RF Exposure report

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

Product Name	POS Terminal
Brand Name	CASTLES TECHNOLOGY
Model No.	S1E2-L
Applicant	CASTLES TECHNOLOGY CO., LTD. 6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY 23143, TAIWAN (R.O.C)
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013
FCC ID	WIYSLM758A
Date of EUT Receipt	Jul. 19, 2022
Date of Test(s)	Sep. 09, 2022 ~ Sep. 12, 2022
Date of Issue	Nov. 02, 2022

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 Ltd. Central RF Lab or testing done by SGS Taiwan Ltd. Central RF Lab in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Ltd. Central RF Lab in writing.

Signed on behalf of SGS

Clerk / Kimmy Chiou	PM / Tom Chiang	Approved By / John Yeh
Kimmy Chiou	Tom Chiang	John Yeh

Date: Nov. 02, 2022

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2210000417E5	00	Initial creation of document	Oct. 24, 2022	Kimmy Chiou	*
TESA2210000417E5	01	Modify FCC ID	Nov. 02, 2022	Kimmy Chiou	

Note:

1. The mark " * " is the revised version of the report due to comments submitted by the certification.
2. Please be noted that the report TESA2210000417E5 will replace the previous TESA2207000221E5 as the new version. Also be pay attention that TESA2207000221E5 is ineffective anymore from now on.

Contents

1 GENERAL INFORMATION

1.1 Test Methodology

The SAR testing method and procedure for this device is in accordance with the following standards:
IEEE/ANSI C95.1-1992
IEEE 1528-2013
KDB447498D01v06
KDB865664D01v01r04
KDB865664D02v01r02
KDB941225D07v01r02
KDB941225D01v03r01
KDB941225D05v02r05
KDB248227D01v02r01

1.2 Description of EUT

Product Name	POS Terminal	
Brand Name	CASTLES TECHNOLOGY	
Model No.	S1E2-L	
FCC ID	WIYSLM758A	
Integrated Module	Brand Name: MEIGLink Model Name: SLM758	
Duty Cycle	WCDMA	1
	LTE FDD	1
	WLAN802.11	Please refer to page 58-59
	Bluetooth	1
Supported radios (TX Frequency Range, MHz)	WCDMA Band II	1850-1910
	WCDMA Band IV	1710-1755
	WCDMA Band V	824-849
	LTE FDD Band 2	1850-1910
	LTE FDD Band 4	1710-1755
	LTE FDD Band 5	824-849
	LTE FDD Band 7	2500-2570
	LTE FDD Band 12	699-716
	LTE FDD Band 13	777-787
	LTE FDD Band 17	704-716
	802.11 b/g/n	2.4GHz
	802.11a	5.2GHz 5.8GHz
	Bluetooth	2.4GHz

1.3 Maximum value

WWAN

Summary of Maximum SAR Value	
Mode	Highest SAR 1g Body (W/kg)
LTE _Band 4	1.05

WLAN

Summary of Maximum SAR Value	
Mode	Highest SAR 1g Body (W/kg)
Bluetooth(GFSK)	0.18
2.4G WLAN	0.97
5G WLAN	1.01

1.4 Antenna Information

WWAN

Vendor	PIFA Antenna for LTE application						
Antenna	Main						
Part Number	ALF6P-100002						
Frequency(MHz)	699~716	777~798	814~849	1710~1780	1850~1915	2300~2400	2496~2690
Gain (dBi)	-6.541	-1.131	-0.372	3.131	2.088	-1.817	2.534

WLAN

Vendor	DIPOLE Antenna for WIFI application		
Antenna	Main		
Part Number	ALF6P-100000		
Frequency(MHz)	2400~2500	5150~5250	5725~5850
Gain (dBi)	0.611	0.658	2.402

Note: Antenna information is provided by the applicant.

2 MEASUREMENT SYSTEM

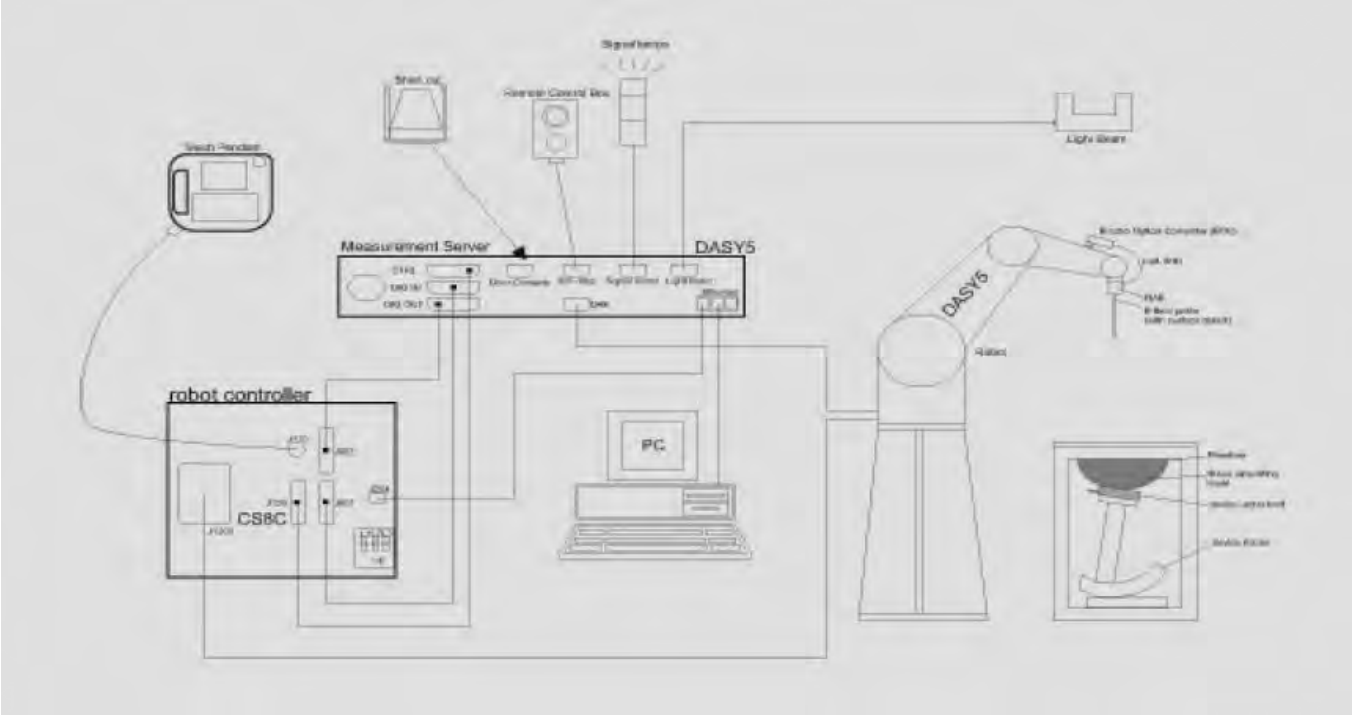
2.1 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	1F, No. 8, Alley 15, Lane 120, Sec. 1, NeiHu Road, Neihu District, Taipei City, 11493, Taiwan.	SAR 2	TW0029	TW3702
		SAR 6		
	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 33383, Taiwan	SAR 1	TW0028	
		SAR 4		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan	SAR 3	TW0027	
		SAR 7		
Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.				

2.2 SAR System

Block Diagram (DASY5)

A block diagram of the SAR measurement System is given in below. 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.



X3DV4 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 750/835/1750/1900/2450/2600/5250/5750 MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Tip diameter: 2.5 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

PHANTOM (ELI)

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 (ELI)

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

3 SAR SYSTEM VERIFICATION

3.1 Tissue Simulating Liquid

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with homogeneous tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15cm.

3.2 Tissue Simulant Liquid measurement

The dielectric properties for this Head-simulant fluid were measured by using the SPEAG Dielectric Assessment Kit (DAKS-3.5)
All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The measured conductivity and permittivity are all within ± 5% of the target values.

3.3 Measurement results of Tissue Simulant Liquid

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
Head	Sep, 09. 2022	704	42.145	0.887	41.948	0.885	-0.47%	-0.20%
		707.5	42.127	0.887	41.927	0.886	-0.47%	-0.17%
		709	42.119	0.887	41.922	0.886	-0.47%	-0.17%
		710	42.113	0.887	41.916	0.886	-0.47%	-0.16%
		711	42.108	0.887	41.911	0.886	-0.47%	-0.16%
		750	41.900	0.890	41.709	0.888	-0.46%	-0.22%
		782	41.749	0.894	41.542	0.891	-0.50%	-0.29%
		826.4	41.540	0.899	41.354	0.902	-0.45%	0.32%
		829	41.528	0.899	41.343	0.903	-0.45%	0.41%
		835	41.500	0.900	41.322	0.905	-0.43%	0.57%
		836.5	41.500	0.902	41.314	0.906	-0.45%	0.47%
		836.6	41.500	0.902	41.314	0.906	-0.45%	0.45%
		844	41.500	0.910	41.289	0.908	-0.51%	-0.16%
		846.6	41.500	0.912	41.278	0.909	-0.54%	-0.36%
	Sep, 10. 2022	1712.4	40.125	1.350	39.906	1.359	-0.55%	0.65%
		1720	40.114	1.354	39.893	1.363	-0.55%	0.67%
		1732.4	40.097	1.361	39.874	1.371	-0.55%	0.67%
		1732.5	40.096	1.361	39.873	1.371	-0.56%	0.71%
		1745	40.079	1.369	39.854	1.378	-0.56%	0.70%
		1750	40.071	1.371	39.846	1.381	-0.56%	0.70%
		1752.6	40.068	1.373	39.841	1.383	-0.57%	0.72%
		1852.4	40.000	1.400	39.767	1.413	-0.58%	0.95%
		1860	40.000	1.400	39.767	1.414	-0.58%	0.97%
		1880	40.000	1.400	39.767	1.414	-0.58%	1.01%
		1900	40.000	1.400	39.767	1.414	-0.58%	1.03%
		1907.6	40.000	1.400	39.767	1.414	-0.58%	1.03%
	Sep, 11. 2022	2402	39.282	1.757	39.052	1.786	-0.59%	1.59%
		2412	39.265	1.766	39.035	1.794	-0.59%	1.57%
		2437	39.222	1.788	38.990	1.816	-0.59%	1.52%
		2450	39.200	1.800	38.967	1.827	-0.59%	1.50%
		2462	39.184	1.813	38.952	1.838	-0.59%	1.38%
		2510	39.120	1.864	38.891	1.881	-0.59%	0.91%
		2535	39.087	1.891	38.859	1.903	-0.58%	0.68%
		2560	39.053	1.917	38.827	1.926	-0.58%	0.46%
		2600	39.000	1.960	38.776	1.963	-0.57%	0.13%
	Sep, 12. 2022	5180	36.020	4.639	35.776	4.633	-0.68%	-0.13%
		5200	36.000	4.660	35.753	4.654	-0.69%	-0.14%
		5220	35.980	4.680	35.730	4.674	-0.70%	-0.13%
		5240	35.960	4.700	35.707	4.695	-0.70%	-0.12%
		5250	35.950	4.710	35.696	4.705	-0.71%	-0.11%
		5745	35.355	5.215	35.130	5.213	-0.64%	-0.05%
		5750	35.350	5.220	35.124	5.218	-0.64%	-0.04%
		5785	35.315	5.255	35.084	5.254	-0.65%	-0.03%
		5825	35.275	5.296	35.038	5.295	-0.67%	-0.03%

3.4 The composition of the tissue simulating liquid:

Simulating Liquids for 600 MHz -10 GHz, Manufactured by SPEAG:

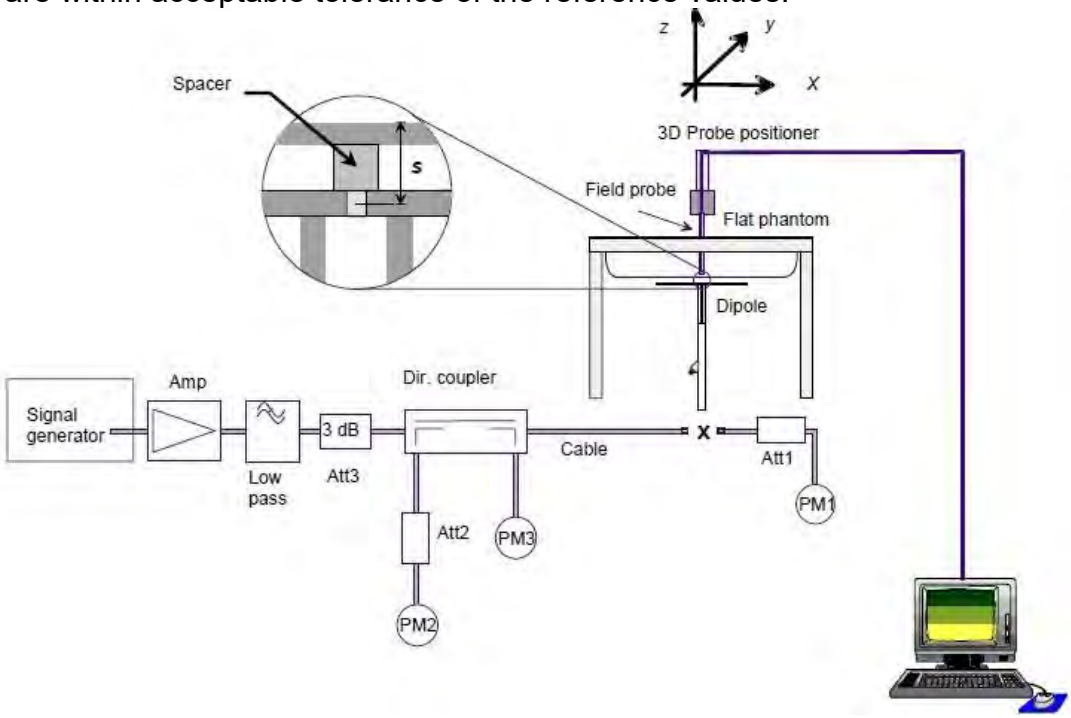
Broad-band head tissue simulating liquids	SPEAG Product	Frequency range (MHz)	Main Ingredients
	HBBL600-10000V6	600 - 10000	Water, Oil

3.5 System check

The microwave circuit arrangement for system check is sketched in below. The daily system accuracy verification occurs within the flat section of the SAM phantom and ELI phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values.

The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed with SAR values normalized to 1W forward power delivered to the dipole.

During the tests, the liquid depth from the center of the flat phantom to the liquid top surface was 15 cm above 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.



The block diagram of system check

3.6 System check results

Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=250mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D750V3	1015	750	8.51	2.15	8.6	1.06	± 10%	Sep.09,2022
D835V2	4d063	835	9.64	2.35	9.4	-2.49	± 10%	Sep.09,2022
D1750V2	1008	1750	36.6	8.94	35.76	-2.30	± 10%	Sep.10,2022
D1900V2	5d173	1900	39.6	10.2	40.8	3.03	± 10%	Sep.10,2022
D2450V2	727	2450	52.8	13.4	53.6	1.52	± 10%	Sep.11,2022
D2600V2	1005	2600	56.8	14.2	56.8	0.00	± 10%	Sep.11,2022
Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=100mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D5GHzV2	1023	5250	81	8.25	82.5	1.85	± 10%	Sep.12,2022
D5GHzV2	1023	5750	81	8	80	-1.23	± 10%	Sep.12,2022

4 TEST CONFIGURATIONS

4.1 Test Environment

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

4.2 Test Note

- **General:** Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s).
- **General:** The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
- **General:** During the SAR testing, the DASY 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.
- **General:** 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.
- **General:** 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).
- **UMTS (HSDPA):** The 3G SAR test reduction procedure is applied to HSDPA with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSDPA). The following 4 sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS 34.121. A summary of these setting are illustrated below:

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

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (2) (dB)	MPR (dB)	AG (4) Index	E-TFCI
1	11/15 (3)	15/15 (3)	64	11/15 (3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}: 47/15 β_{ed2}: 47/15	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 (4)	15/15 (4)	64	15/15 (4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

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

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

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

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

• **UMTS (DC-HSDPA):** The 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable. Since the maximum output power in a secondary mode (DC-HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (DC-HSDPA). The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these setting are illustrated below:

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

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

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

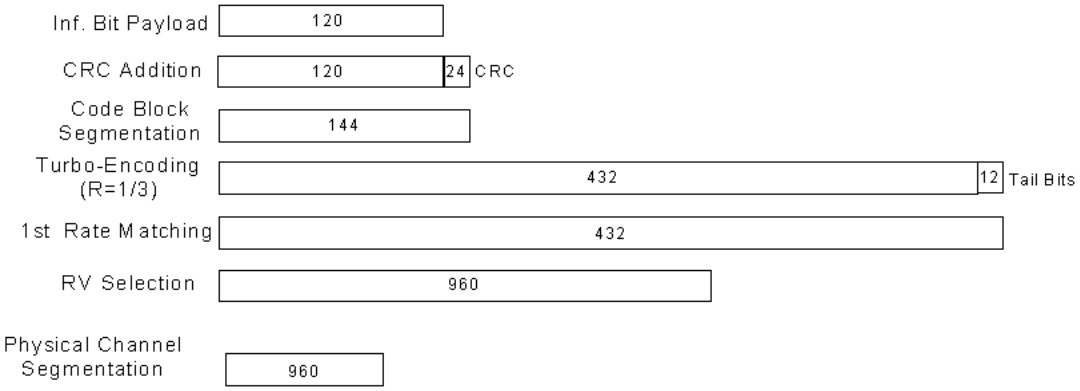


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 $\Leftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

- **LTE:** 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.

- TDD LTE was tested at highest duty factor using UL-DL configuration 0 with 6 UL subframes and 2 special subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4.2, the duty factor for UL-DL configuration 0/special subframe configuration 6 using extended cyclic prefix is 0.633.

According to KDB 941225 D05, SAR testing for TDD LTE must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be tabulated as below.

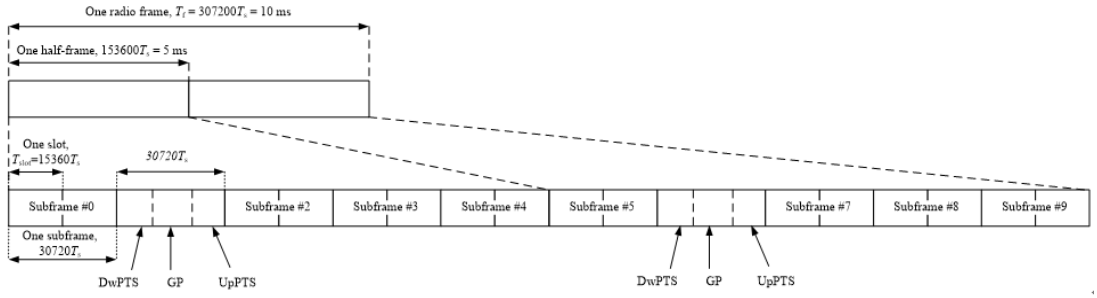


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity)

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

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

Table 4.2-2: Uplink-downlink configurations

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

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

- **WLAN 2.4GHz:** 802.11b DSSS SAR Test Requirements: SAR is measured for 2.4 GHz 802.11b DSSS mode using the highest measured maximum output power channel, when the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.
- **WLAN 2.4GHz:** 802.11g/n OFDM SAR Test Exclusion Requirements: SAR is not required for 802.11g/n since the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

• **WLAN 5GHz:** Initial Test Configuration: An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. Since the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for subsequent test configuration.

4.3 Test position

Body SAR test position (5mm)

Body SAR is measured for all surfaces/edges with test separation distance 5mm.

