FCC SAR TEST REPORT

Report No.: STS2103148H01

Issued for

Hot Pepper, Inc.

350 10th Ave. STE 1000, San Diego, CA 92101

Product Name:	Smart Phone
Brand Name:	Hot Pepper
Model Name:	HPP-L55B
Series Model:	N/A
FCC ID:	2APD4-A95J
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Head: 0.514 W/kg
	Body: 1.262 W/kg

ShenZhen STS Test Services Co.,Ltd.
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TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

Test Report Certification

Applicant's name ..... : Hot Pepper, Inc.

Address ..... : 350 10th Ave. STE 1000, San Diego, CA 92101

Manufacturer's Name ..... : Hot Pepper, Inc.

Address ..... : 350 10th Ave. STE 1000, San Diego, CA 92101

Product description

Product name ..... : Smart Phone

Brand name ..... : Hot Pepper

Model name ..... : HPP-L55B

Series Model..... : N/A

Standards ..... : ANSI/IEEE Std. C95.1-1992
FCC 47 CFR Part 2 (2.1093)
IEEE 1528: 2013

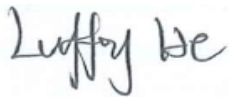
The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test.....:

Date (s) of performance of tests .....: 24 Mar. 2021 ~ 29 Apr. 2021

Date of Issue.....: 30 Apr. 2021

Test Result.....: **Pass**

Testing Engineer **:** 

(Luffy He)

Technical Manager **:** 

(Sean she)

Authorized Signatory **:** 

(Vita Li)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	30 Apr. 2021	STS2103148H01	ALL	Initial Issue

1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

1.1 EUT Description

Product Name	Smart Phone			
Brand Name	Hot Pepper			
Model Name	HPP-L55B			
Series Model	N/A			
Model Difference	N/A			
Battery	Rated Voltage:3.8V Charge Limit Voltage:4.3 Capacity: 2200mAh			
Device Category	Portable			
Product stage	Production unit			
RF Exposure Environment	General Population / Uncontrolled			
IMEI	352751110094283			
Hardware Version	A95_P0			
Software Version	HPP-L55B-J-3.0.0			
Frequency Range	GSM 850: 824 MHz ~ 849 MHz PCS1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV:1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 25: 1820 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40: 5150 ~ 5250 MHz WLAN 802.11a/n20/n40: 5250 ~ 5350 MHz WLAN 802.11a/n20/n40: 5725 ~ 5850 MHz Bluetooth: 2402 MHz to 2480 MHz				
Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Head (W/kg)	Body Worn and Hotspot(W/kg)
	PCE	GSM 850	0.414	0.463
	PCE	GSM 1900	0.435	0.924
	PCE	WCDMA Band II	0.445	1.040
	PCE	WCDMA Band IV	0.462	1.203
	PCE	WCDMA Band V	0.410	0.470
	PCE	LTE Band 2	0.462	1.008
	PCE	LTE Band 4	0.512	1.262

	PCE	LTE Band 5	0.466	0.552
	PCE	LTE Band 12	0.226	0.392
	PCE	LTE Band 25	0.486	1.097
	PCE	LTE Band 26	0.416	0.493
	PCE	LTE Band 41	0.432	0.603
	PCE	LTE Band 66	0.514	1.205
	PCE	LTE Band 71	0.256	0.471
	DTS	2.4G WLAN	0.452	0.143
	DTS	5.2G WLAN	0.190	0.085
	DTS	5.3G WLAN	0.144	0.049
	DTS	5.8G WLAN	0.090	0.052
	DSS	Bluetooth Note	0.138	0.138
1-g Sum SAR			0.966	1.405

FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS)
Operating Mode:	GSM: GSM Voice; GPRS/EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 LTE: QPSK, 16QAM WLAN: 802.11 a/b/g/n20/n40 Bluetooth: 4.2(GFSK +π/4DQPSK+8DPSK)
Antenna Specification:	GSM/WCDMA/LTE: PIFA Antenna Bluetooth: PIFA Antenna WLAN: PIFA Antenna
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time
Hotspot Mode	Support
DTM Mode	Not Support

Note:
1. Bluetooth SAR was estimated
2. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active)
3. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests.
4. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power

1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (℃)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

ShenZhen STS Test Services Co.,Ltd.

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01

2. Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

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

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

Are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.
The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho dv}\right)$$

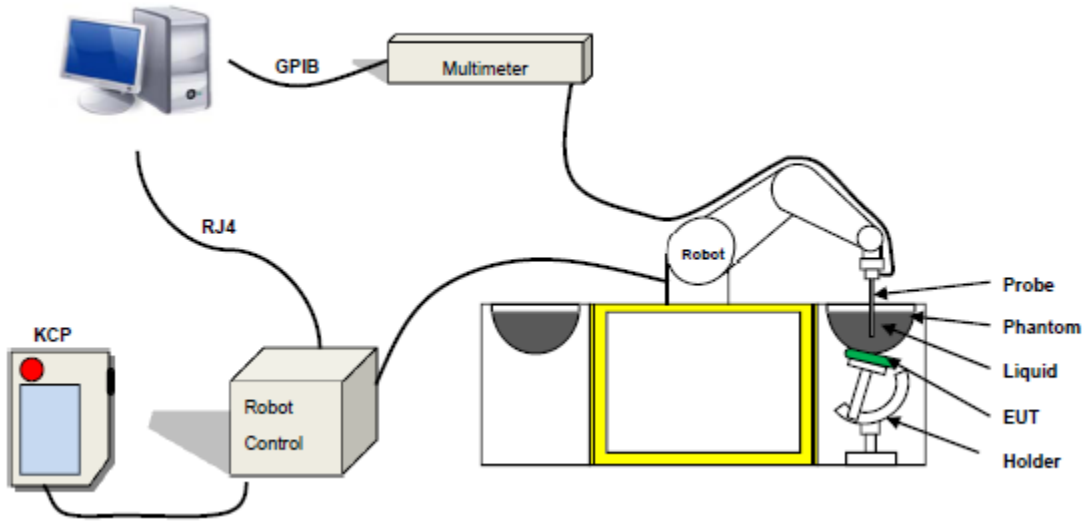
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue,
ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The Open SAR software computes the results to give a SAR value in a 1g or 10g mass.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 07/21 EPGO352 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: < 0.10 dB
- Spherical Isotropy: < 0.10 dB
- Calibration range: 450 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°

