23095	707.5	24	22.83	30.92%	0.044	0.058	-
					Left side	0	23095	707.5	24	22.83	30.92%	0.199	0.261	-
			25 RB	12	Laptop mode	0	23130	711	23	21.81	31.52%	0.005	0.007	-
					Stand mode	0	23130	711	23	21.81	31.52%	0.006	0.008	-
					Top side	0	23060	704	23	21.78	32.43%	0.492	0.652	-
					Top side	0	23095	707.5	23	21.79	32.13%	0.504	0.666	-
					Top side	0	23130	711	23	21.81	31.52%	0.582	0.765	-
					Back side	0	23130	711	23	21.81	31.52%	0.039	0.051	-
					Left side	0	23130	711	23	21.81	31.52%	0.180	0.237	-
			50 RB		Laptop mode	0	23095	707.5	23	21.74	33.66%	0.005	0.007	-
					Stand mode	0	23095	707.5	23	21.74	33.66%	0.006	0.008	-
					Top side	0	23095	707.5	23	21.74	33.66%	0.562	0.751	-
					Back side	0	23095	707.5	23	21.74	33.66%	0.037	0.049	-
					Left side	0	23095	707.5	23	21.74	33.66%	0.177	0.237	-

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

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	Laptop mode	0	23230	782	24	22.65	36.46%	0.017	0.023	-
					Stand mode	0	23230	782	24	22.65	36.46%	0.021	0.029	-
					Top side	0	23230	782	24	22.65	36.46%	0.872	1.190	142
					Top side*	0	23230	782	24	22.65	36.46%	0.851	1.161	-
					Back side	0	23230	782	24	22.65	36.46%	0.129	0.176	-
					Left side	0	23230	782	24	22.65	36.46%	0.730	0.996	-
				25	Top side	0	23230	782	24	22.48	41.91%	0.569	0.807	-
					Left side	0	23230	782	24	22.48	41.91%	0.405	0.575	-
				49	Top side	0	23230	782	24	22.60	38.04%	0.532	0.734	-
					Left side	0	23230	782	24	22.60	38.04%	0.437	0.603	-
			25 RB	0	Top side	0	23230	782	23	21.72	34.28%	0.507	0.681	-
				12	Laptop mode	0	23230	782	23	21.80	31.83%	0.018	0.024	-
					Stand mode	0	23230	782	23	21.80	31.83%	0.019	0.025	-
					Top side	0	23230	782	23	21.80	31.83%	0.699	0.921	-
					Back side	0	23230	782	23	21.80	31.83%	0.112	0.148	-
					Left side	0	23230	782	23	21.80	31.83%	0.601	0.792	-
				25	Top side	0	23230	782	23	21.72	34.28%	0.578	0.776	-
			50 RB		Laptop mode	0	23230	782	23	21.75	33.35%	0.017	0.023	-
					Stand mode	0	23230	782	23	21.75	33.35%	0.019	0.025	-
					Top side	0	23230	782	23	21.75	33.35%	0.714	0.952	-
					Back side	0	23230	782	23	21.75	33.35%	0.114	0.152	-
					Left side	0	23230	782	23	21.75	33.35%	0.602	0.803	-

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

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)		Plot page
												Measured	Reported	
LTE Band 17	10MHz	QPSK	1 RB	25	Laptop mode	0	23790	710	24	22.91	28.53%	0.007	0.009	-
					Stand mode	0	23790	710	24	22.91	28.53%	0.008	0.010	-
					Top side	0	23790	710	24	22.91	28.53%	0.583	0.749	143
					Top side*	0	23790	710	24	22.91	28.53%	0.581	0.747	-
					Back side	0	23790	710	24	22.91	28.53%	0.047	0.060	-
					Left side	0	23790	710	24	22.91	28.53%	0.319	0.410	-
			25 RB	25	Laptop mode	0	23800	711	23	21.72	34.28%	0.005	0.007	-
					Stand mode	0	23800	711	23	21.72	34.28%	0.006	0.008	-
					Top side	0	23780	709	23	21.67	35.83%	0.441	0.599	-
					Top side	0	23790	710	23	21.71	34.59%	0.454	0.611	-
					Top side	0	23800	711	23	21.72	34.28%	0.565	0.759	-
					Back side	0	23800	711	23	21.72	34.28%	0.039	0.052	-
					Left side	0	23800	711	23	21.72	34.28%	0.266	0.357	-
			50 RB		Laptop mode	0	23780	709	23	21.73	33.97%	0.005	0.007	-
					Stand mode	0	23780	709	23	21.73	33.97%	0.006	0.008	-
					Top side	0	23780	709	23	21.73	33.97%	0.561	0.752	-
					Back side	0	23780	709	23	21.73	33.97%	0.038	0.051	-
					Left side	0	23780	709	23	21.73	33.97%	0.253	0.339	-

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

In order to evaluate the simultaneous transmission SAR analysis based on the SAR data from both SAR reports(FCC ID: B94HNI04CAMWP & FCC ID: PD98265D2**), we check the worst cases of WLAN SAR report in 2.4G and 5G respectively as below.**

WLAN SISO

Mode	Antenna	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	
WLAN802.11b	Main	Top side	0	11	2462	20.50	20.46	0.93%	0.596	0.602	-
	Aux	Bottom side	0	6	2437	17.50	17.48	0.46%	0.385	0.387	-
Bluetooth (GFSK)	Aux	Bottom side	0	39	2441	11.50	11.50	0.00%	0.081	0.081	-
WLAN802.11a 5.3G	Aux	Bottom side	0	56	5280	13.50	13.45	1.16%	0.612	0.619	-
WLAN802.11a 5.6G	Main	Top side	0	124	5620	15.00	15.00	0.00%	0.511	0.511	-

WLAN-Main: full tested laptop mode, left side of tablet mode and stand mode.
WLAN-Aux: full tested left side of tablet mode and stand mode.

Mode	Antenna	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	
WLAN802.11b	Main	Stand mode	0	6	2437	20.50	20.50	0.00%	0.008	0.008	-
		Laptop mode	0	6	2437	20.50	20.50	0.00%	0.004	0.004	-
		Left side	0	6	2437	20.50	20.50	0.00%	0.044	0.044	-
	Aux	Stand mode	0	1	2412	17.50	17.45	1.16%	0.508	0.514	-
		Stand mode	0	6	2437	17.50	17.42	1.86%	0.527	0.537	144
		Left side	0	1	2412	17.50	17.45	1.16%	0.015	0.015	-
Bluetooth (GFSK)	Aux	Stand mode	0	39	2441	11.50	11.50	0.00%	0.070	0.070	-
		Left side	0	39	2441	11.50	11.50	0.00%	0.001	0.001	-
WLAN802.11a 5.3G	Main	Stand mode	0	60	5300	15.00	15.00	0.00%	0.010	0.010	-
		Laptop	0	60	5300	15.00	15.00	0.00%	0.006	0.006	-
		Left side	0	60	5300	15.00	15.00	0.00%	0.030	0.030	-
	Aux	Stand mode	0	56	5280	13.50	13.45	1.16%	0.595	0.602	145
		Stand mode	0	60	5300	13.50	13.50	0.00%	0.582	0.582	-
		Left side	0	60	5300	13.50	13.50	0.00%	0.038	0.038	-
WLAN802.11a 5.6G	Main	Stand mode	0	124	5620	15.00	15.00	0.00%	0.018	0.018	-
		Laptop	0	124	5620	15.00	15.00	0.00%	0.005	0.005	-
		Left side	0	124	5620	15.00	15.00	0.00%	0.038	0.038	-
	Aux	Stand mode	0	116	5580	13.50	13.50	0.00%	0.561	0.561	-
		Stand mode	0	124	5620	13.50	13.50	0.00%	0.579	0.579	146
		Left side	0	116	5580	13.50	13.50	0.00%	0.016	0.016	-
WLAN802.11a 5.8G	Main	Stand mode	0	157	5785	15.00	15.00	0.00%	0.020	0.020	-
		Laptop	0	157	5785	15.00	15.00	0.00%	0.007	0.007	-
		Left side	0	157	5785	15.00	15.00	0.00%	0.059	0.059	-
	Aux	Stand mode	0	157	5785	13.50	13.50	0.00%	0.251	0.251	147
		Left side	0	165	5825	13.50	13.46	0.93%	0.008	0.008	-

3. Simultaneous Transmission Analysis

Simultaneous Transmission Scenarios:

NO.	Simultaneous Transmit Configurations	Body
1	GPRS/EDGE + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
2	GPRS/EDGE + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
3	GPRS/EDGE + BT	YES
4	GPRS/EDGE + 2.4/5GHz WLAN Main + BT	YES
5	UMTS + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
6	UMTS + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
7	UMTS + BT	YES
8	UMTS + 2.4/5GHz WLAN Main + BT	YES
9	CDMA + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
10	CDMA + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
11	CDMA + BT	YES
12	CDMA + 2.4/5GHz WLAN Main + BT	YES
13	LTE + 2.4GHz WLAN Main / 2.4GHz WLAN Aux / 2.4GHz MIMO	YES
14	LTE + 5GHz WLAN Main / 5GHz WLAN Aux / 5GHz MIMO	YES
15	LTE + BT	YES
16	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, but Bluetooth can't transmit with WLAN Aux simultaneously.
2) Bluetooth can transmit with WLAN Main simultaneously.

Max highest reported 1-g SAR (0mm) for WWAN & WLAN

Antenna	Band	Highest Reported 1-g SAR (0mm) [W/kg]				
		Back	Top (Bottom)	Left	Laptop	Stand
WLAN Main	2.4GHz	0.210	0.690	0.044	0.004	0.008
	5GHz	0.040	0.620	0.059	0.007	0.020
WLAN Aux	2.4GHz	0.200	0.440	0.015	0.660	0.537
	5GHz	0.180	0.660	0.038	1.250	0.602
	BT	0.060	0.130	0.001	0.190	0.070
WWAN	GPRS 850	0.155	0.968	1.174	0.013	0.012
	GPRS 1900	0.044	0.578	0.944	0.016	0.013
	WCDMA Band II	0.051	0.662	0.959	0.020	0.016
	WCDMA Band IV	0.058	0.682	1.099	0.020	0.018
	WCDMA Band V	0.198	0.929	1.128	0.017	0.015
	LTE Band 2	0.055	0.706	1.138	0.023	0.023
	LTE Band 4	0.055	0.669	0.991	0.021	0.019
	LTE Band 5	0.230	1.024	0.654	0.014	0.021
	LTE Band 7	0.166	0.986	1.058	0.014	0.020
	LTE Band 12	0.058	0.830	0.261	0.008	0.010
	LTE Band 13	0.176	1.190	0.996	0.024	0.029
	LTE Band 17	0.060	0.759	0.410	0.009	0.010
	CDMA BC0	0.245	0.989	1.137	0.019	0.018
	CDMA BC1	0.055	0.631	0.973	0.018	0.017

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 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.

Sum of the SAR for GPRS 850 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		GPRS 850	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
1~4	Back side	0.155	0.210	0.200	-	-	-	0.565	No	-
		0.155	0.210	-	-	-	0.060	0.425	No	-
		0.155	-	-	0.040	0.180	-	0.375	No	-
		0.155	-	-	0.040	-	0.060	0.255	No	-
	Top side	0.968	0.690	0.440	-	-	-	2.098	Yes	1
		0.968	0.690	-	-	-	0.130	1.788	Yes	2
		0.968	-	-	0.620	0.660	-	2.248	Yes	3
		0.968	-	-	0.620	-	0.130	1.718	Yes	4
	Left side	1.174	0.044	0.015	-	-	-	1.233	No	-
		1.174	0.044	-	-	-	0.001	1.219	No	-
		1.174	-	-	0.059	0.038	-	1.271	No	-
		1.174	-	-	0.059	-	0.001	1.234	No	-
	Laptop	0.013	0.004	0.660	-	-	-	0.677	No	-
		0.013	0.004	-	-	-	0.190	0.207	No	-
		0.013	-	-	0.007	1.250	-	1.270	No	-
		0.013	-	-	0.007	-	0.190	0.210	No	-
	Stand	0.012	0.008	0.537	-	-	-	0.557	No	-
		0.012	0.008	-	-	-	0.070	0.090	No	-
		0.012	-	-	0.020	0.602	-	0.634	No	-
		0.012	-	-	0.020	-	0.070	0.102	No	-

Sum of the SAR for GPRS 1900 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		GPRS 1900	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
1~4	Back side	0.044	0.210	0.200	-	-	-	0.454	No	-
		0.044	0.210	-	-	-	0.060	0.314	No	-
		0.044	-	-	0.040	0.180	-	0.264	No	-
		0.044	-	-	0.040	-	0.060	0.144	No	-
	Top side	0.578	0.690	0.440	-	-	-	1.708	Yes	5
		0.578	0.690	-	-	-	0.130	1.398	No	-
		0.578	-	-	0.620	0.660	-	1.858	Yes	6
		0.578	-	-	0.620	-	0.130	1.328	No	-
	Left side	0.944	0.044	0.015	-	-	-	1.003	No	-
		0.944	0.044	-	-	-	0.001	0.989	No	-
		0.944	-	-	0.059	0.038	-	1.041	No	-
		0.944	-	-	0.059	-	0.001	1.004	No	-
	Laptop	0.016	0.004	0.660	-	-	-	0.680	No	-
		0.016	0.004	-	-	-	0.190	0.210	No	-
		0.016	-	-	0.007	1.250	-	1.273	No	-
		0.016	-	-	0.007	-	0.190	0.213	No	-
	Stand	0.013	0.008	0.537	-	-	-	0.558	No	-
		0.013	0.008	-	-	-	0.070	0.091	No	-
		0.013	-	-	0.020	0.602	-	0.635	No	-
		0.013	-	-	0.020	-	0.070	0.103	No	-

Sum of the SAR for WCDMA Band II + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		WCDMA Band II	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
5~8	Back side	0.051	0.210	0.200	-	-	-	0.461	No	-
		0.051	0.210	-	-	-	0.060	0.321	No	-
		0.051	-	-	0.040	0.180	-	0.271	No	-
		0.051	-	-	0.040	-	0.060	0.151	No	-
	Top side	0.662	0.690	0.440	-	-	-	1.792	Yes	7
		0.662	0.690	-	-	-	0.130	1.482	No	-
		0.662	-	-	0.620	0.660	-	1.942	Yes	8
		0.662	-	-	0.620	-	0.130	1.412	No	-
	Left side	0.959	0.044	0.015	-	-	-	1.018	No	-
		0.959	0.044	-	-	-	0.001	1.004	No	-
		0.959	-	-	0.059	0.038	-	1.056	No	-
		0.959	-	-	0.059	-	0.001	1.019	No	-
	Laptop	0.020	0.004	0.660	-	-	-	0.684	No	-
		0.020	0.004	-	-	-	0.190	0.214	No	-
		0.020	-	-	0.007	1.250	-	1.277	No	-
		0.020	-	-	0.007	-	0.190	0.217	No	-
	Stand	0.016	0.008	0.537	-	-	-	0.561	No	-
		0.016	0.008	-	-	-	0.070	0.094	No	-
		0.016	-	-	0.020	0.602	-	0.638	No	-
		0.016	-	-	0.020	-	0.070	0.106	No	-

Sum of the SAR for WCDMA Band IV + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		WCDMA Band IV	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
5~8	Back side	0.058	0.210	0.200	-	-	-	0.468	No	-
		0.058	0.210	-	-	-	0.060	0.328	No	-
		0.058	-	-	0.040	0.180	-	0.278	No	-
		0.058	-	-	0.040	-	0.060	0.158	No	-
	Top side	0.682	0.690	0.440	-	-	-	1.812	Yes	9
		0.682	0.690	-	-	-	0.130	1.502	No	-
		0.682	-	-	0.620	0.660	-	1.962	Yes	10
		0.682	-	-	0.620	-	0.130	1.432	No	-
	Left side	1.099	0.044	0.015	-	-	-	1.158	No	-
		1.099	0.044	-	-	-	0.001	1.144	No	-
		1.099	-	-	0.059	0.038	-	1.196	No	-
		1.099	-	-	0.059	-	0.001	1.159	No	-
	Laptop	0.020	0.004	0.660	-	-	-	0.684	No	-
		0.020	0.004	-	-	-	0.190	0.214	No	-
		0.020	-	-	0.007	1.250	-	1.277	No	-
		0.020	-	-	0.007	-	0.190	0.217	No	-
	Stand	0.018	0.008	0.537	-	-	-	0.563	No	-
		0.018	0.008	-	-	-	0.070	0.096	No	-
		0.018	-	-	0.020	0.602	-	0.640	No	-
		0.018	-	-	0.020	-	0.070	0.108	No	-

Sum of the SAR for WCDMA Band V + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		WCDMA Band V	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
5~8	Back side	0.198	0.210	0.200	-	-	-	0.608	No	-
		0.198	0.210	-	-	-	0.060	0.468	No	-
		0.198	-	-	0.040	0.180	-	0.418	No	-
		0.198	-	-	0.040	-	0.060	0.298	No	-
	Top side	0.929	0.690	0.440	-	-	-	2.059	Yes	11
		0.929	0.690	-	-	-	0.130	1.749	Yes	12
		0.929	-	-	0.620	0.660	-	2.209	Yes	13
		0.929	-	-	0.620	-	0.130	1.679	Yes	14
	Left side	1.128	0.044	0.015	-	-	-	1.187	No	-
		1.128	0.044	-	-	-	0.001	1.173	No	-
		1.128	-	-	0.059	0.038	-	1.225	No	-
		1.128	-	-	0.059	-	0.001	1.188	No	-
	Laptop	0.017	0.004	0.660	-	-	-	0.681	No	-
		0.017	0.004	-	-	-	0.190	0.211	No	-
		0.017	-	-	0.007	1.250	-	1.274	No	-
		0.017	-	-	0.007	-	0.190	0.214	No	-
	Stand	0.015	0.008	0.537	-	-	-	0.560	No	-
		0.015	0.008	-	-	-	0.070	0.093	No	-
		0.015	-	-	0.020	0.602	-	0.637	No	-
		0.015	-	-	0.020	-	0.070	0.105	No	-

Sum of the SAR for CDMA BC0 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		CDMA BC0	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
9~12	Back side	0.245	0.210	0.200	-	-	-	0.655	No	-
		0.245	0.210	-	-	-	0.060	0.515	No	-
		0.245	-	-	0.040	0.180	-	0.465	No	-
		0.245	-	-	0.040	-	0.060	0.345	No	-
	Top side	0.989	0.690	0.440	-	-	-	2.119	Yes	15
		0.989	0.690	-	-	-	0.130	1.809	Yes	16
		0.989	-	-	0.620	0.660	-	2.269	Yes	17
		0.989	-	-	0.620	-	0.130	1.739	Yes	18
	Left side	1.137	0.044	0.015	-	-	-	1.196	No	-
		1.137	0.044	-	-	-	0.001	1.182	No	-
		1.137	-	-	0.059	0.038	-	1.234	No	-
		1.137	-	-	0.059	-	0.001	1.197	No	-
	Laptop	0.019	0.004	0.660	-	-	-	0.683	No	-
		0.019	0.004	-	-	-	0.190	0.213	No	-
		0.019	-	-	0.007	1.250	-	1.276	No	-
		0.019	-	-	0.007	-	0.190	0.216	No	-
	Stand	0.018	0.008	0.537	-	-	-	0.563	No	-
		0.018	0.008	-	-	-	0.070	0.096	No	-
		0.018	-	-	0.020	0.602	-	0.640	No	-
		0.018	-	-	0.020	-	0.070	0.108	No	-