4.4 Test limit

§ 2.1093(d)(1)
Applications for equipment authorization of portable RF sources subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in § 1.1310 as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request. The SAR limits specified in § 1.1310(a) through (c) of this chapter shall be used for evaluation of portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1). A minimum separation distance applicable to the operating configurations and exposure conditions of the device shall be used for the evaluation. In general, maximum time-averaged power levels must be used for evaluation. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.
Radiofrequency radiation exposure limits.
§ 1.1310(a)
Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) within the frequency range of 100 kHz to 6 GHz (inclusive).
§ 1.1310(b)
The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.
§ 1.1310(c)
The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

Note to paragraphs (a) through (c):
SAR is a measure of the rate of energy absorption due to exposure to RF electromagnetic energy. These SAR limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized 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 Std C95.1-1992, copyright 1992 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 Radiofrequency

Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5, copyright 1986 by NCRP, Bethesda, Maryland 20814. Limits for whole body SAR and peak spatial-average SAR are based on recommendations made in both of these documents. The MPE limits in Table 1 are based generally on criteria published by the NCRP in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3, copyright 1986 by NCRP, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, these MPE exposure limits for field strength and power density are also generally based on criteria recommended by the ANSI in Section 4.1 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE Std C95.1-1992, copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1).
According to ANSI/IEEE C95.1-1992, the criteria listed in the following Table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.
Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.
Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

5 MAXIMUM OUTPUT POWER

5.1 WCDMA

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**24.00**		
3GPP Rel 99	RMC 12.2Kbps	23.61	23.77	23.87
3GPP Rel 5	HSDPA Subtest-1	23.24	23.41	23.46
	HSDPA Subtest-2	23.21	23.50	23.49
	HSDPA Subtest-3	22.94	22.74	22.85
	HSDPA Subtest-4	22.90	22.90	22.93
3GPP Rel 6	HSUPA Subtest-1	23.32	23.38	23.35
	HSUPA Subtest-2	21.50	21.35	21.55
	HSUPA Subtest-3	22.31	22.49	22.37
	HSUPA Subtest-4	21.12	21.19	21.32
	HSUPA Subtest-5	23.18	23.42	23.44
3GPP Rel 8	DC-HSDPA Subtest-1	23.29	23.48	23.50
	DC-HSDPA Subtest-2	23.16	23.50	23.37
	DC-HSDPA Subtest-3	22.69	22.96	22.81
	DC-HSDPA Subtest-4	22.69	22.88	22.96
Band		WCDMA IV		
TX Channel		1312	1413	1513
Frequency (MHz)		1712.4	1732.6	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**23.00**		
3GPP Rel 99	RMC 12.2Kbps	22.78	22.89	22.84
3GPP Rel 5	HSDPA Subtest-1	22.64	22.64	22.63
	HSDPA Subtest-2	22.59	22.61	22.63
	HSDPA Subtest-3	22.22	22.22	22.20
	HSDPA Subtest-4	22.28	22.27	22.29
3GPP Rel 6	HSUPA Subtest-1	22.77	22.76	22.75
	HSUPA Subtest-2	21.90	22.00	21.80
	HSUPA Subtest-3	22.59	22.65	22.65
	HSUPA Subtest-4	21.78	21.99	21.88
	HSUPA Subtest-5	22.29	22.19	22.29
3GPP Rel 8	DC-HSDPA Subtest-1	22.81	22.84	22.86
	DC-HSDPA Subtest-2	22.51	22.76	22.73
	DC-HSDPA Subtest-3	22.67	22.63	22.59
	DC-HSDPA Subtest-4	22.72	22.74	22.73

Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		**24.00**		
3GPP Rel 99	RMC 12.2Kbps	23.68	23.65	23.64
3GPP Rel 5	HSDPA Subtest-1	23.41	23.28	23.35
	HSDPA Subtest-2	23.26	23.39	23.26
	HSDPA Subtest-3	22.93	22.81	22.93
	HSDPA Subtest-4	22.96	23.00	22.88
3GPP Rel 6	HSUPA Subtest-1	23.29	23.29	23.22
	HSUPA Subtest-2	21.47	21.31	21.22
	HSUPA Subtest-3	22.46	22.39	22.38
	HSUPA Subtest-4	21.10	21.10	21.06
	HSUPA Subtest-5	23.43	23.36	23.31
3GPP Rel 8	DC-HSDPA Subtest-1	23.34	23.34	23.26
	DC-HSDPA Subtest-2	23.39	23.35	23.19
	DC-HSDPA Subtest-3	22.75	22.84	22.84
	DC-HSDPA Subtest-4	22.87	22.80	22.87

5.2 FDD LTE

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1860	1880	1900		
Channel				18700	18900	19100		
20	QPSK	1	0	22.42	22.45	22.47	23.00	0
		1	50	22.39	22.36	22.43	23.00	0
		1	99	22.42	22.39	22.46	23.00	0
		50	0	21.43	21.42	21.42	22.00	1
		50	25	21.41	21.38	21.43	22.00	1
		50	50	21.41	21.44	21.38	22.00	1
		100	0	21.47	21.40	21.39	22.00	1
20	16-QAM	1	0	21.41	21.40	21.45	22.00	1
		1	50	21.39	21.44	21.46	22.00	1
		1	99	21.45	21.42	21.44	22.00	1
		50	0	20.45	20.38	20.45	21.00	2
		50	25	20.40	20.38	20.40	21.00	2
		50	50	20.46	20.41	20.47	21.00	2
		100	0	20.45	20.46	20.38	21.00	2
20	64-QAM	1	0	20.44	20.43	20.44	21.00	2
		1	50	20.43	20.43	20.38	21.00	2
		1	99	20.46	20.37	20.38	21.00	2
		50	0	19.38	19.44	19.44	20.00	3
		50	25	19.42	19.39	19.43	20.00	3
		50	50	19.44	19.44	19.39	20.00	3
		100	0	19.46	19.47	19.39	20.00	3

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1857.5	1880	1902.5		
Channel				18675	18900	19125		
15	QPSK	1	0	22.42	22.38	22.43	23.00	0
		1	36	22.44	22.40	22.42	23.00	0
		1	74	22.44	22.46	22.37	23.00	0
		36	0	21.39	21.40	21.39	22.00	1
		36	18	21.46	21.43	21.43	22.00	1
		36	37	21.42	21.38	21.44	22.00	1
		75	0	21.39	21.38	21.41	22.00	1
15	16-QAM	1	0	21.41	21.44	21.44	22.00	1
		1	36	21.44	21.38	21.41	22.00	1
		1	74	21.40	21.45	21.39	22.00	1
		36	0	20.44	20.38	20.42	21.00	2
		36	18	20.38	20.41	20.39	21.00	2
		36	37	20.41	20.43	20.39	21.00	2
		75	0	20.45	20.40	20.40	21.00	2
15	64-QAM	1	0	20.44	20.37	20.41	21.00	2
		1	36	20.42	20.47	20.40	21.00	2
		1	74	20.42	20.37	20.39	21.00	2
		36	0	19.39	19.38	19.38	20.00	3
		36	18	19.38	19.46	19.38	20.00	3
		36	37	19.46	19.38	19.44	20.00	3
		75	0	19.41	19.46	19.41	20.00	3

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1855	1880	1905		
Channel				18650	18900	19150		
10	QPSK	1	0	22.40	22.39	22.45	23.00	0
		1	25	22.39	22.44	22.43	23.00	0
		1	49	22.46	22.41	22.42	23.00	0
		25	0	21.42	21.45	21.40	22.00	1
		25	12	21.43	21.41	21.44	22.00	1
		25	25	21.41	21.42	21.40	22.00	1
		50	0	21.44	21.45	21.46	22.00	1
10	16-QAM	1	0	21.42	21.41	21.47	22.00	1
		1	25	21.38	21.45	21.46	22.00	1
		1	49	21.38	21.45	21.41	22.00	1
		25	0	20.41	20.43	20.39	21.00	2
		25	12	20.45	20.37	20.45	21.00	2
		25	25	20.41	20.47	20.43	21.00	2
		50	0	20.47	20.43	20.39	21.00	2
10	64-QAM	1	0	20.41	20.40	20.42	21.00	2
		1	25	20.43	20.39	20.47	21.00	2
		1	49	20.47	20.37	20.44	21.00	2
		25	0	19.39	19.43	19.46	20.00	3
		25	12	19.45	19.40	19.37	20.00	3
		25	25	19.40	19.37	19.37	20.00	3
		50	0	19.46	19.43	19.42	20.00	3

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1852.5	1880	1907.5		
Channel				18625	18900	19175		
5	QPSK	1	0	22.39	22.41	22.40	23.00	0
		1	12	22.42	22.43	22.42	23.00	0
		1	24	22.42	22.38	22.46	23.00	0
		12	0	21.42	21.42	21.40	22.00	1
		12	6	21.47	21.43	21.38	22.00	1
		12	13	21.44	21.39	21.46	22.00	1
		25	0	21.42	21.41	21.44	22.00	1
5	16-QAM	1	0	21.39	21.42	21.41	22.00	1
		1	12	21.47	21.47	21.45	22.00	1
		1	24	21.47	21.38	21.40	22.00	1
		12	0	20.40	20.46	20.42	21.00	2
		12	6	20.38	20.37	20.43	21.00	2
		12	13	20.47	20.37	20.46	21.00	2
		25	0	20.43	20.41	20.43	21.00	2
5	64-QAM	1	0	20.47	20.41	20.44	21.00	2
		1	12	20.40	20.46	20.41	21.00	2
		1	24	20.44	20.38	20.40	21.00	2
		12	0	19.40	19.42	19.42	20.00	3
		12	6	19.37	19.37	19.45	20.00	3
		12	13	19.39	19.43	19.42	20.00	3
		25	0	19.41	19.44	19.41	20.00	3

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1851.5	1880	1908.5		
Channel				18615	18900	19185		
3	QPSK	1	0	22.42	22.38	22.44	23.00	0
		1	7	22.44	22.43	22.44	23.00	0
		1	14	22.41	22.39	22.44	23.00	0
		8	0	21.40	21.46	21.40	22.00	1
		8	4	21.43	21.40	21.46	22.00	1
		8	7	21.44	21.45	21.45	22.00	1
		15	0	21.41	21.44	21.43	22.00	1
3	16-QAM	1	0	21.41	21.43	21.47	22.00	1
		1	7	21.42	21.45	21.45	22.00	1
		1	14	21.38	21.37	21.40	22.00	1
		8	0	20.40	20.39	20.38	21.00	2
		8	4	20.47	20.42	20.46	21.00	2
		8	7	20.45	20.44	20.42	21.00	2
		15	0	20.45	20.43	20.40	21.00	2
3	64-QAM	1	0	20.41	20.41	20.37	21.00	2
		1	7	20.37	20.38	20.37	21.00	2
		1	14	20.39	20.47	20.41	21.00	2
		8	0	19.42	19.43	19.44	20.00	3
		8	4	19.46	19.47	19.40	20.00	3
		8	7	19.46	19.41	19.39	20.00	3
		15	0	19.40	19.45	19.40	20.00	3

LTE Band 2								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1850.7	1880	1909.3		
Channel				18607	18900	19193		
1.4	QPSK	1	0	22.45	22.38	22.42	23.00	0
		1	2	22.38	22.35	22.45	23.00	0
		1	5	22.40	22.38	22.42	23.00	0
		3	0	21.40	21.39	21.44	23.00	0
		3	2	21.46	21.46	21.45	23.00	0
		3	3	21.45	21.43	21.43	23.00	0
		6	0	21.45	21.39	21.43	22.00	1
1.4	16-QAM	1	0	21.46	21.40	21.46	22.00	1
		1	2	21.39	21.43	21.44	22.00	1
		1	5	21.39	21.47	21.40	22.00	1
		3	0	20.38	20.45	20.38	22.00	1
		3	2	20.46	20.40	20.40	22.00	1
		3	3	20.46	20.43	20.42	22.00	1
		6	0	20.37	20.39	20.47	21.00	2
1.4	64-QAM	1	0	20.41	20.41	20.43	21.00	2
		1	2	20.39	20.42	20.38	21.00	2
		1	5	20.39	20.43	20.40	21.00	2
		3	0	19.45	19.44	19.47	21.00	2
		3	2	19.39	19.47	19.44	21.00	2
		3	3	19.44	19.40	19.39	21.00	2
		6	0	19.47	19.37	19.47	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1720	1732.5	1745		
Channel				20050	20175	20300		
20	QPSK	1	0	22.49	22.60	22.52	23.00	0
		1	50	22.42	22.54	22.52	23.00	0
		1	99	22.43	22.56	22.56	23.00	0
		50	0	21.45	21.49	21.49	22.00	1
		50	25	21.43	21.40	21.47	22.00	1
		50	50	21.40	21.48	21.42	22.00	1
		100	0	21.43	21.49	21.48	22.00	1
20	16-QAM	1	0	21.42	21.43	21.40	22.00	1
		1	50	21.42	21.44	21.41	22.00	1
		1	99	21.50	21.45	21.41	22.00	1
		50	0	20.43	20.48	20.43	21.00	2
		50	25	20.43	20.47	20.45	21.00	2
		50	50	20.48	20.50	20.48	21.00	2
		100	0	20.40	20.48	20.42	21.00	2
20	64-QAM	1	0	20.44	20.48	20.42	21.00	2
		1	50	20.45	20.48	20.44	21.00	2
		1	99	20.42	20.50	20.45	21.00	2
		50	0	19.40	19.41	19.47	20.00	3
		50	25	19.47	19.43	19.50	20.00	3
		50	50	19.42	19.43	19.44	20.00	3
		100	0	19.45	19.41	19.45	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
Channel				20025	20175	20325		
15	QPSK	1	0	22.41	22.59	22.52	23.00	0
		1	36	22.48	22.60	22.55	23.00	0
		1	74	22.48	22.53	22.53	23.00	0
		36	0	21.42	21.40	21.50	22.00	1
		36	18	21.49	21.40	21.40	22.00	1
		36	37	21.44	21.49	21.42	22.00	1
		75	0	21.44	21.48	21.40	22.00	1
15	16-QAM	1	0	21.48	21.40	21.43	22.00	1
		1	36	21.46	21.46	21.46	22.00	1
		1	74	21.48	21.40	21.49	22.00	1
		36	0	20.47	20.48	20.41	21.00	2
		36	18	20.46	20.45	20.49	21.00	2
		36	37	20.49	20.49	20.41	21.00	2
		75	0	20.44	20.44	20.45	21.00	2
15	64-QAM	1	0	20.49	20.46	20.42	21.00	2
		1	36	20.40	20.48	20.48	21.00	2
		1	74	20.43	20.50	20.40	21.00	2
		36	0	19.42	19.44	19.48	20.00	3
		36	18	19.41	19.45	19.41	20.00	3
		36	37	19.46	19.50	19.41	20.00	3
		75	0	19.47	19.41	19.41	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1715	1732.5	1750		
Channel				20000	20175	20350		
10	QPSK	1	0	22.46	22.52	22.56	23.00	0
		1	25	22.41	22.55	22.59	23.00	0
		1	49	22.40	22.58	22.55	23.00	0
		25	0	21.46	21.45	21.46	22.00	1
		25	12	21.47	21.43	21.41	22.00	1
		25	25	21.50	21.42	21.42	22.00	1
		50	0	21.49	21.45	21.47	22.00	1
10	16-QAM	1	0	21.50	21.48	21.41	22.00	1
		1	25	21.47	21.42	21.46	22.00	1
		1	49	21.45	21.46	21.43	22.00	1
		25	0	20.50	20.47	20.45	21.00	2
		25	12	20.40	20.48	20.44	21.00	2
		25	25	20.45	20.40	20.49	21.00	2
		50	0	20.42	20.44	20.42	21.00	2
10	64-QAM	1	0	20.40	20.45	20.41	21.00	2
		1	25	20.49	20.42	20.49	21.00	2
		1	49	20.48	20.45	20.44	21.00	2
		25	0	19.47	19.42	19.44	20.00	3
		25	12	19.44	19.42	19.40	20.00	3
		25	25	19.40	19.50	19.44	20.00	3
		50	0	19.50	19.48	19.46	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
Channel				19975	20175	20375		
5	QPSK	1	0	22.49	22.57	22.54	23.00	0
		1	12	22.42	22.55	22.55	23.00	0
		1	24	22.44	22.58	22.60	23.00	0
		12	0	21.40	21.45	21.42	22.00	1
		12	6	21.41	21.50	21.44	22.00	1
		12	13	21.47	21.46	21.47	22.00	1
		25	0	21.42	21.48	21.42	22.00	1
5	16-QAM	1	0	21.46	21.48	21.50	22.00	1
		1	12	21.41	21.40	21.42	22.00	1
		1	24	21.42	21.47	21.44	22.00	1
		12	0	20.50	20.49	20.40	21.00	2
		12	6	20.41	20.40	20.49	21.00	2
		12	13	20.46	20.40	20.41	21.00	2
		25	0	20.46	20.50	20.47	21.00	2
5	64-QAM	1	0	20.48	20.48	20.47	21.00	2
		1	12	20.42	20.47	20.49	21.00	2
		1	24	20.49	20.40	20.49	21.00	2
		12	0	19.47	19.45	19.40	20.00	3
		12	6	19.47	19.50	19.42	20.00	3
		12	13	19.41	19.50	19.41	20.00	3
		25	0	19.41	19.47	19.40	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
Channel				19965	20175	20385		
3	QPSK	1	0	22.44	22.58	22.54	23.00	0
		1	7	22.46	22.59	22.54	23.00	0
		1	14	22.42	22.55	22.51	23.00	0
		8	0	21.47	21.50	21.46	22.00	1
		8	4	21.47	21.44	21.49	22.00	1
		8	7	21.47	21.41	21.41	22.00	1
		15	0	21.44	21.43	21.45	22.00	1
3	16-QAM	1	0	21.48	21.41	21.40	22.00	1
		1	7	21.40	21.42	21.46	22.00	1
		1	14	21.40	21.50	21.40	22.00	1
		8	0	20.40	20.48	20.48	21.00	2
		8	4	20.47	20.49	20.50	21.00	2
		8	7	20.48	20.46	20.44	21.00	2
		15	0	20.49	20.49	20.40	21.00	2
3	64-QAM	1	0	20.43	20.49	20.49	21.00	2
		1	7	20.47	20.41	20.41	21.00	2
		1	14	20.47	20.50	20.44	21.00	2
		8	0	19.42	19.50	19.49	20.00	3
		8	4	19.46	19.48	19.46	20.00	3
		8	7	19.41	19.43	19.49	20.00	3
		15	0	19.46	19.40	19.42	20.00	3

LTE Band 4								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
Channel				19957	20175	20393		
1.4	QPSK	1	0	22.41	22.56	22.50	23.00	0
		1	2	22.50	22.55	22.53	23.00	0
		1	5	22.50	22.56	22.53	23.00	0
		3	0	21.44	21.41	21.50	23.00	0
		3	2	21.42	21.48	21.49	23.00	0
		3	3	21.49	21.44	21.50	23.00	0
		6	0	21.47	21.43	21.46	22.00	1
1.4	16-QAM	1	0	21.43	21.49	21.45	22.00	1
		1	2	21.42	21.43	21.45	22.00	1
		1	5	21.40	21.48	21.48	22.00	1
		3	0	20.40	20.46	20.50	22.00	1
		3	2	20.47	20.46	20.49	22.00	1
		3	3	20.45	20.48	20.48	22.00	1
		6	0	20.42	20.46	20.50	21.00	2
1.4	64-QAM	1	0	20.43	20.47	20.46	21.00	2
		1	2	20.49	20.40	20.48	21.00	2
		1	5	20.42	20.46	20.40	21.00	2
		3	0	19.49	19.42	19.49	21.00	2
		3	2	19.40	19.47	19.50	21.00	2
		3	3	19.50	19.49	19.48	21.00	2
		6	0	19.47	19.49	19.45	20.00	3