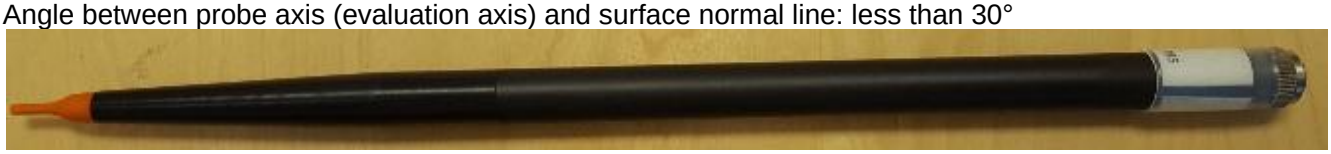


Figure 1-MVG COMOSAR Dosimetric E field Dipole

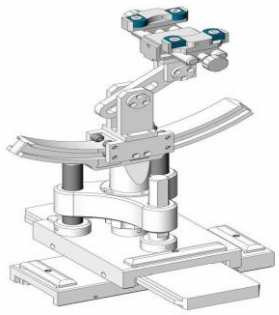
3.2.2 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

SN 32/14 SAM115

SN 32/14 SAM116

3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.4. Tissue Simulating Liquids

4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

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

Head Tissue

Frequency (MHz)	cellulose	DGBE	HEC	NaCl	Preventol	Sugar	X100	Water	Conductivity	Permittivity
	%	%	%	%	%	%	%	%	σ	εr
750	0.2	/	/	1.4	0.2	57.0	/	41.1	0.89	41.9
835	0.2	/	/	1.4	0.2	57.9	/	40.3	0.90	41.5
900	0.2	/	/	1.4	0.2	57.9	/	40.3	0.97	41.5
1800	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
1900	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
2000	/	44.5	/	0.3	/	/	/	55.2	1.4	40.0
2450	/	44.9	/	0.1	/	/	/	55.0	1.80	39.2
2600	/	45.0	/	0.1	/	/	/	54.9	1.96	39.0

Body Tissue

Frequency (MHz)	cellulose	DGBE	HEC	NaCl	Preventol	Sugar	X100	Water	Conductivity	Permittivity
	%	%	%	%	%	%	%	%	σ	εr
750	0.2	/	/	0.9	0.1	47.2	/	51.7	0.96	55.5
835	0.2	/	/	0.9	0.1	48.2	/	50.8	0.97	55.2
900	0.2	/	/	0.9	0.1	48.2	/	50.8	1.05	55.0
1800	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
1900	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
2000	/	29.4	/	0.4	/	/	/	70.2	1.52	53.3
2450	/	31.3	/	0.1	/	/	/	68.6	1.95	52.7
2600	/	31.7	/	0.1	/	/	/	68.2	2.16	52.3

Tissue dielectric parameters for head and body phantoms				
Frequency	εr		σ S/m	
	Head	Body	Head	Body
300	45.3	58.2	0.87	0.92
450	43.5	56.7	0.87	0.94
900	41.5	55.0	0.97	1.05
1450	40.5	54.0	1.20	1.30
1800	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

LIQUID MEASUREMENT RESULTS

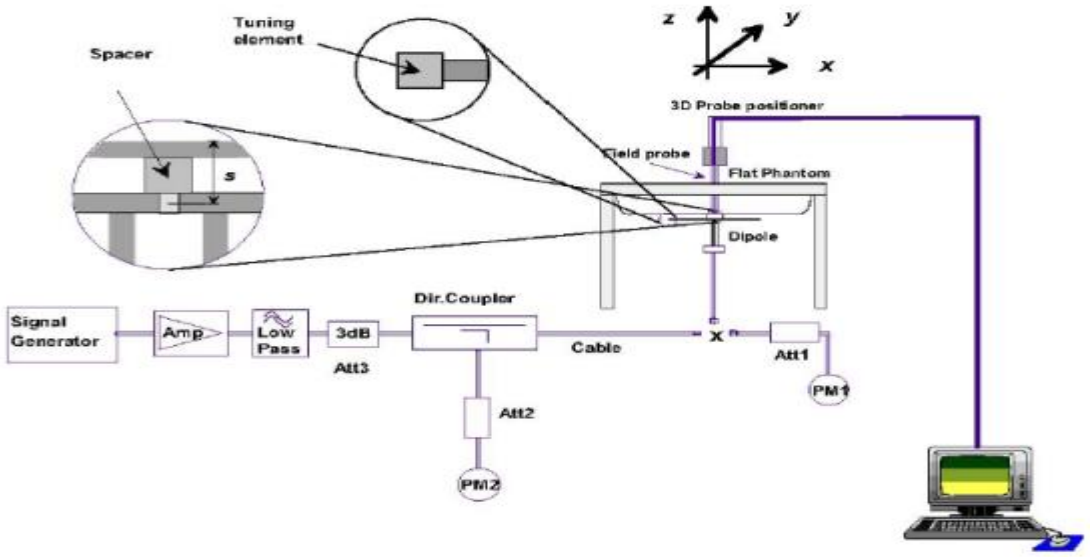
Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency	Temp. [°C]					
2021-03-24	22.2	49	750 MHz	21.9	Permittivity	41.9	42.42	1.24	±5
					Conductivity	0.89	0.87	-2.25	±5
2021-03-24	22.2	49	835 MHz	21.9	Permittivity	41.5	42.44	2.27	±5
					Conductivity	0.9	0.90	0.00	±5
2021-03-25	22.8	50	1800 MHz	22.5	Permittivity	40	40.52	1.30	±5
					Conductivity	1.4	1.44	2.86	±5
2021-03-25	22.8	50	1900 MHz	22.5	Permittivity	40	39.96	-0.10	±5
					Conductivity	1.4	1.38	-1.43	±5
2021-03-26	23.1	48	2450 MHz	22.8	Permittivity	39.2	38.48	-1.84	±5
					Conductivity	1.8	1.79	-0.56	±5
2021-03-29	22.7	50	2600 MHz	22.5	Permittivity	39	37.36	-4.21	±5
					Conductivity	1.96	1.95	-0.51	±5
2021-04-29	22.5	44	5200 MHz	22.2	Permittivity	39	34.79	-3.37	±5
					Conductivity	1.96	4.69	0.71	±5
2021-04-29	22.5	44	5300 MHz	22.2	Permittivity	39	36.38	1.61	±5
					Conductivity	1.96	4.86	-0.05	±5
2021-04-29	22.5	44	5800 MHz	22.2	Permittivity	39	35.81	1.44	±5
					Conductivity	1.96	5.25	-0.35	±5