Sum of the SAR for CDMA BC1 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		CDMA BC1	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
9~12	Back side	0.055	0.210	0.200	-	-	-	0.465	No	-
		0.055	0.210	-	-	-	0.060	0.325	No	-
		0.055	-	-	0.040	0.180	-	0.275	No	-
		0.055	-	-	0.040	-	0.060	0.155	No	-
	Top side	0.631	0.690	0.440	-	-	-	1.761	Yes	19
		0.631	0.690	-	-	-	0.130	1.451	No	-
		0.631	-	-	0.620	0.660	-	1.911	Yes	20
		0.631	-	-	0.620	-	0.130	1.381	No	-
	Left side	0.973	0.044	0.015	-	-	-	1.032	No	-
		0.973	0.044	-	-	-	0.001	1.018	No	-
		0.973	-	-	0.059	0.038	-	1.070	No	-
		0.973	-	-	0.059	-	0.001	1.033	No	-
	Laptop	0.018	0.004	0.660	-	-	-	0.682	No	-
		0.018	0.004	-	-	-	0.190	0.212	No	-
		0.018	-	-	0.007	1.250	-	1.275	No	-
		0.018	-	-	0.007	-	0.190	0.215	No	-
	Stand	0.017	0.008	0.537	-	-	-	0.562	No	-
		0.017	0.008	-	-	-	0.070	0.095	No	-
		0.017	-	-	0.020	0.602	-	0.639	No	-
		0.017	-	-	0.020	-	0.070	0.107	No	-

Sum of the SAR for LTE Band 2 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 2	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.055	0.210	0.200	-	-	-	0.465	No	-
		0.055	0.210	-	-	-	0.060	0.325	No	-
		0.055	-	-	0.040	0.180	-	0.275	No	-
		0.055	-	-	0.040	-	0.060	0.155	No	-
	Top side	0.706	0.690	0.440	-	-	-	1.836	Yes	21
		0.706	0.690	-	-	-	0.130	1.526	No	-
		0.706	-	-	0.620	0.660	-	1.986	Yes	22
		0.706	-	-	0.620	-	0.130	1.456	No	-
	Left side	1.138	0.044	0.015	-	-	-	1.197	No	-
		1.138	0.044	-	-	-	0.001	1.183	No	-
		1.138	-	-	0.059	0.038	-	1.235	No	-
		1.138	-	-	0.059	-	0.001	1.198	No	-
	Laptop	0.023	0.004	0.660	-	-	-	0.687	No	-
		0.023	0.004	-	-	-	0.190	0.217	No	-
		0.023	-	-	0.007	1.250	-	1.280	No	-
		0.023	-	-	0.007	-	0.190	0.220	No	-
	Stand	0.023	0.008	0.537	-	-	-	0.568	No	-
		0.023	0.008	-	-	-	0.070	0.101	No	-
		0.023	-	-	0.020	0.602	-	0.645	No	-
		0.023	-	-	0.020	-	0.070	0.113	No	-

Sum of the SAR for LTE FDD Band 4 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 4	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.055	0.210	0.200	-	-	-	0.465	No	-
		0.055	0.210	-	-	-	0.060	0.325	No	-
		0.055	-	-	0.040	0.180	-	0.275	No	-
		0.055	-	-	0.040	-	0.060	0.155	No	-
	Top side	0.669	0.690	0.440	-	-	-	1.799	Yes	23
		0.669	0.690	-	-	-	0.130	1.489	No	-
		0.669	-	-	0.620	0.660	-	1.949	Yes	24
		0.669	-	-	0.620	-	0.130	1.419	No	-
	Left side	0.991	0.044	0.015	-	-	-	1.050	No	-
		0.991	0.044	-	-	-	0.001	1.036	No	-
		0.991	-	-	0.059	0.038	-	1.088	No	-
		0.991	-	-	0.059	-	0.001	1.051	No	-
	Laptop	0.021	0.004	0.660	-	-	-	0.685	No	-
		0.021	0.004	-	-	-	0.190	0.215	No	-
		0.021	-	-	0.007	1.250	-	1.278	No	-
		0.021	-	-	0.007	-	0.190	0.218	No	-
	Stand	0.019	0.008	0.537	-	-	-	0.564	No	-
		0.019	0.008	-	-	-	0.070	0.097	No	-
		0.019	-	-	0.020	0.602	-	0.641	No	-
		0.019	-	-	0.020	-	0.070	0.109	No	-

Sum of the SAR for LTE FDD Band 5 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 5	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.230	0.210	0.200	-	-	-	0.640	No	-
		0.230	0.210	-	-	-	0.060	0.500	No	-
		0.230	-	-	0.040	0.180	-	0.450	No	-
		0.230	-	-	0.040	-	0.060	0.330	No	-
	Top side	1.024	0.690	0.440	-	-	-	2.154	Yes	25
		1.024	0.690	-	-	-	0.130	1.844	Yes	26
		1.024	-	-	0.620	0.660	-	2.304	Yes	27
		1.024	-	-	0.620	-	0.130	1.774	Yes	28
	Left side	0.654	0.044	0.015	-	-	-	0.713	No	-
		0.654	0.044	-	-	-	0.001	0.699	No	-
		0.654	-	-	0.059	0.038	-	0.751	No	-
		0.654	-	-	0.059	-	0.001	0.714	No	-
	Laptop	0.014	0.004	0.660	-	-	-	0.678	No	-
		0.014	0.004	-	-	-	0.190	0.208	No	-
		0.014	-	-	0.007	1.250	-	1.271	No	-
		0.014	-	-	0.007	-	0.190	0.211	No	-
	Stand	0.021	0.008	0.537	-	-	-	0.566	No	-
		0.021	0.008	-	-	-	0.070	0.099	No	-
		0.021	-	-	0.020	0.602	-	0.643	No	-
		0.021	-	-	0.020	-	0.070	0.111	No	-

Sum of the SAR for LTE FDD Band 7 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 7	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.166	0.210	0.200	-	-	-	0.576	No	-
		0.166	0.210	-	-	-	0.060	0.436	No	-
		0.166	-	-	0.040	0.180	-	0.386	No	-
		0.166	-	-	0.040	-	0.060	0.266	No	-
	Top side	0.986	0.690	0.440	-	-	-	2.116	Yes	29
		0.986	0.690	-	-	-	0.130	1.806	Yes	30
		0.986	-	-	0.620	0.660	-	2.266	Yes	31
		0.986	-	-	0.620	-	0.130	1.736	Yes	32
	Left side	1.058	0.044	0.015	-	-	-	1.117	No	-
		1.058	0.044	-	-	-	0.001	1.103	No	-
		1.058	-	-	0.059	0.038	-	1.155	No	-
		1.058	-	-	0.059	-	0.001	1.118	No	-
	Laptop	0.014	0.004	0.660	-	-	-	0.678	No	-
		0.014	0.004	-	-	-	0.190	0.208	No	-
		0.014	-	-	0.007	1.250	-	1.271	No	-
		0.014	-	-	0.007	-	0.190	0.211	No	-
	Stand	0.020	0.008	0.537	-	-	-	0.565	No	-
		0.020	0.008	-	-	-	0.070	0.098	No	-
		0.020	-	-	0.020	0.602	-	0.642	No	-
		0.020	-	-	0.020	-	0.070	0.110	No	-

Sum of the SAR for LTE FDD Band 12 + WLAN + Bluetooth

No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 12	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.058	0.210	0.200	-	-	-	0.468	No	-
		0.058	0.210	-	-	-	0.060	0.328	No	-
		0.058	-	-	0.040	0.180	-	0.278	No	-
		0.058	-	-	0.040	-	0.060	0.158	No	-
	Top side	0.830	0.690	0.440	-	-	-	1.960	Yes	33
		0.830	0.690	-	-	-	0.130	1.650	Yes	34
		0.830	-	-	0.620	0.660	-	2.110	Yes	35
		0.830	-	-	0.620	-	0.130	1.580	No	-
	Left side	0.261	0.044	0.015	-	-	-	0.320	No	-
		0.261	0.044	-	-	-	0.001	0.306	No	-
		0.261	-	-	0.059	0.038	-	0.358	No	-
		0.261	-	-	0.059	-	0.001	0.321	No	-
	Laptop	0.008	0.004	0.660	-	-	-	0.672	No	-
		0.008	0.004	-	-	-	0.190	0.202	No	-
		0.008	-	-	0.007	1.250	-	1.265	No	-
		0.008	-	-	0.007	-	0.190	0.205	No	-
	Stand	0.010	0.008	0.537	-	-	-	0.555	No	-
		0.010	0.008	-	-	-	0.070	0.088	No	-
		0.010	-	-	0.020	0.602	-	0.632	No	-
		0.010	-	-	0.020	-	0.070	0.100	No	-

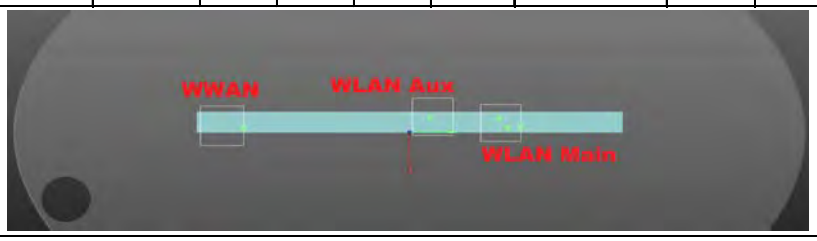
Sum of the SAR for LTE FDD Band 13 + WLAN + Bluetooth

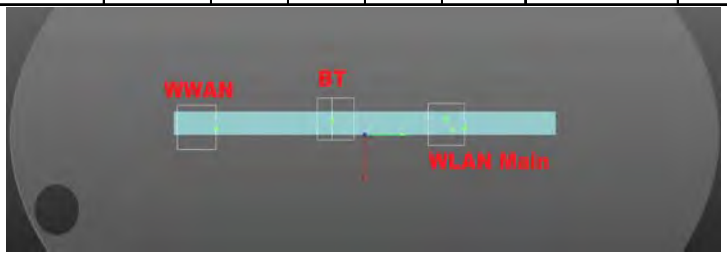
No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 13	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.176	0.210	0.200	-	-	-	0.586	No	-
		0.176	0.210	-	-	-	0.060	0.446	No	-
		0.176	-	-	0.040	0.180	-	0.396	No	-
		0.176	-	-	0.040	-	0.060	0.276	No	-
	Top side	1.190	0.690	0.440	-	-	-	2.320	Yes	36
		1.190	0.690	-	-	-	0.130	2.010	Yes	37
		1.190	-	-	0.620	0.660	-	2.470	Yes	38
		1.190	-	-	0.620	-	0.130	1.940	Yes	39
	Left side	0.996	0.044	0.015	-	-	-	1.055	No	-
		0.996	0.044	-	-	-	0.001	1.041	No	-
		0.996	-	-	0.059	0.038	-	1.093	No	-
		0.996	-	-	0.059	-	0.001	1.056	No	-
	Laptop	0.024	0.004	0.660	-	-	-	0.688	No	-
		0.024	0.004	-	-	-	0.190	0.218	No	-
		0.024	-	-	0.007	1.250	-	1.281	No	-
		0.024	-	-	0.007	-	0.190	0.221	No	-
	Stand	0.029	0.008	0.537	-	-	-	0.574	No	-
		0.029	0.008	-	-	-	0.070	0.107	No	-
		0.029	-	-	0.020	0.602	-	0.651	No	-
		0.029	-	-	0.020	-	0.070	0.119	No	-

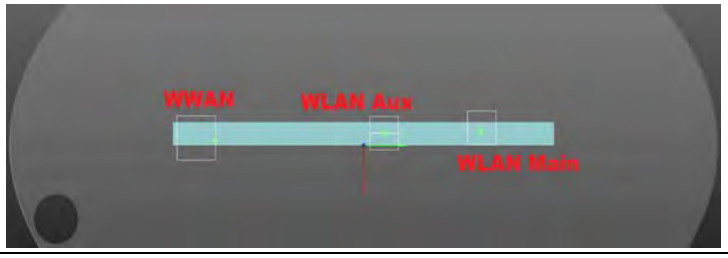
Sum of the SAR for LTE FDD Band 17 + WLAN + Bluetooth

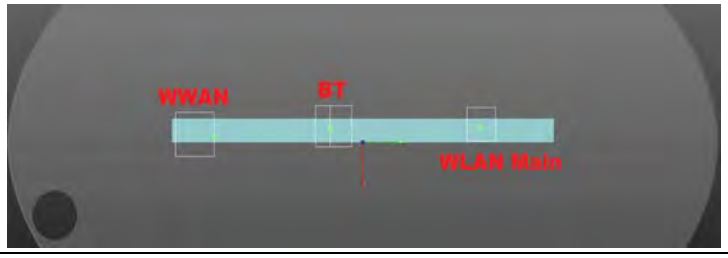
No.	Test Position	Simultaneous Transmission Scenario						Σ SAR 1g (W/kg)	SPLSR (Yes/No)	Figure
		LTE Band 17	2.4GHz		5GHz		Bluetooth			
			Main	Aux	Main	Aux				
13~16	Back side	0.060	0.210	0.200	-	-	-	0.470	No	-
		0.060	0.210	-	-	-	0.060	0.330	No	-
		0.060	-	-	0.040	0.180	-	0.280	No	-
		0.060	-	-	0.040	-	0.060	0.160	No	-
	Top side	0.759	0.690	0.440	-	-	-	1.889	Yes	40
		0.759	0.690	-	-	-	0.130	1.579	No	-
		0.759	-	-	0.620	0.660	-	2.039	Yes	41
		0.759	-	-	0.620	-	0.130	1.509	No	-
	Left side	0.410	0.044	0.015	-	-	-	0.469	No	-
		0.410	0.044	-	-	-	0.001	0.455	No	-
		0.410	-	-	0.059	0.038	-	0.507	No	-
		0.410	-	-	0.059	-	0.001	0.470	No	-
	Laptop	0.009	0.004	0.660	-	-	-	0.673	No	-
		0.009	0.004	-	-	-	0.190	0.203	No	-
		0.009	-	-	0.007	1.250	-	1.266	No	-
		0.009	-	-	0.007	-	0.190	0.206	No	-
	Stand	0.010	0.008	0.537	-	-	-	0.555	No	-
		0.010	0.008	-	-	-	0.070	0.088	No	-
		0.010	-	-	0.020	0.602	-	0.632	No	-
		0.010	-	-	0.020	-	0.070	0.100	No	-

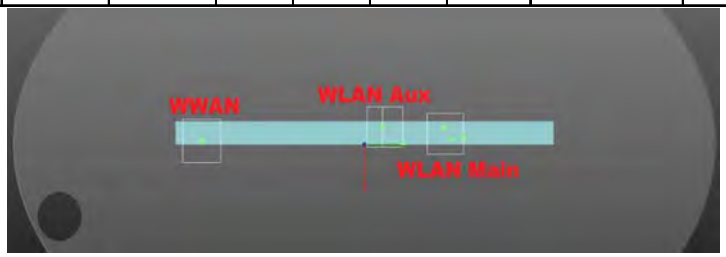
Figures

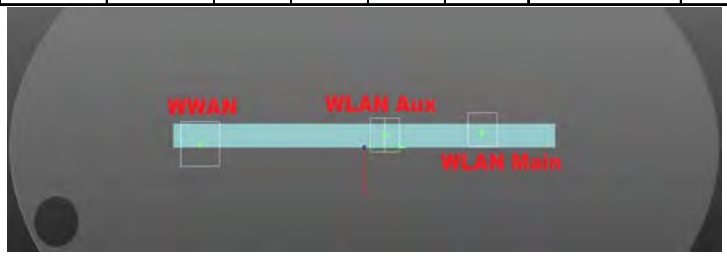
Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
1	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.658	195.60	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.408	138.49	0.012	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

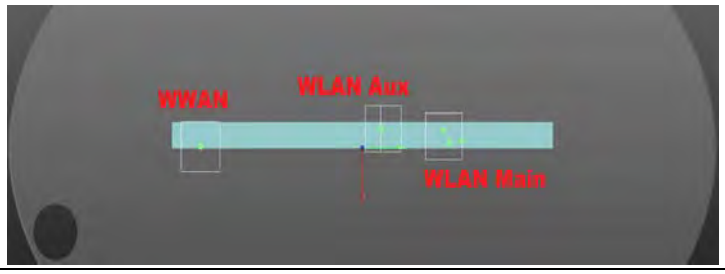
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
2	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.658	195.60	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.098	96.17	0.012	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
3	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.588	220.30	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.628	140.09	0.015	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
4	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.588	220.30	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	GPRS 850	Top side	0.968	-3.9	-123	-4.29	1.098	96.17	0.012	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
5	GPRS 1900	Top side	0.578	-2.5	-136	-3.69	1.268	208.61	0.007	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	GPRS 1900	Top side	0.578	-2.5	-136	-3.69	1.018	151.55	0.007	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
6	GPRS 1900	Top side	0.578	-2.5	-136	-3.69	1.198	233.34	0.006	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	GPRS 1900	Top side	0.578	-2.5	-136	-3.69	1.238	153.14	0.009	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
7	WCDMA Band II	Top side	0.662	-1	-134.5	-3.58	1.352	207.12	0.008	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	WCDMA Band II	Top side	0.662	-1	-134.5	-3.58	1.102	150.17	0.008	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

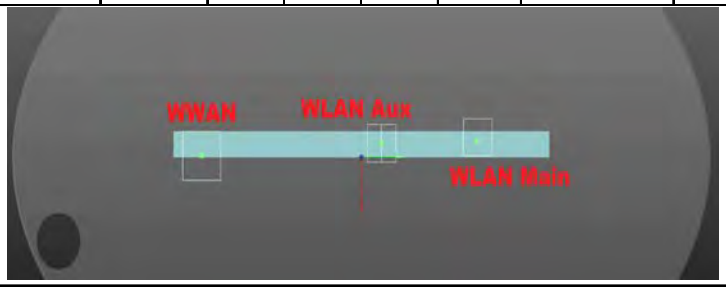
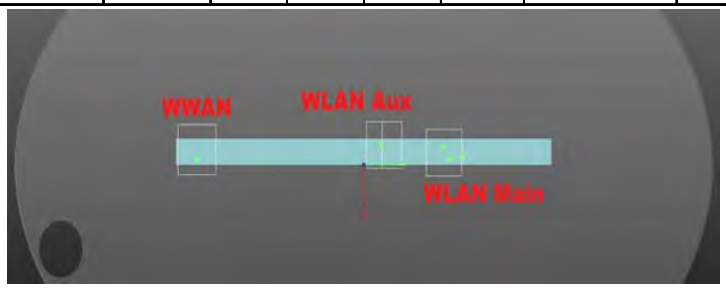
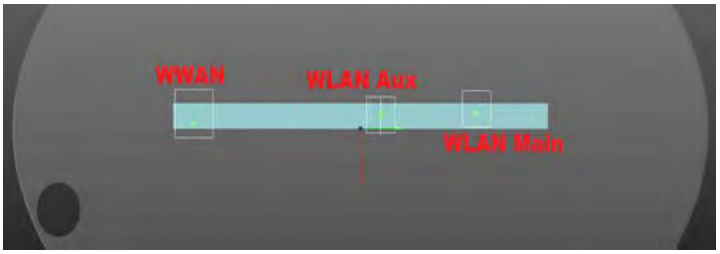
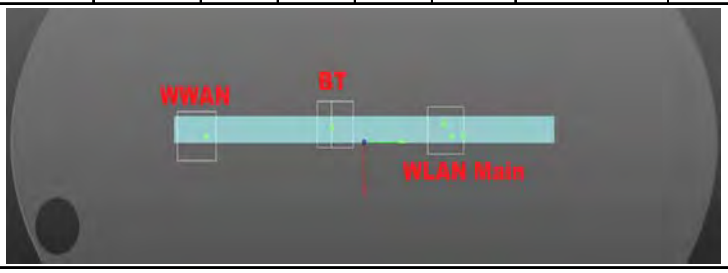
Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
8	WCDMA Band II	Top side	0.662	-1	-134.5	-3.58	1.282	231.90	0.006	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	WCDMA Band II	Top side	0.662	-1	-134.5	-3.58	1.322	151.71	0.010	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