LTE Band 5								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				829	836.5	844		
Channel				20450	20525	20600		
10	QPSK	1	0	23.81	23.85	23.74	24.50	0
		1	25	23.73	23.81	23.57	24.50	0
		1	49	23.65	23.67	23.66	24.50	0
		25	0	22.70	22.86	22.74	23.50	1
		25	12	22.70	22.83	22.70	23.50	1
		25	25	22.66	22.82	22.64	23.50	1
		50	0	22.64	22.74	22.59	23.50	1
10	16-QAM	1	0	22.73	22.84	22.68	23.50	1
		1	25	22.64	22.83	22.68	23.50	1
		1	49	22.62	22.72	22.73	23.50	1
		25	0	21.74	21.76	21.66	22.50	2
		25	12	21.64	21.84	21.70	22.50	2
		25	25	21.66	21.84	21.69	22.50	2
		50	0	21.65	21.75	21.59	22.50	2
10	64-QAM	1	0	21.73	21.75	21.64	22.50	2
		1	25	21.69	21.78	21.62	22.50	2
		1	49	21.76	21.71	21.67	22.50	2
		25	0	20.80	20.72	20.75	21.50	3
		25	12	20.71	20.83	20.65	21.50	3
		25	25	20.70	20.74	20.74	21.50	3
		50	0	20.79	20.72	20.60	21.50	3

LTE Band 5								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				826.5	836.5	846.5		
Channel				20425	20525	20625		
5	QPSK	1	0	23.67	23.66	23.71	24.50	0
		1	12	23.70	23.71	23.66	24.50	0
		1	24	23.74	23.68	23.58	24.50	0
		12	0	22.66	22.75	22.60	23.50	1
		12	6	22.69	22.80	22.75	23.50	1
		12	13	22.63	22.81	22.67	23.50	1
		25	0	22.66	22.78	22.73	23.50	1
5	16-QAM	1	0	22.71	22.76	22.69	23.50	1
		1	12	22.73	22.82	22.60	23.50	1
		1	24	22.68	22.71	22.64	23.50	1
		12	0	21.80	21.68	21.58	22.50	2
		12	6	21.71	21.83	21.60	22.50	2
		12	13	21.62	21.81	21.59	22.50	2
		25	0	21.72	21.84	21.68	22.50	2
5	64-QAM	1	0	21.74	21.83	21.66	22.50	2
		1	12	21.61	21.70	21.63	22.50	2
		1	24	21.72	21.74	21.59	22.50	2
		12	0	20.79	20.74	20.73	21.50	3
		12	6	20.74	20.82	20.64	21.50	3
		12	13	20.63	20.77	20.59	21.50	3
		25	0	20.70	20.81	20.68	21.50	3

LTE Band 5								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				825.5	836.5	847.5		
Channel				20415	20525	20635		
3	QPSK	1	0	23.71	23.74	23.73	24.50	0
		1	7	23.66	23.81	23.63	24.50	0
		1	14	23.68	23.78	23.59	24.50	0
		8	0	22.63	22.84	22.65	23.50	1
		8	4	22.75	22.70	22.61	23.50	1
		8	7	22.64	22.66	22.62	23.50	1
		15	0	22.63	22.80	22.68	23.50	1
3	16-QAM	1	0	22.74	22.73	22.56	23.50	1
		1	7	22.75	22.72	22.75	23.50	1
		1	14	22.76	22.71	22.72	23.50	1
		8	0	21.69	21.70	21.59	22.50	2
		8	4	21.80	21.83	21.59	22.50	2
		8	7	21.79	21.80	21.73	22.50	2
		15	0	21.70	21.78	21.64	22.50	2
3	64-QAM	1	0	21.64	21.75	21.74	22.50	2
		1	7	21.64	21.73	21.58	22.50	2
		1	14	21.67	21.77	21.61	22.50	2
		8	0	20.81	20.83	20.69	21.50	3
		8	4	20.64	20.81	20.62	21.50	3
		8	7	20.71	20.71	20.62	21.50	3
		15	0	20.61	20.80	20.75	21.50	3

LTE Band 5								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				824.7	836.5	848.3		
Channel				20407	20525	20643		
1.4	QPSK	1	0	23.68	23.83	23.76	24.50	0
		1	2	23.62	23.71	23.73	24.50	0
		1	5	23.62	23.68	23.70	24.50	0
		3	0	23.76	23.76	23.58	24.50	0
		3	2	23.64	23.82	23.60	24.50	0
		3	3	23.74	23.76	23.71	24.50	0
		6	0	22.70	22.81	22.58	23.50	1
1.4	16-QAM	1	0	22.75	22.75	22.56	23.50	1
		1	2	22.70	22.82	22.68	23.50	1
		1	5	22.64	22.77	22.58	23.50	1
		3	0	22.69	22.69	22.61	23.50	1
		3	2	22.77	22.68	22.67	23.50	1
		3	3	22.72	22.74	22.62	23.50	1
		6	0	21.75	21.75	21.71	22.50	2
1.4	64-QAM	1	0	21.70	21.75	21.65	22.50	2
		1	2	21.76	21.82	21.70	22.50	2
		1	5	21.78	21.66	21.67	22.50	2
		3	0	21.71	21.75	21.59	22.50	2
		3	2	21.74	21.78	21.64	22.50	2
		3	3	21.72	21.84	21.62	22.50	2
		6	0	20.64	20.78	20.60	21.50	3

LTE Band 7								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2510	2535	2560		
Channel				20850	21100	21350		
20	QPSK	1	0	23.01	23.62	23.22	24.50	0
		1	50	22.88	23.52	23.09	24.50	0
		1	99	22.86	23.31	23.05	24.50	0
		50	0	22.01	22.42	22.10	23.50	1
		50	25	21.99	22.35	22.05	23.50	1
		50	50	21.88	22.26	22.20	23.50	1
		100	0	22.00	22.33	22.09	23.50	1
20	16-QAM	1	0	21.98	22.42	22.20	23.50	1
		1	50	21.84	22.51	22.09	23.50	1
		1	99	21.95	22.47	22.22	23.50	1
		50	0	20.86	21.51	21.18	22.50	2
		50	25	20.90	21.42	21.20	22.50	2
		50	50	20.83	21.53	21.04	22.50	2
		100	0	20.97	21.42	21.19	22.50	2
20	64-QAM	1	0	21.00	21.42	21.21	22.50	2
		1	50	20.89	21.49	21.10	22.50	2
		1	99	21.01	21.59	21.15	22.50	2
		50	0	19.95	20.61	20.19	21.50	3
		50	25	19.85	20.47	20.20	21.50	3
		50	50	19.84	20.43	20.11	21.50	3
		100	0	19.94	20.59	20.11	21.50	3

LTE Band 7								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2507.5	2535	2562.5		
Channel				20825	21100	21375		
15	QPSK	1	0	22.97	23.59	23.09	24.50	0
		1	36	22.93	23.43	23.14	24.50	0
		1	74	22.92	23.53	23.03	24.50	0
		36	0	21.99	22.56	22.16	23.50	1
		36	18	21.83	22.55	22.20	23.50	1
		36	37	21.84	22.49	22.04	23.50	1
		75	0	21.85	22.49	22.13	23.50	1
15	16-QAM	1	0	21.90	22.58	22.12	23.50	1
		1	36	21.94	22.47	22.17	23.50	1
		1	74	21.93	22.56	22.06	23.50	1
		36	0	20.95	21.51	21.08	22.50	2
		36	18	20.95	21.44	21.04	22.50	2
		36	37	20.90	21.51	21.21	22.50	2
		75	0	20.87	21.47	21.07	22.50	2
15	64-QAM	1	0	20.99	21.61	21.09	22.50	2
		1	36	20.81	21.45	21.06	22.50	2
		1	74	20.99	21.51	21.09	22.50	2
		36	0	19.85	20.47	20.12	21.50	3
		36	18	19.84	20.62	20.03	21.50	3
		36	37	19.87	20.49	20.07	21.50	3
		75	0	19.86	20.62	20.09	21.50	3

LTE Band 7								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2505	2535	2565		
Channel				20800	21100	21400		
10	QPSK	1	0	22.86	23.56	23.21	24.50	0
		1	25	22.83	23.48	23.08	24.50	0
		1	49	22.91	23.45	23.17	24.50	0
		25	0	21.87	22.46	22.19	23.50	1
		25	12	21.99	22.45	22.11	23.50	1
		25	25	21.97	22.54	22.06	23.50	1
		50	0	21.81	22.55	22.22	23.50	1
10	16-QAM	1	0	21.97	22.44	22.20	23.50	1
		1	25	21.94	22.45	22.12	23.50	1
		1	49	21.85	22.52	22.21	23.50	1
		25	0	20.84	21.56	21.02	22.50	2
		25	12	20.99	21.47	21.12	22.50	2
		25	25	20.90	21.42	21.14	22.50	2
		50	0	20.83	21.58	21.15	22.50	2
10	64-QAM	1	0	20.97	21.58	21.09	22.50	2
		1	25	20.84	21.54	21.18	22.50	2
		1	49	20.85	21.58	21.15	22.50	2
		25	0	19.93	20.60	20.05	21.50	3
		25	12	19.92	20.57	20.04	21.50	3
		25	25	19.85	20.45	20.03	21.50	3
		50	0	19.86	20.46	20.17	21.50	3

LTE Band 7								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2502.5	2535	2567.5		
Channel				20775	21100	21425		
5	QPSK	1	0	22.91	23.42	23.09	24.50	0
		1	12	22.91	23.49	23.13	24.50	0
		1	24	22.82	23.56	23.19	24.50	0
		12	0	21.83	22.58	22.03	23.50	1
		12	6	21.92	22.46	22.09	23.50	1
		12	13	22.01	22.61	22.08	23.50	1
		25	0	21.88	22.55	22.06	23.50	1
5	16-QAM	1	0	21.94	22.51	22.15	23.50	1
		1	12	21.91	22.56	22.03	23.50	1
		1	24	21.95	22.49	22.11	23.50	1
		12	0	21.01	21.62	21.20	22.50	2
		12	6	20.91	21.52	21.05	22.50	2
		12	13	20.83	21.57	21.17	22.50	2
		25	0	20.85	21.50	21.14	22.50	2
5	64-QAM	1	0	20.87	21.43	21.08	22.50	2
		1	12	20.96	21.55	21.05	22.50	2
		1	24	20.85	21.61	21.10	22.50	2
		12	0	19.92	20.56	20.06	21.50	3
		12	6	19.86	20.51	20.10	21.50	3
		12	13	20.00	20.44	20.13	21.50	3
		25	0	19.99	20.50	20.02	21.50	3

LTE Band 12								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				704	707.5	711		
Channel				23060	23095	23130		
10	QPSK	1	0	23.02	23.17	23.04	24.50	0
		1	25	22.87	23.04	22.95	24.50	0
		1	49	22.95	23.07	22.93	24.50	0
		25	0	21.89	22.09	21.95	23.50	1
		25	12	22.00	22.00	21.86	23.50	1
		25	25	21.84	22.01	22.03	23.50	1
		50	0	21.95	22.03	21.89	23.50	1
10	16-QAM	1	0	21.98	21.93	21.97	23.50	1
		1	25	21.88	22.09	21.97	23.50	1
		1	49	21.98	22.02	21.89	23.50	1
		25	0	20.96	20.99	20.93	22.50	2
		25	12	20.83	21.12	20.96	22.50	2
		25	25	20.96	20.95	20.90	22.50	2
		50	0	20.88	21.06	20.86	22.50	2
10	64-QAM	1	0	20.97	21.01	21.03	22.50	2
		1	25	20.86	21.06	20.96	22.50	2
		1	49	20.89	21.10	20.91	22.50	2
		25	0	19.96	20.08	19.86	21.50	3
		25	12	19.95	20.10	19.97	21.50	3
		25	25	19.88	19.93	20.03	21.50	3
		50	0	19.93	20.09	19.89	21.50	3

LTE Band 12								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				701.5	707.5	713.5		
Channel				23035	23095	23155		
5	QPSK	1	0	22.95	22.97	22.96	24.50	0
		1	12	22.89	23.10	22.90	24.50	0
		1	24	22.84	22.97	22.99	24.50	0
		12	0	21.92	21.97	22.04	23.50	1
		12	6	21.87	22.04	21.94	23.50	1
		12	13	22.01	21.98	21.86	23.50	1
		25	0	21.84	21.98	21.92	23.50	1
5	16-QAM	1	0	21.99	21.96	21.87	23.50	1
		1	12	22.00	22.04	21.84	23.50	1
		1	24	21.99	22.09	21.86	23.50	1
		12	0	20.89	21.09	20.85	22.50	2
		12	6	21.02	21.11	20.96	22.50	2
		12	13	20.89	21.01	20.93	22.50	2
		25	0	20.93	21.05	20.95	22.50	2
5	64-QAM	1	0	21.02	20.99	20.96	22.50	2
		1	12	20.88	20.99	21.01	22.50	2
		1	24	20.88	21.10	20.93	22.50	2
		12	0	19.98	20.10	19.96	21.50	3
		12	6	19.82	19.96	19.96	21.50	3
		12	13	19.89	20.00	19.96	21.50	3
		25	0	19.89	19.98	20.02	21.50	3

LTE Band 12								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				700.5	707.5	714.5		
Channel				23025	23095	23165		
3	QPSK	1	0	22.91	23.12	23.04	24.50	0
		1	7	22.89	23.07	22.96	24.50	0
		1	14	22.99	23.09	23.04	24.50	0
		8	0	21.84	22.06	21.90	23.50	1
		8	4	22.02	22.12	21.85	23.50	1
		8	7	21.87	22.09	21.84	23.50	1
		15	0	21.89	21.94	21.88	23.50	1
3	16-QAM	1	0	21.93	21.96	21.86	23.50	1
		1	7	21.88	22.09	21.98	23.50	1
		1	14	21.83	22.13	21.94	23.50	1
		8	0	20.98	21.01	20.99	22.50	2
		8	4	20.98	21.03	20.90	22.50	2
		8	7	20.83	21.01	20.96	22.50	2
		15	0	20.87	21.12	20.90	22.50	2
3	64-QAM	1	0	20.99	20.94	20.86	22.50	2
		1	7	20.84	20.95	20.89	22.50	2
		1	14	20.87	20.95	21.02	22.50	2
		8	0	20.00	20.01	20.01	21.50	3
		8	4	19.99	20.05	19.98	21.50	3
		8	7	19.93	19.97	20.04	21.50	3
		15	0	20.01	20.09	19.91	21.50	3

LTE Band 12								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				699.7	707.5	715.3		
Channel				23017	23095	23173		
1.4	QPSK	1	0	22.84	23.08	22.91	24.50	0
		1	2	22.97	23.05	22.89	24.50	0
		1	5	23.01	23.01	23.00	24.50	0
		3	0	22.98	23.07	22.86	24.50	0
		3	2	23.00	23.06	22.86	24.50	0
		3	3	22.93	22.97	22.95	24.50	0
		6	0	21.82	22.05	21.93	23.50	1
1.4	16-QAM	1	0	21.88	21.96	22.00	23.50	1
		1	2	22.01	22.02	21.91	23.50	1
		1	5	21.99	22.11	22.02	23.50	1
		3	0	21.83	21.96	21.95	23.50	1
		3	2	21.87	22.00	21.91	23.50	1
		3	3	21.84	21.96	21.95	23.50	1
		6	0	20.98	20.93	20.98	22.50	2
1.4	64-QAM	1	0	20.95	21.13	20.95	22.50	2
		1	2	20.94	21.08	20.88	22.50	2
		1	5	20.91	20.96	20.99	22.50	2
		3	0	20.85	20.95	20.94	22.50	2
		3	2	20.95	20.96	20.84	22.50	2
		3	3	20.88	21.10	21.00	22.50	2
		6	0	19.85	20.13	19.97	21.50	3

LTE Band 13						
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				782		
Channel				23230		
10	QPSK	1	0	23.20	24.50	0
		1	25	23.16	24.50	0
		1	49	23.18	24.50	0
		25	0	22.07	23.50	1
		25	12	22.04	23.50	1
		25	25	22.11	23.50	1
		50	0	22.05	23.50	1
10	16-QAM	1	0	22.04	23.50	1
		1	25	22.10	23.50	1
		1	49	22.03	23.50	1
		25	0	21.07	22.50	2
		25	12	21.05	22.50	2
		25	25	21.06	22.50	2
		50	0	21.13	22.50	2
10	64-QAM	1	0	21.17	22.50	2
		1	25	21.07	22.50	2
		1	49	21.02	22.50	2
		25	0	20.11	21.50	3
		25	12	20.15	21.50	3
		25	25	20.03	21.50	3
		50	0	20.12	21.50	3

LTE Band 13								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				779.5	782	784.5		
Channel				23205	23230	23255		
5	QPSK	1	0	22.97	23.03	23.07	24.50	0
		1	12	23.08	23.14	23.14	24.50	0
		1	24	23.04	23.06	23.03	24.50	0
		12	0	22.10	22.12	22.13	23.50	1
		12	6	22.15	22.05	22.09	23.50	1
		12	13	22.15	22.06	22.02	23.50	1
		25	0	22.14	22.11	22.18	23.50	1
5	16-QAM	1	0	22.10	22.04	22.06	23.50	1
		1	12	21.98	22.14	22.02	23.50	1
		1	24	21.96	22.14	22.03	23.50	1
		12	0	21.08	21.12	21.20	22.50	2
		12	6	20.98	21.01	21.12	22.50	2
		12	13	21.12	21.13	21.14	22.50	2
		25	0	20.98	21.04	21.03	22.50	2
5	64-QAM	1	0	21.06	21.17	21.04	22.50	2
		1	12	21.00	21.18	21.11	22.50	2
		1	24	21.08	21.18	21.05	22.50	2
		12	0	20.08	20.15	20.13	21.50	3
		12	6	20.07	20.09	20.13	21.50	3
		12	13	20.01	20.11	20.17	21.50	3
		25	0	20.11	20.17	20.06	21.50	3

LTE Band 17								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				709	710	711		
Channel				23780	23790	23800		
10	QPSK	1	0	23.03	23.00	22.76	24.50	0
		1	25	22.97	22.94	22.67	24.50	0
		1	49	23.02	22.89	22.72	24.50	0
		25	0	21.79	21.94	21.56	23.50	1
		25	12	21.74	21.80	21.56	23.50	1
		25	25	21.82	21.85	21.58	23.50	1
		50	0	21.76	21.92	21.60	23.50	1
10	16-QAM	1	0	22.02	21.92	21.66	23.50	1
		1	25	21.86	21.88	21.58	23.50	1
		1	49	21.86	21.94	21.61	23.50	1
		25	0	20.99	20.80	20.64	22.50	2
		25	12	20.92	20.85	20.72	22.50	2
		25	25	20.91	20.85	20.69	22.50	2
		50	0	21.03	20.94	20.67	22.50	2
10	64-QAM	1	0	20.85	20.86	20.67	22.50	2
		1	25	20.97	20.82	20.63	22.50	2
		1	49	20.95	20.97	20.63	22.50	2
		25	0	20.02	19.83	19.63	21.50	3
		25	12	19.88	19.81	19.72	21.50	3
		25	25	19.93	19.95	19.66	21.50	3
		50	0	19.94	19.89	19.60	21.50	3