5. SAR System Validation

5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



5.2 Validation Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of 10 %.

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg/W)	Target (W/Kg/W)	Tolerance(%)	Date
750	100	0.844	8.44	8.49	-0.60	2021-03-24
835	100	0.963	9.63	9.56	0.68	2021-03-24
1800	100	3.762	37.62	38.40	-2.03	2021-03-25
1900	100	3.878	38.78	39.70	-2.32	2021-03-25
2450	100	5.042	50.42	52.40	-3.77	2021-03-26
2600	100	5.479	54.79	55.30	-0.92	2021-03-29
5200	100	15.555	155.55	159.00	-2.17	2021-04-29
5300	100	16.276	162.76	166.40	-2.19	2021-04-29
5800	100	18.075	180.75	181.20	-0.25	2021-04-29

Note:

1. The tolerance limit of System validation ±10%.
2. The dipole input power (forward power) was 100 mW.
3. The results are normalized to 1 W input power.

6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:
The following steps are used for each test position

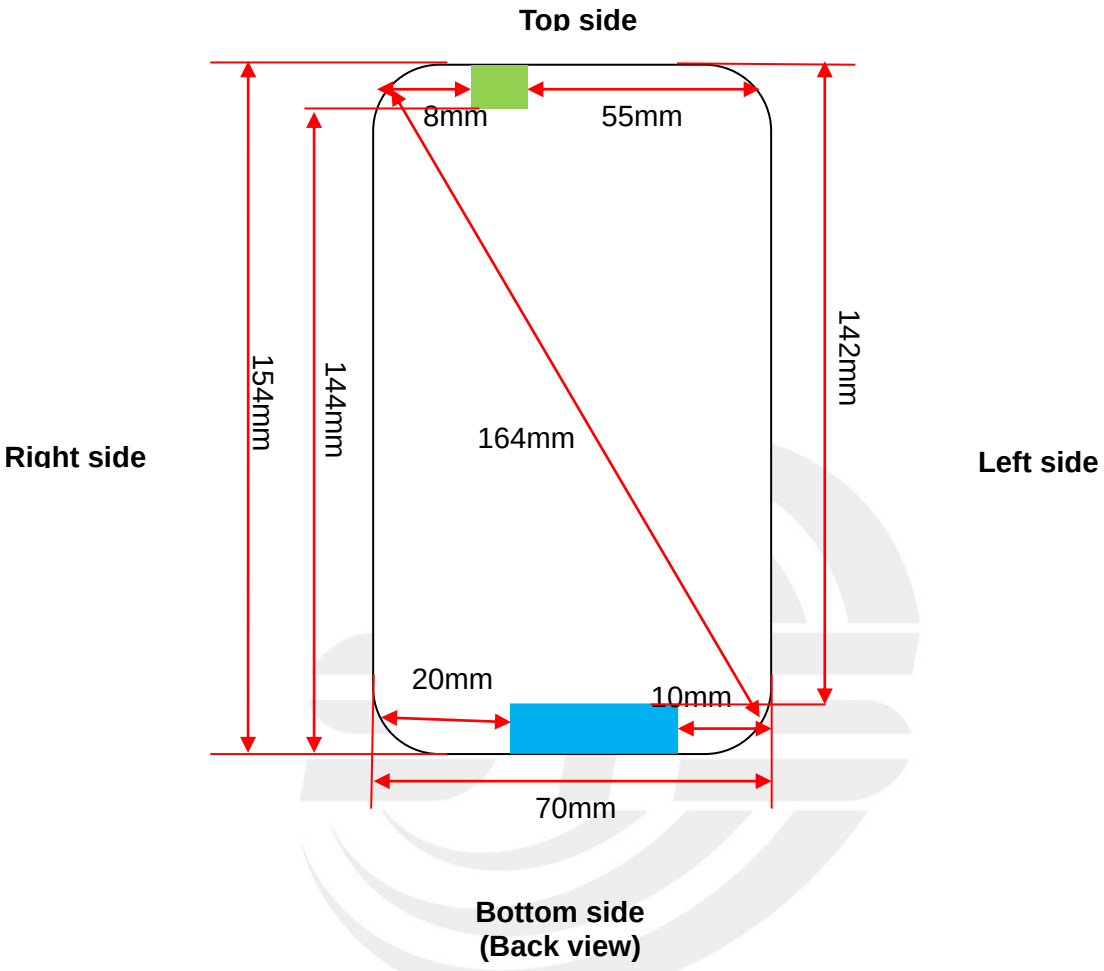
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

➢ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.
When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7. EUT Antenna Location Sketch

It is a Smart Phone, support GSM/WCDMA/LTE/WLAN/BT mode.