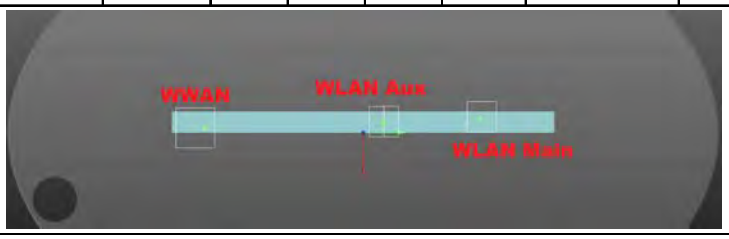
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
9	WCDMA Band	Top side	0.682	-3.6	-140.5	-3.56	1.372	213.10	0.008	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	WCDMA Band	Top side	0.682	-3.6	-140.5	-3.56	1.122	155.97	0.008	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
10	WCDMA Band	Top side	0.682	-3.6	-140.5	-3.56	1.302	237.80	0.006	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	WCDMA Band	Top side	0.682	-3.6	-140.5	-3.56	1.342	157.59	0.010	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
11	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.619	203.60	0.010	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.369	146.46	0.011	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

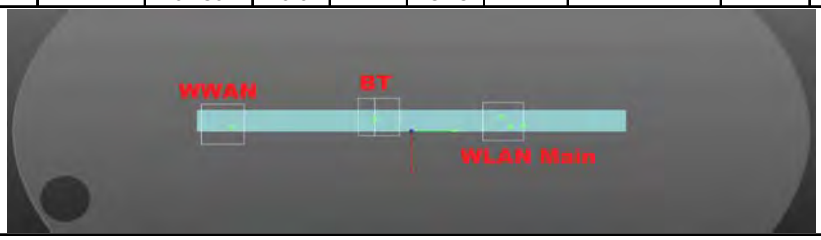
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
12	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.619	203.60	0.010	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.059	104.15	0.010	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

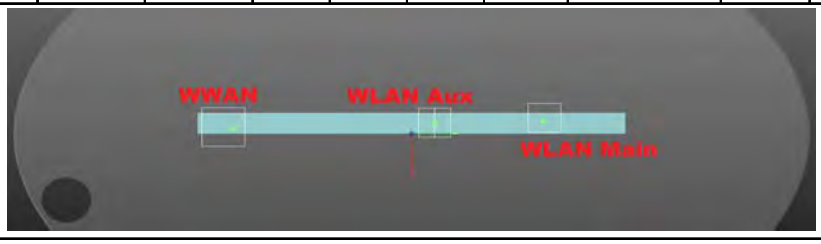
Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
13	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.549	228.30	0.008	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.589	148.09	0.014	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

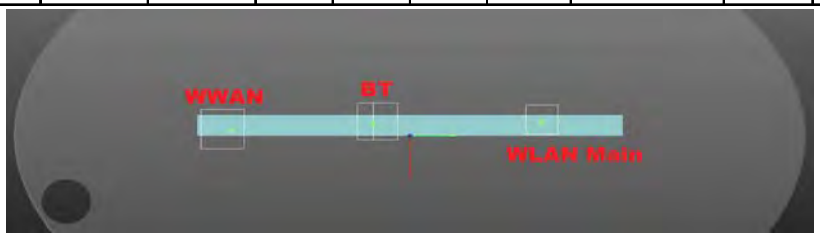
Simultaneous Transmission Scenario				WWAN+Main+Aux						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
13	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.549	228.30	0.008	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.589	148.09	0.014	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

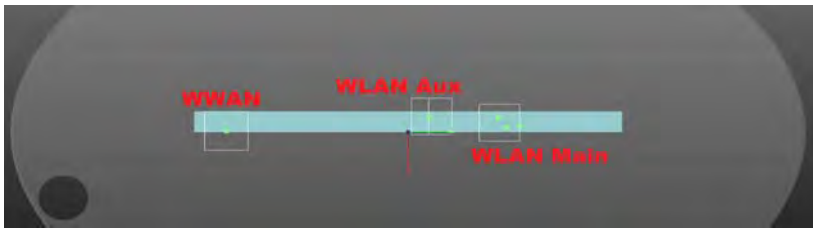
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
14	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.549	228.30	0.008	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	WCDMA Band V	Top side	0.929	-4	-131	-4.42	1.059	104.15	0.010	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

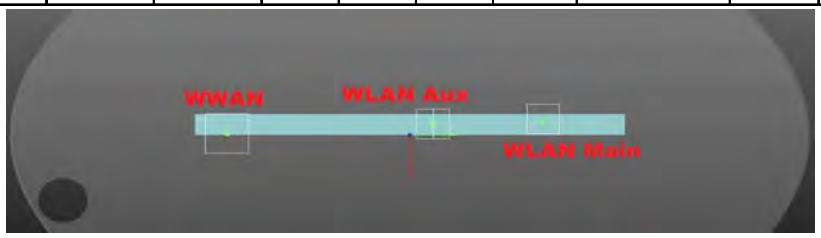
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
15	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.679	205.20	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.429	148.07	0.012	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

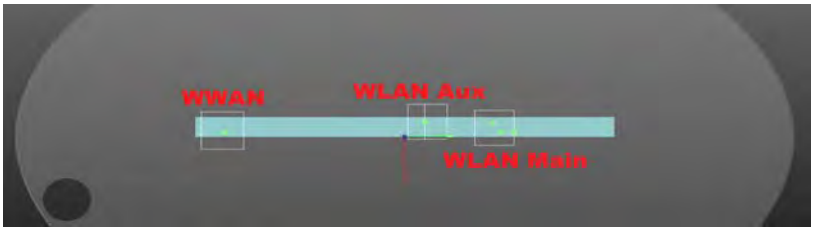
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
16	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.679	205.20	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.119	105.76	0.011	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

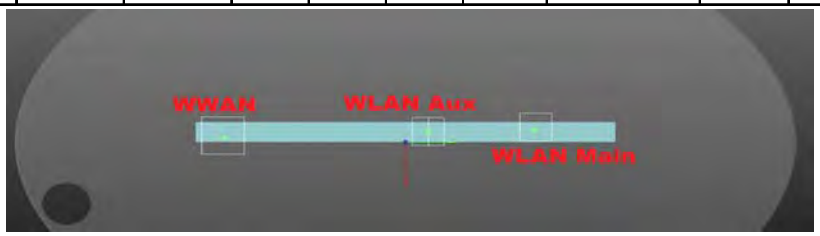
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
17	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.609	229.90	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.649	149.69	0.014	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
18	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.609	229.90	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	CDMA BC0	Top side	0.989	-3.9	-132.6	-4.41	1.119	105.76	0.011	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

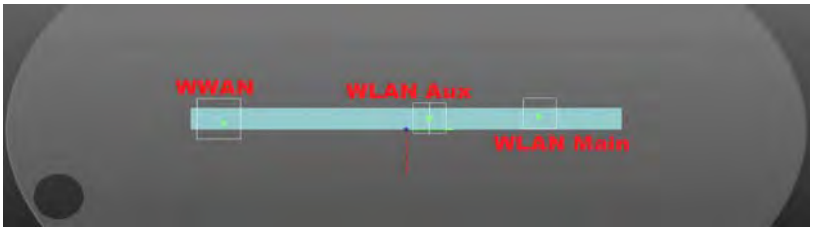
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
19	CDMA BC1	Top side	0.631	-1	-134.5	-3.57	1.321	207.12	0.007	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	CDMA BC1	Top side	0.631	-1	-134.5	-3.57	1.071	150.17	0.007	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
20	CDMA BC1	Top side	0.631	-1	-134.5	-3.57	1.251	231.90	0.006	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	CDMA BC1	Top side	0.631	-1	-134.5	-3.57	1.291	151.71	0.010	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

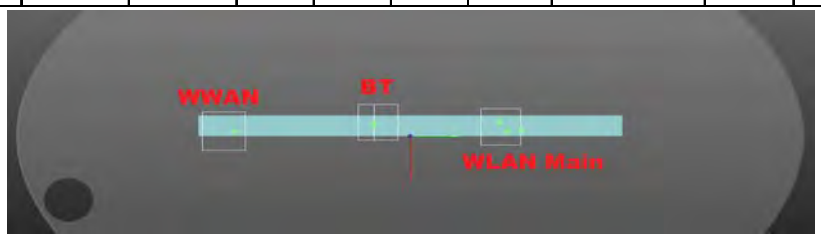
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
21	LTE Band 2	Top side	0.706	-3.9	-135.9	-3.87	1.396	208.50	0.008	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 2	Top side	0.706	-3.9	-135.9	-3.87	1.146	151.36	0.008	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

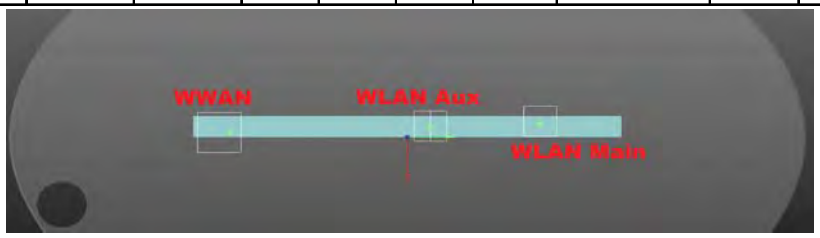
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
22	LTE Band 2	Top side	0.706	-3.9	-135.9	-3.87	1.326	233.20	0.007	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 2	Top side	0.706	-3.9	-135.9	-3.87	1.366	152.99	0.010	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
23	LTE Band 4	Top side	0.669	-5.3	-134.3	-3.63	1.359	206.91	0.008	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 4	Top side	0.669	-5.3	-134.3	-3.63	1.109	149.69	0.008	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

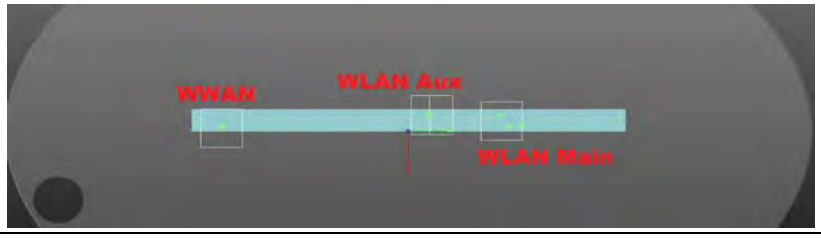
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
24	LTE Band 4	Top side	0.669	-5.3	-134.3	-3.63	1.289	231.56	0.006	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 4	Top side	0.669	-5.3	-134.3	-3.63	1.329	151.35	0.010	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
25	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.714	203.60	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.464	146.46	0.012	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

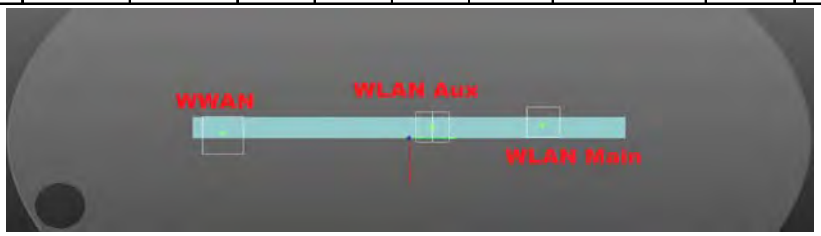
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
26	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.714	203.60	0.011	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.154	104.15	0.012	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

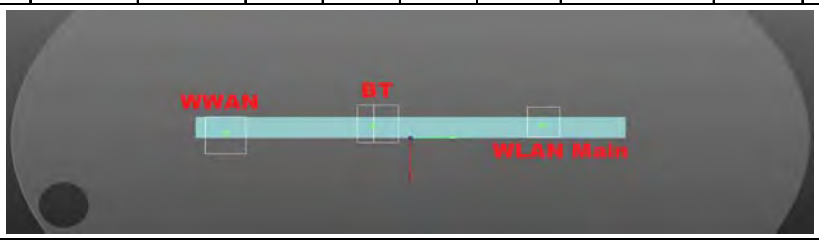
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
27	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.644	228.30	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.684	148.09	0.015	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

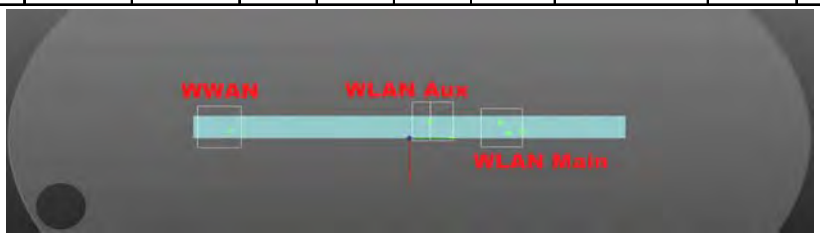
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
28	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.644	228.30	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 5	Top side	1.024	-4	-131	-4.47	1.154	104.15	0.012	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
29	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.676	208.60	0.010	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.426	151.45	0.011	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

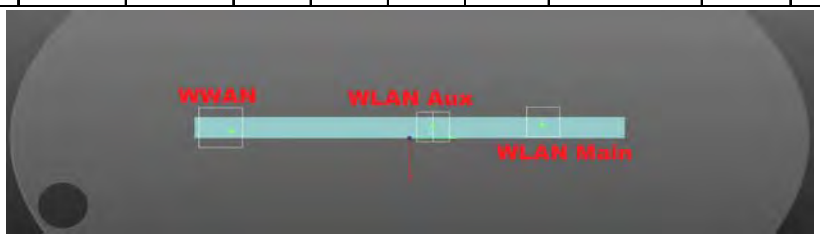
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
30	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.676	208.60	0.010	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.116	109.13	0.011	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

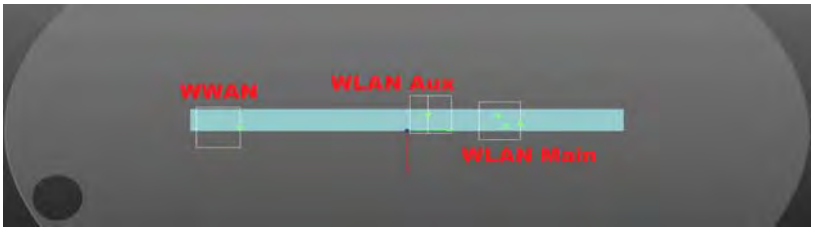
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
31	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.606	233.29	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.646	153.08	0.014	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

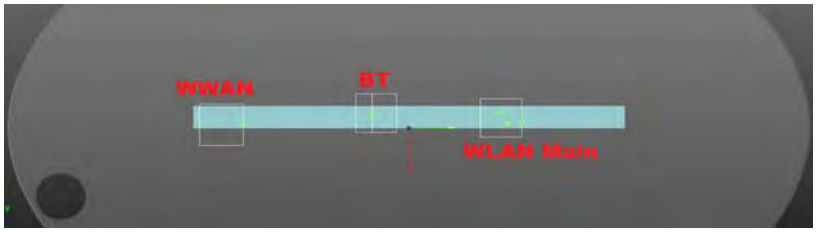
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
32	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.606	233.29	0.009	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 7	Top side	0.986	-4.2	-136	-4.1	1.116	109.13	0.011	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

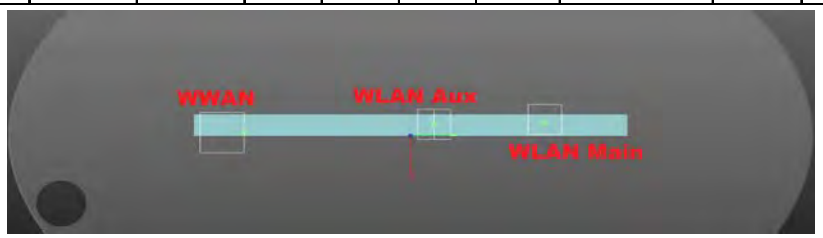
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
33	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	1.520	203.61	0.009	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	1.270	146.39	0.010	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

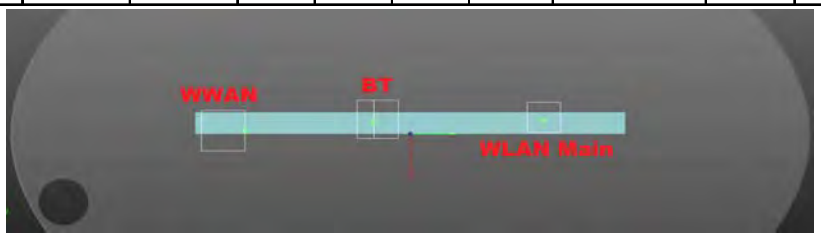
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
34	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	1.520	203.61	0.009	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	0.960	104.09	0.009	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
35	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	1.450	228.26	0.008	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 12	Top side	0.830	-5.3	-131	-4.43	1.490	148.05	0.012	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

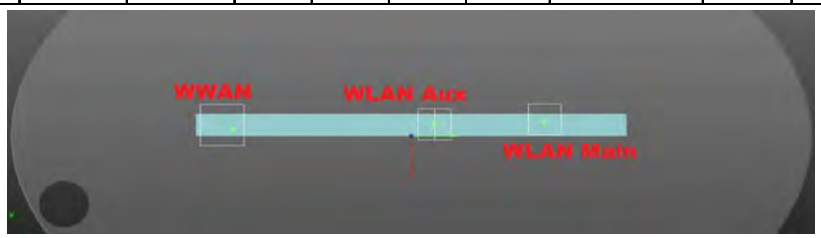
Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
36	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.880	194.10	0.013	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.630	137.09	0.015	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
37	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.880	194.10	0.013	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.320	94.77	0.016	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
38	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.810	218.85	0.011	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.850	138.66	0.018	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
39	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.810	218.85	0.011	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 13	Top side	1.190	-2.5	-121.5	-4.72	1.320	94.77	0.016	SPLSR<0.04, Not required
	Bluetooth		0.130	-9.6	-27	-3.75				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
40	LTE Band 17	Top side	0.759	-5.3	-131	-4.46	1.449	203.61	0.001	SPLSR<0.04, Not required
	2.4GHz Main		0.690	-3.8	72.6	-4.69				
	LTE Band 17	Top side	0.759	-5.3	-131	-4.46	1.199	146.39	0.001	SPLSR<0.04, Not required
	2.4GHz Aux		0.440	-12.8	15.2	-4.59				
										

Simultaneous Transmission Scenario				WWAN+Main+BT						
Figure	Conditions	Position	SAR Value (W/kg)	Coordinates (mm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Result
				x	y	z				
41	LTE Band 17	Top side	0.759	-5.3	-131	-4.46	1.379	228.26	0.001	SPLSR<0.04, Not required
	5GHz Main		0.620	-10.6	97.2	-3.57				
	LTE Band 17	Top side	0.759	-5.3	-131	-4.46	1.419	148.05	0.001	SPLSR<0.04, Not required
	5GHz Aux		0.660	-9	17	-3.79				
										

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is ≦ 0.04 for all circumstances that require SPLSR calculation.

4. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	EX3DV4	3923	Sep.02,2016	Sep.01,2017
Schmid & Partner Engineering AG	System Validation Dipole	D750V2	1015	Aug.30,2016	Aug.29,2017
		D835V2	4d063	Aug.25,2016	Aug.24,2017
		D1750V2	1008	Aug.31,2016	Aug.30,2017
		D1900V2	5d027	Apr.25,2016	Apr.24,2017
		D2450V2	727	Apr.19,2016	Apr.18,2017
		D2600V2	1005	Jan.25,2017	Jan.24,2018
		D5GHzV2	1023	Jan.20,2017	Jan.19,2018
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	1374	Aug.23,2016	Aug.22,2017
Schmid & Partner Engineering AG	Software	DASY 52 V52.8.8	N/A	Calibration not required	Calibration not required
Schmid & Partner Engineering AG	Phantom	ELI	N/A	Calibration not required	Calibration not required
Schmid & Partner Engineering AG	Vector Network Analyzer and Vector Reflect meter	DAKS VNA R140	0040513	Jan.24,2016	Jan.23,2018
Schmid & Partner Engineering AG	Dielectric Probe Kit	DAKS-3.5	1053	Jan.24,2017	Jan.23,2018

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
Agilent	Dual-directional coupler	772D	MY46151242	Jul.11,2016	Jul.10,2017
		778D	MY48220468	Jul.06,2016	Jul.05,2017
Agilent	RF Signal Generator	N5181A	MY50144143	Mar.01,2017	Feb.28,2018
Agilent	Power Meter	E4417A	MY52240003	Oct.17,2016	Oct.16,2017
Agilent	Power Sensor	E9301H	MY52200003	Oct.17,2016	Oct.16,2017
			MY52200004	Oct.17,2016	Oct.16,2017
TECPEL	Digital thermometer	DTM-303A	TP130078	May.30,2016	May.29,2017
Anritsu	Radio Communication Test	MT8820C	6201061049	Apr.08,2016	Apr.07,2017
R&S	Radio Communication Test	CMU200	113505	Aug.19,2016	Aug.18,2017

5. Measurements

Date: 2017/3/30

GPRS 850_Body_Left side_CH 128_0mm

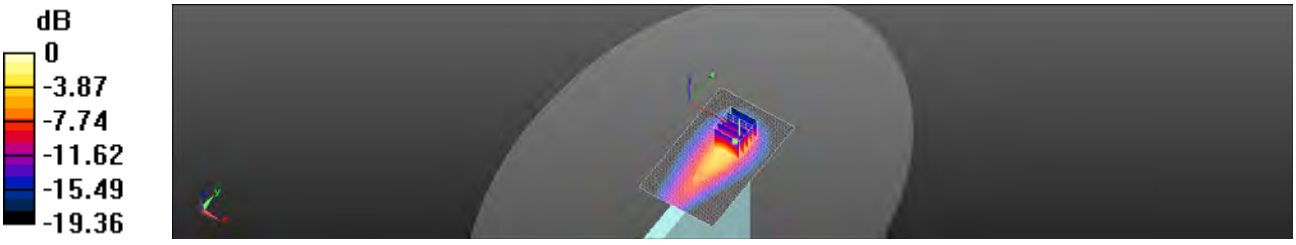
Communication System: GPRS (1Dn2Up); Frequency: 824.2 MHz; Duty Cycle: 1:4.1
Medium parameters used: f = 824.2 MHz; σ = 0.961 S/m; ε_r = 55.167; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.67, 10.67, 10.67); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.19 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.549 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 3.27 W/kg
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.530 W/kg
Maximum value of SAR (measured) = 2.18 W/kg



0 dB = 2.18 W/kg = 3.38 dBW/kg

Date: 2017/4/1

GPRS 1900_Body_Left side_CH 810_0mm

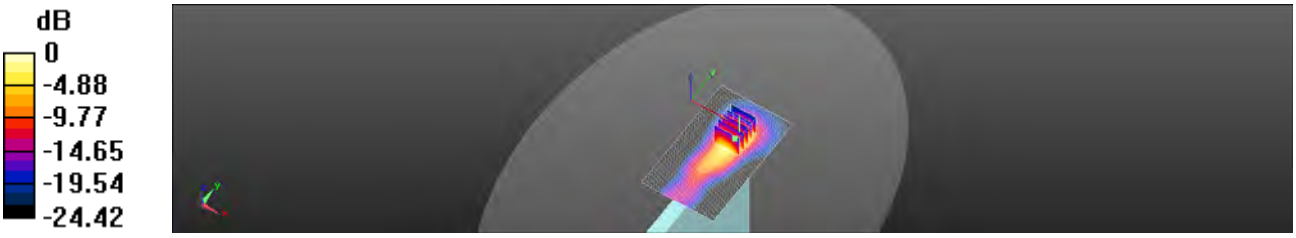
Communication System: GPRS (1Dn2Up); Frequency: 1909.8 MHz; Duty Cycle: 1:4.1
Medium parameters used: f = 1910 MHz; σ = 1.558 S/m; ε_r = 53.335; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.47, 8.47, 8.47); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.28 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.606 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 2.06 W/kg
SAR(1 g) = 0.927 W/kg; SAR(10 g) = 0.420 W/kg
Maximum value of SAR (measured) = 1.50 W/kg



0 dB = 1.50 W/kg = 1.75 dBW/kg

Date: 2017/4/1

WCDMA Band II_Body_Left side_CH 9538_0mm

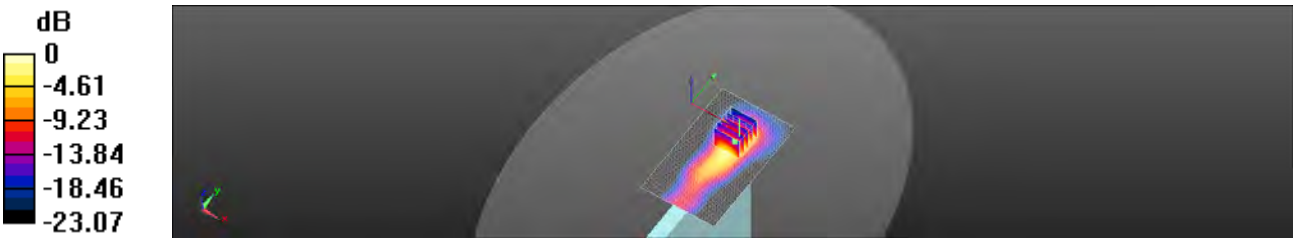
Communication System: WCDMA; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.547 S/m; ε_r = 53.445; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.47, 8.47, 8.47); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.30 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.445 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 0.957 W/kg; SAR(10 g) = 0.446 W/kg
Maximum value of SAR (measured) = 1.47 W/kg



0 dB = 1.47 W/kg = 1.68 dBW/kg

Date: 2017/3/31

WCDMA Band IV_Body_Left side_CH 1312_0mm

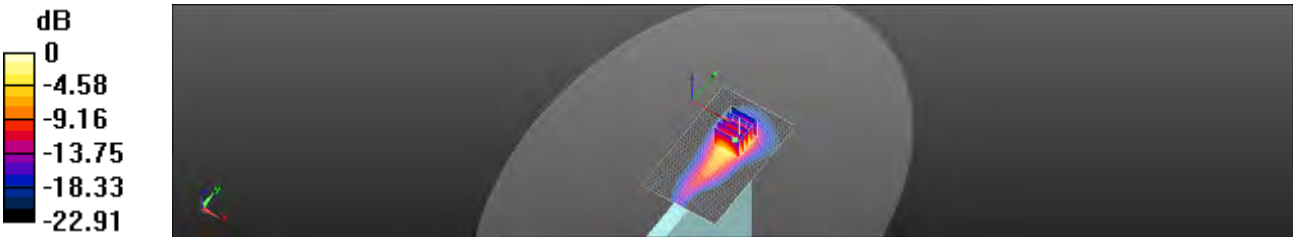
Communication System: WCDMA; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1712.4 MHz; σ = 1.478 S/m; ε_r = 53.912; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.78, 8.78, 8.78); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.36 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.584 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.43 W/kg
SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.465 W/kg
Maximum value of SAR (measured) = 1.65 W/kg



0 dB = 1.65 W/kg = 2.16 dBW/kg

Date: 2017/3/30

WCDMA Band V_Body_Left side_CH 4132_0mm

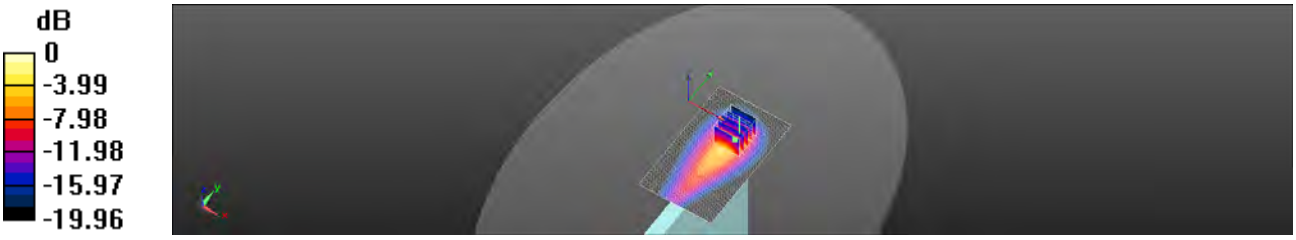
Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 826.4 MHz; σ = 0.965 S/m; ε_r = 55.977; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.67, 10.67, 10.67); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.011 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.488 W/kg
Maximum value of SAR (measured) = 2.29 W/kg



0 dB = 2.29 W/kg = 3.60 dBW/kg

Date: 2017/3/30

1xEVDO Cellular BC0_Body_Left side_CH 777_0mm

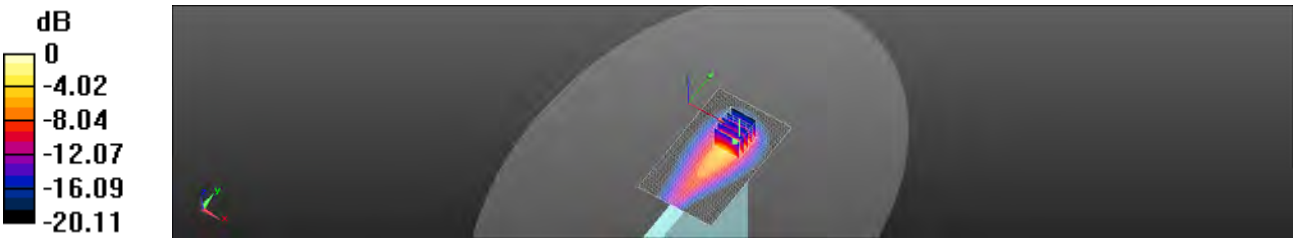
Communication System: 1xEvDO; Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium parameters used: f = 848.31 MHz; σ = 0.998 S/m; ε_r = 55.811; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.67, 10.67, 10.67); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.873 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.941 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.99 W/kg
SAR(1 g) = 0.948 W/kg; SAR(10 g) = 0.414 W/kg
Maximum value of SAR (measured) = 1.95 W/kg



0 dB = 1.95 W/kg = 2.91 dBW/kg

Date: 2017/4/1

1xEVDO PCS BC1_Body_Left side_CH 1175_0mm

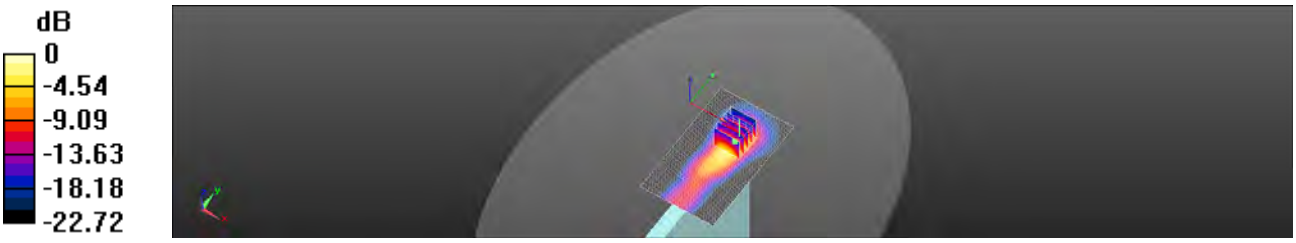
Communication System: 1xEvDO; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1909 MHz; σ = 1.55 S/m; ε_r = 53.415; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.47, 8.47, 8.47); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.33 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.237 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 0.962 W/kg; SAR(10 g) = 0.443 W/kg
Maximum value of SAR (measured) = 1.54 W/kg



0 dB = 1.54 W/kg = 1.87 dBW/kg

Date: 2017/4/1

LTE Band 2 (20MHz)_Body_Left side_CH 19100_QPSK_100-0_0mm

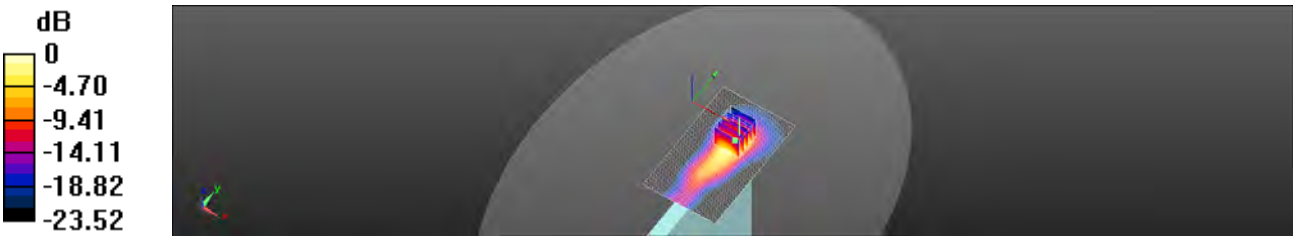
Communication System: LTE; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.546 S/m; ε_r = 53.45; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.47, 8.47, 8.47); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.54 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.738 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.31 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.481 W/kg
Maximum value of SAR (measured) = 1.58 W/kg



0 dB = 1.58 W/kg = 1.99 dBW/kg

Date: 2017/3/31

LTE Band 4 (20MHz)_Body_Left side_CH 20175_QPSK_100-0_0mm

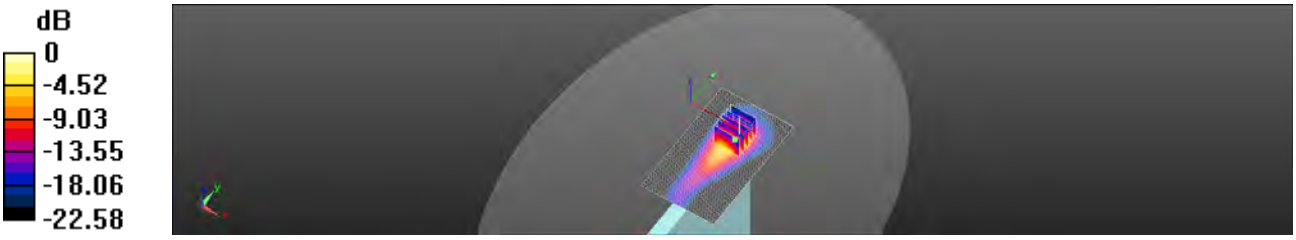
Communication System: LTE; Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1732.5 MHz; σ = 1.491 S/m; ε_r = 53.861; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.78, 8.78, 8.78); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.15 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.648 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 0.967 W/kg; SAR(10 g) = 0.434 W/kg
Maximum value of SAR (measured) = 1.64 W/kg



0 dB = 1.64 W/kg = 2.14 dBW/kg

Date: 2017/3/30

LTE Band 5 (10MHz)_Body_Top side_CH 20525_QPSK_1-0_0mm

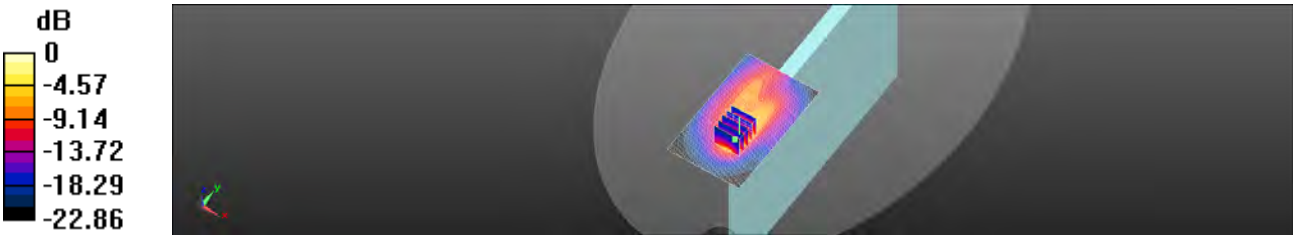
Communication System: LTE; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 836.5 MHz; σ = 0.979 S/m; ε_r = 55.872; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.67, 10.67, 10.67); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.851 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.230 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 2.34 W/kg
SAR(1 g) = 0.784 W/kg; SAR(10 g) = 0.324 W/kg
Maximum value of SAR (measured) = 1.53 W/kg



0 dB = 1.53 W/kg = 1.85 dBW/kg

Date: 2017/4/2

LTE Band 7 (20MHz)_Body_Left side_CH 21350_QPSK_1-0_0mm

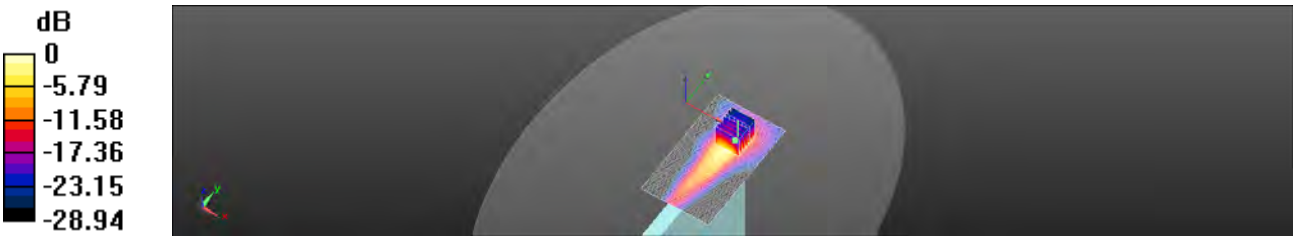
Communication System: LTE; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2560 MHz; σ = 2.129 S/m; ε_r = 51.834; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.7° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 1.92 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.285 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 2.92 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.409 W/kg
Maximum value of SAR (measured) = 1.90 W/kg