LTE Band 17								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				706.5	710	713.5		
Channel				23755	23790	23825		
5	QPSK	1	0	22.99	22.86	22.55	24.50	0
		1	12	22.99	23.00	22.72	24.50	0
		1	24	22.96	22.94	22.60	24.50	0
		12	0	21.97	21.90	21.59	23.50	1
		12	6	22.02	21.82	21.58	23.50	1
		12	13	21.94	21.91	21.67	23.50	1
		25	0	21.85	21.99	21.58	23.50	1
5	16-QAM	1	0	21.86	21.85	21.65	23.50	1
		1	12	21.86	21.83	21.64	23.50	1
		1	24	21.97	21.87	21.71	23.50	1
		12	0	20.94	20.94	20.64	22.50	2
		12	6	20.88	20.94	20.61	22.50	2
		12	13	20.83	20.87	20.55	22.50	2
		25	0	20.84	20.86	20.71	22.50	2
5	64-QAM	1	0	21.03	20.80	20.64	22.50	2
		1	12	21.00	20.93	20.57	22.50	2
		1	24	20.96	20.80	20.68	22.50	2
		12	0	19.88	19.83	19.69	21.50	3
		12	6	19.92	19.97	19.57	21.50	3
		12	13	19.85	19.95	19.73	21.50	3
		25	0	19.99	19.95	19.70	21.50	3

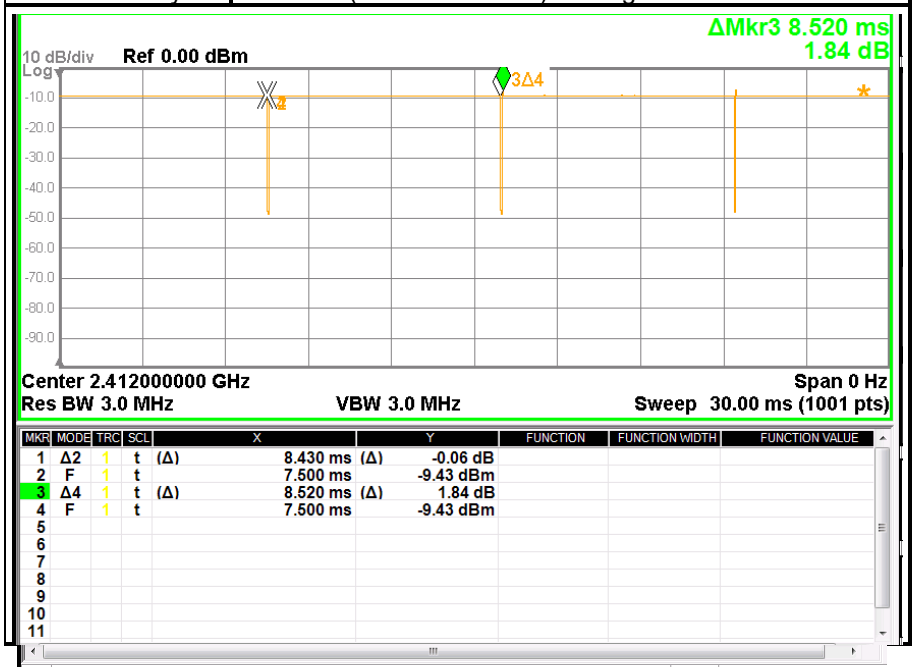
5.3 WLAN

Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	14.97	14.88
		6	2437		14.25	14.19
		11	2462		14.89	14.75
	802.11g	1	2412	6Mbps	13.91	13.88
		6	2437		13.19	13.13
		11	2462		13.64	13.57
	802.11n20-HT0	1	2412	MCS0	12.11	11.88
		6	2437		12.37	12.31
		11	2462		12.16	12.14
Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	12.28	12.08
		40	5200		12.28	12.04
		44	5220		11.75	11.72
		48	5240		11.67	11.21
Ant 1						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	11.93	11.73
		157	5785		12.48	12.26
		165	5825		12.42	12.15

5.4 Bluetooth

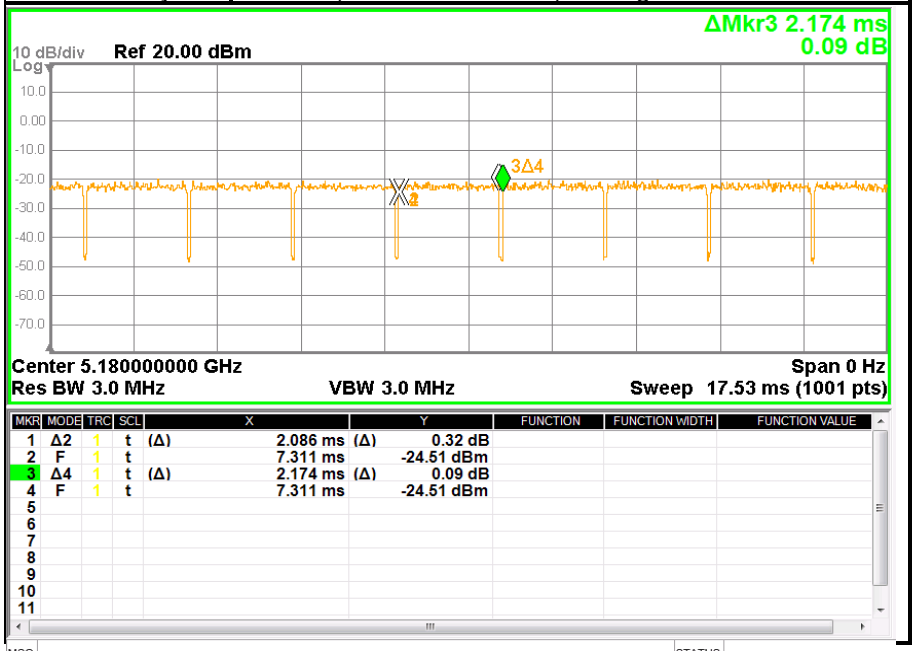
Mode	Channel	Frequency (MHz)	1Mbps		2Mbps		3Mbps	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
BR/EDR	CH 00	2402	11.50	11.16	10.00	9.74	10.00	9.82
	CH 39	2441		10.43		9.48		9.44
	CH 78	2480		9.81		8.36		8.32

2.4G b duty	(8.43/8.52=0.989) Scaling Factor=1.011



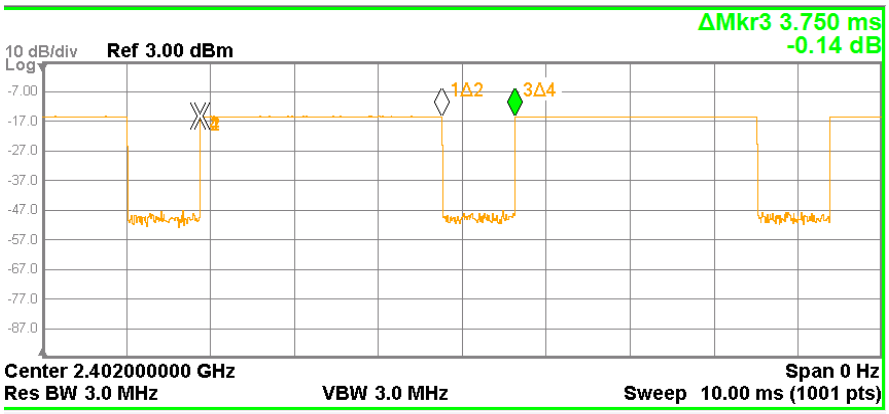
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ) 8.430 ms	(Δ) -0.06 dB			
2	F	1	t	7.500 ms	-9.43 dBm			
3	Δ4	1	t	(Δ) 8.520 ms	(Δ) 1.84 dB			
4	F	1	t	7.500 ms	-9.43 dBm			
5								
6								
7								
8								
9								
10								
11								

5G a duty	(2.086/2.174=0.959) Scaling Factor=1.042



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ) 2.086 ms	(Δ) 0.32 dB			
2	F	1	t	7.311 ms	-24.51 dBm			
3	Δ4	1	t	(Δ) 2.174 ms	(Δ) 0.09 dB			
4	F	1	t	7.311 ms	-24.51 dBm			
5								
6								
7								
8								
9								
10								
11								

BT duty	(2.88/3.75=0.768) Scaling Factor=1.302



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ) 2.880 ms	(Δ) -0.24 dB			
2	F	1	t	1.880 ms	-15.36 dBm			
3	Δ4	1	t	(Δ) 3.750 ms	(Δ) -0.14 dB			
4	F	1	t	1.880 ms	-15.36 dBm			
5								
6								
7								
8								
9								
10								
11								

6 SUMMARY OF RESULTS

6.1 Decision rules

Reported measurement data comply with Test Methodology in section 1.1.
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

6.2 Summary of SAR Results

Band	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		ID
								Measured	Reported	
WCDMA Band II	Front Surface	5	9262	1852.4	24.0	23.61	109.40%	0.872	0.954	-
WCDMA Band II	Front Surface	5	9400	1880	24.0	23.77	105.44%	0.976	1.029	001
Repeated	Front Surface	5	9400	1880	24.0	23.77	105.44%	0.952	1.004	-
WCDMA Band II	Front Surface	5	9538	1907.6	24.0	23.87	103.04%	0.924	0.952	-
WCDMA Band II	Back Surface	5	9538	1907.6	24.0	23.87	103.04%	0.322	0.332	-
WCDMA Band II	Top Edge	5	9262	1852.4	24.0	23.61	109.40%	0.723	0.791	-
WCDMA Band II	Top Edge	5	9400	1880	24.0	23.77	105.44%	0.754	0.795	-
WCDMA Band II	Top Edge	5	9538	1907.6	24.0	23.87	103.04%	0.809	0.834	-
WCDMA Band II	Bottom Edge	5	9538	1907.6	24.0	23.87	103.04%	0.001	0.001	-
WCDMA Band II	Left Edge	5	9538	1907.6	24.0	23.87	103.04%	0.141	0.145	-
WCDMA Band II	Right Edge	5	9538	1907.6	24.0	23.87	103.04%	0.120	0.124	-
WCDMA Band IV	Front Surface	5	1412	1732.4	23.0	22.89	102.57%	0.257	0.264	-
WCDMA Band IV	Back Surface	5	1412	1732.4	23.0	22.89	102.57%	0.220	0.226	-
WCDMA Band IV	Top Edge	5	1312	1712.4	23.0	22.78	105.20%	0.661	0.695	-
WCDMA Band IV	Top Edge	5	1412	1732.4	23.0	22.89	102.57%	0.739	0.758	-
WCDMA Band IV	Top Edge	5	1513	1752.6	23.0	22.84	103.75%	0.941	0.976	002
WCDMA Band IV	Bottom Edge	5	1412	1732.4	23.0	22.89	102.57%	0.001	0.001	-
WCDMA Band IV	Left Edge	5	1412	1732.4	23.0	22.89	102.57%	0.064	0.066	-
WCDMA Band IV	Right Edge	5	1412	1732.4	23.0	22.89	102.57%	0.053	0.054	-
WCDMA Band V	Front Surface	5	4132	826.4	24.0	23.68	107.65%	0.165	0.178	-
WCDMA Band V	Back Surface	5	4132	826.4	24.0	23.68	107.65%	0.373	0.402	003
WCDMA Band V	Back Surface	5	4183	836.6	24.0	23.65	108.39%	0.363	0.393	-
WCDMA Band V	Back Surface	5	4233	846.6	24.0	23.64	108.64%	0.351	0.381	-
WCDMA Band V	Top Edge	5	4132	826.4	24.0	23.68	107.65%	0.001	0.001	-
WCDMA Band V	Bottom Edge	5	4132	826.4	24.0	23.68	107.65%	0.001	0.001	-
WCDMA Band V	Left Edge	5	4132	826.4	24.0	23.68	107.65%	0.198	0.213	-
WCDMA Band V	Right Edge	5	4132	826.4	24.0	23.68	107.65%	0.137	0.147	-

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

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)	Averaged SAR over 1g (W/kg)		ID
											Measured	Reported	
LTE Band 2			1	0	Front Surface	5	19100	1900	23.00	22.47	0.648	0.732	-
LTE Band 2			50	50	Front Surface	5	18900	1860	22.00	21.44	0.540	0.614	-
LTE Band 2			1	0	Back Surface	5	19100	1900	23.00	22.47	0.352	0.398	-
LTE Band 2			50	50	Back Surface	5	18900	1860	22.00	21.44	0.259	0.295	-
LTE Band 2			1	0	Top Edge	5	18700	1860	23.00	22.42	0.802	0.917	004
LTE Band 2			1	0	Top Edge	5	18900	1880	23.00	22.45	0.724	0.822	-
LTE Band 2			1	0	Top Edge	5	19100	1900	23.00	22.47	0.633	0.715	-
LTE Band 2	20MHz	QPSK	50	50	Top Edge	5	18900	1860	22.00	21.44	0.539	0.613	-
LTE Band 2			100RB		Top Edge	5	18700	1860	22.00	21.47	0.539	0.609	-
LTE Band 2			1	0	Bottom Edge	5	19100	1900	23.00	22.47	0.001	0.001	-
LTE Band 2			50	50	Bottom Edge	5	18900	1860	22.00	21.44	0.001	0.001	-
LTE Band 2			1	0	Left Edge	5	19100	1900	23.00	22.47	0.134	0.151	-
LTE Band 2			50	50	Left Edge	5	18900	1860	22.00	21.44	0.127	0.144	-
LTE Band 2			1	0	Right Edge	5	19100	1900	23.00	22.47	0.141	0.159	-
LTE Band 2			50	50	Right Edge	5	18900	1860	22.00	21.44	0.132	0.150	-
LTE Band 4			1	0	Front Surface	5	20175	1732.5	23.00	22.60	0.274	0.300	-
LTE Band 4			50	0	Front Surface	5	20175	1732.5	22.00	21.49	0.256	0.288	-
LTE Band 4			1	0	Back Surface	5	20175	1732.5	23.00	22.60	0.254	0.279	-
LTE Band 4			50	0	Back Surface	5	20175	1732.5	22.00	21.49	0.203	0.228	-
LTE Band 4			1	0	Top Edge	5	20050	1720	23.00	22.49	0.679	0.764	-
LTE Band 4			1	0	Top Edge	5	20175	1732.5	23.00	22.60	0.824	0.903	-
LTE Band 4			1	99	Top Edge	5	20300	1745	23.00	22.56	0.947	1.048	005
Repeated			1	99	Top Edge	5	20300	1745	23.00	22.56	0.938	1.038	-
LTE Band 4			50	0	Top Edge	5	20050	1720	22.00	21.45	0.670	0.760	-
LTE Band 4	20MHz	QPSK	50	0	Top Edge	5	20175	1732.5	22.00	21.49	0.684	0.769	-
LTE Band 4			50	0	Top Edge	5	20300	1745	22.00	21.49	0.806	0.906	-
LTE Band 4			100RB		Top Edge	5	20175	1732.5	22.00	21.49	0.726	0.816	-
LTE Band 4			1	0	Bottom Edge	5	20175	1732.5	23.00	22.60	0.001	0.001	-
LTE Band 4			50	0	Bottom Edge	5	20175	1732.5	22.00	21.49	0.001	0.001	-
LTE Band 4			1	0	Left Edge	5	20175	1732.5	23.00	22.60	0.092	0.101	-
LTE Band 4			50	0	Left Edge	5	20175	1732.5	22.00	21.49	0.087	0.098	-
LTE Band 4			1	0	Right Edge	5	20175	1732.5	23.00	22.60	0.093	0.102	-
LTE Band 4			50	0	Right Edge	5	20175	1732.5	22.00	21.49	0.080	0.090	-
LTE Band 5			1	0	Front Surface	5	20525	836.5	24.50	23.85	0.174	0.202	-
LTE Band 5			25	0	Front Surface	5	20525	836.5	23.50	22.86	0.161	0.187	-
LTE Band 5			1	0	Back Surface	5	20450	829	24.50	23.81	0.402	0.471	-
LTE Band 5			1	0	Back Surface	5	20525	836.5	24.50	23.85	0.401	0.466	-
LTE Band 5			1	0	Back Surface	5	20600	844	24.50	23.74	0.402	0.479	006
LTE Band 5			25	0	Back Surface	5	20525	836.5	23.50	22.86	0.316	0.366	-
LTE Band 5			1	0	Top Edge	5	20525	836.5	24.50	23.85	0.001	0.001	-
LTE Band 5	10MHz	QPSK	25	0	Top Edge	5	20525	836.5	23.50	22.86	0.001	0.001	-
LTE Band 5			1	0	Bottom Edge	5	20525	836.5	24.50	23.85	0.001	0.001	-
LTE Band 5			25	0	Bottom Edge	5	20525	836.5	23.50	22.86	0.001	0.001	-
LTE Band 5			1	0	Left Edge	5	20525	836.5	24.50	23.85	0.195	0.226	-
LTE Band 5			25	0	Left Edge	5	20525	836.5	23.50	22.86	0.182	0.211	-
LTE Band 5			1	0	Right Edge	5	20525	836.5	24.50	23.85	0.260	0.302	-
LTE Band 5			25	0	Right Edge	5	20525	836.5	23.50	22.86	0.248	0.287	-
LTE Band 7			1	0	Front Surface	5	20850	2510	24.50	23.01	0.559	0.788	-
LTE Band 7			1	0	Front Surface	5	21100	2535	24.50	23.62	0.581	0.712	007
LTE Band 7			1	0	Front Surface	5	21350	2560	24.50	23.22	0.440	0.591	-
LTE Band 7			50	0	Front Surface	5	21100	2535	23.50	22.42	0.399	0.512	-
LTE Band 7			1	0	Back Surface	5	21100	2535	24.50	23.62	0.180	0.220	-
LTE Band 7			50	0	Back Surface	5	21100	2535	23.50	22.42	0.167	0.214	-
LTE Band 7			1	0	Top Edge	5	21100	2535	24.50	23.62	0.180	0.220	-
LTE Band 7	20MHz	QPSK	50	0	Top Edge	5	21100	2535	23.50	22.42	0.169	0.217	-
LTE Band 7			1	0	Bottom Edge	5	21100	2535	24.50	23.62	0.001	0.001	-
LTE Band 7			50	0	Bottom Edge	5	21100	2535	23.50	22.42	0.001	0.001	-
LTE Band 7			1	0	Left Edge	5	21100	2535	24.50	23.62	0.287	0.351	-
LTE Band 7			50	0	Left Edge	5	21100	2535	23.50	22.42	0.274	0.351	-
LTE Band 7			1	0	Right Edge	5	21100	2535	24.50	23.62	0.071	0.087	-
LTE Band 7			50	0	Right Edge	5	21100	2535	23.50	22.42	0.063	0.081	-