WWAN Antenna

WLAN/BT Antenna

Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

7.1 SAR test exclusion consider table

The WWAN/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA V	WCDMA IV
Exposure Position	Calculated Frequency	836.6	1880	1852.4	846.6	1752.4
	Maximum Turn-up power (dBm)	33	30	24	23	25.17
	Maximum rated power(mW)	1995.26	1000.00	251.19	199.53	328.85
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	11.02	16.30	11.33
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	11.02	16.30	11.33
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	10	10
	exclusion threshold(mW)	32.80	21.88	22.04	32.60	22.66
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	20	20	20	20	20
	exclusion threshold(mW)	65.60	43.76	44.08	65.21	45.32
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	142	142	142	142	142
	exclusion threshold(mW)	677.11	1029.40	1030.21	682.27	1033.31
	Testing required?	YES	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	11.02	16.30	11.33
	Testing required?	YES	YES	YES	YES	YES

Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12
	Calculated Frequency	1880	1732.5	836.5	707.5
	Maximum Turn-up power (dBm)	24	24	25	25
	Maximum rated power(mW)	251.19	251.19	316.23	316.23
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.94	11.40	16.40	17.83
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.94	11.40	16.40	17.83
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	10
	exclusion threshold(mW)	21.88	22.79	32.80	35.67
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	20	20	20	20
	exclusion threshold(mW)	43.76	45.58	65.60	71.33
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	142	142	142	142
	exclusion threshold(mW)	1029.40	1033.96	677.06	612.26
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.94	11.40	16.40	17.83
	Testing required?	YES	YES	YES	YES

	Wireless Interface	LTE Band 25	LTE Band 26	LTE Band 41	LTE Band 66
Exposure Position	Calculated Frequency(MHz)	1882.5	831.5	2593	1745
	Maximum Turn-up power (dBm)	24	25	25	24
	Maximum rated power(mW)	251.19	316.23	316.23	251.19
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.93	16.45	9.32	11.36
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.93	16.45	9.32	11.36
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	10
	exclusion threshold(mW)	21.87	32.90	18.63	22.71
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	20	20	20	20
	exclusion threshold(mW)	43.73	65.80	37.26	45.42
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	142	142	142	142
	exclusion threshold(mW)	1263.93	674.48	1013.15	1033.55
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	10.93	16.45	9.32	11.36
	Testing required?	YES	YES	YES	YES

Exposure Position	Wireless Interface	LTE Band 71	BT	2.4G WLAN	5.2G WLAN
	Calculated Frequency(MHz)	680.5	2441	2437	5180
	Maximum Turn-up power (dBm)	25	5.2	14	12.5
	Maximum rated power(mW)	316.23	3.31	25.12	17.78
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	18.18	9.60	9.61	6.59
	Testing required?	YES	NO	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	18.18	9.60	9.61	6.59
	Testing required?	YES	NO	YES	YES
Left Edge	Separation distance (mm)	10	55	55	55
	exclusion threshold(mW)	36.37	146.01	146.09	115.91
	Testing required?	YES	NO	NO	NO
Right Edge	Separation distance (mm)	20	8	8	8
	exclusion threshold(mW)	72.73	15.36	15.37	10.54
	Testing required?	YES	NO	YES	YES
Top Edge	Separation distance (mm)	142	5	5	5
	exclusion threshold(mW)	599.21	9.60	9.61	6.59
	Testing required?	NO	NO	YES	YES
Bottom Edge	Separation distance (mm)	5	144	144	144
	exclusion threshold(mW)	18.18	1036.01	1036.09	1005.91
	Testing required?	YES	NO	NO	NO

Exposure Position	Wireless Interface	5.3G WLAN	5.8G WLAN
	Calculated Frequency(MHz)	5260	5825
	Maximum Turn-up power (dBm)	11.5	11.5
	Maximum rated power(mW)	14.13	14.13
Back Side	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.54	6.22
	Testing required?	YES	YES
Front Side	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.54	6.22
	Testing required?	YES	YES
Left Edge	Separation distance (mm)	55	55
	exclusion threshold(mW)	115.40	112.15
	Testing required?	NO	NO
Right Edge	Separation distance (mm)	8	8
	exclusion threshold(mW)	10.46	9.94
	Testing required?	YES	YES
Top Edge	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.54	6.22
	Testing required?	YES	YES
Bottom Edge	Separation distance (mm)	144	144
	exclusion threshold(mW)	1005.40	1002.15
	Testing required?	NO	NO

Note：

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm,25mm is user to determine SAR exclusion threshold
4. per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤50mm are determined by:
   [(max.power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]*[√f(GHz）)≤3.0 for 1-g SAR and≤7.5 for10-g extremity SAR ,f(GHz) is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation.

The result is rounded to one decimal place for comparison

For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare

5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following

   a)[threshold at 50mm in step 1]+(test separation distance -50mm)*(f (MHz)/150)]mW, at 100 MHz to 1500 MHz