0 dB = 1.90 W/kg = 2.79 dBW/kg

Date: 2017/3/28

LTE Band 12 (10MHz)_Body_Top side_CH 23095_QPSK_1-0_0mm

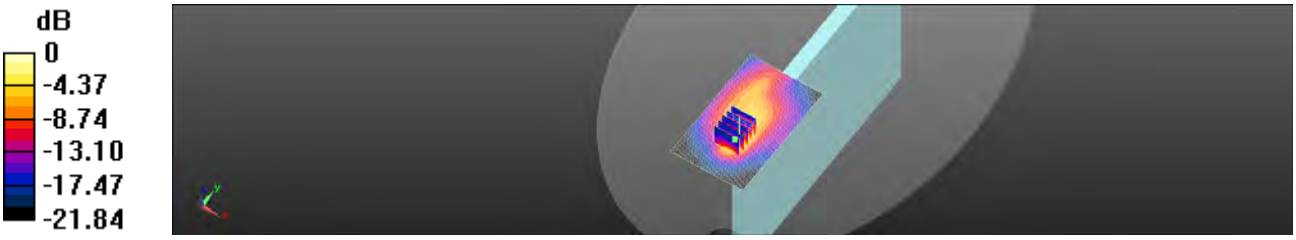
Communication System: LTE; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 707.5 MHz; σ = 0.952 S/m; ε_r = 56.392; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.8° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.83, 10.83, 10.83); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.847 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.032 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 0.634 W/kg; SAR(10 g) = 0.259 W/kg
Maximum value of SAR (measured) = 0.994 W/kg



0 dB = 0.994 W/kg = -0.02 dBW/kg

Date: 2017/3/29

LTE Band 13 (10MHz)_Body_Top side_CH 23230_QPSK_1-0_0mm

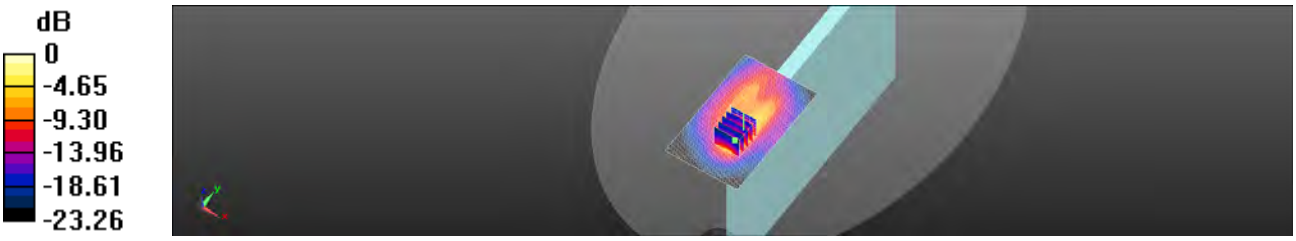
Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.974 S/m; ε_r = 55.902; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.8° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.83, 10.83, 10.83); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.911 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.102 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.66 W/kg
SAR(1 g) = 0.872 W/kg; SAR(10 g) = 0.353 W/kg
Maximum value of SAR (measured) = 1.79 W/kg



0 dB = 1.79 W/kg = 2.53 dBW/kg

Date: 2017/3/28

LTE Band 17 (10MHz)_Body_Top side_CH 23790_QPSK_1-25_0mm

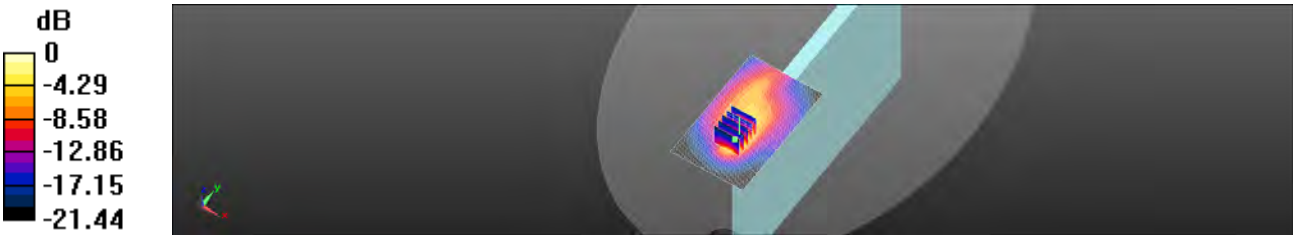
Communication System: LTE; Frequency: 710 MHz; Duty Cycle: 1:1
Medium parameters used: f = 710 MHz; σ = 0.966 S/m; ε_r = 56.367; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.8° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.83, 10.83, 10.83); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.779 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.853 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.583 W/kg; SAR(10 g) = 0.239 W/kg
Maximum value of SAR (measured) = 0.919 W/kg



0 dB = 0.919 W/kg = -0.37 dBW/kg

Date: 2017/4/3

WLAN 802.11b_Body_Bake side_CH 6_Aux_0mm_Stand mode

Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.956 S/m; ε_r = 53.355; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3° C ; Liquid temperature: 21.8° C

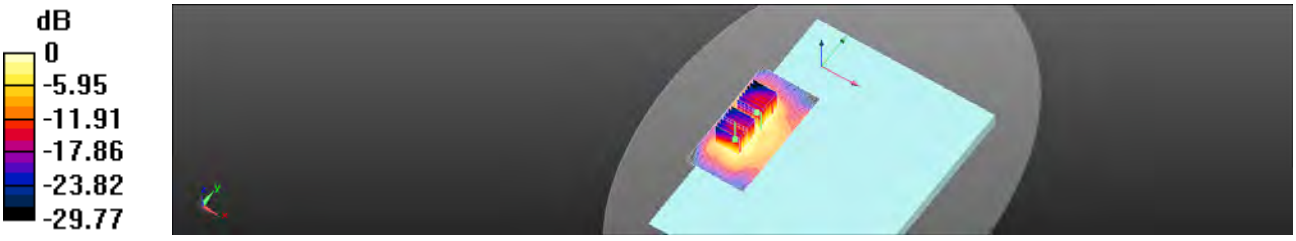
DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.06, 8.06, 8.06); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.863 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.9540 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.527 W/kg; SAR(10 g) = 0.235 W/kg
Maximum value of SAR (measured) = 0.789 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.9540 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.486 W/kg; SAR(10 g) = 0.224 W/kg
Maximum value of SAR (measured) = 0.714 W/kg



0 dB = 0.714 W/kg = -1.46 dBW/kg

Date: 2017/4/3

WLAN 802.11a 5.3G_Body_Bake side_CH 56_Aux_0mm_Stand mode

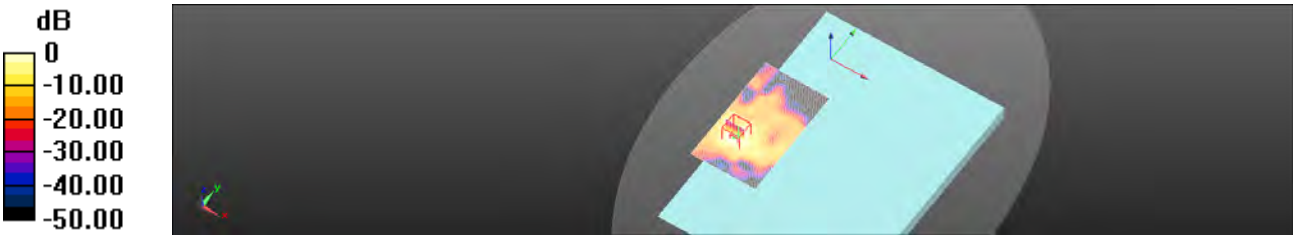
Communication System: WLAN 5G; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.347 S/m; ε_r = 48.799; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5° C ; Liquid temperature: 21.6° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4.58, 4.58, 4.58); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.38 W/kg

Configuration/Head/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.593 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.78 W/kg
SAR(1 g) = 0.595 W/kg; SAR(10 g) = 0.190 W/kg
Maximum value of SAR (measured) = 1.21 W/kg



0 dB = 1.21 W/kg = 0.81 dBW/kg

Date: 2017/4/4

WLAN 802.11a 5.6G_Body_Bake side_CH 124_Aux_0mm_Stand mode

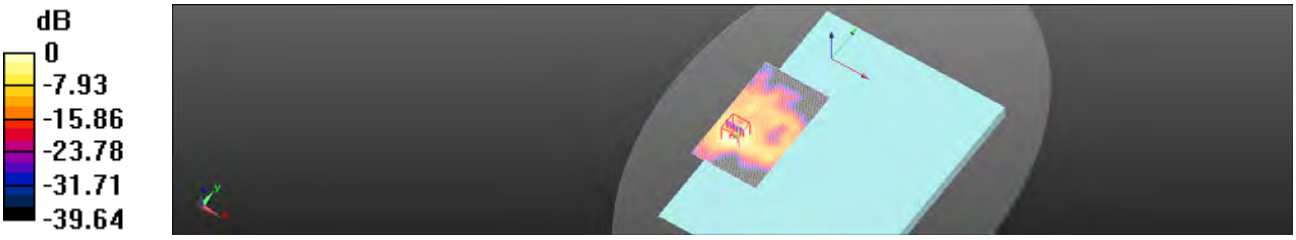
Communication System: WLAN 5G; Frequency: 5620 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5620 MHz; σ = 5.875 S/m; ε_r = 47.985; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6° C ; Liquid temperature: 21.5° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4, 4, 4); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.55 W/kg

Configuration/Head/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.965 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 2.63 W/kg
SAR(1 g) = 0.579 W/kg; SAR(10 g) = 0.186 W/kg
Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1.26 W/kg = 0.99 dBW/kg

Date: 2017/4/4

WLAN 802.11a 5.8G_Body_Bake side_CH 157_Aux_0mm_Stand mode

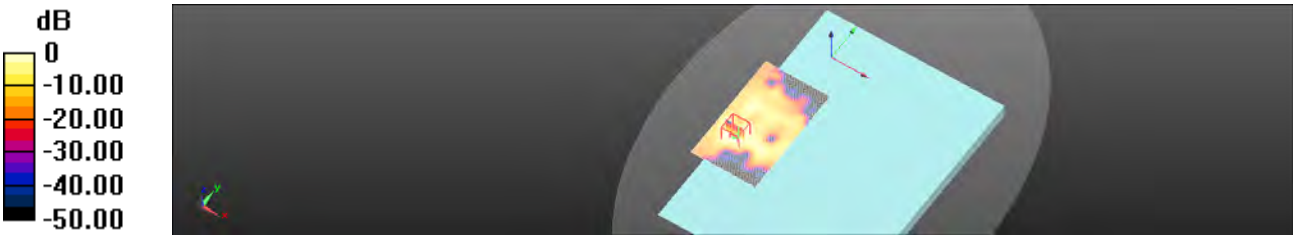
Communication System: WLAN 5G; Frequency: 5785 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 6.069 S/m; ε_r = 47.757; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5° C ; Liquid temperature: 21.4° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4.19, 4.19, 4.19); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x141x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.679 W/kg

Configuration/Head/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.367 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.546 W/kg



0 dB = 0.546 W/kg = -2.63 dBW/kg

6. SAR System Performance Verification

Date: 2017/3/28

Dipole 750 MHz_SN:1015

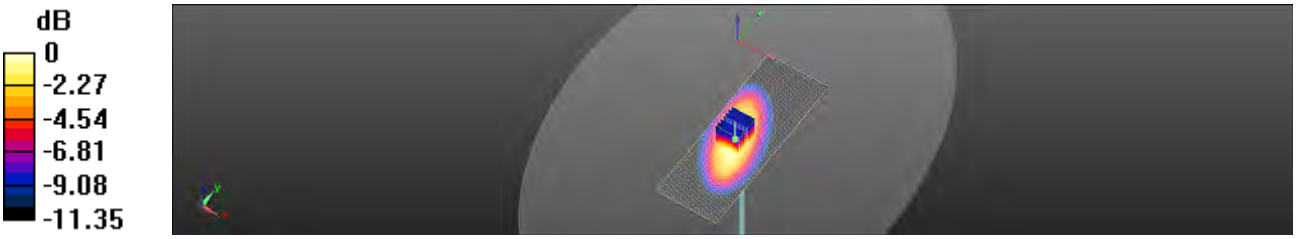
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.97 S/m; ε_r = 55.892; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.8° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.83, 10.83, 10.83); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x141x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.58 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.43 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 3.27 W/kg
SAR(1 g) = 2.24 W/kg; SAR(10 g) = 1.48 W/kg
Maximum value of SAR (measured) = 2.75 W/kg



0 dB = 2.75 W/kg = 4.40 dBW/kg

Date: 2017/3/29

Dipole 750 MHz_SN:1015

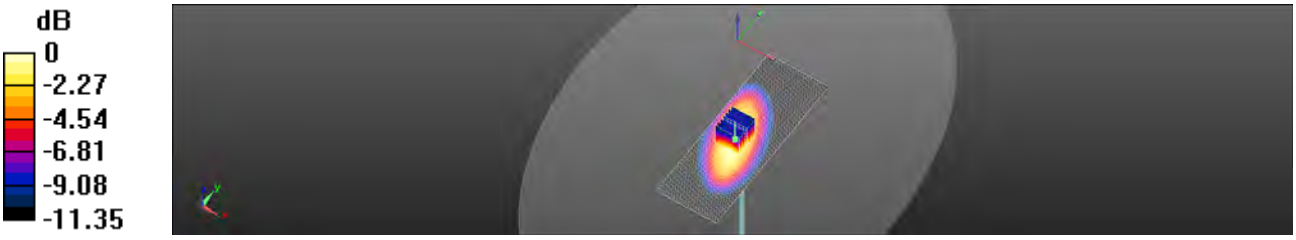
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.972 S/m; ε_r = 55.945; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.83, 10.83, 10.83); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x141x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.43 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.28 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.17 W/kg
SAR(1 g) = 2.21 W/kg; SAR(10 g) = 1.43 W/kg
Maximum value of SAR (measured) = 2.75 W/kg



0 dB = 2.65 W/kg = 4.30 dBW/kg

Date: 2017/3/30

Dipole 835 MHz_SN:4d063

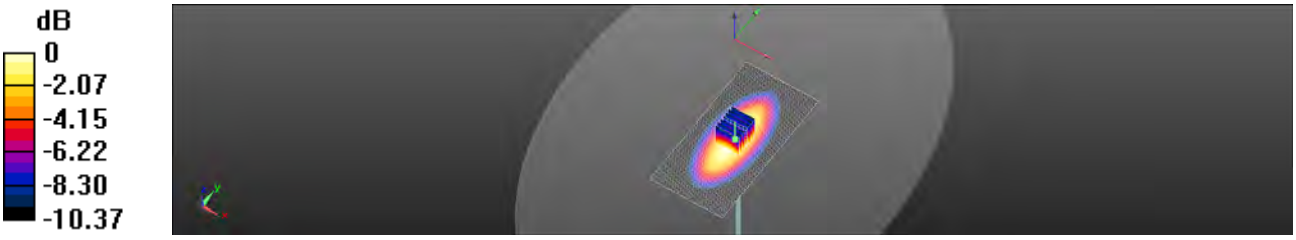
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.978 S/m; ε_r = 55.888; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(10.67, 10.67, 10.67); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (61x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.93 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.11 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.45 W/kg
SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.62 W/kg
Maximum value of SAR (measured) = 2.93 W/kg



0 dB = 2.93 W/kg = 4.67 dBW/kg

Date: 2017/3/31

Dipole 1750 MHz_SN:1008

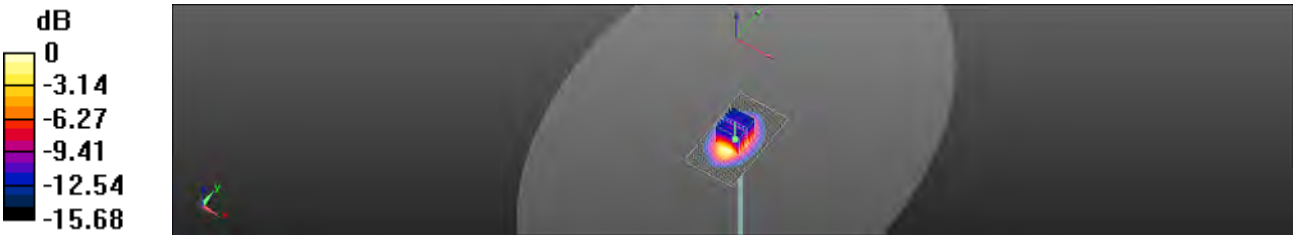
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.505 S/m; ε_r = 53.845; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.1° C ; Liquid temperature: 22.1° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.78, 8.78, 8.78); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (41x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 12.9 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.62 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 15.2 W/kg
SAR(1 g) = 9.29 W/kg; SAR(10 g) = 4.92 W/kg
Maximum value of SAR (measured) = 12.2 W/kg



0 dB = 12.2 W/kg = 10.87 dBW/kg

Date: 2017/4/1

Dipole 1900 MHz_SN:5d027

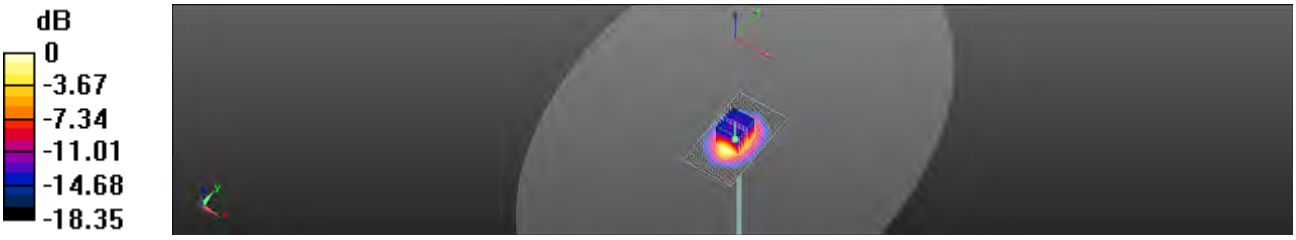
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.546 S/m; ε_r = 53.45; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2° C ; Liquid temperature: 21.9° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.47, 8.47, 8.47); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (41x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 14.9 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.62 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 9.71 W/kg; SAR(10 g) = 5.28 W/kg
Maximum value of SAR (measured) = 14.0 W/kg