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

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)	Averaged SAR over 1g (W/kg)		ID
											Measured	Reported	
LTE Band 12	10MHz	QPSK	1	0	Front Surface	5	23095	707.5	24.50	23.17	0.070	0.095	-
LTE Band 12			25	0	Front Surface	5	23095	707.5	23.50	22.09	0.058	0.080	-
LTE Band 12			1	0	Back Surface	5	23060	704	24.50	23.02	0.094	0.132	008
LTE Band 12			1	0	Back Surface	5	23095	707.5	24.50	23.17	0.090	0.122	-
LTE Band 12			1	0	Back Surface	5	23130	711	24.50	23.04	0.087	0.122	-
LTE Band 12			25	0	Back Surface	5	23095	707.5	23.50	22.09	0.037	0.051	-
LTE Band 12			1	0	Top Edge	5	23095	707.5	24.50	23.17	0.001	0.001	-
LTE Band 12			25	0	Top Edge	5	23095	707.5	23.50	22.09	0.001	0.001	-
LTE Band 12			1	0	Bottom Edge	5	23095	707.5	24.50	23.17	0.001	0.001	-
LTE Band 12			25	0	Bottom Edge	5	23095	707.5	23.50	22.09	0.001	0.001	-
LTE Band 12			1	0	Left Edge	5	23095	707.5	24.50	23.17	0.001	0.001	-
LTE Band 12			25	0	Left Edge	5	23095	707.5	23.50	22.09	0.001	0.001	-
LTE Band 12			1	0	Right Edge	5	23095	707.5	24.50	23.17	0.001	0.001	-
LTE Band 12			25	0	Right Edge	5	23095	707.5	23.50	22.09	0.001	0.001	-
LTE Band 13	10MHz	QPSK	1	0	Front Surface	5	23230	782	24.50	23.20	0.058	0.078	-
LTE Band 13			25	25	Front Surface	5	23230	782	23.50	22.11	0.045	0.062	-
LTE Band 13			1	0	Back Surface	5	23230	782	24.50	23.20	0.298	0.402	009
LTE Band 13			25	50	Back Surface	5	23230	782	23.50	22.11	0.264	0.364	-
LTE Band 13			1	0	Top Edge	5	23230	782	24.50	23.20	0.001	0.001	-
LTE Band 13			25	50	Top Edge	5	23230	782	23.50	22.11	0.001	0.001	-
LTE Band 13			1	0	Bottom Edge	5	23230	782	24.50	23.20	0.001	0.001	-
LTE Band 13			25	50	Bottom Edge	5	23230	782	23.50	22.11	0.001	0.001	-
LTE Band 13			1	0	Left Edge	5	23230	782	24.50	23.20	0.170	0.229	-
LTE Band 13			25	50	Left Edge	5	23230	782	23.50	22.11	0.140	0.193	-
LTE Band 13			1	0	Right Edge	5	23230	782	24.50	23.20	0.159	0.214	-
LTE Band 13			25	50	Right Edge	5	23230	782	23.50	22.11	0.132	0.182	-
LTE Band 17	10MHz	QPSK	1	0	Front Surface	5	23780	709	24.50	23.03	0.046	0.065	-
LTE Band 17			25	0	Front Surface	5	23790	710	23.50	21.94	0.031	0.044	-
LTE Band 17			1	0	Back Surface	5	23780	709	24.50	23.03	0.069	0.096	-
LTE Band 17			1	0	Back Surface	5	23790	710	24.50	23.00	0.072	0.101	010
LTE Band 17			1	0	Back Surface	5	23800	711	24.50	22.76	0.071	0.106	-
LTE Band 17			25	0	Back Surface	5	23790	710	23.50	21.94	0.057	0.081	-
LTE Band 17			1	0	Top Edge	5	23780	709	24.50	23.03	0.001	0.001	-
LTE Band 17			25	0	Top Edge	5	23790	710	23.50	21.94	0.001	0.001	-
LTE Band 17			1	0	Bottom Edge	5	23780	709	24.50	23.03	0.001	0.001	-
LTE Band 17			25	0	Bottom Edge	5	23790	710	23.50	21.94	0.001	0.001	-
LTE Band 17			1	0	Left Edge	5	23780	709	24.50	23.03	0.001	0.001	-
LTE Band 17			25	0	Left Edge	5	23790	710	23.50	21.94	0.001	0.001	-
LTE Band 17			1	0	Right Edge	5	23780	709	24.50	23.03	0.001	0.001	-
LTE Band 17			25	0	Right Edge	5	23790	710	23.50	21.94	0.001	0.001	-

Ant1

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
									Measured	Reported	
WLAN 802.11b	Front Surface	5	1	2412	14.97	14.88	1.01	102.09%	0.001	0.001	-
WLAN 802.11b	Back Surface	5	1	2412	14.97	14.88	1.01	102.09%	0.442	0.456	-
WLAN 802.11b	Back Surface	5	6	2437	14.25	14.19	1.01	101.39%	0.950	0.974	011
Repeated	Back Surface	5	6	2437	14.25	14.19	1.01	101.39%	0.822	0.843	-
WLAN 802.11b	Back Surface	5	11	2462	14.89	14.75	1.01	103.28%	0.795	0.830	-
WLAN 802.11b	Top Edge	5	1	2412	14.97	14.88	1.01	102.09%	0.001	0.001	-
WLAN 802.11b	Bottom Edge	5	1	2412	14.97	14.88	1.01	102.09%	0.001	0.001	-
WLAN 802.11b	Left Edge	5	1	2412	14.97	14.88	1.01	102.09%	0.001	0.001	-
WLAN 802.11b	Right Edge	5	1	2412	14.97	14.88	1.01	102.09%	0.593	0.612	-

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
									Measured	Reported	
Bluetooth(GFSK)	Front Surface	5	0	2402	11.50	11.16	1.30	108.14%	0.001	0.001	-
Bluetooth(GFSK)	Back Surface	5	0	2402	11.50	11.16	1.30	108.14%	0.118	0.166	012
Bluetooth(GFSK)	Back Surface	5	39	2441	11.50	10.43	1.30	127.94%	0.089	0.148	-
Bluetooth(GFSK)	Back Surface	5	78	2480	11.50	9.81	1.30	147.57%	0.093	0.179	-
Bluetooth(GFSK)	Top Edge	5	0	2402	11.50	11.16	1.30	108.14%	0.001	0.001	-
Bluetooth(GFSK)	Bottom Edge	5	0	2402	11.50	11.16	1.30	108.14%	0.001	0.001	-
Bluetooth(GFSK)	Left Edge	5	0	2402	11.50	11.16	1.30	108.14%	0.001	0.001	-
Bluetooth(GFSK)	Right Edge	5	0	2402	11.50	11.16	1.30	108.14%	0.001	0.001	-

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
									Measured	Reported	
WLAN 802.11a 5.2G	Front Surface	5	36	5180	12.28	12.08	1.04	104.71%	0.055	0.060	-
WLAN 802.11a 5.2G	Back Surface	5	36	5180	12.28	12.08	1.04	104.71%	0.593	0.647	-
WLAN 802.11a 5.2G	Back Surface	5	40	5200	12.28	12.04	1.04	105.68%	0.635	0.699	-
WLAN 802.11a 5.2G	Back Surface	5	44	5220	11.75	11.72	1.04	100.69%	0.654	0.686	-
WLAN 802.11a 5.2G	Back Surface	5	48	5240	11.67	11.21	1.04	111.17%	0.871	1.009	013
Repeated	Back Surface	5	48	5240	11.67	11.21	1.04	111.17%	0.806	0.934	-
WLAN 802.11a 5.2G	Top Edge	5	36	5180	12.28	12.08	1.04	104.71%	0.057	0.062	-
WLAN 802.11a 5.2G	Bottom Edge	5	36	5180	12.28	12.08	1.04	104.71%	0.001	0.001	-
WLAN 802.11a 5.2G	Left Edge	5	36	5180	12.28	12.08	1.04	104.71%	0.050	0.055	-
WLAN 802.11a 5.2G	Right Edge	5	36	5180	12.28	12.08	1.04	104.71%	0.394	0.430	-

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
									Measured	Reported	
WLAN 802.11a 5.8G	Front Surface	5	157	5785	12.48	12.26	1.04	105.20%	0.051	0.056	-
WLAN 802.11a 5.8G	Back Surface	5	149	5745	11.93	11.73	1.04	104.71%	0.791	0.863	-
WLAN 802.11a 5.8G	Back Surface	5	157	5785	12.48	12.26	1.04	105.20%	0.843	0.924	014
WLAN 802.11a 5.8G	Back Surface	5	165	5825	12.42	12.15	1.04	106.41%	0.821	0.910	-
Repeated	Back Surface	5	157	5785	12.42	12.26	1.04	103.75%	0.812	0.878	-
WLAN 802.11a 5.8G	Top Edge	5	157	5785	12.48	12.26	1.04	105.20%	0.067	0.073	-
WLAN 802.11a 5.8G	Bottom Edge	5	157	5785	12.48	12.26	1.04	105.20%	0.058	0.064	-
WLAN 802.11a 5.8G	Left Edge	5	157	5785	12.48	12.26	1.04	105.20%	0.065	0.071	-
WLAN 802.11a 5.8G	Right Edge	5	157	5785	12.48	12.26	1.04	105.20%	0.356	0.390	-

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

Note:
Reported SAR = measured SAR * Power scaling * Duty cycle scaling

6.3 Reporting statements of conformity

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

6.4 Conclusion

The device is compliant because all the standalone results are less than their corresponding criteria.

7 SIMULTANEOUS TRANSMISSION ANALYSIS

7.1 Simultaneous Transmission Scenarios:

Simultaneous Transmit Configurations	Body
WWAN+WLAN 2.4GHz	YES
WWAN+ BT	YES
WWAN+WLAN 2.4GHz+ BT	YES
WWAN+WLAN 5GHz	YES
WWAN+WLAN 5GHz + BT	YES

7.2 Estimated SAR calculation

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

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

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

7.3 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.

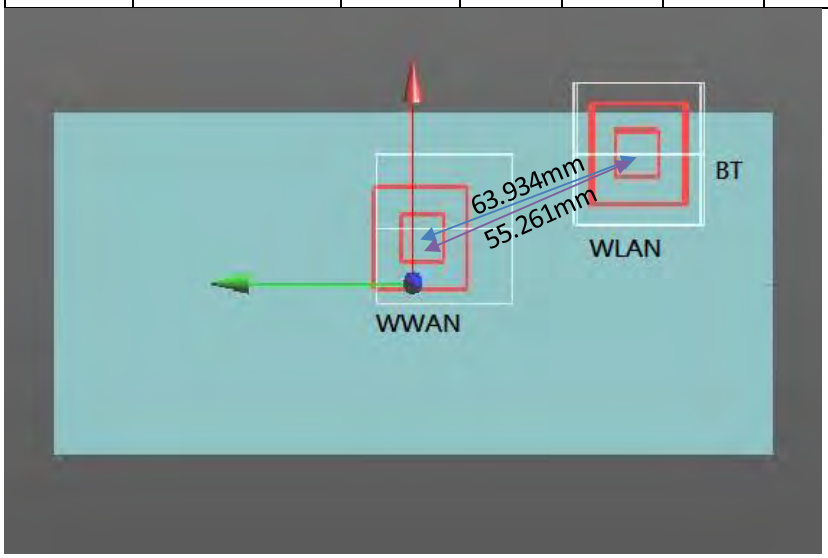
SAR1 and SAR2 are the highest reported or estimated SAR for each antenna in the pair, and Ri is the separation distance between the peak SAR locations for the antenna pair in mm.

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.

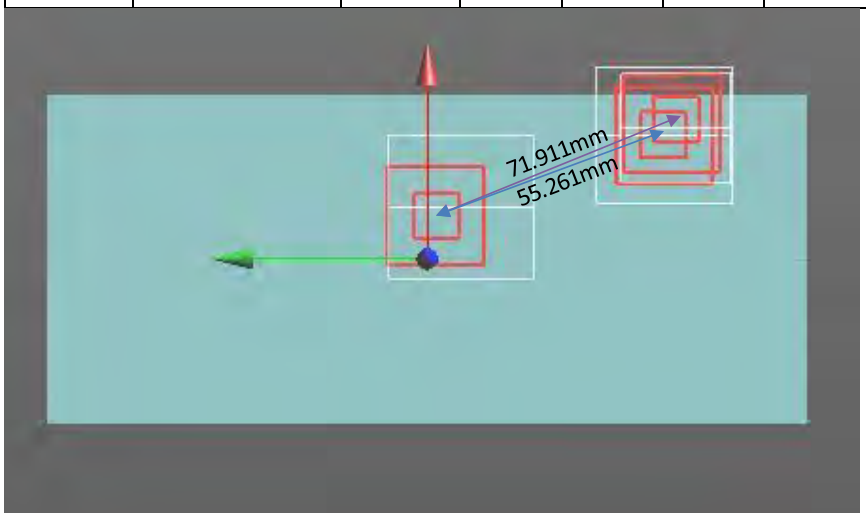
Simultaneous Transmission Combination

	Exposure Position		FCC Reported SAR				Scenario1	Scenario2	Scenario3	Scenario4	Scenario5
			1	2	4	6	1+2	1+6	1+2+6	1+4	1+4+6
			WWAN	2.4GHz WLAN Ant 1	5GHz WLAN Ant 1	Bluetooth Ant 1	Summed	Summed	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WCDMA Band II	Front Surface	5	1.029	0.001	0.060	0.001	1.030	1.030	1.031	1.089	1.090
	Back Surface	5	0.332	0.974	1.009	0.179	1.306	0.511	1.485	1.341	1.520
	Top Edge	5	0.834	0.001	0.073	0.001	0.835	0.835	0.836	0.907	0.908
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.145	0.001	0.071	0.001	0.146	0.146	0.147	0.216	0.217
	Right Edge	5	0.124	0.612	0.430	0.001	0.736	0.125	0.737	0.554	0.555
WCDMA Band IV	Front Surface	5	0.264	0.001	0.060	0.001	0.265	0.265	0.266	0.324	0.325
	Back Surface	5	0.226	0.974	1.009	0.179	1.200	0.405	1.379	1.235	1.414
	Top Edge	5	0.976	0.001	0.073	0.001	0.977	0.977	0.978	1.049	1.050
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.066	0.001	0.071	0.001	0.067	0.067	0.068	0.137	0.138
	Right Edge	5	0.054	0.612	0.430	0.001	0.666	0.055	0.667	0.484	0.485
WCDMA Band V	Front Surface	5	0.178	0.001	0.060	0.001	0.179	0.179	0.180	0.238	0.239
	Back Surface	5	0.402	0.974	1.009	0.179	1.376	0.581	1.555	1.411	1.590
	Top Edge	5	0.001	0.001	0.073	0.001	0.002	0.002	0.003	0.074	0.075
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.213	0.001	0.071	0.001	0.214	0.214	0.215	0.284	0.285
	Right Edge	5	0.147	0.612	0.430	0.001	0.759	0.148	0.760	0.577	0.578
LTE Band 2	Front Surface	5	0.732	0.001	0.060	0.001	0.733	0.733	0.734	0.792	0.793
	Back Surface	5	0.398	0.974	1.009	0.179	1.372	0.577	1.551	1.407	1.586
	Top Edge	5	0.917	0.001	0.073	0.001	0.918	0.918	0.919	0.990	0.991
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.151	0.001	0.071	0.001	0.152	0.152	0.153	0.222	0.223
	Right Edge	5	0.159	0.612	0.430	0.001	0.771	0.160	0.772	0.589	0.590
LTE Band 4	Front Surface	5	0.300	0.001	0.060	0.001	0.301	0.301	0.302	0.360	0.361
	Back Surface	5	0.279	0.974	1.009	0.179	1.253	0.458	1.432	1.288	1.467
	Top Edge	5	1.048	0.001	0.073	0.001	1.049	1.049	1.050	1.121	1.122
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.101	0.001	0.071	0.001	0.102	0.102	0.103	0.172	0.173
	Right Edge	5	0.102	0.612	0.430	0.001	0.714	0.103	0.715	0.532	0.533
LTE Band 5	Front Surface	5	0.202	0.001	0.060	0.001	0.203	0.203	0.204	0.262	0.263
	Back Surface	5	0.479	0.974	1.009	0.179	1.453	0.658	1.632	1.488	1.667
	Top Edge	5	0.001	0.001	0.073	0.001	0.002	0.002	0.003	0.074	0.075
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.226	0.001	0.071	0.001	0.227	0.227	0.228	0.297	0.298
	Right Edge	5	0.302	0.612	0.430	0.001	0.914	0.303	0.915	0.732	0.733
LTE Band 7	Front Surface	5	0.788	0.001	0.060	0.001	0.789	0.789	0.790	0.848	0.849
	Back Surface	5	0.220	0.974	1.009	0.179	1.194	0.399	1.373	1.229	1.408
	Top Edge	5	0.220	0.001	0.073	0.001	0.221	0.221	0.222	0.293	0.294
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.351	0.001	0.071	0.001	0.352	0.352	0.353	0.422	0.423
	Right Edge	5	0.087	0.612	0.430	0.001	0.699	0.088	0.700	0.517	0.518
LTE Band 12	Front Surface	5	0.095	0.001	0.060	0.001	0.096	0.096	0.097	0.155	0.156
	Back Surface	5	0.132	0.974	1.009	0.179	1.106	0.311	1.285	1.141	1.320
	Top Edge	5	0.001	0.001	0.073	0.001	0.002	0.002	0.003	0.074	0.075
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.001	0.001	0.071	0.001	0.002	0.002	0.003	0.072	0.073
	Right Edge	5	0.001	0.612	0.430	0.001	0.613	0.002	0.614	0.431	0.432
LTE Band 13	Front Surface	5	0.078	0.001	0.060	0.001	0.079	0.079	0.080	0.138	0.139
	Back Surface	5	0.402	0.974	1.009	0.179	1.376	0.581	1.555	1.411	1.590
	Top Edge	5	0.001	0.001	0.073	0.001	0.002	0.002	0.003	0.074	0.075
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.229	0.001	0.071	0.001	0.230	0.230	0.231	0.300	0.301
	Right Edge	5	0.214	0.612	0.430	0.001	0.826	0.215	0.827	0.644	0.645
LTE Band 17	Front Surface	5	0.065	0.001	0.060	0.001	0.066	0.066	0.067	0.125	0.126
	Back Surface	5	0.106	0.974	1.009	0.179	1.080	0.285	1.259	1.115	1.294
	Top Edge	5	0.001	0.001	0.073	0.001	0.002	0.002	0.003	0.074	0.075
	Bottom Edge	5	0.001	0.001	0.064	0.001	0.002	0.002	0.003	0.065	0.066
	Left Edge	5	0.001	0.001	0.071	0.001	0.002	0.002	0.003	0.072	0.073
	Right Edge	5	0.001	0.612	0.430	0.001	0.613	0.002	0.614	0.431	0.432

Scenario 1: 1+2+6									
Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Bottom Surface	LTE Band 5	0.479	1.153	0.048	0.318	-	-	-	-
	WLAN 2.4G+BT	1.153	2.744	-5.244	0.356	1.632	55.261	0.038	SPLSR ≤ 0.04, Not required



Scenario 1: 1+4+6									
Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Bottom Surface	LTE Band 5	0.479	1.153	0.048	0.318	-	-	-	-
	WLAN 5G+BT	1.188	2.744	-5.244	0.356	1.667	55.261	0.039	SPLSR ≤ 0.04, Not required



7.4 Conclusion

The simultaneous transmission is compliant because both SAR sum and/or SPLSR are less than their corresponding criteria.