   b) [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at＞1500MHz and≤ 6GHz

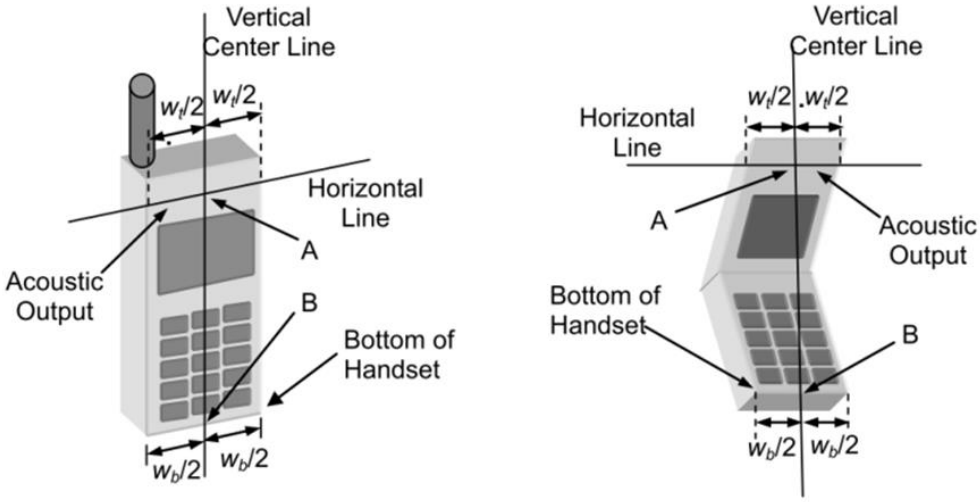
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.

8. EUT Test Position

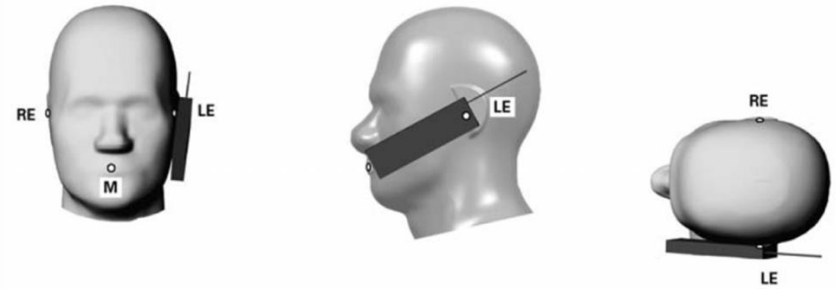
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

8.1 Define Two Imaginary Lines on the Handset

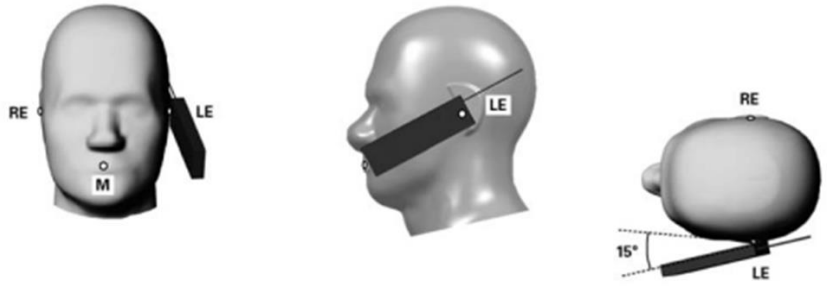
(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
(2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



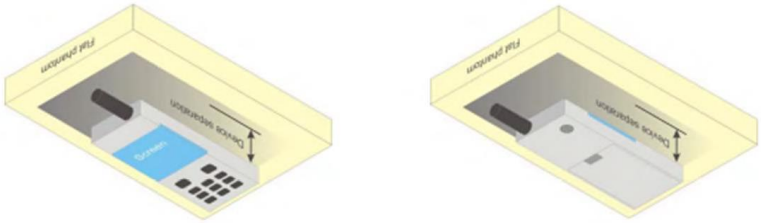
Cheek Position
1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost



Title Position
(1)To position the device in the “cheek” position described above.
(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.

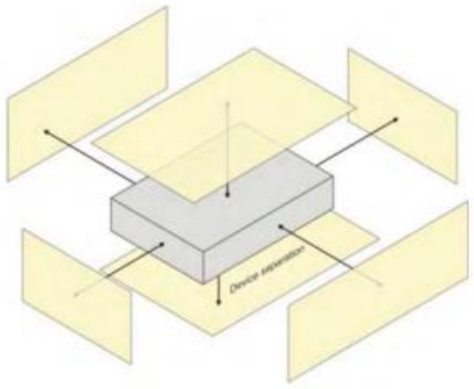


Body-worn Position Conditions:
Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm form that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).



9. Uncertainty

9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	√3	√0.5	√0.5	0.28	0.28	∞
Hemispherical Isotropy	1.045	R	√3	√0.5	√0.5	0.43	0.43	∞
Boundary effect	1.0	R	√3	1	1	0.58	0.58	∞
Linearity	0.685	R	√3	1	1	0.40	0.40	∞
System detection limits	1.0	R	√3	1	1	0.58	0.58	∞
Modulation response	3.0	R	√3	1	1	1.73	1.73	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0	R	√3	1	1	0	0	∞
Integration Time	1.4	R	√3	1	1	0.81	0.81	∞
RF ambient conditions-Noise	3.0	R	√3	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	√3	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	√3	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	√3	1	1	0.81	0.81	∞
Post-processing	2.3	R	√3	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.6	2.6	∞
Device holder uncertainty	3	N	1	1	1	3	3	∞
SAR drift measurement	5	R	√3	1	1	2.89	2.89	∞
SAR scaling	5	R	√3	1	1	2.89	2.89	∞
Phantom and tissue parameters								
Phantom uncertainty（shape and thickness uncertainty）	4	R	√3	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity （temperature uncertainty）	2.5	R	√3	0.78	0.71	1.13	1.02	∞
Liquid conductivity （measured）	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity （temperature uncertainty）	2.5	R	√3	0.23	0.26	0.33	0.38	∞
Liquid permittivity （measured）	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.79	9.59	
Expanded Uncertainty (95% Confidence interval)		K=2				19.58	19.18	

9.2 System validation Uncertainty

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	1	1	0.40	0.40	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-Processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
System validation source								
Deviation of experimental dipole from numerical dipole	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Other source contribution Uncertainty	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and set-up								
Phantom uncertainty（shape and thickness uncertainty）	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity （temperature uncertainty）	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity （measured）	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity （temperature uncertainty）	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity （measured）	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.718	9.517	
Expanded Uncertainty (95% Confidence interval)		K=2				19.44	19.04	