0 dB = 14.0 W/kg = 11.47 dBW/kg

Date: 2017/4/3

Dipole 2450 MHz_SN:727

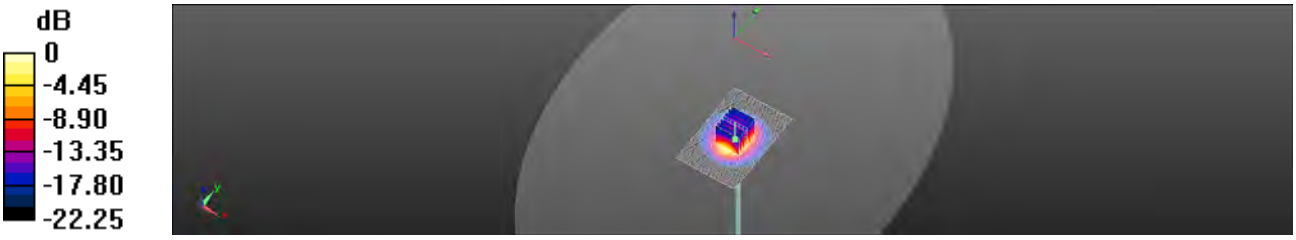
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.969 S/m; ε_r = 53.298; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3° C ; Liquid temperature: 21.8° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(8.06, 8.06, 8.06); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (61x91x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 20.4 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.4 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 26.4 W/kg
SAR(1 g) = 12.7 W/kg; SAR(10 g) = 5.83 W/kg
Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.89 dBW/kg

Date: 2017/4/2

Dipole 2600 MHz_SN:1005

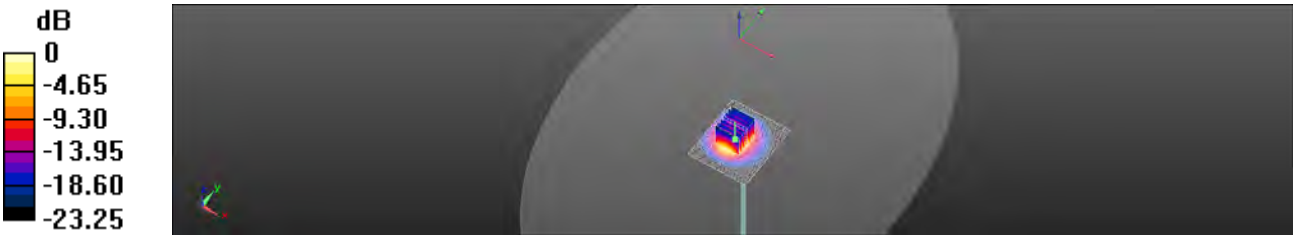
Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.132 S/m; ε_r = 51.883; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4° C ; Liquid temperature: 21.7° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (61x71x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 23.7 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.45 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 29.4 W/kg
SAR(1 g) = 14.1 W/kg; SAR(10 g) = 6.14 W/kg
Maximum value of SAR (measured) = 21.7 W/kg



0 dB = 21.7 W/kg = 13.37 dBW/kg

Date: 2017/4/3

Dipole 5300 MHz_SN:1023

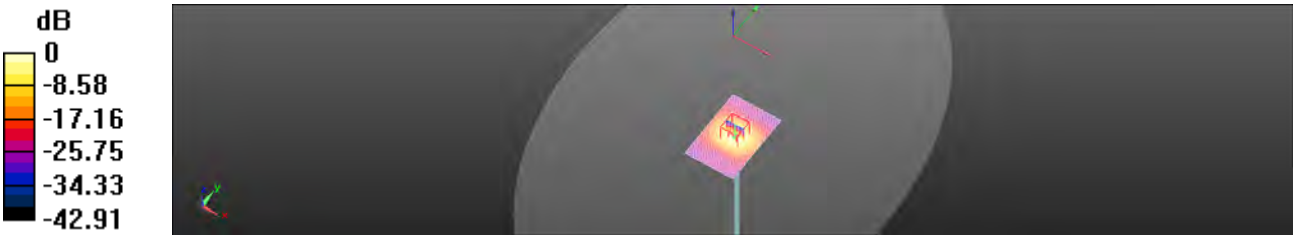
Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.407 S/m; ε_r = 48.703; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5° C ; Liquid temperature: 21.6° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4.58, 4.58, 4.58); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=100mW/Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 16.4 W/kg

Configuration/Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 56.45 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.4 W/kg
SAR(1 g) = 7.55 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (measured) = 15.5 W/kg



0 dB = 15.5 W/kg = 11.90 dBW/kg

Date: 2017/4/4

Dipole 5600 MHz_SN:1023

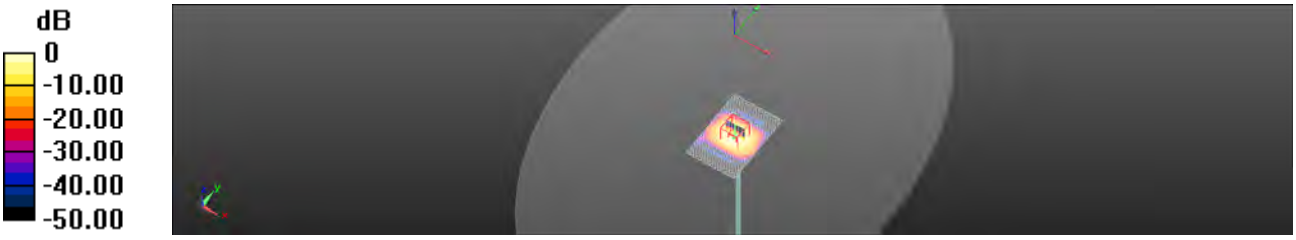
Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.815 S/m; ε_r = 48.006; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6° C ; Liquid temperature: 21.5° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4, 4, 4); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=100mW/Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 18.6 W/kg

Configuration/Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.93 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 36.7 W/kg
SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.28 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



0 dB = 17.5 W/kg = 12.43 dBW/kg

Date: 2017/4/4

Dipole 5800 MHz_SN:1023

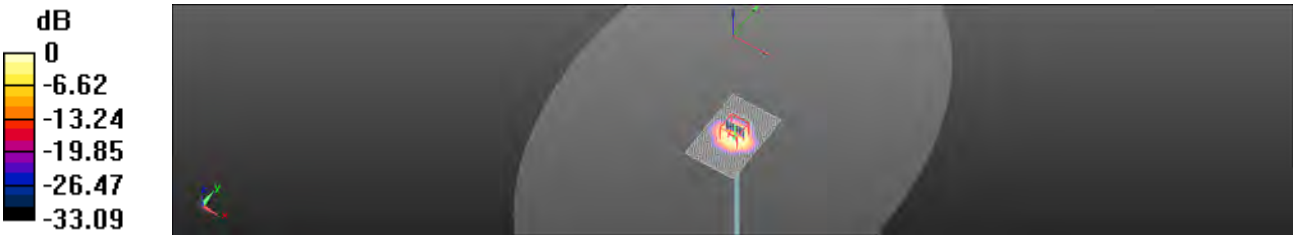
Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.077 S/m; ε_r = 47.532; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5° C ; Liquid temperature: 21.4° C

DASY5 Configuration:

- Probe: EX3DV4 - SN3923; ConvF(4.19, 4.19, 4.19); Calibrated: 2016/9/2;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2016/8/23
- Phantom: Body
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=100mW/Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 19.1 W/kg

Configuration/Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 58.71 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 38.1 W/kg
SAR(1 g) = 7.57 W/kg; SAR(10 g) = 2.11 W/kg
Maximum value of SAR (measured) = 17.9 W/kg



0 dB = 17.9 W/kg = 12.52 dBW/kg

7. DAE & Probe Calibration Certificate

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

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

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

Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: DAE4-1374_Aug16

CALIBRATION CERTIFICATE

Object DAE4 - SD 000 D04 BM - SN: 1374

Calibration procedure(s) QA CAL-06.v29
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: August 23, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	09-Sep-15 (No:17153)	Sep-16
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	05-Jan-16 (in house check)	In house check: Jan-17
Calibrator Box V2.1	SE UMS 006 AA 1002	05-Jan-16 (in house check)	In house check: Jan-17

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

Issued: August 23, 2016

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

Certificate No: DAE4-1374_Aug16 Page 1 of 5

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

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

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

Accreditation No.: SCS 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.

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	403.637 ± 0.02% (k=2)	403.886 ± 0.02% (k=2)	404.160 ± 0.02% (k=2)
Low Range	3.98275 ± 1.50% (k=2)	3.96719 ± 1.50% (k=2)	3.99036 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	42.5 ° ± 1 °

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t (886-2) 2299-3279 f (886-2) 2298-0488 www.tw.sgs.com
Member of SGS Group

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	200039.11	0.18	0.00
Channel X	+ Input	20005.23	0.57	0.00
Channel X	- Input	-20004.46	1.52	-0.01
Channel Y	+ Input	200041.10	3.98	0.00
Channel Y	+ Input	20002.96	-1.76	-0.01
Channel Y	- Input	-20007.46	-1.33	0.01
Channel Z	+ Input	200039.71	2.56	0.00
Channel Z	+ Input	20002.57	-2.04	-0.01
Channel Z	- Input	-20008.39	-2.20	0.01

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.14	0.37	0.02
Channel X	+ Input	200.90	0.07	0.03
Channel X	- Input	-198.75	0.41	-0.20
Channel Y	+ Input	2000.82	0.06	0.00
Channel Y	+ Input	200.17	-0.51	-0.25
Channel Y	- Input	-199.47	-0.29	0.15
Channel Z	+ Input	2000.50	-0.29	-0.01
Channel Z	+ Input	199.36	-1.24	-0.62
Channel Z	- Input	-200.79	-1.45	0.73

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	6.08	3.93
	-200	-2.69	-4.73
Channel Y	200	7.56	7.12
	200	-8.69	-8.88
Channel Z	200	5.83	5.08
	-200	-8.94	-9.16

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	-	-2.29	-1.91
Channel Y	200	4.65	-	-1.13
Channel Z	200	10.99	2.02	-

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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	15938	14709
Channel Y	16155	14646
Channel Z	16095	15566

5. Input Offset Measurement

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

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.17	0.20	1.90	0.33
Channel Y	0.61	-0.17	1.24	0.30
Channel Z	-1.30	-2.42	-0.33	0.37

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	-6	-8

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Calibration Laboratory of
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Accreditation No.: SCS 0108

Client SGS-TW (Auden) Certificate No: EX3-3923_Sep16

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3923

Calibration procedure(s) QA CAL-01.v8, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date September 2, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	06-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: September 2, 2016

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

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S Swiss Calibration Service

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Accreditation No.: SCS 0108

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

Probe EX3DV4

SN:3923

Manufactured: March 8, 2013
Repaired: August 30, 2016
Calibrated: September 2, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3923

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.55	0.46	0.45	± 10.1 %
DCP (mV)[B]	101.5	102.8	106.7	

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	150.8	±3.0 %
		Y	0.0	0.0	1.0		149.7	
		Z	0.0	0.0	1.0		151.5	

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:3923

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	11.01	11.01	11.01	0.53	0.80	± 12.0 %
835	41.5	0.90	10.66	10.66	10.66	0.47	0.80	± 12.0 %
900	41.5	0.97	10.40	10.40	10.40	0.36	0.93	± 12.0 %
1750	40.1	1.37	9.27	9.27	9.27	0.29	0.80	± 12.0 %
1900	40.0	1.40	8.90	8.90	8.90	0.30	0.80	± 12.0 %
2000	40.0	1.40	8.92	8.92	8.92	0.34	0.80	± 12.0 %
2450	39.2	1.80	7.95	7.95	7.95	0.33	0.85	± 12.0 %
2600	39.0	1.96	7.77	7.77	7.77	0.33	0.80	± 12.0 %
5250	35.9	4.71	5.36	5.36	5.36	0.30	1.80	± 13.1 %
5800	35.5	5.07	4.94	4.94	4.94	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.96	4.96	4.96	0.40	1.80	± 13.1 %

[F] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3923

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	10.83	10.83	10.83	0.32	0.98	± 12.0 %
835	55.2	0.97	10.67	10.67	10.67	0.37	0.90	± 12.0 %
900	55.0	1.05	10.52	10.52	10.52	0.44	0.80	± 12.0 %
1750	53.4	1.49	8.78	8.78	8.78	0.39	0.81	± 12.0 %
1900	53.3	1.52	8.47	8.47	8.47	0.37	0.80	± 12.0 %
2000	53.3	1.52	8.68	8.68	8.68	0.38	0.80	± 12.0 %
2450	52.7	1.95	8.06	8.06	8.06	0.30	0.80	± 12.0 %
2600	52.5	2.16	7.84	7.84	7.84	0.27	0.80	± 12.0 %
5250	48.9	5.36	4.58	4.58	4.58	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.00	4.00	4.00	0.55	1.90	± 13.1 %
5750	48.3	5.94	4.19	4.19	4.19	0.55	1.90	± 13.1 %

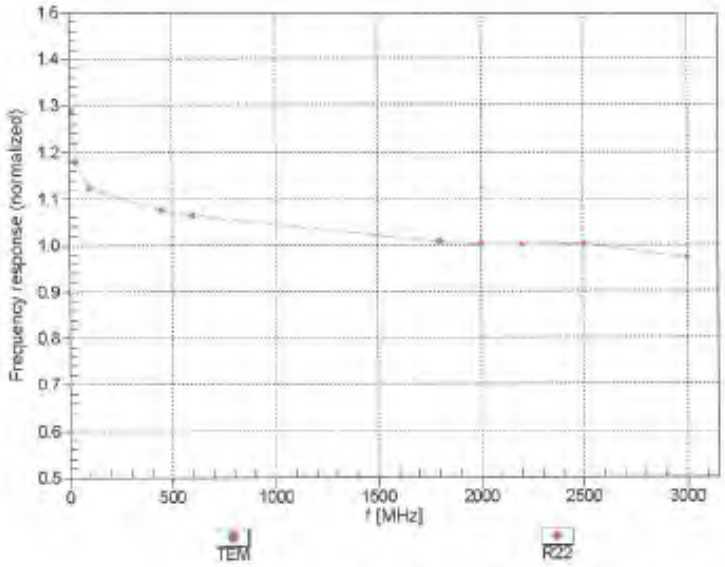
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz 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.

EX3DV4- SN:3923 September 2, 2016

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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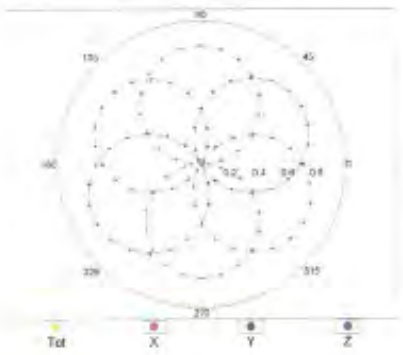
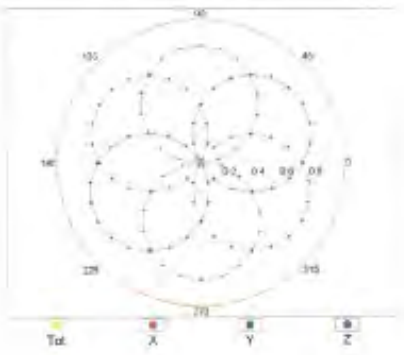
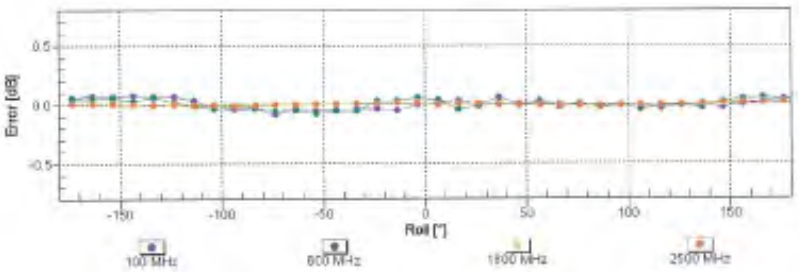
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22





Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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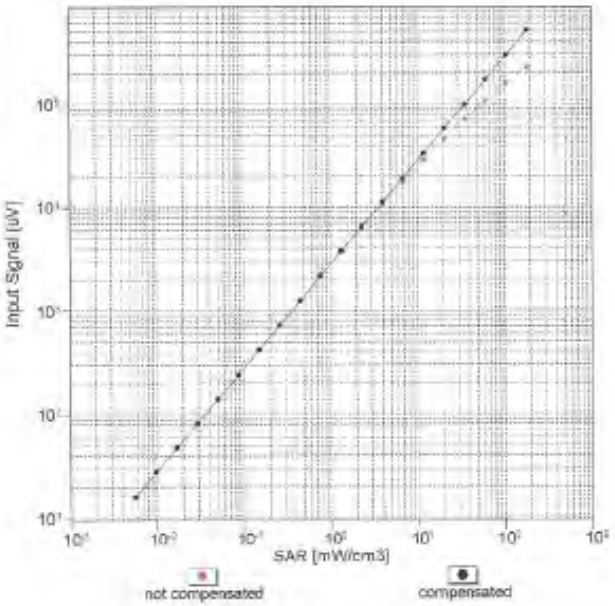
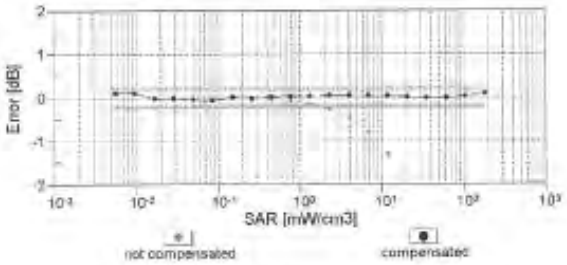
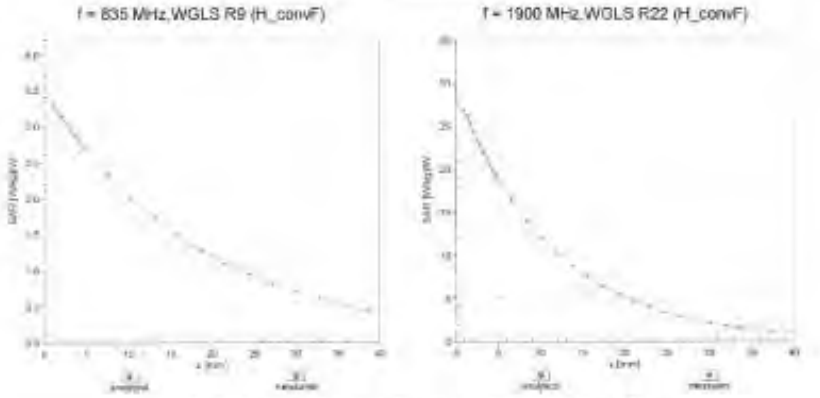
Dynamic Range f(SAR$_{head}$)
(TEM cell , f_{eval}= 1900 MHz)





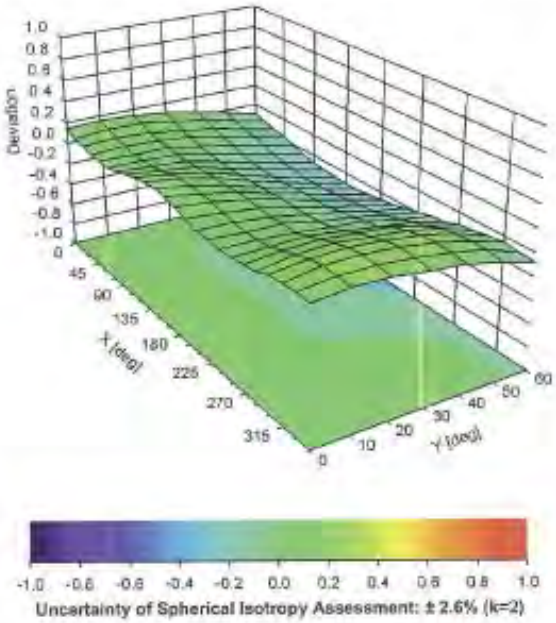
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (φ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3923