8 INSTRUMENTS LIST

Equipment List					
Manufacturer	**Device**	**Type**	**Serial number**	**Date of last calibration**	**Date of next calibration**
SPEAG	Data acquisition Electronics	DAE4	547	Mar/23/2022	Mar/22/2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3938	Jan/25/2022	Jan/24/2023
SPEAG	System Validation Dipole	D750V3	1015	Oct/14/2021	Oct/13/2022
SPEAG	System Validation Dipole	D835V2	4d063	Oct/18/2021	Oct/17/2022
SPEAG	System Validation Dipole	D1750V2	1008	Oct/19/2021	Oct/18/2022
SPEAG	System Validation Dipole	D1900V2	5d173	Apr/28/2022	Apr/27/2023
SPEAG	System Validation Dipole	D2450V2	727	Apr/25/2022	Apr/24/2023
SPEAG	System Validation Dipole	D2600V2	1005	Jan/18/2022	Jan/17/2023
SPEAG	System Validation Dipole	D5GHzV2	1023	Jan/27/2022	Jan/26/2023
SPEAG	Dielectric Assessment Kit	DAKS-3.5	1053	Feb/28/2022	Feb/27/2023
Agilent	MXG Analog Signal Generator	N5181A	MY50144143	May/19/2022	May/18/2023
Agilent	Dual-directional coupler	772D	MY52180142	Nov/02/2021	Nov/01/2022
Agilent	Dual-directional coupler	778D	MY52180302	Oct/29/2021	Oct/28/2022
EMCI	Amplifier	ZHL-42	980189	Calibration not required	Calibration not required
EMCI	Amplifier	ZVE-8G	980190	Calibration not required	Calibration not required
R&S	Power Sensor	NRP18S	101973	Jan/22/2022	Jan/21/2023
R&S	Power Meter	NRX	102191	Jan/22/2022	Jan/21/2023
R&S	Power Sensor	NRP18S	101358	Jan/22/2022	Jan/21/2023
SPEAG	Software	DASY 52 V52.10.4.1527	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
R&S	Radio Communication Test	CMW 500	165070	Oct/12/2021	Oct/11/2022
LKM	Digital thermometer	DTM3000	EC14010603	Nov/09/2021	Nov/08/2022
TECPEL	Digital thermometer	DTM-303A	TP130075	Oct/28/2021	Oct/27/2022

9 UNCERTAINTY BUDGET

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

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
Measurement system									
Probe calibration	6.55%	N	1	1	1	1	6.55%	6.55%	∞
Isotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
Isotropy, Hemispherical	9.60%	R	√3	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	∞
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	∞
Measurement drift (class A evaluation)	1.75%	R	√3	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Test Sample related									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	∞
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	0.71%	N	1	1	0.64	0.43	0.45%	0.31%	M
Liquid Conductivity (mea.)	0.14%	N	1	1	0.6	0.49	0.08%	0.07%	M
Combined standard uncertainty		RSS					11.73%	11.71%	
Expant uncertainty (95% confidence interval), K=2							23.45%	23.42%	

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

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
Measurement system									
Probe calibration	6.00%	N	1	1	1	1	6.00%	6.00%	∞
Isotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
Isotropy, Hemispherical	9.60%	R	√3	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	∞
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	∞
Measurement drift (class A evaluation)	1.75%	R	√3	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Test Sample related									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	∞
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	0.59%	N	1	1	0.64	0.43	0.38%	0.25%	M
Liquid Conductivity (mea.)	1.59%	N	1	1	0.6	0.49	0.95%	0.78%	M
Combined standard uncertainty		RSS					11.46%	11.44%	
Expant uncertainty (95% confidence interval), K=2							22.93%	22.87%	

10 SAR MEASUREMENT RESULTS

Date: 2022/9/10

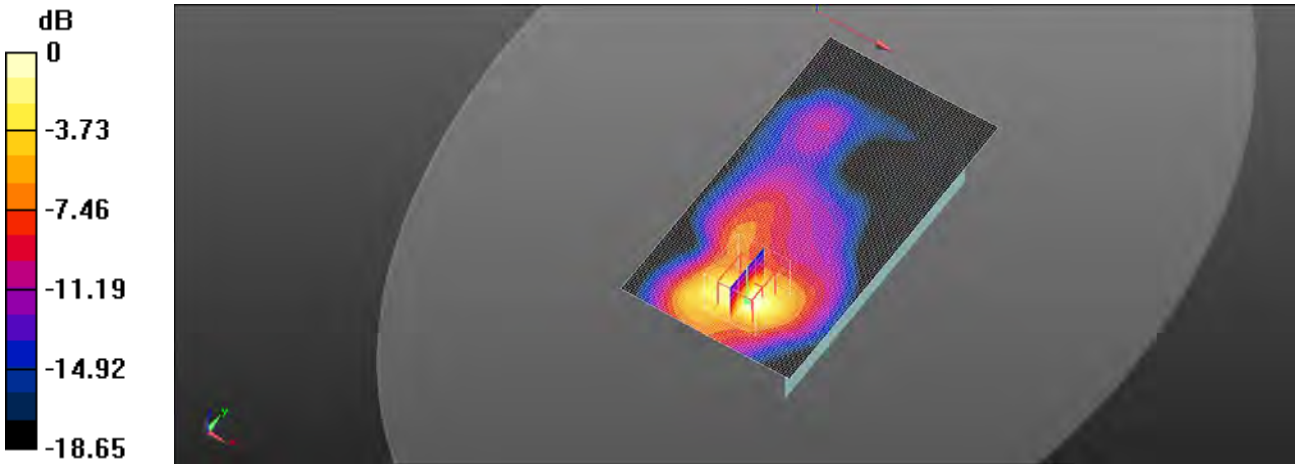
ID: 001
Report No. : TESA2207000221E5
WCDMA Band II_Body_Front Surface_CH 9400_5mm
Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.414 S/m; ε_r = 39.767; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6°C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.92, 7.92, 7.92); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.41 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.531 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 0.976 W/kg; SAR(10 g) = 0.500 W/kg
Smallest distance from peaks to all points 3 dB below = 9.6 mm
Ratio of SAR at M2 to SAR at M1 = 57.2%
Maximum value of SAR (measured) = 1.41 W/kg



0 dB = 1.41 W/kg = 1.48 dBW/kg

Date: 2022/9/10

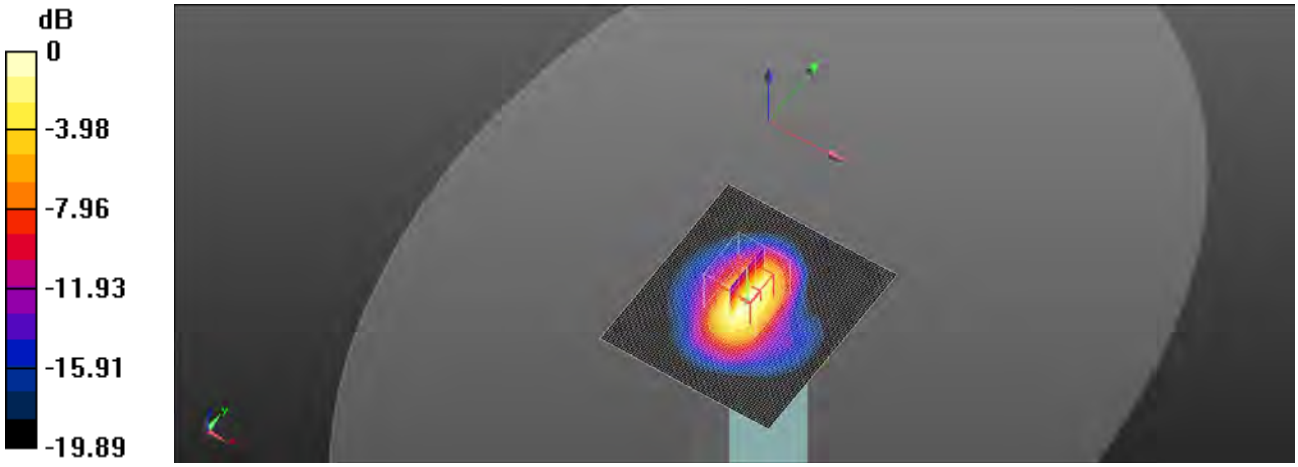
ID: 002
Report No. : TESA2207000221E5
WCDMA Band IV_Body_Top Edge_CH 1513_5mm
Communication System: WCDMA; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1752.6 MHz; σ = 1.383 S/m; ε_r = 39.841; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6°C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(8.33, 8.33, 8.33); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.269 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 0.941 W/kg; SAR(10 g) = 0.488 W/kg
Smallest distance from peaks to all points 3 dB below = 8.4 mm
Ratio of SAR at M2 to SAR at M1 = 61.8%
Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1.26 W/kg = 1.01 dBW/kg

Date: 2022/9/9

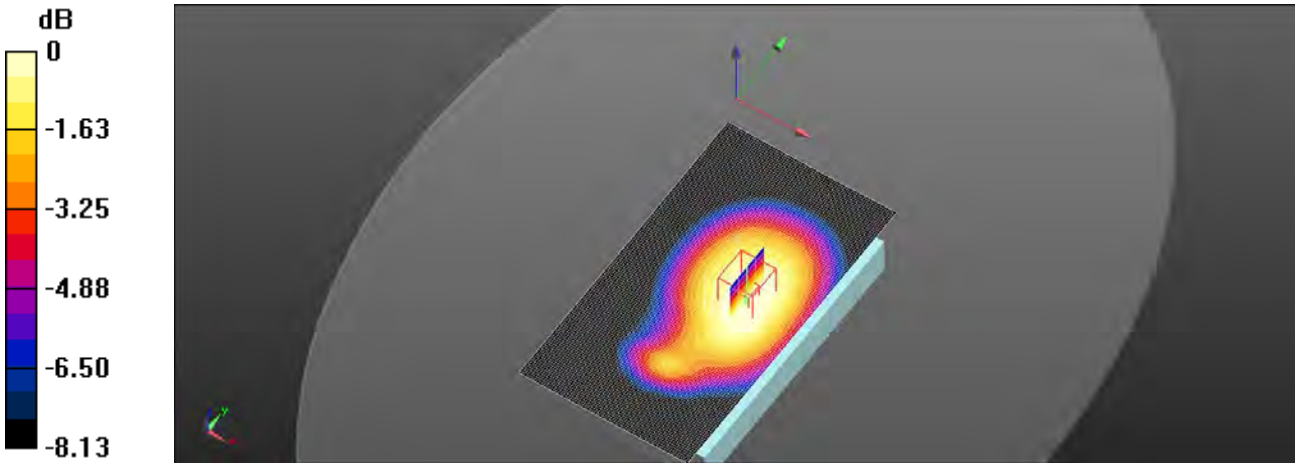
ID: 003
Report No. : TESA2207000221E5
WCDMA Band V_Body_Back Surface_CH 4132_5mm
Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 826.4 MHz; σ = 0.902 S/m; ε_r = 41.354; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.29, 9.29, 9.29); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.437 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.42 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.469 W/kg
SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.286 W/kg
Smallest distance from peaks to all points 3 dB below = 9.5 mm
Ratio of SAR at M2 to SAR at M1 = 79.4%
Maximum value of SAR (measured) = 0.428 W/kg



0 dB = 0.428 W/kg = -3.68 dBW/kg

Date: 2022/9/10

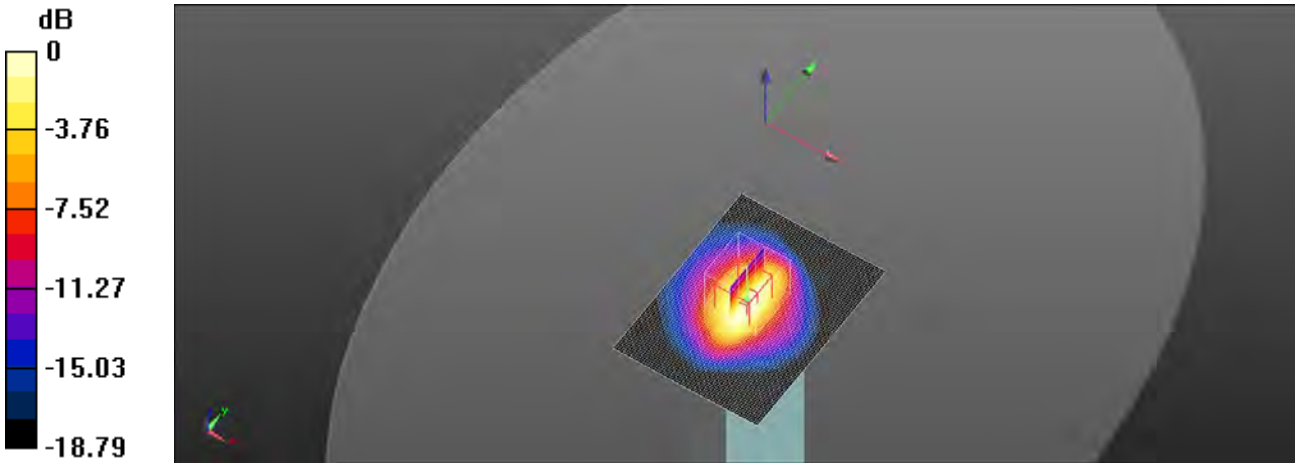
ID: 004
Report No. : TESA2207000221E5
LTE Band 2 (20MHz)_Body_Top Edge_CH 18700_QPSK_1-0_5mm
Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1860 MHz; σ = 1.414 S/m; ε_r = 39.767; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6°C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.92, 7.92, 7.92); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.12 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.33 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.802 W/kg; SAR(10 g) = 0.442 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 63.5%
Maximum value of SAR (measured) = 1.07 W/kg



0 dB = 1.07 W/kg = 0.31 dBW/kg

Date: 2022/9/10

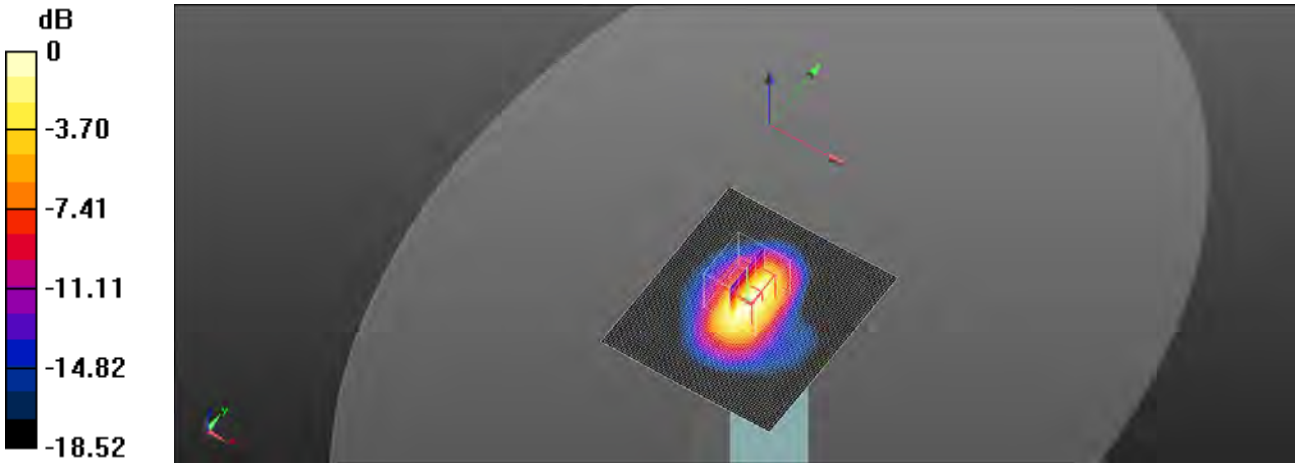
ID: 005
Report No. : TESA2207000221E5
LTE Band 4 (20MHz)_Body_Top Edge_CH 20300_1-99_QPSK_5mm
Communication System: LTE; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.378 S/m; ε_r = 39.854; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6°C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(8.33, 8.33, 8.33); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.16 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.575 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.947 W/kg; SAR(10 g) = 0.495 W/kg
Smallest distance from peaks to all points 3 dB below = 10.1 mm
Ratio of SAR at M2 to SAR at M1 = 63.2%
Maximum value of SAR (measured) = 1.21 W/kg



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

Date: 2022/9/9

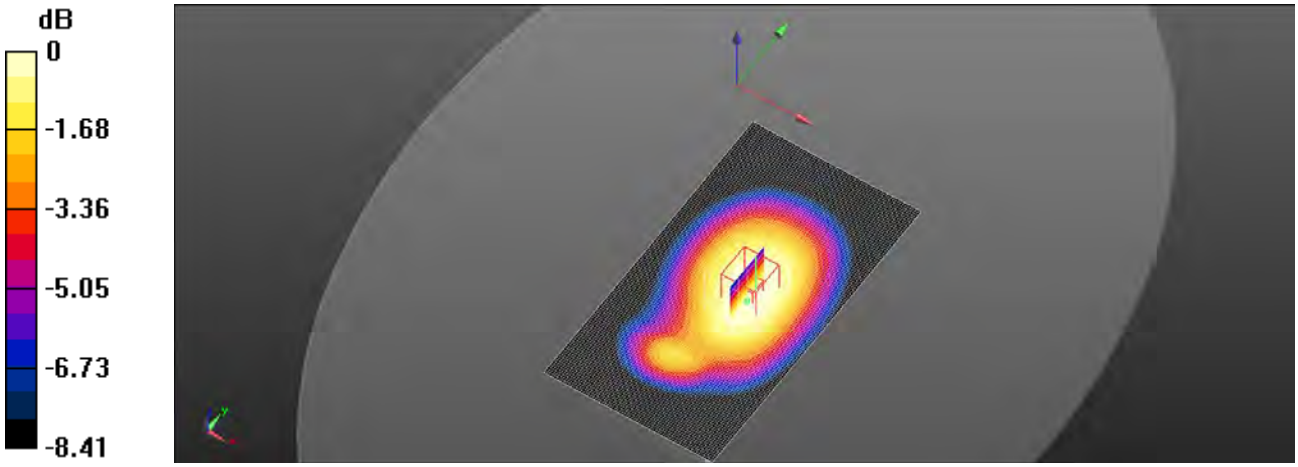
ID: 006
Report No. : TESA2207000221E5
LTE Band 5 (10MHz)_Body_Back Surface_CH 20600_QPSK_1-0_5mm
Communication System: LTE; Frequency: 844 MHz; Duty Cycle: 1:1
Medium parameters used: f = 844 MHz; σ = 0.908 S/m; ε_r = 41.289; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.29, 9.29, 9.29); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.464 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.78 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.497 W/kg
SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.308 W/kg
Smallest distance from peaks to all points 3 dB below = 10.6 mm
Ratio of SAR at M2 to SAR at M1 = 80.4%
Maximum value of SAR (measured) = 0.457 W/kg



0 dB = 0.457 W/kg = -3.40 dBW/kg

Date: 2022/9/11

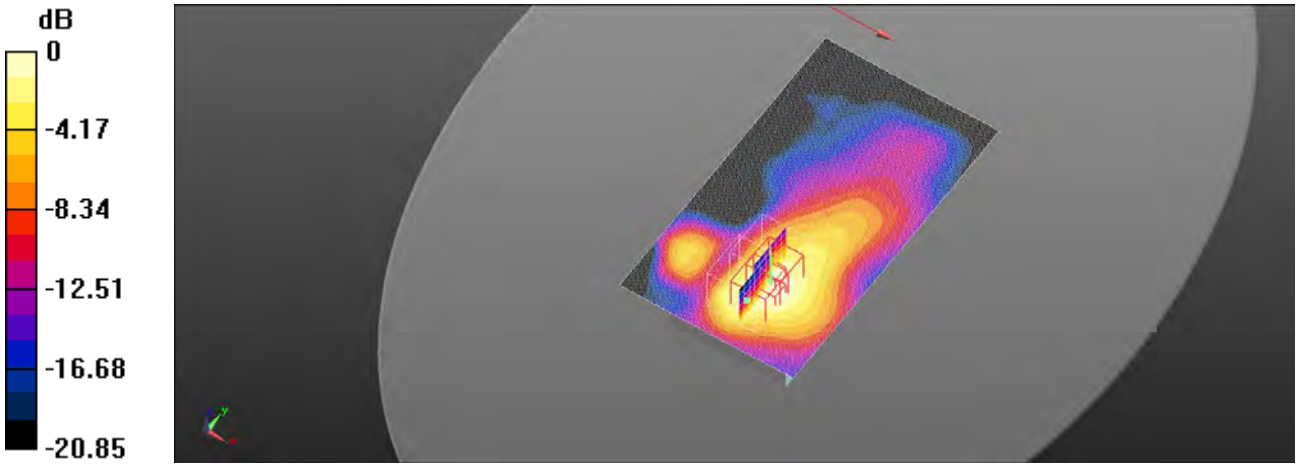
ID: 007
Report No. : TESA2207000221E5
LTE Band 7 (20MHz)_Body_Front Surface_CH 21100_QPSK_1-0_5mm
Communication System: LTE; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.903 S/m; ε_r = 38.859; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.15, 7.15, 7.15); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x161x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.832 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.819 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.581 W/kg; SAR(10 g) = 0.310 W/kg
Smallest distance from peaks to all points 3 dB below = 11.7 mm
Ratio of SAR at M2 to SAR at M1 = 57%
Maximum value of SAR (measured) = 0.833 W/kg
Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.819 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.936 W/kg
SAR(1 g) = 0.469 W/kg; SAR(10 g) = 0.237 W/kg
Smallest distance from peaks to all points 3 dB below = 13.2 mm
Ratio of SAR at M2 to SAR at M1 = 59.3%
Maximum value of SAR (measured) = 0.748 W/kg