10. Conducted Power Measurement

10.1 Test Result

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	32.61	32.66	32.62	29.17	29.23	29.18
GPRS (GMSK, 1-Slot)	32.81	32.89	32.91	29.18	29.26	29.21
GPRS (GMSK, 2-Slot)	32.40	32.49	32.48	28.77	28.85	28.78
GPRS (GMSK, 3-Slot)	31.96	32.00	32.04	28.32	28.44	28.38
GPRS (GMSK, 4-Slot)	31.55	31.58	31.56	27.83	28.02	27.90
EGPRS(8PSK, 1-Slot)	29.77	30.19	30.47	28.40	28.53	28.60
EGPRS(8PSK, 2-Slot)	28.99	29.45	29.73	27.65	27.80	27.87
EGPRS(8PSK, 3-Slot)	28.24	28.69	28.95	26.92	27.01	27.12
EGPRS(8PSK, 4-Slot)	27.47	27.96	28.16	26.22	26.23	26.40
Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme. Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link						

Fram- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	23.58	23.63	23.59	20.14	20.20	20.15
GPRS (GMSK, 1-Slot)	23.78	23.86	23.88	20.15	20.23	20.18
GPRS (GMSK, 2-Slot)	26.38	26.47	26.46	22.75	22.83	22.76
GPRS (GMSK, 3-Slot)	27.70	27.74	27.78	24.06	24.18	24.12
GPRS (GMSK, 4-Slot)	28.54	28.57	28.55	24.82	25.01	24.89
EGPRS(8PSK, 1-Slot)	20.74	21.16	21.44	19.37	19.50	19.57
EGPRS(8PSK, 2-Slot)	22.97	23.43	23.71	21.63	21.78	21.85
EGPRS(8PSK, 3-Slot)	23.98	24.43	24.69	22.66	22.75	22.86
EGPRS(8PSK, 4-Slot)	24.46	24.95	25.15	23.21	23.22	23.39
Remark : 1. SAR testing was performed on the maximum frame-averaged power mode. 2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum Burst - averaged power based on time slots. The calculated method is shown as below: Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB						

WCDMA

Band	WCDMA Band II			WCDMA Band IV			WCDMA Band V		
Channel	9262	9400	9538	1312	1413	1513	4132	4183	4233
Frequency (MHz)	1852.4	1880.0	1907.6	1712.6	1740	1752.4	826.4	836.6	846.6
RMC 12.2Kbps	23.10	22.86	22.96	23.18	23.09	25.16	22.31	22.46	22.52
HSDPA Subtest-1	20.41	20.37	20.46	23.34	24.07	23.80	21.09	21.28	21.38
HSDPA Subtest-2	19.99	19.97	20.02	22.85	23.61	23.31	20.67	20.80	20.92
HSDPA Subtest-3	19.52	19.50	19.71	22.40	23.18	22.86	20.28	20.40	20.49
HSDPA Subtest-4	19.09	19.04	19.30	22.00	22.82	22.45	19.81	20.00	20.18
HSUPA Subtest-1	20.51	20.42	20.43	22.81	24.14	23.58	21.19	21.34	21.33
HSUPA Subtest-2	19.56	19.52	19.51	21.98	23.21	22.62	20.32	20.38	20.40
HSUPA Subtest-3	19.40	19.10	19.04	21.92	22.80	22.14	20.27	19.95	20.07
HSUPA Subtest-4	19.02	18.62	18.59	21.50	22.41	21.77	19.79	19.62	19.58
HSUPA Subtest-5	17.55	17.21	17.18	20.06	20.93	20.28	18.29	18.21	18.10

According to 3GPP 25.101 sub-clause 6.2.2, the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	0≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for βc/βd=12/15, βhs/ βc=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.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

2.4G WLAN

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11b	1	2412	13.07
	6	2437	13.49
	11	2462	13.36
802.11g	1	2412	8.11
	6	2437	8.45
	11	2462	8.42
802.11n(HT 20)	1	2412	8.24
	6	2437	8.64
	11	2462	8.31
802.11n(HT 40)	3	2422	8.18
	6	2437	8.30
	9	2452	8.31

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	5.00
	39	2441	5.10
	78	2480	4.71
π/4-DQPSK(2Mbps)	0	2402	2.51
	39	2441	2.88
	78	2480	2.28
8DPSK(3Mbps)	0	2402	2.55
	39	2441	2.87
	78	2480	2.32

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	3.98
	19	2440	4.08
	39	2480	3.67

WLAN (5.2Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	36	5180	12.09
	40	5200	11.93
	48	5240	10.99
802.11 n-HT20	36	5180	11.59
	40	5200	12.04
	48	5240	11.17
802.11 n-HT40	38	5190	12.06
	46	5230	11.16

WLAN (5.3Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	52	5260	11.17
	60	5300	10.25
	64	5320	9.97
802.11 n-HT20	52	5260	11.19
	60	5300	10.77
	64	5320	10.47
802.11 n-HT40	54	5270	10.91
	62	5310	10.57

WLAN (5.8Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	149	5745	10.32
	157	5785	10.85
	165	5825	10.65
802.11 n-HT20	149	5745	10.36
	157	5785	10.33
	165	5825	11.14
802.11 n-HT40	151	5755	9.95
	159	5795	10.84

LTE Conducted Power

General Note:

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, start with 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.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, 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 are $\leqslant$ 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.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is $\leqslant$ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is $\leqslant$ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.