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	26.4
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

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	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	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.)	1.39%	N	1	1	0.64	0.43	0.89%	0.60%	M
Liquid Conductivity (mea.)	1.47%	N	1	1	0.6	0.49	0.88%	0.72%	M
Combined standard uncertainty		RSS					11.78%	11.74%	
Expant uncertainty (95% confidence							23.57%	23.49%	

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	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	√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	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.)	1.67%	N	1	1	0.64	0.43	1.07%	0.72%	M
Liquid Conductivity (mea.)	2.49%	N	1	1	0.6	0.49	1.49%	1.22%	M
Combined standard uncertainty		RSS					11.56%	11.50%	
Expant uncertainty (95% confidence							23.13%	22.99%	

9. System Validation from Original Equipment Supplier

Calibration Laboratory of
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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D750V3-1015_Aug16

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 30, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: August 30, 2016

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Certificate No: D750V3-1015_Aug16 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, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) 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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	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	42.4 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.11 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.32 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.45 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	54.9 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.25 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.77 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.47 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	53.1 Ω - 0.2 jΩ
Return Loss	-30.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.0 Ω - 2.8 jΩ
Return Loss	-30.6 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: 30.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

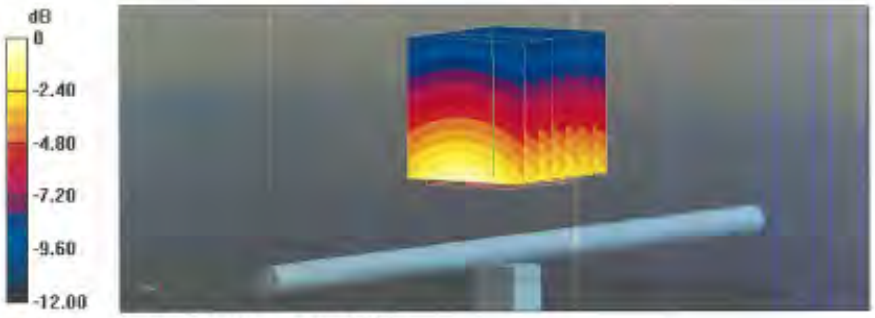
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz, σ = 0.91 S/m; ε_r = 42.4; 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: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.26 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.16 W/kg
SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.81 W/kg



0 dB = 2.81 W/kg = 4.49 dBW/kg

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DASY5 Validation Report for Body TSL

Date: 30.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

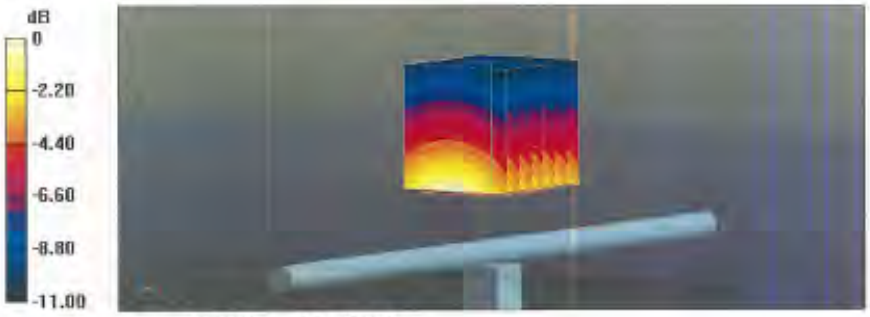
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.99 S/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.99, 9.99, 9.99); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.47 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.39 W/kg
SAR(1 g) = 2.25 W/kg; SAR(10 g) = 1.47 W/kg
Maximum value of SAR (measured) = 2.97 W/kg



0 dB = 2.97 W/kg = 4.73 dBW/kg

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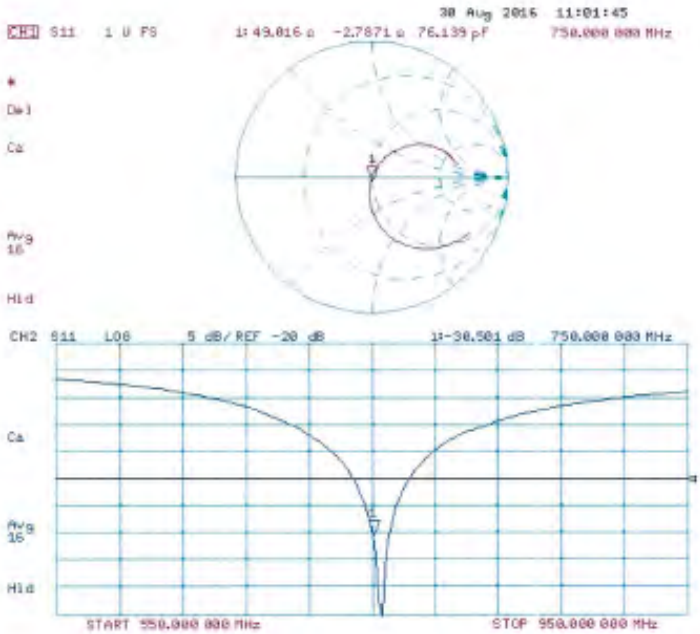
Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden) Certificate No: D835V2-4d063_Aug16

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 25, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: August 29, 2016

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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, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) 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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 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	42.1 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.40 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.54 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.05 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	54.7 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.47 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.57 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.61 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	51.2 Ω - 2.8 jΩ
Return Loss	- 30.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω - 5.5 jΩ
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.392 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: 25.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

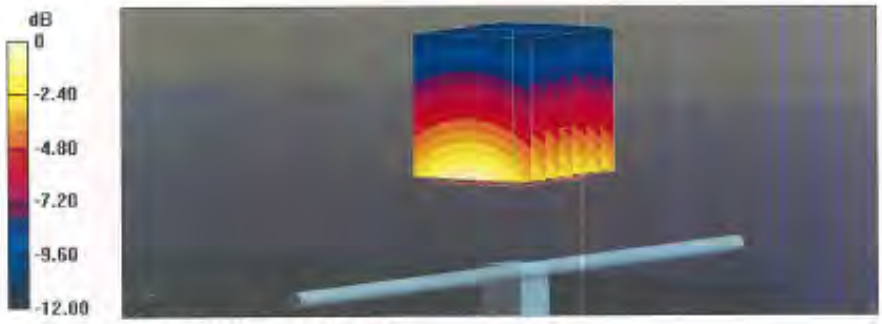
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.93 S/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.72, 9.72, 9.72); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 61.75 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.54 W/kg
Maximum value of SAR (measured) = 3.24 W/kg



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

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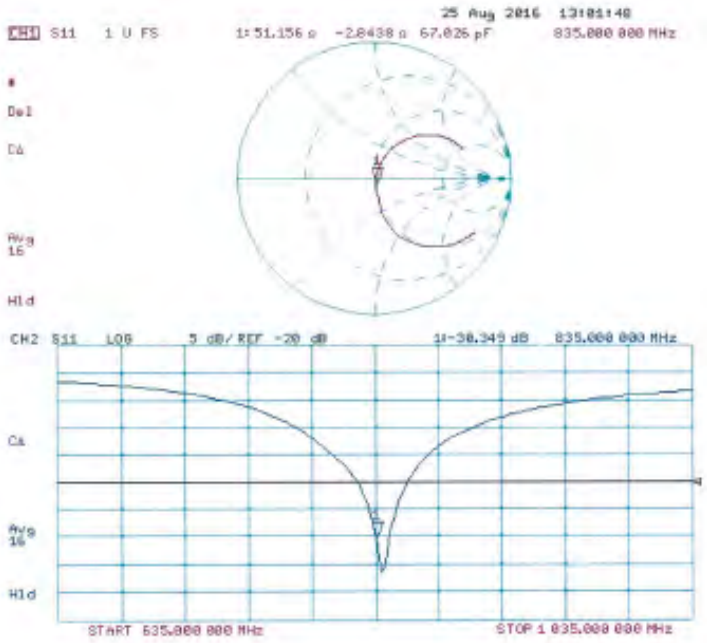
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 25.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

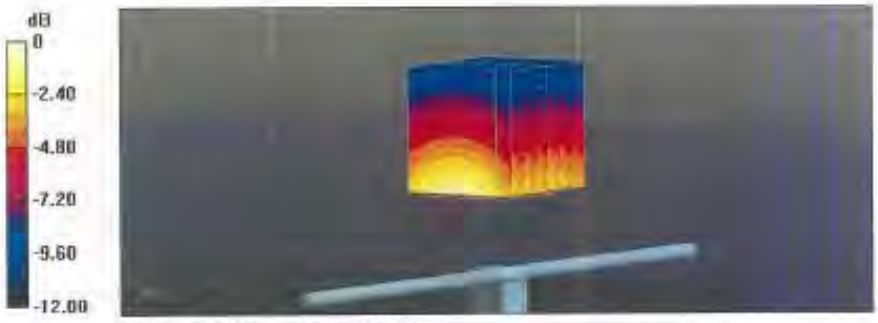
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 1.01 S/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

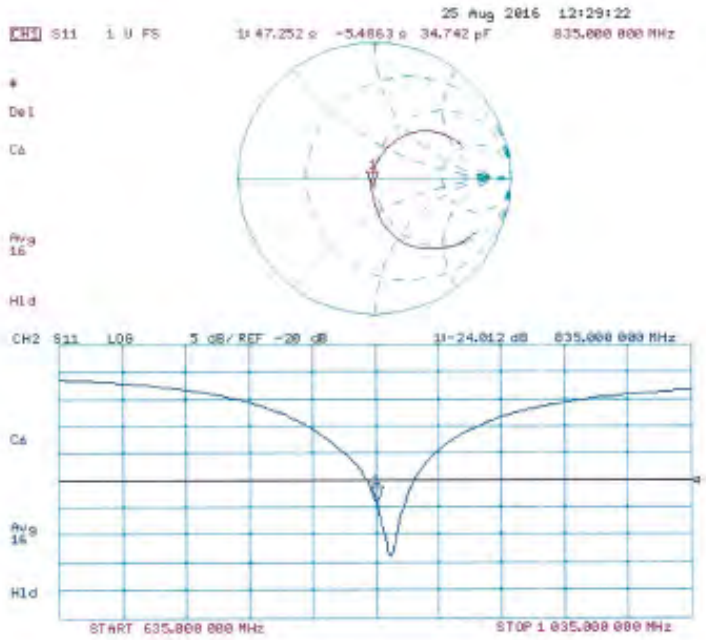
- Probe: EX3DV4 - SN7349; ConvF(9.73, 9.73, 9.73); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.83 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 3.63 W/kg
SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.61 W/kg
Maximum value of SAR (measured) = 3.25 W/kg



0 dB = 3.25 W/kg = 5.12 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D1750V2-1008_Aug16

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 31, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Johannes Kumiega	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 31, 2016

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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, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) 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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	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	40.3 ± 6 %	1.37 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	—	—

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**37.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.90 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**19.6 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	53.1 ± 6 %	1.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.34 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**37.3 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.96 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**19.9 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	51.0 Ω - 0.2 jΩ
Return Loss	- 40.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω - 0.5 jΩ
Return Loss	- 29.3 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	May 27, 2003

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DASY5 Validation Report for Head TSL

Date: 24.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

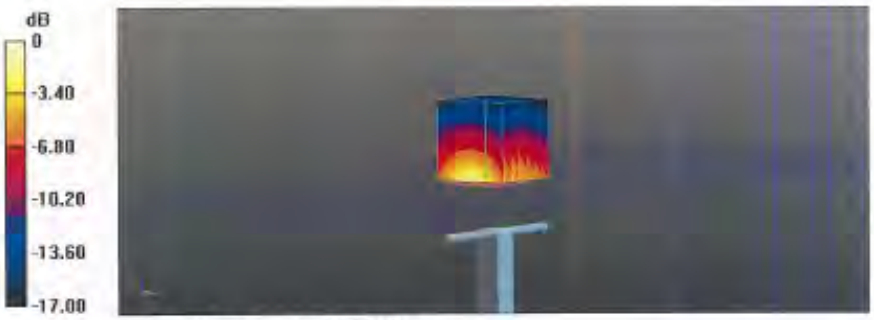
DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.37 S/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.46, 8.46, 8.46); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 105.8 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.28 W/kg; SAR(10 g) = 4.9 W/kg
Maximum value of SAR (measured) = 14.3 W/kg



0 dB = 14.3 W/kg = 11.55 dBW/kg

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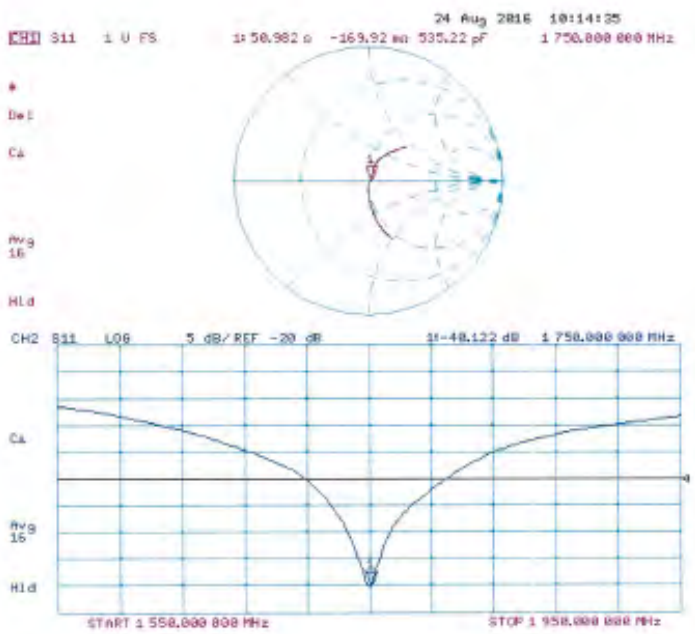
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 31.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

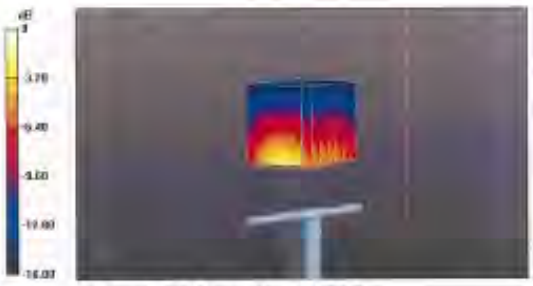
DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.49 S/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.25, 8.25, 8.25); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 100.8 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.34 W/kg; SAR(10 g) = 4.98 W/kg
Maximum value of SAR (measured) = 13.9 W/kg



0 dB = 13.9 W/kg = 11.43 dBW/kg

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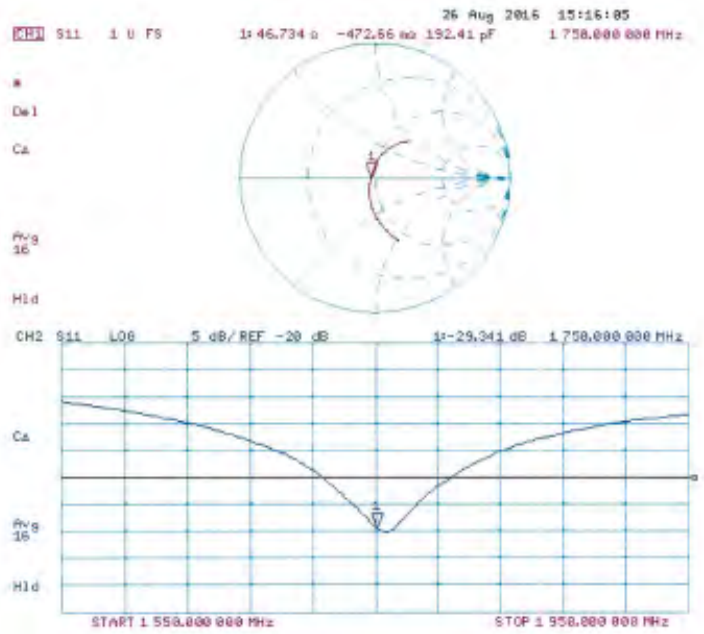
Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D1900V2-5d027_Apr16

CALIBRATION CERTIFICATE

Object D1900V2 - SN: 5d027

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

Calibration date April 25, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: April 26, 2016

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

a) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	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	40.0 ± 6 %	1.37 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**38.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.03 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**20.3 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	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.9 ± 6 %	1.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.83 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**39.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.21 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.0 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	50.8 Ω + 4.4 jΩ
Return Loss	- 27.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.5 Ω + 5.6 jΩ
Return Loss	- 23.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 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 17, 2002

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DASY5 Validation Report for Head TSL

Date: 25.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

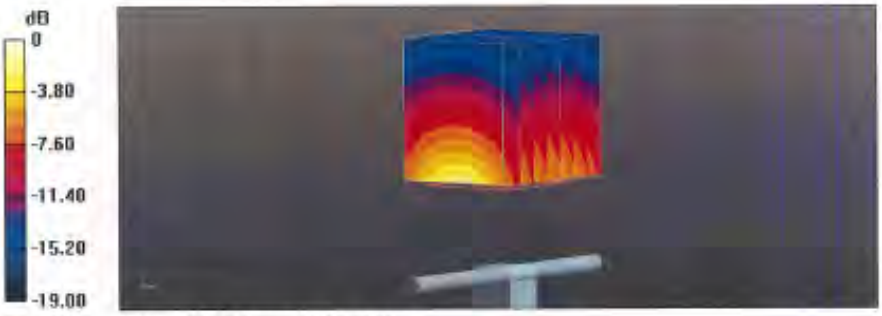
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d027

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.37 S/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

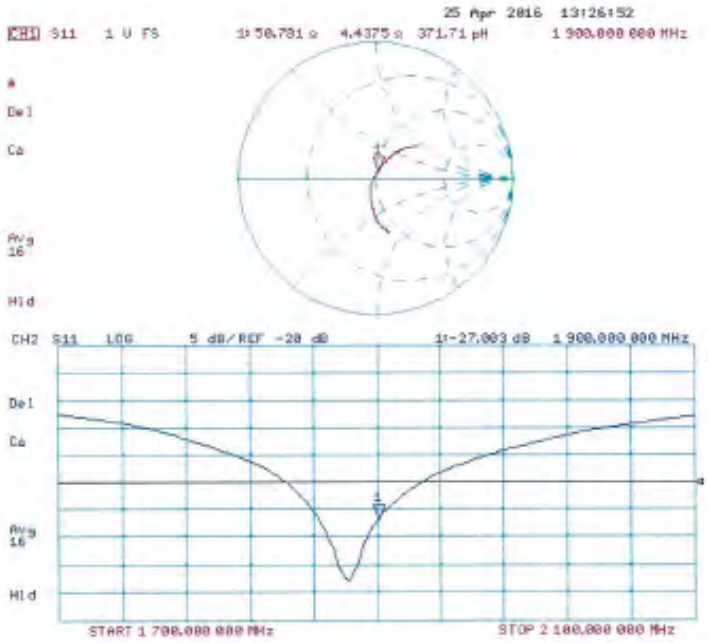
- Probe: EX3DV4 - SN7349; ConvF(8.2, 8.2, 8.2); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 106.9 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.55 W/kg; SAR(10 g) = 5.03 W/kg
Maximum value of SAR (measured) = 14.3 W/kg