0 dB = 0.748 W/kg = -1.26 dBW/kg

Date: 2022/9/9

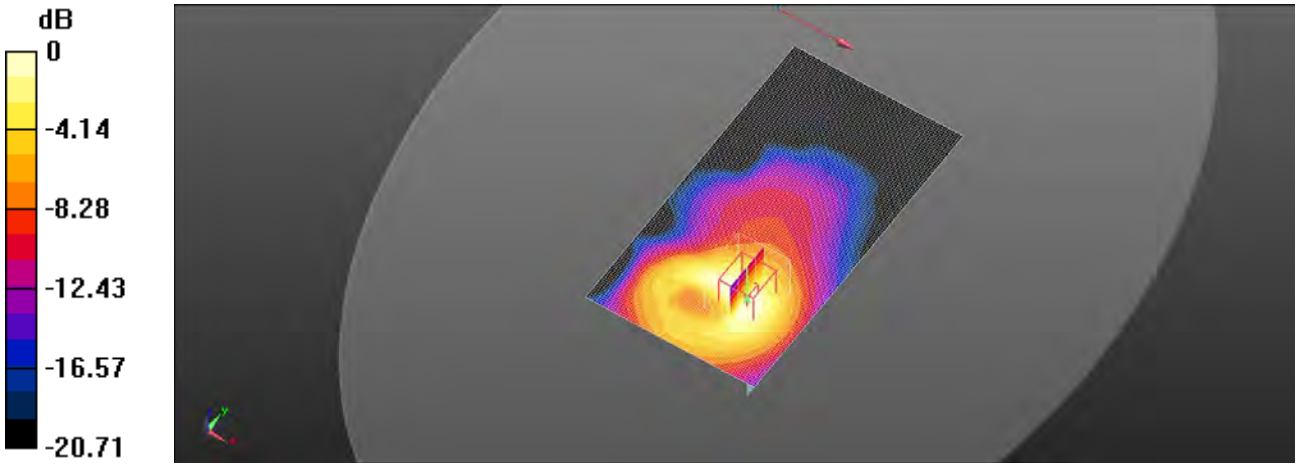
ID: 008
Report No. : TESA2207000221E5
LTE Band 12 (10MHz)_Body_Back Surface_CH 23060_QPSK_1-0_5mm
Communication System: LTE; Frequency: 704 MHz; Duty Cycle: 1:1
Medium parameters used: f = 704 MHz; σ = 0.885 S/m; ε_r = 41.948; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.6, 9.6, 9.6); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.128 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.085 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.053 W/kg
Smallest distance from peaks to all points 3 dB below = 10.2 mm
Ratio of SAR at M2 to SAR at M1 = 56.7%
Maximum value of SAR (measured) = 0.131 W/kg



0 dB = 0.131 W/kg = -8.82 dBW/kg

Date: 2022/9/9

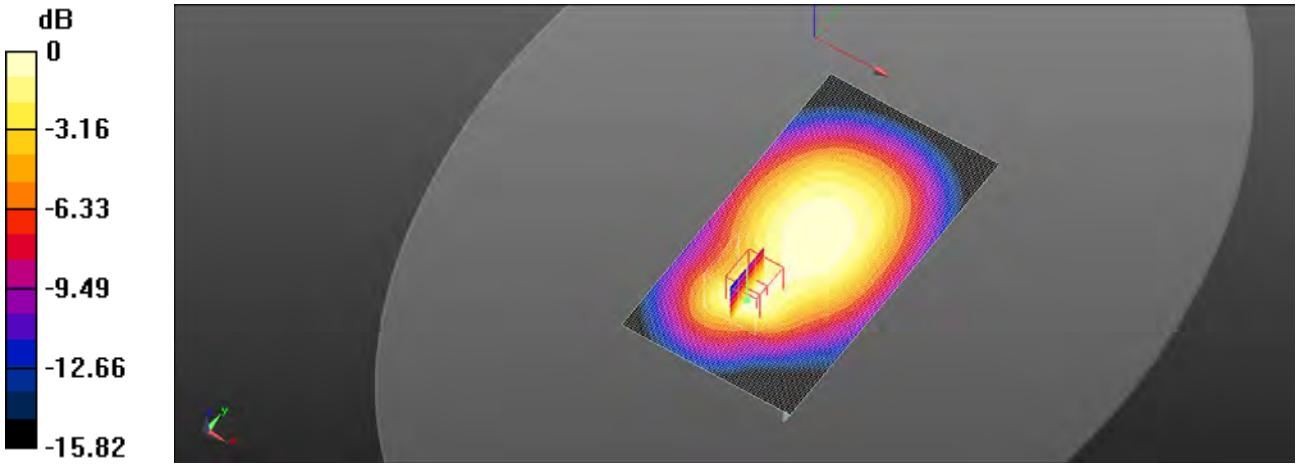
ID: 009
Report No. : TESA2207000221E5
LTE Band 13 (10MHz)_Body_Back Surface_CH 23230_QPSK_1-0_5mm
Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.891 S/m; ε_r = 41.542; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.6, 9.6, 9.6); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.381 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.18 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.471 W/kg
SAR(1 g) = 0.298 W/kg; SAR(10 g) = 0.192 W/kg
Smallest distance from peaks to all points 3 dB below = 12.2 mm
Ratio of SAR at M2 to SAR at M1 = 63.1%
Maximum value of SAR (measured) = 0.388 W/kg



0 dB = 0.388 W/kg = -4.11 dBW/kg

Date: 2022/9/9

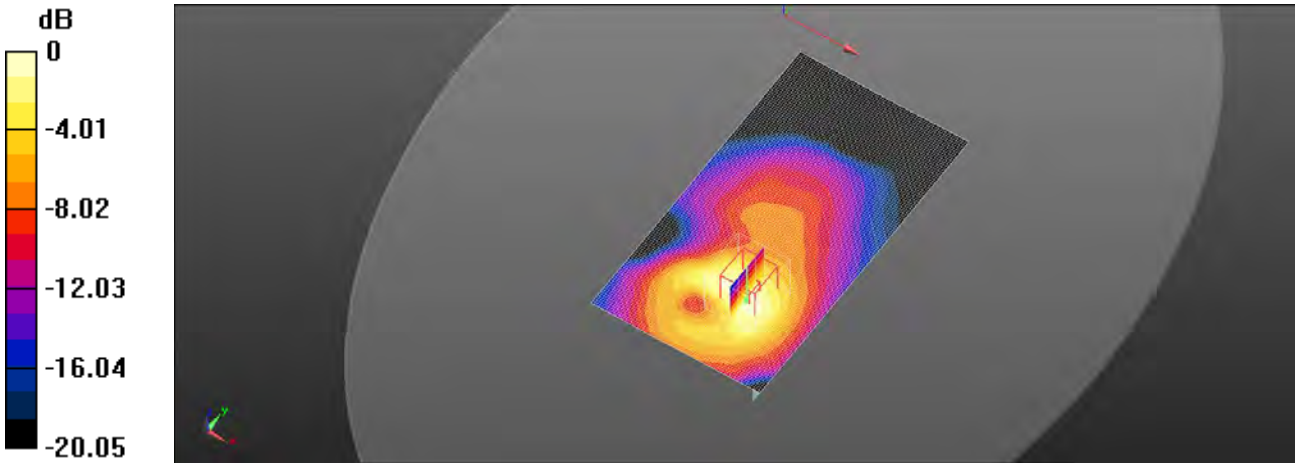
ID: 010
Report No. : TESA2207000221E5
LTE Band 17 (10MHz)_Body_Back Surface_CH 23790_QPSK_1-0_5mm
Communication System: LTE; Frequency: 710 MHz; Duty Cycle: 1:1
Medium parameters used: f = 710 MHz; σ = 0.886 S/m; ε_r = 41.916; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.6, 9.6, 9.6); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.0881 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.537 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.072 W/kg; SAR(10 g) = 0.041 W/kg
Smallest distance from peaks to all points 3 dB below = 10.2 mm
Ratio of SAR at M2 to SAR at M1 = 54%
Maximum value of SAR (measured) = 0.102 W/kg



0 dB = 0.102 W/kg = -9.93 dBW/kg

Date: 2022/9/11

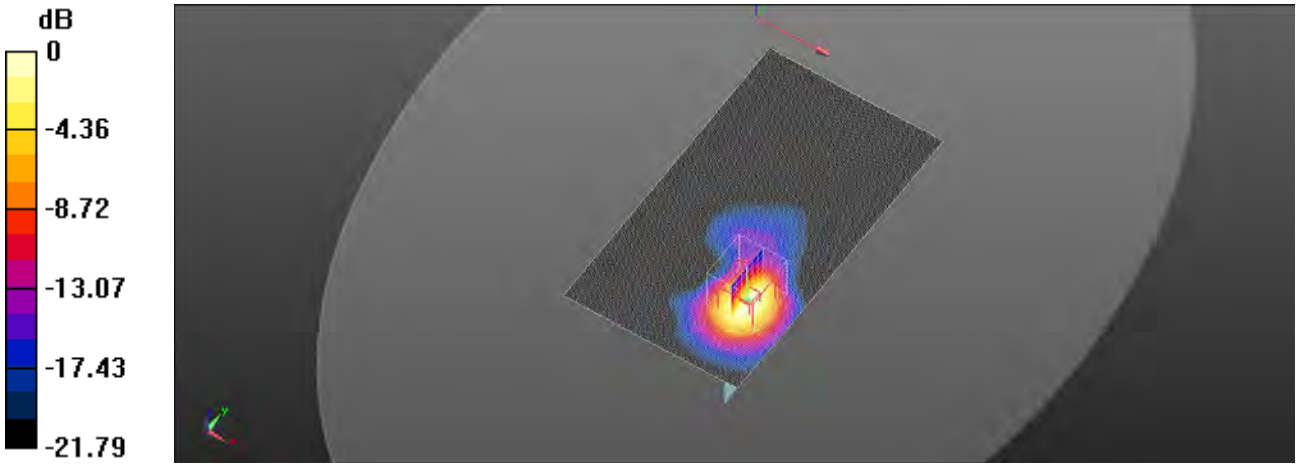
ID: 011
Report No. : TESA2207000221E5
WLAN 802.11b_Body_Back Surface_CH 6_5mm_Ant 1
Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:01
Medium parameters used: f = 2437 MHz; σ = 1.816 S/m; ε_r = 38.990; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.39, 7.39, 7.39); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x161x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.415 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.433 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 52.6%
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg = 1.53 dBW/kg

Date: 2022/9/11

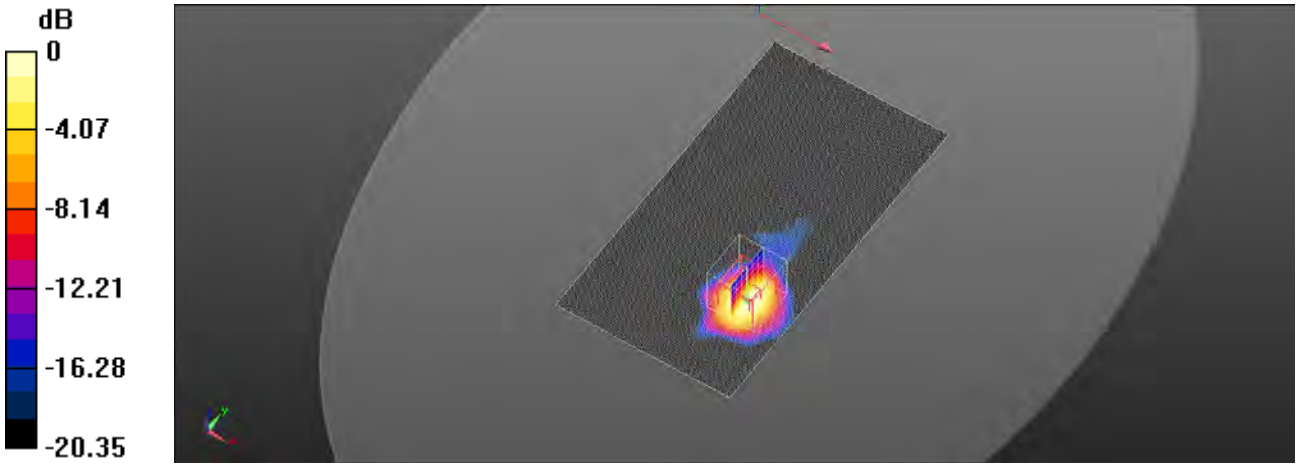
ID: 012
Report No. : TESA2207000221E5
Bluetooth(GFSK)_Body_Back Surface_CH 0 _5mm_Ant 1
Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:30
Medium parameters used: f = 2402 MHz; σ = 1.786 S/m; ε_r = 39.052; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.39, 7.39, 7.39); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x171x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.183 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.8840 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.244 W/kg
SAR(1 g) = 0.118 W/kg; SAR(10 g) = 0.052 W/kg
Smallest distance from peaks to all points 3 dB below = 8.9 mm
Ratio of SAR at M2 to SAR at M1 = 51%
Maximum value of SAR (measured) = 0.183 W/kg



0 dB = 0.183 W/kg = -7.37 dBW/kg

Date: 2022/9/12

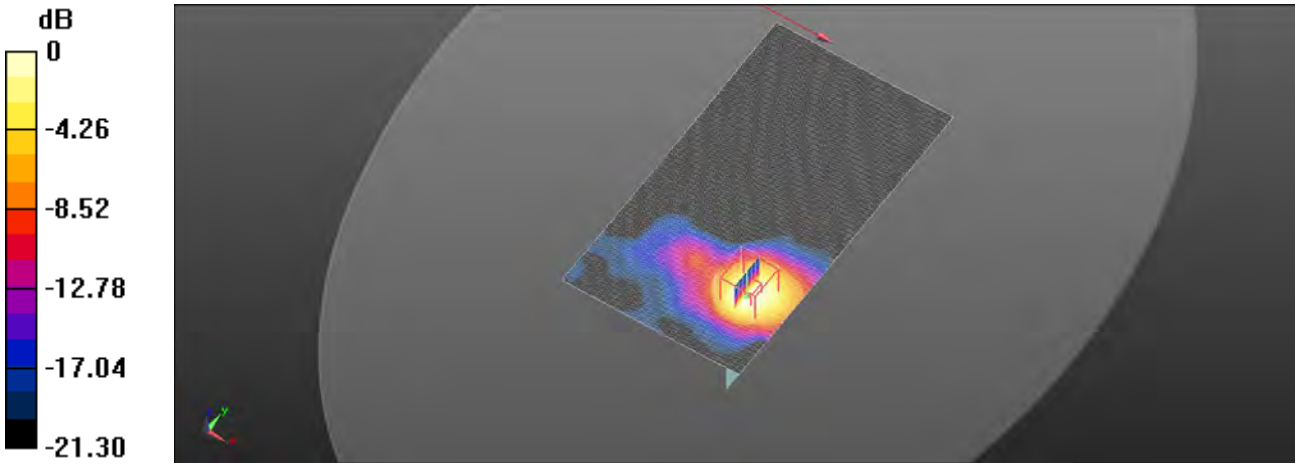
ID: 013
Report No. : TESA2207000221E5
WLAN 802.11a 5.2G_Body_Back Surface_CH 48_5mm_Ant 1
Communication System: WLAN; Frequency: 5240 MHz; Duty Cycle: 1:04
Medium parameters used: f = 5240 MHz; σ = 4.695 S/m; ε_r = 35.707; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (111x201x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.81 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0.3460 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.65 W/kg
SAR(1 g) = 0.871 W/kg; SAR(10 g) = 0.337 W/kg
Smallest distance from peaks to all points 3 dB below = 10.2 mm
Ratio of SAR at M2 to SAR at M1 = 61%
Maximum value of SAR (measured) = 1.56 W/kg



0 dB = 1.56 W/kg = 1.94 dBW/kg

Date: 2022/9/12

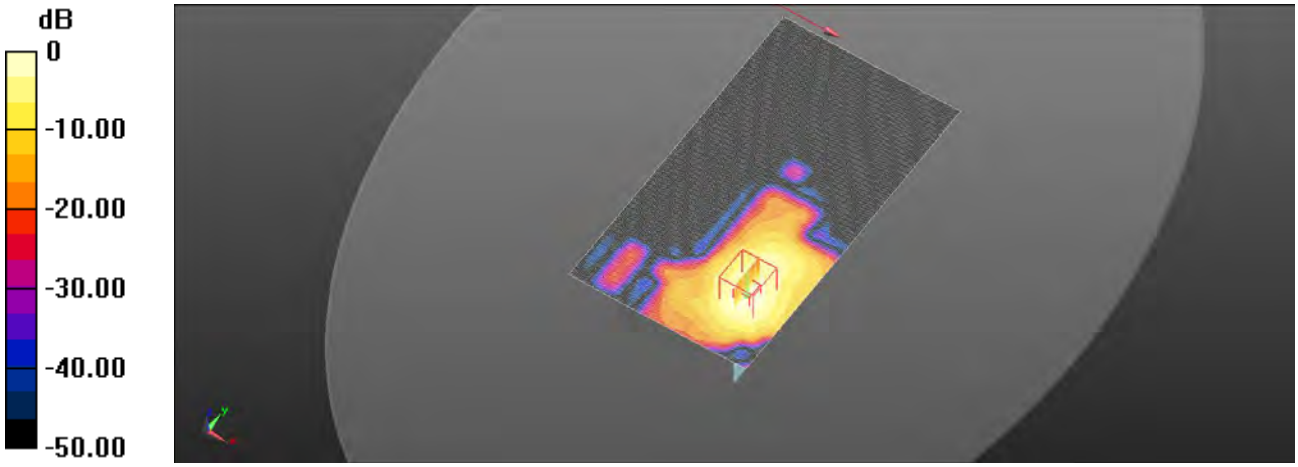
ID: 014
Report No. : TESA2207000221E5
WLAN 802.11a 5.8G_Body_Back Surface_CH 157_5mm_Ant 1
Communication System: WLAN; Frequency: 5785 MHz; Duty Cycle: 1:04
Medium parameters used: f = 5785 MHz; σ = 5.254 S/m; ε_r = 35.084; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.65, 4.65, 4.65); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2022/3/25
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (111x201x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.51 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.851 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.10 W/kg
SAR(1 g) = 0.843 W/kg; SAR(10 g) = 0.295 W/kg
Smallest distance from peaks to all points 3 dB below = 8.6 mm
Ratio of SAR at M2 to SAR at M1 = 56.9%
Maximum value of SAR (measured) = 1.64 W/kg