LTE Band 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.55	23.60	23.18
1.4	1	2		23.26	23.31	22.93
1.4	1	5		22.97	23.05	22.66
1.4	3	0		22.76	22.80	22.43
1.4	3	1		22.55	22.57	22.18
1.4	3	3		22.29	22.35	21.88
1.4	6	0		21.99	22.15	21.60
1.4	1	0	16-QAM	23.28	23.36	22.95
1.4	1	2		23.04	23.15	22.66
1.4	1	5		22.82	22.89	22.41
1.4	3	0		22.58	22.61	22.13
1.4	3	1		22.36	22.36	21.87
1.4	3	3		22.15	22.10	21.57
1.4	6	0		21.87	21.85	21.34
3	1	0	QPSK	23.54	23.18	23.69
3	1	7		23.32	22.90	23.40
3	1	14		23.02	22.70	23.14
3	8	0		22.82	22.41	22.90
3	8	3		22.60	22.16	22.67
3	8	7		22.32	21.90	22.46
3	15	0		22.08	21.60	22.18
3	1	0	16-QAM	23.25	22.95	23.47
3	1	7		22.96	22.69	23.24
3	1	14		22.75	22.44	23.02
3	8	0		22.46	22.14	22.74
3	8	3		22.23	21.90	22.44
3	8	7		21.95	21.66	22.14
3	15	0		21.68	21.43	21.88

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.51	23.15	23.13
5	1	12		23.21	22.91	22.93
5	1	24		22.98	22.62	22.63
5	12	0		22.78	22.38	22.37
5	12	6		22.58	22.16	22.12
5	12	13		22.29	21.89	21.91
5	25	0		22.01	21.60	21.61
5	1	0	16-QAM	23.30	22.89	22.88
5	1	12		23.04	22.64	22.64
5	1	24		22.81	22.42	22.40
5	12	0		22.59	22.16	22.17
5	12	6		22.29	21.87	21.92
5	12	13		22.05	21.61	21.65
5	25	0		21.75	21.40	21.41
10	1	0	QPSK	23.64	23.54	23.88
10	1	24		23.37	23.28	23.67
10	1	49		23.15	23.07	23.43
10	25	0		22.92	22.79	23.17
10	25	12		22.67	22.57	22.88
10	25	25		22.44	22.34	22.63
10	50	0		22.23	22.13	22.42
10	1	0	16-QAM	23.36	23.25	23.64
10	1	24		23.12	23.03	23.42
10	1	49		22.85	22.82	23.18
10	25	0		22.60	22.62	22.96
10	25	12		22.31	22.34	22.74
10	25	25		22.02	22.07	22.53
10	50	0		21.78	21.83	22.31

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.64	23.59	23.77
15	1	37		23.41	23.38	23.50
15	1	74		23.17	23.12	23.26
15	36	0		22.97	22.84	22.96
15	36	18		22.75	22.60	22.72
15	36	39		22.53	22.36	22.44
15	75	0		22.27	22.08	22.18
15	1	0	16-QAM	23.43	23.37	23.52
15	1	38		23.16	23.12	23.25
15	1	74		22.94	22.89	22.98
15	36	0		22.69	22.61	22.73
15	36	18		22.44	22.37	22.48
15	36	39		22.23	22.12	22.18
15	75	0		22.00	21.90	21.97
20	1	0	QPSK	23.95	23.97	23.84
20	1	50		23.72	23.69	23.60
20	1	99		23.43	23.44	23.32
20	50	0		23.23	23.22	23.06
20	50	25		23.00	23.01	22.83
20	50	50		22.72	22.73	22.54
20	100	0		22.47	22.47	22.24
20	1	0	16-QAM	23.71	23.73	23.54
20	1	50		23.50	23.51	23.34
20	1	99		23.30	23.30	23.06
20	50	0		23.10	23.03	22.78
20	50	25		22.82	22.82	22.52
20	50	50		22.61	22.55	22.29
20	100	0		22.34	22.31	22.03

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.19	23.25	23.16
1.4	1	2		22.93	23.04	22.87
1.4	1	5		22.68	22.74	22.60
1.4	3	0		22.40	22.51	22.37
1.4	3	1		22.11	22.27	22.11
1.4	3	3		21.88	21.98	21.84
1.4	6	0		21.63	21.70	21.54
1.4	1	0	16-QAM	22.93	23.03	22.92
1.4	1	2		22.63	22.76	22.63
1.4	1	5		22.35	22.51	22.40
1.4	3	0		22.11	22.28	22.15
1.4	3	1		21.88	22.05	21.93
1.4	3	3		21.59	21.85	21.69
1.4	6	0		21.33	21.62	21.41
3	1	0	QPSK	23.63	23.81	23.59
3	1	7		23.34	23.56	23.30
3	1	14		23.11	23.32	23.02
3	8	0		22.88	23.07	22.75
3	8	3		22.64	22.78	22.51
3	8	7		22.41	22.52	22.26
3	15	0		22.19	22.31	21.98
3	1	0	16-QAM	23.36	23.55	23.38
3	1	7		23.11	23.33	23.13
3	1	14		22.83	23.09	22.84
3	8	0		22.55	22.84	22.62
3	8	4		22.32	22.54	22.35
3	8	7		22.10	22.31	22.12
3	15	0		21.89	22.04	21.91

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.44	23.59	23.18
5	1	12		23.16	23.36	22.96
5	1	24		22.87	23.14	22.69
5	12	0		22.62	22.92	22.42
5	12	6		22.39	22.64	22.14
5	12	13		22.18	22.35	21.93
5	25	0		21.90	22.09	21.69
5	1	0	16-QAM	23.16	23.33	22.91
5	1	12		22.88	23.09	22.67
5	1	24		22.65	22.88	22.39
5	12	0		22.42	22.62	22.16
5	12	6		22.16	22.41	21.93
5	12	13		21.95	22.19	21.67
5	25	0		21.73	21.91	21.44
10	1	0	QPSK	23.51	23.89	23.16
10	1	24		23.24	23.68	22.95
10	1	49		22.95	23.46	22.67
10	25	0		22.67	23.23	22.40
10	25	12		22.46	23.01	22.19
10	25	25		22.22	22.78	21.94
10	50	0		21.96	22.54	21.65
10	1	0	16-QAM	23.26	23.60	22.92
10	1	24		23.02	23.39	22.68
10	1	49		22.80	23.15	22.48
10	25	0		22.51	22.93	22.21
10	25	12		22.23	22.64	21.93
10	25	25		22.01	22.43	21.71
10	50	0		21.72	22.14	21.51