0 dB = 14.3 W/kg = 11.55 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 25.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

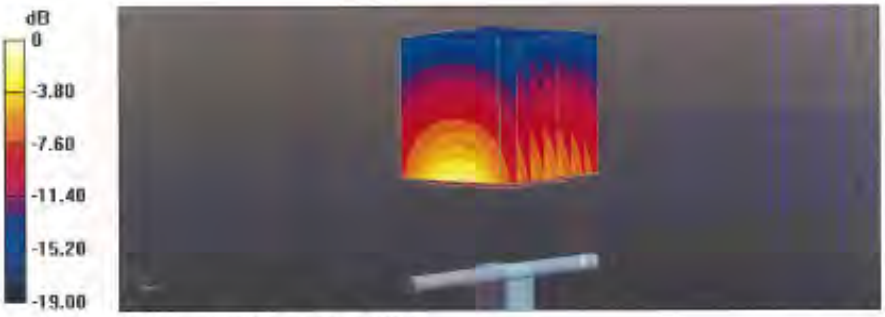
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d027

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.49 S/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

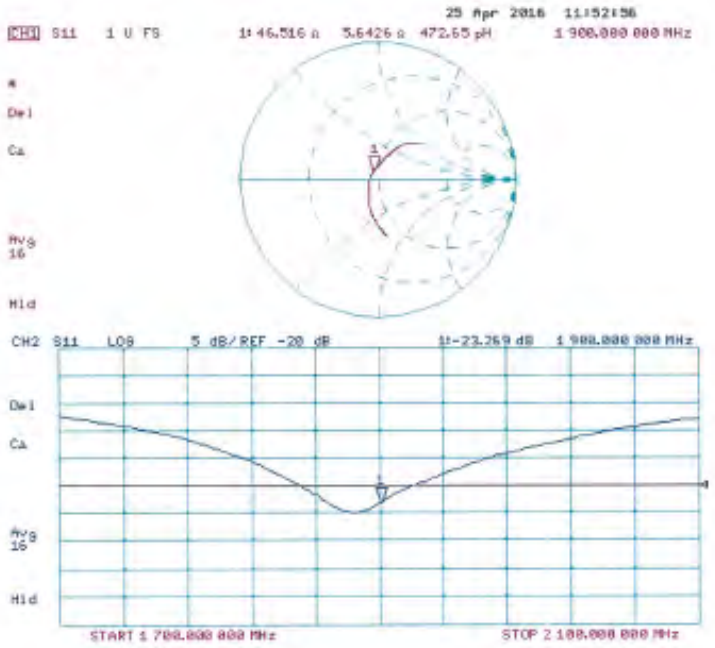
- Probe: EX3DV4 - SN7349; ConvF(8.03, 8.03, 8.03); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 104.2 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.83 W/kg; SAR(10 g) = 5.21 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



0 dB = 14.7 W/kg = 11.67 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D2450V2-727_Apr16

CALIBRATION CERTIFICATE

Object D2450V2 - SN:727

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

Calibration date: April 19, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	06-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	06-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: April 20, 2016

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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, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) 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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	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	40.0 ± 6 %	1.83 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.8 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**51.0 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.93 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.7 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	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	1.98 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.5 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**49.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.86 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.3 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	55.3 Ω + 2.0 jΩ
Return Loss	- 25.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	52.1 Ω + 4.8 jΩ
Return Loss	- 25.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.148 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

DASY5 Validation Report for Head TSL

Date: 19.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

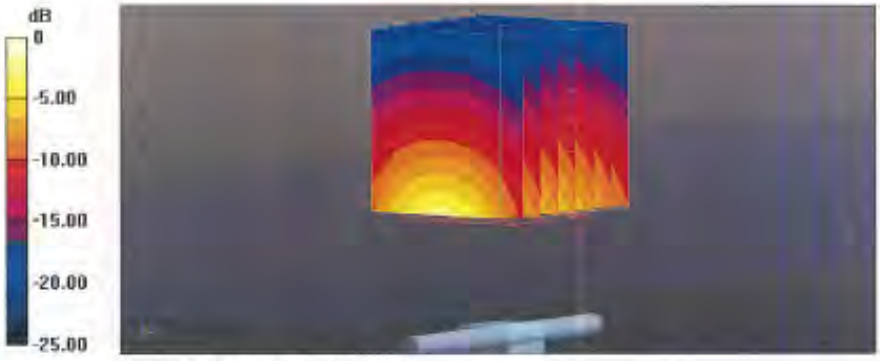
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 727

Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.83 S/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.76, 7.76, 7.76); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 112.1 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 25.7 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.93 W/kg
Maximum value of SAR (measured) = 20.8 W/kg



0 dB = 20.8 W/kg = 13.18 dBW/kg

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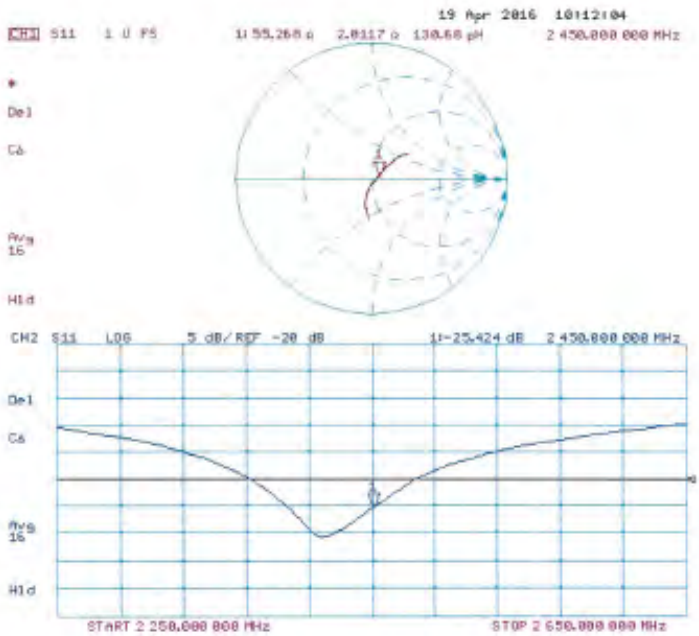
Impedance Measurement Plot for Head TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D2600V2-1005_Jan17

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 25, 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	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	06-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	06-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	31-Dec-16 (No. EX3-7349_Dec16)	Dec-17
DAE4	SN: 601	04-Jan-17 (No. DAE4-601_Jan17)	Jan-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:	Johannes Kurikka	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 25, 2017

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Certificate No: D2600V2-1005_Jan17 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, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) 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:

a) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

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

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.4 ± 6 %	2.05 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.3 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**55.5 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.8 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	52.3 ± 6 %	2.20 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.9 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**55.1 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**24.7 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	49.3 Ω - 4.7 jΩ
Return Loss	- 26.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	44.7 Ω - 3.2 jΩ
Return Loss	- 23.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.154 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: 25.01.2017

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 = 2.05 S/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

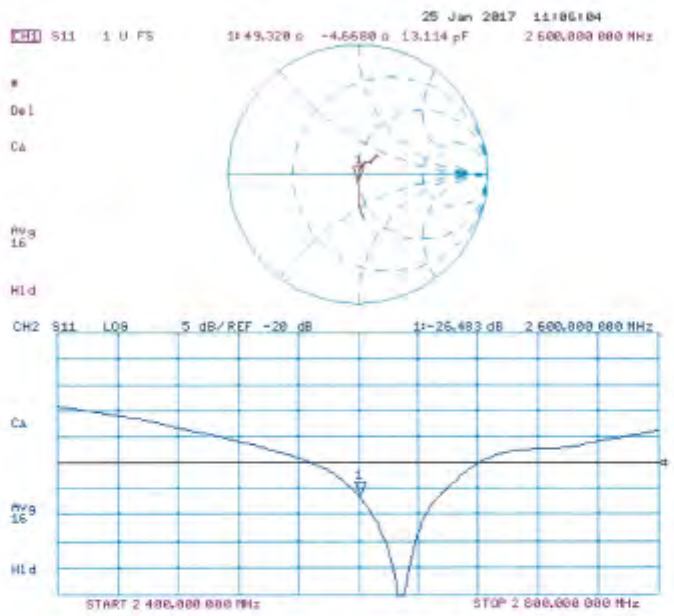
DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.56, 7.56, 7.56); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.01.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 116.2 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 30.5 W/kg
SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.32 W/kg
Maximum value of SAR (measured) = 24.2 W/kg

0 dB = 25.2 W/kg = 13.84 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 18.01.2017

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 = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

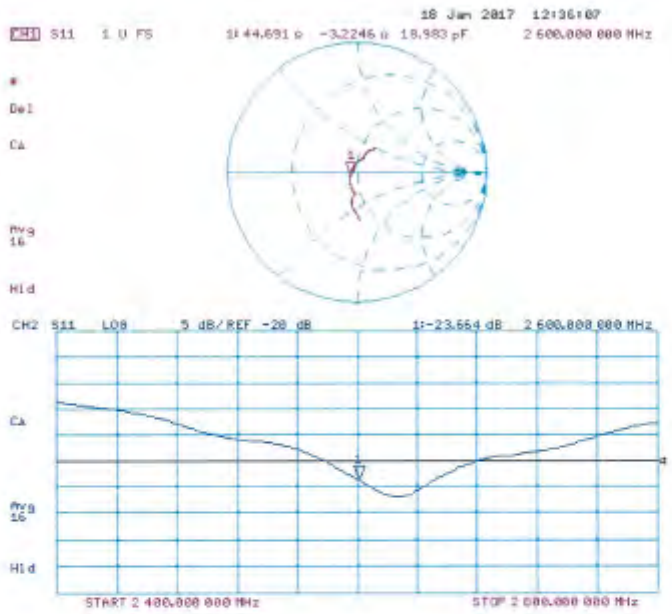
DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.48, 7.48, 7.48); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.01.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 108.8 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 28.8 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.2 W/kg
Maximum value of SAR (measured) = 23.3 W/kg

0 dB = 23.3 W/kg = 13.67 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D5GHzV2-1023_Jan17

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 20, 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	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 3503	31-Dec-16 (No. EX3-3503_Dec16)	Dec-17
DAE4	SN: 601	04-Jan-17 (No. DAE4-601_Jan17)	Jan-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:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 24, 2017

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

Certificate No: D5GHzV2-1023_Jan17 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 62209-2, "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
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom 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	35.4 ± 6 %	4.45 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	7.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**75.2 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.16 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**21.5 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	35.2 ± 6 %	4.55 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	—	—

SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.22 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**81.0 W / kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.35 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.3 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	34.7 ± 6 %	4.85 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	—	—

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.22 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**81.7 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.1 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	34.4 ± 6 %	5.05 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	7.82 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**77.6 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	**22.0 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	47.5 ± 6 %	5.36 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.32 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**72.6 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.05 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.3 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	47.3 ± 6 %	5.50 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.68 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**76.1 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.3 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 %	5.90 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	8.02 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**79.6 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.26 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**22.4 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	46.3 ± 6 %	6.17 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.64 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**75.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.13 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.1 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	49.6 Ω - 6.7 jΩ
Return Loss	- 23.4 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	49.0 Ω - 1.8 jΩ
Return Loss	- 33.5 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	54.1 Ω - 0.2 jΩ
Return Loss	- 28.2 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	55.4 Ω + 2.8 jΩ
Return Loss	- 24.8 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	48.9 Ω - 7.0 jΩ
Return Loss	- 22.9 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	51.0 Ω - 1.0 jΩ
Return Loss	- 37.0 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	55.6 Ω + 1.5 jΩ
Return Loss	- 25.2 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	56.6 Ω + 2.7 jΩ
Return Loss	- 23.6 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: 20.01.2017

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 = 4.45 S/m; ε_r = 35.4; ρ = 1000 kg/m^3,
Medium parameters used: f = 5300 MHz; σ = 4.55 S/m; ε_r = 35.2; ρ = 1000 kg/m^3,
Medium parameters used: f = 5600 MHz; σ = 4.85 S/m; ε_r = 34.7; ρ = 1000 kg/m^3,
Medium parameters used: f = 5800 MHz; σ = 5.05 S/m; ε_r = 34.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.76, 5.76, 5.76); Calibrated: 31.12.2016, ConvF(5.35, 5.35, 5.35); Calibrated: 31.12.2016, ConvF(5.09, 5.09, 5.09); Calibrated: 31.12.2016, ConvF(5.01, 5.01, 5.01); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.01.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 70.58 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 7.55 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 17.4 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 = 73.01 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 8.22 W/kg; SAR(10 g) = 2.35 W/kg
Maximum value of SAR (measured) = 19.3 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 = 71.94 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 33.2 W/kg
SAR(1 g) = 8.22 W/kg; SAR(10 g) = 2.33 W/kg
Maximum value of SAR (measured) = 19.8 W/kg

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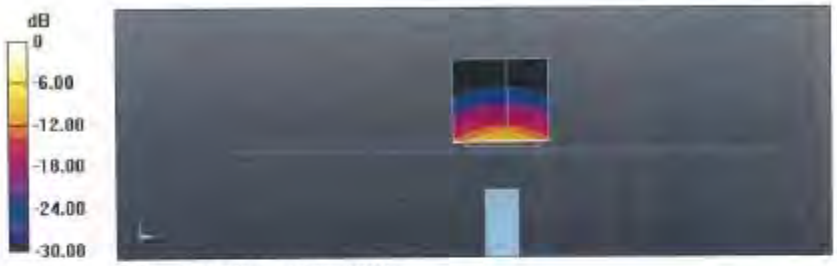
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.84 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 32.7 W/kg
SAR(1 g) = 7.82 W/kg; SAR(10 g) = 2.22 W/kg
Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 17.4 W/kg = 12.41 dBW/kg

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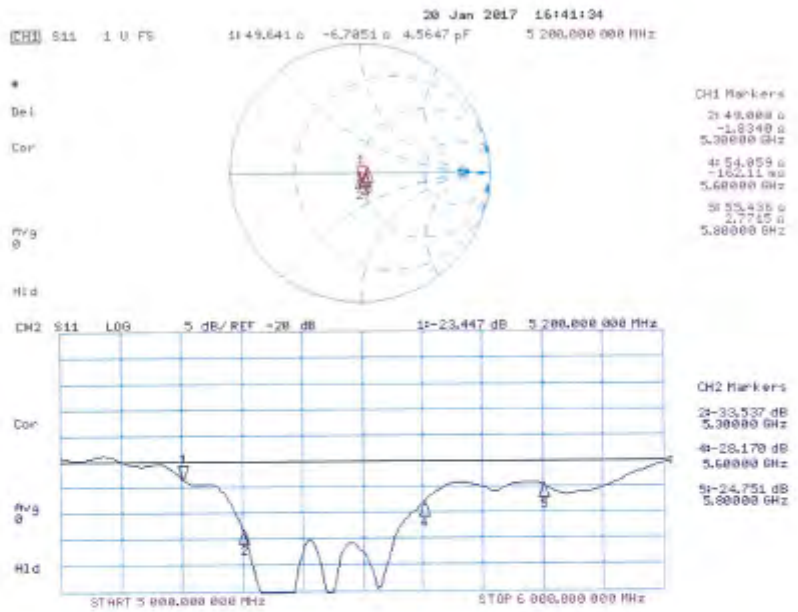
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 19.01.2017

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 = 5.36 S/m; ε_r = 47.5; ρ = 1000 kg/m^3 ;
Medium parameters used: f = 5300 MHz; σ = 5.5 S/m; ε_r = 47.3; ρ = 1000 kg/m^3 ;
Medium parameters used: f = 5600 MHz; σ = 5.9 S/m; ε_r = 46.6; ρ = 1000 kg/m^3 ;
Medium parameters used: f = 5800 MHz; σ = 6.17 S/m; ε_r = 46.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.29, 5.29, 5.29); Calibrated: 31.12.2016, ConvF(5.04, 5.04, 5.04); Calibrated: 31.12.2016, ConvF(4.57, 4.57, 4.57); Calibrated: 31.12.2016, ConvF(4.48, 4.48, 4.48); Calibrated: 31.12.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.01.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 65.54 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(1 g) = 7.32 W/kg; SAR(10 g) = 2.05 W/kg
Maximum value of SAR (measured) = 16.6 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 = 66.93 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 30.1 W/kg
SAR(1 g) = 7.66 W/kg; SAR(10 g) = 2.15 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 = 67.09 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 33.7 W/kg
SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.26 W/kg
Maximum value of SAR (measured) = 18.9 W/kg

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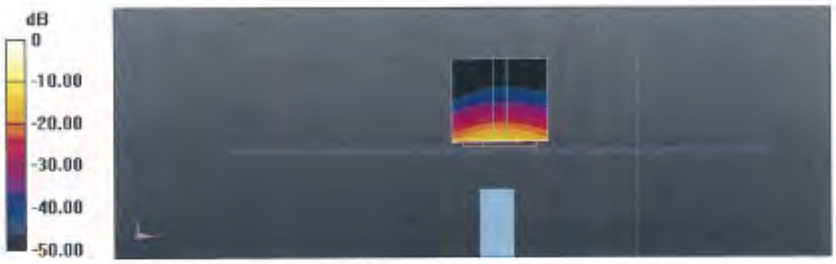
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.14 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 34.0 W/kg
SAR(1 g) = 7.64 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 18.3 W/kg



0 dB = 16.6 W/kg = 12.20 dBW/kg

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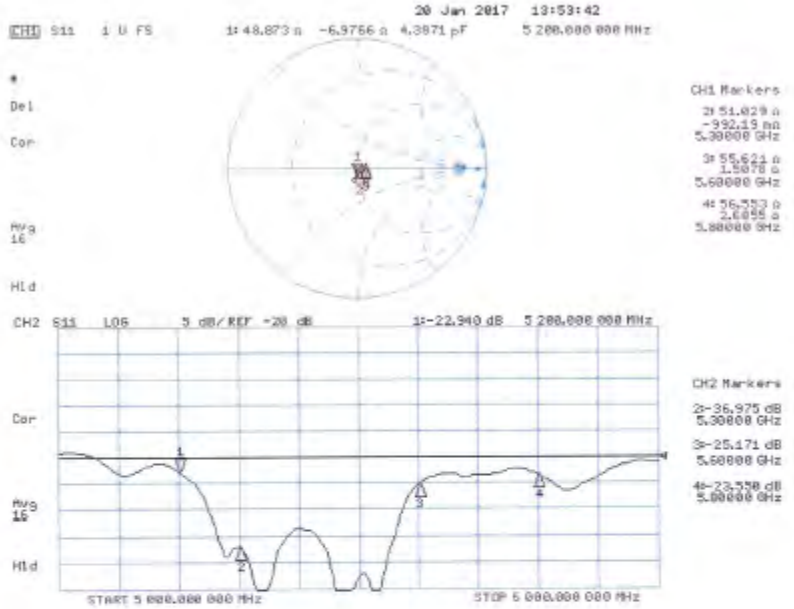
Impedance Measurement Plot for Body TSL



- End of 1st part of report -

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