0 dB = 1.64 W/kg = 2.15 dBW/kg

11 SAR SYSTEM CHECK RESULTS

Date: 2022/9/9

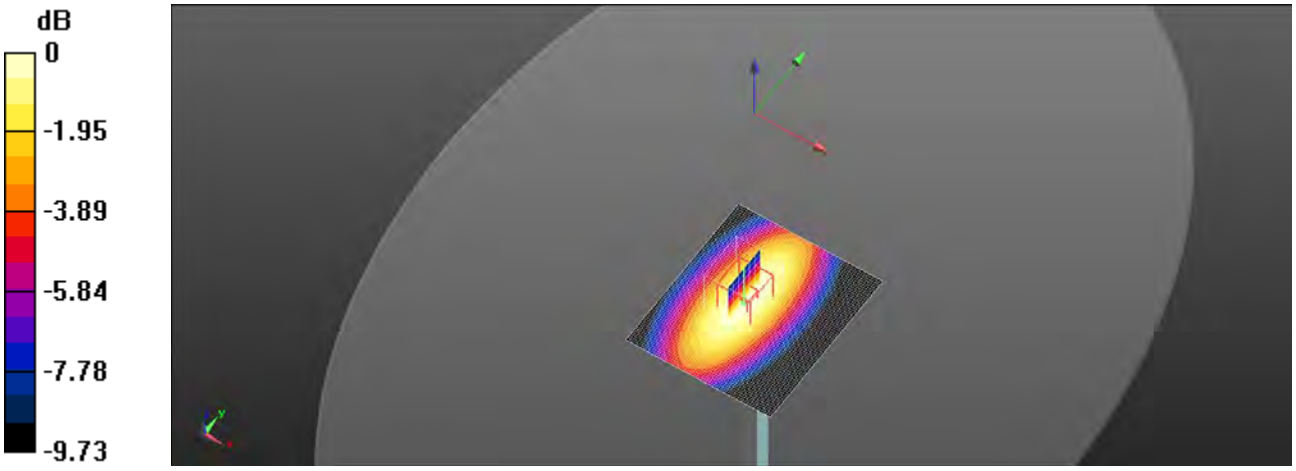
Report No. : TESA2207000221E5
Dipole 750 MHz_SN:1015
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.888 S/m; ε_r = 41.709; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.6, 9.6, 9.6); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (51x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.69 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.50 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.17 W/kg
SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.42 W/kg
Smallest distance from peaks to all points 3 dB below = 15.2 mm
Ratio of SAR at M2 to SAR at M1 = 69%
Maximum value of SAR (measured) = 2.73 W/kg



0 dB = 2.73 W/kg = 4.37 dBW/kg

Date: 2022/9/9

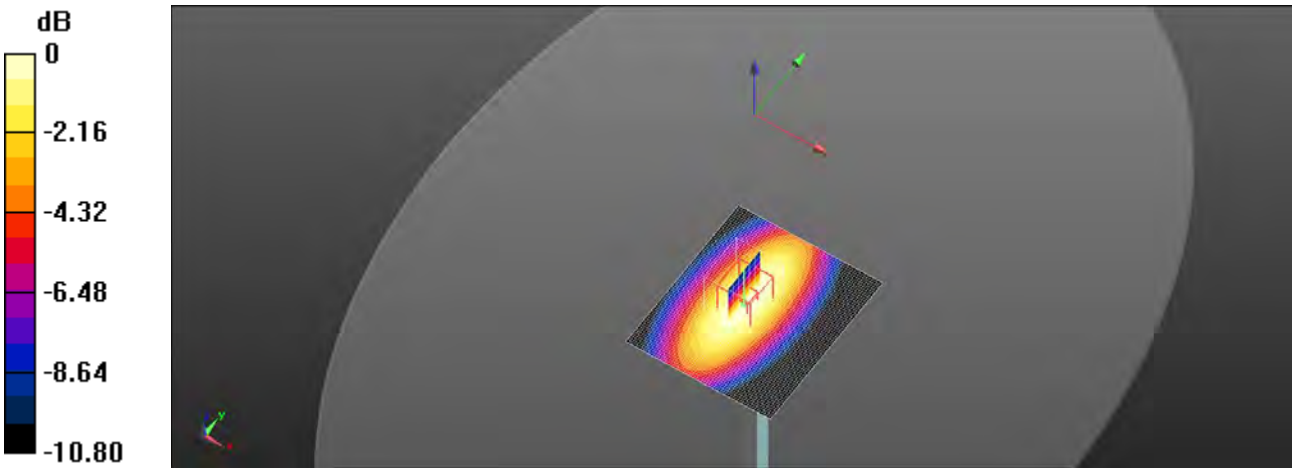
Report No. : TESA2207000221E5
Dipole 835 MHz_SN:4d063
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.905 S/m; ε_r = 41.322; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 22.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(9.29, 9.29, 9.29); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.91 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.54 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.55 W/kg
Smallest distance from peaks to all points 3 dB below = 21.2 mm
Ratio of SAR at M2 to SAR at M1 = 66%
Maximum value of SAR (measured) = 2.97 W/kg



0 dB = 2.97 W/kg = 4.72 dBW/kg

Date: 2022/9/10

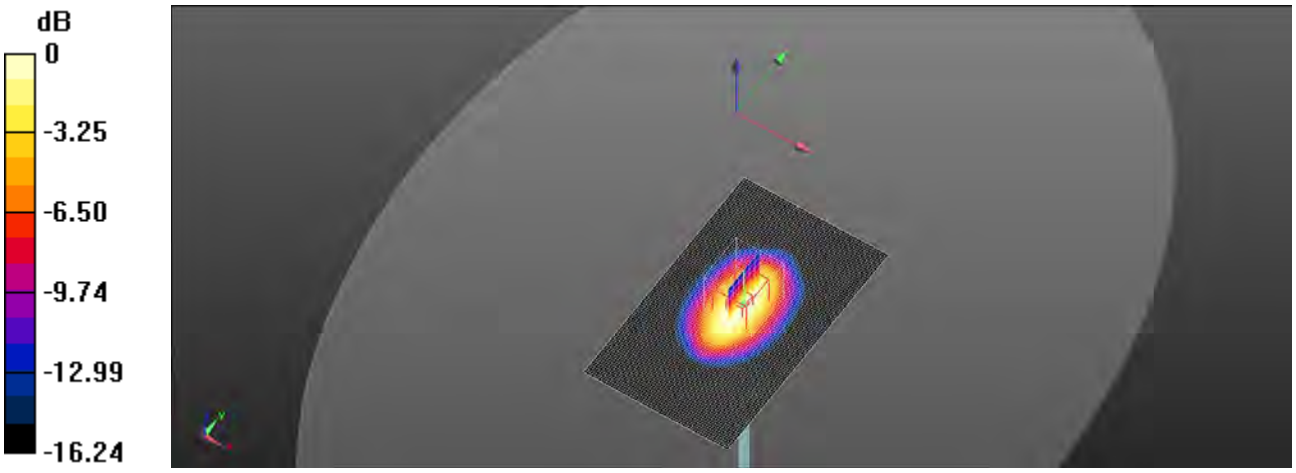
Report No. : TESA2207000221E5
Dipole 1750 MHz_SN:1008
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.381 S/m; ε_r = 39.846; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(8.33, 8.33, 8.33); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 13.0 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.89 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) = 8.94 W/kg; SAR(10 g) = 4.88 W/kg
Smallest distance from peaks to all points 3 dB below = 10 mm
Ratio of SAR at M2 to SAR at M1 = 57.6%
Maximum value of SAR (measured) = 12.4 W/kg



0 dB = 12.4 W/kg = 10.93 dBW/kg

Date: 2022/9/10

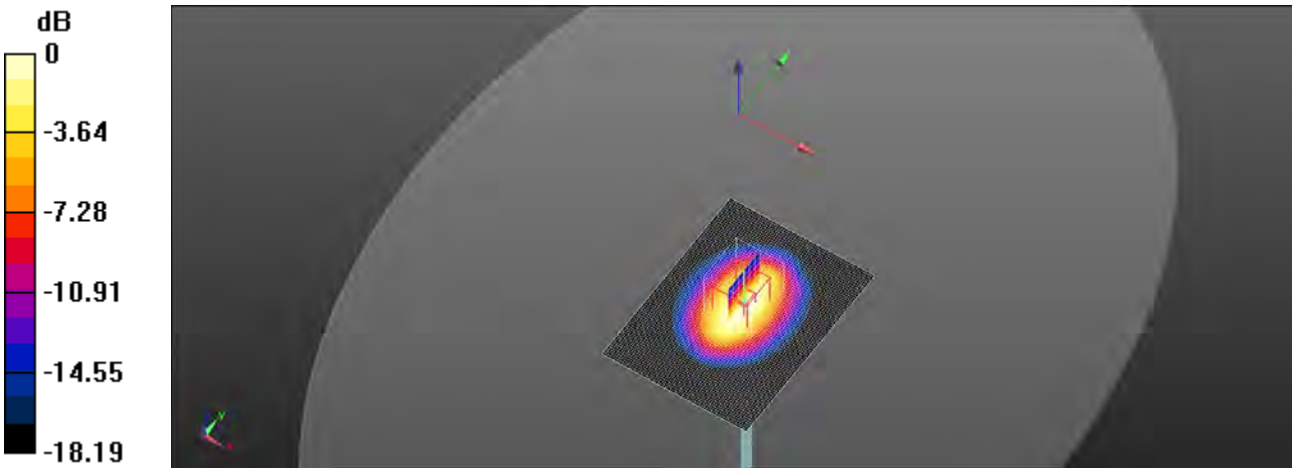
Report No. : TESA2207000221E5
Dipole 1900 MHz_SN:5d173
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.414 S/m; ε_r = 39.767; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.6°C; Liquid temperature: 21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.92, 7.92, 7.92); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 15.7 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.61 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.28 W/kg
Smallest distance from peaks to all points 3 dB below = 10 mm
Ratio of SAR at M2 to SAR at M1 = 53%
Maximum value of SAR (measured) = 14.8 W/kg



0 dB = 14.8 W/kg = 11.70 dBW/kg

Date: 2022/9/11

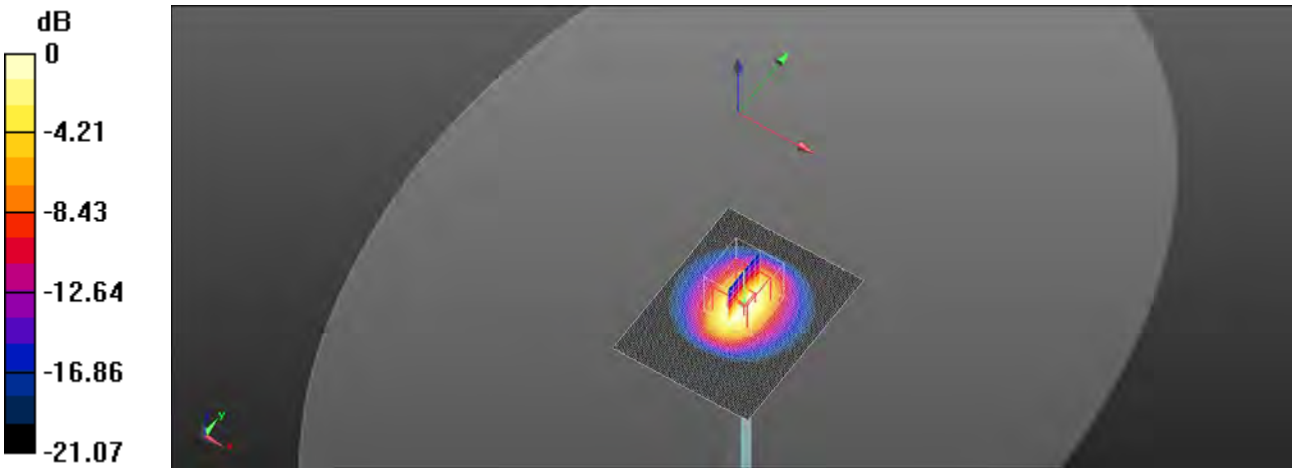
Report No. : TESA2207000221E5
Dipole 2450 MHz_SN:727
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.827 S/m; ε_r = 38.967; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.39, 7.39, 7.39); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (71x91x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 20.6 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.01 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 26.8 W/kg
SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.35 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 51.9%
Maximum value of SAR (measured) = 20.3 W/kg



0 dB = 20.3 W/kg = 13.07 dBW/kg

Date: 2022/9/11

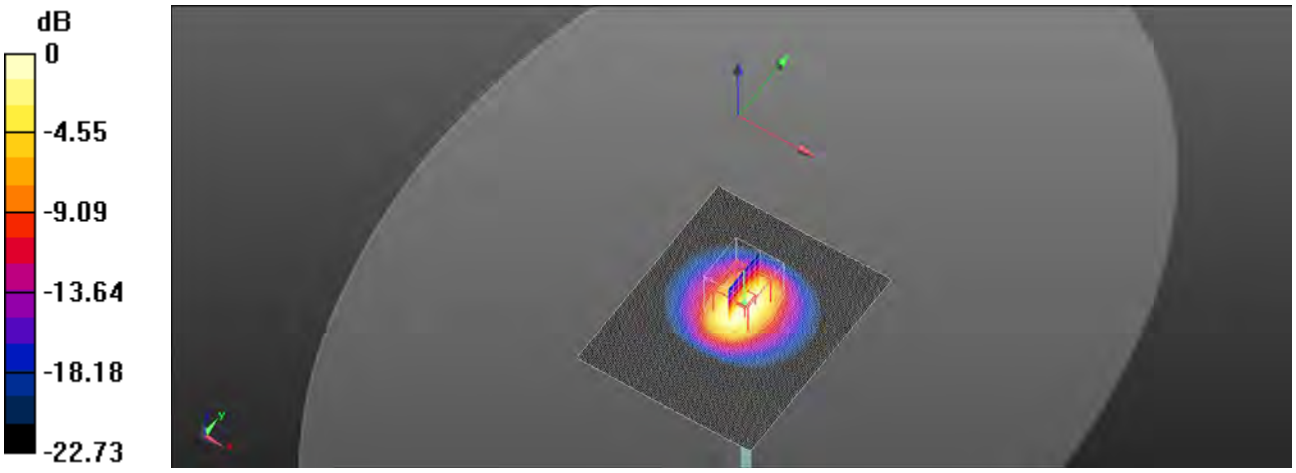
Report No. : TESA2207000221E5
Dipole 2600 MHz_SN:1005
Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.963 S/m; ε_r = 38.776; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(7.15, 7.15, 7.15); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x111x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 22.8 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.31 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.49 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 54.9%
Maximum value of SAR (measured) = 21.6 W/kg



0 dB = 21.6 W/kg = 13.35 dBW/kg

Date: 2022/9/12

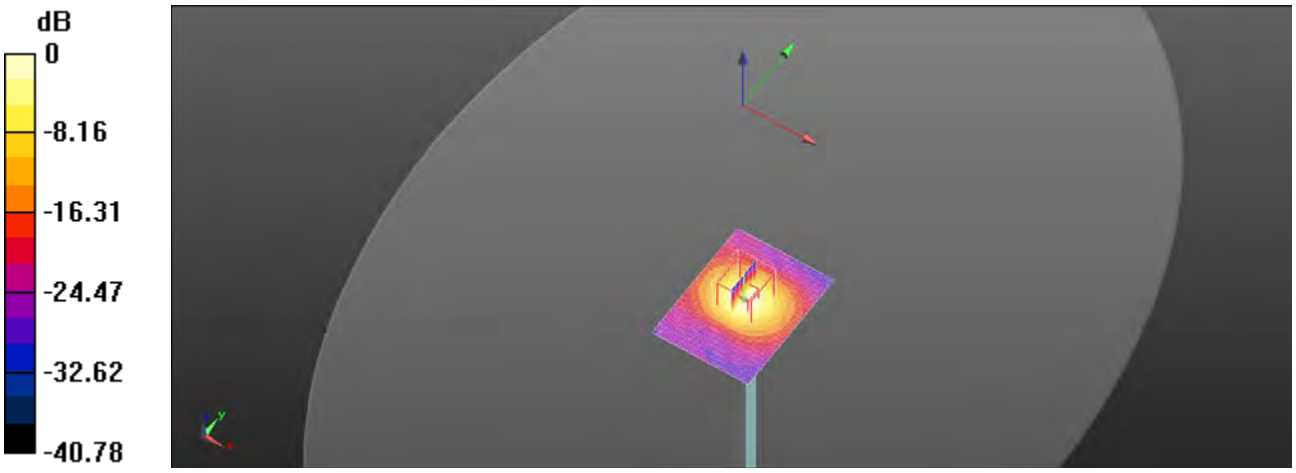
Report No. : TESA2207000221E5
Dipole 5250 MHz_SN:1023
Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.705 S/m; ε_r = 35.696; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(5.05, 5.05, 5.05); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x81x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 17.7 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.52 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 8.25 W/kg; SAR(10 g) = 2.41 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 55.8%
Maximum value of SAR (measured) = 16.6 W/kg



0 dB = 16.6 W/kg = 12.21 dBW/kg

Date: 2022/9/12

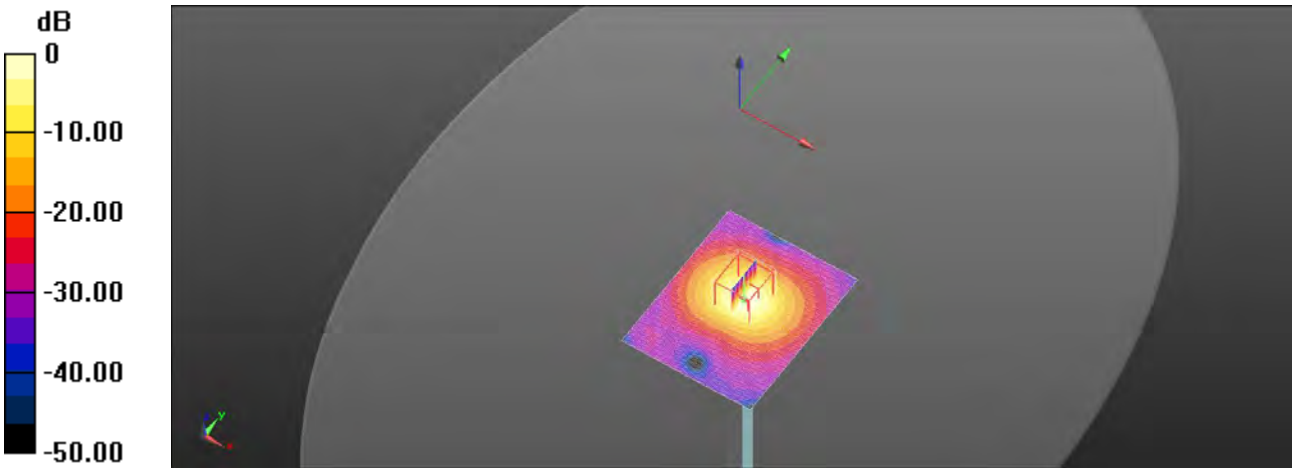
Report No. : TESA2207000221E5
Dipole 5750 MHz_SN:1023
Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.218 S/m; ε_r = 35.124; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.3°C; Liquid temperature: 22.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN3938; ConvF(4.65, 4.65, 4.65); Calibrated: 2022/1/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2022/3/23
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (81x101x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 17.2 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 43.11 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 35.3 W/kg
SAR(1 g) = 8 W/kg; SAR(10 g) = 2.26 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 52%
Maximum value of SAR (measured) = 16.9 W/kg



0 dB = 16.9 W/kg = 12.28 dBW/kg

12 APPENDIXES

Refer to separated files for the following appendixes.

12.1 SAR_Appendix A Photographs

12.2 SAR_Appendix B DAE & Probe Cal. Certificate

12.3 SAR_Appendix C Phantom Description & Dipole Cal. Certificate

- End of report -