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.59	23.61	23.54
15	1	37		23.35	23.39	23.24
15	1	74		23.09	23.11	22.99
15	36	0		22.82	22.83	22.79
15	36	19		22.52	22.60	22.49
15	36	39		22.29	22.36	22.20
15	75	0		22.06	22.12	21.99
15	1	0	16-QAM	23.32	23.33	23.27
15	1	38		23.02	23.11	23.02
15	1	75		22.78	22.84	22.74
15	36	0		22.50	22.55	22.53
15	36	19		22.23	22.29	22.33
15	36	39		22.00	22.05	22.04
15	75	0		21.76	21.81	21.78
20	1	0	QPSK	23.59	23.97	23.64
20	1	50		23.33	23.68	23.36
20	1	99		23.11	23.41	23.06
20	50	0		22.90	23.12	22.80
20	50	25		22.69	22.87	22.50
20	50	50		22.48	22.63	22.21
20	100	0		22.22	22.40	21.94
20	1	0	16-QAM	23.37	23.76	23.40
20	1	50		23.16	23.50	23.11
20	1	99		22.88	23.24	22.86
20	50	0		22.61	22.98	22.57
20	50	25		22.32	22.72	22.35
20	50	50		22.06	22.45	22.06
20	100	0		21.86	22.21	21.80

LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
1.4	1	0	QPSK	24.34	24.50	24.11
1.4	1	2		24.04	24.22	23.87
1.4	1	5		23.80	23.97	23.65
1.4	3	0		23.57	23.74	23.45
1.4	3	1		23.28	23.48	23.22
1.4	3	2		23.05	23.25	22.95
1.4	6	0		22.79	22.95	22.72
1.4	1	0	16-QAM	24.08	24.26	23.81
1.4	1	2		23.80	24.06	23.60
1.4	1	5		23.57	23.82	23.40
1.4	3	0		23.30	23.58	23.10
1.4	3	1		23.01	23.29	22.88
1.4	3	2		22.78	23.04	22.62
1.4	6	0		22.48	22.84	22.32
3	1	0	QPSK	24.37	24.49	24.19
3	1	7		24.14	24.21	23.99
3	1	14		23.88	23.97	23.73
3	8	0		23.66	23.72	23.44
3	8	4		23.42	23.44	23.23
3	8	7		23.21	23.23	22.94
3	15	0		22.96	22.98	22.65
3	1	0	16-QAM	24.12	24.25	23.97
3	1	7		23.85	23.98	23.71
3	1	14		23.57	23.72	23.47
3	8	0		23.27	23.42	23.24
3	8	4		23.07	23.17	22.96
3	8	7		22.84	22.88	22.72
3	15	0		22.56	22.65	22.49

LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	24.32	24.51	24.26
5	1	12		24.06	24.26	24.00
5	1	24		23.85	24.01	23.70
5	12	0		23.64	23.81	23.43
5	12	6		23.37	23.56	23.17
5	12	11		23.07	23.35	22.92
5	25	0		22.86	23.05	22.68
5	1	0	16-QAM	24.09	24.26	24.03
5	1	12		23.85	23.97	23.78
5	1	24		23.61	23.76	23.58
5	12	0		23.34	23.54	23.34
5	12	6		23.09	23.24	23.04
5	12	11		22.81	22.95	22.75
5	25	0		22.56	22.69	22.48
10	1	0	QPSK	24.53	24.67	24.17
10	1	24		24.26	24.41	23.92
10	1	49		24.01	24.18	23.72
10	25	0		23.75	23.96	23.50
10	25	12		23.52	23.68	23.29
10	25	24		23.28	23.44	23.07
10	50	0		23.07	23.23	22.81
10	1	0	16-QAM	24.28	24.47	23.92
10	1	24		24.05	24.20	23.71
10	1	49		23.84	23.94	23.48
10	25	0		23.62	23.73	23.21
10	25	12		23.35	23.51	22.96
10	25	24		23.12	23.25	22.71
10	50	0		22.91	22.96	22.42

LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
1.4	1	0	QPSK	24.28	24.39	24.31
1.4	1	2		23.99	24.10	24.01
1.4	1	5		23.73	23.89	23.77
1.4	3	0		23.50	23.69	23.53
1.4	3	1		23.28	23.40	23.24
1.4	3	2		23.06	23.17	22.99
1.4	6	0		22.77	22.94	22.76
1.4	1	0	16-QAM	24.05	24.18	24.10
1.4	1	2		23.79	23.94	23.89
1.4	1	5		23.52	23.72	23.63
1.4	3	0		23.25	23.46	23.40
1.4	3	1		22.98	23.21	23.18
1.4	3	2		22.69	22.98	22.89
1.4	6	0		22.42	22.71	22.68
3	1	0	QPSK	24.59	24.65	24.43
3	1	7		24.35	24.43	24.18
3	1	14		24.08	24.16	23.94
3	8	0		23.86	23.87	23.71
3	8	4		23.57	23.66	23.46
3	8	7		23.30	23.38	23.17
3	15	0		23.07	23.11	22.93
3	1	0	16-QAM	24.36	24.38	24.19
3	1	7		24.15	24.10	23.98
3	1	14		23.89	23.85	23.70
3	8	0		23.65	23.56	23.47
3	8	4		23.41	23.31	23.17
3	8	7		23.13	23.07	22.95
3	15	0		22.89	22.83	22.75